EPA Region 5 Records Ctr.
201023

RESPONSES TO:

#18 POTW Permits

NATURAL RESOURCES COMMISSION
HILARY F. SNELL
Chairman
E. M. LAITALA
ROBERT M. BOUDEMAN
CARL T. JOHNSON
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING, LANSING, MICHIGAN 48926

A. GENE GAZLAY, Director

WATER RESOURCES COMMISSION
CHARLES D HARRIS
Chairman
JOHN E. VOGT
Vice-Chairman
STANLEY QUACKENBUSH
JOHN P WOODFORD
JOHN H. KITCHEL, M D
C. WILLIAM COLBURN
CLEAMON E. LAY

October 7, 1974

CERTIFIED MAIL

City of Battle Creek
E. Michigan Ave. at E. Division St.
Battle Creek, Michigan 49014

Re: NPDES Permit No. MI 0022276

Gentlemen:

Your application for a National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate State and Federal regulations.

All discharges authorized from this facility shall be consistent with the terms and conditions of this permit.

Your reporting forms will be transmitted to you in the near future.

Very truly yours,

WATER RESOURCES COMMISSION
Robert J. Courchaine
Chief Engineer

James N. Howell

James N. Howell, Chief
Permit Section

JNH:ap
Enclosure: Permit
cc: A. H. Manzardo (2)
R. J. Courchaine
K. Zollner
Chet Harvey
Comp. Studies
Planning
Files
T. K. Wu
C. Oden
R. Schaffer
Paul Blakeslee
Rich Christiansen

RECEIVED
OCT 14 1974
PUBLIC WORKS DEPT.
CITY OF BATTLE CREEK
MICHIGAN

Rec'd 11-20-74

MICHIGAN
THE GREAT LAKE STATE

Permit No. MI 0022276

MICHIGAN WATER RESOURCES COMMISSION

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), Michigan Act 98, Public Acts of 1913, as amended, being sections 325.201 through 325.213 of the Compiled Laws of Michigan, and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended, being sections 322.1 through 322.13 of the Compiled Laws of Michigan, the "Michigan Act"),

The City of Battle Creek

is authorized to discharge from a facility located at 2000 West River Road

to receiving water named the Kalamazoo River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit shall become effective on the date of issuance.

This permit and the authorization to discharge shall expire at midnight, June 30, 1977. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

Signed this [illegible] day of [illegible], 1974, by the Michigan Water Resources Commission.

W. G. Turney
Assistant Executive Secretary

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.

Interim Effluent Limitations

During the period beginning on the date of issuance and lasting until December 31, 1974, discharges from the City of Battle Creek wastewater treatment plant outfall(s) 001 and 002 shall be limited and monitored by the permittee as specified below:

(a) The following shall be limited and monitored by the permittee as specified:

EFFLUENT CHARACTERISTIC	Discharge Load Limitations kg/day (lb/day)		Discharge Concentration Limitations		Monitoring Requirements	
	30 Day Aver.	7 Day Aver.	30 Day Aver.	7 Day Aver.	Measure. Frequency	Sample Type & Location
Day 20°C ochemical ygen Demand	3690 or (8150)	4800 or (10600)	65 mg/l	85 mg/l	7 x weekly	24 hour composite prior to disinfection
ispended lids	6800 or (15000)	7900 or (17500)	120 mg/l	140 mg/l	7 x weekly	24 hour composite prior to disinfection
tal liform cteria	---	---	1000/100 ml	---	7 x weekly	Grab following disinfection
tal Phosphorus s P)	---	---	See Note Below	---	7 x weekly	24 hour composite prior to disinfection

NOTE: PHOSPHORUS - The effluent shall contain as a maximum not more than 20 percent (40%) of the total phosphorus contained in the sewage and industrial waste prior to treatment and, insofar as optimum operations of the facilities will attain such a level, shall contain not more than 1 mg/l of total phosphorus.

(b) The pH shall not be less than 6.5 nor greater than 9.5. The pH shall be monitored as follows: Daily grab sample. The pH limitation is not subject to averaging and must be met at all times.

(c) The effluent discharge shall be measured daily.

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.

Interim Effluent Limitations

During the period beginning January 1, 1975 and lasting until June 30, 1977 discharges from the City of Battle Creek wastewater treatment plant outfall(s) 001 and 002 shall be limited and monitored by the permittee as specified below:

(a) The following shall be limited and monitored by the permittee as specified:

EFFLUENT CHARACTERISTIC	Discharge Load Limitations kg/day (lb/day)		Discharge Concentration Limitations		Monitoring Requirements	
	30 Day Aver.	7 Day Aver.	30 Day Aver.	7 Day Aver.	Measure. Frequency	Sample Type & Location
-Day 20°C iochemical xygen Demand	2330 or (5160)	3500 or (7740)	40 mg/l	60 mg/l	7 x weekly	24 hour composite prior to disinfection
uspended olids	3500 or (7740)	5000 or (11000)	60 mg/l	85 mg/l	7 x weekly	24 hour composite prior to disinfection
ecal oliform acteria	---	---	200/100 ml	400/100 ml	7 x weekly	Grab following disinfection
otal Phosphorus as P)	---	---	See Note Below	---	7 x weekly	24 hour composite prior to disinfection

NOTE: PHOSPHORUS - The effluent shall contain as a maximum not more than 20 percent (20%) of the total phosphorus contained in the sewage and industrial waste prior to treatment and, insofar as optimum operations of the facilities will attain such a level, shall contain not more than 1 mg/l of total phosphorus.

(b) The pH shall not be less than 6.5 nor greater than 9.5. The pH shall be monitored as follows: Daily grab sample. The pH limitation is not subject to averaging and must be met at all times.

(c) The effluent discharge shall be measured daily.

SPECIAL CONDITIONS

MUNICIPAL PERMIT ATTACHMENT

WHEN INFORMATION ON INDUSTRIAL INPUTS IS INADEQUATE

OR INDUSTRIAL EFFLUENT GUIDELINES ARE NOT AVAILABLE

It is apparent that pollutants attributable to inputs from major contributing industries* using the municipal system may be present in the discharge of the treatment facility for which this permit is issued. Based upon information to be developed as a subsequent provision of this Special Condition this permit may be revised to specify effluent limitations for any or all of such pollutants in accordance with industrial best practicable technology requirements or water quality standards.

The permittee shall develop an Industrial Surveillance Report containing a plan for obtaining information on the quality and quantity of effluents introduced into the municipal sewer system from industrial users, methods proposed to require compliance with Sections 204(b), 307, and 308 of the Act, and a proposed schedule of implementation of such plan and methods. The permittee shall submit the Report to the Chief Engineer of the Michigan Water Resources Commission and receive his approval thereof on or before September 30, 1974.

The permittee shall report to the Michigan Water Resources Commission (using the format outlined in Form MI-B of this permit) information available for all known major contributing industries on a quarterly basis beginning October 1, 1974. Complete quarterly reporting of all major contributing industries is to be implemented in accordance with the approved Industrial Surveillance Report required by the preceding paragraph. Quarterly reports reflecting no change from the previous quarter may simply relate this fact, without submitting repetitive data.

Based on the information regarding industrial inputs reported by the permittee pursuant to the preceding paragraph, the permittee will be notified by the Chief Engineer of the availability of industrial effluent guidelines on which to calculate allowable inputs of "incompatible pollutants" based on best practicable control technology currently available for each industry group. Copies of guidelines will be provided as appropriate. Not later than 120 days following receipt of such notification, the permittee shall submit to the Chief Engineer calculations reflecting allowable inputs from each major contributing industry. At that time, this permit may be amended to reflect the municipal facility's effluent requirements for "incompatible pollutants". The permittee shall also require all major contributing industries to implement necessary pretreatment requirements (as provided for in 40 CFR Part 128), and submit to the Michigan Water Resources Commission notification of specific actions taken in this regard.

* A major contributing industry is one that: (a) has a flow of 50,000 gallons or more per average workday; (b) has a flow greater than five percent of the flow carried by the municipal system receiving the waste; (c) has in its waste a toxic pollutant in toxic amounts as defined in standards issued under Section 307(a) of the Act; or (d) has significant impact, either singly or in combination with other contributing industries, on the treatment works or the quality of its effluent.

SPECIAL CONDITIONS (continued)

The permittee shall require each major contributing industry subject to pretreatment standards or any other applicable requirements promulgated pursuant to Section 307 of the Act to submit to the permittee semi-annual notice regarding specific actions taken to achieve full compliance with the requirements of Section 307. On the first day of the months of October and April the permittee shall submit to the Chief Engineer a report summarizing the progress of all known major contributing industries subject to the requirements of Section 307 towards full compliance with such requirements. These semi-annual reports must be filed with the Michigan Water Resources Commission until compliance is achieved. Submission would be required again only if a major contributing industry reverts to violating the requirements of Section 307. Such report shall include at least the following information:

(1) A narrative summary of actions taken by the permittee to ensure that all major contributing industries comply with the requirements of Section 307.

(2) The number of major contributing industries using the treatment works, divided into SIC group categories.

(3) The number of major contributing industries in full compliance with the requirements of Section 307, or not subject to these requirements (e.g., discharge compatible pollutants).

(4) A list identifying by name those major contributing industries presently in violation of the requirements of Section 307.

Not later than 180 days following approval of the permittee's plan for obtaining industrial user information and the schedule of implementation, the permittee shall have promulgated an enforceable industrial waste ordinance(s). This ordinance(s) shall allow the permittee to enforce all pretreatment requirements necessary to ensure compliance with the terms and conditions of this permit, as well as to ensure compliance by all major contributing industries with the pretreatment standards and any other applicable requirements promulgated pursuant to Section 307 of the Act. A copy of this ordinance(s) is to be submitted for approval to the Chief Engineer of the Michigan Water Resources Commission, such approved ordinance(s) becoming an enforceable provision of this NPDES permit. The ordinance(s) shall require each major contributing industry to submit to the permittee semi-annual notice regarding specific actions taken to achieve full compliance with the requirements of Section 307.

PART I

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

The permittee shall effectively monitor the operation and efficiency of all processes comprising the treatment and control facilities and the quantity and quality of the treated discharge. Monitoring data required by this permit shall be tabulated, summarized and averaged on a calendar month basis. Monthly reports, on forms or format supplied by the Michigan Water Resources Commission, shall be mailed to the address below, postmarked no later than the tenth of the first month following the report period.

State of Michigan
Water Resources Commission
c/o Municipal Wastewater Division
Stevens T. Mason Building
Lansing, Michigan 48926

3. Definitions

a. The 30 consecutive day average other than for fecal or total coliform bacteria, is defined as the sum of the concentrations and/or weights of the individual samples divided by the number of samples taken during a 30 day period. The 30 consecutive day average for fecal or total coliform bacteria is the geometric mean of the samples collected in a 30 day period.

b. The 7 consecutive day average other than for fecal or total coliform bacteria, is defined as the sum of the concentrations and/or weights of the individual samples divided by the number of samples taken during a 7 day period. The 7 consecutive day average for fecal or total coliform bacteria is the geometric mean of the samples collected in a 7 day period.

c. The maximum limitation is defined as the permissible maximum concentration and/or weight in any individual sample taken during the month.

4. Test Procedures

a. Wastewater or effluent analysis values are to be determined using a twenty-four hour, flow proportioned composite sample consisting of hourly or more frequent portions for all analyses identified as "24 hour composite".

b. Wastewater or effluent analysis values are to be determined using a single sample of wastewater taken at neither set time nor flow for all analyses identified as "grab".

c. Coliform bacterial analyses (fecal and/or total, at facilities providing chemical disinfection) shall be performed on "grab" samples collected at varying times during an operating day and information derived therefrom shall be used in conjunction with flow rate and loading variations and disinfectant feed rates to provide optimum disinfectant residual levels consistant with the bacterial limitations prescribed herein.

d. Other measurements of oxygen demand may be substituted for Biochemical Oxygen Demand (B.O.D.) where the permittee can demonstrate long term correlation of the method with B.O.D. values. Substitution of such measurements must receive prior approval from the Michigan Water Resources Commission.

e. The analytical and sampling methods used shall conform to the latest edition of one of the references listed below. (These are interim references to be replaced by "Act" Section 304(g) guidelines when available). However, different but equivalent methods are allowable if they receive prior written approval of the Michigan Water Resources Commission.

1. Standard Methods for the Examination of Water and Wastewaters, 13th edition, 1971, American Public Health Association, New York, New York 10019.

2. A.S.T.M. Standards, Part 23, Water; Atmospheric Analysis, 1972 American Society for Testing and Materials, Philadelphia, Pa. 19103.

3. Methods for Chemical Analysis of Water and Wastes, April 1971, Environmental Protection Agency, Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, Ohio 45202.

f. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to insure accuracy of measurements.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical techniques or methods used; and

e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Operating Report.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Michigan Water Resources Commission or the Regional Administrator.

PART II

A. PERMIT PROGRAM ADMINISTRATION

1. Michigan Water Resources Commission

The Michigan Water Resources Commission is located in the Stevens T. Mason Building, Lansing, Michigan.

2. Regional Administrator

Where used within this permit the term Regional Administrator shall mean the Administrator, Region V, U.S. Environmental Protection Agency.

B. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Containment Facilities

The permittee shall provide facilities approved under Act 98, Public Acts of 1913 as amended, and in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5, for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Department of Natural Resources as required by Regulations Governing the Certification of Sewage Treatment Works Operators in accordance with Act 98, Public Acts of 1913, as amended.

4. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any effluent limitation specified in this permit, the permittee shall provide the Michigan Water Resources Commission and the Regional Administrator with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the discharge and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

5. Facilities Operation

All waste collection, control, treatment and disposal facilites shall be operated in a manner consistent with the following:

a. At all times, all facilities shall be operated as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants.

b. The permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

c. Maintenance of treatment facilities shall not result in degradation of effluent quality, or if degradation of effluent is unavoidable shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved by the permitting authority.

d. Under no circumstances shall the permittee allow introduction of the following wastes into the waste treatment system.

(1) Wastes which create a fire or explosion hazard in the treatment works.

(2) Wastes which will cause corrosive structural damage to treatment works.

(3) Solid or viscous substances in amounts which cause obstructions to the flow in sewers or interference with the proper operation of the treatment works.

(4) Wastewaters at a flow rate and/or pollutant discharge rate which is excessive over relatively short time periods so as to cause a loss of treatment efficiency.

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit. Such steps may include accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

7. By-passing

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life, severe property damage, extended duration process upset, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Michigan Water Resources Commission of such occurrence. Such notice shall be supplemented by a written report within 72 hours detailing the cause of such diversion or bypass and the corrective actions taken to minimize adverse impact and eliminate the need for future diversion or bypass.

8. Removed Substances and Leachates

Solids, sludges, filter backwash, leachates or other pollutants removed from or resulting from treatment or control of wastewaters shall be controlled in a manner so as to protect public health and to prevent any pollutant from such materials from entering navigable waters, or the entry of toxic or harmful contaminants thereof into the groundwaters in concentrations or amounts detrimental to the groundwater resource. Effective groundwater monitoring shall be provided in accordance with a program approved under Act 98, Public Acts of 1913, as amended.

9. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall:

a. Provide an alternative power source sufficient to operate facilities utilized by permittee to maintain compliance with the effluent limitations and conditions of this permit which provision shall be indicated in this permit by inclusion of a specific compliance date in each appropriate "Schedule of Compliance for Effluent Limitations"; or

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

C. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Chief Engineer of the Michigan Water Resources Commission and the Regional Administrator.

3. Availability of Reports

All reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Michigan Water Resources Commission and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act, Sections 7 and 10 of the Michigan Act, and Sections 8 and 13 of Act 98, Public Acts of 1913, as amended.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully, all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. Toxic Pollutants

Notwithstanding Part II, C-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II, B-7) and "Power Failures" (Part II, B-9), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, such as accidents, equipment breakdowns, or natural disasters.

7. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

8. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations.

10. Facility Construction

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities, the modification of any existing wastewater facility, or the undertaking of any work in any navigable waters. Approval for such construction must be by permit issued under Michigan Act 98, Public Acts of 1913, as amended.

11. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

MIXING ZONE

Discharge Identification City of Battle Creek Wastewater Treatment Plant

Discharge Location to the Kalamazoo River in Section 32, T 1 S, R 8 W

Outfall Number(s) 001 and 002

The mixing zone for purposes of evaluating compliance with the State Water Quality Standards is defined as the left one-quarter (1/4) of the Kalamazoo River for a distance 1000 feet downstream from the point of discharge.

NATURAL RESOURCES COMMISSION
CARL T JOHNSON
E M LAITALA
DEAN PRIDGEON
HILARY F SNELL
HARRY H WHITELEY
JOAN L WOLFE
CHARLES G YOUNGLOVE

STATE OF MICHIGAN

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T MASON BUILDING, LANSING, MICHIGAN 48926
HOWARD A TANNER, Director

RECEIVED
Date 7/21/77
By
City of Battle Creek

July 11, 1977

City of Battle Creek
2000 West River Road
Battle Creek, MI 49015

Re: Wastewater Treatment Plant
MI 0022276

Gentlemen:

Your application for a National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate State and Federal regulations.

The Water Resources Commission authorized the issuance of the NPDES permit and the Final Order, you consented to, at our June 23-24, 1977 meeting.

Your NPDES Permit contains: 1) limitations which require you to monitor your effluent in accordance with Part I, Section A, on pages 2 and 3 of 16, and 2) a schedule of compliance which requires you to meet deadlines concerning the construction of waste control facilities in accordance with your Final Order.

REVIEW THE PERMIT AND FINAL ORDER EFFLUENT LIMITS AND PERFORMANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. All violations are audited by the United States Environmental Protection Agency and will appear in a published quarterly non-compliance report made available to agencies and the public.

Your monthly operating report forms will be transmitted to you in the near future. These reports are to be submitted monthly as required by your NPDES permit.

Very truly yours,

WATER QUALITY DIVISION

Paul D. Zugger
Permit & Enforcement Coordinator

Enclosure: Permit & Final Order

cc: A. H. Manzardo (2)
R. J. Courchaine
Comp. Studies
Files
C. Odin
T. K. Wu
R. Schaffer
R. Christensen
P. Blakeslee
K. Zollner
C. Harvey
Southcentral Michigan Planning and Development Council of Region III

MICHIGAN THE GREAT LAKE STATE

R1026 1/75

Permit No. MI 0022276

MICHIGAN WATER RESOURCES COMMISSION

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), Michigan Act 98, Public Acts of 1913, as amended, being sections 325.201 through 325.213 of the Compiled Laws of Michigan, and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended, being sections 322.1 through 322.13 of the Compiled Laws of Michigan, the "Michigan Act"),

The City of Battle Creek

is authorized to discharge from a facility located at 2000 West River Road

to receiving water named the Kalamazoo River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit shall become effective on the date of issuance.

This permit and the authorization to discharge shall expire at midnight, March 31, 1982. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

Signed this 30th day of June, 1977, by the Michigan Water Resources Commission.

Robert J. Courchaine

Robert J. Courchaine
Executive Secretary

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.

1. Interim Effluent Limitations

During the period beginning on the effective date and lasting until June 30, 1977 discharges from the City of Battle Creek wastewater treatment plant outfall(s) 001 and 002 shall be limited and monitored by the permittee as specified below:

(a) The following shall be limited and monitored by the permittee as specified:

EFFLUENT CHARACTERISTIC	Discharge Load Limitations kg/day (lb/day)		Discharge Concentration Limitations		Monitoring Requirements	
	30 Day Aver.	7 Day Aver.	30 Day Aver.	7 Day Aver.	Measure. Frequency	Sample Type & Location
5-Day 20°C Biochemical Oxygen Demand	2330 or (5160)	3500 or (7740)	40 mg/l	60 mg/l	7 x weekly	24 hour composite prior to disinfection
Suspended Solids	3500 or (7740)	5000 or (11000)	60 mg/l	85 mg/l	7 x weekly	24 hour composite prior to disinfection
Fecal Coliform Bacteria	---	---	200/100 ml	400/100 ml	7 x weekly	Grab following disinfection
Total Phosphorus (as P)	---	---	See Note Below	---	7 x weekly	24 hour composite prior to disinfection

NOTE: PHOSPHORUS - The effluent shall contain as a maximum not more than 20 percent (20%) of the total phosphorus contained in the sewage and industrial waste prior to treatment and, insofar as optimum operations of the facilities will attain such a level, shall contain not more than 1 mg/l of total phosphorus.

(b) The pH shall not be less than 6.5 nor greater than 9.0. The pH shall be monitored as follows: Daily grab sample. The pH limitation is not subject to averaging and must be met at all times.

(c) The effluent discharge shall be measured daily.

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.

2. Final Effluent Limitations

During the period beginning July 1, 1977 and lasting until June 30, 1982 discharges from the City of Battle Creek wastewater treatment plant outfall(s) 001 shall be limited and monitored by the permittee as specified below:

(a) The following shall be limited and monitored by the permittee as specified:

EFFLUENT CHARACTERISTIC	Discharge Load Limitations kg/day (lb/day)		Discharge Concentration Limitations		Monitoring Requirements	
	30 Day Aver.	Daily Maximum	30 Day Aver.	Daily Maximum	Measure. Frequency	Sample Type & Location
5-Day 20°C Biochemical Oxygen Demand	---	1360 or (3300)	---	14 mg/l	Daily	24 hour composite prior to disinfection
		7 Day Avg.		7 Day Avg.		
Suspended Solids	2300 or (5050)	1500 or (7550)	20 mg/l	30 mg/l	Daily	24 hour composite prior to disinfection
Fecal Coliform Bacteria	---	---	200/100 ml	400/100 ml	Daily	Grab following disinfection
Total Phosphorus (as P)	---	---	See Note Below	---	Daily	24 hour composite prior to disinfection
Copper Total Chrome Zinc Nickel Lead PCB DEHP	---	---	---	---	3 x weekly	24 hour composite prior to disinfection

NOTE: PHOSPHORUS - The effluent shall contain as a maximum not more than 20 percent (20%) of the total phosphorus contained in the sewage and industrial waste prior to treatment and, insofar as optimum operations of the facilities will attain such a level, shall contain not more than 1 mg/l of total phosphorus.

(b) The pH shall not be less than 6.5 nor greater than 9.0. The pH shall be monitored as follows: Daily grab sample. The pH limitation is not subject to averaging and must be met at all times.

(c) The effluent discharge shall be measured daily.

PERMIT CONDITIONS

PART I

3. Sludge Disposal Program

In addition to the requirements in Part II, B8 herein, the permittee shall provide for the effective management and/or disposal of solids, sludges and other substances removed from or resulting from treatment of the wastewater. Sludge disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in a unlawful pollution of the air, surface waters or groundwaters of the state nor create unlawful nuisance conditions. Such management and/or disposal program shall be set forth in a "Program For Effective Residual Management" report prepared by the permittee. The report shall be submitted to and receive the approval of the Chief of the Water Quality Division on or before December 31, 1977.
If the permittee desires to make any substantial changes in the plan, such proposed changes shall be submitted to and approved by the Chief of the Water Quality Division prior to implementation.

Permit No. MI 0022276

PART I

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

The permittee shall effectively monitor the operation and efficiency of all processes comprising the treatment and control facilities and the quantity and quality of the treated discharge. Monitoring data required by this permit shall be tabulated, summarized and averaged on a calendar month basis. Monthly reports, on forms or format supplied by the Michigan Water Resources Commission, shall be mailed to the address below, postmarked no later than the tenth of the first month following the report period.

State of Michigan
Water Resources Commission
P.O. Box 30028 - Stevens T. Mason Bldg.
c/o Water Quality Division
Lansing, Michigan 48909

3. Definitions

a. The 30 consecutive day average other than for fecal or total coliform bacteria, is defined as the sum of the concentrations and/or weights of the individual samples divided by the number of samples taken during a 30 day period. The 30 consecutive day average for fecal or total coliform bacteria is the geometric mean of the samples collected in a 30 day period.

b. The 7 consecutive day average other than for fecal or total coliform bacteria, is defined as the sum of the concentrations and/or weights of the individual samples divided by the number of samples taken during a 7 day period. The 7 consecutive day average for fecal or total coliform bacteria is the geometric mean of the samples collected in a 7 day period.

c. The maximum limitation is defined as the permissible maximum concentration and/or weight in any individual sample taken during the month.

4. Test Procedures

a. Wastewater or effluent analysis values are to be determined using a twenty-four hour, flow proportioned composite sample consisting of hourly or more frequent portions for all analyses identified as "24 hour composite".

b. Wastewater or effluent analysis values are to be determined using a single sample of wastewater taken at neither set time nor flow for all analyses identified as "grab".

c. Coliform bacterial analyses (fecal and/or total, at facilities providing chemical disinfection) shall be performed on "grab" samples collected at varying times during an operating day and information derived therefrom shall be used in conjunction with flow rate and loading variations and disinfectant feed rates to provide optimum disinfectant residual levels consistent with the bacterial limitations prescribed herein.

d. Other measurements of oxygen demand may be substituted for Biochemical Oxygen Demand (B.O.D.) where the permittee can demonstrate long term correlation of the method with B.O.D. values. Substitution of such measurements must receive prior approval from the Michigan Water Resources Commission.

e. The analytical and sampling methods used shall conform to the rules and regulations promulgated under Section 304(g) of the "Act" (Title 40, Capter 1, Subchapter D, Part 136-Guidelines Establishing Test Procedures for the Analysis of Pollutants). Copies are available from the Michigan Water Resources Commission upon request.

f. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to insure accuracy of measurements.

5. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical techniques or methods used; and

e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Operating Report.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Michigan Water Resources Commission or the Regional Administrator.

PART I

C. INDUSTRIAL WASTE CONTROL

1. Requirements of Section 204 (b), 307, and 308 of the Act.

The permittee shall require all Major Contributing Industries to comply with applicable portions of Sections 204 (b), 307, and 308 of the Act. A major Contributing Industry is one that:

(a) Has a flow of 50,000 gallons or more per average workday;
(b) Has a flow greater than five percent of the flow carried by the municipal system receiving the waste;
(c) Has in its waste a toxic pollutant in toxic amounts as defined in standards issued under Section 307 (a) of the federal Act;
(d) Has significant impact, either singly or in combination with other contributing industries, on the treatment works or the quality of its effluent.

2. Industrial Surveillance Report

The permittee shall develop an Industrial Surveillance Report that commits the permittee to an ongoing program of industrial and other non-domestic waste surveillance. The Report should include items as listed in Appendix A. The approved Industrial Surveillance Report shall become an enforceable part of this permit. The Report shall be submitted to the Chief Engineer of the Michigan Water Resources Commission and receive his approval thereof on or before March 31, 1978.

3. Pre-Treatment Standards

Based on information received pursuant to the Industrial Surveillance Report, the permittee will be notified by the Chief Engineer of the Michigan Water Resources Commission of the availability of industrial pre-treatment standards promulgated by the Environmental Protection Agency pursuant to Section 307 of the Act. Copies of said standards will be provided as appropriate.

a. Not later than 120 days following receipt of such notification the permittee shall begin quarterly reporting to the Michigan Water Resources Commission. The report should contain information on the Major Contributing Industries as follows:

(1) Name and address.

(2) Nature of enterprise including quantity of product produced or raw material processed.

(3) Quantity of wastewater discharged to the permittee's system.

(4) Description of pre-treatment provided.

(5) Quantitative description of wastewater quality in terms of appropriate parameters, concentrations, and loadings.

PART I, Section C-3 (Continued...)

(6) Computed allowable inputs pursuant to prumulated pre-treatment standards.

b. Not later than 120 days following receipt of such notification the permittee shall have begun effective monitoring the waste collection system for violations of the Sewer Use and Industrial Waste Control Ordinance and federal pre-treatment standards.

c. Not later than 6 months following receipt of such notification the permittee shall have promulgated an enforceable Sewer Use and Industrial Waste Control Ordinance that has been approved by the Chief Engineer of the Michigan Water Resources Commission.

PART II

A. PERMIT PROGRAM ADMINISTRATION

1. Michigan Water Resources Commission

The Michigan Water Resources Commission is located in the Stevens T. Mason Building, Lansing, Michigan, and has been delegated the authority to administer the NPDES permit in the State of Michigan.

2. Regional Administrator

Where used within this permit the term Regional Administrator shall mean the Administrator, Region V, U.S. Environmental Protection Agency.

B. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Containment Facilities

The permittee shall provide facilities approved under Act 98, Public Acts of 1913 as amended, and in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5, for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Department of Natural Resources as required by Regulations Governing the Certification of Sewage Treatment Works Operators in accordance with Act 98, Public Acts of 1913, as amended (R 299.2911 - R 299.2927.)

4. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any condition specified in this permit, the permittee shall provide the Michigan Water Resources Commission and the Regional Administrator with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the circumstances and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncompliance.

5. Facilities Operation

All waste collection, control, treatment and disposal facilites shall be operated in a manner consistent with the following:

a. At all times, all facilities shall be operated and maintained in an efficient and responsible manner.

b. The permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

c. Maintenance of treatment facilities shall not result in degradation of effluent quality, or if degradation of effluent is unavoidable shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved by the permitting authority.

d. Under no circumstances shall the permittee allow introduction of the following wastes into the waste treatment system.

(1) Wastes which create a fire or explosion hazard in the treatment works.

(2) Wastes which will cause corrosive structural damage to treatment works.

(3) Solid or viscous substances in amounts which cause obstructions to the flow in sewers or interference with the proper operation of the treatment works.

(4) Wastewaters at a flow rate and/or pollutant discharge rate which is excessive over relatively short time periods so as to cause a loss of treatment efficiency.

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit. Such steps may include accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

7. By-passing

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life, severe property damage, extended duration process upset, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Michigan Water Resources Commission of any such occurrence.b/ telephone at (517) 373-7660. Such notice shall be supplemented by a written report within 10 days detailing the cause of such diversion or bypass and the corrective actions taken to minimize adverse impact and eliminate the need for future diversion or bypass.

8. Removed Substances and Leachates

Solids, sludges, filter backwash, leachates or other pollutants removed from or resulting from treatment or control of wastewaters shall be controlled in a manner so as to protect public health and to prevent any pollutant from such materials from entering navigable waters, or the entry of toxic or harmful contaminants thereof into the groundwaters in concentrations or amounts detrimental to the groundwater resource. Effective groundwater monitoring shall be provided in accordance with a program approved under Act 98, Public Acts of 1913, as amended.

9. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall:

a. Provide an alternative power source sufficient to operate facilities utilized by permittee to maintain compliance with the effluent limitations and conditions of this permit.

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

C. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Chief Engineer of the Michigan Water Resources Commission and the Regional Administrator.

3. Availability of Reports

All reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Michigan Water Resources Commission and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act, Sections 7 and 10 of the Michigan Act, and Sections 8 and 13 of Act 98, Public Acts of 1913, as amended.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully, all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. Toxic Pollutants

Notwithstanding Part II, C-4 above, if a toxic effluent standard or prohibiti (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II, B-7) and "Power Failures" (Part II, B-9), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, such as accidents, equipment breakdowns, or natural disasters.

7. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

8. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations.

10. Facility Construction

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities, the modification of any existing wastewater facility, or the undertaking of any work in any navigable waters. Approval for such construction must be by permit issued under Michigan Act 98, Public Acts of 1913, as amended.

11. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

APPENDIX A

Industrial Surveillance Report

A complete Industrial Surveillance Report commits the permittee to an ongoing program of industrial and other non-domestic waste surveillance and includes the following:

a. A plan for the identification of all non-domestic users of the municipal waste collection system, and, where appropriate, obtaining information on the quantity and quality of wastes received for treatment. The plan shall contain a time schedule with specific dates for the compilation of the information obtained in a List of Non-Domestic Users for submittal to the Chief Engineer of the Michigan Water Resources Commission. As much of the following information should be included in the list as is appropriate.

   (1) The name and mailing address of all Non-Domestic Users of the waste collection system, including both local facility address and main office address, if different.

   (2) The principal enterprise of the user, including if appropriate, the product(s) produced or raw material(s) processed and the quantity per unit time. Some indication of the magnitude of the enterprise should be given.

   (3) The quantity of wastewater discharged daily and whether the discharge is intermittent or continuous.

   (4) A description of the pre-treatment, if any, provided prior to discharge to the collection system.

   (5) A quantitative description of the wastewater character in terms of appropriate parameters and concentrations.

b. A plan for the development of an enforceable Sewer Use and Indutrial Waste Control Ordinance. The plan should conclude with the promulgation of the Ordinance not later than one year following approval of the Industrial Surveillance Report, and shall include specific dates for completion of each step in the process of promulgation. Such ordinance shall include at least the following:

   (1) Authority to ensure compliance of all Major Contributing Industries with federal pretreatment standards and other requirements in accordance with Section 307 of the federal Act.

   (2) Authority to require major contributing industries to submit semi annual notice of progress toward complying with pretreatment standards.

   (3) Authority to municipal and state agents to enter all properties of the industry for the purpose of inspection, observation, measurement, sampling and testing.

APPENDIX A (continued...)

(4) Authority to require that wastewaters be accessible, through such means as a control manhole, for the purposes of inspection, observation, measurement, sampling, and testing.

(5) Authority to require industries to monitor and report on their wastewaters to the municipality.

(6) Civil and/or criminal penalties for violations, including fines and/or termination of discharge authorization.

c. A plan for monitoring the waste collection system for violations of the Sewer Use and Industrial Waste Control Ordinance and the federal Act. The plan shall include:

(1) Quarterly reporting to the Michigan Water Resources Commission of modifications to the List of Non-Domestic Users.

(2) Compilation of a Major Contributing Industries List incorporating the information obtained from Paragraph 1-a of this Section and the primary Standard Industrial Classification Code for all Major Contributing Industries tributary to the treatment facilities.

(3) Semi-Annual reporting to the Michigan Water Resources Commission of the progress of the Major Contributing Industries toward full compliance with the requirements of Section 307 of the federal Act.

(4) A municipal sampling and monitoring program to determine the quality and quantity of wastes from Non-Domestic Users, and to verify data submitted by Non-Domestic Users.

Application No. MI 0022276

MIXING ZONE

Discharge Identification City of Battle Creek Wastewater Treatment Plant

Discharge Location to the Kalamazoo River in Section 32, T 1 S, R 8 W

Outfall Number(s) 001 and 002

The mixing zone for purposes of evaluating compliance with the State Water Quality Standards is defined as the left one-quarter (1/4) of the Kalamazoo River for a distance 1000 feet downstream from the point of discharge.

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
CARL T. JOHNSON
E.M LAITALA
DEAN PRIDGEON
HILARY F. SNELL
HARRY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES
STEVENS T. MASON BUILDING, BOX 30028, LANSING, MICHIGAN 48909
HOWARD A. TANNER, Director

WATER RESOURCES COMMISSIO
PATRICIA M. CAYEMBERG
MAX N. CLYDE
THOMAS C. HOOGERHYDE
CLEAMON E. LAY
STANLEY QUACKENBUSH
HOWARD A. TANNER
JOYCE P. VANKEULEN

July 2, 1981

RECEIVED
JUL 8 1981
WASTEWATER
TREATMENT PLANT

CERTIFIED MAIL

City of Battle Creek
E. Michigan Ave. at E. Division St.
P.O. Box 1717
Battle Creek, Michigan 49014

Attn: City Clerk

Re: Wastewater Treatment Plant
MI 0022276

Gentlemen:

Your application for a National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate State and Federal regulations.

Your NPDES Permit contains: 1) limitations which require you to monitor your effluent in accordance with Part I, Section A and 2) a schedule of compliance for submittal of information concerning other permit requirements.

REVIEW THE PERMIT EFFLUENT LIMITS AND PERFORMANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. All permit violations are audited by the United States Environmental Protection Agency and will appear in a published quarterly non-compliance report made available to agencies and the public.

Your monthly operating report forms will be transmitted to you in the near future. These reports are to be submitted monthly as required by your NPDES permit.

Very truly yours,

WATER QUALITY DIVISION

Karl Zollner, Jr.

Karl Zollner, Jr., P.E., Chief
Engineering & Technical Services Section

KJZ:bl
Enclosure: Permit
cc: A.H. Manzardo (2)
P. Blakeslee
Data Center
Files
Comprehensive Studies Section
C. Odin
Point Source Studies Section
F. Baldwin
Environmental Enforcement Division
Southcentral Michigan Regional Planning Agency
T. Newell

RECEIVED
JUL 7 1981
PUBLIC WORKS DEPT.
CITY OF BATTLE CREEK
MICHIGAN

MICHIGAN
THE GREAT LAKE STATE
R1026-2 Rev. 10/78

Permit No. MI 0022276

MICHIGAN WATER RESOURCES COMMISSION

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), Michigan Act 98, Public Acts of 1913, as amended, being sections 325.201 through 325.213 of the Compiled Laws of Michigan, and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended, being sections 322.1 through 322.13 of the Compiled Laws of Michigan, the "Michigan Act"),

The City of Battle Creek

is authorized to discharge from a facility located at 2000 West River Road

to receiving water named the Kalamazoo River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit and the authorization to discharge shall expire at midnight, March 31, 1982. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

Issued this 30th day of June, 1977, and modified this 2nd day of July, 1981, by the Michigan Water Resources Commission. The modifications made on July 2, 1981 shall become effective July 15, 1981, and shall be final in absense of a request for a hearing prior to the effective date, July 15, 198

Robert J. Courchaine

Robert J. Courchaine
Executive Secretary

Permit No. MI 0022222

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.

1. Interim Effluent Limitations

During the period beginning on the effective date and lasting until June 30, 1977 discharges from the City of Battle Creek wastewater treatment plant outfall(s) 001 and 002 shall be limited and monitored by the permittee as specified below:

(a) The following shall be limited and monitored by the permittee as specified:

EFFLUENT HARACTERISTIC	Discharge Load Limitations kg/day (lb/day)		Discharge Concentration Limitations		Monitoring Requirements	
	30 Day Aver.	7 Day Aver.	30 Day Aver.	7 Day Aver.	Measure. Frequency	Sample Type & Location
Day 20°C ochemical ygen Demand	2330 or (5160)	3500 or (7740)	40 mg/l	60 mg/l	7 x weekly	24 hour composite following disinfection
ıspended olids	3500 or (7740)	5000 or (11000)	60 mg/l	85 mg/l	7 x weekly	24 hour composite following disinfection
ecal oliform acteria	---	---	200/100 ml	400/100 ml	7 x weekly	Grab following disinfection
otal Phosphorus (as P)	---	---	See Note Below	---	7 x weekly	24 hour composite following disinfection

NOTE: PHOSPHORUS - The effluent shall contain as a maximum not more than 20 percent (20%) of the total phosphorus contained in the sewage and industrial waste prior to treatment and, insofar as optimum operations of the facilities will attain such a level, shall contain not more than 1 mg/l of total phosphorus.

(b) The pH shall not be less than 6.5 nor greater than 9.0. The pH shall be monitored as follows: Daily grab sample. The pH limitation is not subject to averaging and must be met at all times.

(c) The effluent discharge shall be measured daily.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

2. Final Effluent Limitations - Phase II Facilities (excluding tertiary filters)

a. During the period beginning July 1, 1977 and lasting until date of expiration, the permittee is authorized to discharge treated municipal wastewater from the City of Battle Creek wastewater treatment plant through outfall 001 to Kalamazoo River. Such discharge shall be limited and monitored by the permittee as follows:

EFFLUENT CHARACTERISTICS	DATES IN EFFECT	LOAD LIMITATIONS		CONCENTRATION LIMITATIONS				TESTIN FRFQUEN
		MAXIMUMS		MINIMUM	MAXIMUMS			
		30-DAY AVG.	7-DAY AVG.	DAILY	DAILY	30-DAY AVG.	7-DAY AVG.	
CARBONACEOUS 5-DAY 20°C BIOCHEMICAL OXYGEN DEMAND	5/1-9/30	4003 lb/day 1820 kg/day				20 mg/l		Daily
	10/1-11/30	4604 lb/day 2090 kg/day				23 mg/l		Daily
5-DAY BOD	5/1-11/30	6005 lb/day 2730 kg/day	9008 lb/day 4095 kg/day			30 mg/l	45 mg/l	1 x Wee
	12/1-4/30							Daily
AMMONIA NITROGEN (as N) (NH_3-N)	5/1-9/30	400 lb/day 182 kg/day				2.0 mg/l		Daily
	10/1-11/30	1300 lb/day 592 kg/day				6.5 mg/l		Daily
DISSOLVED OXYGEN	ALL YEAR			4 mg/l				Daily
TOTAL SUSPENDED SOLIDS	ALL YEAR	6005 lb/day 2730 kg/day	9008 lb/day 4095 kg/day			30 mg/l	45 mg/l	Daily
FECAL COLIFORM BACTERIA	5/15-10/15					200/100 ml	400/100 ml	Daily
TOTAL RESIDUAL CHLORINE	ALL YEAR				see item f. below			Daily
TOTAL PHOSPHORUS AS (P)	ALL YEAR					1.0 mg/l		Daily
pH	ALL YEAR			6.0	9.0			Daily

b. All samples shall be 24 hour composite samples taken prior to disinfection except Fecal Coliform Bacteria, Total Residual Chlorine, Dissolved Oxygen, and pH which shall be grab samples of the effluent.

c. The treatment plant flow rate shall be measured daily.

d. During the period that Coliform Bacteria limitations are in effect, the permittee shall provide adequate control and facilities to ensure continuous disinfection.

e. The carbonaceous BOD_5 limitation shall be considered as BOD_5 excluding the oxygen demand attributable to nitrification.

f. Special Condition - Chlorine Study

The permittee shall conduct studies of sufficient detail to determine a method of providing adequate disinfection of the treated sanitary sewage and a goal of reducing total residual chlorine to a level not exceeding 0.05 mg/l. Upon review of the study by staff of the Water Quality Division, recommendations may be made to the Water Resources Commission for modification of the permit to include an appropriate limitation for total residual chlorine.

3. Special Conditions

a. Within one year following completion of construction and attainment of operational levels of the Phase II facilities (excluding tertiary filters), the Department shall provide an instream evaluation to determine if additional facilities are needed to meet water quality standards. If it is so demonstrated, the Department will petition the WRC to impose the following effluent limitations:

EFFLUENT CHARACTERISTICS	DATES IN EFFECT	LOAD LIMITATIONS		CONCENTRATION LIMITATIONS				TESTING FREQUENC
		MAXIMUMS		MINIMUM	MAXIMUMS			
		30-DAY AVG.	7-DAY AVG.	DAILY	DAILY	30-DAY AVG.	7-DAY AVG.	
CARBONACEOUS 5-DAY 20°C BIOCHEMICAL OXYGEN DEMAND	5/1-9/30		4003 lb/day 1820 kg/day		20 mg/l			Daily
	10/1-11/30		7005 lb/day 3184 kg/day		35 mg/l			Daily
5-DAY BOD	5/1-11/30	6005 lb/day 2730 kg/day	9008 lb/day 4095 kg/day			30 mg/l	45 mg/l	1 x Week
	12/1-4/30							Daily
AMMONIA NITROGEN (as N) (NH_3-N)	5/1-9/30		400 lb/day 182 kg/day		2.0 mg/l			Daily
	10/1-11/30		1300 lb/day 592 kg/day		6.5 mg/l			Daily
DISSOLVED OXYGEN	ALL YEAR			4 mg/l				Daily
TOTAL SUSPENDED SOLIDS	ALL YEAR	6005 lb/day 2730 kg/day	9008 lb/day 4095 kg/day			30 mg/l	45 mg/l	Daily
FECAL COLIFORM BACTERIA	5/15-10/15					200/100 ml	400/100 ml	Daily
TOTAL RESIDUAL CHLORINE	ALL YEAR				see item f. below			Daily
TOTAL PHOSPHORUS AS (P)	ALL YEAR					1.0 mg/l		Daily
pH	ALL YEAR			6.0	9.0			Daily

The following design flows were used in determining the above limitations, but are not to be considered limitations or actual

Annual average design flow = 24 MGD

PART I, Section A-3

b. All samples shall be 24 hour composite samples taken prior to disinfection except Fecal Coliform Bacteria, Total Residual Chlorine, Dissolved Oxygen, and pH which shall be grab samples of the effluent.

c. The treatment plant flow rate shall be measured daily.

d. During the period that Coliform Bacteria limitations are in effect, the permittee shall provide adequate control and facilities to ensure continuous disinfection.

e. The carbonaceous BOD_5 limitation shall be considered as BOD_5 excluding the oxygen demand attributable to nitrification.

f. Special Condition - Chlorine Study

The permittee shall conduct studies of sufficient detail to determine a method of providing adequate disinfection of the treated sanitary sewage and a goal of reducing total residual chlorine to a level not exceeding 0.05 mg/l. Upon review of the study by staff of the Water Quality Division, recommendations may be made to the Water Resources Commission for modification of the permit to include an appropriate limitation for total residual chlorine.

PART I, Section A

4. Wastewater Pre-Screening Monitoring for Toxic Substances

The Michigan Water Resources Commission has determined that discharges of the following toxic substances to your treatment system may result in violations of the state Water Quality Standards or may be incompatible with your sludge disposal program. For the following parameters, a "Toxic Substances Monitoring Report" shall be submitted and monitoring initiated in accordance with the Schedule of Compliance in Part I, Section D. The frequency and duration for the initial pre-screening monitoring is specified below:

PARAMETER	PRE-SCREENING EFFLUENT MONITORING FREQUENCY	PRE-SCREENING SLUDGE MONITORING FREQUENCY
aromatic amines (as aniline)	Monthly for 2 Months**	Monthly for 2 Months**
aromatic hydrocarbon scan benzene ethylbenzene toluene xylenes styrene	Weekly for 2 Months**	Monthly for 2 Months**
volatile chlorinated hydrocarbon scan carbon tetrachloride tetrachloroethylene dichlorobenzenes	Weekly for 2 Months**	Monthly for 2 months**
phenolics	Weekly for 2 Months*	Monthly for 2 Months**
hydroquinone	Weekly for 2 Months*	Monthly for 2 Months**
benzidine	Weekly for 2 Months*	Monthly for 2 Months**
chlorinated phenols scan	Monthly for 2 Months*	Monthly for 2 Months**
phthalate esters scan	Monthly for 2 Months**	Monthly for 2 Months**
polycyclic aromatic hydrocarbon scan (through benzo(a)pyrene)	---	Monthly for 2 Months**
PCB	---	Monthly for 2 Months**
Copper	Weekly for 2 Months*	Monthly for 2 Months**
Total chrome	Weekly for 2 Months*	Monthly for 2 Months**
Zinc	Weekly for 2 Months*	Monthly for 2 Months**
Nickel	Weekly for 2 Months*	Monthly for 2 Months**
Lead	Weekly for 2 Months*	Monthly for 2 Months**
Cyanides	Weekly for 2 Months*	Monthly for 2 Months**
Cadmium	Monthly for 2 Months*	Monthly for 2 Months**
Mercury	Monthly for 2 Months*	Monthly for 2 Months**
Arsenic	Monthly for 2 Months*	Monthly for 2 Months**
Selenium	Monthly for 2 Months*	Monthly for 2 Months**
Silver	Monthly for 2 Months*	Monthly for 2 Months**

24 hour composite *
Grab sample **

PERMIT CONDITIONS

PART I

5. Sludge Disposal Program

In addition to the requirements in Part II, B8 herein, the permittee shall provide for the effective management and/or disposal of solids, sludges and other substances removed from or resulting from treatment of the wastewater. Sludge disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in a unlawful pollution of the air, surface waters or groundwaters of the state nor create unlawful nuisance conditions. Such management and/or disposal program shall be set forth in a "Program For Effective Residual Management" report prepared by the permittee. The report shall be submitted to and receive the approval of the Chief of the Water Quality Division on or before December 31, 1977. If the permittee desires to make any substantial changes in the plan, such proposed changes shall be submitted to and approved by the Chief of the Water Quality Division prior to implementation.

Submitted

* Approved by Mike Bray letter in DNR Correspondence file of January 27, 1982

Permit No. MI 0022276

PART I

B. MONITORING AND REPORTING

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Reporting

The permittee shall effectively monitor the operation and efficiency of all processes comprising the treatment and control facilities and the quantity and quality of the treated discharge. Monitoring data required by this permit shall be tabulated, summarized and averaged on a calendar month basis. Monthly reports, on forms or format supplied by the Michigan Water Resources Commission, shall be mailed to the address below, postmarked no later than the tenth of the first month following the report period.

State of Michigan
Water Resources Commission
P.O. Box 30028 - Stevens T. Mason Bldg.
c/o Water Quality Division
Lansing, Michigan 48909

3. Definitions

a. The 30 consecutive day average other than for fecal or total coliform bacteria, is defined as the sum of the concentrations and/or weights of the individual samples divided by the number of samples taken during a 30 day period. The 30 consecutive day average for fecal or total coliform bacteria is the geometric mean of the samples collected in a 30 day period

b. The 7 consecutive day average other than for fecal or total coliform bacteria, is defined as the sum of the concentrations and/or weights of the individual samples divided by the number of samples taken during a 7 day period. The 7 consecutive day average for fecal or total coliform bacteria is the geometric mean of the samples collected in a 7 day period.

c. The maximum limitation is defined as the permissible maximum concentration and/or weight in any individual sample taken during the month.

4. Test Procedures

a. Wastewater or effluent analysis values are to be determined using a twenty-four hour, flow proportioned composite sample consisting of hourly or more frequent portions for all analyses identified as "24 hour composite".

b. Wastewater or effluent analysis values are to be determined using a single sample of wastewater taken at neither set time nor flow for all analyses identified as "grab".

c. Coliform bacterial analyses (fecal and/or total, at facilities providing chemical disinfection) shall be performed on "grab" samples collected at varying times during an operating day and information derived therefrom shall be used in conjunction with flow rate and loading variations and disinfectant feed rates to provide optimum disinfectant residual levels consistent with the bacterial limitations prescribed herein.

d. Other measurements of oxygen demand may be substituted for Biochemical Oxygen Demand (B.O.D.) where the permittee can demonstrate long term correlation of the method with B.O.D. values. Substitution of such measurements must receive prior approval from the Michigan Water Resources Commission.

e. The analytical and sampling methods used shall conform to the rules and regulations promulgated under Section 304(g) of the "Act" (Title 40, Capter 1, Subchapter D, Part 136-Guidelines Establishing Test Procedures for the Analysis of Pollutants). Copies are available from the Michigan Water Resources Commission upon request.

f. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to insure accuracy of measurements.

Recording of Results

For each measurement or sample taken pursuant to the requirements of this , the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical techniques or methods used; and

e. The results of all required analyses.

6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Operating Report.

7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Michigan Water Resources Commission or the Regional Administrator.

PART I

C. INDUSTRIAL WASTE PRETREATMENT PROGRAM

The permittee shall develop and implement an Industrial Waste Pretreatment and NonDomestic User Control Program that enables the permittee to detect and enforce against violations of federal, state, and local standards for the protection of the wastewater treatment works, its operation, and the aquatic environment. This program is required under the authority of Section 307(b) and (c) and Section 402(b)(8) of the Clean Water Act; Section 6b of the Michigan Act 245 of 1929, as amended; Sections 1 and 11 of Michigan Act 98, of 1913, as amended; and federal regulations 40 CFR 403.

In certain cases, there may be Construction Grant funds available to assist permittees to develop an Industrial Waste Pretreatment Program. The permittee is hereby advised that development and implementation of the program described herein is not contingent on available Grant funding.

The permittee shall submit all documents required for the Pretreatment Program to the attention of the Chief of the Water Quality Division, Michigan DNR, P.O. Box 30028, Lansing, Michigan, 48909. The permittee is referred to Part II, Section A-2 for definitions of several important terms used in this Section. The development of the Industrial Waste Pretreatment Program shall be as follows:

1. Industrial Waste Pretreatment and NonDomestic User Control Program

Submitted 11/26/80 Approval 10/1/81
Written Acknowl. of Recpt. 12/10/80

a. On or before Submitted 11/26/80, submit for approval a Master Plan to develop and implement an Industrial Waste Pretreatment and NonDomestic User Control Program. The Master Plan shall identify a series of necessary tasks which shall lead to ultimate approval by the State of of the permittee's ongoing surveillance program. The Master Plan shall address and expand on the following general areas identified in the Code of Federal Regulations (CFR) entitled "General Pretreatment Regulations for Existing and New Sources of Pollution" issued Monday, June 26, 1978:

Legal Authorities	- 40CFR 403.8(f)(1)(i) thru (vi)
Procedures	- 40CFR 403.8(f)(2)(i) thru (vii)
Funding	- 40CFR 403.8(f)(3)

This Master Plan shall make full use of Industrial User and NonDomestic User surveillance information that may have resulted from the identification, classification and survey requirements of any previous NPDES permit.

A time table shall be prepared by the permittee and submitted with the Master Plan. This time table shall include appropriate intermediate tasks and predicted completion dates. The following dates and task descriptions shall form the basic time table structure for program development. Other tasks and dates established by the permittee may be modified at the permittee's discretion.

Notice is hereby given that upon state approval, the permit shall be modified to incorporate the local pretreatment program.

ART I, Section C-1b

Submitted 8/27/1981 ✓ Written Acknowledgement of Receipt ~~Approved~~ 10/6/81

b. On or before September 1, 1981 submit the results of a User Survey which includes the identification of NonDomestic Users of the waste collection system. The submittal shall designate various NonDomestic Users as Major Users and explain the rationale used in the designation. For all NonDomestic Users the following information shall be included:

(1) The name and mailing address of all NonDomestic Users of the waste collection system, including both local facility address and main office address, if different.

(2) The principal enterprise of the user, including if appropriate, the product(s) produced or raw material(s) processed and the quantity per unit time. An indication of the magnitude of the enterprise should be given. All facilities in industrial classifications identified by EPA as being subject to pretreatment control shall be identified by Standard Industrial Classification code (SIC) (see attachment A for SIC listing).

(3) The quantity of wastewater discharged daily and whether the discharge is intermittent or continuous.

(4) A description of any pretreatment provided prior to discharge to the waste collection system.

(5) A qualitative description of the wastewater character in terms of appropriate parameters and concentrations (see attachment B for possible pollutant parameters of concern).

(6) A list of all chemicals used for process, cooling water, boiler water, or other purposes with an indication of quantity used and disposition of spent chemicals. ✓ Submitted 1/6/82

c. On or before February 1, 1982, submit for approval draft versions of sewer use ordinances, statutes, contracts and/or joint powers agreements necessary to provide the permittee with legal authorities described in 40 CFR 403.8(f)(1)(i) thru (vi) throughout the area served by the permittee's facility.

The legal authorities shall enable the permittee to:

(1) Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the waste collection system by Industrial and NonDomestic Users.

(2) Require compliance with applicable National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

(3) Control, through permit, contract, order, or similar means, the contribution to the waste collection system by Industrial and NonDomestic Users.

Section C-1c

(4) Require the development of compliance schedules by Industrial and NonDomestic Users for the installation of facilities required to meet applicable National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

(5) Require the submission of notices and self-monitoring reports from Industrial and NonDomestic Users to assess and assure compliance with National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

(6) Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial and NonDomestic Users, compliance or noncompliance with applicable National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

(7) Seek injunctive relief for noncompliance with National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

(8) Require Industrial and NonDomestic Users to install containment facilities to protect the treatment works from accidental spills of critical or hazardous materials.

Submitted October 14, 1982
Approved: Oct 20, 1982

On or before August 1, 1982, submit for approval and request approval to implement the complete Industrial Waste Pretreatment and NonDomestic User Control Program. A request for program approval shall be accompanied with:

(1) Applicable statutues, ordinances, permits, contracts, etc.

(2) A detailed description of mechanisms, proposed to enforce the compliance schedules developed for NonDomestic Users.

3) Inspection and monitoring program procedures to assess compliance or noncompliance with National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

) A detailed description of mechanisms proposed to remedy noncompliance with the National Pretreatment Standards, and other more restrictive requirements as may be imposed by the permittee including administrative relief and injunctive relief.

A listing of monitoring and analytical equipment needs required to implement the local program.

ment and enforce the approved Industrial Waste Pretreatment and mestic User Control Program on or before February 1, 1983.

eports

eports shall be submitted every six (6) months to summarize progress ng the major compliance dates (enumerated in paragraph 1. above)

PART I, Section C-2

EVERY 6 MOS.!

and projected time table submitted by the permittee along with the Master Plan. These reports shall include a NonDomestic User List and ~~Major User~~ List update. The first report is due on or before September 16, 1981. Progress reporting requirements shall cease with the ~~approval of the~~ Industrial Waste Pretreatment and NonDomestic User Control Program and shall be replaced by Compliance Reports.

SUBMITTED 9/14/81

WRITTEN ACKNOWLEDGEMENT OF ~~APPROVAL~~ RECEIPT: 10/6/81

3. Compliance Reports

Compliance Reports shall be submitted every six (6) months to summarize the enforcement activities undertaken and surveillance performed by the permittee concerning the approved Industrial Waste Pretreatment and NonDomestic User Control Program. These reports shall discuss the progress by the Major Users in achieving adequate pretreatment. These reports shall also update the NonDomestic User List and the Major User List. The first Compliance Reports are due six months following approval of the Industrial Waste Pretreatment and NonDomestic User Control Program and shall continue for the duration of this permit.

4. Removal Credit

The permittee may request a removal credit be granted from National Categorical Pretreatment Standards if:

a. consistent removal is substantiated; and

b. no adverse impact is created by the treatment facility discharge; and

c. no adverse impact is created on the residuals management program.

(For additional details and reporting requirements, see 40 CFR 403.7 and 40 CFR 403.12 h, i, j and l, m, n.)

SUBMITTED: MARCH 16, 1982
ACKNOWLEDGEMENT: MARCH 29, 1982
SUBMITTED. SEPT. 17, 1982
ACKNOW. SEPT 23, 1982
SUBMITTED

D. SCHEDULE OF COMPLIANCE

Toxic Substances Monitoring — Submitted 3/26/81; Written Acknowl. of Recpt. 5/6/81; Approval 5/6/81 ✓

a. The permittee shall submit a "Toxic Substances Monitoring Report" to the Chief of the Water Quality Division and obtain his approval thereof, on or before Approved May 6, 1981. This report shall include:

(1) The name(s) and address(es) of the laboratory or laboratories proposed to perform each of the chemical analyses.

(2) A description of the equipment and test methods proposed for the chemical analyses for each parameter. Methods of analysis not specified in Part II, Section A-3a shall be in conformance with specifications contained in the accompanying guidance document (Attachment C).

(3) A list of the lower level of detectability expected for each parameter.

(4) A description of the overall recovery efficiency of the prepared sample where applicable.

(5) A description of the quality control procedures used by the laboratory or laboratories to ensure reliable test results.

(6) A description of the sample collection point and sample collection procedures.

(7) A description of the compositing technique and equipment.

(8) A description of the sample preservation methods used for each parameter. — Contract Signed SEG - 3/13/81; Work Begun 7/15/81

b. On or before August 1, 1981, the permittee will initiate the pre-screening monitoring at the frequency and duration specified in Part I, Section A. — Submitted 10/15/81 Approved

c. On or before November 1, 1981, the permittee shall submit to the Chief of the Water Quality Division the first set of pre-screening monitoring data. — Submitted 11/6/81 Approved

d. On or before December 1, 1981, the permittee shall submit to the Chief of the Water Quality Division the second set of pre-screening monitoring data.

e. Following receipt and evaluation of the pre-screening monitoring data, the Chief of the Water Quality Division will transmit to the permittee a Final Analytical List containing an ongoing monitoring program. The permittee will be allowed 30 days to object to the terms of the Final Analytical List. The Final Analytical List shall become a permanent and enforceable condition of this permit in the absence of written objection by the permittee.

PART I

E. SCHEDULE OF COMPLIANCE

1. Chlorine Study

Submitted 20 Nov 81 Written Acknowledgement of Receipt. Approval

a. On or before November 30, 1981, the permittee shall submit to the Chief of the Water Quality Division for review, their final report on the total residual chlorine study, in accordance with conditions specified in Part I-A-2-f.

PART II

A. PERMIT PROGRAM ADMINISTRATION

1. Michigan Water Resources Commission

The Michigan Water Resources Commission is located in the Stevens T. Mason Building, Lansing, Michigan, and has been delegated the authority to administer the NPDES permit in the State of Michigan.

2. Regional Administrator

Where used within this permit the term Regional Administrator shall mean the Administrator, Region V, U.S. Environmental Protection Agency.

B. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Containment Facilities

The permittee shall provide facilities approved under Act 98, Public Acts of 1913 as amended, and in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5, for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Department of Natural Resources as required by Regulations Governing the Certification of Sewage Treatment Works Operators in accordance with Act 98, Public Acts of 1913, as amended (R 299.2911 - R 299.2927.)

4. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any condition specified in this permit, the permittee shall provide the Michigan Water Resources Commission and the Regional Administrator with the following information, in writing, within five (5) days of becoming aware of such condition:

a. A description of the circumstances and cause of noncompliance; and

b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncompliance.

5. Facilities Operation

All waste collection, control, treatment and disposal facilites shall be operated in a manner consistent with the following:

a. At all times, all facilities shall be operated and maintained in an efficient and responsible manner.

b. The permittee shall provide an adequate operating staff which is duly qualified to carry out the operation, maintenance and testing functions required to insure compliance with the conditions of this permit.

c. Maintenance of treatment facilities shall not result in degradation of effluent quality, or if degradation of effluent is unavoidable shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved by the permitting authority.

d. Under no circumstances shall the permittee allow introduction of the following wastes into the waste treatment system.

(1) Wastes which create a fire or explosion hazard in the treatment works.

(2) Wastes which will cause corrosive structural damage to treatment works

(3) Solid or viscous substances in amounts which cause obstructions to the flow in sewers or interference with the proper operation of the treatment works.

(4) Wastewaters at a flow rate and/or pollutant discharge rate which is excessive over relatively short time periods so as to cause a loss of treatment efficiency.

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specifie in this permit. Such steps may include accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

7. By-passing

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life, severe property damage, extended duration process upset, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Michigan Water Resources Commission of any such occurrence.by telephone at (517) 373-7660. Such notice shall be supplemented by a written report within 10 days detailing the cause of such diversion or bypass and the corrective actions taken to minimize adverse impact and eliminate the need for future diversion or bypass.

8. Removed Substances and Leachates

Solids, sludges, filter backwash, leachates or other pollutants removed from or resulting from treatment or control of wastewaters shall be controlled in a manner so as to protect public health and to prevent any pollutant from such materials from entering navigable waters, or the entry of toxic or harmful contaminants thereof into the groundwaters in concentrations or amounts detrimental to the groundwater resource. Effective groundwater monitoring shall be provided in accordance with a program approved under Act 98, Public Acts of 1913, as amended.

9. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall:

a. Provide an alternative power source sufficient to operate facilities utilized by permittee to maintain compliance with the effluent limitations and conditions of this permit.

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

C. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Chief Engineer of the Michigan Water Resources Commission and the Regional Administrator.

3. Availability of Reports

All reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Michigan Water Resources Commission and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act, Sections 7 and 10 of the Michigan Act, and Sections 8 and 13 of Act 98, Public Acts of 1913, as amended.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully, all relevant facts; or

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. Toxic Pollutants

Notwithstanding Part II, C-4 above, if a toxic effluent standard or prohibiti (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II, B-7) and "Power Failures" (Part II, B-9), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, such as accidents, equipment breakdowns, or natural disasters.

7. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

8. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations.

10. Facility Construction

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities, the modification of any existing wastewater facility, or the undertaking of any work in any navigable waters. Approval for such construction must be by permit issued under Michigan Act 98, Public Acts of 1913, as amended.

11. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Pages 15 & 16 of Permit deleted.

Application No. MI 0022276

MIXING ZONE

Discharge Identification City of Battle Creek Wastewater Treatment Plant

Discharge Location to the Kalamazoo River in Section 32, T 1 S, R 8 W

Outfall Number(s) 001 and 002

The mixing zone for purposes of evaluating compliance with the State Water Quality Standards is defined as the left one-quarter (1/4) of the Kalamazoo River for a distance 1000 feet downstream from the point of discharge.

ATTACHMENT A

STANDARD INDUSTRIAL CLASSIFICATION CODES

Note: This is an edited list.

Code	Title
AGRICULTURE	
0100	AGRICULTURAL PRODUCTION—CROPS
0200	AGRICULTURAL PRODUCTION—LIVESTOCK
0211	Beef Cattle Feedlots
0241	Dairy farms
0700	AGRICULTURAL SERVICES
MINING	
1000	METAL MINING
1011	Iron Ores
1021	Copper ores
1081	Metal mining services
1300	OIL AND GAS EXTRACTION
1380	Oil and Gas Field Services
1400	NONMETALIC MINERALS
1422	Crushed and broken limestone
1440	Sand and Gravel
1450	Clay and Related Minerals
1470	Chemical and Fertilizer Minerals
1492	Gypsum
CONSTRUCTION	
1500	GENERAL BUILDING CONTRACTORS
1600	HEAVY CONSTRUCTION CONTRACTORS
MANUFACTURING	
2000	FOOD AND KINDRED PRODUCTS
2010	Meat Products
2011	Meat packing plants and slaughter houses
2020	Dairy Products
2030	Preserved Fruits & Vegetables
2033	Canned fruits and vegetables
2035	Pickles, sauces, and salad dressings
2037	Frozen fruits and vegetables
2040	Grain Mill Products
2043	Cereal breakfast foods
2047	Dog, cat, and other pet food
2050	Bakery Products
2060	Sugar and Confectionary Products
2063	Beet sugar
2070	Fats and Oils
2076	Vegetable oil mills
2077	Animal and marine fats & oils
2080	Beverages
2082	Malt beverages
2084	Wines, brandy, and brandy spirits
2085	Distilled liquor except brandy
2086	Bottled and canned soft drinks
2087	Flavoring extracts and syrups, nec
2090	Misc Foods and Kindred Products
2091	Canned and cured seafoods
2092	Fresh or frozen packaged fish
2200	TEXTILE MILL PRODUCTS
2300	APPAREL AND OTHER TEXTILE PRODUCTS
2400	LUMBER AND WOOD PRODUCTS
2420	Sawmills and Planing Mills
2430	Millwork, Plywood & Structural Members
2440	Wood Containers
2448	Wood pallets and skids
2450	Wood Buildings and Mobile Homes
2490	Miscellaneous Wood Products
2491	Wood preserving
2492	Particleboard
2500	FURNITURE AND FIXTURES
2600	PAPER AND ALLIED PRODUCTS
2611	Pulp mills
2621	Paper mills, except building paper
2631	Paperboard mills
2640	Misc Converted Paper Products
2650	Paperboard Containers and Boxes
2661	Building paper and board mills
2700	PRINTING AND PUBLISHING
2710	Newspapers
2750	Commercial Printing
2790	Printing Trade Services

Code	Title
	Manufacturing cont'd
2800	CHEMICALS AND ALLIED PRODUCTS
2810	Industrial Inorganic Chemicals
2820	Plastics Materials and Synthetics
2830	Drugs
2840	Soap, Cleaners, and Toilet Goods
2850	Paints and Allied Products
2860	Industrial Organic Chemicals
2870	Agricultural Chemicals
2890	Miscellaneous Chemical Products
2891	Adhesives and sealants
2892	Explosives
2893	Printing inks
2899	Salt (by evaporation)
2900	PETROLEUM AND COAL PRODUCTS
2911	Petroleum refining
2950	Paving and Roofing Materials
3000	RUBBER AND MISC PLASTIC PRODUCTS
3011	Tires and inner tubes
3069	Fabricated rubber products
3079	Miscellaneous plastic products
3100	LEATHER AND LEATHER PRODUCTS
3111	Leather tanning and finishing
3200	STONE, CLAY AND GLASS PRODUCTS
3220	Glass and Glassware, Pressed or Blown
3241	Cement
3250	Structural Clay Products
3260	Pottery and Related Products
3270	Concrete, Gypsum and Plaster Products
3271	Concrete block and brick
3273	Ready-mixed concrete
3274	Lime
3275	Gypsum products
3290	Misc Nonmetallic Mineral Products
3291	Abrasive products
3292	Asbestos products
3295	Minerals, ground or treated
3297	Nonclay refractories
3300	PRIMARY METAL INDUSTRIES
3310	Blast Furnaces and Basic Steel Products
3312	Blast furnaces and steel mills
3313	Electrometallurgical products
3315	Steel wire and related products
3316	Cold finishing of steel shapes
3317	Steel pipe and tubes
3320	Iron and Steel Foundries
3321	Gray iron foundries
3322	Malleable iron foundries
3330	Primary Nonferrous Metals
3331	Primary copper
3332	Primary lead
3333	Primary zinc
3334	Primary aluminum
3340	Secondary Nonferrous Metals
3360	Die Casting
3361	Aluminum foundries
3362	Brass, bronze, and copper foundries
3390	Miscellaneous Primary Metal Products
3398	Metal heat treating
3400	FABRICATED METAL PRODUCTS
3410	Metal Cans and Shipping Containers
3420	Cutlery, Hand Tools, and Hardware
3430	Plumbing and Heating, Except Electric
3440	Fabricated Structural Metal Products
3442	Metal doors, sash, and trim
3443	Fabricated plate work (boiler shops)
3444	Sheet metal work
3450	Screw Machine Products, Bolts, etc
3460	Metal Forgings and Stampings
3462	Iron and steel forgings
3463	Nonferrous forgings
3465	Automotive stampings
3470	Metal Services
3471	Plating and polishing
3479	Metal coating and allied services
3480	Ordnance and Accessories
3490	Misc Fabricated Metal Products
3500	MACHINERY, EXCEPT ELECTRICAL
3510	Engines and Turbines
3520	Farm and Garden Machinery
3530	Construction and Related Machinery
3540	Metalworking Machinery
3550	Special Industry Machinery
3560	General Industrial Machinery
3570	Office and Computing Machines
3580	Refrigeration and Service Machinery
3590	Misc Machinery, Except Electrical
3600	ELECTRIC AND ELECTRONIC EQUIPMENT
3610	Electric Distributing Equipment
3620	Electrical Industrial Apparatus
3630	Household Appliances
3640	Electric Lighting and Wiring Equipment
3650	Radio and TV Receiving Equipment
3660	Communication Equipment
3670	Electronic Components and Accessories
3690	Misc Electrical Equipment & Supplies

Code	Title
	Manufacturing-cont'd
3700	TRANSPORTATION EQUIPMENT
3710	Motor Vehicles and Equipment
3711	Motor vehicles and car bodies
3714	Motor vehicle parts and accessories
3715	Truck trailers
3720	Aircraft and Parts
3730	Ship and Boat Building and Repairing
3740	Railroad Equipment
3750	Motorcycles, Bicycles, and Parts
3760	Guided Missles, Space Vehicles, Parts
3790	Miscellaneous Transportation Equipment
3792	Travel Trailers and campers
3795	Tanks and Tank Components
3800	INSTRUMENTS AND RELATED PRODUCTS
3810	Engineering and Scientific Instruments
3820	Measuring and Controlling Devices
3830	Optical Instruments and Lenses
3840	Medical Instruments and Supplies
3860	Photographic Equipment and Supplies
3900	MISCELLANEOUS MANUFACTURING INDUSTRIES
3910	Jewelry, Silverware, and Plated Ware
3930	Musical Instruments
3940	Toys and Sporting Goods
3950	Pens, Pencils, Office and Art Supplies
3990	Miscellaneous Manufactures
TRANSPORTATION	
4010	RAILROADS
4200	TRUCKING AND WAREHOUSING
4210	Trucking Local and Long Distance
4214	Hauling Liquid Wastes
4221	Farm product warehousing and storage
4222	Refrigerated Warehousing
4230	Trucking Terminal Facilities
4400	WATER TRANSPORTATION
4430	Great Lakes Transportation
4440	Transportation on Rivers and Canals
4452	Ferries
4454	Towing and tugboat service
4460	Water Transportation Services
4463	Marine cargo handling
SERVICES	
4900	ELECTRIC, GAS, AND SANITARY SERVICES
4911	Electric services
4925	Gas production and or distribution
4953	Refuse systems
5810	EATING AND DRINKING PLACES
6512	OFFICE BUILDINGS
7000	HOTELS AND OTHER LODGING PLACES
7011	Hotels, motels, and tourist courts
7030	Camps and Trailering Parks
7032	Sporting and recreational camps
7210	Laundry, Cleaning & Garment Services
7215	Coin-operated laundries
7391	Laboratories — Testing and Research
7399	Water Softener Service
7500	AUTO REPAIR, SERVICES, AND GARAGES
7538	Automotive Repair Shops
7542	Car washes
7900	AMUSEMENT & RECREATION SERVICES
7933	Bowling alleys
7940	Commercial Sports
7941	Sports clubs and promoters
7948	Racing, including track operation
7992	Public golf courses
7996	Amusement parks
7997	Membership sports & recreation clubs
8000	HEALTH SERVICES
8050	Nursing and Personal Care Facilities
8060	Hospitals
8070	Medical and Dental Laboratories
8080	Outpatient Care Facilities

ATTACHMENT B

Federal EPA's List of 65 Priority Pollutants

Acenapthene
Acrolein
Acrylonitrile
Aldrin/Dieldrin
Antimony and compounds
Arsenic and compounds
Asbestos
Benzene
Benzidine
Beryllium and compounds
Cadmium and compounds
Carbon tetrachloride
Chlordane (technical mixture and metabolites)
Chlorinated benzenes (other than dichlorobenzenes)
Chlorinated ethanes (including 1, 2-dichloroethane, 1, 1, 1-trichloroethane, and hexachloroethane)
Chloralkyl ethers (chloromethyl, chloroethyl, and mixed ethers)
Chlorinated naphthalene
Chlorinated phenols (other than those listed elsewhere; includes trichlorophenols and chlorinated cresols)
Chloroform
2-chlorophenol
Chromium and compounds
Copper and compounds
Cyanides
DDT and metabolites
Dichlorobenzenes (1, 2-,1,3-, and 1,4-dichlorobenzenes)
Dichlorobenzidine
Dichloroethylenes (1,1-and 1,2-dichloroethylene)
2,4-dichlorophenol
Dichloropropane and dichloropropene
2,4-dimethylphenol
Dinitrotoluene
Diphenylhydrazine
Endosulfan and metabolites
Endrin and metabolites
Ethylbenzene
Fluoranthene
Haloethers (other than those listed elsewhere; includes chlorophenylphenyl ethers, bromophenylphenyl ether, bis (dischloroisopropyl) ether, bis-(chloroethoxy) methane and polychlorinated diphenyl ethers)
Halomethanes (other than those listed elsewhere; includes methylene chloride, methychloride, methylbromide, bromoform, dichlorobromomethane, trichlorofluoromethane, dichlorodifluoromethane)
Heptachlor and metabolites
Hexachlorobutadiene
Hexachlorocyclohexane (all isomers)
Hexachlorocyclopentadiene
Isophorone
Lead and compounds
Mercury and compounds
Naphthalene
Nickel and compounds
Nitrobenzene
Nitrophenols (including 2,4-dinitrophenol, dinitrocresol)
Nitrosamines
Pentachlorophenol
Phenol
Phthalate esters
Polychlorinated biphenyls (PCBs)
Polynuclear aromatic hydrocarbons (including benzathracenes, benzopyrenes, benzofluoranthene, chrysesnes, dibenzanthracenes, and indenopyrenes)
Selenium and compounds
Silver and compounds
2,3,7,8,-Tetrachlorodibenzo-p-dioxin (TCDD)
Tetrachloroethylene
Thallium and compounds
Toluene
Toxaphene
Trichloroethylene
Vinyl chloride
Zinc and compounds

Michigan Water Resources Commission
CRITICAL MATERIALS REGISTER
Published October 1, 1980

With the exception of critical material classes (where all compounds of the material are to be reported) the parameter number assigned each Critical Material is from the Chemical Abstract Service "Registry Handbook." Additional information concerning the Critical Materials Program and the individual materials may be obtained by writing:

Critical Materials Program
Office of Toxic Materials Control
Environmental Services Division
Michigan DNR
P.O. Box 30028
Lansing, Michigan 48909

I. Inorganic Materials

A. The following inorganic materials and *all their compounds* are to be reported.

	Parameter Number
antimony	Class-01-0
arsenic	Class-01-1
beryllium	Class-01-2
cadmium	Class-01-3
chromium	Class-01-5
cobalt	Class-01-6
copper	Class-01-7
cyanides	Class-01-8
hypochlorite	Class-01-4
lead	Class-01-9
lithium	Class-02-0
mercury	Class-02-1
nickel	Class-02-2
selenium	Class-02-3
silver	Class-02-4
zinc	Class-02-7

B. The following specific inorganic materials are to be reported (do not report compounds).

	Parameter Number
chloramines	Class-08-6
chlorine	07782-50-5
hydrazine	00302-01-2
hydrogen sulfide	07783-06-4

II. Organic Materials

	Parameter Number
acetone cyanohydrin	00075-86-5
2-acetylaminofluorene	00053-96-3
acrolein	00107-02-8
acrylic acid	00079-10-7
acrylonitrile	00107-13-1
allyl chloride	00107-05-1
* 2-aminoanthraquinone	00117-79-3
aminoazobenzene	00060-09-3
* o-aminoazotoluene	00097-56-3
4-aminobiphenyl	00092-67-1
* 3-amino-9-ethylcarbazole	00132-32-1
* 1-amino-2-methylanthraquinone	00082-28-0
aminotriazole (amitrole)	00061-82-5
aniline	00062-53-3
* aniline hydrochloride	00142-04-1
o-anisidine	00090-04-0
* o-anisidine hydrochloride	00134-29-2
benz(a)anthracene	00056-55-3
benzene	00071-43-2
benzidine	00092-87-5
benzidine salts	Class-08-7
benzo(a)pyrene	00050-32-8
brucine	00357-57-3
carbon tetrachloride	00056-23-5
chlorinated dibenzofurans	Class-05-3
chlorinated dioxins	Class-05-4
1-chloro-2,3-epoxypropane	00106-89-8
bis(2-chloroethyl)ether	00111-44-4
chloroform	00067-66-3
bis(2-chloromethyl)ether	00542-88-1
* 3-(chloromethyl)pyridine *hydrochloride*	06959-48-4
1-(4-chlorophenyl)-3, 3-dimethyl triazene	07203-90-9
* 4-chloro-m-phenylenediamine	05131-60-2
* 4-chloro-o-pheylenediamine	00095-83-0
chloroprene	00126-99-8
* 5-chloro-o-toluidine	00095-79-4
* p-cresidine	00120-71-8
* 2,4-diaminoanisole sulfate	39156-41-7
* 4,4'-diaminodiphenyl ether	00101-80-4
* 2,4-diaminotoluene	00095-80-7
dibenz(a,h)anthracene	00053-70-3
tris(dibromopropyl)phosphate	00126-72-7
di-n-butyl phthalate	00084-74-2
3,3'-dichlorobenzidine	00091-94-1
3,3'-dichlorobenzidine salts	Class-08-8
1,2-dichloroethane	00107-06-2
1,2:3,4-diepoxybutane	00298-18-0
* diethyl sulfate	00064-67-5
4-dimethylaminoazobenzene	00060-11-7
dimethylhydrazines	Class-06-2
4,6-dinitro-o-cresol	00534-52-1
2,4-dinitrophenol	00051-28-5
2,4-dinitrotoluene	00121-14-2
di-n-octyl phthalate	00117-84-0
* 1,4-dioxane	00123-91-1
2,3-epoxy-1-propanal	00765-34-4
ethylene dibromide	00106-93-4
ethyleneimine	00151-56-4
* ethylene oxide	00075-21-8
ethylene thiourea	00096-45-7
bis(2-ethylhexyl)phthalate	00117-81-7
* ethylmethanesulfonate	00062-50-0
* 2-(2-formylhydrazino)-4-(5-nitro-2-furyl)-thiazole	03570-75-0
hexachlorobenzene (HCB)	00118-74-1
hexachlorobutadiene	00087-68-3
hexachlorocyclohexane	00608-73-1
hexachlorocyclopentadiene	00077-47-4
hexachloroethane	00067-72-1
hydrazobenzene	00122-66-7
hydroquinone	00123-31-9
N-(2-hydroxyethyl)ethyleneimine	01072-52-2
lactonitrile	00078-97-7
* malachite green	00569-64-2

* indicates new critical material

(continued)

Organic Materials (continued)

	Parameter Number
methylenebis(2-chloroaniline)	00101-14-4
* 4,4'-methylenebis(2-methylaniline)	00838-88-0
* 4,4'-methylenebis(N,N-dimethylaniline)	00101-61-1
1,2(methylenedioxy)-4-propenyl benzene	00120-58-1
methyl hydrazine	00060-34-4
1-methylnaphthalene	00090-12-0
* 2-methyl-1-nitroanthraquinone	00129-15-7
* mustard gas	00505-60-2
* 1,5-naphthalenediamine	02243-62-1
1-naphthylamine	00134-32-7
2-naphthylamine	00091-59-8
* 5-nitroacenaphthene	00602-87-9
* 5-nitro-o-anisidine	00099-59-2
4-nitrobiphenyl	00092-93-3
* nitrogen mustard	00051-75-2
* N-nitroso-n-butyl-N-(4-hydroxybutyl) amine	03817-11-6
N-nitrosodiethylamine	00055-18-5
N-nitrosodimethylamine	00062-75-9
* p-nitrosodiphenylamine	00156-10-5
* N-nitroso-N-ethylurea	00759-73-9
* N-nitroso-N-methylurea	00684-93-5
* N-nitroso-N-methylurethane	00615-53-2
* N-nitrosomethylvinylamine	04549-40-0
* N-nitrosomorpholine	00059-89-2
* N-nitroso-N-phenylhydroxylamine, ammonium salt	00135-20-6
* N-nitrososarcosine	13256-22-9
pentachloronitrobenzene	00082-68-8
pentachlorophenol	00087-86-5
peroxyacetic acid	00079-21-0
* piperonyl sulfoxide	00120-62-7
polybrominated biphenyls (PBB)	Class-07-8
polychlorinated biphenyls (PCB)	Class-07-9
1,3-propane sultone	01120-71-4
β-propiolactone	00057-57-8
* 5-propyl-1,3-benzodioxole	00094-58-6
propyleneimine	00075-55-8
semicarbazide	00057-56-7
styrene	00100-42-5
tetrachloroethylene (perchloroethylene)	00127-18-4
* thioacetamide	00062-55-5
* 4,4'-thiodianiline	00139-65-1
thiourea	00062-56-6
* o-toluidine	00095-53-4
* o-toluidine hydrochloride	00636-21-5
triaryl phosphate esters	Class-08-4
1,1,2-trichloroethane	00079-00-5
trichloroethylene	00079-01-6
trichlorophenols	Class-07-6
* 2,4,5-trimethylaniline	00137-17-7
* trimethylphosphate	00512-56-1
* xylene	01330-20-7

III. Pesticides (to be reported only by manufacturers and formulators).

	Parameter Number
aldicarb	00116-06-3
aldrin	00309-00-2
4-aminopyridine	00504-24-5
anilazine	00101-05-3
antimycin A	01397-94-0
azinphos-ethyl	02642-71-9
azinphos-methyl	00086-50-0
barban	00101-27-9
bendiocarb	22781-23-3
benomyl	17804-35-2
bromoxynil	01689-84-5
* 2(p-tert-butylphenoxy)-isopropyl-2-chloroethyl sulfite	00140-57-8
* captafol	02425-06-1
captan	00133-06-2
carbaryl	00063-25-2
carbofuran	01563-66-2
carbophenothion	00786-19-6
chlordane	00057-74-9
chlordecone	00143-50-0
chlorfenvinphos	00470-90-6
chlorobenzilate	00570-15-6
chlorpyrifos	02921-88-2
clonitralid	01420-04-8
coumaphos	00056-72-4
crotoxyphos	07700-17-6
cycloheximide	00066-81-9
DDT	00050-29-3
demeton	08065-48-3
diallate	02303-16-4
diazinon	00333-41-5
dibromochloropropane (DBCP)	00096-12-8
dichlone	00117-80-6
dichlorvos	00062-73-7
dichrotophos	00141-66-2
dieldrin	00060-57-1
dimethoate	00060-51-5
dinocap	39300-45-3
dinoseb	00088-85-7
dioxathion	00078-34-2
disulfoton	00298-04-4
endosulfan	00115-29-7
endrin	00072-20-8
EPN	02104-64-5
ethion	00563-12-2
fensulfothion	00115-90-2
fenthion	00055-38-9
fluchloralin	33245-39-5
heptachlor	00076-44-8
heptachlor epoxide	01024-57-3
leptophos	21609-90-5
malathion	00121-75-5
methomyl	16752-77-5
methoxychlor	00072-43-5
methyl mercaptan	00074-93-1
methyl parathion	00298-00-0
mevinphos	07786-34-7
mexacarbate	00315-18-4
mirex	02385-85-5
monocrotophos	06923-22-4
naled	00300-76-5
nicotine	00054-11-5
* nitrofen	01836-75-5
oxydemeton-methyl	00301-12-2
paraquat	01910-42-5
parathion	00056-38-2
phorate	00298-02-2
phosazetim	04104-14-7
phosmet	00732-11-6
phosphamidon	13171-21-6
rotenone	00083-79-4
silvex, propylene glycolbutyl ether ester	02317-24-0
sodium fluoroacetate	00062-74-8
strychnine	00057-24-9
* sulfallate	00095-06-7
sulfotepp	03689-24-5
TDE	00072-54-8
TEPP	00107-49-3
terbufos	13071-79-9
* tetrachlorvinphos	00961-11-5
thiram	00137-26-8
toxaphene	08001-35-2
trichlorfon	00052-68-6
trichlorophenoxyacetic acid (2,4,5-T)	00093-76-5
trifluralin	01582-09-8
ziram	00137-30-4

IV. Drugs, Food Additives, Natural Materials (to be reported only by manufacturers and formulators).

	Parameter Number
* actinomycin D	00050-76-0
* citrus red no. 2	06358-53-8
* cycasin	14901-08-7
* cyclophosphamide	00050-18-0
* diethylstilbestrol	00056-53-1
* isonicotinic acid hydrazine	00054-85-3
* lasiocarpine	00303-34-4
* mestranol	00072-33-3
* methylthiouracil	00056-04-2
* mitomycin C	00050-07-7
* monocrotaline	00315-22-0
* niridazole	00061-57-4
* nithiazide	00139-94-6
* N-[4-(5-nitro-2-furanyl)-2-thiazolyl]acetamide	00531-82-8
* phenazopyridine hydrochloride	00136-40-3
* phenesterin	03546-10-9
* phenobarbitol	00050-06-6
* phenytoin	00057-41-0
* phenytoin sodium	00630-93-3
* propylthiouracil	00051-52-5
* uracil mustard	00066-75-1

* indicates new critical material

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
THOMAS J ANDERSON
E R CAROLLO
MARLENE J FLUHARTY
STEPHEN F MONSMA
O STEWART MYERS
RAYMOND POUPORE
HARRY H WHITELEY

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909
RONALD O. SKOOG, Director

WATER RESOURCES COMMISSION
MAX N CLYDE
THOMAS C HOOGERHYDE
CLEM LAY
RALPH E MORROW
JAMES E MURRAY
DENNIS P TIERNEY
JOYCE P VAN KEULEN

October 30, 1984

RECEIVED
NOV 05 1984
WASTEWATER
TREATMENT PLANT

CERTIFIED MAIL

Mrs. Loraine A. Buckner, Clerk
City of Battle Creek
P.O. Box 1717
Battle Creek, Michigan 49016

Re: NPDES Permit No. MI 0022276

Dear Mrs. Buckner:

Your application for a National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate state and federal regulations.

Your NPDES Permit contains: 10 limitations which require you to monitor your effluent in accordance with Part I, Section A, and 2) a schedule of compliance for submittal of information concerning other permit requirements.

REVIEW THE PERMIT EFFLUENT LIMITS AND PERFORMANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. Permit violations are audited by the United States Environmental Protection Agency and will appear in a published quarterly noncompliance report made available to agencies and the public.

Your monitoring and reporting responsibilities shall be complied with in accordance with Part I, Section B of this permit. If applicable, monthly operating report forms will be transmitted to you in the near future. These reports are to be submitted monthly or otherwise as required by your NPDES permit.

Any reports, notifications, and questions regarding the attached permit or NPDES program should be addressed to the following address:

Steve Eldredge, District Supervisor
Jackson State Office Building
301 E. Louis Glick Highway
Jackson, Michigan 49201
Telephone: (517) 788-9598

NOV 1 1984

cc: Carlisle
Levy
Reising

cc: City Manager
Water Quality Control

NOTE: All references within this permit made to the Water Quality Division or Chief of the Water Quality Division are to refer to the Surface Water Quality Division or Chief of the Surface Water Quality Division, respectively.

Sincerely,

William E. McCracken

William E. McCracken, P.E.
Chief, Permits Section
Surface Water Quality Division
517-373-8088

Enclosure: Permit

cc: EPA-Region V (2), Data Center, Files,
Water Quality Surveillance, Point Source Studies
Compliance Section #2, Steve Eldredge-Jackson District,
Land Application Unit, 208 Agency - South Central Michigan
Planning Council

Permit No. MI 0022276

MICHIGAN WATER RESOURCES COMMISSION
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "act"), Michigan Act 98, Public Acts of 1913, as amended, being sections 325.201 through 325.214 of the Compiled Laws of Michigan, and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended, being sections 323.1 through 323.13 of the Compiled Laws of Michigan, the "Michigan Act"),

The City of Battle Creek

is authorized to discharge from a facility located at 2000 West River Road

designated as the Battle Creek Wastewater Treatment Plant

to receiving water named the Kalamazoo River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit takes effect immediately on the date of issuance. Any person who feels aggrieved by this permit must file a sworn petition within sixty (60) days of the date of issuance. The Commission may reject any petition filed after 60 days for being untimely. The petition must set forth the grounds for the challenge and specify which conditions of the permit are challenged. Upon granting of a contested case hearing by the Commission, the contested terms and conditions of the permit are stayed until the Commission takes its final action. All other terms and conditions of the permit remain in full effect. If the contested condition is a modification of a previous permit condition, then such previous condition is in full force and effect until the Commission takes its final action.

This permit and the authorization to discharge shall expire at midnight, September 30, 1989. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

This permit is based on an application dated January 25, 1982, and shall supersede any and all Orders of Determination, Stipulations, Final Orders of Determination, or NPDES Permits previously adopted by the Michigan Water Resources Commission concerning the described discharge(s).

Issued this 23rd day of October 1984, by the Michigan Water Resources Commission.

Paul D. Zugger
Executive Secretary

Reissue

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.

1. Interim Effluent Limitations

a. During the period beginning upon issuance of this permit and lasting until October 31, 1985, the permittee is authorized to discharge treated municipal wastewaters from the City of Battle Creek wastewater treatment plant through outfall 001 to the Kalamazoo River. Such discharges shall be limited and monitored by the permittee as follows:

EFFLUENT CHARACTERISTICS	DATES IN EFFECT	LOAD LIMITATIONS		CONCENTRATION LIMITATIONS		MONITORING REQUIREMENTS
		30 Day Average	7 Day Average	30 Day Average	7 Day Average	Testing Frequency
5-Day 20°C Biochemical Oxygen Demand	All Year	1245 kg/day or 2752 lb/day	1868 kg/day or 4128 lb/day	30 mg/l	45 mg/l	Daily
Suspended Solids	All Year	1660 kg/day 3670 lb/day	2491 kg/day 5504 lb/day	40 mg/l	60 mg/l	Daily
Total Phosphorus (as P)	All Year	---	---	1.5 mg/l	---	Daily
Fecal Coliform Bacteria	May 15 to Oct. 15	---	---	200/100 ml	400/100 ml	Daily
Dissolved Oxygen	All Year	---	---	---	---	Daily
Ammonia Nitrogen (as N)(NH_3-N)	All Year	---	---	---	---	Daily
				Daily Min.	Daily Max.	
pH	All Year	---	---	6.0	9.0	

The following design flows were used in determining the above limitations, but are not to be considered limitations or actual capacities themselves: 11.0 MGD.

b. All samples shall be 24 hour composite samples taken following disinfection except Fecal Coliform Bacteria, Total Residual Chlorine, Dissolved Oxygen, and pH which shall be grab samples of the effluent.

c. The total daily effluent flow shall be measured daily.

d. During the periods that Coliform Bacteria Limitations are in effect, the permittee shall provide adequate control and facilities to ensure continuous disinfection.

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.

2. Final Effluent Limitations - Phase II Facilities (excluding tertiary filters)

a. During the period beginning November 1, 1985 and lasting until permit expiration the permittee is authorized to discharge treated municipal wastewaters from the City of Battle Creek wastewater treatment plant through outfall 001 to the Kalamazoo River. Such discharges shall be limited and monitored by the permittee as follows:

EFFLUENT CHARACTERISTICS	DATES IN EFFECT	EFFLUENT LIMITATIONS				TESTING FREQUENCY
		Minimum	Maximums			
		Daily	Daily	30 Day Avg.	7 Day Avg.	
Carbonaceous 5-Day 20°C Biochemical Oxygen Demand	5/1-9/30	---	---	20 mg/l 1820 kg/day 4003 lb/day	---	Daily
	10/1-11/30	---	---	23 mg/l 2090 kg/day 4604 lb/day	---	Daily
BOD_5 (total)	12/1-4/30	---	---	30 mg/l 2730 kg/day 6005 lb/day	45 mg/l 4095 kg/day 9008 lb/day	Daily
	5/1-11/30	---	---	30 mg/l	45 mg/l	Weekly
Ammonia Nitrogen (as N)	5/1-9/30	---	---	2.0 mg/l 182 kg/day 400 lb/day	---	Daily
	10/1-11/30	---	---	6.5 mg/l 592 kg/day 1300 lb/day	---	Daily
Dissolved Oxygen	All Year	4.0 mg/l	---	---	---	Daily
Total Suspended Solids	All Year	---	---	30 mg/l 2730 kg/day 6005 lb/day	45 mg/l 4095 kg/day 9008 lb/day	Daily
Fecal Coliform Bacteria	5/15 - 10/15	---	---	200/100 ml	400/100 ml	Daily
Total Residual Chlorine	All Year beginning 7/1/88	---	0.05 mg/l	---	---	Daily during periods of disinfection
Total Phosphorus (as P)	All Year	---	---	1.0 mg/l	---	Daily
pH	All Year	6.0	9.0	---	---	Daily

The following design flows were used in determining the above limitations, but are not to be considered limitations or actual capacities themselves: Annual average design flow - 24 MGD.

FFI

PART I, Section A-2

b. All samples shall be 24 hour composite samples taken following disinfection except Fecal Coliform Bacteria, Total Residual Chlorine, Dissolved Oxygen, and pH which shall be grab samples of the effluent.

c. The total daily effluent flow shall be measured daily.

d. During the period that Coliform Bacteria Limitations are in effect, the permittee shall provide adequate control and facilities to ensure continuous disinfection.

e. The carbonaceous BOD_5 limitation shall be considered as BOD_5 excluding the oxygen demand attributable to nitrification.

f. Variance Opportunity - Opportunity exists under the Provision of Rules of the Michigan Water Resources Commission (R 323.1082) to demonstrate to the Commission that the concentration of a material potentially toxic to fish or fish food organisms greater than the 96 hour TL_m (0.024 mg/l Total Residual Chlorine) is acceptable. The demonstration, if undertaken, shall conclusively demonstrate to the satisfaction of the Commission that such higher concentration will not cause an irreversible response which results in deleterious effects to populations of important aquatic life and wildlife, and interference with passage of fish and fish food organisms results only to the extent that impacts on their immediate and future populations are negligible or not measurable. Such a demonstration, if undertaken, shall be submitted to the Chief of the Surface Water Quality Division on or before September 30, 1986 .

g. In addition to the BOD and Suspended Solids limitations above, the 30 day average effluent BOD and Suspended Solids concentrations shall not exceed 15 percent of the average influent concentrations for approximately the same period.

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

3. Special Conditions

Within one year following completion of construction and attainment of operational levels of the Phase II Facilities (excluding tertiary filters), the Department shall provide an instream evaluation to determine if more restrictive limits are needed to meet water quality standards. If it is so demonstrated, the Department will petition the Water Resources Commission to impose such limitations by July 1, 1988.

PART I, Section A-4

4. Start-Up Notification

It is acknowledged that new or expanded wastewater treatment facilities are proposed or under construction. The permittee shall give the Chief of the Surface Water Quality Division written notification of the anticipated date of start-up of the new facilities. This written notification shall be received at least 6 months prior to "start-up". "Start-up" means that point in time when the new facilities should be expected to perform as designed.

It is anticipated that a certain length of time will transpire between the completion of construction and start-up for the purpose of establishing the biological treatment process and solving equipment problems.

SUBMITTED JAN 10, 1986

APPROVED 31 JAN 86

PART I

B. INDUSTRIAL WASTE PRETREATMENT PROGRAM

The permittee shall develop and implement an Industrial Waste Pretreatment and NonDomestic User Control Program that enables the permittee to detect and enforce against violations of federal, state, and local standards for the protection of the wastewater treatment works, its operation, and the aquatic environment. This program is required under the authority of Section 307(b) and (c) and Section 402(b)(8) of the Clean Water Act; Section 6b of the Michigan Act 245 of 1929, as amended; Sections 1 and 11 of Michigan Act 98, of 1913, as amended; and federal regulations 40 CFR 403.

In certain cases, there may be Construction Grant funds available to assist permittees to develop an Industrial Waste Pretreatment Program. The permittee is hereby advised that development and implementation of the program described herein is not contingent on available Grant funding.

The permittee shall submit all documents required for the Pretreatment Program to the attention of the Chief of the Surface Water Quality Division, Michigan Department of Natural Resources, P.O. Box 30028, Lansing, Michigan, 48909. The permittee is referred to Part II, Section A-2 for definitions of several important terms used in this Section. The development of the Industrial Waste Pretreatment shall be as follows:

1. Industrial Waste Pretreatment and NonDomestic User Control Program

a. On or before (Approved 10/81), submit for approval a Master Plan to develop and implement an Industrial Waste Pretreatment and NonDomestic User Control Program. The Master Plan shall identify a series of necessary tasks which shall lead to ultimate approval by the State of the permittee's ongoing surveillance program. The Master Plan shall address and expand on the following general areas identified in the Code of Federal Regulations (CFR) entitled "General Pretreatment Regulations for Existing and New Sources of Pollution" issued Monday, January 28, 1981:

Legal Authorities - 40CFR403.8(f)(1)(i) thru (vi)

Procedures - 40CFR403.8(f)(2)(i) thru (vii)

Funding - 40CFR403.8(f)(3)

This Master Plan shall make full use of Industrial User and NonDomestic User surveillance information that may have resulted from the identification, classification and survey requirements of any previous NPDES permit.

A timetable shall be prepared by the permittee and submitted with the Master Plan. This timetable shall include appropriate intermediate tasks and predicted completion dates. The following dates and task descriptions shall form the basic timetable structure for program development. Other tasks and dates established by the permittee may be modified at the permittee's discretion.

Notice is hereby given that upon State approval, the permit shall be modified to incorporate the local pretreatment program.

PART I, Section B-1b

Approved 12Sep84

b. On or before Submitted 8/81 submit the results of a User Survey which includes the identification of NonDomestic Users of the waste collection system. The submittal shall designate various NonDomestic Users as Major Users and explain the rationale used in the designation. For all NonDomestic Users the following information shall be included:

(1) The name and mailing address of all NonDomestic Users of the waste collection system, including both local facility address and main office address, if different.

(2) The principal enterprise of the user, including if appropriate, the product(s) produced or raw material(s) processed and the quantity per unit time. An indication of the magnitude of the enterprise should be given. All facilities in industrial classifications identified by EPA as being subject to pretreatment control shall be identified by Standard Industrial Classification code (SIC) (see attachment A for SIC listing).

(3) The quantity of wastewater discharged daily and whether the discharge is intermittent or continuous.

(4) A description of any pretreatment provided prior to discharge to the waste collection system.

(5) A qualitative description of the wastewater character in terms of appropriate parameters and concentrations (see attachment B for possible pollutant parameters of concern).

(6) A list of all chemicals used for process, cooling water, boiler water, or other purposes with an indication of quantity used and disposition of spent chemicals.

Approved 21 Nov 84

c. On or before Submitted 1/82 submit for approval draft versions of sewer use ordinances, statutes, contracts and/or joint powers agreements necessary to provide the permittee with legal authorities described in 40 CFR 403.8(f)(1)(i) through (vi) throughout the area served by the permittee's facility.

The legal authorities shall enable the permittee to:

(1) Deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the waste collection system by Industrial and NonDomestic Users.

(2) Require compliance with applicable National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

(3) Control, through permit, contract, order, or similar means, the contribution to the waste collection system by Industrial and NonDomestic Users.

PART I, Section B-1c

(4) Require the development of compliance schedules by Industrial and NonDomestic Users for the installation of facilities required to meet applicable National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

(5) Require the submission of notices and self-monitoring reports from Industrial and NonDomestic Users to assess and assure compliance with National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

(6) Carry out all inspection, surveillance and monitoring procedures necessary to determine, independent of information supplied by Industrial and NonDomestic Users, compliance or noncompliance with applicable National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

(7) Seek injunctive relief for noncompliance with National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

(8) Require Industrial and NonDomestic Users to install containment facilities to protect the treatment works from accidental spills of critical or hazardous materials.

d. On or before Submitted 10/82 Approved, submit for approval and request approval to implement the complete Industrial Waste Pretreatment and NonDomestic User Control Program. A request for program approval shall be accompanied with:

(1) Applicable statutues, ordinances, permits, contracts, etc.

(2) A detailed description of mechanisms, proposed to enforce the compliance schedules developed for NonDomestic Users.

(3) Inspection and monitoring program procedures to assess compliance or noncompliance with National Pretreatment Standards and other more restrictive requirements as may be imposed by the permittee.

(4) A detailed description of mechanisms proposed to remedy non-compliance with the National Pretreatment Standards, and other more restrictive requirements as may be imposed by the permittee including administrative relief and injunctive relief.

(5) A listing of monitoring and analytical equipment needs required to implement the local program.

e. Implement and enforce the approved Industrial Waste Pretreatment and NonDomestic User Control Program within one month after approval by the Surface Water Quality Division.

PART I, Section B

2. Progress Reports (Complete

Progress Reports shall be submitted every six (6) months to summarize progress in achieving the major compliance dates (enumerated in paragraph 1 above) and projected timetable submitted by the permittee along with the Master Plan. These reports shall include a NonDomestic User List and Major User List update. The first report is due on or before September 16, 1981. Progress reporting requirements shall cease with the approval of the Industrial Waste Pretreatment and NonDomestic User Control Program and shall be replaced by Compliance Reports.

3. Compliance Reports

Compliance Reports shall be submitted every six (6) months to summarize the enforcement activities undertaken and surveillance performed by the permittee concerning the approved Industrial Waste Pretreatment and NonDomestic User Control Program. These reports shall discuss the progress by the Major Users in achieving adequate pretreatment. These reports shall also update the NonDomestic User List and the Major User List. The first Compliance Reports are due six months following approval of the Industrial Waste Pretreatment and NonDomestic User Control Program and shall continue for the duration of this permit.

4. Removal Credit

The permittee may request a removal credit be granted from National Categorical Pretreatment Standards if:

a. consistent removal is substantiated; and

b. no adverse impact is created by the treatment facility discharge; and

c. no adverse impact is created on the residuals management program.

(For additional details and reporting requirements, see 40 CFR 403.7 and 40 CFR 403.12 h, i, j and l, m, n.)

PERMIT CONDITIONS

PART I

C. PROGRAM FOR EFFECTIVE RESIDUALS MANAGEMENT

In addition to the requirements in Part II, Section C-8, herein, the permittee shall provide for the effective management and/or disposal of residuals, i.e., solids, sludges, ash, grit and other substances removed from or resulting from treatment of the wastewater. Residuals disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in unlawful pollution of the air, surface waters or ground waters of the state nor create nuisance conditions. Such management and/or disposal program shall be set forth in a "Program for Effective Residuals Management" prepared by the permittee.

The program shall include:

1.) a management plan (treatment, transportation, storage, disposal, contingency plans);

2.) an inventory of residuals production, storage, and disposal for a period of at least one year;

3.) an analysis of the residuals;

4.) a monitoring program;

5.) if land application is proposed, site maps, soil analyses, application rates, proposed vegetation, and other pertinent information; and

6.) if ground water degradation potential exists, a hydrogeologic study.

A program has previously been submitted to and approved by the Chief of the Surface Water Quality Division. The permittee shall certify that current and future residuals management practices will be in accordance with the approved program or shall submit proposed modifications to the approved program. The program certification or proposed modifications shall be submitted to and receive the approval of the Chief of the Surface Water Quality Division on or before December 31, 1984.

Disposal of residuals resulting from the treatment of wastewater shall be in accordance with the previously approved program until proposed modifications are approved. If at any time the permittee desires to make any substantial changes in the approved program the proposed changes shall be submitted to and approved by the Chief of the Surface Water Quality Division prior to implementation. Substantial changes shall include, but not be limited to: a change in disposal method or site; a change in treatment method; a change in storage method or site; a change in monitoring parameters or monitoring frequency; an increase in application rate; or a change in residuals quantity or characteristics. Any residual disposal inconsistent with the approved program shall be considered a violation of this permit.

PART I

D. SCHEDULE OF COMPLIANCE

1. Facility Construction

In accordance with Section 301(i)(1) of the Act, it has been demonstrated that an extension to achieve compliance with limitations under 301(b)(1)(B) or 301(b)(1)(C) should be granted. Therefore, the following Schedule of Compliance for achieving the final effluent limitations is established.

The permittee shall achieve compliance with the Final Effluent Limitations specified in this permit for outfall(s) 001 in accordance with the following:

a. Submit a status report on the progress of project planning, design and construction at intervals not to exceed nine months beginning on October 31, 1984 and continuing until full compliance with the Final Effluent Limitations is achieved.

b. Facilities shall achieve operational level on or before November 1, 1985.

PART I

D. SCHEDULE OF COMPLIANCE

SUBMITTED 28 MARCH 85 W/ REQUEST FOR NOTIFICATION OF RECEIPT -- SENT TO Wm. MCCRACKEN

2. Alternative Power Sources

a. The permittee shall submit an Alternative Power Source Report to the Chief of the Surface Water Quality Division for approval documenting compliance with the requirements of Part II, Section C-9 (Power Failures) of this permit on or before March 31, 1985.

The report shall (1) identify all essential treatment equipment and pumping stations utilized for transportation and treatment of wastes collected within the service area of the facility governed by this permit, and (2) document the alternative power source, or other means of providing continuity of service during periods of power failures, for each essential item identified.

b. If notified by the Surface Water Quality Division that the Alternative Power Source Report submitted by the permittee indicates a lack of adequate alternative power at the permittee's facilities, then the permittee shall submit to the Chief of the Surface Water Quality Division an approvable plan and schedule for providing adequate alternative power within three (3) months after being so notified. The approved plan and schedule shall become an enforceable part of this permit.

PERMIT CONDITIONS

PART I

D. SCHEDULE OF COMPLIANCE

3. Written Report Required

Within 14 days of every program requirement date specified in this permit the permittee shall submit a written report to the Chief of the Surface Water Quality Division stating whether or not the particular task was accomplished. If the task was not accomplished, the report shall also include: an explanation of the failure to accomplish the task, actions taken by the permittee to correct the situations, and an estimate of when the task will be accomplished.

If the task requires submission of a written report and the task was accomplished, a separate written report is not required.

PERMIT CONDITIONS

PART II

A. REPORTING, DEFINITIONS, AND MONITORING

1. Reporting

The permittee shall effectively monitor the operation of all processes comprising the treatment and control facilities. Monitoring data required by this permit and other data required by the Surface Water Quality Division shall be tabulated and summarized on a calendar month basis. Monthly reports, on forms or format supplied by the Surface Water Quality Division, shall be mailed to the address below, postmarked no later than the tenth (10th) of the first month following the report period.

Department of Natural Resources
Data Center
P.O. Box 30028
Lansing, Michigan 48909

2. Definitions

a. 30-Day Average Concentration

The 30-day average concentration other than for fecal or total coliform bacteria, is defined as the sum of the concentrations of the individual samples divided by the number of samples taken during a calendar month. The 30-day average concentration for fecal or total coliform bacteria is the geometric mean of the samples collected in a calendar month.

b. 7-Day Average Concentration

The 7-day average concentration other than for fecal or total coliform bacteria, is defined as the sum of the concentrations of the individual samples divided by the number of samples taken during any 7 consecutive day period of a calendar month. The 7-day average concentration for fecal or total coliform bacteria is the geometric mean of the samples collected in any 7 consecutive day period of a calendar month.

c. 30-Day Average Load

The 30-day average load is defined as the sum of the weights of pollutants discharged on sampling days divided by the number of sampling days during a calendar month.

d. 7-Day Average Load

The 7-day average load is defined as the sum of the weights of pollutants discharged on sampling days divided by the number of sampling days during any 7 consecutive days in a calendar month.

PART II, Section A-2

e. Maximum Concentration

The maximum concentration limitation is defined as the permissible maximum concentration of a pollutant in any individual sample.

f. Maximum Load

The maximum load limitation is defined as the permissible maximum weight of a pollutant discharged in any single day.

g. 24-Hour Composite Sample

24-hour composite sample is defined as a flow proportioned composite sample consisting of hourly or more frequent portions.

h. Grab Sample

Grab sample is defined as a single sample of wastewater taken at neither set time nor flow.

i. Non-Domestic User

A Non-Domestic User is defined as any discharger to the permittee's treatment works that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

j. Major User

A Major User is defined as a Non-Domestic User that:

(1) discharges more than 10,000 gallons per average working day to the permittee's treatment works;
(2) discharges any toxic or hazardous materials such as, but not limited to, those listed in Attachment B, or
(3) discharges any substance that may cause interference with the operation of the treatment works, and

is considered to be of significance to the overall treatment and disposal processes.

k. Interference

Interference is defined as any inhibition or disruption of the permittee's sewer system, treatment process, operations, or residuals management program, which may contribute to a violation of the NPDES permit.

l. National Pretreatment Standards

National Pretreatment Standards are defined as the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Act. The standards establish nationwide limits for specific industrial categories for discharge to Publicly Owned Treatment Works.

PART II, Section A-2

m. Pretreatment

Pretreatment is defined as reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

n. Water Quality Standards

The Water Quality Standards are defined as Part 4 of the General Rules of the Michigan Water Resources Commission promulgated by authority of Sections 2 and 5 of the Michigan Act.

3. Monitoring

a. The analytical test procedures used shall conform to the rules and regulations promulgated under Section 304(h) of the "Act" (Title 40, Chapter 1, Subchapter D., Part 136-Guidelines Establishing Test Procedures for the Analysis of Pollutants). Copies are available from the Surface Water Quality Division on request. For parameters not covered by the regulations, test procedures shall be approved by the Surface Water Quality Division.

b. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

c. Fecal or Total Coliform analyses, at facilities using chlorine for disinfection, shall be performed on "grab" samples collected at varying times during an operating day. Information derived therefrom shall be correlated with chlorine residual levels, flow rate, and loading variations for the purpose of minimizing chlorine use, while maintaining compliance with the effluent limitations.

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical techniques or methods used; and

e. The results of all required analyses.

PART II, Section A

5. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Operating Report.

6. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years or longer if requested by the Surface Water Quality Division or the Regional Administrator.

B. PERMIT PROGRAM ADMINISTRATION

1. Michigan Water Resources Commission

The Michigan Water Resources Commission has been designated the authority to administer the NPDES permit program in the State of Michigan.

2. Regional Administrator

Where used within this permit, the term Regional Administrator shall mean the Administrator, Region V, U.S. Environmental Protection Agency, 230 South Dearborn Street, Chicago, Illinois, 60604.

3. N.P.D.E.S.

NPDES is defined as the National Pollutant Discharge Elimination System pursuant to Section 402 of the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq, P.L. 92-500, 95-217).

4. Surface Water Quality Division

The Surface Water Quality Division of the Michigan Department of Natural Resources provides the staff for the administration of the NPDES program by the Michigan Water Resources Commission. Reports, notifications, and questions regarding this permit or the NPDES program should be addressed to the appropriate district office of the Surface Water Quality Division.

C. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than, or at a level in excess of that authorized, shall constitute a violation of the permit. Any anticipated significant loading increase, facility expansions, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Surface Water Quality Division of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

PART II, Section C

2. Containment Facilities

The permittee shall provide facilities approved under Act 98, Public Acts of 1913 as amended, and in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5, for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Department of Natural Resources as required by Regulations Governing the Certification of Sewage Treatment Works Operators in accordance with Act 98, Public Acts of 1913, as amended (R 299.2911 - R 299.2927).

4. Non-compliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any condition specified in this permit, the permittee shall provide the Surface Water Quality Division and the Regional Administrator with the following information, in writing, at the time of submittal of the monthly operating data:

a. A description of the circumstances and cause of non-compliance; and

b. The period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the non-compliance.

5. Facilities Operation

All waste collection, control, treatment and disposal facilities shall be operated in a manner consistent with the following:

a. At all times, all facilities shall be operated and maintained in an efficient and responsible manner.

b. The permittee shall provide an adequate operating staff which is qualified to carry out the operation, maintenance and testing functions required to ensure compliance with this permit.

c. Maintenance of treatment facilities shall not result in degradation of effluent quality.

d. Under no circumstances shall the permittee allow introduction of the following wastes into the waste treatment system:

(1) Wastes which create or can create a fire or explosion hazard-defined as being greater than 20% of the lower explosive limit (LEL) for the substance.

(2) Wastes which create or cause corrosive structural damage.

(3) Wastes with pH lower than 5.0 or greater than 11.0.

PART II, Section C-5d.

(4) Solid or viscous substances in amounts which cause obstructions to the flow in collecting or intercepting sewers or interference with the proper operation of the treatment works.

(5) Any pollutant, including oxygen demanding substances released in a discharge of such volume or strength which causes interference in the treatment works.

(6) Heat in such amounts that biological activity is inhibited at the treatment works resulting in interference. The discharge of heat must be regulated so that the temperature at the treatment works influent does not exceed 40° C (104° F).

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from non-compliance with this permit. Such steps may include accelerated or additional monitoring as necessary to determine the nature and impact of the non-compliance.

7. By-passing or Accidental Losses

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life, severe property damage, extended duration process upset, or (ii) where excessive flow would damage any facilities necessary for compliance with the effluent limitations of this permit. The permittee shall promptly notify the Surface Water Quality Division of any such by-pass, or any accidental loss of pollution materials by telephone at 1-800-292-4706. Such notice shall be supplemented by a written report within five (5) days detailing the cause of such diversion, by-pass, or loss, and the corrective actions taken to minimize adverse impacts and eliminate the cause for future diversion, by-pass or loss.

8. Waste Treatment Residues

Solids, sludges, ashes, filter backwash, scrubber water, or other pollutants resulting from the treatment or control of wastewaters shall be disposed in an environmentally compatible manner. Such disposal shall not result in degradation of any surface waters or groundwaters of the state. Additional monitoring may be required to confirm the adequacy of disposal.

9. Power Failures

In order to maintain compliance with the effluent limitations and prevent unauthorized discharges the permittee shall:

a. Provide alternative power or equipment sufficient to operate essential facilities utilized by permittee to comply with this permit in accordance with Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability published by the Federal Environmental Protection Agency (EPA - 430-99-74-001), or

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with this permit, the permittee shall halt, reduce or otherwise control all discharges in order to maintain compliance with the effluent limitations and conditions of this permit.

PART II, Section D

D. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Surface Water Quality Division and the Regional Administrator 30 days prior to the actual transfer of control or ownership.

3. Availability of Reports

All reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Surface Water Quality Division and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act, Sections 7 and 10 of the Michigan Act, and Sections 8 and 13 of Act 98, Public Acts of 1913, as amended.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

d. The establishment of a toxic effluent standard or prohibition under Section 307(a) of the Act more stringent than any limitation in this permit.

5. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II, C-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for non-compliance.

PART II, Section D

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations.

7. Facility Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction must be by permit issued under Act 98, Public Acts of 1913, as amended.

8. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

ATTACHMENT A

STANDARD INDUSTRIAL CLASSIFICATION CODES

Note: This is an edited list.

Code	Title
AGRICULTURE	
0100	AGRICULTURAL PRODUCTION—CROPS
0200	AGRICULTURAL PRODUCTION—LIVESTOCK
0211	*Beef Cattle Feedlots*
0241	Dairy farms
0700	AGRICULTURAL SERVICES
MINING	
1000	METAL MINING
1011	Iron Ores
1021	Copper ores
1081	Metal mining services
1300	OIL AND GAS EXTRACTION
1380	Oil and Gas Field Services
1400	NONMETALIC MINERALS
1422	Crushed and broken limestone
1440	Sand and Gravel
1450	Clay and Related Minerals
1470	Chemical and Fertilizer Minerals
1492	Gypsum
CONSTRUCTION	
1500	GENERAL BUILDING CONTRACTORS
1600	HEAVY CONSTRUCTION CONTRACTORS
MANUFACTURING	
2000	FOOD AND KINDRED PRODUCTS
2010	Meat Products
2011	Meat packing plants and slaughter houses
2020	Dairy Products
2030	Preserved Fruits & Vegetables
2033	Canned fruits and vegetables
2035	Pickles sauces and salad dressings
2037	Frozen fruits and vegetables
2040	Grain Mill Products
2043	Cereal breakfast foods
2047	Dog, cat and other pet food
2050	Bakery Products
2060	Sugar and Confectionary Products
2063	Beet sugar
2070	Fats and Oils
2076	Vegetable oil mills
2077	Animal and marine fats & oils
2080	Beverages
2082	Malt beverages
2084	Wines, brandy and brandy spirits
2085	Distilled liquor except brandy
2086	*Bottled and canned soft drinks*
2087	Flavoring extracts and sirups nec
2090	Misc Foods and Kindred Products
2091	Canned and cured seafoods
2092	Fresh or frozen packaged fish
2200	TEXTILE MILL PRODUCTS
2300	APPAREL AND OTHER TEXTILE PRODUCTS
2400	LUMBER AND WOOD PRODUCTS
2420	Sawmills and Planing Mills
2430	Millwork Plywood & Structural Members
2440	Wood Containers
2448	Wood pallets and skids
2450	Wood Buildings and Mobile Homes
2490	Miscellaneous Wood Products
2491	Wood preserving
2492	Particleboard
2500	FURNITURE AND FIXTURES
2600	PAPER AND ALLIED PRODUCTS
2611	Pulp mills
2621	Paper mills except building paper
2631	Paperboard mills
2640	Misc Converted Paper Products
2650	Paperboard Containers and Boxes
2661	Building paper and board mills
2700	PRINTING AND PUBLISHING
2710	Newspapers
2750	Commercial Printing
2790	Printing Trade Services

Code	Title
	Manufacturing-cont'd
2800	CHEMICALS AND ALLIED PRODUCTS
2810	Industrial Inorganic Chemicals
2820	Plastics Materials and Synthetics
2830	Drugs
2840	Soap, Cleaners, and Toilet Goods
2850	Paints and Allied Products
2860	Industrial Organic Chemicals
2870	Agricultural Chemicals
2890	Miscellaneous Chemical Products
2891	Adhesives and sealants
2892	Explosives
2893	Printing inks
2899	Salt (by evaporation)
2900	PETROLEUM AND COAL PRODUCTS
2911	Petroleum refining
2950	Paving and Roofing Materials
3000	RUBBER AND MISC PLASTIC PRODUCTS
3011	Tires and inner tubes
3069	Fabricated rubber products
3079	Miscellaneous plastic products
3100	LEATHER AND LEATHER PRODUCTS
3111	Leather tanning and finishing
3200	STONE, CLAY AND GLASS PRODUCTS
3220	Glass and Glassware, Pressed or Blown
3241	Cement
3250	Structural Clay Products
3260	Pottery and Related Products
3270	Concrete, Gypsum, and Plaster Products
3271	Concrete block and brick
3273	Ready-mixed concrete
3274	Lime
3275	Gypsum products
3290	Misc Nonmetallic Mineral Products
3291	Abrasive products
3292	Asbestos products
3295	Minerals, ground or treated
3297	Nonclay refractories
3300	PRIMARY METAL INDUSTRIES
3310	Blast Furnaces and Basic Steel Products
3312	Blast furnaces and steel mills
3313	Electrometallurgical products
3315	Steel wire and related products
3316	Cold finishing of steel shapes
3317	Steel pipe and tubes
3320	Iron and Steel Foundries
3321	Gray iron foundries
3322	Malleable iron foundries
3330	Primary Nonferrous Metals
3331	Primary copper
3332	Primary lead
3333	Primary zinc
3334	Primary aluminum
3340	Secondary Nonferrous Metals
3360	Die Casting
3361	Aluminum foundries
3362	Brass bronze and copper foundries
3390	Miscellaneous Primary Metal Products
3398	Metal heat treating
3400	FABRICATED METAL PRODUCTS
3410	Metal Cans and Shipping Containers
3420	Cutlery Hand Tools, and Hardware
3430	*Plumbing and Heating, Except Electric*
3440	Fabricated Structural Metal Products
3442	Metal doors sash and trim
3443	Fabricated plate work (boiler shops)
3444	Sheet metal work
3450	Screw Machine Products Bolts etc
3460	Metal Forgings and Stampings
3462	Iron and steel forgings
3463	Nonferrous forgings
3465	Automotive stampings
3470	Metal Services
3471	Plating and polishing
3479	Metal coating and allied services
3480	Ordnance and Accessories
3490	Misc Fabricated Metal Products
3500	MACHINERY EXCEPT ELECTRICAL
3510	Engines and Turbines
3520	Farm and Garden Machinery
3530	Construction and Related Machinery
3540	Metalworking Machinery
3550	Special Industry Machinery
3560	General Industrial Machinery
3570	Office and Computing Machines
3580	Refrigeration and Service Machinery
3590	Misc Machinery Except Electrical
3600	ELECTRIC AND ELECTRONIC EQUIPMENT
3610	Electric Distributing Equipment
3620	Electrical Industrial Apparatus
3630	Household Appliances
3640	Electric Lighting and Wiring Equipment
3650	Radio and TV Receiving Equipment
3660	Communication Equipment
3670	Electronic Components and Accessories
3690	Misc Electrical Equipment & Supplies

Code	Title
	Manufacturing-cont'd
3700	TRANSPORTATION EQUIPMENT
3710	Motor Vehicles and Equipment
3711	Motor vehicles and car bodies
3714	Motor vehicle parts and accessories
3715	Truck trailors
3720	Aircraft and Parts
3730	Ship and Boat Building and Repairing
3740	Railroad Equipment
3750	Motorcycles Bicycles and Parts
3760	Guided Missles Space Vehicles Parts
3790	Miscellaneous Transportation Equipment
3792	Travel Trailers and campers
3795	Tanks and Tank Components
3800	INSTRUMENTS AND RELATED PRODUCTS
3810	Engineering and Scientific Instruments
3820	Measuring and Controlling Devices
3830	Optical Instruments and Lenses
3840	Medical Instruments and Supplies
3860	Photographic Equipment and Supplies
3900	MISCELLANEOUS MANUFACTURING INDUSTRIES
3910	Jewelry, Silverware, and Plated Ware
3930	Musical Instruments
3940	Toys and Sporting Goods
3950	Pens Pencils Office and Art Supplies
3990	Miscellaneous Manufactures
TRANSPORTATION	
4010	RAILROADS
4200	TRUCKING AND WAREHOUSING
4210	Trucking, Local and Long Distance
4214	Hauling Liquid Wastes
4221	Farm product warehousing and storage
4222	Refrigerated Warehousing
4230	Trucking Terminal Facilities
4400	WATER TRANSPORTATION
4430	Great Lakes Transportation
4440	Transportation on Rivers and Canals
4452	Ferries
4454	Towing and tugboat service
4460	Water Transportation Services
4463	Marine cargo handling
SERVICES	
4900	ELECTRIC GAS AND SANITARY SERVICES
4911	Electric services
4925	Gas production and or distribution
4953	Refuse systems
5810	*EATING AND DRINKING PLACES*
6512	OFFICE BUILDINGS
7000	HOTELS AND OTHER LODGING PLACES
7011	Hotels, motels and tourist courts
7030	Camps and Trailering Parks
7032	Sporting and recreational camps
7210	Laundry Cleaning & Garment Services
7215	Coin-operated laundries
7391	Laboratories — Testing and Research
7399	Water Softener Service
7500	AUTO REPAIR SERVICES AND GARAGES
7530	Automotive Repair Shops
7542	Car washes
7900	AMUSEMENT & RECREATION SERVICES
7933	Bowling alleys
7940	Commercial Sports
7941	Sports clubs and promoters
7948	Racing including track operation
7992	Public golf courses
7996	Amusement parks
7997	Membership sports & recreation clubs
8000	HEALTH SERVICES
8050	Nursing and Personal Care Facilities
8060	Hospitals
8070	Medical and Dental Laboratories
8080	Outpatient Care Facilities

Federal EPA's List of 65 Priority Pollutants

Acenaphthene
Acrolein
Acrylonitrile
Aldrin/Dieldrin
Antimony and compounds
Arsenic and compounds
Asbestos
Benzene
Benzidine
Beryllium and compounds
Cadmium and compounds
Carbon tetrachloride
Chlordane (technical mixture and metabolites)
Chlorinated benzenes (other than dichlorobenzenes)
Chlorinated ethanes (including 1, 2-dichloroethane, 1, 1, 1-trichloroethane, and hexachloroethane)
Chloroalkyl ethers (chloromethyl, chloroethyl, and mixed ethers)
Chlorinated naphthalene
Chlorinated phenols (other than those listed elsewhere; includes trichlorophenols and chlorinated cresols)
Chloroform
2-chlorophenol
Chromium and compounds
Copper and compounds
Cyanide
DDT and metabolites
Dichlorobenzenes (1, 2-,1,3-, and 1,4-dichlorobenzenes)
Dichlorobenzidine
Dichloroethylenes (1,1-and 1,2-dichloroethylene)
2,4-dichlorophenol
Dichloropropene and dichloropropene
2,4-dimethylphenol
Dinitrotoluene
Diphenylhydrazine
Endosulfan and metabolites
Endrin and metabolites
Ethylbenzene
Fluoranthene
Haloethers (other than those listed elsewhere; includes chlorophenylphenyl ethers, bromophenylphenyl ether, bis (dichloroisopropyl) ether, bis-(chloroethoxy) methane and polychlorinated diphenyl ethers)
Halomethanes (other than those listed elsewhere; includes methylene chloride, methychloride, methylbromide, bromoform, dichlorobromomethane, trichlorofluoromethane, dichlorodifluoromethane)
Heptachlor and metabolites
Hexachlorobutadiene
Hexachlorocyclohexane (all isomers)
Hexachlorocyclopentadiene
Isophorone
Lead and compounds
Mercury and compounds
Naphthalene
Nickel and compounds
Nitrobenzene
Nitrophenols (including 2,4-dinitrophenol, dinitrocresol)
Nitrosamines
Pentachlorophenol
Phenol
Phthalate esters
Polychlorinated biphenyls (PCBs)
Polynuclear aromatic hydrocarbons (including benzathracenes, benzopyrenes, benzofluoranthene, chrysesnes, dibenzanthracenes, and indenopyrenes)
Selenium and compounds
Silver and compounds
2,3,7,8,-Tetrachlorodibenzo-p-dioxin (TCDD)
Tetrachloroethylene
Thallium and compounds
Toluene
Toxaphene
Trichloroethylene
Vinyl chloride
Zinc and compounds

ATTACHMENT B

Michigan Water Resources Commission
CRITICAL MATERIALS REGISTER
Published October 1, 1983

With the exception of critical material classes (where all compounds of the material are to be reported) the parameter number assigned each Critical Material is from the Chemical Abstract Service "Registry Handbook." Additional information concerning the Critical Materials Program and the individual materials may be obtained by writing:

Critical Materials Program
Toxic Chemical Evaluation Section
Environmental Services Division
Michigan DNR
P.O. Box 30028
Lansing, Michigan 48909

I. Inorganic Materials

A. The following inorganic materials and *all their compounds* are to be reported.

	Parameter Number
antimony	Class-01-0
arsenic	Class-01-1
beryllium	Class-01-2
cadmium	Class-01-3
chromium	Class-01-5
cobalt	Class-01-6
copper	Class-01-7
cyanides	Class-01-8
hypochlorite	Class-01-4
lead	Class-01-9
lithium	Class-02-0
mercury	Class-02-1
nickel	Class-02-2
selenium	Class-02-3
silver	Class-02-4
zinc	Class-02-7

B. The following specific inorganic materials are to be reported (do not report compounds).

	Parameter Number
chloramines	Class-08-6
chlorine	07782-50-5
hydrazine	00302-01-2
hydrogen sulfide	07783-06-4

II. Organic Materials

	Parameter Number
acetone cyanohydrin	00075-86-5
2-acetylaminofluorene	00053-96-3
acrolein	00107-02-8
acrylic acid	00079-10-7
acrylonitrile	00107-13-1
allyl chloride	00107-05-1
2-aminoanthraquinone	00117-79-3
aminoazobenzene	00060-09-3
o-aminoazotoluene	00097-56-3
4-aminobiphenyl	00092-67-1
3-amino-9-ethylcarbazole	00132-32-1
1-amino-2-methylanthraquinone	00082-28-0
aminotriazole (amitrole)	00061-82-5
aniline	00062-53-3
o-anisidine	00090-04-0
o-anisidine hydrochloride	00134-29-2
benz(a)anthracene	00056-55-3
benzene	00071-43-2
benzidine	00092-87-5
benzidine salts	Class-08-7
benzo(a)pyrene	00050-32-8
brucine	00357-57-3
carbon tetrachloride	00056-23-5
chlorinated dibenzofurans	Class-05-3
chlorinated dioxins	Class-05-4
1-chloro-2,3-epoxypropane	00106-89-8
bis(2-chloroethyl)ether	00111-44-4
chloroform	00067-66-3
bis(chloromethyl)ether	00542-88-1
3-(chloromethyl)pyridine hydrochloride	06959-48-4
p-chlorophenol	00106-48-9
1-(4-chlorophenyl)-3, 3-dimethyl triazene	07203-90-9
4-chloro-m-phenylenediamine	05131-60-2
4-chloro-o-phenylenediamine	00095-83-0
chloroprene	00126-99-8
5-chloro-o-toluidine	00095-79-4
p-cresidine (5-methyl-o-anisidine)	00120-71-8
2,4-diaminoanisole sulfate	39156-41-7
4,4'-diaminodiphenyl ether	00101-80-4
2,4-diaminotoluene	00095-80-7
dibenz(a,h)anthracene	00053-70-3
tris(dibromopropyl)phosphate	00126-72-7
di-n-butyl phthalate	00084-74-2
3,3'-dichlorobenzidine	00091-94-1
3,3'-dichlorobenzidine salts	Class-08-8
1,2-dichloroethane	00107-06-2
2,4-dichlorophenol	00120-83-2
1,2:3,4-diepoxybutane	00298-18-0
diethyl sulfate	00064-67-5
4-dimethylaminoazobenzene	00060-11-7
dimethylhydrazines	Class-06-2
4,6-dinitro-o-cresol	00534-52-1
-dinitrophenol	00051-28-5
2,4-dinitrotoluene	00121-14-2
di-n-octyl phthalate	00117-84-0
1,4-dioxane	00123-91-1
2,3-epoxy-1-propanal	00765-34-4
ethylene dibromide	00106-93-4
ethyleneimine	00151-56-4
ethylene oxide	00075-21-8
ethylene thiourea	00096-45-7
bis(2-ethylhexyl)phthalate	00117-81-7
ethylmethanesulfonate	00062-50-0
2-(2-formylhydrazino)-4-(5-nitro-2-furyl)-thiazole	03570-75-0
hexachlorobenzene (HCB)	00118-74-1
hexachlorobutadiene	00087-68-3
hexachlorocyclohexane	00608-73-1
hexachlorocyclopentadiene	00077-47-4
hexachloroethane	00067-72-1
hydrazobenzene	00122-66-7
hydroquinone	00123-31-9
N-(2-hydroxyethyl)ethyleneimine	01072-52-2
lactonitrile	00078-97-7
malachite green (C.I. Basic Green 4)	00569-64-2
methylenebis(2-chloroaniline)	00101-14-4

Organic Materials (continued)	Parameter Number
4,4'-methylenebis(2-methylaniline)	00838-88-0
4,4'-methylenebis(N,N-dimethylaniline)	00101-61-1
1,2-(methylenedioxy)-4-propenyl benzene	00120-58-1
methyl hydrazine	00060-34-4
methyl mercaptan	00074-93-1
1-methylnaphthalene	00090-12-0
2-methyl-1-nitroanthraquinone	00129-15-7
mustard gas	00505-60-2
1,5-naphthalenediamine	02243-62-1
1-naphthylamine	00134-32-7
2-naphthylamine	00091-59-8
5-nitroacenaphthene	00602-87-9
5-nitro-o-anisidine	00099-59-2
4-nitrobiphenyl	00092-93-3
nitrogen mustard	00051-75-2
N-nitroso-n-butyl-N-(4-hydroxybutyl) amine	03817-11-6
N-nitroso-di-n-butylamine	00924-16-3
N-nitrosodiethylamine	00055-18-5
N-nitrosodimethylamine	00062-75-9
p-nitrosodiphenylamine	00156-10-5
N-nitroso-N-ethylurea	00759-73-9
N-nitroso-N-methylurea	00684-93-5
N-nitroso-N-methylurethane	00615-53-2
N-nitrosomorpholine	00059-89-2
N-nitroso-N-phenylhydroxylamine, ammonium salt	00135-20-6
N-nitrososarcosine	13256-22-9
pentachloronitrobenzene	00082-68-8
pentachlorophenol	00087-86-5
peroxyacetic acid	00079-21-0
piperonyl sulfoxide	00120-62-7
polybrominated biphenyls (PBB)	Class-07-8
polychlorinated biphenyls (PCB)	Class-07-9
1,3-propane sultone	01120-71-4
B-propiolactone	00057-57-8
5-propyl-1,3-benzodioxole	00094-58-6
propyleneimine	00075-55-8
semicarbazide	00057-56-7
styrene	00100-42-5
1,1,2,2-tetrachloroethane	00079-34-5
tetrachloroethylene (perchloroethylene)	00127-18-4
thioacetamide	00062-55-5
4,4'-thiodianiline	00139-65-1
thiourea	00062-56-6
o-toluidine	00095-53-4
o-toluidine hydrochloride	00636-21-5
triaryl phosphate esters	Class-08-4
1,1,2-trichloroethane	00079-00-5
trichloroethylene	00079-01-6
2,4,5-trichlorophenol	00095-95-4
2,4,6-trichlorophenol	00088-06-2
2,4,5-trimethylaniline	00137-17-7
trimethylphosphate	00512-56-1
xylene	01330-20-7

III. Pesticides (to be reported only by manufacturers and formulators).

	Parameter Number
aldicarb	00116-06-3
aldrin	00309-00-2
4-aminopyridine	00504-24-5
amiazine	00101-05-3
antimycin A	01397-94-0
azinphos-ethyl	02642-71-9
azinphos-methyl	00086-50-0
barban	00101-27-9
bendiocarb	22781-23-3
benomyl	17804-35-2
bromoxynil	01689-84-5
2-(p-tert-butylphenoxy)-isopropyl-2-chloroethyl sulfite	00140-57-8
captafol	02425-06-1
captan	00133-06-2
carbaryl	00063-25-2
carbofuran	01563-66-2
carbophenothion	00786-19-6
chlordane	00057-74-9
chlordecone	00143-50-0
chlorfenvinphos	00470-90-6
chlorobenzilate	00510-15-6
chlorpyrifos	02921-88-2
clonitralid	01420-04-8
coumaphos	00056-72-4
crotoxyphos	07700-17-6
cycloheximide	00066-81-9
DDT	00050-29-3
demeton	08065-48-3
diallate	02303-16-4
diazinon	00333-41-5
dibromochloropropane (DBCP)	00096-12-8
dichione	00117-80-6
dichlorvos	00062-73-7
dichrotophos	00141-66-2
dieldrin	00060-57-1
dimethoate	00060-51-5
dinocap	39300-45-3
dinoseb	00088-85-7
dioxathion	00078-34-2
disulfoton	00298-04-4
endosulfan	00115-29-7
endrin	00072-20-8
EPN	02104-64-5
ethion	00563-12-2
fensulfothion	00115-90-2
fenthion	00055-38-9
fluchloralin	33245-39-5
heptachlor	00076-44-8
heptachlor epoxide	01024-57-3
leptophos	21609-90-5
malathion	00121-75-5
methomyl	16752-77-5
methoxychlor	00072-43-5
methyl parathion	00298-00-0
mevinphos	07786-34-7
mexacarbate	00315-18-4
mirex	02385-85-5
monocrotophos	06923-22-4
naled	00300-76-5
nicotine	00054-11-5
nitrofen	01836-75-5
oxydemeton-methyl	00301-12-2
paraquat	01910-42-5
parathion	00056-38-2
phorate	00298-02-2
phosazetim	04104-14-7
phosmet	00732-11-6
phosphamidon	13171-21-6
rotenone	00083-79-4
silvex, propylene glycolbutyl ether ester	02317-24-0
sodium fluoroacetate	00062-74-8
strychnine	00057-24-9
sulfallate	00095-06-7
sulfotepp	03689-24-5
TDE	00072-54-8
TEPP	00107-49-3
terbufos	13071-79-9
tetrachlorvinphos	00961-11-5
thiram	00137-26-8
toxaphene	08001-35-2
bis (tri-n-butyl tin) oxide	00056-35-9
trichlorfon	00052-68-6
trichlorophenoxyacetic acid (2,4,5-T)	00093-76-5
trifluralin	01582-09-8
ziram	00137-30-4

IV. Drugs, Food Additives, Natural Materials (to be reported only by manufacturers and formulators).

	Parameter Number
actinomycin D	00050-76-0
citrus red no. 2	06358-53-8
cycasin	14901-08-7
cyclophosphamide	00050-18-0
diethylstilbestrol	00056-53-1
isonicotinic acid hydrazine	00054-85-3
lasiocarpine	00303-34-4
mestranol	00072-33-3
methylthiouracil	00056-04-2
mitomycin C	00050-07-7
monocrotaline	00315-22-0
nimdazole	00061-57-4
nithiazide	00139-94-6
N-(4-(5-nitro-2-furanyl)-2-thiazolyl)acetamide	00531-82-8
phenazopyridine hydrochloride	00136-40-3
phenesterin	03546-10-9
phenobarbitol	00050-06-6
phenytoin	00057-41-0
phenytoin sodium	00630-93-3
propylthiouracil	00051-52-5
uracil mustard	00066-75-1

Application No. MI 0022276

MIXING ZONE

Discharge Identification City of Battle Creek Wastewater Treatment Plant

Discharge Location to the Kalamazoo River in Section 32, T1S, R8W

Outfall Number(s) 001

The mixing zone for purposes of determining effluent limits in this permit is defined as one-quarter (¼) of the Kalamazoo River at the point of discharge.

Water Quality in the mixing zone resulting from this discharge shall not cause an irreversible response which results in deleterious effects to populations of important aquatic life and wildlife. The mixing zone designated and the water quality therein resulting from this discharge shall not prevent the passage of fish and fishfood organisms so that effects on their immediate and future populations are negligible or not measurable.

Permit No. MI 0022276

MICHIGAN WATER RESOURCES COMMISSION

AUTHORIZATION TO DISCHARGE UNDER THE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), Michigan Act 98, Public Acts of 1913, as amended, being sections 325.201 through 325.214 of the Compiled Laws of Michigan, and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended, being sections 323.1 through 323.13 of the Compiled Laws of Michigan, the "Michigan Act"),

the City of Battle Creek

is authorized to discharge from a facility located at 2000 West River Road

designated as the Battle Creek Wastewater Treatment Plant

to receiving water named the Kalamazoo River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit modification takes effect immediately upon the date of modification. Any person who feels aggrieved by the modifications herein may file a sworn petition with the Commission setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Commission may reject any petition filed more than 60 days after modification as being untimely. Upon granting of a contested case to the applicant, the Commission shall review the permit to determine which contested terms shall be stayed until the Commission takes its final action. All other conditions of the permit remain in full effect. If the contested condition is a modification of a previous permit condition and the Commission determines the contested condition shall be stayed, then such previous condition remains in effect until the Commission takes final action. During the course of any administrative proceeding brought by a person other than the applicant, the conditions of this permit will remain in effect, unless the Commission determines otherwise.

This permit and the authorization to discharge shall expire at midnight, September 30, 1989. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

This permit is based on an application dated January 25, 1982, and shall supersede any and all Orders of Determination, Stipulations, Final Orders of Determination, or NPDES Permits previously adopted by the Michigan Water Resources Commission concerning the described discharge(s).

Issued this 23rd day of October 1984, and modified this 19th day of May 1986, by the Michigan Water Resources Commission.

Paul D. Zugger
Executive Secretary

Modification

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.

1. Interim Effluent Limitations

a. During the period beginning upon issuance of this permit and lasting until October 31, 1985 the permittee is authorized to discharge treated municipal wastewaters from the City of Battle Creek wastewater treatment plant through outfall 001 to the Kalamazoo River. Such discharges shall be limited and monitored by the permittee as follows:

EFFLUENT CHARACTERISTICS	DATES IN EFFECT	LOAD LIMITATIONS		CONCENTRATION LIMITATIONS		MONITORING REQUIREMENTS
		30 Day Average	7 Day Average	30 Day Average	7 Day Average	Testing Frequency
5-Day 20°C Biochemical Oxygen Demand	All Year	1245 kg/day or 2752 lb/day	1868 kg/day or 4128 lb/day	30 mg/l	45 mg/l	Daily
Suspended Solids	All Year	1660 kg/day 3670 lb/day	2491 kg/day 5504 lb/day	40 mg/l	60 mg/l	Daily
Total Phosphorus (as P)	All Year	---	---	1.5 mg/l	---	Daily
Fecal Coliform Bacteria	May 15 to Oct. 15	---	---	200/100 ml	400/100 ml	Daily
Dissolved Oxygen	All Year	---	---	---	---	Daily
Ammonia Nitrogen (as N)(NH_3-N)	All Year	---	---	---	---	Daily
				Daily Min.	Daily Max.	
pH	All Year	---	---	6.0	9.0	

The following design flows were used in determining the above limitations, but are not to be considered limitations or actual capacities themselves: 11.0 MGD.

b. All samples shall be 24 hour composite samples taken following disinfection except Fecal Coliform Bacteria, Total Residual Chlorine, Dissolved Oxygen, and pH which shall be grab samples of the effluent.

c. The total daily effluent flow shall be measured daily.

d. During the periods that Coliform Bacteria Limitations are in effect, the permittee shall provide adequate control and facilities to ensure continuous disinfection.

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.

2. Final Effluent Limitations - Phase II Facilities (excluding tertiary filters)

a. During the period beginning November 1, 1985 and lasting until permit expiration, the permittee is authorized to discharge treated municipal wastewaters from the City of Battle Creek wastewater treatment plant through outfall 001 to the Kalamazoo River. Such discharges shall be limited and monitored by the permittee as follows:

EFFLUENT CHARACTERISTICS	DATES IN EFFECT	EFFLUENT LIMITATIONS				TESTING FREQUENCY
		Minimum	Maximums			
		Daily	Daily	30 Day Avg.	7 Day Avg.	
Carbonaceous 5-Day 20°C Biochemical Oxygen Demand	5/1-9/30	---	---	20 mg/l 1820 kg/day 4003 lb/day	---	Daily
	10/1-11/30	---	---	23 mg/l 2090 kg/day 4604 lb/day	---	Daily
BOD_5 (total)	12/1-4/30	---	---	30 mg/l 2730 kg/day 6005 lb/day	45 mg/l 4095 kg/day 9008 lb/day	Daily
	5/1-11/30	---	---	30 mg/l	45 mg/l	Weekly
Ammonia Nitrogen (as N)	5/1-9/30	---	---	2.0 mg/l 182 kg/day 400 lb/day	---	Daily
	10/1-11/30	---	---	6.5 mg/l 592 kg/day 1300 lb/day	---	Daily
Dissolved Oxygen	All Year	4.0 mg/l	---	---	---	Daily
Total Suspended Solids	All Year	---	---	30 mg/l 2730 kg/day 6005 lb/day	45 mg/l 4095 kg/day 9008 lb/day	Daily
Fecal Coliform Bacteria	5/15 - 10/15	---	---	200/100 ml	400/100 ml	Daily
Total Residual Chlorine	All Year beginning 7/1/88	---	0.05 mg/l	---	---	Daily during periods of disinfection
Total Phosphorus (as P)	All Year	---	---	1.0 mg/l	---	Daily
pH	All Year	6.0	9.0	---	---	Daily
Benzene	All Year	EPA Method 602				Quarterly, grab
Cadmium	All Year	---	---	---	---	3 x weekly, 24-hour composite
	All Year beginning 7-1-88	---	15 ug/l	2.5 ug/l	---	5 x weekly, 24-hour composite

The following design flows were used in determining the above limitations, but are not to be

PERMIT CONDITIONS

PART I, Section A. 2

EFFLUENT CHARACTERISTICS	DATES IN EFFECT	EFFLUENT LIMITATIONS				TESTING FREQUENCY
		Minimum	Maximums			
		Daily	Daily	30-Day Avg.	7-Day Avg.	
Cyanide (amenable to chlorination)	All Year	---	---	---	---	3 x weekly, 24-hour composite
	All Year beginning 7-1-88	---	45 ug/l	15 ug/l	---	5 x weekly, 24-hour composite
Silver	All Year	---	---	---	---	3 x weekly, 24-hour composite
	All Year beginning 7-1-88	---	4 ug/l	0.4 ug/l	---	5 x weekly, 24-hour composite
Lead	All Year	---	---	---	---	3 x weekly, 24-hour composite
	All Year beginning 7-1-88	---	114 ug/l	34 ug/l	---	5 x weekly, 24-hour composite
2-chlorophenol	All Year	EPA METHOD 604				2 x monthly, Grab
	All Year beginning 7-1-88	---	---	30 ug/l	---	
2,4-dichloro-phenol	All Year	EPA METHOD 604				2 x monthly, Grab
	All Year beginning 7-1-88	---	---	50 ug/l	---	
2,4,6-trichloro-phenol	All Year	EPA METHOD 604				2 x monthly, Grab
	All Year beginning 7-1-88	---	---	5 ug/l	---	
Carbon-tetrachloride	All Year	EPA METHOD 601				2 x monthly, Grab
	All Year beginning 7-1-88	---	---	60 ug/l	---	
Benzidine	All Year	EPA METHOD 605				2 x monthly, Grab
	All Year beginning 7-1-88	---	---	0.01 ug/l	---	

PART I, Section A-2

b. All samples shall be 24 hour composite samples taken following disinfection except Fecal Coliform Bacteria, Total Residual Chlorine, Dissolved Oxygen, and pH which shall be grab samples of the effluent.

c. The total daily effluent flow shall be measured daily.

d. During the period that Coliform Bacteria Limitations are in effect, the permittee shall provide adequate control and facilities to ensure continuous disinfection.

e. The carbonaceous BOD_5 limitation shall be considered as BOD_5 excluding the oxygen demand attributable to nitrification.

f. Variance Opportunity - Opportunity exists under the Provision of Rules of the Michigan Water Resources Commission (R 323.1082) to demonstrate to the Commission that the concentration of a material potentially toxic to fish or fish food organisms greater than the 96 hour TL_m (0.024 mg/l Total Residual Chlorine) is acceptable. The demonstration, if undertaken, shall conclusively demonstrate to the satisfaction of the Commission that such higher concentration will not cause an irreversible response which results in deleterious effects to populations of important aquatic life and wildlife, and interference with passage of fish and fish food organisms results only to the extent that impacts on their immediate and future populations are negligible or not measurable. Such a demonstration, if undertaken, shall be submitted to the Chief of the Surface Water Quality Division on or before September 30, 1986.

g. In addition to the BOD and Suspended Solids limitations above, the 30 day average effluent BOD and Suspended Solids concentrations shall not exceed 15 percent of the average influent concentrations for approximately the same period.

PART I, Section A-

3. Special Condition - Long-Term Water Quality Based Effluent Limits

a. This special condition establishes the mechanism for proceeding toward achievement of water quality based effluent limits which are not presently achievable or detectable but are needed to protect the receiving water. These limits shall be defined as long-term water quality based effluent limits (LTWQBEL) and are as follows:

EFFLUENT CHARACTERISTIC	DATES IN EFFECT	30-DAY AVERAGE
PCBs	All Year	1.2×10^{-5} ug/l

Submitted 30 June 87

The permittee shall develop and submit to the Chief of the Surface Water Quality Division a long-term compliance plan on or before July 1, 1987. The plan shall include a schedule to minimize the discharge of these substances and an evaluation by the permittee as to what reasonable progress can be made toward compliance with the LTWQBEL within the term of this permit and beyond. The plan should also include a proposed method of determining compliance with the LTWQBEL. The proposed method may be an improved analytical technique for directly measuring the effluent concentration, an indirect technique for estimating the effluent concentration, or a comprehensive source detection and control program. After review of the plan, this permit may be modified by the Water Resources Commission in accordance with Part II, Section D-4 to incorporate requirements for proceeding toward achievement of the LTWQBEL.

b. The discharge of this chemical at a level which is or may become injurious to the designated uses of the waters of the state or constitute a threat to the public health or welfare is prohibited. In addition to the above requirements, the following interim limitations shall apply to outfall 001:

EFFLUENT CHARACTERISTIC	DATES IN EFFECT	EPA METHODOLOGY	30-DAY AVERAGE	MONITORING FREQUENCY
PCBs	All Year	608	0.5 ug/l	Grab, 2 x monthly

c. The permittee may request a modification of this permit to change or eliminate this condition if it can be demonstrated that all potential sources of these substances are not present or have been removed from the collection system. All effluent analyses performed within a period of at least one year must confirm that these substances are not present at detectable levels.

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. Special Conditions

Within one year following completion of construction and attainment of operational levels of the Phase II Facilities (excluding tertiary filters), the Department shall provide an instream evaluation to determine if more restrictive limits are needed to meet water quality standards. If it is so demonstrated, the Department will petition the Water Resources Commission to impose such limitations by July 1, 1988.

PART I, Section A-4

5. Start-Up Notification

It is acknowledged that new or expanded wastewater treatment facilities are proposed or under construction. The permittee shall give the Chief of the Surface Water Quality Division written notification of the anticipated date of start-up of the new facilities. This written notification shall be received at least 6 months prior to "start-up". "Start-up" means that point in time when the new facilities should be expected to perform as designed.

It is anticipated that a certain length of time will transpire between the completion of construction and start-up for the purpose of establishing the biological treatment process and solving equipment problems.

(Computed)

PERMIT CONDITIONS

PART I

B. INDUSTRIAL WASTE CONTROL PROGRAM

1. In accordance with its pretreatment program approved on September 20, 1985, the permittee shall assure that pollutant discharges from nondomestic sources do not:

a. Cause, in whole or in part, the permittee's failure to comply with the effluent limitations found in Part I, Section A of this permit;

b. Restrict, in whole or in part, the permittee's approved Program for Effective Residuals Management (PERM) required by Part I, Section C of this permit;

c. Cause, in whole or in part, operational problems at the treatment facility or in its collection system;

d. Exceed local limits established in accordance with the approved pretreatment program; or

e. Exceed Federal Pretreatment Standards as identified in the Federal Pretreatment Regulations (40 CFR 403.5, 1984) and in regulations pursuant to Section 307(b) and (c) of the Act.

The Department of Natural Resources retains the right to require modifications in the approved pretreatment program which are necessary to maintain the above program capabilities.

2. The permittee shall not change or modify its approved pretreatment program without prior approval of the Director.

3. The permittee shall develop and maintain for a minimum of three years all records and information resulting from monitoring and enforcement activities necessary to determine nondomestic user compliance with the pretreatment standards, local limits, and conditions of the approved program.

Submitted 22 Jan 87
Approved 28 Jan 87

4. The permittee is required to submit to Chief ~~of the Surface Water~~ Quality Division, beginning on October 31, 1986, and annually thereafter, a summary report on the status of program implementation and enforcement activities. This report shall contain:

(COMPLETED)

a. A listing of nondomestic users whose discharge is regulated by the conditions of the approved pretreatment program, to include:

(1) Additions or deletions to the nondomestic user survey, including users with significantly increased discharges;

(2) Additions or deletions to the list of toxic chemicals that potentially could be discharged to the sewer;

(3) The names of users with permits or contracts for discharge;

(4) The names of users audited for compliance during the reporting period, and the status of compliance for each; and

PART I, Section B-4a

(5) The names of users which were in significant violation of applicable pretreatment standards or other pretreatment requirements during the reporting period, and proof of publication pursuant to 40 CFR 403.8(f)(2)(vii).

✓ b. A summary of the enforcement actions taken and status of compliance by non-domestic users to include:

(1) Names of nondomestic users not in compliance with categorical standards and/or local pretreatment discharge limitations, and

(2) Status of enforcement actions taken to return these facilities to compliance.

✓ c. A summary of any changes proposed or made to the approved program including changes in legal authority; any procedures which were previously approved by the Department of Natural Resources, including those used to establish local limits; service areas; monitoring programs; staffing; or funding.

5. The permittee shall implement the approved pretreatment program in accordance with the following schedule:

a. The permittee shall provide sufficient data to verify the pollutant removal rates used in ordinance limit development according to the following schedule:

(1) On or before December 15, 1985 submit for approval a monitoring, sampling and analysis plan. (Completed)

(2) On or before March 31, 1986 , complete the monitoring. (Completed)

(3) On or before April 30, 1986 , submit the results of the monitoring and sampling program. (Completed)

(4) If the monitoring shows actual removal rates to be significantly less than those used in ordinance limit development, on or before May 30, 1986 , submit for approval, modified ordinance limits based on the measured pollutant removal rates. (Completed)

b. The permittee shall cause all nondomestic users to be brought into compliance with the permittee's pretreatment requirements according to the following schedule (this schedule does not exempt industrial users from meeting national categorical pretreatment standrds deadlines):

(1) On or before December 1, 1985 , the permittee shall provide a schedule for bringing those industries [illegible] for which federal categorical regulations have been promulgated. (Completed)

PART I, Section B-5b

(2) On or before October 31, 1986, the permittee shall submit a compliance report that includes a complete list of all industries not in compliance with the permittee's pretreatment requirements and verification that these industries are on enforceable compliance schedules. These compliance schedules shall assure that the permittee will meet its NPDES permit requirements by May 31, 1988.

(3) On or before June 15, 1988, verify that all nondomestic users have been brought into compliance with the permittee's regulations.

c. The permittee shall perform a short-term monitoring program on the wastewater treatment plant effluent according to the following schedule.

(1) On or before December 15, 1985, submit for approval a plan for the monitoring, sampling and analysis.

(2) On or before January 30, 1986, begin the sampling program.

(3) On or before March 31, 1986, complete the monitoring program and submit the results obtained.

COMPLETED

Parameter	EPA Method	Frequency and Duration	Sample Type
4-chloro-3 methyl phenol	604	1 x weekly for 6 weeks	Grab

d. Based on the results, this permit may be modified in accordance with Part II, Section D-4 by the Water Resources Commission to incorporate final effluent limitations and/or monitoring requirements as appropriate.

PERMIT CONDITIONS

PART I

C. PROGRAM FOR EFFECTIVE RESIDUALS MANAGEMENT

In addition to the requirements in Part II, Section C-8, herein, the permittee shall provide for the effective management and/or disposal of residuals, i.e., solids, sludges, ash, grit and other substances removed from or resulting from treatment of the wastewater. Residuals disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in unlawful pollution of the air, surface waters or ground waters of the state nor create nuisance conditions. Such management and/or disposal program shall be set forth in a "Program for Effective Residuals Management" prepared by the permittee.

The program shall include:

1.) a management plan (treatment, transportation, storage, disposal, contingency plans);

2.) an inventory of residuals production, storage, and disposal for a period of at least one year;

3.) an analysis of the residuals;

4.) a monitoring program;

5.) if land application is proposed, site maps, soil analyses, application rates, proposed vegetation, and other pertinent information; and

6.) if ground water degradation potential exists, a hydrogeologic study.

A program has previously been submitted to and approved by the Chief of the Surface Water Quality Division. The permittee shall certify that current and future residuals management practices will be in accordance with the approved program or shall submit proposed modifications to the approved program. The program certification or proposed modifications shall be submitted to and receive the approval of the Chief of the Surface Water Quality Division on or before December 31, 1984.

Disposal of residuals resulting from the treatment of wastewater shall be in accordance with the previously approved program until proposed modifications are approved. If at any time the permittee desires to make any substantial changes in the approved program the proposed changes shall be submitted to and approved by the Chief of the Surface Water Quality Division prior to implementation. Substantial changes shall include, but not be limited to: a change in disposal method or site; a change in treatment method; a change in storage method or site; a change in monitoring parameters or monitoring frequency; an increase in application rate; or a change in residuals quantity or characteristics. Any residual disposal inconsistent with the approved program shall be considered a violation of this permit.

PART I

D. SCHEDULE OF COMPLIANCE

1. Facility Construction

In accordance with Section 301(i)(1) of the Act, it has been demonstrated that an extension to achieve compliance with limitations under 301(b)(1)(B) or 301(b)(1)(C) should be granted. Therefore, the following Schedule of Compliance for achieving the final effluent limitations is established.

The permittee shall achieve compliance with the Final Effluent Limitations specified in this permit for outfall(s) 001 in accordance with the following:

a. Submit a status report on the progress of project planning, design and construction at intervals not to exceed nine months beginning on October 31, 1984 and continuing until full compliance with the Final Effluent Limitations is achieved.

b. Facilities shall achieve operational level on or before November 1, 1985.

(Complete)

Submitted 10 June 86

Approved 30 June 86

PART I

D. SCHEDULE OF COMPLIANCE

2. Alternative Power Sources

(Completed)

a. The permittee shall submit an Alternative Power Source Report to the Chief of the Surface Water Quality Division for approval documenting compliance with the requirements of Part II, Section C-9 (Power Failures) of this permit on or before March 31, 1985.

The report shall (1) identify all essential treatment equipment and pumping stations utilized for transportation and treatment of wastes collected within the service area of the facility governed by this permit, and (2) document the alternative power source, or other means of providing continuity of service during periods of power failures, for each essential item identified.

b. If notified by the Surface Water Quality Division that the Alternative Power Source Report submitted by the permittee indicates a lack of adequate alternative power at the permittee's facilities, then the permittee shall submit to the Chief of the Surface Water Quality Division an approvable plan and schedule for providing adequate alternative power within three (3) months after being so notified. The approved plan and schedule shall become an enforceable part of this permit.

PERMIT CONDITIONS

PART I

D. SCHEDULE OF COMPLIANCE

3. Written Report Required

Within 14 days of every program requirement date specified in this permit the permittee shall submit a written report to the Chief of the Surface Water Quality Division stating whether or not the particular task was accomplished. If the task was not accomplished, the report shall also include: an explanation of the failure to accomplish the task, actions taken by the permittee to correct the situations, and an estimate of when the task will be accomplished.

If the task requires submission of a written report and the task was accomplished, a separate written report is not required.

PERMIT CONDITIONS

PART II

A. REPORTING, DEFINITIONS, AND MONITORING

1. Reporting

The permittee shall effectively monitor the operation of all processes comprising the treatment and control facilities. Monitoring data required by this permit and other data required by the Surface Water Quality Division shall be tabulated and summarized on a calendar month basis. Monthly reports, on forms or format supplied by the Surface Water Quality Division, shall be mailed to the address below, postmarked no later than the tenth (10th) of the first month following the report period.

Department of Natural Resources
Data Center
P.O. Box 30028
Lansing, Michigan 48909

2. Definitions

a. 30-Day Average Concentration

The 30-day average concentration other than for fecal or total coliform bacteria, is defined as the sum of the concentrations of the individual samples divided by the number of samples taken during a calendar month. The 30-day average concentration for fecal or total coliform bacteria is the geometric mean of the samples collected in a calendar month.

b. 7-Day Average Concentration

The 7-day average concentration other than for fecal or total coliform bacteria, is defined as the sum of the concentrations of the individual samples divided by the number of samples taken during any 7 consecutive day period of a calendar month. The 7-day average concentration for fecal or total coliform bacteria is the geometric mean of the samples collected in any 7 consecutive day period of a calendar month.

c. 30-Day Average Load

The 30-day average load is defined as the sum of the weights of pollutants discharged on sampling days divided by the number of sampling days during a calendar month.

d. 7-Day Average Load

The 7-day average load is defined as the sum of the weights of pollutants discharged on sampling days divided by the number of sampling days during any 7 consecutive days in a calendar month.

PART II, Section A-2

e. Maximum Concentration

The maximum concentration limitation is defined as the permissible maximum concentration of a pollutant in any individual sample.

f. Maximum Load

The maximum load limitation is defined as the permissible maximum weight of a pollutant discharged in any single day.

g. 24-Hour Composite Sample

24-hour composite sample is defined as a flow proportioned composite sample consisting of hourly or more frequent portions.

h. Grab Sample

Grab sample is defined as a single sample of wastewater taken at neither set time nor flow.

i. Non-Domestic User

A Non-Domestic User is defined as any discharger to the permittee's treatment works that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

j. Major User

A Major User is defined as a Non-Domestic User that:

(1) discharges more than 10,000 gallons per average working day to the permittee's treatment works;
(2) discharges any toxic or hazardous materials such as, but not limited to, those listed in Attachment B, or
(3) discharges any substance that may cause interference with the operation of the treatment works, and

is considered to be of significance to the overall treatment and disposal processes.

k. Interference

Interference is defined as any inhibition or disruption of the permittee's sewer system, treatment process, operations, or residuals management program, which may contribute to a violation of the NPDES permit.

l. National Pretreatment Standards

National Pretreatment Standards are defined as the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Act. The standards establish nationwide limits for specific industrial categories for discharge to Publicly Owned Treatment Works.

PART II, Section A-2

m. Pretreatment

Pretreatment is defined as reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

n. Water Quality Standards

The Water Quality Standards are defined as Part 4 of the General Rules of the Michigan Water Resources Commission promulgated by authority of Sections 2 and 5 of the Michigan Act.

3. Monitoring

a. The analytical test procedures used shall conform to the rules and regulations promulgated under Section 304(h) of the "Act" (Title 40, Chapter 1, Subchapter D., Part 136-Guidelines Establishing Test Procedures for the Analysis of Pollutants). Copies are available from the Surface Water Quality Division on request. For parameters not covered by the regulations, test procedures shall be approved by the Surface Water Quality Division.

b. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

c. Fecal or Total Coliform analyses, at facilities using chlorine for disinfection, shall be performed on "grab" samples collected at varying times during an operating day. Information derived therefrom shall be correlated with chlorine residual levels, flow rate, and loading variations for the purpose of minimizing chlorine use, while maintaining compliance with the effluent limitations.

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical techniques or methods used; and

e. The results of all required analyses.

PART II, Section A

5. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Operating Report.

6. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years or longer if requested by the Surface Water Quality Division or the Regional Administrator.

B. PERMIT PROGRAM ADMINISTRATION

1. Michigan Water Resources Commission

The Michigan Water Resources Commission has been designated the authority to administer the NPDES permit program in the State of Michigan.

2. Regional Administrator

Where used within this permit, the term Regional Administrator shall mean the Administrator, Region V, U.S. Environmental Protection Agency, 230 South Dearborn Street, Chicago, Illinois, 60604.

3. N.P.D.E.S.

NPDES is defined as the National Pollutant Discharge Elimination System pursuant to Section 402 of the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq, P.L. 92-500, 95-217).

4. Surface Water Quality Division

The Surface Water Quality Division of the Michigan Department of Natural Resources provides the staff for the administration of the NPDES program by the Michigan Water Resources Commission. Reports, notifications, and questions regarding this permit or the NPDES program should be addressed to the appropriate district office of the Surface Water Quality Division.

C. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than, or at a level in excess of that authorized, shall constitute a violation of the permit. Any anticipated significant loading increase, facility expansions, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Surface Water Quality Division of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

PART II, Section C

2. Containment Facilities

The permittee shall provide facilities approved under Act 98, Public Acts of 1913 as amended, and in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5, for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Department of Natural Resources as required by Regulations Governing the Certification of Sewage Treatment Works Operators in accordance with Act 98, Public Acts of 1913, as amended (R 299.2911 - R 299.2927).

4. Non-compliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any condition specified in this permit, the permittee shall provide the Surface Water Quality Division and the Regional Administrator with the following information, in writing, at the time of submittal of the monthly operating data:

a. A description of the circumstances and cause of non-compliance; and

b. The period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the non-compliance.

5. Facilities Operation

All waste collection, control, treatment and disposal facilities shall be operated in a manner consistent with the following:

a. At all times, all facilities shall be operated and maintained in an efficient and responsible manner.

b. The permittee shall provide an adequate operating staff which is qualified to carry out the operation, maintenance and testing functions required to ensure compliance with this permit.

c. Maintenance of treatment facilities shall not result in degradation of effluent quality.

d. Under no circumstances shall the permittee allow introduction of the following wastes into the waste treatment system:

(1) Wastes which create or can create a fire or explosion hazard-defined as being greater than 20% of the lower explosive limit (LEL) for the substance.

(2) Wastes which create or cause corrosive structural damage.

(3) Wastes with pH lower than 5.0 or greater than 11.0.

(4) Solid or viscous substances in amounts which cause obstructions to the flow in collecting or intercepting sewers or interference with the proper operation of the treatment works.

(5) Any pollutant, including oxygen demanding substances released in a discharge of such volume or strength which causes interference in the treatment works.

(6) Heat in such amounts that biological activity is inhibited at the treatment works resulting in interference. The discharge of heat must be regulated so that the temperature at the treatment works influent does not exceed 40^{0} C (104^{0} F).

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from non-compliance with this permit. Such steps may include accelerated or additional monitoring as necessary to determine the nature and impact of the non-compliance.

7. By-passing or Accidental Losses

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life, severe property damage, extended duration process upset, or (ii) where excessive flow would damage any facilities necessary for compliance with the effluent limitations of this permit. The permittee shall promptly notify the Surface Water Quality Division of any such by-pass, or any accidental loss of pollution materials by telephone at 1-800-292-4706. Such notice shall be supplemented by a written report within five (5) days detailing the cause of such diversion, by-pass, or loss, and the corrective actions taken to minimize adverse impacts and eliminate the cause for future diversion, by-pass or loss.

8. Waste Treatment Residues

Solids, sludges, ashes, filter backwash, scrubber water, or other pollutants resulting from the treatment or control of wastewaters shall be disposed in an environmentally compatible manner. Such disposal shall not result in degradation of any surface waters or groundwaters of the state. Additional monitoring may be required to confirm the adequacy of disposal.

9. Power Failures

In order to maintain compliance with the effluent limitations and prevent unauthorized discharges the permittee shall:

a. Provide alternative power or equipment sufficient to operate essential facilities utilized by permittee to comply with this permit in accordance with Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability published by the Federal Environmental Protection Agency (EPA - 430-99-74-001), or

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with this permit, the permittee shall halt, reduce or otherwise control all discharges in order to maintain compliance with the effluent limitations and conditions of this permit.

PART II, Section D

D. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Surface Water Quality Division and the Regional Administrator 30 days prior to the actual transfer of control or ownership.

3. Availability of Reports

All reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Surface Water Quality Division and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act, Sections 7 and 10 of the Michigan Act, and Sections 8 and 13 of Act 98, Public Acts of 1913, as amended.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

d. The establishment of a toxic effluent standard or prohibition under Section 307(a) of the Act more stringent than any limitation in this permit.

5. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II, C-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for non-compliance.

PART II, Section D

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations.

7. Facility Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction must be by permit issued under Act 98, Public Acts of 1913, as amended.

8. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
MARLENE J. FLUHARTY
KERRY KAMMER
O. STEWART MYERS
DAVID D. OLSON
RAYMOND POUPORE

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

GORDON E. GUYER, Director

New Permit!

January 14, 1988

RECEIVED

JAN 19 1988

WASTEWATER TREATMENT PLANT

CERTIFIED MAIL

Ms. Loraine Buckner, Clerk
City of Battle Creek
P.O. Box 1717
Battle Creek, Michigan 49016

Re: NPDES Permit No. MI 0022276
Wastewater Treatment Plant

Dear Ms. Buckner:

Your National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate state and federal regulations.

It contains the requirements necessary for you to comply with state and federal water pollution control laws.

REVIEW THE PERMIT EFFLUENT LIMITS AND PERFORMANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. Permit violations are audited by the United States Environmental Protection Agency and may appear in a published quarterly noncompliance report made available to agencies and the public.

Your monitoring and reporting responsibilities must be complied with in accordance with this permit. If applicable, monthly operating report forms will be transmitted to you in the near future. These reports are to be submitted monthly or otherwise as required by your NPDES permit.

Any reports, notifications, and questions regarding the attached permit or NPDES program should be sent to the following address:

Steve Eldredge, District Supervisor
Jackson State Office Building
301 E. Louis Glick Highway
Jackson, Michigan 49201
Telephone: (517) 788-9598

NOTE: All references within this permit made to the Water Quality Division or Chief of the Water Quality Division are to refer to the Surface Water Quality Division or Chief of the Surface Water Quality Division, respectively.

Sincerely,

William E. McCracken

William E. McCracken, P.E.
Chief, Permits Section
Surface Water Quality Division
517-373-8088

Enclosure: Permit

cc: EPA-Region V (2)
Files
Mr. Steve Buda, Planning and Special Programs Section
Mr. Steve Eldredge - Jackson District (2)
Mr. Paul Blakeslee, Regional Supervisor, Region III
Compliance and Enforcement, SWQD
Land Application Unit
208 Agency - South Central Michigan Planning Council
Data Entry, SWQD
Wastewater Treatment Facility Superintendent

Permit No. MI0022276

MICHIGAN WATER RESOURCES COMMISSION
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), Michigan Act 98, Public Acts of 1913, as amended, being sections 325.201 through 325.214 of the Compiled Laws of Michigan, and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended being sections 323.1 through 323.13 of the Compiled Laws of Michigan, the Michigan Act")

the City of Battle Creek

is authorized to discharge from a facility located at 2000 West River Road

designated as the Battle Creek WWTP

to the receiving water named the Kalamazoo River in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit modification takes effect immediately upon the date of modification. Any person who feels aggrieved by the modifications herein may file a sworn petition with the Commission setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Commission may reject any petition filed more than 60 days after modification as being untimely. Upon granting of a contested case to the applicant, the Commission shall review the permit to determine which contested terms shall be stayed until the Commission takes its final action. All other conditions of the permit remain in full effect. If the contested condition is a modification of a previous permit condition and the Commission determines the contested condition shall be stayed, then such previous condition remains in effect until the Commission takes final action. During the course of any administrative proceeding brought by a person other than the applicant, the conditions of this permit will remain in effect, unless the Commission determines otherwise.

April 1989

This permit and the authorization to discharge shall expire at midnight, September 30, 1989. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

This permit is based on an application dated January 25, 1982, and shall supersede any and all Orders of Determination, Stipulations, Final Orders of Determination, or NPDES Permits previously adopted by the Michigan Water Resources Commission concerning the described discharge(s).

Issued this 23rd day of October 1984 and modified this 19th day of May 1986, and modified this 17th day of December 1987, by the Michigan Water Resources Commission.

Paul D. Zugger
Executive Secretary

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.

1. Interim Effluent Limitations

a. During the period beginning upon issuance of this permit and lasting until October 31, 1985 the permittee is authorized to discharge treated municipal wastewaters from the City of Battle Creek wastewater treatment plant through outfall 001 to the Kalamazoo River. Such discharges shall be limited and monitored by the permittee as follows:

EFFLUENT CHARACTERISTICS	DATES IN EFFECT	LOAD LIMITATIONS		CONCENTRATION LIMITATIONS		MONITORING REQUIREMENTS
		30 Day Average	7 Day Average	30 Day Average	7 Day Average	Testing Frequency
5-Day 20°C Biochemical Oxygen Demand	All Year	1245 kg/day or 2752 lb/day	1868 kg/day or 4128 lb/day	30 mg/l	45 mg/l	Daily
Suspended Solids	All Year	1660 kg/day 3670 lb/day	2491 kg/day 5504 lb/day	40 mg/l	60 mg/l	Daily
Total Phosphorus (as P)	All Year	---	---	1.5 mg/l	---	Daily
Fecal Coliform Bacteria	May 15 to Oct. 15	---	---	200/100 ml	400/100 ml	Daily
Dissolved Oxygen	All Year	---	---	---	---	Daily
Ammonia Nitrogen (as N)(NH_3-N)	All Year	---	---	---	---	Daily
				Daily Min.	Daily Max.	
pH	All Year	---	---	6.0	9.0	

The following design flows were used in determining the above limitations, but are not to be considered limitations or actual capacities themselves: 11.0 MGD.

b. All samples shall be 24 hour composite samples taken following disinfection except Fecal Coliform Bacteria, Total Residual Chlorine, Dissolved Oxygen, and pH which shall be grab samples of the effluent.

c. The total daily effluent flow shall be measured daily.

d. During the periods that Coliform Bacteria Limitations are in effect, the permittee shall provide adequate control and facilities to ensure continuous disinfection.

COMPLETED (10/31/85)

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS.

2. Final Effluent Limitations - Phase II Facilities (excluding tertiary filters)

a. During the period beginning November 1, 1985 and lasting until permit expiration the permittee is authorized to discharge treated municipal wastewaters from the City of Battle Creek wastewater treatment plant through outfall 001 to the Kalamazoo River. Such discharges shall be limited and monitored by the permittee as follows:

EFFLUENT CHARACTERISTICS	DATES IN EFFECT	EFFLUENT LIMITATIONS				TESTING FREQUENCY
		Minimum	Maximums			
		Daily	Daily	30 Day Avg.	7 Day Avg.	
Carbonaceous 5-Day 20°C Biochemical Oxygen Demand	5/1-9/30	---	---	20 mg/l 1820 kg/day 4003 lb/day	---	Daily
	10/1-11/30	---	---	23 mg/l 2090 kg/day 4604 lb/day	---	Daily
BOD_5 (total)	12/1-4/30	---	---	30 mg/l 2730 kg/day 6005 lb/day	45 mg/l 4095 kg/day 9008 lb/day	Daily
	5/1-11/30	---	---	30 mg/l	45 mg/l	Weekly
Ammonia Nitrogen (as N)	5/1-9/30	---	---	2.0 mg/l 182 kg/day 400 lb/day	---	Daily
	10/1-11/30	---	---	6.5 mg/l 592 kg/day 1300 lb/day	---	Daily
Dissolved Oxygen	All Year	4.0 mg/l	---	---	---	Daily
Total Suspended Solids	All Year	---	---	30 mg/l 2730 kg/day 6005 lb/day	45 mg/l 4095 kg/day 9008 lb/day	Daily
Fecal Coliform Bacteria	5/15 - 10/15	---	---	200/100 ml	400/100 ml	Daily
Total Residual Chlorine	All Year beginning 1-1-91	---	0.036 mg/l	---	---	Daily during periods of disinfection
Total Phosphorus (as P)	All Year	---	---	1.0 mg/l	---	Daily
pH	All Year	6.0	9.0	---	---	Daily
Benzene	All Year	EPA Method 602				Quarterly, grab
Cadmium	All Year	---	---	---	---	3 x weekly, 24-hour composite
	All Year beginning 7-1-88	---	15 ug/l	2.5 ug/l	---	5 x weekly, 24-hour composite

The following design flows were used in determining the above limitations, but are not to be considered limitations or actual capacities themselves: Annual average design flow - 24 MGD.

PERMIT CONDITIONS

PART I, Section A-2

EFFLUENT CHARACTERISTICS	DATES IN EFFECT	EFFLUENT LIMITATIONS				TESTING FREQUENCY
		Minimum	Maximums			
		Daily	Daily	30-Day Avg.	7-Day Avg.	
Cyanide (amenable to chlorination)	All Year	---	---	---	---	3 x weekly, 24-hour composite
	All Year beginning 7-1-88	---	45 ug/l	15 ug/l	---	5 x weekly, 24-hour composite
Silver	All Year	---	---	---	---	3 x weekly, 24-hour composite
	All Year beginning 7-1-88	---	4 ug/l	0.4 ug/l	---	5 x weekly, 24-hour composite
Lead	All Year	---	---	---	---	3 x weekly, 24-hour composite
	All Year beginning 7-1-88	---	114 ug/l	34 ug/l	---	5 x weekly, 24-hour composite
2-chlorophenol	All Year		EPA METHOD 604			2 x monthly, Grab
	All Year beginning 7-1-88	---	---	30 ug/l	---	
2,4-dichloro-phenol	All Year		EPA METHOD 604			2 x monthly, Grab
	All Year beginning 7-1-88	---	---	50 ug/l	---	
2,4,6-trichloro-phenol	All Year		EPA METHOD 604			2 x monthly, Grab
	All Year beginning 7-1-88	---	---	5 ug/l	---	
Carbon-tetrachloride	All Year		EPA METHOD 601			2 x monthly, Grab
	All Year beginning 7-1-88	---	---	60 ug/l	---	
Benzidine	All Year		EPA METHOD 605			2 x monthly, Grab
	All Year beginning 7-1-88	---	---	0.01 ug/l	---	

PART I, Section A-2

b. All samples shall be 24 hour composite samples taken following disinfection except Fecal Coliform Bacteria, Total Residual Chlorine, Dissolved Oxygen, and pH which shall be grab samples of the effluent.

c. The total daily effluent flow shall be measured daily.

d. During the period that Coliform Bacteria Limitations are in effect, the permittee shall provide adequate control and facilities to ensure continuous disinfection.

e. The carbonaceous BOD_5 limitation shall be considered a BOD_5 excluding the oxygen demand attributable to nitrification.

f. In addition to the BOD_5 and Total Suspended Solids limitations above, the 30-day average effluent BOD_5 and Total Suspended Solids concentrations shall not exceed 15 percent of the average influent concentrations for approximately the same period.

g. Demonstration Opportunity Regarding Total Residual Chlorine

(1) Final Acute Value - The permittee may demonstrate to the Michigan Water Resources Commission that a total residual chlorine limitation greater than the final acute value of 0.036 mg/l is acceptable under the Water Quality Standards. Such demonstration may establish that: a) fish cannot physically inhabit the zone where concentrations of total residual chlorine are greater than 0.036 mg/l, b) toxicity tests, using species and/or water more representative of the discharge point, result in a higher final acute value, c) there is extremely high and immediate dilution, or d) other rationale warrants a less restrictive limitation for total residual chlorine.

(2) Compliance Deadline - The permittee may demonstrate to the Michigan Water Resources Commission that it is necessary and appropriate to postpone the effective date of the total residual chlorine limitation considering the present efficiency of disinfection, age of chlorination equipment and the economic and technical feasibility of compliance.

(3) Demonstration Notification - The permittee shall notify the Surface Water Quality Division if a demonstration under (1) or (2) above will be attempted. The notification shall include a work plan for completion of the demonstration. The effective date of the total residual chlorine limitation shall not be stayed pending the demonstration project.

h. Compliance with the Total Residual Chlorine limit shall be determined on the basis of one or more grab samples. If more than one sample per day is taken, the additional samples shall be collected in near equal intervals over at least 8 hours. The samples shall be analyzed immediately upon collection and the average reported as the daily maximum. The level of detection shall be determined for the analytical method used by following the procedures prescribed in 40 CFR 136 Appendix B. The reported level of detection shall not exceed 0.036 mg/l unless a higher level is appropriate because of sample matrix interference.

PART I, Section A-2

i. The December 17, 1987 modifications to this permit are intended to provide the permittee sufficient time to both (1) perform a demonstration pursuant to the "Demonstration Opportunity Regarding Total Residual Chlorine" above, and (2) if necessary following the demonstration, design, construct, and place into operation facilities needed to comply with the effluent limitation for Total Residual Chlorine. It is expected that, if a demonstration is to be attempted, it will be completed within approximately one year, thus leaving approximately two years for Chlorine Control facility design and construction. The permittee shall submit Progress Reports that detail the status of the permittee's demonstration efforts and the status of chlorine control facility design, construction, and operation. Such Progress Reports shall be submitted to the Chief of the Surface Water Quality Division on or before December 31, 1988 and December 31, 1989.

Progress Rpt, -- Due 12/31/88

Progress Rpt 2 -- Due 12/31/89

PART I, Section A-

3. Special Condition - Long-Term Water Quality Based Effluent Limits

a. This special condition establishes the mechanism for proceeding toward achievement of water quality based effluent limits which are not presently achievable or detectable but are needed to protect the receiving water. These limits shall be defined as long-term water quality based effluent limits (LTWQBEL) and are as follows:

EFFLUENT CHARACTERISTIC	DATES IN EFFECT	30-DAY AVERAGE
PCBs	All Year	1.2×10^{-5} ug/l

Complete

Submitted 30 JUN 87

The permittee shall develop and submit to the Chief of the Surface Water Quality Division a long-term compliance plan on or before July 1, 1987. The plan shall include a schedule to minimize the discharge of these substances and an evaluation by the permittee as to what reasonable progress can be made toward compliance with the LTWQBEL within the term of this permit and beyond. The plan should also include a proposed method of determining compliance with the LTWQBEL. The proposed method may be an improved analytical technique for directly measuring the effluent concentration, an indirect technique for estimating the effluent concentration, or a comprehensive source detection and control program. After review of the plan, this permit may be modified by the Water Resources Commission in accordance with Part II, Section D-4 to incorporate requirements for proceeding toward achievement of the LTWQBEL.

Approved 24 JUL 87

b. The discharge of this chemical at a level which is or may become injurious to the designated uses of the waters of the state or constitute a threat to the public health or welfare is prohibited. In addition to the above requirements, the following interim limitations shall apply to outfall 001:

EFFLUENT CHARACTERISTIC	DATES IN EFFECT	EPA METHODOLOGY	30-DAY AVERAGE	MONITORING FREQUENCY
PCBs	All Year	608	0.5 ug/l	Grab, 2 x monthly

c. The permittee may request a modification of this permit to change or eliminate this condition if it can be demonstrated that all potential sources of these substances are not present or have been removed from the collection system. All effluent analyses performed within a period of at least one year must confirm that these substances are not present at detectable levels.

PERMIT CONDITIONS

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. Special Conditions

Within one year following completion of construction and attainment of operational levels of the Phase II Facilities (excluding tertiary filters), the Department shall provide an instream evaluation to determine if more restrictive limits are needed to meet water quality standards. If it is so demonstrated, the Department will petition the Water Resources Commission to impose such limitations by July 1, 1988.

PART I, Section A-4

5. Start-Up Notification

It is acknowledged that new or expanded wastewater treatment facilities are proposed or under construction. The permittee shall give the Chief of the Surface Water Quality Division written notification of the anticipated date of start-up of the new facilities. This written notification shall be received at least 6 months prior to "start-up". "Start-up" means that point in time when the new facilities should be expected to perform as designed.

It is anticipated that a certain length of time will transpire between the completion of construction and start-up for the purpose of establishing the biological treatment process and solving equipment problems.

COMPLETED
(31 JAN 86)

PERMIT CONDITIONS

PART I

B. INDUSTRIAL WASTE CONTROL PROGRAM

1. In accordance with its pretreatment program approved on September 20, 1985, the permittee shall assure that pollutant discharges from nondomestic sources do not:

a. Cause, in whole or in part, the permittee's failure to comply with the effluent limitations found in Part I, Section A of this permit;

b. Restrict, in whole or in part, the permittee's approved Program for Effective Residuals Management (PERM) required by Part I, Section C of this permit;

c. Cause, in whole or in part, operational problems at the treatment facility or in its collection system;

d. Exceed local limits established in accordance with the approved pretreatment program; or

e. Exceed Federal Pretreatment Standards as identified in the Federal Pretreatment Regulations (40 CFR 403.5, 1984) and in regulations pursuant to Section 307(b) and (c) of the Act.

The Department of Natural Resources retains the right to require modifications in the approved pretreatment program which are necessary to maintain the above program capabilities.

2. The permittee shall not change or modify its approved pretreatment program without prior approval of the Director.

3. The permittee shall develop and maintain for a minimum of three years all records and information resulting from monitoring and enforcement activities necessary to determine nondomestic user compliance with the pretreatment standards, local limits, and conditions of the approved program.

4. The permittee is required to submit to Chief of the Surface Water Quality Division, beginning on October 31, 1986, and annually thereafter, a summary report on the status of program implementation and enforcement activities. This report shall contain:

a. A listing of nondomestic users whose discharge is regulated by the conditions of the approved pretreatment program, to include:

(1) Additions or deletions to the nondomestic user survey, including users with significantly increased discharges;

(2) Additions or deletions to the list of toxic chemicals that potentially could be discharged to the sewer;

(3) The names of users with permits or contracts for discharge;

(4) The names of users audited for compliance during the reporting period, and the status of compliance for each; and

STATUS RPT 1 -- DUE 31 OCT 86 -- COMPLETE
STATUS RPT 2 -- DUE 31 DEC 87 -- COMPLETE
STATUS RPT 3 -- DUE 31 DEC 88 -- COMPLETE
STATUS RPT 4 -- DUE 31 DEC 89 --

PART I, Section B-4a

(5) The names of users which were in significant violation of applicable pretreatment standards or other pretreatment requirements during the reporting period, and proof of publication pursuant to 40 CFR 403.8(f)(2)(vii).

b. A summary of the enforcement actions taken and status of compliance by non-domestic users to include:

(1) Names of nondomestic users not in compliance with categorical standards and/or local pretreatment discharge limitations, and

(2) Status of enforcement actions taken to return these facilities to compliance.

c. A summary of any changes proposed or made to the approved program including changes in legal authority; any procedures which were previously approved by the Department of Natural Resources, including those used to establish local limits; service areas; monitoring programs; staffing; or funding.

5. The permittee shall implement the approved pretreatment program in accordance with the following schedule:

a. The permittee shall provide sufficient data to verify the pollutant removal rates used in ordinance limit development according to the following schedule:

(1) On or before December 15, 1985, submit for approval a monitoring, sampling and analysis plan.

(2) On or before March 31, 1986, complete all monitoring.

(3) On or before April 30, 1986, submit the results of the monitoring and sampling program.

(4) If the monitoring shows actual removal rates to be significantly less than those used in ordinance limit development, on or before May 30, 1986, submit for approval, modified ordinance limits based on the measured pollutant removal rates.

b. The permittee shall cause all nondomestic users to be brought into compliance with the permittee's pretreatment requirements according to the following schedule (this schedule does not exempt industrial users from meeting national categorical pretreatment standrds deadlines):

(1) On or before December 1, 1985, the permittee shall provide a schedule for bringing those industries into compliance for which federal categorical regulations have been promulgated.

Complete

PART I, Section B-5b

(2) On or before October 31, 1986, the permittee shall submit a compliance report that includes a complete list of all industries not in compliance with the permittee's pretreatment requirements and verification that these industries are on enforceable compliance schedules. These compliance schedules shall assure that the permittee will meet its NPDES permit requirements by May 31, 1988.

(3) On or before June 15, 1988, verify that all nondomestic users have been brought into compliance with the permittee's regulations.

Compliance

c. The permittee shall perform a short-term monitoring program on the wastewater treatment plant effluent according to the following schedule.

(1) On or before December 15, 1985, submit for approval a plan for the monitoring, sampling and analysis.

(2) On or before January 30, 1986, begin the sampling program.

(3) On or before March 31, 1986, complete the monitoring program and submit the results obtained.

Parameter	EPA Method	Frequency and Duration	Sample Type
4-chloro-3 methyl phenol	604	1 x weekly for 6 weeks	Grab

d. Based on the results, this permit may be modified in accordance with Part II, Section D-4 by the Water Resources Commission to incorporate final effluent limitations and/or monitoring requirements as appropriate.

PERMIT CONDITIONS

PART I

C. PROGRAM FOR EFFECTIVE RESIDUALS MANAGEMENT

In addition to the requirements in Part II, Section C-8, herein, the permittee shall provide for the effective management and/or disposal of residuals, i.e., solids, sludges, ash, grit and other substances removed from or resulting from treatment of the wastewater. Residuals disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in unlawful pollution of the air, surface waters or ground waters of the state nor create nuisance conditions. Such management and/or disposal program shall be set forth in a "Program for Effective Residuals Management" prepared by the permittee.

The program shall include:

1.) a management plan (treatment, transportation, storage, disposal, contingency plans);

2.) an inventory of residuals production, storage, and disposal for a period of at least one year;

3.) an analysis of the residuals;

4.) a monitoring program;

5.) if land application is proposed, site maps, soil analyses, application rates, proposed vegetation, and other pertinent information; and

6.) if ground water degradation potential exists, a hydrogeologic study.

A program has previously been submitted to and approved by the Chief of the Surface Water Quality Division. The permittee shall certify that current and future residuals management practices will be in accordance with the approved program or shall submit proposed modifications to the approved program. The program certification or proposed modifications shall be submitted to and receive the approval of the Chief of the Surface Water Quality Division on or before December 31, 1984.

Disposal of residuals resulting from the treatment of wastewater shall be in accordance with the previously approved program until proposed modifications are approved. If at any time the permittee desires to make any substantial changes in the approved program the proposed changes shall be submitted to and approved by the Chief of the Surface Water Quality Division prior to implementation. Substantial changes shall include, but not be limited to: a change in disposal method or site; a change in treatment method; a change in storage method or site; a change in monitoring parameters or monitoring frequency; an increase in application rate; or a change in residuals quantity or characteristics. Any residual disposal inconsistent with the approved program shall be considered a violation of this permit.

COMPLETE
(NEW PROCESSES OR CHANGES WILL REQUIRE AN AMENDMENT TO THE PERM.)

PART I

D. SCHEDULE OF COMPLIANCE

1. Facility Construction

In accordance with Section 301(i)(1) of the Act, it has been demonstrated that an extension to achieve compliance with limitations under 301(b)(1)(B) or 301(b)(1)(C) should be granted. Therefore, the following Schedule of Compliance for achieving the final effluent limitations is established.

The permittee shall achieve compliance with the Final Effluent Limitations specified in this permit for outfall(s) 001 in accordance with the following:

a. Submit a status report on the progress of project planning, design and construction at intervals not to exceed nine months beginning on October 31, 1984 and continuing until full compliance with the Final Effluent Limitations is achieved.

b. Facilities shall achieve operational level on or before November 1, 1985.

COMPLETE

PART I

D. SCHEDULE OF COMPLIANCE

2. Alternative Power Sources

a. The permittee shall submit an Alternative Power Source Report to the Chief of the Surface Water Quality Division for approval documenting compliance with the requirements of Part II, Section C-9 (Power Failures) of this permit on or before March 31, 1985 .

The report shall (1) identify all essential treatment equipment and pumping stations utilized for transportation and treatment of wastes collected within the service area of the facility governed by this permit, and (2) document the alternative power source, or other means of providing continuity of service during periods of power failures, for each essential item identified.

b. If notified by the Surface Water Quality Division that the Alternative Power Source Report submitted by the permittee indicates a lack of adequate alternative power at the permittee's facilities, then the permittee shall submit to the Chief of the Surface Water Quality Division an approvable plan and schedule for providing adequate alternative power within three (3) months after being so notified. The approved plan and schedule shall become an enforceable part of this permit.

Complete

PERMIT CONDITIONS

PART I

D. SCHEDULE OF COMPLIANCE

3. Written Report Required

Within 14 days of every program requirement date specified in this permit the permittee shall submit a written report to the Chief of the Surface Water Quality Division stating whether or not the particular task was accomplished. If the task was not accomplished, the report shall also include: an explanation of the failure to accomplish the task, actions taken by the permittee to correct the situations, and an estimate of when the task will be accomplished.

If the task requires submission of a written report and the task was accomplished, a separate written report is not required.

PERMIT CONDITIONS

PART II

A. REPORTING, DEFINITIONS, AND MONITORING

1. Reporting

The permittee shall effectively monitor the operation of all processes comprising the treatment and control facilities. Monitoring data required by this permit and other data required by the Surface Water Quality Division shall be tabulated and summarized on a calendar month basis. Monthly reports, on forms or format supplied by the Surface Water Quality Division, shall be mailed to the address below, postmarked no later than the tenth (10th) of the first month following the report period.

Department of Natural Resources
Data Center
P.O. Box 30028
Lansing, Michigan 48909

2. Definitions

a. 30-Day Average Concentration

The 30-day average concentration other than for fecal or total coliform bacteria, is defined as the sum of the concentrations of the individual samples divided by the number of samples taken during a calendar month. The 30-day average concentration for fecal or total coliform bacteria is the geometric mean of the samples collected in a calendar month.

b. 7-Day Average Concentration

The 7-day average concentration other than for fecal or total coliform bacteria, is defined as the sum of the concentrations of the individual samples divided by the number of samples taken during any 7 consecutive day period of a calendar month. The 7-day average concentration for fecal or total coliform bacteria is the geometric mean of the samples collected in any 7 consecutive day period of a calendar month.

c. 30-Day Average Load

The 30-day average load is defined as the sum of the weights of pollutants discharged on sampling days divided by the number of sampling days during a calendar month.

d. 7-Day Average Load

The 7-day average load is defined as the sum of the weights of pollutants discharged on sampling days divided by the number of sampling days during any 7 consecutive days in a calendar month.

PART II, Section A-2

e. Maximum Concentration

The maximum concentration limitation is defined as the permissible maximum concentration of a pollutant in any individual sample.

f. Maximum Load

The maximum load limitation is defined as the permissible maximum weight of a pollutant discharged in any single day.

g. 24-Hour Composite Sample

24-hour composite sample is defined as a flow proportioned composite sample consisting of hourly or more frequent portions.

h. Grab Sample

Grab sample is defined as a single sample of wastewater taken at neither set time nor flow.

i. Non-Domestic User

A Non-Domestic User is defined as any discharger to the permittee's treatment works that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

j. Major User

A Major User is defined as a Non-Domestic User that:

(1) discharges more than 10,000 gallons per average working day to the permittee's treatment works;
(2) discharges any toxic or hazardous materials such as, but not limited to, those listed in Attachment B, or
(3) discharges any substance that may cause interference with the operation of the treatment works, and

is considered to be of significance to the overall treatment and disposal processes.

k. Interference

Interference is defined as any inhibition or disruption of the permittee's sewer system, treatment process, operations, or residuals management program, which may contribute to a violation of the NPDES permit.

l. National Pretreatment Standards

National Pretreatment Standards are defined as the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Act. The standards establish nationwide limits for specific industrial categories for discharge to Publicly Owned Treatment Works.

PART II, Section A-2

m. Pretreatment

Pretreatment is defined as reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

n. Water Quality Standards

The Water Quality Standards are defined as Part 4 of the General Rules of the Michigan Water Resources Commission promulgated by authority of Sections 2 and 5 of the Michigan Act.

3. Monitoring

a. The analytical test procedures used shall conform to the rules and regulations promulgated under Section 304(h) of the "Act" (Title 40, Chapter 1, Subchapter D., Part 136-Guidelines Establishing Test Procedures for the Analysis of Pollutants). Copies are available from the Surface Water Quality Division on request. For parameters not covered by the regulations, test procedures shall be approved by the Surface Water Quality Division.

b. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

c. Fecal or Total Coliform analyses, at facilities using chlorine for disinfection, shall be performed on "grab" samples collected at varying times during an operating day. Information derived therefrom shall be correlated with chlorine residual levels, flow rate, and loading variations for the purpose of minimizing chlorine use, while maintaining compliance with the effluent limitations.

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date, and time of sampling;

b. The dates the analyses were performed;

c. The person(s) who performed the analyses;

d. The analytical techniques or methods used; and

e. The results of all required analyses.

PART II, Section A

5. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Monthly Operating Report.

6. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years or longer if requested by the Surface Water Quality Division or the Regional Administrator.

B. PERMIT PROGRAM ADMINISTRATION

1. Michigan Water Resources Commission

The Michigan Water Resources Commission has been designated the authority to administer the NPDES permit program in the State of Michigan.

2. Regional Administrator

Where used within this permit, the term Regional Administrator shall mean the Administrator, Region V, U.S. Environmental Protection Agency, 230 South Dearborn Street, Chicago, Illinois, 60604.

3. N.P.D.E.S.

NPDES is defined as the National Pollutant Discharge Elimination System pursuant to Section 402 of the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq, P.L. 92-500, 95-217).

4. Surface Water Quality Division

The Surface Water Quality Division of the Michigan Department of Natural Resources provides the staff for the administration of the NPDES program by the Michigan Water Resources Commission. Reports, notifications, and questions regarding this permit or the NPDES program should be addressed to the appropriate district office of the Surface Water Quality Division.

C. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than, or at a level in excess of that authorized, shall constitute a violation of the permit. Any anticipated significant loading increase, facility expansions, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Surface Water Quality Division of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

PART II, Section C

2. Containment Facilities

The permittee shall provide facilities approved under Act 98, Public Acts of 1913 as amended, and in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5, for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Department of Natural Resources as required by Regulations Governing the Certification of Sewage Treatment Works Operators in accordance with Act 98, Public Acts of 1913, as amended (R 299.2911 - R 299.2927).

4. Non-compliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any condition specified in this permit, the permittee shall provide the Surface Water Quality Division and the Regional Administrator with the following information, in writing, at the time of submittal of the monthly operating data:

a. A description of the circumstances and cause of non-compliance; and

b. The period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the non-compliance.

5. Facilities Operation

All waste collection, control, treatment and disposal facilities shall be operated in a manner consistent with the following:

a. At all times, all facilities shall be operated and maintained in an efficient and responsible manner.

b. The permittee shall provide an adequate operating staff which is qualified to carry out the operation, maintenance and testing functions required to ensure compliance with this permit.

c. Maintenance of treatment facilities shall not result in degradation of effluent quality.

d. Under no circumstances shall the permittee allow introduction of the following wastes into the waste treatment system:

(1) Wastes which create or can create a fire or explosion hazard-defined as being greater than 20% of the lower explosive limit (LEL) for the substance.

(2) Wastes which create or cause corrosive structural damage.

(3) Wastes with pH lower than 5.0 or greater than 11.0.

PART II, Section C-5d.

(4) Solid or viscous substances in amounts which cause obstructions to the flow in collecting or intercepting sewers or interference with the proper operation of the treatment works.

(5) Any pollutant, including oxygen demanding substances released in a discharge of such volume or strength which causes interference in the treatment works.

(6) Heat in such amounts that biological activity is inhibited at the treatment works resulting in interference. The discharge of heat must be regulated so that the temperature at the treatment works influent does not exceed 40° C (104° F).

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from non-compliance with this permit. Such steps may include accelerated or additional monitoring as necessary to determine the nature and impact of the non-compliance.

7. By-passing or Accidental Losses

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life, severe property damage, extended duration process upset, or (ii) where excessive flow would damage any facilities necessary for compliance with the effluent limitations of this permit. The permittee shall promptly notify the Surface Water Quality Division of any such by-pass, or any accidental loss of pollution materials by telephone at 1-800-292-4706. Such notice shall be supplemented by a written report within five (5) days detailing the cause of such diversion, by-pass, or loss, and the corrective actions taken to minimize adverse impacts and eliminate the cause for future diversion, by-pass or loss.

8. Waste Treatment Residues

Solids, sludges, ashes, filter backwash, scrubber water, or other pollutants resulting from the treatment or control of wastewaters shall be disposed in an environmentally compatible manner. Such disposal shall not result in degradation of any surface waters or groundwaters of the state. Additional monitoring may be required to confirm the adequacy of disposal.

9. Power Failures

In order to maintain compliance with the effluent limitations and prevent unauthorized discharges the permittee shall:

a. Provide alternative power or equipment sufficient to operate essential facilities utilized by permittee to comply with this permit in accordance with Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability published by the Federal Environmental Protection Agency (EPA - 430-99-74-001), or

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with this permit, the permittee shall halt, reduce or otherwise control all discharges in order to maintain compliance with the effluent limitations and conditions of this permit.

PART II, Section D

D. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Surface Water Quality Division and the Regional Administrator 30 days prior to the actual transfer of control or ownership.

3. Availability of Reports

All reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Surface Water Quality Division and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act, Sections 7 and 10 of the Michigan Act, and Sections 8 and 13 of Act 98, Public Acts of 1913, as amended.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

d. The establishment of a toxic effluent standard or prohibition under Section 307(a) of the Act more stringent than any limitation in this permit.

5. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II, C-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for non-compliance.

PART II, Section D

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations.

7. Facility Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction must be by permit issued under Act 98, Public Acts of 1913, as amended.

8. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Permit No. MI 0022276

MIXING ZONE

Facility: City of Battle Creek Wastewater Treatment Plant

Outfall Number	Receiving Water	Discharge Location
001	Kalamazoo River	Section 32, T1S, R8W Calhoun County

For toxic pollutants, the volume of receiving water used in assuring that effluent limitations are sufficiently stringent to meet Water Quality Standards is 25% of the design flow of the receiving stream.

For other pollutants, the volume of receiving water used in assuring that effluent limitations are sufficiently stringent to meet Water Quality Standards is the design flow of the receiving stream.

PERMIT NO. MI0022276

MICHIGAN WATER RESOURCES COMMISSION
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), Michigan Act 98, Public Acts of 1913, as amended, being sections 325.201 through 325.214 of the Compiled Laws of Michigan, and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended, being sections 323.1 through 323.13 of the Compiled Laws of Michigan, the "Michigan Act"),

The City of Battle Creek
P.O. Box 1717
Battle Creek, Michigan 49016

is authorized to discharge from a facility located at

2000 West River Road
Battle Creek, Michigan 49015

designated as the Battle Creek WWTP

to the receiving water named the Kalamazoo River in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit takes effect January 1, 1990. Any person who feels aggrieved by this permit may file a sworn petition with the Commission, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Commission may reject any petition filed more than 60 days after issuance as being untimely. Upon granting of a contested case to the applicant, the Commission shall review the permit to determine which contested terms shall be stayed until the Commission takes its final action. All other conditions of the permit remain in full effect. If the contested condition is a modification of a previous permit condition and the Commission determines the contested condition shall be stayed, then such previous condition remains in effect until the Commission takes final action. During the course of any administrative proceeding brought by a person other than the applicant, the conditions of this permit will remain in effect, unless the Commission determines otherwise.

This permit and the authorization to discharge shall expire at midnight, October 1, 1994. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission no later than 180 days prior to the date of expiration.

This permit is based on an application submitted on September 9, 1988. On its effective date, this permit shall supersede any and all Orders of Determination, Stipulations, Final Orders of Determination, or NPDES Permits previously adopted by the Michigan Water Resources Commission.

Issued this 22nd day of September, 1989, by the Michigan Water Resources Commission.

Paul D. Zugger
Executive Secretary

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Final Effluent Limitations, Outfall 001

a. During the period beginning on the effective date of this permit and lasting until the date of expiration, the permittee is authorized to discharge treated municipal wastewaters from the Battle Creek wastewater treatment plant through outfall 001 to the Kalamazoo River. Such discharges shall be limited and monitored by the permittee as follows:

Effluent Characteristic	Discharge Limitations: Dates In Effect	Daily Minimum	Daily Maximum	30-Day Average	7-Day Average
Flow (in MGD)	All Year	--	Monitoring Only		--
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	5/1-9/30	--	30 mg/l	20 mg/l 3002 lb/d	-- 4504 lb/d
	10/1-11/30	--	--	23 mg/l 3453 lb/d	--
	12/1-4/30	--	--	25 mg/l 3753 lb/d	40 mg/l 6005 lb/d
Total Suspended Solids	All Year	--	--	30 mg/l 4504 lb/d	45 mg/l 6755 lb/d
Ammonia Nitrogen (as N)	5/1-9/30	--	--	2 mg/l 300 lb/d	--
	10/1-11/30	--	--	6.5 mg/l 976 lb/d	--
Total Phosphorus (as P)	All Year	--	--	1 mg/l	--
Dissolved Oxygen	All Year	4 mg/l	--	--	--
Fecal Coliform Bacteria	5/1-10/31	--	--	200/100ml	400/100ml
	All Year beginning 1/1/91	--	--	200/100ml	400/100ml

PART I

Section A.1

Effluent Characteristic	Dates In Effect	Discharge Limitations Daily Minimum	Daily Maximum	30-Day Average	7-Day Average
Total Residual Chlorine	All Year		Monitoring Only		
	All Year beginning 1/1/91	--	0.036 mg/l	--	--
pH (standard units)	All Year	6.5	9.0	--	--
Amenable Cyanide	All Year	--	90 ug/l	9 ug/l	--
Total Cadmium	All Year	--	Quarterly Monitoring (Mar, Jun, Sep, Dec)		--
Total Silver	All Year	--	Quarterly Monitoring (Mar, Jun, Sep, Dec)		--
PCB	All Year	--	Quarterly Monitoring (Mar, Jun, Sep, Dec)		--

The following design flows were used in determining the above limitations, but are not to be considered limitations or actual capacities themselves: 18 MGD

PART I

Section A.1

b. Sampling Frequency - The effluent characteristics shall be measured at the following frequency: Daily for all parameters except as otherwise noted. Quarterly monitoring shall be conducted in the months of March, June, September and December using EPA approved methods as noted or at the following desired detection levels: Cadmium-0.2 ug/l, Silver-0.2 ug/l, and PCB 0.01 ug/l-EPA Method 608.

c. Sampling Type and Location

(1) The sampling for Dissolved Oxygen, Fecal Coliform Bacteria, Total Residual Chlorine, PCB and pH shall be grab samples taken of the effluent. All other parameters not identified above shall be 24-hour composite samples taken prior to disinfection.

(2) Compliance with the Total Residual Chlorine limit shall be determined on the basis of one or more grab samples. If more than one sample per day is taken, the additional samples shall be collected in near equal intervals over at least 8 hours. The samples shall be analyzed immediately upon collection and the average reported as the daily maximum. The level of detection shall be determined for the analytical method used by following the procedures prescribed in 40 CFR 136 Appendix B. The reported level of detection shall not exceed 0.036 mg/l unless a higher level is appropriate because of sample matrix interference.

d. During the period that Fecal Coliform Bacteria limitations are in effect, the permittee shall provide adequate control and facilities to ensure continuous disinfection.

e. In addition to the $CBOD_5$ and Total Suspended Solids limitations above, the 30-day average effluent $CBOD_5$ and Total Suspended Solids concentrations shall not exceed 15 percent of the average influent concentrations for approximately the same period. This requirement is in effect, only, from December 1 through April 30 of each calender year.

f. Demonstration Opportunity Regarding Total Residual Chlorine

(1) Final Acute Value - The permittee may demonstrate to the Michigan Water Resources Commission that a total residual chlorine limitation greater than the final acute value of 0.036 mg/l is acceptable under the Water Quality Standards. Such demonstration may establish that: a) fish cannot physically inhabit the zone where concentrations of total residual chlorine are greater than 0.036 mg/l, b) toxicity tests, using species and/or water more representative of the discharge point, result in a higher final acute value, c) there is extremely high and immediate dilution, or d) other rationale warrants a less restrictive limitation for total residual chlorine.

(2) Compliance Deadline - The permittee may demonstrate to the Michigan Water Resources Commission that it is necessary and appropriate to postpone the effective date of the total residual chlorine limitation considering the present efficiency of disinfection, age of chlorination equipment and the economic and technical feasibility of compliance.

PART I

Section A.1.f (continued)

(3) Demonstration Notification - The permittee shall notify the Surface Water Quality Division if a demonstration under (1) or (2) above will be attempted. The notification shall include a work plan for completion of the demonstration. The effective date of the total residual chlorine limitation shall not be stayed pending the demonstration project.

PART I

Section A

2. Long Term PCB Minimization Program

The permittee shall continue to implement the Long Term PCB Minimization Program as outlined in the permittee's letters of June 29, 1987 and June 30, 1988. The Program includes:

(1) Identification and quarterly monitoring of potential PCB sources.

(2) Program for quarterly monitoring of effluent, influent and sludge for PCB.

(3) A control strategy designed to prohibit all detectable PCB discharges to the sewer system.

(4) Appropriate control measures to be implemented when detectable discharges of PCB are discovered.

Influent monitoring shall be conducted in accordance with EPA Method 608 with a desired detection level of 0.2 ug/l unless a higher level is appropriate because of sample matrix interference.

If detectable levels of PCB are discovered this permit may be modified, if necessary, to incorporate further control measures or effluent limitations.

PART I

Section A

3. Discharges From Other Outfalls

All discharges from the influent junction flap gate are prohibited, except in accordance with Part II.C.8 of this permit.

4. Special Condition - Notification Requirement

The discharger shall notify the Chief of the Surface Water Quality Division, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of:

a. Detectable levels* of chemicals on the current Michigan Critical Materials Register or priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, which were not acknowledged in the application** or listed in the application at less than detectable levels.

b. Detectable levels* of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information.

c. Any chemical at levels greater than five times the average level reported in the application**.

Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the schedule of compliance.

*The detectable level shall be defined as the Method Detection Limit (MDL) as given in Appendix B to Part 136, Federal Register, Vol. 49, No. 209, October 26, 1984, pp. 43430-31.

**The application submitted on September 9, 1988.

5. Discharge to the Groundwaters

The reissuance of this permit does not authorize any discharge to the groundwaters. Such discharge must be authorized by a groundwater discharge permit issued pursuant to Act 245, Public Acts of 1929, as amended.

PART I

B. INDUSTRIAL WASTE CONTROL PROGRAM

1. The permittee shall implement the pretreatment program approved on September 20, 1985, and modifications approved on February 17, 1989 and April 14, 1989, which are incorporated as enforceable requirements of this permit.

2. The permittee shall assure that pollutant discharges from nondomestic sources are controlled consistent with 40 CFR 403 and do not:

a. Cause, in whole or in part, the permittee's failure to comply with the effluent limitations required in Part I.A. of this permit;

b. Restrict, in whole or in part, the permittee's approved Program for Effective Residuals Management (PERM) required in Part I.C. of this permit;

c. Cause, in whole or in part, operational problems at the treatment facility or in its collection system;

d. Exceed local limits established in accordance with the approved pretreatment program; or

e. Exceed Federal Pretreatment Standards as identified in the Federal Pretreatment Regulations (40 CFR 403.5) and in regulations pursuant to Section 307(b) and (c) of the Act.

3. The Department of Natural Resources may require modifications in the approved pretreatment program which are necessary to maintain the above program capabilities.

4. The permittee shall not change or modify its approved pretreatment program without prior approval of the Director.

5. The permittee shall develop and maintain for a minimum of three years all records and information resulting from monitoring and enforcement activities necessary to determine nondomestic user compliance with the pretreatment standards, local limits, and conditions of the approved program.

6. The permittee shall annually review the adequacy of the approved pretreatment program with respect to the regulations at 40 CFR 403 and the ability to achieve the objectives stated in Paragraph 2 (above) currently and projected into the foreseeable future. Based upon the review, the permittee shall propose any necessary changes or modifications to the approved pretreatment program for approval by the Director.

7. The permittee is required to submit to the Chief of the Surface Water Quality Division, beginning on October 31, 1986, and annually thereafter, a summary report on the status of program implementation and enforcement activities. The Annual Pretreatment Summary Report shall contain:

(continued) COMPLETE - OCTOBER 31, 1990

PART I

Section B.7. (continued)

a. A listing of nondomestic users whose discharge is regulated by the conditions of the approved pretreatment program, to include:

(1) Additions or deletions to the nondomestic user survey, including users with significantly increased discharges;

(2) Additions or deletions to the list of toxic chemicals that potentially could be discharged to the sewer;

(3) The names of users with permits or contracts for discharge;

(4) The names of users audited for compliance during the reporting period, and the status of compliance for each; and

(5) The names of users which were in significant violation of applicable pretreatment standards or other pretreatment requirements during the reporting period, and proof of publication pursuant to 40 CFR 403.8(f)(2)(vii).

b. A summary of the enforcement actions taken and status of compliance by nondomestic users to include:

(1) Names of nondomestic users not in compliance with categorical standards and/or local pretreatment discharge limitations, and

(2) Status of enforcement actions taken to return these facilities to compliance.

c. A summary of any changes proposed or made to the approved program including those resulting from the annual review conducted under Paragraph 6 (above); changes in legal authority; any procedures which were previously approved by the Department of Natural Resources (including those used to establish local limits); service areas; monitoring programs; staffing; or funding.

PART I

C. PROGRAM FOR EFFECTIVE RESIDUALS MANAGEMENT

In addition to the requirements in Part II.C.7 in this permit, the permittee shall provide for the effective management and/or disposal of residuals, i.e., solids, sludges, ash, grit and other substances removed from or resulting from treatment of the wastewater. Residuals disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in unlawful pollution of the air, surface waters or ground waters of the state nor create nuisance conditions. Such management and/or disposal program shall be set forth in a "Program for Effective Residuals Management" prepared by the permittee.

The program shall include:

(1) a management plan (treatment, transportation, storage, disposal, contingency plans);

(2) an inventory of residuals production, storage, and disposal for a period of at least one year;

(3) an analysis of the residuals;

(4) a monitoring program;

(5) if land application is proposed, include site maps, soil analyses, application rates, proposed vegetation and other pertinent information;

(6) if groundwater degradation potential exists, include a hydrogeologic study.

A program has previously been submitted to and approved by the Chief of the Surface Water Quality Division. The permittee shall certify that current and future residuals management practices are in accordance with the approved program or the permittee shall submit proposed modifications to the approved program. The program certification or proposed modifications shall be submitted to and receive the approval of the Chief of the Surface Water Quality Division on or before January 1, 1990. COMPLETE - MAILED 9 JAN 90

Disposal of residuals resulting from the treatment of wastewater shall be in accordance with the previously approved program until proposed modifications are approved. If at any time the permittee desires to make any substantial changes in the approved program the proposed changes shall be submitted to and approved by the Chief of the Surface Water Quality Division prior to implementation. Substantial changes shall include, but not be limited to: a change in disposal method or site; a change in treatment method; a change in storage method or site; a change in monitoring parameters or monitoring frequency; an increase in application rate; or a change in residuals quantity or characteristics. Any residual disposal inconsistent with the approved program shall be considered a violation of this permit.

PART I

D. SCHEDULE OF COMPLIANCE

1. Reapplication

If the discharges authorized by this permit are expected to continue beyond the expiration date of this permit, the permittee is required to submit an application for reissuance to the Chief of the Surface Water Quality Division on or before April 1, 1994.

2. Written Report Required

Within 14 days of every submittal requirement date specified in Part I.D in this permit, the permittee shall submit a written report to the Chief of the Surface Water Quality Division stating whether or not the particular task was accomplished. If the task was not accomplished, the report shall also include: an explanation of the failure to accomplish the task, actions taken by the permittee to correct the situations, and an estimate of when the task will be accomplished.

If the task requires submission of a written report and the task was accomplished, a separate written report is not required.

PART II

A. REPORTING, DEFINITIONS, AND MONITORING

1. Reporting

The permittee shall effectively monitor the operation of all processes comprising the treatment and control facilities. Monitoring data required by this permit and other data required by the Surface Water Quality Division shall be tabulated and summarized on a calendar month basis. Discharge Monitoring Reports, on forms supplied by the Surface Water Quality Division, shall be mailed to the address below, postmarked no later than the tenth (10th) of the first month following the report period.

Department of Natural Resources
SWQD - Data Entry
P.O. Box 30028
Lansing, Michigan 48909

2. Definitions

a. 30-Day Average Concentration

The 30-day average concentration is defined as the sum of the concentrations of the individual samples divided by the number of samples taken during a calendar month. If the pollutant concentration in any sample is less than the detection limit, regard that value as zero when calculating monthly average concentration. The 30-day average concentration for fecal coliform bacteria is defined as the geometric mean of the samples collected in a calendar month.

b. 7-Day Average Concentration

The 7-day average concentration is defined as the sum of the concentrations of the individual samples divided by the number of samples taken during any 7 consecutive day period of a calendar month. The exception to this is the 7-day average concentration for fecal coliform bacteria. This is defined as the geometric mean of the samples collected in any 7 consecutive day period of a calendar month.

c. 30-Day Average Load

The 30-day average load is defined as the sum of the weights of pollutants discharged on sampling days divided by the number of sampling days during a calendar month.

d. 7-Day Average Load

The 7-day average load is defined as the sum of the weights of pollutants discharged on sampling days divided by the number of sampling days during any 7 consecutive days in a calendar month.

e. Maximum Concentration

The maximum concentration is defined as the maximum concentration of a pollutant in any individual sample.

f. Maximum Load

The maximum load is defined as the maximum weight of a pollutant discharged in

PART II

Section A.2

g. 24-Hour Composite Sample

24-hour composite sample is defined as a flow proportioned composite sample consisting of hourly or more frequent portions.

h. Grab Sample

Grab sample is defined as a single sample of wastewater taken at neither set time nor flow.

i. Nondomestic User

A nondomestic user is defined as any discharger to the permittee's treatment works that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

j. Major User

A major user is defined as a nondomestic user that:

(1) discharges more than 10,000 gallons per average working day to the permittee's treatment works; or

(2) discharges any toxic or hazardous materials such as, but not limited to, those listed on the Federal EPA List of Priority Pollutants and Michigan Critical Materials Register (For a copy of either list, contact the Surface Water Quality Division.) ; or

(3) discharges any substance that may cause interference with the operation of the treatment works, and is considered to be of significance to the overall treatment and disposal processes.

k. Interference

Interference is defined as any inhibition or disruption of the permittee's sewer system, treatment process, operations, or residuals management program, which may contribute to a violation of the NPDES permit.

l. National Pretreatment Standards

National Pretreatment Standards are defined as the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Act. The standards establish nationwide limits for specific industrial categories for discharge to Publicly Owned Treatment Works.

m. Pretreatment

Pretreatment is defined as reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

PART II

Section A.2

n. Water Quality Standards

The Water Quality Standards are defined as Part 4 of the General Rules of the Michigan Water Resources Commission promulgated by authority of Sections 2 and 5 of the Michigan Act.

3. Monitoring

a. The analytical test procedures used shall conform to the rules and regulations promulgated under Section 304(h) of the "Act" (Title 40, Chapter 1, Subchapter D., Part 136-Guidelines Establishing Test Procedures for the Analysis of Pollutants). Copies are available from the Surface Water Quality Division on request. For parameters not covered by the regulations, test procedures shall be approved by the Surface Water Quality Division.

b. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

c. Fecal Coliform Bacteria analyses, at facilities using chlorine for disinfection, shall be performed on "grab" samples collected at varying times during an operating day. Information derived therefrom shall be correlated with chlorine residual levels, flow rate, and loading variations for the purpose of minimizing chlorine use, while maintaining compliance with the effluent limitations.

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. the exact place, date, and time of sampling;

b. the dates the analyses were performed;

c. the person(s) who performed the analyses;

d. the analytical techniques or methods used; and

e. the results of all required analyses.

5. Additional Monitoring by Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using approved analytical methods as specified above, the results shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report.

6. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years or longer if requested by the Surface Water Quality Division or the Regional Administrator.

PART II

B. PERMIT PROGRAM ADMINISTRATION

1. Michigan Water Resources Commission

The Michigan Water Resources Commission has been designated the authority to administer the NPDES permit program in the State of Michigan.

2. Regional Administrator

Where used within this permit, the term Regional Administrator shall mean the Administrator, U.S. Environmental Protection Agency-Region V, 230 South Dearborn Street, Chicago, Illinois, 60604.

3. N.P.D.E.S.

NPDES is defined as the National Pollutant Discharge Elimination System pursuant to Section 402 of the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq, P.L. 92-500, 95-217).

4. Surface Water Quality Division

The Surface Water Quality Division of the Michigan Department of Natural Resources provides the staff for the administration of the NPDES program by the Michigan Water Resources Commission. Reports, notifications, and questions regarding this permit or the NPDES program should be addressed to the Jackson District Office of the Surface Water Quality Division.

C. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized, shall constitute a violation of the permit. Any anticipated significant loading increase, facility expansions, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Surface Water Quality Division of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials. These facilities shall be approved under Act 98, Public Acts of 1913, as amended, and in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Department of Natural Resources as required by Regulations Governing the Certification of Sewage Treatment Works Operators in accordance with Act 98, Public Acts of 1913, as amended (R 299.2911-R 299.2927).

PART II

Section C.

4. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any condition specified in this permit, the permittee shall provide the Surface Water Quality Division and the Regional Administrator with the following information, in writing, at the time of submittal of the monthly operating data:

a. a description of the circumstances and cause of noncompliance; and

b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncompliance.

5. Facilities Operation

All waste collection, control, treatment and disposal facilities shall be operated in a manner consistent with the following:

a. At all times, all facilities shall be operated and maintained in an efficient and responsible manner.

b. The permittee shall provide an adequate operating staff which is qualified to carry out the operation, maintenance and testing functions required to ensure compliance with this permit.

c. Maintenance of treatment facilities shall not result in degradation of effluent quality.

d. Under no circumstances shall the permittee allow introduction of the following wastes into the waste treatment system:

(1) Wastes which create or can create a fire or explosion hazard - defined as being greater than 20% of the lower explosive limit (LEL) for the substance;

(2) Wastes which create or cause corrosive structural damage;

(3) Wastes with a pH lower than 5.0 or greater than 11.0;

(4) Solid or viscous substances in amounts which cause obstructions to the flow in collecting or intercepting sewers or interference with the proper operation of the treatment works.

(5) Any pollutant, including oxygen demanding substances released in a discharge of such volume or strength which causes interference in the treatment works; or

(6) Heat in such amounts that biological activity is inhibited at the treatment works resulting in interference. The discharge of heat must be regulated so that the temperature at the treatment works influent does not exceed 40°C (104°F).

PART II

Section C.

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from noncompliance with this permit. Such steps may include accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance.

7. Waste Treatment Residues

Solids, sludges, ashes, filter backwash, scrubber water, or other pollutants resulting from the treatment or control of wastewaters shall be disposed in an environmentally compatible manner. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state. Additional monitoring may be required to confirm the adequacy of disposal.

8. By-passing or Accidental Losses

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life, severe property damage, extended duration process upset, or (ii) where excessive flow would damage any facilities necessary for compliance with the effluent limitations of this permit. The permittee shall promptly notify the Surface Water Quality Division of any such by-pass, or any accidental loss of pollution materials by telephone at 1-800-292-4706. Such notice shall be supplemented by a written report within five (5) days detailing the cause of such diversion, by-pass, or loss, and the corrective actions taken to minimize adverse impacts and eliminate the cause for future diversion, by-pass or loss.

9. Power Failures

In order to maintain compliance with the effluent limitations and prevent unauthorized discharges, the permittee shall:

a. Provide alternative power or equipment sufficient to operate essential facilities utilized by the permittee to comply with this permit in accordance with Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability published by the Federal Environmental Protection Agency (EPA - 430-99-74-001), or

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with this permit, the permittee shall halt, reduce or otherwise control all discharges in order to maintain compliance with the effluent limitations and conditions of this permit.

D. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon presentation of credentials:

PART II

Section D.1

a. to enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring equipment or monitoring method required in this permit and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in ownership or control of facilities from which the authorized discharge emanates, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter. A copy of this letter shall be forwarded to the Surface Water Quality Division and the Regional Administrator 30 days prior to the actual transfer of ownership or control.

3. Availability of Reports

All reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Surface Water Quality Division and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act, Sections 7 and 10 of the Michigan Act, and Sections 8 and 13 of Act 98, Public Acts of 1913, as amended.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. violation of any terms or conditions of this permit;

b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

d. the establishment of a toxic effluent standard or prohibition under Section 307(a) of the Act more stringent than any limitation in this permit.

5. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II.C.8), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

PART II

Section D.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations.

7. Facility Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction must be by permit issued under Act 98, Public Acts of 1913, as amended.

8. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PERMIT NO. MI0022276

MICHIGAN WATER RESOURCES COMMISSION
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), Michigan Act 98, Public Acts of 1913, as amended, being sections 325.201 through 325.214 of the Compiled Laws of Michigan, and the Michigan Water Resources Commission Act, as amended, (Act 245, Public Acts of 1929, as amended, being sections 323.1 through 323.13 of the Compiled Laws of Michigan, the "Michigan Act"),

The City of Battle Creek
P.O. Box 1717
Battle Creek, Michigan 49016

is authorized to discharge from a facility located at

2000 West River Road
Battle Creek, Michigan 49015

designated as the Battle Creek WWTP

to the receiving water named the Kalamazoo River in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

This permit takes effect immediately upon date of issuance. Any person who feels aggrieved by this permit may file a sworn petition with the Commission, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Commission may reject any petition filed more than 60 days after issuance as being untimely. Upon granting of a contested case to the applicant, the Commission shall review the permit to determine which contested terms shall be stayed until the Commission takes its final action. If a contested condition is a requirement placed on wastewater covered by a new or increased discharge authorization, such increased discharge authorization shall be stayed until the Commission takes final action. All other conditions of the permit remain in full effect. If the contested condition is a modification of a previous permit condition and the Commission determines the contested condition shall be stayed, then such previous condition remains in effect until the Commission takes final action. During the course of any administrative proceeding brought by a person other than the applicant, the conditions of this permit will remain in effect, unless the Commission determines otherwise.

This permit and the authorization to discharge shall expire at midnight October 1, 1995. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Water Resources Commission to the Permits Section of the Surface Water Quality Division no later than 180 days prior to the date of expiration.

This permit is based on an application submitted on September 9, 1988, and shall supersede Permit No. MI0022276 expiring October 1, 1994 which is hereby revoked.

Issued this 17th day of January, 1991, by the Michigan Water Resources Commission.

Paul D. Zugger
Executive Secretary

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Final Effluent Limitations, Outfall 001

a. During the period beginning on the effective date of this permit and lasting until the date of expiration, the permittee is authorized to discharge treated municipal wastewaters from the Battle Creek wastewater treatment plant through outfall 001 to the Kalamazoo River. Such discharges shall be limited and monitored by the permittee as follows:

Effluent Characteristic	Discharge Limitations				
	Dates In Effect	Daily Minimum	Daily Maximum	30-Day Average	7-Day Average
Flow (in MGD)	All Year	--	Monitoring Only		--
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)	5/1-9/30	--	30 mg/l	20 mg/l 3002 lb/d	-- 4504 lb/d
	10/1-11/30	--	--	23 mg/l 3453 lb/d	--
	12/1-4/30	--	--	25 mg/l 3753 lb/d	40 mg/l 6005 lb/d
Total Suspended Solids	All Year	--	--	30 mg/l 4504 lb/d	45 mg/l 6755 lb/d
Ammonia Nitrogen (as N)	5/1-9/30	--	--	2 mg/l 300 lb/d	--
	10/1-11/30	--	--	6.5 mg/l 976 lb/d	--
Total Phosphorus (as P)	All Year	--	--	1 mg/l	--
Dissolved Oxygen	All Year	4 mg/l	--	--	--
Fecal Coliform Bacteria	5/1-10/31	--	--	200/100ml	400/100ml
	All Year beginning 1/1/91	--	--	200/100ml	400/100ml

PART I

Section A.1

Effluent Characteristic	Dates In Effect	Discharge Limitations Daily Minimum	Daily Maximum	30-Day Average	7-Day Average
Total Residual Chlorine	All Year		Monitoring Only		
	All Year beginning 1/1/91	--	0.036 mg/1	--	--
pH (standard units)	All Year	6.5	9.0	--	--
Amenable Cyanide	All Year	--	90 ug/1	9 ug/1	--
Total Cadmium	All Year	--	Quarterly Monitoring (Mar, Jun, Sep, Dec)		--
Total Silver	All Year	--	Quarterly Monitoring (Mar, Jun, Sep, Dec)		--
PCB	All Year	--	Quarterly Monitoring (Mar, Jun, Sep, Dec)		--

The following design flows were used in determining the above limitations, but are not to be considered limitations or actual capacities themselves: 18 MGD

PART I

Section A.1

b. Sampling Frequency - The effluent characteristics shall be measured at the following frequency: Daily for all parameters except as otherwise noted. Quarterly monitoring shall be conducted in the months of March, June, September and December using EPA approved methods as noted or at the following desired detection levels: Cadmium-0.2 ug/l, Silver-0.2 ug/l, and PCB 0.01 ug/l-EPA Method 608.

c. Sampling Type and Location

(1) The sampling for Dissolved Oxygen, Fecal Coliform Bacteria, Total Residual Chlorine, PCB and pH shall be grab samples taken of the effluent. All other parameters not identified above shall be 24-hour composite samples taken after disinfection.

(2) Compliance with the Total Residual Chlorine limit shall be determined on the basis of one or more grab samples. If more than one sample per day is taken, the additional samples shall be collected in near equal intervals over at least 8 hours. The samples shall be analyzed immediately upon collection and the average reported as the daily maximum. The level of detection shall be determined for the analytical method used by following the procedures prescribed in 40 CFR 136 Appendix B. The reported level of detection shall not exceed 0.036 mg/l unless a higher level is appropriate because of sample matrix interference.

d. During the period that Fecal Coliform Bacteria limitations are in effect, the permittee shall provide adequate control and facilities to ensure continuous disinfection.

e. In addition to the $CBOD_5$ and Total Suspended Solids limitations above, the 30-day average effluent $CBOD_5$ and Total Suspended Solids concentrations shall not exceed 15 percent of the average influent concentrations for approximately the same period. This requirement is in effect, only, from December 1 through April 30 of each calender year.

f. Demonstration Opportunity Regarding Total Residual Chlorine

(1) Final Acute Value - The permittee may demonstrate to the Michigan Water Resources Commission that a total residual chlorine limitation greater than the final acute value of 0.036 mg/l is acceptable under the Water Quality Standards. Such demonstration may establish that: a) fish cannot physically inhabit the zone where concentrations of total residual chlorine are greater than 0.036 mg/l, b) toxicity tests, using species and/or water more representative of the discharge point, result in a higher final acute value, c) there is extremely high and immediate dilution, or d) other rationale warrants a less restrictive limitation for total residual chlorine.

(2) Compliance Deadline - The permittee may demonstrate to the Michigan Water Resources Commission that it is necessary and appropriate to postpone the effective date of the total residual chlorine limitation considering the present efficiency of disinfection, age of chlorination equipment and the economic and technical feasibility of compliance.

PART I

Section A.1.f (continued)

(3) Demonstration Notification - The permittee shall notify the Surface Water Quality Division if a demonstration under (1) or (2) above will be attempted. The notification shall include a work plan for completion of the demonstration. The effective date of the total residual chlorine limitation shall not be stayed pending the demonstration project.

PART I

Section A

2. Long Term PCB Minimization Program

The permittee shall continue to implement the Long Term PCB Minimization Program as outlined in the permittee's letters of June 29, 1987 and June 30, 1988. The Program includes:

(1) Identification and quarterly monitoring of potential PCB sources.

(2) Program for quarterly monitoring of effluent, influent and sludge for PCB.

(3) A control strategy designed to prohibit all detectable PCB discharges to the sewer system.

(4) Appropriate control measures to be implemented when detectable discharges of PCB are discovered.

Influent monitoring shall be conducted in accordance with EPA Method 608 with a desired detection level of 0.2 ug/l unless a higher level is appropriate because of sample matrix interference.

If detectable levels of PCB are discovered this permit may be modified, if necessary, to incorporate further control measures or effluent limitations.

PART I

Section A

3. Discharges From Other Outfalls

All discharges from the influent junction flap gate are prohibited, except in accordance with Part II.C.8 of this permit.

4. Special Condition - Notification Requirement

The discharger shall notify the Chief of the Surface Water Quality Division, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of:

a. Detectable levels* of chemicals on the current Michigan Critical Materials Register or priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, which were not acknowledged in the application** or listed in the application at less than detectable levels.

b. Detectable levels* of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information.

c. Any chemical at levels greater than five times the average level reported in the application**.

Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the schedule of compliance.

*The detectable level shall be defined as the Method Detection Limit (MDL) as given in Appendix B to Part 136, Federal Register, Vol. 49, No. 209, October 26, 1984, pp. 43430-31.

**The application submitted on September 9, 1988.

5. Discharge to the Groundwaters

The reissuance of this permit does not authorize any discharge to the groundwaters. Such discharge must be authorized by a groundwater discharge permit issued pursuant to Act 245, Public Acts of 1929, as amended.

PART I

B. INDUSTRIAL WASTE CONTROL PROGRAM

1. The permittee shall implement the pretreatment program approved on September 20, 1985, and modifications approved on February 17, 1989 and April 14, 1989, which are incorporated as enforceable requirements of this permit.

2. The permittee shall assure that pollutant discharges from nondomestic sources are controlled consistent with 40 CFR 403 and do not:

a. Cause, in whole or in part, the permittee's failure to comply with the effluent limitations required in Part I.A. of this permit;

b. Restrict, in whole or in part, the permittee's approved Program for Effective Residuals Management (PERM) required in Part I.C. of this permit;

c. Cause, in whole or in part, operational problems at the treatment facility or in its collection system;

d. Exceed local limits established in accordance with the approved pretreatment program; or

e. Exceed Federal Pretreatment Standards as identified in the Federal Pretreatment Regulations (40 CFR 403.5) and in regulations pursuant to Section 307(b) and (c) of the Act.

3. The Department of Natural Resources may require modifications in the approved pretreatment program which are necessary to maintain the above program capabilities.

4. The permittee shall not change or modify its approved pretreatment program without prior approval of the Director.

5. The permittee shall develop and maintain for a minimum of three years all records and information resulting from monitoring and enforcement activities necessary to determine nondomestic user compliance with the pretreatment standards, local limits, and conditions of the approved program.

6. The permittee shall annually review the adequacy of the approved pretreatment program with respect to the regulations at 40 CFR 403 and the ability to achieve the objectives stated in Paragraph 2 (above) currently and projected into the foreseeable future. Based upon the review, the permittee shall propose any necessary changes or modifications to the approved pretreatment program for approval by the Director.

7. The permittee is required to submit to the Chief of the Surface Water Quality Division, beginning on October 31, 1986, and annually thereafter, a summary report on the status of program implementation and enforcement activities. The Annual Pretreatment Summary Report shall contain:

(continued)

PART I

Section B.7. (continued)

a. A listing of nondomestic users whose discharge is regulated by the conditions of the approved pretreatment program, to include:

(1) Additions or deletions to the nondomestic user survey, including users with significantly increased discharges;

(2) Additions or deletions to the list of toxic chemicals that potentially could be discharged to the sewer;

(3) The names of users with permits or contracts for discharge;

(4) The names of users audited for compliance during the reporting period, and the status of compliance for each; and

(5) The names of users which were in significant non-compliance of applicable pretreatment standards or other pretreatment requirements during the reporting period, and proof of publication pursuant to 40 CFR 403.8(f)(2)(vii).

b. A summary of the enforcement actions taken and status of compliance by nondomestic users to include:

(1) Names of nondomestic users not in compliance with categorical standards and/or local pretreatment discharge limitations, and

(2) Status of enforcement actions taken to return these facilities to compliance.

c. A summary of any changes proposed or made to the approved program including those resulting from the annual review conducted under Paragraph 6 (above); changes in legal authority; any procedures which were previously approved by the Department of Natural Resources (including those used to establish local limits); service areas; monitoring programs; staffing; or funding.

PART I

C. PROGRAM FOR EFFECTIVE RESIDUALS MANAGEMENT

In addition to the requirements in Part II.C.7 in this permit, the permittee shall provide for the effective management and/or disposal of residuals, i.e., solids, sludges, ash, grit and other substances removed from or resulting from treatment of the wastewater. Residuals disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in unlawful pollution of the air, surface waters or ground waters of the state nor create nuisance conditions. Such management and/or disposal program shall be set forth in a "Program for Effective Residuals Management" prepared by the permittee.

The program shall include:

(1) a management plan (treatment, transportation, storage, disposal, contingency plans);

(2) an inventory of residuals production, storage, and disposal for a period of at least one year;

(3) an analysis of the residuals;

(4) a monitoring program;

(5) if land application is proposed, include site maps, soil analyses, application rates, proposed vegetation and other pertinent information;

(6) if groundwater degradation potential exists, include a hydrogeologic study.

A program has previously been submitted to and approved by the Chief of the Surface Water Quality Division. The permittee shall certify that current and future residuals management practices are in accordance with the approved program or the permittee shall submit proposed modifications to the approved program. The program certification or proposed modifications shall be submitted to and receive the approval of the Chief of the Surface Water Quality Division on or before February 1, 1991.

Disposal of residuals resulting from the treatment of wastewater shall be in accordance with the previously approved program until proposed modifications are approved. If at any time the permittee desires to make any substantial changes in the approved program the proposed changes shall be submitted to and approved by the Chief of the Surface Water Quality Division prior to implementation. Substantial changes shall include, but not be limited to: a change in disposal method or site; a change in treatment method; a change in storage method or site; a change in monitoring parameters or monitoring frequency; an increase in application rate; or a change in residuals quantity or characteristics. Any residual disposal inconsistent with the approved program shall be considered a violation of this permit.

PART I

D. SCHEDULE OF COMPLIANCE

1. Reapplication

If the discharges authorized by this permit are expected to continue beyond the expiration date of this permit, the permittee is required to submit an application for reissuance to the Chief of the Surface Water Quality Division on or before April 1, 1995.

2. Written Report Required

Within 14 days of every submittal requirement date specified in Part I.D in this permit, the permittee shall submit a written report to the Chief of the Surface Water Quality Division stating whether or not the particular task was accomplished. If the task was not accomplished, the report shall also include: an explanation of the failure to accomplish the task, actions taken by the permittee to correct the situations, and an estimate of when the task will be accomplished.

If the task requires submission of a written report and the task was accomplished, a separate written report is not required.

PART II

A. REPORTING, DEFINITIONS, AND MONITORING

1. Reporting

The permittee shall effectively monitor the operation of all processes comprising the treatment and control facilities. Monitoring data required by this permit and other data required by the Surface Water Quality Division shall be tabulated and summarized on a calendar month basis. Discharge Monitoring Reports, on forms supplied by the Surface Water Quality Division, shall be mailed to the address below, postmarked no later than the tenth (10th) of the first month following the report period.

Department of Natural Resources
SWQD - Data Entry
P.O. Box 30028
Lansing, Michigan 48909

2. Definitions

a. 30-Day Average Concentration

The 30-day average concentration is defined as the sum of the concentrations of the individual samples divided by the number of samples taken during a calendar month. If the pollutant concentration in any sample is less than the detection limit, regard that value as zero when calculating monthly average concentration. The 30-day average concentration for fecal coliform bacteria is defined as the geometric mean of the samples collected in a calendar month.

b. 7-Day Average Concentration

The 7-day average concentration is defined as the sum of the concentrations of the individual samples divided by the number of samples taken during any 7 consecutive day period of a calendar month. The exception to this is the 7-day average concentration for fecal coliform bacteria. This is defined as the geometric mean of the samples collected in any 7 consecutive day period of a calendar month.

c. 30-Day Average Load

The 30-day average load is defined as the sum of the weights of pollutants discharged on sampling days divided by the number of sampling days during a calendar month.

d. 7-Day Average Load

The 7-day average load is defined as the sum of the weights of pollutants discharged on sampling days divided by the number of sampling days during any 7 consecutive days in a calendar month.

e. Maximum Concentration

The maximum concentration is defined as the maximum concentration of a pollutant in any individual sample.

f. Maximum Load

The maximum load is defined as the maximum weight of a pollutant discharged in any single day.

PART II

Section A.2

g. 24-Hour Composite Sample

24-hour composite sample is defined as a flow proportioned composite sample consisting of hourly or more frequent portions.

h. Grab Sample

Grab sample is defined as a single sample of wastewater taken at neither set time nor flow.

i. Nondomestic User

A nondomestic user is defined as any discharger to the permittee's treatment works that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

j. Major User

A major user is defined as a nondomestic user that:

(1) discharges more than 10,000 gallons per average working day to the permittee's treatment works; or

(2) discharges any toxic or hazardous materials such as, but not limited to, those listed on the Federal EPA List of Priority Pollutants and Michigan *Critical Materials Register (For a copy of either list, contact the* Surface Water Quality Division.) ; or

(3) discharges any substance that may cause interference with the operation of the treatment works, and is considered to be of significance to the overall treatment and disposal processes.

k. Interference

Interference is defined as any inhibition or disruption of the permittee's sewer system, treatment process, operations, or residuals management program, which may contribute to a violation of the NPDES permit.

l. National Pretreatment Standards

National Pretreatment Standards are defined as the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Act. The standards establish nationwide limits for specific industrial categories for discharge to Publicly Owned Treatment Works.

m. Pretreatment

Pretreatment is defined as reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

PART II

Section A.2

n. Water Quality Standards

The Water Quality Standards are defined as Part 4 of the General Rules of the Michigan Water Resources Commission promulgated by authority of Sections 2 and 5 of the Michigan Act.

3. Monitoring

a. The analytical test procedures used shall conform to the rules and regulations promulgated under Section 304(h) of the "Act" (Title 40, Chapter 1, Subchapter D., Part 136-Guidelines Establishing Test Procedures for the Analysis of Pollutants). Copies are available from the Surface Water Quality Division on request. For parameters not covered by the regulations, test procedures shall be approved by the Surface Water Quality Division.

b. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to ensure accuracy of measurements.

c. Fecal Coliform Bacteria analyses, at facilities using chlorine for disinfection, shall be performed on "grab" samples collected at varying times during an operating day. Information derived therefrom shall be correlated with chlorine residual levels, flow rate, and loading variations for the purpose of minimizing chlorine use, while maintaining compliance with the effluent limitations.

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. the exact place, date, and time of sampling;

b. the dates the analyses were performed;

c. the person(s) who performed the analyses;

d. the analytical techniques or methods used; and

e. the results of all required analyses.

5. Additional Monitoring by Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using approved analytical methods as specified above, the results shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report.

6. Records Retention

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation, shall be retained for a minimum of three (3) years or longer if requested by the Surface Water Quality Division or the Regional Administrator.

PART II

B. PERMIT PROGRAM ADMINISTRATION

1. Michigan Water Resources Commission

The Michigan Water Resources Commission has been designated the authority to administer the NPDES permit program in the State of Michigan.

2. Regional Administrator

Where used within this permit, the term Regional Administrator shall mean the Administrator, U.S. Environmental Protection Agency-Region V, 230 South Dearborn Street, Chicago, Illinois, 60604.

3. N.P.D.E.S.

NPDES is defined as the National Pollutant Discharge Elimination System pursuant to Section 402 of the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq, P.L. 92-500, 95-217).

4. Surface Water Quality Division

The Surface Water Quality Division of the Michigan Department of Natural Resources provides the staff for the administration of the NPDES program by the Michigan Water Resources Commission. Reports, notifications, and questions regarding this permit or the NPDES program should be addressed to the Jackson District Office of the Surface Water Quality Division.

C. MANAGEMENT REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized, shall constitute a violation of the permit. Any anticipated significant loading increase, facility expansions, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the Surface Water Quality Division of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials. These facilities shall be approved under Act 98, Public Acts of 1913, as amended, and in accordance with the requirements of the Michigan Water Resources Commission Rules, Part 5.

3. Operator Certification

The permittee shall have the waste treatment facilities under the direct supervision of an operator certified by the Michigan Department of Natural Resources as required by Regulations Governing the Certification of Sewage Treatment Works Operators in accordance with Act 98, Public Acts of 1913, as amended (R 299.2911-R 299.2927).

PART II

Section C.

4. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any condition specified in this permit, the permittee shall provide the Surface Water Quality Division and the Regional Administrator with the following information, in writing, at the time of submittal of the monthly operating data:

a. a description of the circumstances and cause of noncompliance; and

b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncompliance.

5. Facilities Operation

All waste collection, control, treatment and disposal facilities shall be operated in a manner consistent with the following:

a. At all times, all facilities shall be operated and maintained in an efficient and responsible manner.

b. The permittee shall provide an adequate operating staff which is qualified to carry out the operation, maintenance and testing functions required to ensure compliance with this permit.

c. Maintenance of treatment facilities shall not result in degradation of effluent quality.

d. Under no circumstances shall the permittee allow introduction of the following wastes into the waste treatment system:

(1) Wastes which create or can create a fire or explosion hazard - defined as being greater than 20% of the lower explosive limit (LEL) for the substance;

(2) Wastes which create or cause corrosive structural damage;

(3) Wastes with a pH lower than 5.0 or greater than 11.0;

(4) Solid or viscous substances in amounts which cause obstructions to the flow in collecting or intercepting sewers or interference with the proper operation of the treatment works.

(5) Any pollutant, including oxygen demanding substances released in a discharge of such volume or strength which causes interference in the treatment works; or

(6) Heat in such amounts that biological activity is inhibited at the treatment works resulting in interference. The discharge of heat must be regulated so that the temperature at the treatment works influent does not exceed 40°C (104°F).

PART II

Section C.

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to waters of the state resulting from noncompliance with this permit. Such steps may include accelerated or additional monitoring as necessary to determine the nature and impact of the noncompliance.

7. Waste Treatment Residues

Solids, sludges, ashes, filter backwash, scrubber water, or other pollutants resulting from the treatment or control of wastewaters shall be disposed in an environmentally compatible manner. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state. Additional monitoring may be required to confirm the adequacy of disposal.

8. By-passing or Accidental Losses

Any diversion from or by-pass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life, severe property damage, extended duration process upset, or (ii) where excessive flow would damage any facilities necessary for compliance with the effluent limitations of this permit. The permittee shall promptly notify the Surface Water Quality Division of any such by-pass, or any accidental loss of pollution materials by telephone at 1-800-292-4706. Such notice shall be supplemented by a written report within five (5) days detailing the cause of such diversion, by-pass, or loss, and the corrective actions taken to minimize adverse impacts and eliminate the cause for future diversion, by-pass or loss.

9. Power Failures

In order to maintain compliance with the effluent limitations and prevent unauthorized discharges, the permittee shall:

a. Provide alternative power or equipment sufficient to operate essential facilities utilized by the permittee to comply with this permit in accordance with Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability published by the Federal Environmental Protection Agency (EPA - 430-99-74-001), or

b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with this permit, the permittee shall halt, reduce or otherwise control all discharges in order to maintain compliance with the effluent limitations and conditions of this permit.

D. RESPONSIBILITIES

1. Right of Entry

The permittee shall allow the Michigan Water Resources Commission, the Regional Administrator and/or their authorized representatives, upon presentation of credentials:

PART II

Section D.1

a. to enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring equipment or monitoring method required in this permit and to sample any discharge of pollutants.

2. Transfer of Ownership or Control

In the event of any change in ownership or control of facilities from which the authorized discharge emanates, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter. A copy of this letter shall be forwarded to the Surface Water Quality Division and the Regional Administrator 30 days prior to the actual transfer of ownership or control.

3. Availability of Reports

All reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Surface Water Quality Division and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act, Sections 7 and 10 of the Michigan Act, and Sections 8 and 13 of Act 98, Public Acts of 1913, as amended.

4. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. violation of any terms or conditions of this permit;

b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

d. the establishment of a toxic effluent standard or prohibition under Section 307(a) of the Act more stringent than any limitation in this permit.

5. Civil and Criminal Liability

Except as provided in permit conditions on "By-passing" (Part II.C.8), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

PART II

Section D.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor infringement of Federal, State or local laws or regulations.

7. Facility Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction must be by permit issued under Act 98, Public Acts of 1913, as amended.

8. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

STATE OF MICHIGAN

JOHN ENGLER, Governor
DEPARTMENT OF ENVIRONMENTAL QUALITY
HOLLISTER BUILDING PO BOX 30473, LANSING MI 48909-7973
RUSSELL J. HARDING, Director

REPLY TO
SURFACE WATER QUALITY DIVISION
KNAPPS CENTRE
PO BOX 30273
LANSING MI 48909-7773

June 2o, 1996

CERTIFIED MAIL -- P 381 768 765

Ms. Deborah Owens, Clerk
City of Battle Creek
103 East Michigan Avenue
P O Box 1717
Battle Creek, Michigan 49016-1717

RECEIVED
JUL 19 1996
WASTEWATER
TREATMENT PLANT

Dear Ms. Owens:

SUBJECT. NPDES Permit No. MI0022276
Battle Creek WWTP, 200 West River Road, Battle Creek, Michigan 49015-1181

Your National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate state and federal regulations. It contains the requirements necessary for you to comply with state and federal water pollution control laws.

REVIEW THE PERMIT EFFLUENT LIMITS AND COMPLIANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. Permit violations are audited by the Michigan Department of Environmental Quality and the United States Environmental Protection Agency and may appear in a published quarterly noncompliance report made available to agencies and the public.

Your monitoring and reporting responsibilities must be complied with in accordance with this permit. If applicable, Discharge Monitoring Report forms will be transmitted to you in the near future These reports are to be submitted monthly or otherwise as required by your NPDES permit.

Any reports, notifications, or questions regarding the attached permit or NPDES program should be directed to the following address:

Ms. Mary Ellen Cromwell, District Supervisor
Jackson District Office, SWQD, DEQ
301 East Louis Glick Highway
Jackson, Michigan 49201
Telephone: 517-780-7900

Sincerely,

William E. McCracken

William E. McCracken, P.E.
Chief, Permits Section
Surface Water Quality Division
517-373-8088

Enclosure: Permit
cc: EPA-Region 5
208 Agency - South Central Michigan Planning Council
Wastewater Treatment Facility Superintendent
Ms. Mary Ellen Cromwell, Jackson District Supervisor, SWQD (2)
Data Entry, SWQD
Industrial Pretreatment Program Unit, SWQD
Files

PERMIT NO. MI0022276

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Federal Act"), Michigan Act 451, Public Acts of 1994, as amended (the "Michigan Act"), Parts 31 and 41, and Michigan Executive Orders 1991-31, 1995-4 and 1995-18,

City of Battle Creek
103 East Michigan Avenue
P O. Box 1717
Battle Creek, Michigan 49016-1717

is authorized to discharge from a facility located at

2000 West River Road
Battle Creek, Michigan 49015-1181

designated as Battle Creek WWTP

to the receiving water named the Kalamazoo River in accordance with effluent limitations, monitoring requirements and other conditions set forth in this permit.

This permit takes effect on July 1, 1996 Any person who is aggrieved by this permit may file a sworn petition with the Office of Administrative Hearings of the Michigan Department of Environmental Quality, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department may reject any petition filed more than 60 days after issuance as being untimely. Upon granting of a contested case, the Department shall review the permit to determine which contested conditions shall be stayed until the Department takes its final action. If a condition contested by the applicant is a requirement placed on wastewater covered by a new or increased discharge authorization, such increased discharge authorization shall be stayed until the Department takes final action. All other conditions of the permit remain in full effect. If the contested condition is a modification of a previous permit condition and the Department determines the contested condition shall be stayed, then such previous condition remains in effect until the Department takes final action.

This permit and the authorization to discharge shall expire at midnight, October 1, 2000. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application which contains such information and forms as are required by the Michigan Department of Environmental Quality to the Jackson District Supervisor of the Surface Water Quality Division by April 1, 2000.

This permit is based on an application submitted on March 30, 1995. The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules. On its effective date this permit shall supersede NPDES Permit No. MI0022276, expiring October 1, 1995.

Issued June 25, 1996

William E. McCracken
Chief, Permits Section
Surface Water Quality Division

PART I

Section A. Limitations and Monitoring Requirements

1. Final Effluent Limitations, Outfall 001

a. Discharge Authorization and Limitations

During the period beginning on the effective date of this permit and lasting until permit expiration, the permittee is authorized to discharge treated municipal wastewaters from the Battle Creek wastewater treatment plant through outfall 001 to the Kalamazoo River. Such discharges shall be limited and monitored by the permittee as follows:

	Quantity or Loading				Quality or Concentration					
Parameter	Monthly Average	7-Day Average	Daily Maximum	Units	Monthly Average	7-Day Average	Daily Maximum	Units	Frequency of Analysis	Sample Type
Flow	(report)	—	(report)	MGD	—	—	—	—	Daily	Report Total Daily Flow
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)										
Effective: 5/1-9/30	3002	4504	—	lbs/day	20	—	30	mg/l	Daily	24-Hr Composite
Effective: 10/1-4/30	3753	6005	—	lbs/day	25	40	—	mg/l	Daily	24-Hr Composite
Total Suspended Solids	4504	6755	—	lbs/day	30	45	—	mg/l	Daily	24-Hr Composite
Ammonia Nitrogen (as N)										
Effective: 5/1-9/30	300	—	—	lbs/day	2	—	—	mg/l	Daily	24-Hr Composite
Effective: 10/1-4/30	976	—	—	lbs/day	6.5	—	—	mg/l	Daily	24-Hr Composite
Total Phosphorus (as P)	150	—	—	lbs/day	1	—	—	mg/l	Weekly	24-Hr Composite
Fecal Coliform Bacteria	—	—	—	—	200	400	—	cts/100 ml	Daily	Grab
Bromodichloromethane (CAS No. 75-27-4)	10	—	—	lbs/day	69	—	—	µg/l	Weekly	24-Hr Composite
Chlorodibromomethane (CAS No. 124-48-1)	12	—	—	lbs/day	83	—	—	µg/l	Weekly	24-Hr Composite
Lindane (CAS No. 58-89-9)	—	—	—	—	(report)	—	—	µg/l	Quarterly*	24-Hr Composite
Bromoform (CAS No. 75-25-2)	—	—	—	—	(report)	—	—	µg/l	Quarterly*	24-Hr Composite
Total Silver	—	—	—	—	(report)	—	—	µg/l	Quarterly*	24-Hr Composite
Total Mercury (see item f. below)	—	—	—	—	(report)	—	—	µg/l	Quarterly*	24-Hr Composite
Amenable Cyanide	—	—	—	—	(report)	—	—	µg/l	Quarterly*	24-Hr Composite

* Quarterly monitoring shall be conducted during the months of January, April, July and October.

PART I

Section A. Limitations and Monitoring Requirements

Parameter	Quantity or Loading: Monthly Average	7-Day Average	Daily Maximum	Units	Quality or Concentration: Monthly Average	7-Day Average	Daily Maximum	Units	Frequency of Analysis	Sample Type
Total Residual Chlorine	—	—	—	—	—	—	0.036	mg/l	Daily	Grab
					Daily Minimum		Daily Maximum			
pH	—	—	—	—	6.5	—	9.0	S.U.	Daily	Grab
Dissolved Oxygen	—	—	—	—	4	—	—	mg/l	Daily	Grab

b. Design Flow
The following design flows were used in determining the above limitations, but are not to be considered limitations or actual capacities themselves: 18 MGD.

c. Sampling Type and Location
1) The sampling for $CBOD_5$, Total Suspended Solids, Ammonia Nitrogen, Total Phosphorus, Bromodichloromethane, Chlorodibromomethane, Total Silver, Total Mercury, Amenable Cyanide, Bromoform and Lindane shall be 24-hour composites taken after disinfection. The sampling for Dissolved Oxygen, Fecal Coliform Bacteria, Total Residual Chlorine and pH shall be grab samples taken of the effluent. The Jackson District Supervisor of the Surface Water Quality Division may approve alternate sampling locations which are demonstrated by the permittee to be representative of the effluent.

2) Compliance with the Total Residual Chlorine limit shall be determined on the basis of one or more grab samples. If more than one (1) sample per day is taken, the additional samples shall be collected in near equal intervals over at least eight (8) hours. The samples shall be analyzed immediately upon collection and the average reported as the daily maximum. Analyses for Total Residual Chlorine should be conducted using EPA Method 330.1 or by Electrode (Orion 97-70). The level of detection shall be determined for the analytical method used by following the procedures prescribed in 40 CFR 136 Appendix B. The reported level of detection shall not exceed 0.036 mg/l unless a higher level is appropriate because of sample matrix interference.

d. Analytical Methods and Detection Levels
Analyses shall be conducted using EPA approved methods. The detection levels shall not exceed 5 µg/l, 0.2 µg/l and 0.01 µg/l for Amenable Cyanide, Total Mercury and Lindane, respectively, unless higher levels are appropriate because of sample matrix interference. The detection levels for Bromodichloromethane, Chlorodibromomethane and Bromoform shall not exceed 1 µg/l unless higher levels are appropriate because of sample matrix interference.

e. Percent Removal Requirements
In addition to the $CBOD_5$ and Total Suspended Solids limitations above, the 30-day average effluent $CBOD_5$ and Total Suspended Solids concentrations shall not exceed 15 percent of the average influent concentrations for approximately the same period. This requirement is in effect all year for Total Suspended Solids and in effect, only, from October 1 through April 30 for $CBOD_5$.

f. Mercury
In addition to monitoring for Total Mercury in the effluent, the permittee shall conduct quarterly monitoring of the influent for Total Mercury. Further, the permittee shall monitor the sludge for Total Mercury once during the calendar year.

PART I

Section A. Limitations and Monitoring Requirements

2. Chronic Toxicity Testing, Outfall 001

The permittee shall conduct chronic toxicity tests on each of two (2) test species once every two (2) months for a total of eight (8) tests (four on each species). Testing shall be completed by July 1, 1997. Test species shall include fathead minnow and *Ceriodaphnia dubia*. Testing and reporting procedures shall follow procedures contained in EPA/600/4-91/002, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", for fathead minnow and *Ceriodaphnia*. Acute toxicity and chronic toxicity data shall be included in the reporting of the toxicity test results. Toxicity test data acceptability is contingent upon the validation of the test method by the testing laboratory. Such validation shall be submitted to the Department upon request. The final report on the tests shall be submitted to the Jackson District Supervisor of the Surface Water Quality Division within 30 days after completion of the final test.

The Surface Water Quality Division will review the toxicity data submitted by the permittee to determine if the toxicity requirements of Rules 57 and 82 (Rules 323.1057 and 323.1082 of the Michigan Administrative Code) are being satisfied.

a. If the toxicity requirements of Rule 57 and Rule 82 are not being met, upon written notification by the Jackson District Supervisor, the following conditions apply. Within 90 days of the above notification, the permittee shall implement a Toxicity Identification/Reduction Evaluation (TI/RE). The objective of the TI/RE shall be to reduce the toxicity of the final effluent from outfall 001 to acceptable levels (≤ 1 TU_A and ≤ 2.9 TU_C) within three (3) years of notification. The following documents are available as guidance to reduce the toxicity to acceptable levels: Phase I, EPA/600/6-91/003 (acute) and EPA/600/6-91/005F (chronic); Phase II, EPA/600/R-92/080 (acute and chronic); and Phase III, EPA/600/R-92/081 (acute and chronic). The TI/RE shall include quarterly chronic toxicity tests of the discharge from outfall 001 for the duration of the TI/RE. The tests shall be conducted and reported as specified above. Upon approval of the Jackson District Supervisor, the chronic toxicity tests may be conducted using the more sensitive species identified in the chronic toxicity database. If a more sensitive species cannot be identified, the chronic toxicity tests shall be performed with both species. Annual reports on the quarterly tests shall be submitted to the Jackson District Supervisor within 30 days of the completion of the last test of each annual cycle.

b. If the toxicity requirements of Rule 57 and Rule 82 are close to being exceeded, upon written notification by the Jackson District Supervisor, the permittee shall conduct quarterly chronic toxicity tests on the final effluent from outfall 001 for the life of the permit. The tests shall be conducted and reported as specified above. After one (1) year, the monitoring frequency may be reduced upon approval of the Jackson District Supervisor if the test data indicate that the toxicity requirements of Rule 57 and 82 are consistently being met. Upon approval of the Jackson District Supervisor, the chronic toxicity tests may be performed using the more sensitive species identified in the chronic toxicity database. If a more sensitive species cannot be identified, the chronic toxicity tests shall be performed with both species. Annual reports on the quarterly tests shall be submitted to the Jackson District Supervisor within 30 days of the completion of the last test of each annual cycle.

c. This permit may be modified in accordance with applicable laws and rules to include additional whole effluent toxicity control requirements as necessary.

PART I

Section B. Schedule of Compliance

This section (Section B: Schedule of Compliance) is not needed for this permit.

PART I

Section C. Industrial Waste Pretreatment Program

1. Federal Industrial Pretreatment Program

a. The permittee shall implement the Federal Industrial Pretreatment Program approved on September 20. 1985, and modifications thereto, which upon approval are incorporated as enforceable requirements of this permit.

b The permittee shall comply with Rules 323 2301 through 323 2317 of the Michigan Administrative Code (Part 23 Rules), the General Pretreatment Regulations for Existing and New Sources of Pollution (40 CFR Part 403), and the approved Federal Industrial Pretreatment Program.

c. The permittee shall have the legal authority and necessary interjurisdictional agreement that provide the basis for the implementation and enforcement of the approved Federal Industrial Pretreatment Program throughout the service area. The legal authority and necessary interjurisdictional agreements shall include, at a minimum, the authority to carry out the activities specified in Rule 323.2306(a).

d The permittee shall develop procedures which describe, in sufficient detail, program commitments which enable implementation of the approved Federal Industrial Pretreatment Program, 40 CFR Part 403, and the Part 23 Rules in accordance with Rule 323.2306(c).

e The permittee shall establish an interjurisdictional agreement (or comparable document) with all tributary governmental jurisdictions Each interjurisdictional agreement shall contain, at a minimum, the following.

1) identification of the agency responsible for the implementation and enforcement of the approved Federal Industrial Pretreatment Program within the tributary governmental jurisdiction's boundaries, and

2) the provision of the legal authority which provides the basis for the implementation and enforcement of the approved Federal Industrial Pretreatment Program within the tributary governmental jurisdiction's boundaries.

f. The permittee shall prohibit discharges that:

1) cause, in whole or in part, the permittee's failure to comply with any condition of this permit or the Michigan Act;

2) restrict, in whole or in part, the permittee's approved Program for Effective Residuals Management (PERM);

3) cause, in whole or in part, operational problems at the treatment facility or in its collection system;

4) violate any of the general or specific prohibitions identified in Rule 323 2303(1) and (2);

5) violate categorical standards identified in Rule 323 2311; and

6) violate local limits established in accordance Rule 323 2303(4).

g. The permittee shall maintain a list of its nondomestic users that meet the criteria of a significant industrial user as identified in Rule 323 2302(cc)

h The permittee shall develop an enforcement response plan which describes, in sufficient detail, program commitments which will enable the enforcement of the approved Federal Industrial Pretreatment Program, 40 CFR Part 403, and the Part 23 Rules in accordance with Rule 323 2306(g)

PART I

Section C. Industrial Waste Pretreatment Program

i. The Jackson District Supervisor of the Surface Water Quality Division may require modifications to the approved Federal Industrial Pretreatment Program which are necessary to ensure compliance with 40 CFR Part 403 and the Part 23 Rules in accordance with Rule 323.2309.

j. The permittee shall not implement changes or modifications to the approved Federal Industrial Pretreatment Program without notification to the Jackson District Supervisor of the Surface Water Quality Division. Any substantial modification shall be subject to Department public noticing and approval in accordance with Rule 323.2309.

k. The permittee shall maintain an adequate revenue structure and staffing level for continued implementation of the approved Federal Industrial Pretreatment Program.

l. The permittee shall develop and maintain, for a minimum of three (3) years, all records and information necessary to determine nondomestic user compliance with 40 CFR Part 403, Part 23 Rules and the approved Federal Industrial Pretreatment Program. This period of retention shall be extended during the course of any unresolved enforcement action or litigation regarding the nondomestic user or when requested by the Department or the United States Environmental Protection Agency. All of the aforementioned records and information shall be made available upon request for inspection and copying by the Department and the United States Environmental Protection Agency.

m. The permittee shall evaluate the approved Federal Industrial Pretreatment Program for compliance with 40 CFR Part 403, Part 23 Rules and the prohibitions stated in item f (above). Based upon this evaluation, the permittee shall propose to the Jackson District Supervisor of the Surface Water Quality Division all necessary changes or modifications to the approved Federal Industrial Pretreatment Program no later than the next Industrial Pretreatment Program Annual Report due date (see item o below).

n. The permittee shall develop and enforce local limits to implement the prohibitions listed in item f (above). Local limits shall be based upon data representative of actual conditions demonstrated in a maximum allowable headworks loading analysis.

o. On or before April 1 of each year, the permittee shall submit, as required by Rule 323.2310(8), an Industrial Pretreatment Program Annual Report on the status of program implementation and enforcement activities. The reporting period shall begin on January 1st and end on December 31st. The Industrial Pretreatment Program Annual Report shall be submitted to the Jackson District Supervisor of the Surface Water Quality Division and may be submitted on forms provided by the Department. At a minimum, the summary report shall contain the following items:

1) additions, deletions, and any other modifications to the permittee's previously submitted nondomestic user inventory (Rule 323.2306(c)(i));

2) additions, deletions, and any other modifications to the permittee's approved significant industrial user list (Rule 323.2306(h));

3) a listing of the names of significant industrial users not inspected by the permittee at least once during the reporting period or at the frequency committed to in the approved Federal Industrial Pretreatment Program;

4) a listing of the names of significant industrial users not sampled for all required pollutants by the permittee at least once during the reporting period or at the frequency committed to in the approved Federal Industrial Pretreatment Program;

5) a listing of the names of significant industrial users without a permit at any time during the reporting period;

PART I

Section C. Industrial Waste Pretreatment Program

6) a listing of the names of nondomestic industrial users in significant noncompliance for each of the criteria as identified in Rule 323.2302(dd)(i)-(viii);

7) proof of publication of all nondomestic users in significant noncompliance in the largest daily newspaper in the permittee's area;

8) a summary of the enforcement activities by the permittee during the report period. This summary shall include:

a) a listing of the names nondomestic users which were the subject of an enforcement action;

b) the enforcement action taken and the date the action was taken; and

c) whether the nondomestic user returned to compliance by the end of the reporting period (include date nondomestic user returned to compliance).

9) a listing of the names of significant industrial users who did not submit pretreatment reports in accordance with requirements specified in their permit during the reporting period;

10) a listing of the names of significant industrial users who did not self-monitor in accordance with requirements specified in their permit during the reporting period;

11) a summary of results of all sampling and analyses performed of the wastewater treatment plant influent, effluent, and sludge conducted in accordance with approved methods during the reporting period; and

13) any other relevant information as requested by the Department.

PART I

Section D. Program for Effective Residuals Management

1. Program For Effective Residuals Management

In addition to the requirements in Part II.D.7. in this permit, the permittee shall provide for the effective management and/or disposal of residuals, i.e., solids, sludges, ash, grit and other substances removed from or resulting from treatment of the wastewater. Residuals disposal shall be accomplished in such manner and at such locations that the disposal practices shall not result in unlawful pollution of the air, surface waters or groundwaters of the state nor create nuisance conditions. Such management and/or disposal program shall be set forth in a "Program for Effective Residuals Management" prepared by the permittee.

The program shall include:

a. a management plan (treatment, transportation, storage, disposal, contingency plans);

b. an inventory of residuals production, storage, and disposal for a period of at least one (1) year;

c. an analysis of the residuals;

d. a monitoring program;

e. if land application is proposed, include site maps, soil analyses, application rates, proposed vegetation and other pertinent information; and

f. if groundwater degradation potential exists, include a hydrogeologic study.

A program has previously been submitted to and approved by the Jackson District Supervisor of the Surface Water Quality Division. The permittee shall certify that current and future residuals management practices are in accordance with the approved program or the permittee shall submit proposed modifications to the approved program. The program certification or proposed modifications shall be submitted to and approved by the Jackson District Supervisor on or before January 1, 1997.

Disposal of residuals resulting from the treatment of wastewater shall be in accordance with the previously approved program until proposed modifications are approved. If at any time the permittee desires to make any substantial changes in the approved program, the proposed changes shall be submitted to and approved by the Jackson District Supervisor prior to implementation. Substantial changes shall include, but not be limited to: a change in disposal method or site; a change in treatment method; a change in storage method or site; a change in monitoring parameters or monitoring frequency; an increase in application rate; or a change in residuals quantity or characteristics. Any residual disposal inconsistent with the approved program shall be considered a violation of this permit.

PART II

Section A. Definitions

This list of definitions may include terms not applicable to this permit

Acute toxic unit is 100 divided by the LC50 or 100 divided by the EC50 (with the LC50 or EC50 expressed as a percentage)

Chronic toxic unit is 100 divided by the MATC (with the MATC expressed as a percentage)

Daily maximum concentration is the sum of the concentrations of the individual samples of a parameter divided by the number of samples taken during any calendar day If the parameter concentration in any sample is less than the detection limit, regard that value as zero when calculating the daily maximum concentration

Daily maximum load is the total discharge by weight of a parameter discharged during any calendar day

Daily minimum concentration is the minimum concentration of a parameter in any individual sample taken during any calendar day

Jackson District Supervisor of the Surface Water Quality Division is located at the Jackson District Office, 301 East Louis Glick Highway, Jackson, Michigan 49201, telephone 517-780-7900 (fax 517-780-7855)

Division of Environmental Health, Michigan Department of Public Health mailing address is P O Box 30195, Lansing, Michigan 48909

Division of Health Facility Development, Michigan Department of Public Health mailing address is P O Box 30195, Lansing, Michigan 48909

EC50 (median effect concentration) is the concentration of the effluent predicted by the acute toxicity test results to produce an adverse effect in 50% of the test organism population in a given time interval

Fecal coliform bacteria monthly (30-day) average is the geometric mean of the samples collected in a calendar month

Fecal coliform bacteria 7-day average is the geometric mean of the samples collected in any 7-day period

Flow Proportioned sample is a composite sample with the sample volume proportional to the effluent flow

Grab sample is a single sample taken at neither a set time nor flow

Interference is a discharge which, alone or in conjunction with a discharge or discharges from other sources, both. 1) inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal, and 2) therefore, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or, of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations) Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act. [This definition does not apply to sample matrix interference]

LC50 (median lethal concentration) is the concentration of the effluent predicted by the acute toxicity test results to kill 50% of the test organism population in a given time interval

MATC is the maximum acceptable toxicant concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic toxicity test

PART II

Section A. Definitions

Monthly (30-day) average concentration is the sum of the concentrations of the individual samples divided by the number of samples taken during a reporting month. If the parameter concentration in any sample is less than the detection limit, regard that value as zero when calculating monthly average concentration.

Monthly (30-day) average load is the sum of the daily maximum loads of a parameter divided by the number of daily maximum loads in the reporting month. If the parameter concentration in any sample is less than the detection limit, regard that value as zero when calculating monthly average load.

National Pretreatment Standards are the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Federal Act. The standards establish nationwide limits for specific industrial categories for discharge to a POTW.

Noncontact Cooling Water is water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

Nondomestic user is any discharger to a POTW that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

Pretreatment is reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

POTW is a publicly owned treatment works.

Regional Administrator is the Region V Administrator, U.S. EPA, located at R-16J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

7-day average concentration is the sum of the concentrations of the individual samples divided by the number of samples taken during any 7 consecutive days in a calendar month. If the parameter concentration in any sample is less than the detection limit, regard that value as zero when calculating the 7-day average concentration.

7-day average load is the sum of the weights of parameters discharged divided by the number of samples taken during any 7 consecutive days in a calendar month. If the parameter concentration in any sample is less than the detection limit, regard that value as zero when calculating the 7-day average load.

Significant industrial user is a nondomestic user that: 1) is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or 2) discharges an average of 25,000 gallons per day or more of process wastewater to a POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the permittee as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's treatment plant operation or violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

3-Portion Composite sample is a sample consisting of three equal volume grab samples collected at equal intervals over an 8 hour period.

24-Hour Composite sample is a flow proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period.

PART II

Section B. Monitoring Procedures

1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Federal Act (40 CFR Part 136 - Guidelines Establishing Test Procedures for the Analysis of Pollutants). For parameters not specified in the permit or covered by the regulations, test procedures shall be submitted for approval to the Jackson District Supervisor of the Surface Water Quality Division.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Michigan Department of Environmental Quality.

PART II

Section C. Reporting Requirements

1. Start-up Notification

If the permittee will not discharge during the first 60 days following the effective date of this permit, the permittee shall notify the Jackson District Supervisor of the Surface Water Quality Division within 14 days, and then 60 days prior to the commencement of the discharge.

2. DMR Submittal Requirements

Unless instructed on the effluent limits page to conduct retained self-monitoring, the permittee shall submit Discharge Monitoring Report (DMR) forms to the PCS Unit, Surface Water Quality Division, Michigan Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan, 48909-7773, for each calendar month of the authorized discharge period(s). The DMRs shall be postmarked no later than the 10th day of the month following each month of the authorized discharge period(s).

3. Retained Self-Monitoring Requirements

If instructed on the effluent limits page to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and provide such log for inspection to the staff of the Surface Water Quality Division, Michigan Department of Environmental Quality; or for mobile home parks, campgrounds, marinas and schools: Environmental Health Services Division, Michigan Department of Public Health; Northern Peninsula Division, Michigan Department of Public Health; or for hospitals, nursing homes and extended care facilities: Division of Health Facility Licensing & Certification, Michigan Department of Public Health upon request. Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Jackson District Supervisor of the Surface Water Quality Division, Department of Environmental Quality on or before January 10th of each year, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the flow rate(s) (if part of retained self-monitoring results) from all outfalls have been substantially the same as the flow rate(s) authorized by this permit, or if the flow rate(s) (if part of retained self-monitoring results) is (are) substantially different from the flow rate(s) authorized by this permit, the reasons for the difference in flow rates.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a written notification to the Jackson District Supervisor of the Surface Water Quality Division indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

PART II

Section C. Reporting Requirements

6. Noncompliance Notification

Compliance with all requirements set forth in the Federal Act, Parts 31 and 41 of the Michigan Act, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

a. 24-hour reporting - Any noncompliance which may endanger health or the environment (including daily maximum discharge limitation exceedances) shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days.

b. other reporting - The permittee shall report, in writing, all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring, within five (5) days from the time the permittee becomes aware of the noncompliance.

Written reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

7. Spill Notification

The permittee shall immediately report any spill or loss of any product, by-product, intermediate product, oils, solvents, waste material, or any other polluting substance which occurs to the surface waters or groundwaters of the state by calling the Department of Environmental Quality's 24-hour Emergency Response telephone number, 1-800-292-4706 (calls from out-of-state dial 1-517-373-8166); and within ten (10) days of the spill or loss, the permittee shall submit to the Jackson District Supervisor of the Surface Water Quality Division a full written explanation as to the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken, and schedule of implementation.

8. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset shall notify the Jackson District Supervisor of the Surface Water Quality Division by telephone within 24 hours of becoming aware of such conditions; and within five (5) days, provide in writing, the following information:

a. that an upset occurred and that the permittee can identify the specific cause(s) of the upset;

b. that the permitted wastewater treatment facility was, at the time, being properly operated; and

c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

PART II

Section C. Reporting Requirements

9. Bypass Prohibition and Notification

a. Bypass Prohibition - Bypass is prohibited unless:

1) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and

(3) the permittee submitted notices as required under 9.b. or 9.c. below.

b. Notice of Anticipated Bypass - If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Jackson District Supervisor of the Surface Water Quality Division, if possible at least ten days before the date of the bypass, and provide information about the anticipated bypass as required by the Jackson District Supervisor. The Jackson District Supervisor may approve an anticipated bypass, after considering its adverse effects, if it will meet the three conditions listed in 9.a. above.

c. Notice of Unanticipated Bypass - The permittee shall submit notice to the Jackson District Supervisor of the Surface Water Quality Division of an unanticipated bypass by telephone at 517-780-7900 (if the notice is provided after regular working hours, use the following number: 1-800-292-4706) as soon as possible, but no later than 24 hours from the time the permittee becomes aware of the circumstances.

d. Written Report of Bypass - A written submission shall be provided within five (5) working days of commencing any bypass to the Jackson District Supervisor of the Surface Water Quality Division, and at additional times as directed by the Jackson District Supervisor. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Jackson District Supervisor.

e. Bypass Not Exceeding Limitations - The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.10. of this permit.

f. Definitions

(1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

PART II

Section C. Reporting Requirements

10. Changes in Discharge

The permittee shall notify the Jackson District Supervisor of the Surface Water Quality Division, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register or priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information (The detectable level shall be defined as the Method Detection Limit (MDL) as given in Appendix B to Part 136, Federal Register, Vol. 49, No. 209, October 26, 1984, pp. 43430-31.); or 3) any chemical at levels greater than five times the average level reported in the application submitted on March 30, 1995. Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

11. Changes in Facility Operations

Any anticipated facility expansion, production increases, or process modification which will result in new, different, or increased discharges of pollutants must be reported by submission of a new application to the Jackson District Supervisor of the Surface Water Quality Division or, by notice to the Jackson District Supervisor if the following conditions are met: 1) the changes will not result in the discharge of wastewater not currently authorized or at volumes greater than currently authorized by this permit; 2) the changes will not violate the effluent limitations specified in this permit; and 3) the changes will not require notification pursuant to Part II.C.10. Following such notice, the permit may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

12. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Jackson District Supervisor of the Surface Water Quality Division 30 days prior to the actual transfer of ownership or control.

PART II

Section D. Management Responsibilities

1. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the Michigan Act and/or the Federal Act and constitutes grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of an application for permit renewal.

2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Michigan Department of Environmental Quality, as required by Sections 3110 and 4104 of the Michigan Act.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

4. Power Failures

In order to maintain compliance with the effluent limitations of this permit and prevent unauthorized discharges, the permittee shall either:

a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit; or

b. upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials in accordance with the requirements of the Part 5 Rules (Rules 323.1151 through 323.1169 of the Michigan Administrative Code). For a POTW, these facilities shall be approved under Part 41 of the Michigan Act.

PART II

Section D. Management Responsibilities

7. Waste Treatment Residues

Solids, sludges, biosolids, filter backwash, scrubber water or other pollutants resulting from treatment or control of wastewaters shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

8. Right of Entry

The permittee shall allow the Michigan Department of Environmental Quality, any agent appointed by the Department or the Regional Administrator, upon the presentation of credentials:

a. to enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring equipment or monitoring method required in this permit and to sample any discharge of pollutants.

9. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Act and Rule 2128 (Rule 323.2128 of the Michigan Administrative Code), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Federal Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Act and Sections 3112, 3115, 4106 and 4110 of the Michigan Act.

PART II

Section E. Activities Not Authorized by This Permit

1. Discharge to the Groundwaters

This permit does not authorize any discharge to the groundwaters. Such discharge must be authorized by a groundwater discharge permit issued pursuant to the Michigan Act.

2. Facility Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction for a POTW must be by permit issued under Part 41 of the Michigan Act. Approval for such construction for a mobile home park, campground, hospital, nursing home or marina shall be from the Michigan Department of Public Health.

3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.9. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, such as accidents, equipment breakdowns, or labor disputes.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Federal Act except as are exempted by federal regulations.

5. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Federal Act.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits or approvals from other units of government as may be required by law.

STATE OF MICHIGAN

JOHN ENGLER, Governor
DEPARTMENT OF ENVIRONMENTAL QUALITY
"Better Service for a Better Environment"
HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us
RUSSELL J. HARDING, Director

REPLY TO:
SURFACE WATER QUALITY DIVISION
KNAPPS CENTRE
PO BOX 30273
LANSING MI 48909-7773

RECEIVED
MAY 31 2000
WASTEWATER
TREATMENT PLANT

May 26, 2000

CERTIFIED MAIL -- 7099 3400 0001 0738 2719

Ms. Deborah Owens, Clerk
City of Battle Creek
10 North Division Street
P.O. Box 1717
Battle Creek, Michigan 49016-1717

Dear Ms. Owens:

SUBJECT: NPDES Permit No. MI0022276 -- Battle Creek WWTP, 2000 West River Road, Battle Creek

Your National Pollutant discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate state and federal regulations. It contains the requirements necessary for you to comply with state and federal water pollution control laws.

REVIEW THE PERMIT EFFLUENT LIMITS AND COMPLIANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. Permit violations are audited by the Michigan Department of environmental Quality and the United States Environmental Protection Agency and may appear in a published quarterly noncompliance report made available to agencies and the public.

Your monitoring and reporting responsibilities must be complied with in accordance with this permit. If applicable, Discharge Monitoring Report forms will be transmitted to you in the near future. These reports are to be submitted monthly or otherwise as required by your NPDES permit.

Any reports, notifications, or questions regarding the attached permit or NPDES program should be directed to the following address:

Mr. Fred Morley, District Supervisor
Plainwell District Office, SWQD, DEQ
1342 SR 89 West, Suite B
Plainwell, Michigan 49080-1915
Telephone: 616-692-2120

Sincerely,

William E. McCracken

William E. McCracken, P.E.
Chief, Permits Section
Surface Water Quality Division
517-373-8088

Attachment: Permit
cc: EPA-Region 5
208 Agency - Southcentral Michigan Planning Council
Wastewater Treatment Facility Superintendent
Mr. Fred Morley, Plainwell District Supervisor, SWQD (2)
PCS Unit
Industrial Pretreatment Program Unit, SWQD
Point Source Studies (Grand Rapids District Office), SWQD
File

PERMIT NO. MI0022276

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Federal Act"), Michigan Act 451, Public Acts of 1994, as amended (the "Michigan Act"), Parts 31 and 41, and Michigan Executive Orders 1991-31, 1995-4 and 1995-18,

City of Battle Creek
103 East Michigan Avenue
Battle Creek, Michigan 49016-1717

is authorized to discharge from a facility located at

2000 West River road
Battle Creek, Michigan 49015-1181

designated as Battle Creek WWTP

to the receiving water named the Kalamazoo River in accordance with effluent limitations, monitoring requirements and other conditions set forth in this permit.

This modified permit takes effect on date of modification. Any person who is aggrieved by this permit may file a sworn petition with the Office of Administrative Hearings of the Michigan Department of Environmental Quality, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department may reject any petition filed more than 60 days after issuance as being untimely. If any condition of this permit is administratively challenged, the entire challenged permit is stayed and the previous permit will remain in effect until the Department takes final action after the Administrative Hearing.

This permit and the authorization to discharge shall expire at midnight, October 1, 2000. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application which contains such information and forms as are required by the Michigan Department of Environmental Quality to the Plainwell District Supervisor of the Surface Water Quality Division by April 1, 2000.

In accordance with R323.2416 of the Michigan Administrative Code, an annual biosolids land application fee shall be paid by each biosolids generator that land applies biosolids. Remittance of the fee to the Department by the permittee shall be postmarked no later than January 31 of each year.

This permit is based on a complete application submitted on March 30, 1995. The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules. On its effective date this permit shall supersede NPDES Permit No. MI0022276, expiring October 1, 1995.

Issued June 25, 1996, and modified May 8. 2000 .

William E. McCracken
Chief, Permits Section
Surface Water Quality Division

PART I

Section A. Limitations and Monitoring Requirements

1. Final Effluent Limitations, Outfall 001

a. Discharge Authorization and Limitations

During the period beginning on the effective date of this permit and lasting until permit expiration, the permittee is authorized to discharge treated municipal wastewaters from the Battle Creek wastewater treatment plant through outfall 001 to the Kalamazoo River. Such discharges shall be limited and monitored by the permittee as follows:

	Quantity or Loading				Quality or Concentration					
Parameter	Monthly Average	7-Day Average	Daily Maximum	Units	Monthly Average	7-Day Average	Daily Maximum	Units	Frequency of Analysis	Sample Type
Flow	(report)	—	(report)	MGD	—	—	—	—	Daily	Report Total Daily Flow
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)										
Effective: 5/1-9/30	3002	4504	—	lbs/day	20	—	30	mg/l	Daily	24-Hr Compos
Effective: 10/1-4/30	3753	6005	—	lbs/day	25	40	—	mg/l	Daily	24-Hr Compos
Total Suspended Solids	4504	6755	—	lbs/day	30	45	—	mg/l	Daily	24-Hr Compos
Ammonia Nitrogen (as N)										
Effective: 5/1-9/30	300	—	—	lbs/day	2	—	—	mg/l	Daily	24-Hr Compos
Effective: 10/1-4/30	976	—	—	lbs/day	6.5	—	—	mg/l	Daily	24-Hr Compos
Total Phosphorus (as P)	150	—	—	lbs/day	1	—	—	mg/l	Weekly	24-Hr Compos
Fecal Coliform Bacteria	—	—	—	—	200	400	—	cts/100 ml	Daily	Grab
Bromodichloromethane (CAS No. 75-27-4)	10	—	—	lbs/day	69	—	—	µg/l	Weekly	24-Hr Compos
Chlorodibromomethane (CAS No. 124-48-1)	12	—	—	lbs/day	83	—	—	µg/l	Weekly	24-Hr Compos
Lindane (CAS No. 58-89-9)	—	—	—	—	(report)	—	—	µg/l	Quarterly*	24-Hr Compos
Bromoform (CAS No. 75-25-2)	—	—	—	—	(report)	—	—	µg/l	Quarterly*	24-Hr Compos
Total Silver	—	—	—	—	(report)	—	—	µg/l	Quarterly*	24-Hr Compos
Total Mercury (see item f. below)	—	—	—	—	(report)	—	—	µg/l	Quarterly*	24-Hr Compos
Amenable Cyanide	—	—	—	—	(report)	—	—	µg/l	Quarterly*	24-Hr Compos

* Quarterly monitoring shall be conducted during the months of January, April, July and October.

PART I

Section A. Limitations and Monitoring Requirements

Parameter	Quantity or Loading: Monthly Average	7-Day Average	Daily Maximum	Units	Quality or Concentration: Monthly Average	7-Day Average	Daily Maximum	Units	Frequency of Analysis	Sample Type
Total Residual Chlorine	—	—	—	—	—	—	0.036	mg/l	Daily	Grab
pH	—	—	—	—	Daily Minimum 6.5	—	Daily Maximum 9.0	S.U.	Daily	Grab
Dissolved Oxygen	—	—	—	—	4	—	—	mg/l	Daily	Grab

b. Design Flow
The following design flows were used in determining the above limitations, but are not to be considered limitations or actual capacities themselves: 18 MGD.

c. Sampling Type and Location
1) The sampling for $CBOD_5$, Total Suspended Solids, Ammonia Nitrogen, Total Phosphorus, Bromodichloromethane, Chlorodibromomethane, Total Silver, Total Mercury, Amenable Cyanide, Bromoform and Lindane shall be 24-hour composites taken after disinfection. The sampling for Dissolved Oxygen, Fecal Coliform Bacteria, Total Residual Chlorine and pH shall be grab samples taken of the effluent. The Jackson District Supervisor of the Surface Water Quality Division may approve alternate sampling locations which are demonstrated by the permittee to be representative of the effluent.

2) Compliance with the Total Residual Chlorine limit shall be determined on the basis of one or more grab samples. If more than one (1) sample per day is taken, the additional samples shall be collected in near equal intervals over at least eight (8) hours. The samples shall be analyzed immediately upon collection and the average reported as the daily maximum. Analyses for Total Residual Chlorine should be conducted using EPA Method 330.1 or by Electrode (Orion 97-70). The level of detection shall be determined for the analytical method used by following the procedures prescribed in 40 CFR 136 Appendix B. The reported level of detection shall not exceed 0.036 mg/l unless a higher level is appropriate because of sample matrix interference.

d. Analytical Methods and Detection Levels
Analyses shall be conducted using EPA approved methods. The detection levels shall not exceed 5 µg/l, 0.2 µg/l and 0.01 µg/l for Amenable Cyanide, Total Mercury and Lindane, respectively, unless higher levels are appropriate because of sample matrix interference. The detection levels for Bromodichloromethane, Chlorodibromomethane and Bromoform shall not exceed 1 µg/l unless higher levels are appropriate because of sample matrix interference.

e. Percent Removal Requirements
In addition to the $CBOD_5$ and Total Suspended Solids limitations above, the 30-day average effluent $CBOD_5$ and Total Suspended Solids concentrations shall not exceed 15 percent of the average influent concentrations for approximately the same period. This requirement is in effect all year for Total Suspended Solids and in effect, only, from October 1 through April 30 for $CBOD_5$.

f. Mercury
In addition to monitoring for Total Mercury in the effluent, the permittee shall conduct quarterly monitoring of the influent for Total Mercury. Further, the permittee shall monitor the sludge for Total Mercury once during the calendar year.

PART I

Section A. Limitations and Monitoring Requirements

2. Chronic Toxicity Testing, Outfall 001

The permittee shall conduct chronic toxicity tests on each of two (2) test species once every two (2) months for a total of eight (8) tests (four on each species). Testing shall be completed by July 1, 1997. Test species shall include fathead minnow and *Ceriodaphnia dubia*. Testing and reporting procedures shall follow procedures contained in EPA/600/4-91/002, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", for fathead minnow and *Ceriodaphnia*. Acute toxicity and chronic toxicity data shall be included in the reporting of the toxicity test results. Toxicity test data acceptability is contingent upon the validation of the test method by the testing laboratory. Such validation shall be submitted to the Department upon request. The final report on the tests shall be submitted to the Jackson District Supervisor of the Surface Water Quality Division within 30 days after completion of the final test.

The Surface Water Quality Division will review the toxicity data submitted by the permittee to determine if the toxicity requirements of Rules 57 and 82 (Rules 323.1057 and 323.1082 of the Michigan Administrative Code) are being satisfied.

a. If the toxicity requirements of Rule 57 and Rule 82 are not being met, upon written notification by the Jackson District Supervisor, the following conditions apply. Within 90 days of the above notification, the permittee shall implement a Toxicity Identification/Reduction Evaluation (TI/RE). The objective of the TI/RE shall be to reduce the toxicity of the final effluent from outfall 001 to acceptable levels (≤ 1 TU_A and ≤ 2.9 TU_C) within three (3) years of notification. The following documents are available as guidance to reduce the toxicity to acceptable levels: Phase I, EPA/600/6-91/003 (acute) and EPA/600/6-91/005F (chronic); Phase II, EPA/600/R-92/080 (acute and chronic); and Phase III, EPA/600/R-92/081 (acute and chronic). The TI/RE shall include quarterly chronic toxicity tests of the discharge from outfall 001 for the duration of the TI/RE. The tests shall be conducted and reported as specified above. Upon approval of the Jackson District Supervisor, the chronic toxicity tests may be conducted using the more sensitive species identified in the chronic toxicity database. If a more sensitive species cannot be identified, the chronic toxicity tests shall be performed with both species. Annual reports on the quarterly tests shall be submitted to the Jackson District Supervisor within 30 days of the completion of the last test of each annual cycle.

b. If the toxicity requirements of Rule 57 and Rule 82 are close to being exceeded, upon written notification by the Jackson District Supervisor, the permittee shall conduct quarterly chronic toxicity tests on the final effluent from outfall 001 for the life of the permit. The tests shall be conducted and reported as specified above. After one (1) year, the monitoring frequency may be reduced upon approval of the Jackson District Supervisor if the test data indicate that the toxicity requirements of Rule 57 and 82 are consistently being met. Upon approval of the Jackson District Supervisor, the chronic toxicity tests may be performed using the more sensitive species identified in the chronic toxicity database. If a more sensitive species cannot be identified, the chronic toxicity tests shall be performed with both species. Annual reports on the quarterly tests shall be submitted to the Jackson District Supervisor within 30 days of the completion of the last test of each annual cycle.

c. This permit may be modified in accordance with applicable laws and rules to include additional whole effluent toxicity control requirements as necessary.

PART I

Section B. Schedule of Compliance

This section (Section B: Schedule of Compliance) is not needed for this permit.

PART I

Section C. Industrial Waste Pretreatment Program

1. Federal Industrial Pretreatment Program

a. The permittee shall implement the Federal Industrial Pretreatment Program approved on September 20, 1985, and modifications thereto, which upon approval are incorporated as enforceable requirements of this permit.

b. The permittee shall comply with Rules 323.2301 through 323.2317 of the Michigan Administrative Code (Part 23 Rules), the General Pretreatment Regulations for Existing and New Sources of Pollution (40 CFR Part 403), and the approved Federal Industrial Pretreatment Program.

c. The permittee shall have the legal authority and necessary interjurisdictional agreement that provide the basis for the implementation and enforcement of the approved Federal Industrial Pretreatment Program throughout the service area. The legal authority and necessary interjurisdictional agreements shall include, at a minimum, the authority to carry out the activities specified in Rule 323.2306(a).

d. The permittee shall develop procedures which describe, in sufficient detail, program commitments which enable implementation of the approved Federal Industrial Pretreatment Program, 40 CFR Part 403, and the Part 23 Rules in accordance with Rule 323.2306(c).

e. The permittee shall establish an interjurisdictional agreement (or comparable document) with all tributary governmental jurisdictions. Each interjurisdictional agreement shall contain, at a minimum, the following:

1) identification of the agency responsible for the implementation and enforcement of the approved Federal Industrial Pretreatment Program within the tributary governmental jurisdiction's boundaries; and

2) the provision of the legal authority which provides the basis for the implementation and enforcement of the approved Federal Industrial Pretreatment Program within the tributary governmental jurisdiction's boundaries.

f. The permittee shall prohibit discharges that:

1) cause, in whole or in part, the permittee's failure to comply with any condition of this permit or the Michigan Act;

2) restrict, in whole or in part, the permittee's approved Program for Effective Residuals Management (PERM);

3) cause, in whole or in part, operational problems at the treatment facility or in its collection system;

4) violate any of the general or specific prohibitions identified in Rule 323.2303(1) and (2);

5) violate categorical standards identified in Rule 323.2311; and

6) violate local limits established in accordance Rule 323.2303(4).

g. The permittee shall maintain a list of its nondomestic users that meet the criteria of a significant industrial user as identified in Rule 323.2302(cc).

h. The permittee shall develop an enforcement response plan which describes, in sufficient detail, program commitments which will enable the enforcement of the approved Federal Industrial Pretreatment Program, 40 CFR Part 403, and the Part 23 Rules in accordance with Rule 323.2306(g).

PART I

Section C. Industrial Waste Pretreatment Program

i. The Jackson District Supervisor of the Surface Water Quality Division may require modifications to the approved Federal Industrial Pretreatment Program which are necessary to ensure compliance with 40 CFR Part 403 and the Part 23 Rules in accordance with Rule 323.2309.

j. The permittee shall not implement changes or modifications to the approved Federal Industrial Pretreatment Program without notification to the Jackson District Supervisor of the Surface Water Quality Division. Any substantial modification shall be subject to Department public noticing and approval in accordance with Rule 323.2309.

k. The permittee shall maintain an adequate revenue structure and staffing level for continued implementation of the approved Federal Industrial Pretreatment Program.

l. The permittee shall develop and maintain, for a minimum of three (3) years, all records and information necessary to determine nondomestic user compliance with 40 CFR Part 403, Part 23 Rules and the approved Federal Industrial Pretreatment Program. This period of retention shall be extended during the course of any unresolved enforcement action or litigation regarding the nondomestic user or when requested by the Department or the United States Environmental Protection Agency. All of the aforementioned records and information shall be made available upon request for inspection and copying by the Department and the United States Environmental Protection Agency.

m. The permittee shall evaluate the approved Federal Industrial Pretreatment Program for compliance with 40 CFR Part 403, Part 23 Rules and the prohibitions stated in item f (above). Based upon this evaluation, the permittee shall propose to the Jackson District Supervisor of the Surface Water Quality Division all necessary changes or modifications to the approved Federal Industrial Pretreatment Program no later than the next Industrial Pretreatment Program Annual Report due date (see item o below).

n. The permittee shall develop and enforce local limits to implement the prohibitions listed in item f (above). Local limits shall be based upon data representative of actual conditions demonstrated in a maximum allowable headworks loading analysis.

o. On or before April 1 of each year, the permittee shall submit, as required by Rule 323.2310(8), an Industrial Pretreatment Program Annual Report on the status of program implementation and enforcement activities. The reporting period shall begin on January 1st and end on December 31st. The Industrial Pretreatment Program Annual Report shall be submitted to the Jackson District Supervisor of the Surface Water Quality Division and may be submitted on forms provided by the Department. At a minimum, the summary report shall contain the following items:

1) additions, deletions, and any other modifications to the permittee's previously submitted nondomestic user inventory (Rule 323.2306(c)(i));

2) additions, deletions, and any other modifications to the permittee's approved significant industrial user list (Rule 323.2306(h));

3) a listing of the names of significant industrial users not inspected by the permittee at least once during the reporting period or at the frequency committed to in the approved Federal Industrial Pretreatment Program;

4) a listing of the names of significant industrial users not sampled for all required pollutants by the permittee at least once during the reporting period or at the frequency committed to in the approved Federal Industrial Pretreatment Program;

5) a listing of the names of significant industrial users without a permit at any time during the reporting period;

PART I

Section C. Industrial Waste Pretreatment Program

6) a listing of the names of nondomestic industrial users in significant noncompliance for each of the criteria as identified in Rule 323.2302(dd)(i)-(viii);

7) proof of publication of all nondomestic users in significant noncompliance in the largest daily newspaper in the permittee's area;

8) a summary of the enforcement activities by the permittee during the report period. This summary shall include:

a) a listing of the names nondomestic users which were the subject of an enforcement action;

b) the enforcement action taken and the date the action was taken; and

c) whether the nondomestic user returned to compliance by the end of the reporting period (include date nondomestic user returned to compliance).

9) a listing of the names of significant industrial users who did not submit pretreatment reports in accordance with requirements specified in their permit during the reporting period;

10) a listing of the names of significant industrial users who did not self-monitor in accordance with requirements specified in their permit during the reporting period;

11) a summary of results of all sampling and analyses performed of the wastewater treatment plant influent, effluent, and sludge conducted in accordance with approved methods during the reporting period; and

13) any other relevant information as requested by the Department.

PART I

Section D. Residuals Management Program

1. Residuals Management Program for Land Application of Biosolids

The permittee is authorized to land apply bulk biosolids or prepare bulk biosolids for land application in accordance with the requirements established in R323.2401 through R323.2418 of the Michigan Administrative Code (Part 24 Rules). The permittee shall develop and implement a Residuals Management Program (RMP) to assure land applied bulk biosolids comply with the requirements of the Part 24 Rules Incineration, landfilling and other residual disposal activities shall be conducted in accordance with Part II.D.7. of this permit.

a. Program Development
On or before sixty (60) days following the date of permit modification, the permittee shall develop a RMP and submit the information required for the implementation of a RMP to the Plainwell District Supervisor of the Surface Water Quality Division. At a minimum, the program submittal shall include:

1) a description of the type and size of facility generating the biosolids;

2) a description of the biosolids treatment processes including the volume of biosolids generated from each process;

3) storage volume provided, if applicable;

4) transportation methods and spill prevention plan;

5) a description of the land application method;

6) a listing of the required information on all land application sites, information on initial application notifications required by R323.2408 and class B biosolids site restriction notifications, if applicable, specified in R323.2414(3)(f);

7) a land application plan which shows compliance with the applicable management requirements identified in R323.2410 and the loading rates and limitations as specified in R323.2408, R323.2409 and R323.2417;

8) a description of the pathogen reduction method used to comply with R323.2411, R323.2414 and R323.2418;

9) a description of the vector attraction reduction method used to comply with R323.2415; and

10) information on monitoring program, monitoring frequencies pursuant to R323.2412, and one year of records representing the volume and concentrations of pollutants in the biosolids.

b. RMP Implementation
The permittee shall implement the approved RMP immediately upon written approval from the Plainwell District Supervisor of the Surface Water Quality Division. Upon RMP approval, the permittee may land apply bulk biosolids and the approved RMP becomes an enforceable requirement of this permit.

c. Modifications to the Approved RMP
The permittee shall submit proposed modifications to its RMP to the Plainwell District Supervisor of the Surface Water Quality Division for approval. The approved modification shall become effective upon date of approval. Upon written notification, the District Supervisor may impose additional requirements and/or limitations to the approved RMP which are necessary to protect the public health and the environment from any adverse effect of a pollutant in the biosolids.

d Recordkeeping
Records required by R323.2413 shall be kept for a minimum of five years. However, the records documenting cumulative loading for sites subject to cumulative pollutant loading rates shall be kept as long as the site receives biosolids.

e. Annual Report
The permittee shall report the number of dry tons of biosolids generated that were applied to the land in the State of Michigan in the state fiscal year. The annual report shall include information required in R323.2413 (2)(h) and R323.2413 (3) to (8) except R323.2413 (6)(b), (7)(b), and (8)(b). The report shall be submitted to the District Supervisor of the Surface Water Quality Division on or before October 30 of each year.

PART II

Section A. Definitions

This list of definitions may include terms not applicable to this permit.

Acute toxic unit is 100 divided by the LC50 or 100 divided by the EC50 (with the LC50 or EC50 expressed as a percentage).

Chronic toxic unit is 100 divided by the MATC (with the MATC expressed as a percentage).

Daily maximum concentration is the sum of the concentrations of the individual samples of a parameter divided by the number of samples taken during any calendar day. If the parameter concentration in any sample is less than the detection limit, regard that value as zero when calculating the daily maximum concentration.

Daily maximum load is the total discharge by weight of a parameter discharged during any calendar day.

Daily minimum concentration is the minimum concentration of a parameter in any individual sample taken during any calendar day.

Jackson District Supervisor of the Surface Water Quality Division is located at the Jackson District Office, 301 East Louis Glick Highway, Jackson, Michigan 49201, telephone: 517-780-7900 (fax: 517-780-7855).

Division of Environmental Health, Michigan Department of Public Health mailing address is P.O. Box 30195, Lansing, Michigan 48909.

Division of Health Facility Development, Michigan Department of Public Health mailing address is P.O. Box 30195, Lansing, Michigan 48909.

EC50 (median effect concentration) is the concentration of the effluent predicted by the acute toxicity test results to produce an adverse effect in 50% of the test organism population in a given time interval.

Fecal coliform bacteria monthly (30-day) average is the geometric mean of the samples collected in a calendar month.

Fecal coliform bacteria 7-day average is the geometric mean of the samples collected in any 7-day period.

Flow Proportioned sample is a composite sample with the sample volume proportional to the effluent flow.

Grab sample is a single sample taken at neither a set time nor flow.

Interference is a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:
1) inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
2) therefore, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or, of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act. [This definition does not apply to sample matrix interference.]

LC50 (median lethal concentration) is the concentration of the effluent predicted by the acute toxicity test results to kill 50% of the test organism population in a given time interval.

MATC is the maximum acceptable toxicant concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic toxicity test.

PART II

Section A. Definitions

Monthly (30-day) average concentration is the sum of the concentrations of the individual samples divided by the number of samples taken during a reporting month. If the parameter concentration in any sample is less than the detection limit, regard that value as zero when calculating monthly average concentration.

Monthly (30-day) average load is the sum of the daily maximum loads of a parameter divided by the number of daily maximum loads in the reporting month. If the parameter concentration in any sample is less than the detection limit, regard that value as zero when calculating monthly average load.

National Pretreatment Standards are the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Federal Act. The standards establish nationwide limits for specific industrial categories for discharge to a POTW.

Noncontact Cooling Water is water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

Nondomestic user is any discharger to a POTW that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

Pretreatment is reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

POTW is a publicly owned treatment works.

Regional Administrator is the Region V Administrator, U.S. EPA, located at R-16J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

7-day average concentration is the sum of the concentrations of the individual samples divided by the number of samples taken during any 7 consecutive days in a calendar month. If the parameter concentration in any sample is less than the detection limit, regard that value as zero when calculating the 7-day average concentration.

7-day average load is the sum of the weights of parameters discharged divided by the number of samples taken during any 7 consecutive days in a calendar month. If the parameter concentration in any sample is less than the detection limit, regard that value as zero when calculating the 7-day average load.

Significant industrial user is a nondomestic user that: 1) is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or 2) discharges an average of 25,000 gallons per day or more of process wastewater to a POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the permittee as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's treatment plant operation or violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

3-Portion Composite sample is a sample consisting of three equal volume grab samples collected at equal intervals over an 8 hour period.

24-Hour Composite sample is a flow proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period.

PART II

Section B. Monitoring Procedures

1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Federal Act (40 CFR Part 136 - Guidelines Establishing Test Procedures for the Analysis of Pollutants). For parameters not specified in the permit or covered by the regulations, test procedures shall be submitted for approval to the Jackson District Supervisor of the Surface Water Quality Division.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control/Quality Assurance program.

3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Michigan Department of Environmental Quality.

PART II

Section C. Reporting Requirements

1. Start-up Notification

If the permittee will not discharge during the first 60 days following the effective date of this permit, the permittee shall notify the Jackson District Supervisor of the Surface Water Quality Division within 14 days, and then 60 days prior to the commencement of the discharge.

2. DMR Submittal Requirements

Unless instructed on the effluent limits page to conduct retained self-monitoring, the permittee shall submit Discharge Monitoring Report (DMR) forms to the PCS Unit, Surface Water Quality Division, Michigan Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan, 48909-7773, for each calendar month of the authorized discharge period(s). The DMRs shall be postmarked no later than the 10th day of the month following each month of the authorized discharge period(s).

3. Retained Self-Monitoring Requirements

If instructed on the effluent limits page to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and provide such log for inspection to the staff of the Surface Water Quality Division, Michigan Department of Environmental Quality; or for mobile home parks, campgrounds, marinas and schools: Environmental Health Services Division, Michigan Department of Public Health; Northern Peninsula Division, Michigan Department of Public Health; or for hospitals, nursing homes and extended care facilities: Division of Health Facility Licensing & Certification, Michigan Department of Public Health upon request. Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Jackson District Supervisor of the Surface Water Quality Division, Department of Environmental Quality on or before January 10th of each year, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the flow rate(s) (if part of retained self-monitoring results) from all outfalls have been substantially the same as the flow rate(s) authorized by this permit, or if the flow rate(s) (if part of retained self-monitoring results) is (are) substantially different from the flow rate(s) authorized by this permit, the reasons for the difference in flow rates.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a written notification to the Jackson District Supervisor of the Surface Water Quality Division indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

PART II

Section C. Reporting Requirements

6. Noncompliance Notification

Compliance with all requirements set forth in the Federal Act, Parts 31 and 41 of the Michigan Act, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

a. 24-hour reporting - Any noncompliance which may endanger health or the environment (including daily maximum discharge limitation exceedances) shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five (5) days.

b. other reporting - The permittee shall report, in writing, all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring, within five (5) days from the time the permittee becomes aware of the noncompliance.

Written reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

7. Spill Notification

The permittee shall immediately report any spill or loss of any product, by-product, intermediate product, oils, solvents, waste material, or any other polluting substance which occurs to the surface waters or groundwaters of the state by calling the Department of Environmental Quality's 24-hour Emergency Response telephone number, 1-800-292-4706 (calls from out-of-state dial 1-517-373-8166); and within ten (10) days of the spill or loss, the permittee shall submit to the Jackson District Supervisor of the Surface Water Quality Division a full written explanation as to the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken, and schedule of implementation.

8. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset shall notify the Jackson District Supervisor of the Surface Water Quality Division by telephone within 24 hours of becoming aware of such conditions; and within five (5) days, provide in writing, the following information:

a. that an upset occurred and that the permittee can identify the specific cause(s) of the upset;

b. that the permitted wastewater treatment facility was, at the time, being properly operated; and

c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

PART II

Section C. Reporting Requirements

9. Bypass Prohibition and Notification

a. Bypass Prohibition - Bypass is prohibited unless:

1) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and

(3) the permittee submitted notices as required under 9.b. or 9.c. below.

b. Notice of Anticipated Bypass - If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Jackson District Supervisor of the Surface Water Quality Division, if possible at least ten days before the date of the bypass, and provide information about the anticipated bypass as required by the Jackson District Supervisor. The Jackson District Supervisor may approve an anticipated bypass, after considering its adverse effects, if it will meet the three conditions listed in 9.a. above.

c. Notice of Unanticipated Bypass - The permittee shall submit notice to the Jackson District Supervisor of the Surface Water Quality Division of an unanticipated bypass by telephone at 517-780-7900 (if the notice is provided after regular working hours, use the following number: 1-800-292-4706) as soon as possible, but no later than 24 hours from the time the permittee becomes aware of the circumstances.

d. Written Report of Bypass - A written submission shall be provided within five (5) working days of commencing any bypass to the Jackson District Supervisor of the Surface Water Quality Division, and at additional times as directed by the Jackson District Supervisor. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Jackson District Supervisor.

e. Bypass Not Exceeding Limitations - The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.10. of this permit.

f. Definitions

(1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

PART II

Section C. Reporting Requirements

10. Changes in Discharge

The permittee shall notify the Jackson District Supervisor of the Surface Water Quality Division, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register or priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information (The detectable level shall be defined as the Method Detection Limit (MDL) as given in Appendix B to Part 136, Federal Register, Vol. 49, No. 209, October 26, 1984, pp. 43430-31.); or 3) any chemical at levels greater than five times the average level reported in the application submitted on March 30, 1995. Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

11. Changes in Facility Operations

Any anticipated facility expansion, production increases, or process modification which will result in new, different, or increased discharges of pollutants must be reported by submission of a new application to the Jackson District Supervisor of the Surface Water Quality Division or, by notice to the Jackson District Supervisor if the following conditions are met: 1) the changes will not result in the discharge of wastewater not currently authorized or at volumes greater than currently authorized by this permit; 2) the changes will not violate the effluent limitations specified in this permit; and 3) the changes will not require notification pursuant to Part II.C.10. Following such notice, the permit may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

12. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Jackson District Supervisor of the Surface Water Quality Division 30 days prior to the actual transfer of ownership or control.

PART II

Section D. Management Responsibilities

1. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the Michigan Act and/or the Federal Act and constitutes grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of an application for permit renewal.

2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Michigan Department of Environmental Quality, as required by Sections 3110 and 4104 of the Michigan Act.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

4. Power Failures

In order to maintain compliance with the effluent limitations of this permit and prevent unauthorized discharges, the permittee shall either:

a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit; or

b. upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials in accordance with the requirements of the Part 5 Rules (Rules 323.1151 through 323.1169 of the Michigan Administrative Code). For a POTW, these facilities shall be approved under Part 41 of the Michigan Act.

PART II

Section D. Management Responsibilities

7. Waste Treatment Residues

Solids, sludges, biosolids, filter backwash, scrubber water or other pollutants resulting from treatment or control of wastewaters shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

8. Right of Entry

The permittee shall allow the Michigan Department of Environmental Quality, any agent appointed by the Department or the Regional Administrator, upon the presentation of credentials:

a. to enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring equipment or monitoring method required in this permit and to sample any discharge of pollutants.

9. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Act and Rule 2128 (Rule 323.2128 of the Michigan Administrative Code), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Federal Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Act and Sections 3112, 3115, 4106 and 4110 of the Michigan Act.

PART II

Section E. Activities Not Authorized by This Permit

1. Discharge to the Groundwaters

This permit does not authorize any discharge to the groundwaters. Such discharge must be authorized by a groundwater discharge permit issued pursuant to the Michigan Act.

2. Facility Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction for a POTW must be by permit issued under Part 41 of the Michigan Act. Approval for such construction for a mobile home park, campground, hospital, nursing home or marina shall be from the Michigan Department of Public Health.

3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.9. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, such as accidents, equipment breakdowns, or labor disputes.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Federal Act except as are exempted by federal regulations.

5. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Federal Act.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits or approvals from other units of government as may be required by law.

STATE OF MICHIGAN

JOHN ENGLER, Governor

DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"

HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

REPLY TO:

SURFACE WATER QUALITY DIVISION
KNAPPS CENTRE
PO BOX 30273
LANSING MI 48909-7773

August 1, 2001

CERTIFIED MAIL --7000 0520 0016 5014 3169

Ms. Deborah Owens, Clerk
City of Battle Creek
P.O. Box 1717
Battle Creek, Michigan 49016-1717

Dear Ms. Owens:

SUBJECT: NPDES Permit No. MI0022276 -- Battle Creek WWTP, 2000 West River Road, Battle Creek

Your National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate state and federal regulations. It contains the requirements necessary for you to comply with state and federal water pollution control laws.

REVIEW THE PERMIT EFFLUENT LIMITS AND COMPLIANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. Permit violations are audited by the Michigan Department of Environmental Quality and the United States Environmental Protection Agency and may appear in a published quarterly noncompliance report made available to agencies and the public.

Your monitoring and reporting responsibilities must be complied with in accordance with this permit. If applicable, Discharge Monitoring Report forms will be transmitted to you in the near future. These reports are to be submitted monthly or otherwise as required by your NPDES permit.
Any reports, notifications, or questions regarding the attached permit or NPDES program should be directed to the following address:

Mr. Frederick Morley, District Supervisor
Kalamazoo District Office, SWQD, DEQ
7953 Adobe Road
Kalamazoo, Michigan 49009-5026
Telephone: 616-567-3500

Sincerely,

William E McCracken pq

William E. McCracken, P.E.
Chief, Permits Section
Surface Water Quality Division
517-373-8088

Attachment: Permit
cc: EPA-Region 5
208 Agency – Southcentral Michigan Regional Planning Commission
Wastewater Treatment Facility Superintendent
Mr. Frederick Morley, Kalamazoo District Supervisor, SWQD (2)
PCS Unit, SWQD
Point Source Studies (Grand Rapids District Office), SWQD
Industrial Pretreatment Program Unit, SWQD
Files

RECEIVED

AUG 0 8 2001

WASTEWATER TREATMENT PLANT

PERMIT NO. MI0022276

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Federal Act"), Michigan Act 451, Public Acts of 1994, as amended (the "Michigan Act"), Parts 31 and 41, and Michigan Executive Orders 1991-31, 1995-4 and 1995-18,

City of Battle Creek

is authorized to discharge from the Battle Creek wastewater treatment plant located at

2000 West River Road
Battle Creek, Michigan 49015

designated as Battle Creek WWTP

to the receiving water named the Kalamazoo River in accordance with effluent limitations, monitoring requirements and other conditions set forth in this permit.

This permit takes effect on November 1, 2001. Any person who is aggrieved by this permit may file a sworn petition with the Office of Administrative Hearings of the Michigan Department of Environmental Quality, setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department may reject any petition filed more than 60 days after issuance as being untimely. If any condition of this permit is administratively challenged, the entire challenged permit is stayed and the previous permit will remain in effect until the Department takes final action after the Administrative Hearing.

This permit and the authorization to discharge shall expire at midnight, October 1, 2005. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit an application which contains such information and forms as are required by the Michigan Department of Environmental Quality to the Kalamazoo District Supervisor of the Surface Water Quality Division by April 1, 2005.

In accordance with R323.2416 of the Michigan Administrative Code, an annual biosolids land application fee shall be paid by each biosolids generator that land applies biosolids. Remittance of the fee to the Department by the permittee shall be postmarked no later than January 31 of each year.

This permit is based on a complete application submitted on May 4, 2000. The provisions of this permit are severable. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term in accordance with applicable laws and rules. On its effective date this permit shall supersede NPDES Permit No. MI0022276, expiring October 1, 2000.

Issued July 25, 2001.

William E. McCracken
Chief, Permits Section
Surface Water Quality Division

PART I

Section A. Limitations and Monitoring Requirements

1. Final Effluent Limitations, Monitoring Point 001A

During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge treated municipal wastewaters from the Battle Creek wastewater treatment plant from Monitoring Point 001A through Outfall 001 to the Kalamazoo River. Such discharges shall be limited and monitored by the permittee as follows:

	Maximum Limits for Quantity or Loading				Maximum Limits for Quality or Concentration				Frequency	Sample
Parameter	Monthly	7-Day	Daily	Units	Monthly	7-Day	Daily	Units	of Analysis	Type
Flow	(report)	---	(report)	MGD	---	---	---	---	Daily	Report Total Daily Flow
Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)										
May 1 – Sept. 30	3000	4500	---	lbs/day	20	---	30	mg/l	Daily	24-Hr Composit
Oct. 1 – April 30	3800	6000	---	lbs/day	25	40	---	mg/l	Daily	24-Hr Composit
Total Suspended Solids										
All Year	4500	6800	---	lbs/day	30	45	---	mg/l	Daily	24-Hr Composit
Ammonia Nitrogen (as N)										
May 1 – Sept. 30	300	---	---	lbs/day	2	---	---	mg/l	Daily	24-Hr Composit
Oct. 1 – April 30	980	---	---	lbs/day	6.5	---	---	mg/l	Daily	24-Hr Composit
Total Phosphorus (as P) (see Part I.A.1.e.)	150	---	---	lbs/day	1.0	---	---	mg/l	Daily	24-Hr Composit
Total Mercury	---	---	---	lbs/day	---	---	(report)	ng/l	Monthly	Grab
Fecal Coliform Bacteria	---	---	---	---	200	400	---	cts/100 ml	Daily	Grab
Total Residual Chlorine	---	---	---	---	---	---	0.038	mg/l	Daily	Grab
					Minimum Monthly					
$CBOD_5$ Minimum % Removal										
Oct. 1 – April 30	---	---	---	---	85	---	---	%	Monthly	Calculation
Total Suspended Solids Minimum % Removal										
All Year	---	---	---	---	85	---	---	%	Monthly	Calculation
					Minimum Daily		Maximum Daily			
pH	---	---	---	---	6.5	---	9.0	S.U.	Daily	Grab
Dissolved Oxygen	---	---	---	---	4.0	---	---	mg/l	Daily	Grab

The following design flow was used in determining the above limitations, but is not to be considered a limitation or actual capacity: 18 MGD

PART I

Section A. Limitations and Monitoring Requirements

a. Narrative Standard
The receiving water shall contain no unnatural turbidity, color, oil films, floating solids, foams, settleable solids, or deposits as a result of this discharge.

b. Sampling Locations
Samples for $CBOD_5$, Total Suspended Solids, Ammonia Nitrogen and Total Phosphorus shall be taken prior to disinfection. Samples for Dissolved Oxygen, Fecal Coliform Bacteria, Total Residual Chlorine and pH shall be taken after disinfection. The Kalamazoo District Supervisor of the Surface Water Quality Division may approve alternate sampling locations which are demonstrated by the permittee to be representative of the effluent.

c. Total Residual Chlorine
Compliance with the Total Residual Chlorine limit shall be determined on the basis of one or more grab samples. If more than one (1) sample per day is taken, the additional samples shall be collected in near equal intervals over at least eight (8) hours. The samples shall be analyzed immediately upon collection and the average reported as the daily concentration. EPA Method 330.1 or the Orion 97-70 electrode shall be used for analysis.

d. Percent Removal Requirements
These requirements shall be calculated based on the monthly (30-day) effluent $CBOD_5$ and Total Suspended Solids concentrations and the monthly influent concentrations for approximately the same period.

e. Reduction of Total Phosphorus in the Kalamazoo River/Lake Allegan Watershed
The Department has developed a Total Maximum Daily Load (TMDL) for Total Phosphorus in Lake Allegan. The TMDL is established to protect Lake Allegan from high nutrient levels which has resulted in violations of water quality standards. In addition to establishing the TMDL, the Department is signatory to a "Cooperative Agreement to Meet Total Maximum Daily Load (TMD) for Phosphorus" (cooperative agreement). Signatories to the cooperative agreement include point source dischargers of phosphorus and other stakeholders including nonpoint source contributors. The signatories to the cooperative agreement have agreed to participate with other point and nonpoint contributors in the watershed to reduce phosphorus as necessary to meet the goals of the TMDL. This will be accomplished by the development of phosphorus reduction implementation plans and other activities as specified in the cooperative agreement.

If it is determined that commitments under the cooperative agreement are not met, this permit may be modified to include the appropriate phosphorus requirements in accordance with applicable laws and rules.

f. Total Mercury Testing Requirements
The analytical protocol for total mercury shall be in accordance with EPA Method 1631, Revision C, "Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry". The quantification level for total mercury shall be 0.5 ng/l, unless a higher level is appropriate because of sample matrix interference. Justification for higher quantification levels shall be submitted to the Kalamazoo District Supervisor of the Surface Water Quality Division.

The use of clean technique sampling procedures is strongly recommended. Guidance for clean technique sampling is contained in: EPA Method 1669, *Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels (Sampling Guidance)*, EPA-821-R96-001, July 1996. Information and data documenting the permittee's sampling and analytical protocols and data acceptability shall be submitted to the Department upon request.

On or before November 1, 2002, the permittee shall submit to the Kalamazoo District Supervisor a report summarizing the mercury monitoring data. The Department will review the report using the reasonable potential process described in R 323.1211 of the Michigan Administrative Code to determine if there is a reasonable potential for the Water Quality Standard of 1.3 ng/l of total mercury to be exceeded in the effluent.

1) If it is determined that the effluent has a reasonable potential to exceed 1.3 ng/l of total mercury, and upon written notification by the Kalamazoo District Supervisor, the permittee shall implement the Pollutant Minimization Program for Total Mercury contained in Part I.A.2. of this permit. The permittee shall submit to the Kalamazoo District Supervisor an approvable Pollutant Minimization Program within 180 days of the written notification.

PART I

Section A. Limitations and Monitoring Requirements

2) If it is determined that the effluent does not have a reasonable potential to exceed 1.3 ng/l of total mercury, upon receipt of written approval and consistent with such approval, the permittee may reduce the monitoring frequency or eliminate monitoring for total mercury indicated in Part I.A.3. of this permit. The Kalamazoo District Supervisor may revoke the approval for reduced monitoring at any time upon notification to the permittee.

g. Water Quality Trading
The permittee may participate in Michigan's Water Quality Trading Program in accordance with applicable laws and rules.

2. Pollutant Minimization Program for Total Mercury

This condition is required only upon written notification by the Kalamazoo District Supervisor, as specified in Part I. A.f.1). The goal of the Pollutant Minimization Program is to maintain the effluent concentration of total mercury at or below 1.3 ng/l. The permittee shall develop and implement a Pollutant Minimization Program in accordance with the following schedule:

The permittee shall submit to the Kalamazoo District Supervisor of the Surface Water Quality Division an approvable Pollutant Minimization Program for mercury designed to proceed toward the goal. The Pollutant Minimization Program shall include the following:

a. an annual review and semi-annual monitoring of potential sources of mercury entering the wastewater collection system;

b. a program for quarterly monitoring of influent and periodic monitoring of sludge for mercury; and

c. implementation of reasonable cost-effective control measures when sources of mercury are discovered. Factors to be considered include significance of sources, economic considerations, and technical and treatability considerations.

The Pollutant Minimization Program shall be implemented upon approval by the Kalamazoo District Supervisor.

On or before March 31 of each year following approval of the Pollutant Minimization Program, the permittee shall submit a status report for the previous calendar year to the Kalamazoo District Supervisor that includes 1) the monitoring results for the previous year, 2) an updated list of potential mercury sources, and 3) a summary of all actions taken to reduce or eliminate identified sources of mercury.

Any information generated as a result of the Pollutant Minimization Program set forth in this permit may be used to support a request to modify the approved program or to demonstrate that the Pollutant Minimization Program requirement has been completed satisfactorily.

A request for modification of the approved program and supporting documentation shall be submitted in writing to the Kalamazoo District Supervisor for review and approval. The Kalamazoo District Supervisor may approve modifications to the approved program (approval of a program modification does not require a permit modification).

The permittee may choose to demonstrate that the program is complete and request removal of the program from the permit. Such request and supporting documentation demonstrating that the goal is being achieved shall be submitted in writing to the Kalamazoo District Supervisor. If the Kalamazoo District Supervisor determines that the request is approvable, this permit may be modified in accordance with applicable laws and rules to remove this requirement.

This permit may be modified in accordance with applicable laws and rules to include additional mercury conditions and/or limitations as necessary.

PART I

Section A. Limitations and Monitoring Requirements

3. Additional Monitoring Requirements

As a condition of this permit, the permittee shall monitor the discharge from monitoring point 001A for the constituents listed below. This monitoring is an application requirement of 40 CFR 122.21(j), effective December 2, 1999. Testing shall be conducted in September, 2002, July, 2003, May, 2004, and March, 2005. Grab samples shall be taken for total mercury, cyanide amenable to chlorination, total phenols, and parameters listed under Volatile Organic Compounds. For all other parameters, 24-hour composite samples shall be taken.

Test species for whole effluent toxicity monitoring shall include fathead minnow **and** *Ceriodaphnia dubia.* Testing and reporting procedures shall follow procedures contained in EPA/600/4-91/002, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms". When the effluent ammonia nitrogen (as N) concentration is greater than 3 mg/l, the pH of the toxicity test shall be maintained at a pH of 8 Standard Units.

The test reports shall be submitted with the Discharge Monitoring Report (DMR) for the month following testing. Acute and chronic toxicity data shall be included in the reporting for the toxicity test results. For acute toxicity, the maximum value of any test shall be reported on the DMRs. Acute toxicity results shall not be averaged. For chronic toxicity, the greater value of the two species shall be reported on the DMRs. If multiple chronic toxicity tests for the same species are performed during the month, the monthly average value shall be determined for each species and the greater value shall be reported. Report acute toxicity in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs. Report chronic toxicity in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMRs. Toxicity test data acceptability is contingent upon the validation of the test method by the testing laboratory. Such validation shall be submitted to the Department upon request.

If, upon review of the analysis, it is determined that any of the materials or constituents require limiting in accordance with applicable Water Quality Standards, the permit may then be modified by the Michigan Department of Environmental Quality in accordance with applicable laws and rules.

Whole Effluent Toxicity
acute toxicity
chronic toxicity

Hardness
calcium carbonate

Metals (Total Recoverable), Cyanide and Total Phenols (Quantification levels in parentheses)

antimony (1 µg/l)	arsenic (1 µg/l)	beryllium (1 µg/l)
cadmium (0.2 µg/l)	chromium (5 µg/l)	copper (1 µg/l)
lead (1µg/l)	mercury (0.5 ng/l)	nickel (2 µg/l)
selenium (1 µg/l)	silver (0.5 µg/l)	thallium (2 µg/l)
zinc (5 µg/l)		
cyanide amenable to chlorination (5 µg/l)		
total phenolic compounds		

Volatile Organic Compounds

acrolein	acrylonitrile	benzene
bromoform	carbon tetrachloride	chlorobenzene
chlorodibromomethane	chloroethane	2-chloroethylvinyl ether
chloroform	dichlorobromomethane	1,1-dichloroethane
1,2-dichloroethane	trans-1,2-dichloroethylene	1,1-dichloroethylene
1,2-dichloropropane	1,3-dichloropropylene	ethylbenzene
methyl bromide	methyl chloride	methylene chloride
1,1,2,2,-tetrachloroethane	tetrachloroethylene	toluene
1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene
vinyl chloride		

PART I

Section A. Limitations and Monitoring Requirements

Acid-Extractable Compounds

p-chloro-m-creso	2-chlorophenol	2,4-dichlorophenol
2,4-dimethylphenol	4,6-dinitro-o-cresol	2,4-dinitrophenol
2-nitrophenol	4-nitrophenol	pentachlorophenol
phenol	2,4,6-trichlorophenol	

Base/Neutral Compounds

acenaphthene	acenaphthylene	anthracene
benzidine	benzo(a)anthracene	benzo(a)pyrene
3,4-benzofluoranthene	benzo(ghi)perylene	benzo(k)fluoranthene
bis(2-chloroethoxy)methane	bis(2-chloroethyl)ether	bis(2-chloroisopropyl)ether
bis(2-ethylhexyl)phthalate	4-bromophenyl phenyl ether	butyl benzyl phthalate
2-chloronaphthalene	4-chlorophenyl phenyl ether	chrysene
di-n-butyl phthalate	di-n-octyl phthalate	dibenzo(a,h)anthracene
1,2-dichlorobenzene	1,3-dichlorobenzene	1,4-dichlorobenzene
3,3'-dichlorobenzidine	diethyl phthalate	dimethyl phthalate
2,4-dinitrotoluene	2,6-dinitrotoluene	1,2-diphenylhydrazine
fluoranthene	fluorene	hexachlorobenzene
hexachlorobutadiene	hexachlorocyclo-pentadiene	hexachloroethane
indeno(1,2,3-cd)pyrene	isophorone	naphthalene
nitrobenzene	n-nitrosodi-n-propylamine	n-nitrosodimethylamine
n-nitrosodiphenylamine	phenanthrene	pyrene
1,2,4-trichlorobenzene		

Preventing Pollution is the Best Solution

The Michigan Department of Environmental Quality (DEQ) encourages you to consider pollution prevention alternatives. In some cases pollution prevention may allow you to avoid the need to discharge pollutants which would otherwise require permit limitations -- or even avoid the need for permits altogether! Pollution prevention can:

- ☑ Save Money
- ☑ Reduce Waste
- ☑ Aid Permit Compliance
- ☑ Protect Our Environment
- ☑ Improve Corporate Image
- ☑ Reduce Liability

The DEQ is helping Michigan's industries save money, reduce waste and protect our environment through pollution prevention. DEQ staff can provide pollution prevention assistance through telephone consultations, technical workshops and seminars, and informational publications. They can also put you directly in touch with local support networks and national pollution prevention resources. For more information, contact the Michigan Department of Environmental Quality, Environmental Assistance Division, at 1-800-662-9278 or visit our homepage at http://www.deq.state.mi.us

PART I

Section B. Schedule of Compliance

This section (Section B: Schedule of Compliance) is not needed for this permit.

PART I

Section C. Industrial Waste Pretreatment Program

1. Federal Industrial Pretreatment Program

a. The permittee shall implement the Federal Industrial Pretreatment Program approved on September 20, 1985, and modifications thereto, which upon approval are incorporated as enforceable requirements of this permit.

b. The permittee shall comply with Rules 323.2301 through 323.2317 of the Michigan Administrative Code (Part 23 Rules), the General Pretreatment Regulations for Existing and New Sources of Pollution (40 CFR Part 403), and the approved Federal Industrial Pretreatment Program.

c. The permittee shall have the legal authority and necessary interjurisdictional agreements that provide the basis for the implementation and enforcement of the approved Federal Industrial Pretreatment Program throughout the service area. The legal authority and necessary interjurisdictional agreements shall include, at a minimum, the authority to carry out the activities specified in Rule 323.2306(a).

d. The permittee shall develop procedures which describe, in sufficient detail, program commitments which enable implementation of the approved Federal Industrial Pretreatment Program, 40 CFR Part 403, and the Part 23 Rules in accordance with Rule 323.2306(c).

e. The permittee shall establish an interjurisdictional agreement (or comparable document) with all tributary governmental jurisdictions. Each interjurisdictional agreement shall contain, at a minimum, the following:

1) identification of the agency responsible for the implementation and enforcement of the approved Federal Industrial Pretreatment Program within the tributary governmental jurisdiction's boundaries; and

2) the provision of the legal authority which provides the basis for the implementation and enforcement of the approved Federal Industrial Pretreatment Program within the tributary governmental jurisdiction's boundaries.

f. The permittee shall prohibit discharges that:

1) cause, in whole or in part, the permittee's failure to comply with any condition of this permit or the Michigan Act;

2) restrict, in whole or in part, the permittee's management of biosolids;

3) cause, in whole or in part, operational problems at the treatment facility or in its collection system;

4) violate any of the general or specific prohibitions identified in Rule 323.2303(1) and (2);

5) violate categorical standards identified in Rule 323.2311; and

6) violate local limits established in accordance with Rule 323.2303(4).

g. The permittee shall maintain a list of its nondomestic users that meet the criteria of a significant industrial user as identified in Rule 323.2302(cc).

h. The permittee shall develop an enforcement response plan which describes, in sufficient detail, program commitments which will enable the enforcement of the approved Federal Industrial Pretreatment Program, 40 CFR Part 403, and the Part 23 Rules in accordance with Rule 323.2306(g).

i. The District Supervisor of the Surface Water Quality Division may require modifications to the approved Federal Industrial Pretreatment Program which are necessary to ensure compliance with 40 CFR Part 403 and the Part 23 Rules in accordance with Rule 323.2309.

PART I

Section C. Industrial Waste Pretreatment Program

j. The permittee shall not implement changes or modifications to the approved Federal Industrial Pretreatment Program without notification to the District Supervisor of the Surface Water Quality Division. Any substantial modification shall be subject to Department public noticing and approval in accordance with Rule 323.2309.

k. The permittee shall maintain an adequate revenue structure and staffing level for effective implementation of the approved Federal Industrial Pretreatment Program.

l. The permittee shall develop and maintain, for a minimum of three (3) years, all records and information necessary to determine nondomestic user compliance with 40 CFR Part 403, Part 23 Rules and the approved Federal Industrial Pretreatment Program. This period of retention shall be extended during the course of any unresolved enforcement action or litigation regarding a nondomestic user or when requested by the Department or the United States Environmental Protection Agency. All of the aforementioned records and information shall be made available upon request for inspection and copying by the Department and the United States Environmental Protection Agency.

m. The permittee shall evaluate the approved Federal Industrial Pretreatment Program for compliance with the 40 CFR Part 403, Part 23 Rules and the prohibitions stated in item f (above). Based upon this evaluation, the permittee shall propose to the District Supervisor of the Surface Water Quality Division all necessary changes or modifications to the approved Federal Industrial Pretreatment Program no later than the next Industrial Pretreatment Program Annual Report due date (see item o below).

n. The permittee shall develop and enforce local limits to implement the prohibitions listed in item f above. Local limits shall be based upon data representative of actual conditions demonstrated in a maximum allowable headworks loading analysis.

o. On or before April 1st of each year, the permittee shall submit, as required by Rule 323.2310(8) an Industrial Pretreatment Program Annual Report on the status of program implementation and enforcement activities. The reporting period shall begin on January 1st and end on December 31st. The Industrial Pretreatment Program Annual Report shall be submitted to the District Supervisor of the Surface Water Quality Division and may be submitted on forms provided by the Department. At a minimum, the Industrial Pretreatment Program Annual Report shall contain the following items:

1) additions, deletions, and any other modifications to the permittee's previously submitted nondomestic user inventory (Rule 323.2306(c)(i));

2) additions, deletions, and any other modifications to the permittee's approved Significant Industrial User List (Rule 323.2306(h));

3) a listing of the names of Significant Industrial Users not inspected by the permittee at least once during the reporting period or at the frequency committed to in the approved Federal Industrial Pretreatment Program;

4) a listing of the names of Significant Industrial Users not sampled for all required pollutants by the permittee at least once during the reporting period or at the frequency committed to in the approved Federal Industrial Pretreatment Program;

5) a listing of the names of Significant Industrial Users without a permit at any time during the reporting period;

6) a listing of the names of nondomestic industrial users in significant noncompliance for each of the criteria as defined in Rule 323.2302(dd)(i)-(viii);

7) proof of publication of all nondomestic users in significant noncompliance in the largest daily newspaper in the permittee's area;

PART I

Section C. Industrial Waste Pretreatment Program

8) a summary of the enforcement activities by the permittee during the report period. This Summary shall include:

a) a listing of the names of nondomestic users which were the subject of an enforcement action;

b) the enforcement action taken and the date the action was taken; and

c) whether the nondomestic user returned to compliance by the end of the reporting period (include date nondomestic user returned to compliance).

9) a listing of the names of Significant Industrial Users who did not submit pretreatment reports in accordance with requirements specified in their permit during the reporting period;

10) a listing of the names of Significant Industrial Users who did not self-monitor in accordance with requirements specified in their permit during the reporting period;

11) a summary of results of all the sampling and analyses performed of the wastewater treatment influent, effluent, and sludge conducted in accordance with approved methods during the reporting period; and

12) any other relevant information as requested by the Department.

PART I

Section D. Residuals Management Program

1. Residuals Management Program for Land Application of Biosolids

The permittee is authorized to land apply bulk biosolids or prepare bulk biosolids for land application in accordance with the requirements established in R323.2401 through R323.2418 of the Michigan Administrative Code (Part 24 Rules). The permittee has developed and implemented a Residuals Management Program (RMP) which complies with the requirements of the Part 24 Rules. Incineration, landfilling and other residual disposal activities shall be conducted in accordance with Part II.D.7. of this permit.

The permittee shall continue to implement the Residuals Management Program approved on (PENDING), and modifications thereto. The permittee shall certify that current residuals management practices are in accordance with the approved RMP, or propose modifications to the approved RMP. The program certification or proposed modifications shall be submitted to the Kalamazoo District Supervisor of the Surface Water Quality Division on or before November 1, 2001. The approved RMP, and any modifications thereto, are enforceable requirements of this permit.

a. Residuals Management Program Description
At a minimum, the program includes:

1) a description of the type and size of facility generating the biosolids;
2) a description of the biosolids treatment processes including the volume of biosolids generated from each process;
3) storage volume provided, if applicable;
4) transportation methods and spill prevention plan;
5) a description of the land application method;
6) a listing of the required information on all land application sites, information on initial application notifications required by R323.2408 and class B biosolids site restriction notifications, if applicable, as specified in R323.2414(3)(f);
7) a land application plan which shows compliance with the applicable management requirements identified in R323.2410 and the loading rates and limitations as specified in R323.2408, R323.2409 and R323.2417;
8) a description of the pathogen reduction method used to comply with R323.2411, R323.2414 and R323.2418;
9) a description of the vector attraction reduction method used to comply with R323.2415; and
10) information on monitoring program, monitoring frequencies pursuant to R323.2412, and one year of records representing the volume and concentrations of pollutants in the biosolids.

b. Modifications to the Approved RMP
The permittee shall submit proposed modifications to its RMP to the Kalamazoo District Supervisor of the Surface Water Quality Division for approval. The approved modification shall become effective upon the date of approval. Upon written notification, the Kalamazoo District Supervisor may impose additional requirements and/or limitations to the approved RMP, as necessary to protect public health and the environment from any adverse effect of a pollutant in the biosolids.

c. Recordkeeping
Records required by R323.2413 shall be kept for a minimum of five years. However, the records documenting cumulative loading for sites subject to cumulative pollutant loading rates shall be kept as long as the site receives biosolids.

d. Annual Report
The permittee shall report the number of dry tons of biosolids generated that were applied to the land in the State of Michigan in the state fiscal year (October 1 through September 30). The annual report shall include information required in R323.2413(2)(h) and R323.2413 (3) to (8), except R323.2413 (6)(b), (7)(b), and (8)(b). The report shall be submitted to the Kalamazoo District Supervisor of the Surface Water Quality Division on or before October 30 of each year.

PART II

Section A. Definitions

This list of definitions may include terms not applicable to this permit.

Acute toxic unit (TU_a) means $100/LC_{50}$ where the LC_{50} is determined from a whole effluent toxicity (WET) test which produces a result that is statistically or graphically estimated to be lethal to 50% of the test organisms.

Bioaccumulative chemical of concern (BCC) means a chemical which, upon entering the surface waters, by itself or as its toxic transformation product, accumulates in aquatic organisms by a human health bioaccumulation factor of more than 1000 after considering metabolism and other physiochemical properties that might enhance or inhibit bioaccumulation. The human health bioaccumulation factor shall be derived according to R 323.1057(5). Chemicals with half-lives of less than 8 weeks in the water column, sediment, and biota are not BCCs. The minimum bioaccumulation concentration factor (BAF) information needed to define an organic chemical as a BCC is either a field-measured BAF or a BAF derived using the biota-sediment accumulation factor (BSAF) methodology. The minimum BAF information needed to define an inorganic chemical as a BCC, including an organometal, is either a field-measured BAF or a laboratory-measured bioconcentration factor (BCF). The BCCs to which these rules apply are identified in Table 5 of R 323.1057 of the Water Quality Standards.

Biosolids are the solid, semisolid, or liquid residues generated during the treatment of sanitary sewage or domestic sewage in a treatment works. This includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes and a derivative of the removed scum or solids.

Bulk biosolids means biosolids that are not sold or given away in a bag or other container for application to a lawn or home garden.

Chronic toxic unit (TU_c) means 100/MATC or $100/IC_{25}$, where the maximum acceptable toxicant concentration (MATC) and IC_{25} are expressed as a percent effluent in the test medium.

Class B Biosolids refers to material that has met the Class B pathogen reduction requirements or equivalent treatment by a Process to Significantly Reduce Pathogens (PSRP) in accordance with the Part 24 Rules. Processes include aerobic digestion, composting, anaerobic digestion, lime stabilization and air drying.

Daily concentration is the sum of the concentrations of the individual samples of a parameter divided by the number of samples taken during any calendar day. If the parameter concentration in any sample is less than the quantification limit, regard that value as zero when calculating the daily concentration. The daily concentration will be used to determine compliance with any maximum and minimum daily concentration limitations (except for pH and dissolved oxygen). When required by the permit, report the maximum calculated daily concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the Discharge Monitoring Reports (DMRs).

For pH, report the maximum value of any individual sample taken during the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs and the minimum value of any individual sample taken during the month in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs. For dissolved oxygen, report the minimum concentration of any individual sample in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Daily loading is the total discharge by weight of a parameter discharged during any calendar day. This value is calculated by multiplying the daily concentration by the total daily flow and by the appropriate conversion factor. The daily loading will be used to determine compliance with any maximum daily loading limitations. When required by the permit, report the maximum calculated daily loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMRs.

Department means the Michigan Department of Environmental Quality.

Detection Level means the lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.

District Supervisor: The Kalamazoo District Supervisor of the Surface Water Quality Division is located at the Kalamazoo District Office-DEQ, Surface Water Quality Division, 7953 Adobe Road, Kalamazoo, Michigan 49009-5026, telephone: 616-567-3500 (fax: 616-567-9440).

PART II

Section A. Definitions

Division of Health Facility Services -- Health Facility Evaluation Section, Michigan Department of Consumer and Industry Services mailing address is P.O. Box 30195, Lansing, Michigan 48909.

Drinking Water and Radiological Protection Division -- Environmental Health, Michigan Department of Environmental Quality mailing address is P.O. Box 30630, Lansing, Michigan 48909-8130.

EC_{50} means a statistically or graphically estimated concentration that is expected to cause 1 or more specified effects in 50% of a group of organisms under specified conditions.

Fecal coliform bacteria monthly is the geometric mean of the samples collected in a calendar month (or 30 consecutive days). The calculated monthly value will be used to determine compliance with the maximum monthly fecal coliform bacteria limitations. When required by the permit, report the calculated monthly value in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMRs.

Fecal coliform bacteria 7-day is the geometric mean of the samples collected in any 7-day period. The calculated 7-day value will be used to determine compliance with the maximum 7-day fecal coliform bacteria limitations. When required by the permit, report the maximum calculated 7-day concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Flow Proportioned sample is a composite sample with the sample volume proportional to the effluent flow.

Grab sample is a single sample taken at neither a set time nor flow.

IC_{25} means the toxicant concentration that would cause a 25% reduction in a nonquantal biological measurement for the test population.

Interference is a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:
1) inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and
2) therefore, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or, of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of the SWDA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act. [This definition does not apply to sample matrix interference.]

Land Application means spraying or spreading biosolids or a biosolids derivative onto the land surface, injecting below the land surface, or incorporating into the soil so that the biosolids or biosolids derivative can either condition the soil or fertilize crops or vegetation grown in the soil.

LC_{50} means a statistically or graphically estimated concentration that is expected to be lethal to 50% of a group of organisms under specified conditions.

Maximum acceptable toxicant concentration (MATC) means the concentration obtained by calculating the geometric mean of the lower and upper chronic limits from a chronic test. A lower chronic limit is the highest tested concentration that did not cause the occurrence of a specific adverse effect. An upper chronic limit is the lowest tested concentration which did cause the occurrence of a specific adverse effect and above which all tested concentrations caused such an occurrence.

PART II

Section A. Definitions

Monthly concentration is the sum of the daily concentrations determined during a reporting month (or 30 consecutive days) divided by the number of daily concentrations determined. The calculated monthly concentration will be used to determine compliance with any maximum monthly concentration limitations. When required by the permit, report the calculated monthly concentration in the "AVERAGE" column under "QUALITY OR CONCENTRATION" on the DMRs.

For minimum percent removal requirements, the monthly influent concentration and the monthly effluent concentration shall be determined. The calculated monthly percent removal, which is equal to 100 times the quantity [1 minus the quantity (monthly effluent concentration divided by the monthly influent concentration)], shall be reported in the "MINIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

Monthly loading is the sum of the daily loadings of a parameter divided by the number of daily loadings determined in the reporting month (or 30 consecutive days). The calculated monthly loading will be used to determine compliance with any maximum monthly loading limitations. When required by the permit, report the calculated monthly loading in the "AVERAGE" column under "QUANTITY OR LOADING" on the DMRs.

National Pretreatment Standards are the regulations promulgated by or to be promulgated by the Federal Environmental Protection Agency pursuant to Section 307(b) and (c) of the Federal Act. The standards establish nationwide limits for specific industrial categories for discharge to a POTW.

NOAEL means the highest tested dose or concentration of a substance that results in no observed adverse effect in exposed test organisms where higher doses or concentrations result in an adverse effect.

Noncontact Cooling Water is water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product or finished product.

Nondomestic user is any discharger to a POTW that discharges wastes other than or in addition to water-carried wastes from toilet, kitchen, laundry, bathing or other facilities used for household purposes.

Pretreatment is reducing the amount of pollutants, eliminating pollutants, or altering the nature of pollutant properties to a less harmful state prior to discharge into a public sewer. The reduction or alteration can be by physical, chemical, or biological processes, process changes, or by other means. Dilution is not considered pretreatment unless expressly authorized by an applicable National Pretreatment Standard for a particular industrial category.

POTW is a publicly owned treatment works.

Quantification level means the measurement of the concentration of a contaminant obtained by using a specified laboratory procedure calculated at a specified concentration above the detection level. It is considered the lowest concentration at which a particular contaminant can be quantitatively measured using a specified laboratory procedure for monitoring of the contaminant.

Regional Administrator is the Region 5 Administrator, U.S. EPA, located at R-19J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

7-day concentration is the sum of the daily concentrations determined during any 7 consecutive days in a reporting month divided by the number of daily concentrations determined. The calculated 7-day concentration will be used to determine compliance with any maximum 7-day concentration limitations. When required by the permit, report the maximum calculated 7-day concentration for the month in the "MAXIMUM" column under "QUALITY OR CONCENTRATION" on the DMRs.

7-day loading is the sum of the daily loadings of a parameter divided by the number of daily loadings determined during any 7 consecutive days in a reporting month. The calculated 7-day loading will be used to determine compliance with any maximum 7-day loading limitations. When required by the permit, report the maximum calculated 7-day loading for the month in the "MAXIMUM" column under "QUANTITY OR LOADING" on the DMRs.

PART II

Section A. Definitions

Significant industrial user is a nondomestic user that: 1) is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; or 2) discharges an average of 25,000 gallons per day or more of process wastewater to a POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the permittee as defined in 40 CFR 403.12(a) on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's treatment plant operation or violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Tier I value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier I toxicity database.

Tier II value means a value for aquatic life, human health or wildlife calculated under R 323.1057 of the Water Quality Standards using a tier II toxicity database.

Toxicity Reduction Evaluation (TRE) means a site-specific study conducted in a stepwise process designed to identify the causative agents of effluent toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in effluent toxicity.

Water Quality Standards means the Part 4 Water Quality Standards developed under Part 31 of Act No. 451 of the Public Acts of 1994, as amended, being Rules 323.1041 through 323.1117 of the Michigan Administrative Code.

3-Portion Composite sample is a sample consisting of three equal volume grab samples collected at equal intervals over an 8-hour period.

24-Hour Composite sample is a flow proportioned composite sample consisting of hourly or more frequent portions that are taken over a 24-hour period.

PART II

Section B. Monitoring Procedures

1. Representative Samples

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations promulgated pursuant to Section 304(h) of the Federal Act (40 CFR Part 136 - Guidelines Establishing Test Procedures for the Analysis of Pollutants). For parameters not specified in the permit or covered by the regulations, test procedures shall be submitted for approval to the Kalamazoo District Supervisor of the Surface Water Quality Division.

The permittee shall periodically calibrate and perform maintenance procedures on all analytical instrumentation at intervals to ensure accuracy of measurements. The calibration and maintenance shall be performed as part of the permittee's laboratory Quality Control Quality Assurance program.

3. Instrumentation

The permittee shall periodically calibrate and perform maintenance procedures on all monitoring instrumentation at intervals to ensure accuracy of measurements.

4. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information: 1) the exact place, date, and time of measurement or sampling; 2) the person(s) who performed the measurement or sample collection; 3) the dates the analyses were performed; 4) the person(s) who performed the analyses; 5) the analytical techniques or methods used; 6) the date of and person responsible for equipment calibration; and 7) the results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Michigan Department of Environmental Quality.

PART II

Section C. Reporting Requirements

1. Start-up Notification

If the permittee will not discharge during the first 60 days following the effective date of this permit, the permittee shall notify the Kalamazoo District Supervisor of the Surface Water Quality Division within 14 days following the effective date of this permit, and then 60 days prior to the commencement of the discharge.

2. Submittal Requirements for Self-Monitoring Data

Unless instructed on the effluent limits page to conduct "retained self-monitoring," the permittee shall submit self-monitoring data on the Environmental Protection Agency's Discharge Monitoring Report (DMR) forms (monthly summary information) and the Department's Daily Discharge Monitoring Report forms (daily information) to PCS-Data Entry, Surface Water Quality Division, Michigan Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan, 48909-7773, for each calendar month of the authorized discharge period(s). The forms shall be postmarked no later than the 10th day of the month following each month of the authorized discharge period(s).

Alternative Daily Discharge Monitoring Report formats may be used if they provide equivalent reporting details and are approved by the Kalamazoo District Supervisor of the Surface Water Quality Division. For information on electronic submittal of this information, contact the Kalamazoo District Supervisor.

3. Retained Self-Monitoring Requirements

If instructed on the effluent limits page to conduct retained self-monitoring, the permittee shall maintain a year-to-date log of retained self-monitoring results and, upon request, provide such log for inspection to the staff of the Surface Water Quality Division, Michigan Department of Environmental Quality (in the case of mobile home parks, campgrounds, marinas and schools, to the staff of the Drinking Water and Radiological Protection Division -- Environmental Health, Michigan Department of Environmental Quality, or, in the case of hospitals, nursing homes and extended care facilities, to the staff of the Division of Health Facility Services -- Health Facility Evaluation Section, Michigan Department of Consumer and Industry Services). Retained self-monitoring results are public information and shall be promptly provided to the public upon request.

The permittee shall certify, in writing, to the Kalamazoo District Supervisor of the Surface Water Quality Division, on or before January 10th of each year, that: 1) all retained self-monitoring requirements have been complied with and a year-to-date log has been maintained; and 2) the application on which this permit is based still accurately describes the discharge.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

Monitoring required pursuant to Part 41 of the Michigan Act or Rule 35 of the Mobile Home Park Commission Act (Act 96 of the Public Acts of 1987) for assurance of proper facility operation shall be submitted as required by the Department.

5. Compliance Dates Notification

Within 14 days of every compliance date specified in this permit, the permittee shall submit a written notification to the Kalamazoo District Supervisor of the Surface Water Quality Division indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

PART II

Section C. Reporting Requirements

6. Noncompliance Notification

Compliance with all applicable requirements set forth in the Federal Act, Parts 31 and 41 of the Michigan Act, and related regulations and rules is required. All instances of noncompliance shall be reported as follows:

a. 24-hour reporting - Any noncompliance which may endanger health or the environment (including maximum daily concentration discharge limitation exceedances) shall be reported, verbally, within 24 hours from the time the permittee becomes aware of the noncompliance. A written submission shall also be provided within five (5) days.

b. other reporting - The permittee shall report, in writing, all other instances of noncompliance not described in a. above at the time monitoring reports are submitted; or, in the case of retained self-monitoring, within five (5) days from the time the permittee becomes aware of the noncompliance.

Written reporting shall include: 1) a description of the discharge and cause of noncompliance; and 2) the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

7. Spill Notification

The permittee shall immediately report any spill or loss of any product, by-product, intermediate product, oils, solvents, waste material, or any other polluting substance which occurs to the surface waters or groundwaters of the state by calling the Kalamazoo District Supervisor of the Surface Water Quality Division at 616-567-3500, or if the notice is provided after regular working hours call the Department of Environmental Quality's 24-hour Pollution Emergency Alerting System telephone number, 1-800-292-4706 (calls from out-of-state dial 1-517-373-7660); and within ten (10) days of the spill or loss, the permittee shall submit to the Kalamazoo District Supervisor of the Surface Water Quality Division a full written explanation as to the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken, and schedule of implementation.

8. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset shall notify the Kalamazoo District Supervisor of the Surface Water Quality Division by telephone within 24 hours of becoming aware of such conditions; and within five (5) days, provide in writing, the following information:

a. that an upset occurred and that the permittee can identify the specific cause(s) of the upset;

b. that the permitted wastewater treatment facility was, at the time, being properly operated; and

c. that the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

In any enforcement proceedings, the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

PART II

Section C. Reporting Requirements

9. Bypass Prohibition and Notification

a. Bypass Prohibition - Bypass is prohibited unless:

1) bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2) there were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and

3) the permittee submitted notices as required under 9.b. or 9.c. below.

b. Notice of Anticipated Bypass - If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Kalamazoo District Supervisor of the Surface Water Quality Division, if possible at least ten (10) days before the date of the bypass, and provide information about the anticipated bypass as required by the Kalamazoo District Supervisor. The Kalamazoo District Supervisor may approve an anticipated bypass, after considering its adverse effects, if it will meet the three conditions listed in 9.a. above.

c. Notice of Unanticipated Bypass - The permittee shall submit notice to the 616-567-3500 (if the notice is provided after regular working hours, use the following number: 1-800-292-4706) as soon as possible, but no later than 24 hours from the time the permittee becomes aware of the circumstances.

d. Written Report of Bypass - A written submission shall be provided within five (5) working days of commencing any bypass to the Kalamazoo District Supervisor of the Surface Water Quality Division, and at additional times as directed by the Kalamazoo District Supervisor. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Kalamazoo District Supervisor.

e. Bypass Not Exceeding Limitations - The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part II.C.10. of this permit.

f. Definitions

1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

PART II

Section C. Reporting Requirements

10. Notification of Changes in Discharge

The permittee shall notify the Kalamazoo District Supervisor of the Surface Water Quality Division, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of: 1) detectable levels of chemicals on the current Michigan Critical Materials Register, priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, or the Pollutants of Initial Focus in the Great Lakes Water Quality Initiative specified in 40 CFR 132.6, Table 6, which were not acknowledged in the application or listed in the application at less than detectable levels; 2) detectable levels of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information; or 3) any chemical at levels greater than five times the average level reported in the complete application submitted on May 4, 2000. Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the compliance schedules.

11. Changes in Facility Operations

Any anticipated action or activity, including but not limited to facility expansion, production increases, or process modification, which will result in new or increased loadings of pollutants to the receiving waters must be reported to the Kalamazoo District Supervisor of the Surface Water Quality Division by a) submission of an increased use request (application) and all information required under Rule 323.1098 (Antidegradation) of the Water Quality Standards or b) by notice if the following conditions are met: 1) the action or activity will not result in a change in the types of wastewater discharged or result in a greater quantity of wastewater than currently authorized by this permit; 2) the action or activity will not result in violations of the effluent limitations specified in this permit; 3) the action or activity is not prohibited by the requirements of Part II.C.12.; and 4) the action or activity will not require notification pursuant to Part II.C.10. Following such notice, the permit may be modified according to applicable laws and rules to specify and limit any pollutant not previously limited.

12. Bioaccumulative Chemicals of Concern (BCC)

Consistent with the requirements of Rules 323.1098 and 323.1215 of the Michigan Administrative Code, the permittee is prohibited from undertaking any action that would result in a lowering of water quality from an increased loading of a BCC unless an increased use request and antidegradation demonstration have been submitted and approved by the Department.

13. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Kalamazoo District Supervisor of the Surface Water Quality Division 30 days prior to the actual transfer of ownership or control.

PART II

Section D. Management Responsibilities

1. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the Michigan Act and/or the Federal Act and constitutes grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of an application for permit renewal.

2. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified at the appropriate level for the facility certification by the Michigan Department of Environmental Quality, as required by Sections 3110 and 4104 of the Michigan Act.

3. Facilities Operation

The permittee shall, at all times, properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures.

4. Power Failures

In order to maintain compliance with the effluent limitations of this permit and prevent unauthorized discharges, the permittee shall either:

a. provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit; or

b. upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the surface waters or groundwaters of the state resulting from noncompliance with any effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

6. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials in accordance with the requirements of the Part 5 Rules (Rules 323.1151 through 323.1169 of the Michigan Administrative Code). For a Publicly Owned Treatment Work (POTW), these facilities shall be approved under Part 41 of the Michigan Act.

PART II

Section D. Management Responsibilities

7. Waste Treatment Residues

Residuals (i.e. solids, sludges, biosolids, filter backwash, scrubber water, ash, grit or other pollutants) removed from or resulting from treatment or control of wastewaters, shall be disposed of in an environmentally compatible manner and according to applicable laws and rules. These laws may include, but are not limited to, the Michigan Act, Part 31 for protection of water resources, Part 55 for air pollution control, Part 111 for hazardous waste management, Part 115 for solid waste management, Part 121 for liquid industrial wastes, Part 301 for protection of inland lakes and streams, and Part 303 for wetlands protection. Such disposal shall not result in any unlawful pollution of the air, surface waters or groundwaters of the state.

8. Treatment System Closure

In the event that discharges from a treatment system are planned to be eliminated, the permittee shall submit a closure plan to the Kalamazoo District Supervisor for approval. The closure plan shall include characterization of any wastewater and residuals which will remain on-site after the discharges are eliminated, along with disposal methods, proposed schedule, and any other relevant information as required by the Kalamazoo District Supervisor. Closure activities involving waste treatment residuals shall be consistent with Part II.D.7. of this permit.

The permittee shall implement the closure activities in accordance with the approved plan. Any wastewater or residual disposal inconsistent with the approved plan shall be considered a violation of this permit. After proper closure of the treatment system, this permit may be terminated.

9. Right of Entry

The permittee shall allow the Michigan Department of Environmental Quality, any agent appointed by the Department or the Regional Administrator, upon the presentation of credentials:

a. to enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect process facilities, treatment works, monitoring methods and equipment regulated or required under this permit; and to sample any discharge of pollutants.

10. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Act and Rule 2128 (Rule 323.2128 of the Michigan Administrative Code), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department and the Regional Administrator. As required by the Federal Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Act and Sections 3112, 3115, 4106 and 4110 of the Michigan Act.

PART II

Section E. Activities Not Authorized by This Permit

1. Discharge to the Groundwaters

This permit does not authorize any discharge to the groundwaters. Such discharge may be authorized by a groundwater discharge permit issued pursuant to the Michigan Act.

2. Facility Construction

This permit does not authorize or approve the construction or modification of any physical structures or facilities. Approval for such construction for a POTW must be by permit issued under Part 41 of the Michigan Act. Approval for such construction for a mobile home park, campground or marina shall be from the Drinking Water and Radiological Protection Division -- Environmental Health, Michigan Department of Environmental Quality. Approval for such construction for a hospital, nursing home or extended care facility shall be from the Division of Health Facility Services -- Health Facility Evaluation Section, Michigan Department of Consumer and Industry Services upon request.

3. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.C.9. pursuant to 40 CFR 122.41(m)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond the permittee's control, such as accidents, equipment breakdowns, or labor disputes.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee may be subject under Section 311 of the Federal Act except as are exempted by federal regulations.

5. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Federal Act.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize violation of any federal, state or local laws or regulations, nor does it obviate the necessity of obtaining such permits or approvals from other units of government as may be required by law.

File copy.

DEPARTMENT OF NATURAL RESOURCES

Michigan Water Resources Commission

MUNICIPAL WASTEWATER DISCHARGE APPLICATION FOR THE

(facility name) BATTLE CREEK WASTEWATER TREATMENT PLANT

PERMIT NO. MI0022276

PR 4856
9/87

Water Resources Commission

Municipal Wastewater Discharge Application

◄----*Instructions on Adjacent Page*

PLEASE PRINT

1. Facility Name Battle Creek Wastewater Treatment Plant

2. Facility Location

   Street # and Name 2000 West River Road

   City or Village Battle Creek County Calhoun

3. Facility Mailing Address

   Street # and Name 2000 West River Road

   City or Village Battle Creek State MI Zip 49015-1181

4. Owner, Mailing Address

   Owner City of Battle Creek Phone (616) 966-3513

   Street # and Name 2000 West River Road

   City or Village Battle Creek State MI Zip 49015-1181

   Contact Person Walter L. Thompson Title Superintendent

   Street # and Name 2000 West River Rd Phone (616) 966-3513

   City or Village Battle Creek State MI Zip 49015-1181

5. This permit application is a request for (check box(es)):

   ☒ the REISSUANCE of the current permit — permit # MI0022276

   ☒ a MODIFICATION of the current permit — permit # MI0022276

   Reason Request reduction or elimination of testing for Amenable Cyanide (See Attachment "A").

   ☐ an INCREASED USE (includes increase in flow, increase in the number of effluent characteristics in the wastewater or increase in the amount of the effluent characteristics)

   permit # _____. Reason _____

   _____

   ☐ a NEW, proposed discharge

   ☐ an EXISTING discharge, previously unpermitted

6. Is there an operator or superintendent responsible for the operation and maintenance of this facility?

   ☐ No ☒ Yes — Name Walter L. Thompson

   Business phone (616) 966-3513

   Operator Certification A Facility Classification A

Facility Name: Battle Creek WWTP
PERMIT #: MI0022276

PLEASE PRINT

7. Service Area

   a. Number of people served by this facility 65,000

   b. List the governmental unit(s) within the service area of this facility

   Emmett Township, Pennfield Township, Bedford Township, and Battle Creek Metropolitan Area.

   c. Describe the area this facility serves N/A

   d. List the source(s) of water supply Publicly owned well system, some private wells, and I & I

8. Flow Diagram "See Attachment B"

   Provide a flow diagram **and** narrative, **with this application,** of the wastewater treatment processes. Indicate all wastewater flows including: return flows, sludge (waste & return) and grit flows. Also indicate all flow meter and chemical feed locations and discharge points. ATTACH THIS INFORMATION TO THIS APPLICATION.

9. Maps (3) (9-A, B, & C) "See Attachment C"

   Provide a map, **with this application,** illustrating the location of the wastewater treatment facility, discharge point(s), nearby surface water bodies, water supply wells and any groundwater monitoring wells. This map **MUST** be a United States Geoligical Survey Quadrangle map (7.5 minute series) or other map of comparable detail, scale and quality. The minimum area this illustration should encompass is approximately 1 mile from the property boundaries. ATTACH THIS MAP TO THIS APPLICATION

10. List names and mailing address of **all** property owners adjacent to the wastewater treatment facility.

West Boundry: Bedford Township
115 South Uldricks
Battle Creek, MI 49017

North Boundry: Kalamazoo River, Additional City-Owned Land North of River.

South Boundry: Consolidated Rail Corporation
2 Commerce Square
Philadelphia, PA 19101
(Narrow Strip, Right-of-Way)
Additional City-Owned Land South of ConRail.

East Boundry: Fraternal Order of Police (Firing Range)
P O Box 922
Battle Creek, MI 49016-0922

Water Resources Commission

Municipal Wastewater Discharge Application

◄----*Instructions on Adjacent Page*

Facility Name: Battle Creek WWTP

PLEASE PRINT PERMIT #: MI0022276

11. Discharge Flow

Please provide the information below for **each** outfall from which treated wastewater discharges (main outfall(s), retention basins, underdrains, etc.). Make additional copies of this blank page, if necessary, and complete one for each outfall.

a. Outfall #: 001 Location: County Calhoun

North ¼ of the East ¼, Section 3 2, Town 1 South , Range 8 West

b. Name of water receiving the discharge Kalamazoo River

c. Does the discharge from this outfall occur year-round?

☒ Yes ☐ No — list the seasonal discharge period(s):

from_____ through_____; from_____ through_____

from_____ through_____; from_____ through_____

d. How often is there a discharge from this outfall (yearly average)?

hrs/day 24 days/year 365

e. Facility Design Flow — annual average design flow 27.00 (MGD)

annual total (seasonal dischargers only) N/A (MGY)

f. Expected Discharge Flow (provide what you know or can obtain) — annual average flow 12.97 (MGD)

weekly maximum flow 16.50 (MGD)

daily maximum flow 16.50 (MGD)

2-hour maximum flow 24.00 (MGD)

maximum dry weather flow 12.50 (MGD)

maximum wet weather flow 14.10 (MGD)

	Continuous Dischargers (daily average discharge flows)		**Seasonal Dischargers (daily maximum discharge flows)**	
January	12.79	(MGD)	15.18	(MGD)
February	13.19	(MGD)	15.19	(MGD)
March	13.28	(MGD)	14.42	(MGD)
April	12.40	(MGD)	14.11	(MGD)
May	12.64	(MGD)	13.61	(MGD)
June	13.25	(MGD)	17.23	(MGD)
July	13.25	(MGD)	14.28	(MGD)
August	14.10	(MGD)	17.49	(MGD)
September	12.99	(MGD)	14.33	(MGD)
October	12.51	(MGD)	13.43	(MGD)
November	12.66	(MGD)	14.88	(MGD)
December	12.58	(MGD)	13.62	(MGD)

Water Resources Commission
Municipal Wastewater Discharge Application

◄----*Instructions on Adjacent Page*

Facility Name: Battle Creek WWTP

PLEASE PRINT PERMIT #: MI0022276

12. Effluent Characteristics

Provide sampling information for **ALL** effluent characteristics listed below, for each facility outfall. Additional toxic pollutant sampling **MUST** be conducted and the results included for those parameters either known or believed to be present in the effluent (see instructions on page 4a). EPA and DNR approved analytical methods should be used to satisfy this requirement. Make additional copies of this blank page, if necessary, and complete one for each outfall.

Outfall #: MI0022276

Effluent Characteristic	Monthly Average	Daily Maximum	Number of Analyses
Biochemical Oxygen Demand (BOD_5)	~ mg/l	---	-
BOD_5 % removal	~ %	---	-
Carbonaceous BOD_5	8 mg/l	12 mg/l	365
Carbonaceous BOD_5 % removal	99 %	---	365
Ammonia Nitrogen (as N)	1.1 mg/l	5.9 mg/l	365
Total Suspended Solids	16 mg/l	---	365
Total Suspended Solids % removal	97 %	---	365
Total Dissolved Solids	N/A mg/l	---	365
Total Phosphorus (as P)	0.45 mg/l	---	365
Fecal Coliform Bacteria	83 counts/100ml	---	365
Total Residual Chlorine—avg max	0.016 mg/l	---	365
Disolved Oxygen—avg min	6.7 mg/l	---	365
pH - avg min	7.1	---	365
avg max	7.8	---	365
Total Alkalinity (as $CaCO_3$)	N/A mg/l	---	-
Total Hardness (as $CaCO_3$)	N/A mg/l	---	-
Cyanide Amenable to Chlorination	ND 0.1		1095
Cadmium	0.3		12
Silver	0.4		12
PCB	L0.2		12

Please submit, **with this application,** additional toxic pollutant data (see page 4a).

NATIONAL ENVIRONMENTAL TESTING, INC.

Auburn Hills Division
1700 Harmon Road
Auburn Hills, MI 48326
Tel: (810) 391-2050
Fax: (810) 391-9698
(800) 526-4951

ANALYTICAL REPORT

Kosmowski
ITY OF BATTLE CREEK
STWTR TRMNT PLANT
000 W River Road
attle Creek, MI 49016

10/19/1994

Job No.: 94.06282
Sample No.: 159741

astewater Analysis

ample Description: Final Effluent 10/05

ate Taken: 10/05/1994

Date Received: 10/07/1994

arameter	Result	Unit	Date Prepared	Date Analyzed	Lab Tech.	Methodology	Note
,3,7,8 TCDD Screen	ND	ug/L		10/15/1994	wad	625 (5)	
CBs			10/12/1994				
roclor-1016	<0.050	ug/L		10/13/1994	jsg	608 (5)	
roclor-1221	<0.050	ug/L		10/13/1994	jsg	608 (5)	
roclor-1232	<0.050	ug/L		10/13/1994	jsg	608 (5)	
roclor-1242	<0.050	ug/L		10/13/1994	jsg	608 (5)	
roclor-1248	<0.050	ug/L		10/13/1994	jsg	608 (5)	
roclor-1254	<0.050	ug/L		10/13/1994	jsg	608 (5)	
roclor-1260	<0.050	ug/L		10/13/1994	jsg	608 (5)	

D - Not detected via forward library search.

OTE: Results apply only to the sample analyzed. Reproduction of this report is permitted only in its entirety.

Susan K. Scott
Project Manager

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Auburn Hills Division
1700 Harmon Road
Auburn Hills, MI 48326
Tel: (810) 391-2050
Fax: (810) 391-9698
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10/19/1994

Job No.: 94.06282
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'astewater Analysis

'ample Description: Final Effluent 10/05

'ate Taken: 10/05/1994

Date Received: 10/07/1994

Parameter	Result	Unit	Date Prepared	Date Analyzed	Lab Tech.	Methodology	Note
1,1,2-Trichloroethane	<10	ug/L		10/12/1994	pmc	624 (5)	
Trichloroethene	<10	ug/L		10/12/1994	pmc	624 (5)	
Trichlorofluoromethane	<10	ug/L		10/12/1994	pmc	624 (5)	
Vinyl chloride	<10	ug/L		10/12/1994	pmc	624 (5)	

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Kosmowski
ITY OF BATTLE CREEK
STWTR TRMNT PLANT
000 W River Road
attle Creek, MI 49016

10/19/1994

Job No.: 94.06282
Sample No.: 159741

astewater Analysis

ample Description: Final Effluent 10/05

ate Taken: 10/05/1994

Date Received: 10/07/1994

'arameter	Result	Unit	Date Prepared	Date Analyzed	Lab Tech.	Methodology	Note
'OLATILE COMPOUNDS							
\crolein	<100	ug/L		10/12/1994	pmc	624 (5)	
\crylonitrile	<100	ug/L		10/12/1994	pmc	624 (5)	
Benzene	<10	ug/L		10/12/1994	pmc	624 (5)	
Bromodichloromethane	55	ug/L		10/12/1994	pmc	624 (5)	
Bromoform	32	ug/L		10/12/1994	pmc	624 (5)	
Bromomethane	<10	ug/L		10/12/1994	pmc	624 (5)	
Carbon tetrachloride	<10	ug/L		10/12/1994	pmc	624 (5)	
Chlorobenzene	<10	ug/L		10/12/1994	pmc	624 (5)	
Chloroethane	<10	ug/L		10/12/1994	pmc	624 (5)	
2-Chloroethyl vinyl ether	<10	ug/L		10/12/1994	pmc	624 (5)	
Chloroform	15	ug/L		10/12/1994	pmc	624 (5)	
Chloromethane	<10	ug/L		10/12/1994	pmc	624 (5)	
Dibromochloromethane	83	ug/L		10/12/1994	pmc	624 (5)	
1,1-Dichloroethane	<10	ug/L		10/12/1994	pmc	624 (5)	
1,2-Dichloroethane	<10	ug/L		10/12/1994	pmc	624 (5)	
1,1-Dichloroethene	<10	ug/L		10/12/1994	pmc	624 (5)	
cis-1,2-Dichloroethene	<10	ug/L		10/12/1994	pmc	624 (5)	
trans-1,2-Dichloroethene	<10	ug/L		10/12/1994	pmc	624 (5)	
1,2-Dichloropropane	<10	ug/L		10/12/1994	pmc	624 (5)	
cis-1,3-Dichloropropene	<10	ug/L		10/12/1994	pmc	624 (5)	
trans-1,3-Dichloropropene	<10	ug/L		10/12/1994	pmc	624 (5)	
Ethyl benzene	<10	ug/L		10/12/1994	pmc	624 (5)	
Methylene chloride	12 B	ug/L		10/12/1994	pmc	624 (5)	
1,1,2,2-Tetrachloroethane	<10	ug/L		10/12/1994	pmc	624 (5)	
Tetrachloroethene	<10	ug/L		10/12/1994	pmc	624 (5)	
Toluene	<10	ug/L		10/12/1994	pmc	624 (5)	
1,1,1-Trichloroethane	<10	ug/L		10/12/1994	pmc	624 (5)	

B: Probable laboratory artifact. Trace levels of Methylene chloride were found in the analytical batch.

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ANALYTICAL REPORT

Kosmowski
ITY OF BATTLE CREEK
ISTWTR TRMNT PLANT
1000 W River Road
Battle Creek, MI 49016

10/19/1994

Job No.: 94.06282
Sample No.: 159741

Wastewater Analysis

Sample Description: Final Effluent 10/05

Date Taken: 10/05/1994

Date Received: 10/07/1994

Parameter	Result	Unit	Date Prepared	Date Analyzed	Lab Tech.	Methodology	Note
Phenol (4-AAP)	<0.005	mg/L		10/14/1994	cab	420.1 (3)	
AQUEOUS METALS							
Cadmium	<0.01	mg/L	10/12/1994	10/13/1994	jbb	200.7 (3)	
Chromium, Hexavalent	<0.02	mg/L		10/07/1994	rjk	218.4 (3)	
Chromium, Trivalent	<0.02	mg/L		10/13/1994	jbb	200.7 (3)	
Chromium	<0.02	mg/L	10/12/1994	10/13/1994	jbb	200.7 (3)	
Copper	0.02	mg/L	10/12/1994	10/13/1994	jbb	200.7 (3)	
Lead	<0.05	mg/L	10/12/1994	10/13/1994	jbb	200.7 (3)	
Mercury	<0.0005	mg/L	10/13/1994	10/14/1994	dlc	245.1 (3)	
Nickel	<0.02	mg/L	10/12/1994	10/13/1994	jbb	200.7 (3)	
Zinc	0.04	mg/L	10/12/1994	10/13/1994	jbb	200.7 (3)	
Arsenic	<0.005	mg/L	10/13/1994	10/13/1994	rjk	206.2 (3)	
Selenium	<0.005	mg/L	10/13/1994	10/18/1994	mah	270.2 (3)	

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Susan K. Scott
Project Manager

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

National Environmental Testing, Inc.
Auburn Hills Division
1700 Harmon Road
Auburn Hills, MI 48326

CHAIN OF CUSTODY RECORD

COMPANY City of Battle Creek - WWTP
ADDRESS 2000 W. River Road
PHONE (616) 966-3513 FAX (616) 965-3290
PROJECT NAME/LOCATION
PROJECT NUMBER
PROJECT MANAGER

REPORT TO C. Kosmowski
INVOICE TO Deanna Hulse
PO NO
NET QUOTE NO

SAMPLED BY BRIAN FRY (PRINT NAME) — SIGNATURE Brian Fry
(PRINT NAME) — SIGNATURE

ANALYSES

						# and Type of Containers					VOA	See Attached list									COMMENTS
9/4/94	2:00 PM	ASE		X		X					X										
9/4/94	24 hr comp.	ASE			X							X									

CONDITION OF SAMPLE. BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT 10°C
Bottles supplied by NET? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS DATE

RELINQUISHED BY	DATE/TIME	RECEIVED BY	RELINQUISHED BY	DATE/TIME	RECEIVED FOR NET BY
B Fry	10/6/94 10:45 am			10/7/94 12:00 PM	Carolyn Paslean

METHOD OF SHIPMENT

REMARKS:

PT 1 ORIGINAL WHITE PT 2 NET PROJECT MANAGER YELLOW PT 3 CUSTOMER COPY PINK

Facility Name: Battle Creek WWTP
PLEASE PRINT PERMIT #: MI0022276

13. Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been conducted on your effluent(s) and/or receiving water in the vicinity of your discharge?

☐ No

☒ Yes — Identify what test(s) was conducted, the date(s) it was conducted, who conducted it and briefly summarize the results. Three 24-hour composite samples were analyzed between March 8-15, 1995 by Peter G. Meier, Ph.D., University of Michigan. Two species, ceriodaphnia dubia and pimephales promelas, were used to determine whole-effluent toxixity. The results indicate BCWWTP's effluent is not chronically or acutely toxic. See Attachment "D" for report summary.

14. Industrial and Commercial Sources

a. Does your facility receive any **non-sanitary** wastewater from any industrial or commercial establishments?

☐ No — Continue below to item 15.

☒ Yes — Continue below to item b.

b. Is an Industrial Pretreatment Program currently required by the Michigan Department of Natural Resources?

☒ Yes — Continue below to item 15.

☐ No — (1) Estimate the average volume of non-sanitary wastewater received by your facility.

_____ gallons/day

(2) Describe the type of non-sanitary wastewater(s) received by your facility._____

_____

_____

(3) Describe what is known about the quality of this non-sanitary wastewater. Include sampling results, if available. _____

_____

_____

_____

_____

15. Do your treatment facility processes include any wastewater stabilization or storage lagoons, spray irrigation or other processes where wastewater contacts the ground surface?

☒ No

☐ Yes — Describe what ground surface contact occurs. _____

_____

16. Lift Stations

Are there any lift stations used for transporting wastewater to the treatment facility?

☐ No

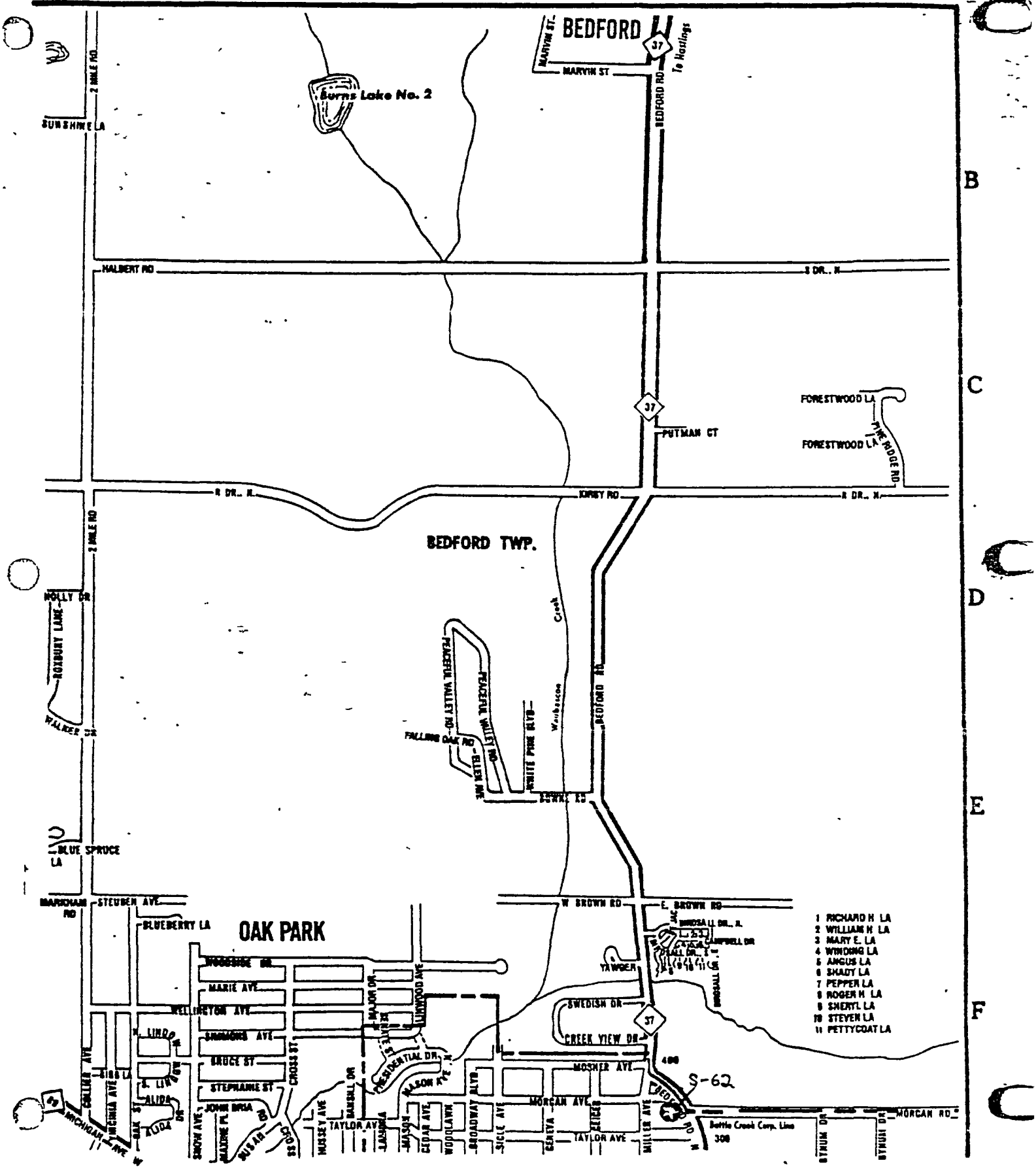
☒ Yes — Provide a list or map, **with this application,** describing or illustrating the location of each lift station. (LIST AND MAP ATTACHED) (follows)

Page No. 1
01/14/92

LIFT STATIONS
NUMERICAL MAP INDEX

NUMBER	NAME	ADDRESS	MAP INDEX
O-1	24TH STREET	176 24TH STREET	P.17, R-9, X-32
O-2	EDGEBROOK	124 EDGEBROOK	P.23,U-13
L-3	COLUMBIA/RR TRACKS	3919 W. COLUMBIA	P.16,R-4
L-4	LAKEFRONT/MENNO	91 LAKEFRONT	P.18,R-11
L-5	COUNTRY CLUB TERRACE	243 COUNTRY CLUB TERRACE	P.18,S-13
L-6	CHAPEL HILL	207 CHAPEL HILL DRIVE	P.18,S-13
L-7	CHARLES E PLACE	41 CHARLES E. PLACE	P.17,S-9
L-8	LAVISTA	271 S. LAVISTA	P.18,R-10
L-9	SKYLINE/ROBERTSON	4763 W. COLUMBIA	P.21,T-2
L-10	LYNWOOD	99 LYNWOOD	P.23,T-10
L-11	PROSPECT PLACE	748 PROSPECT PLACE	P.23,T-10
L-12	YORK	140 YORK AVENUE	P.18,R-13
L-13	GOLDEN/BRENTWOOD	400 GOLDEN	P.18,R-13
L-14	CAMERON	167 CAMERON DRIVE	P.18,O-10
O-15	MINGES BROOK	1970 CAPITAL SW	P.23,U-11
L-16	JENNINGS	89 JENNINGS ROAD	P.18,S-11
O-17	CAPITAL/GOLDEN	911 CAPITAL SW	P.18,R-11
L-18	EEL/LUCILLE	368 EEL	P.18,R-11
O-19	DREAM DRIVE	311 DREAM DRIVE	P.14,J-17
P-20	WONONDOGER	105 WONONDOGER TRAIL	P.10,E-19
P-21	BORDEN	224 BORDEN DRIVE	P.14,J-14
O-22	VIKING	261 VIKING DRIVE	P.14,H-14
P-23	NORTH/MORGAN	1040 NORTH AVENUE	P.14,H-14
O-24	EDEN	239 EDEN ROAD	P.9,S-14
P-25	MEA	202 ST. MARY'S LAKE ROAD	P.9,C-14
P-26	NORTH/ST. MARY'S	21154 6 MILE ROAD	P.9,C-14
O-27	BEADLE LAKE/RIVER	30 BEADLE LAKE ROAD	P.19,P-15
O-28	MAIN/RIVER	703 MAIN	P.19,R-15
O-29	BEADLE LAKE/ANWAY	13630 BEADLE LAKE ROAD	P.24,U-16
O-30	BEADLE LAKE/HOLLISON	13433 BEADLE LAKE ROAD	P.24,V-16
O-31	RAYMOND RD.	966 N. RAYMOND ROAD	P.15,M-18
E-32	KISTLER RD.	3072 BEADLE LAKE ROAD	P.24,T-16
S-33	HAWTHORN/HUYCK	331 HAWTHORNE AVENUE	P.15,M-18
E-34	CHAMBERS	31 CHAMBERS	P.19,N-17
L-35	BEAVER DAM	16 BEAVER DAM	P.12,L-6
L-36	HARMONIA RD.	1198 HARMONIA ROAD	P.12,L-7
X-37	1025 E. MICHIGAN/RR	1025 E. MICHIGAN	P.20,O-18
X-38	1075 E. MICHIGAN AVE	1075 E. MICHIGAN	P.20,O-19
E-39	11 MILE RD.	1931 E. MICHIGAN	P.20A,P-23
E-40	WOODLAND BEACH	1111 WOODLAND BEACH	P.24,U-17
S-41	MONROE BEACH	1671 BEADLE LAKE ROAD	P.24,U-17
E-42	HICKORY ST.	941 BEADLE LAKE ROAD	P.24,T-17
E-43	8 1/2 MILE RD.	13831 8 1/2 MILE ROAD	P.24,U-17
E-44	E DRIVE	7523 E DRIVE NORTH	P.24,T-17
E-45	PARKSHORE	197 PARKSHORE DRIVE	P.24,T-17
S-46	GOLDEN/PAWNEE	622 GOLDEN	P.19,R-14
S-47	COUNCIL CREST CIRCLE	4111 BEADLE LAKE ROAD	P.24,T-17
S-48	OLIVE/PECK	1200 OLIVE	P.20,O-20
S-49	ELECTRIC	331 ELECTRIC AVENUE	P.20,N-18
S-50	MILL RD.	3 MILL ROAD	P.14,L-17
S-51	GRAND CASTLE TERRACE	121 GRAND CASTLE TERRACE	P.24,T-17
S-52	FERN PARK	1231 BEADLE LAKE ROAD	P.24,U-17
S-53	SOUTH LANE	1365 BEADLE LAKE ROAD	P.24,U-17
S-54	BOWERS	539 BOWERS	P.20,N-18
S-55	PRINCETON	236 N. PRINCETON	P.20,N-18
B-56	216 DICKMAN	216 W. DICKMAN	P.13,M-12
B-57	FOUNTAIN	78 E. FOUNTAIN	P.18,N-13
[illegible]	HANNAH	75 HANNAH	P.19,O-16

NUMBER	NAME	ADDRESS	MAP INDEX
B-59	KELLEY	85 KELLEY	P.14,L-16
S-60	JACKSON/20TH	950 W. JACKSON	P.13,K-10
B-61	ASHLAND	52 ASHLAND AVENUE	P.12,J-8
S-62	MORGAN/BEDFORD	31 W MORGAN ROAD	P.7,F-8
B-63	GOODALE/WOOD	185 W. GOODALE	P.13,K-12
O-64	COLUMBIA HEIGHTS	931 E. COLUMBIA	P.19,P-14
S-65	WOODGATE APTS.	699 WOODGATE ROAD	P.14,J-15
O-66	GARVEY DR.	5700 GARVEY DRIVE	P.11,K-2
B-67	NATIONAL GUARD	16840 W. DICKMAN	P.11A,K-1
B-68	UNION ST.	290 S. UNION STREET	P.19,N-15
B-69	ONEITA	315 ONEITA	P.13,J-12
B-70	STATE HOME II	15500 W. DICKMAN	P.11A,K-1
S-71	DIVISION	50 N. DIVISION	P.19,N-14
B-72	BUILDING 633	633 6TH AVENUE	P.11,L-5
B-73	AIRPORT	247 N. HELMER ROAD	P.17,N-8
X-74	HONEY/LILLIE	167 HONEY AVENUE	P.18,R-10
X-75	285 HONEY LN.	285 HONEY LANE	P.18,R-10
X-76	GOGUAC/28TH	1331 W. GOGUAC	P.17,O-9
X-77	BREEZY BLUFF	578 GEORGE B. PLACE	P.18,R-11
X-78	652 E. EMMETT	652 E. EMMETT	P.14,L-16
X-79	WILLARD BEACH	578 BREEZY BLUFF	P.14,L-16
X-80	ST. MARY'S LAKE #1	107 ST. MARY'S LAKE ROAD	P.9,D-14
X-81	ST. MARY'S LAKE #2	123 ST. MARY'S LAKE ROAD	P.9,D-14
X-82	ST. MARY'S LAKE #3	131 ST. MARY'S LAKE ROAD	P.9,C-14
X-83	ST. MARY'S LAKE #4	145 ST. MARY'S LAKE ROAD	P.9,C-14
X-84	ST. MARY'S LAKE #5	156 ST. MARY'S LAKE ROAD	P.9,C-14
X-85	ST. MARY'S LAKE #6	172 1/2 ST. MARY'S LAKE	P.9,C-14
X-86	ST. MARY'S LAKE #7	179 ST. MARY'S LAKE ROAD	P.9,C-14
X-87	ST. MARY'S LAKE #8	203 1/2 ST. MARY'S LAKE	P.9,C-14
X-88	ST. MARY'S LAKE #9	105 ST. MARY'S LAKE ROAD	P.9,C-14
X-89	ST. MARY'S LAKE #10	272 ST. MARY'S LAKE ROAD	P.9,C-14
X-90	ST. MARY'S LAKE #11	154 1/2 ST. MARY'S LAKE	P.9,C-14
X-91	ST. MARY'S LAKE #12	254 1/2 ST. MARY'S LAKE	P.9,C-14
C-92	1510 E. MICHIGAN	1510 E. MICHIGAN	P.20A,O-22
C-93	CARPENTER DRIVE	20690 CARPENTER DRIVE	P.8,D-13
D-94	BUICK/HUPP	491 BUICK DRIVE	P.17,R-8
X-95	BASE AV.	100 BASE STREET	P.11,M-5
O-96	HILL BRADY	950 HILL BRADY ROAD	P.16,O-3
S-97	F DRIVE N.	10301 F DRIVE NORTH	P.20A,S-22
L-98	BUCKNER DRIVE		
T-99	WASHINGTON/COOLIDGE	760 N. WASHINGTON	
T-100	BAUMAN ROAD	399 1/2 ST. MARY'S LAKE	
T-101	SYLVAN/HALLADAY	115 1/2 HALLADAY	
X-102	BEDFORD #1	275 1/2 HUBBARD DR	
X-103	BEDFORD #2	276 1/2 CARPENTER COVE	
X-104	BEDFORD #3	285 1/2 CARPENTER COVE	
X-105	BEDFORD #4	303 1/2 CARPENTER COVE	
X-106	BEDFORD #5	20801 1/2 CARPENTER DRIVE	
X-107	BEDFORD #6	332 1/2 CARPENTER RD	
X-108	BEDFORD #7	350 1/2 CARPENTER DRIVE	
X-109	BEDFORD #9	510 1/2 SYLVAN DRIVE	
X-110	BEDFORD #10	520 1/2 SYLVAN DRIVE	
X-111	BEDFORD #11	530 1/2 SYLVAN DRIVE	
X-112	BEDFORD #12	532 1/2 SYLVAN DRIVE	
X-113	BEDFORD #13	657 1/2 SYLVAN DRIVE	
X-114	BEDFORD #14	701 1/2 SYLVAN DRIVE	
X-115	BEDFORD #15	446 1/2 BAUMAN ROAD	
L-116	COLUMBIA/AIRPORT		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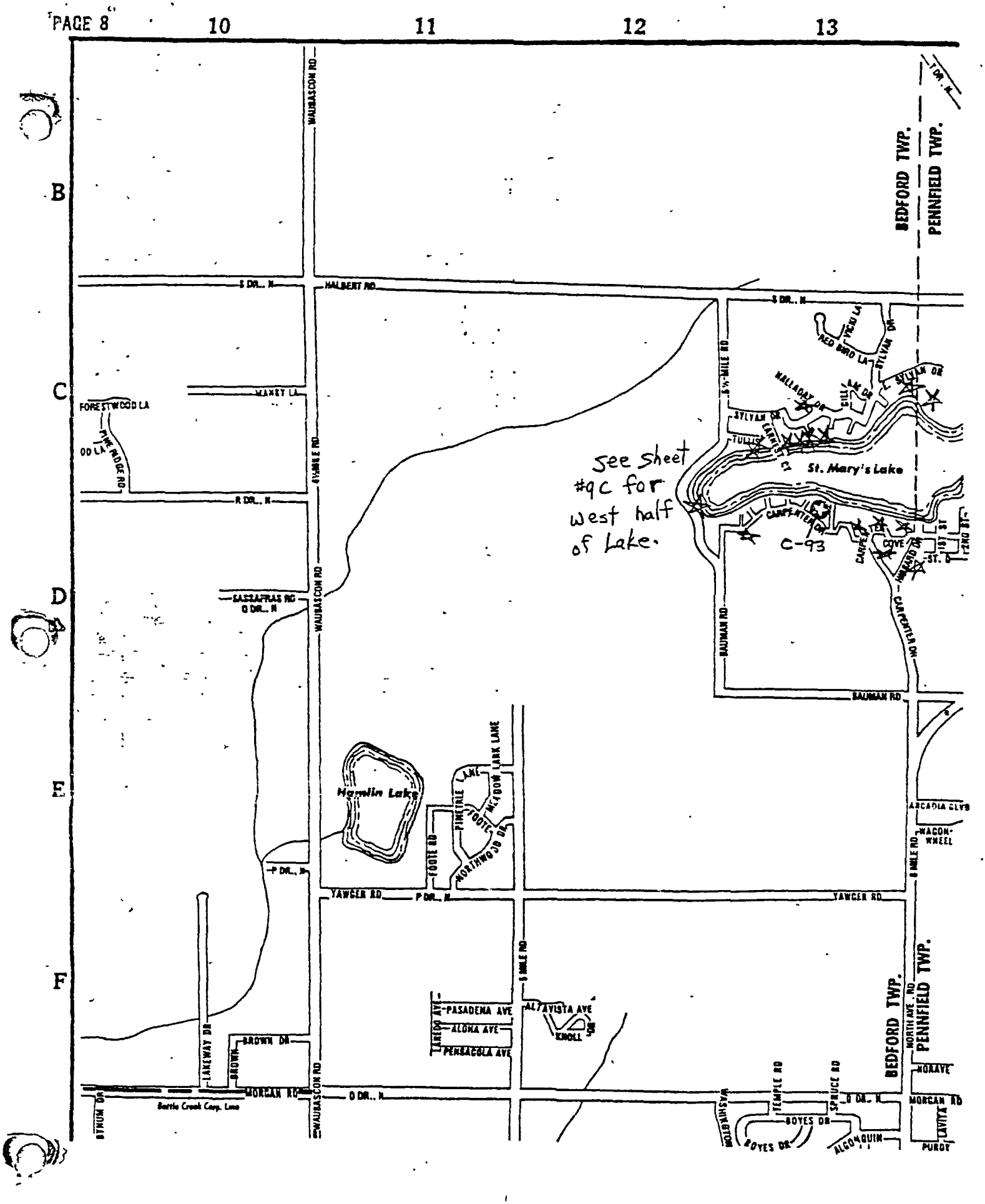
BEDFORD
MARVIN ST
MARVIN ST
To Hastings
BEDFORD RD
Burns Lake No. 2
2 MILE RD
SUNSHINE LA
HALBERT RD
S DR. N
37
PUTMAN CT
FORESTWOOD LA
FORESTWOOD LA
PINE RIDGE RD
R DR. N
KIRBY RD
R DR. N
BEDFORD TWP.
2 MILE RD
HOLLY DR
ROXBURY LANE
WALKER DR
PEACEFUL VALLEY RD
PEACEFUL VALLEY RD
FALLING OAK RD
ELLEN AVE
WHITE PINE BLVD
Waubascon Creek
BEDFORD RD
BOWKE RD
BLUE SPRUCE LA
MARKHAM RD
STEUBEN AVE
BLUEBERRY LA
OAK PARK
W BROWN RD
E. BROWN RD
BINDSALL DR. N
CAMPBELL DR
YAWGER
BINDSALL DR
SWEDISH DR
CREEK VIEW DR
MOSHER AVE
MORGAN AVE
TAYLOR AVE
MORGAN RD
Battle Creek Corp. Line
300
S-62
1 RICHARD H LA
2 WILLIAM H LA
3 MARY E. LA
4 WINDING LA
5 ANGUS LA
6 SHADY LA
7 PEPPER LA
8 ROGER H LA
9 SHERYL LA
10 STEVEN LA
11 PETTYCOAT LA
WOODSIDE DR
MARIE AVE
WELLINGTON AVE
SIMMONS AVE
BRUCE ST
STEPHANIE ST
JOHN BRIA
MAJOR DR
LINWOOD AVE
PRESIDENTIAL DR
MASON AVE
CROSS ST
BANSILL DR
HUSSEY AVE
TAYLOR AVE
LAMONA
MASON
CEDAR AVE
WOODLAWN
BROADWAY BLVD
SICLE AVE
GENEVA
GEIGER
MILLER AVE
BYNUM DR
BYNUM DR
COLLIER AVE
MICHIGAN AVE
OAK ST
ALIDA
SNOW AVE
MAXINE PL
SUSAN RD
CROSS ST
MICHIGAN AVE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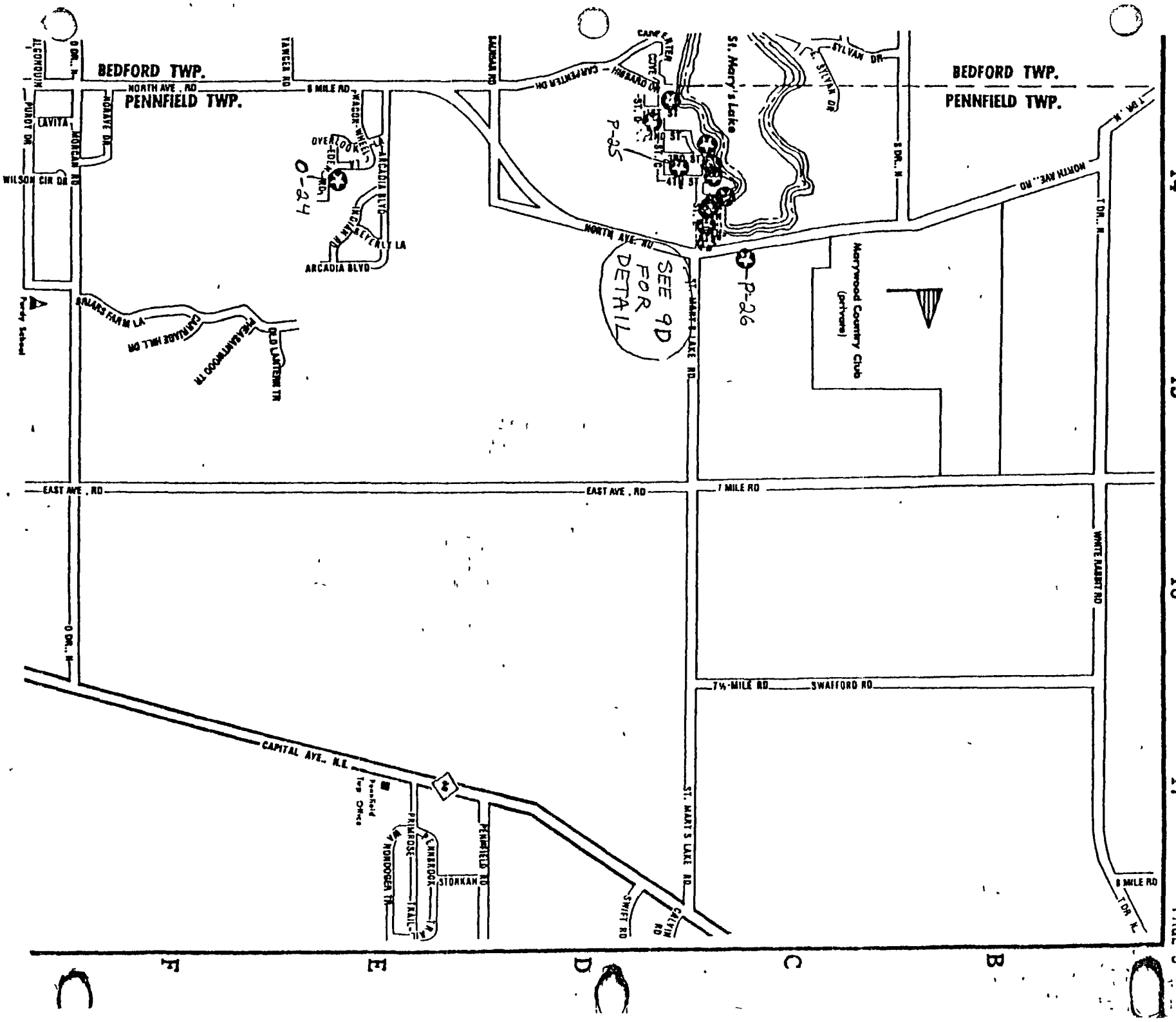
WAUBASCON RD
HALBERT RD
S DR., N
MANSY LA
FORESTWOOD LA
PINE RIDGE RD
R DR., N
SASSAFRAS RD
Q DR., N
P DR., N
YAWGER RD
O DR., N
MORGAN RD
BROWN DR
LAKEWAY DR
BYNUM DR
Battle Creek Corp. Line
Hamlin Lake
FOOTE RD
PINETRLE LANE
MEADOW LARK LANE
NORTHWOOD DR
PASADENA AVE
ALOHA AVE
PENSACOLA AVE
LAREDO AVE
ALTAVISTA AVE
KNOLL DR
5 MILE RD
BAUMAN RD
CARPENTER DR
SYLVAN DR
RED BIRD LA
VICKI LA
HALLADAY DR
TULLIS
St. Mary's Lake
CARPENTER DR
COVE
1ST ST
2ND ST
ST. D
ARCADIA BLVD
WAGON-WHEEL
NORTH AVE. RD
NORAVE
PURDY
LAVITA
WASHINGTON
TEMPLE RD
SPRUCE RD
BOYES DR
ALGONQUIN
BEDFORD TWP.
PENNFIELD TWP.
See sheet #9C for west half of Lake.
C-93


BEDFORD TWP.
PENNFIELD TWP.
NORTH AVE. RD
8 MILE RD
TAWGER RD
BALMAR RD
CARPENTER DR
HIBBARD DR
St. Mary's Lake
SYLVAN DR
S DR. N
T DR. N
NORTH AVE. RD
ALGONQUIN
O DR. N
PUROT DR
LAVITA
MORGAN RD
NORAVE DR
WILSON CIR DR
WAGON-WHEEL
OVERLOOK
EDEN RD
ARCADIA BLVD
INDIAN RD
BEVERLY LA
ARCADIA BLVD
BRIARS FARM LA
CARRIAGE HILL DR
PHEASANTWOOD TR
OLD LANTERN TR
Purdy School
O-24
P-25
P-26
SEE 9D FOR DETAIL
ST. MARY'S LAKE RD
Marywood Country Club (private)
EAST AVE. RD
7 MILE RD
WHITE RABBIT RD
7½ MILE RD
SWAFFORD RD
CAPITAL AVE. N.E.
Pennfield Twp Office
PRIMROSE
PENNBROOK
TRAIL
NORDOGER TR
STORKAN
PENNFIELD RD
SWIFT RD
CALVIN RD
8 MILE RD
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PAGE 9
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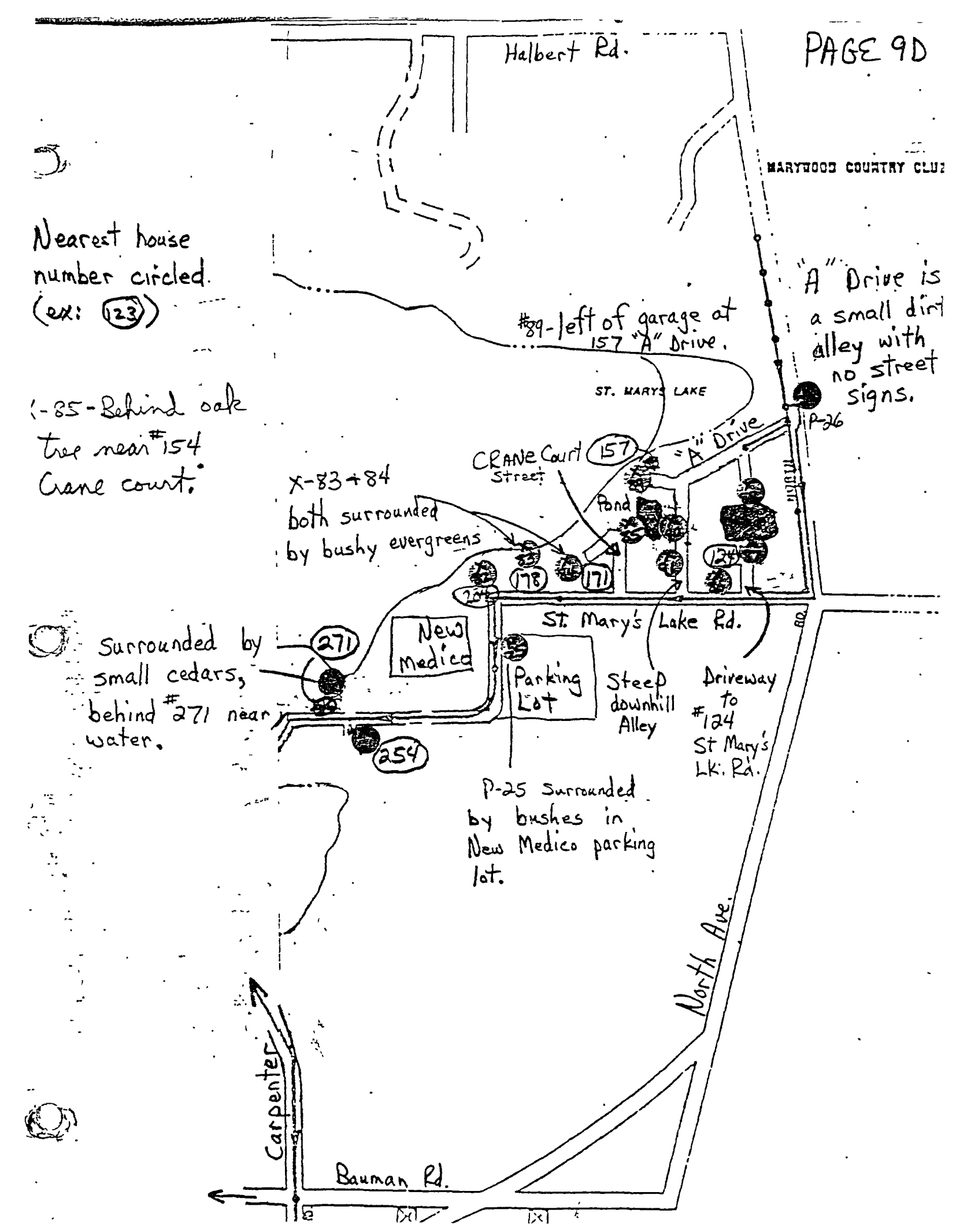
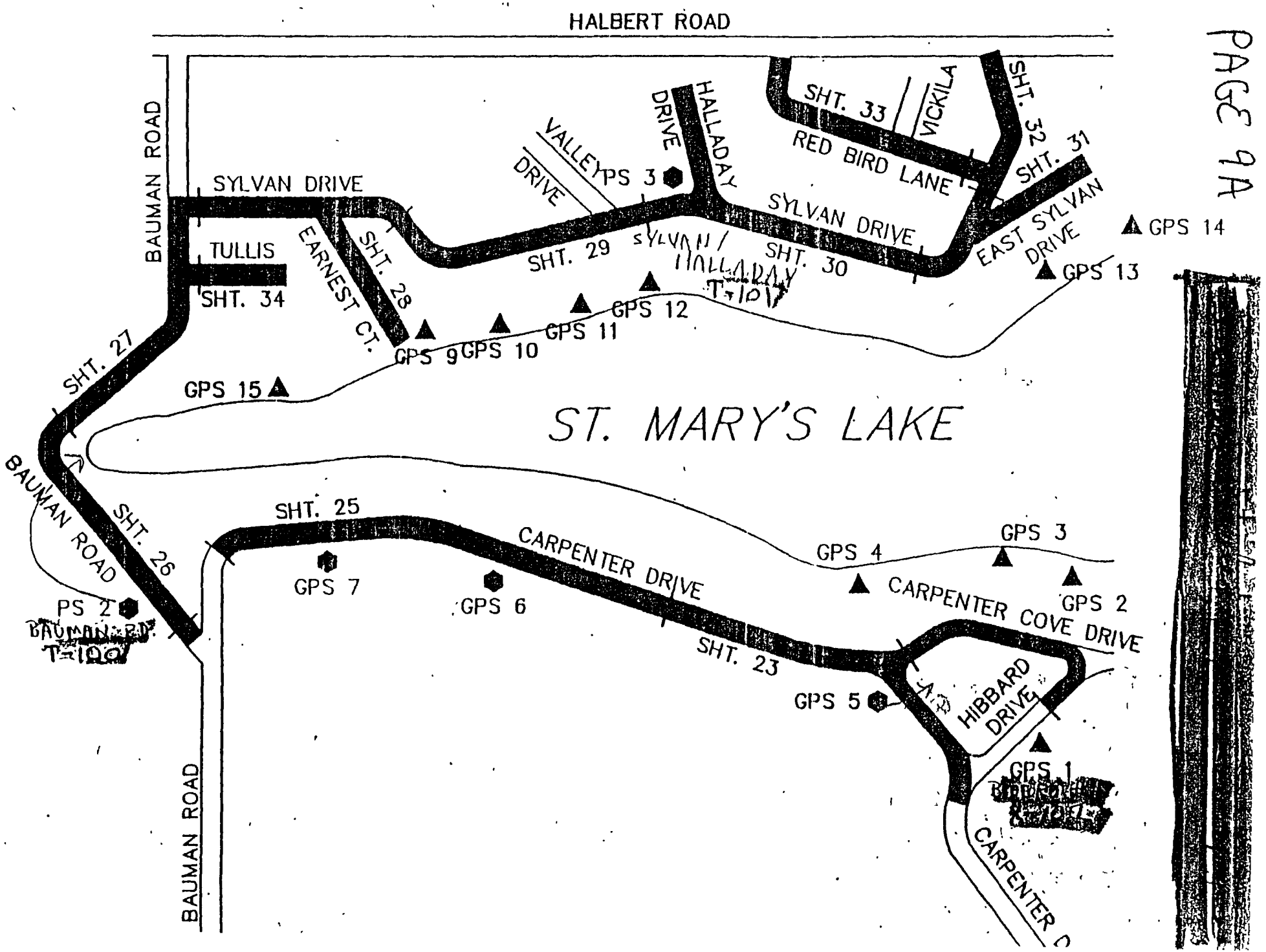
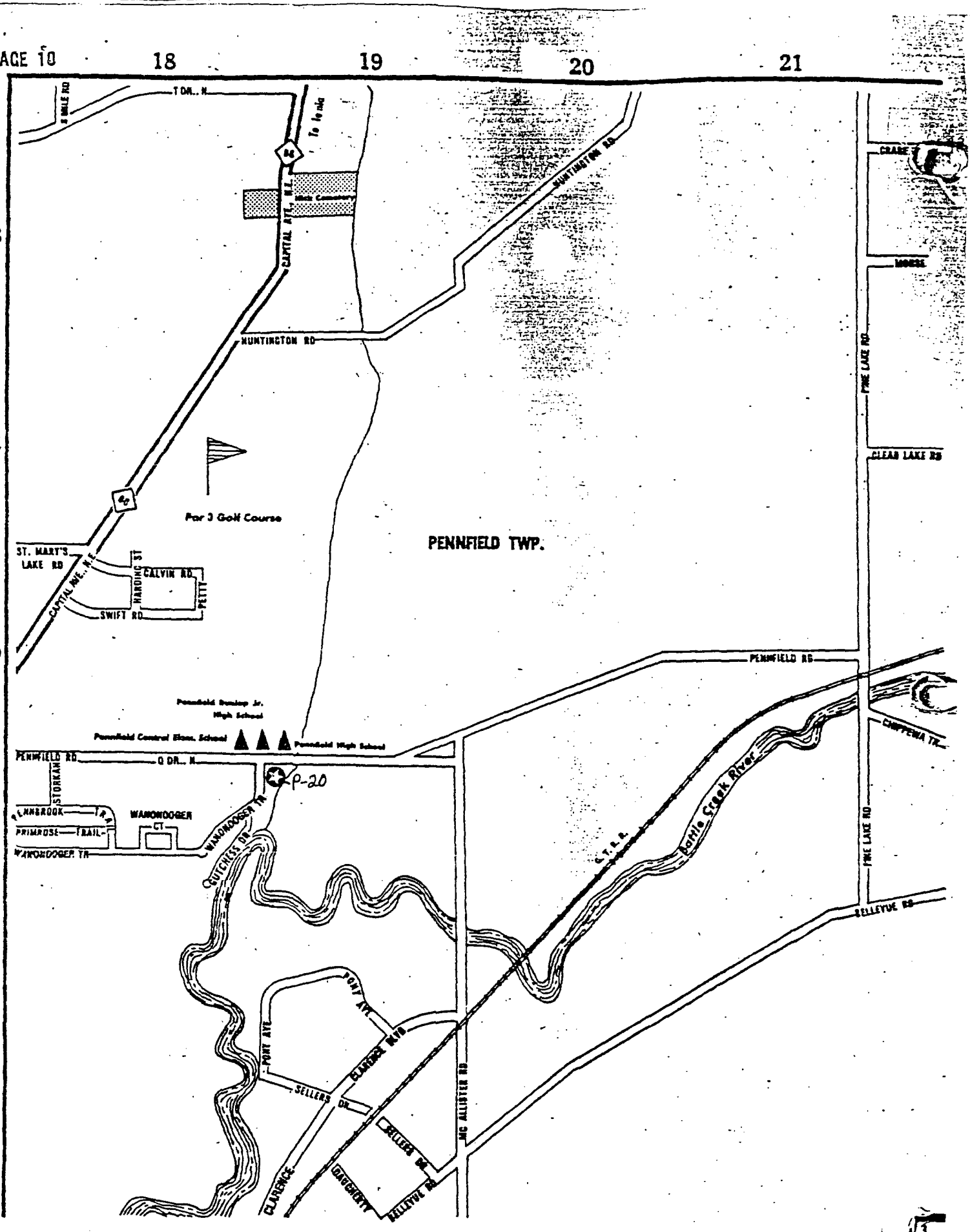

Halbert Rd.
MARYWOOD COUNTRY CLUB
Nearest house number circled. (ex: 23)
#89-left of garage at 157 "A" Drive.
"A" Drive is a small dirt alley with no street signs.
ST. MARYS LAKE
P-26
1-85-Behind oak tree near #154 Crane court.
CRANE Court Street
157
"A" Drive
X-83+84 both surrounded by bushy evergreens
Pond
178
171
124
254
St. Mary's Lake Rd.
Surrounded by small cedars, behind #271 near water.
271
New Medico
Parking Lot
Steep downhill Alley
Driveway to #124 St Mary's Lk. Rd.
P-25 Surrounded by bushes in New Medico parking lot.
North Ave.
Carpenter
Bauman Rd.


HALBERT ROAD
BAUMAN ROAD
SYLVAN DRIVE
TULLIS
SHT. 34
EARNEST CT.
SHT. 28
VALLEY DRIVE
PS 3
HALLADAY DRIVE
SHT. 29
SYLVAN / HALLADAY
T-101
SHT. 30
SHT. 33
VICKILA
RED BIRD LANE
SHT. 32
SHT. 31
EAST SYLVAN DRIVE
GPS 14
GPS 13
GPS 12
GPS 11
GPS 10
GPS 9
GPS 15
SHT. 27
ST. MARY'S LAKE
BAUMAN ROAD
SHT. 26
SHT. 25
CARPENTER DRIVE
GPS 7
GPS 6
GPS 4
GPS 3
GPS 2
CARPENTER COVE DRIVE
PS 2
BAUMAN RD.
T-100
SHT. 23
GPS 5
HIBBARD DRIVE
GPS 1
BAUMAN ROAD
CARPENTER C

PAGE 9A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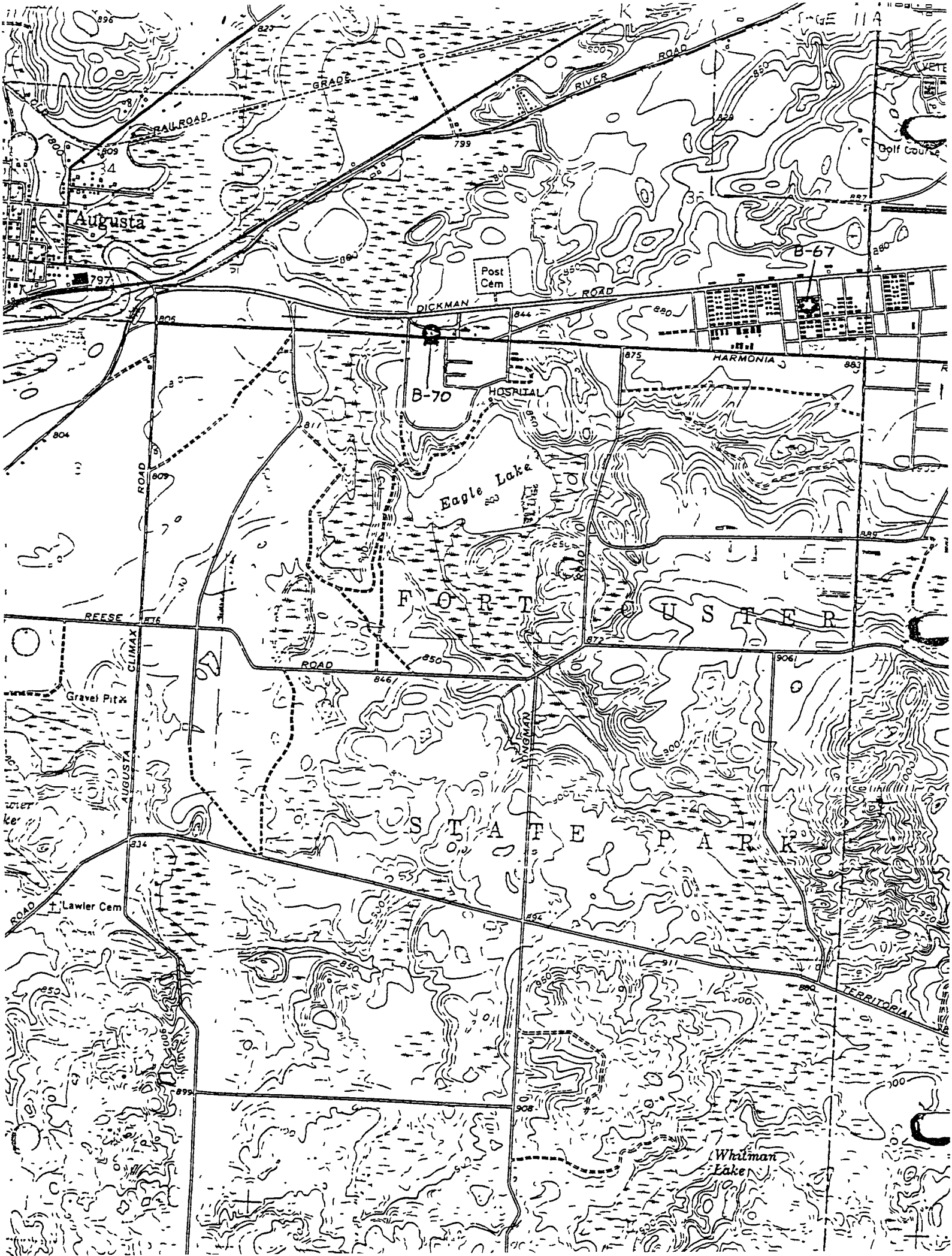
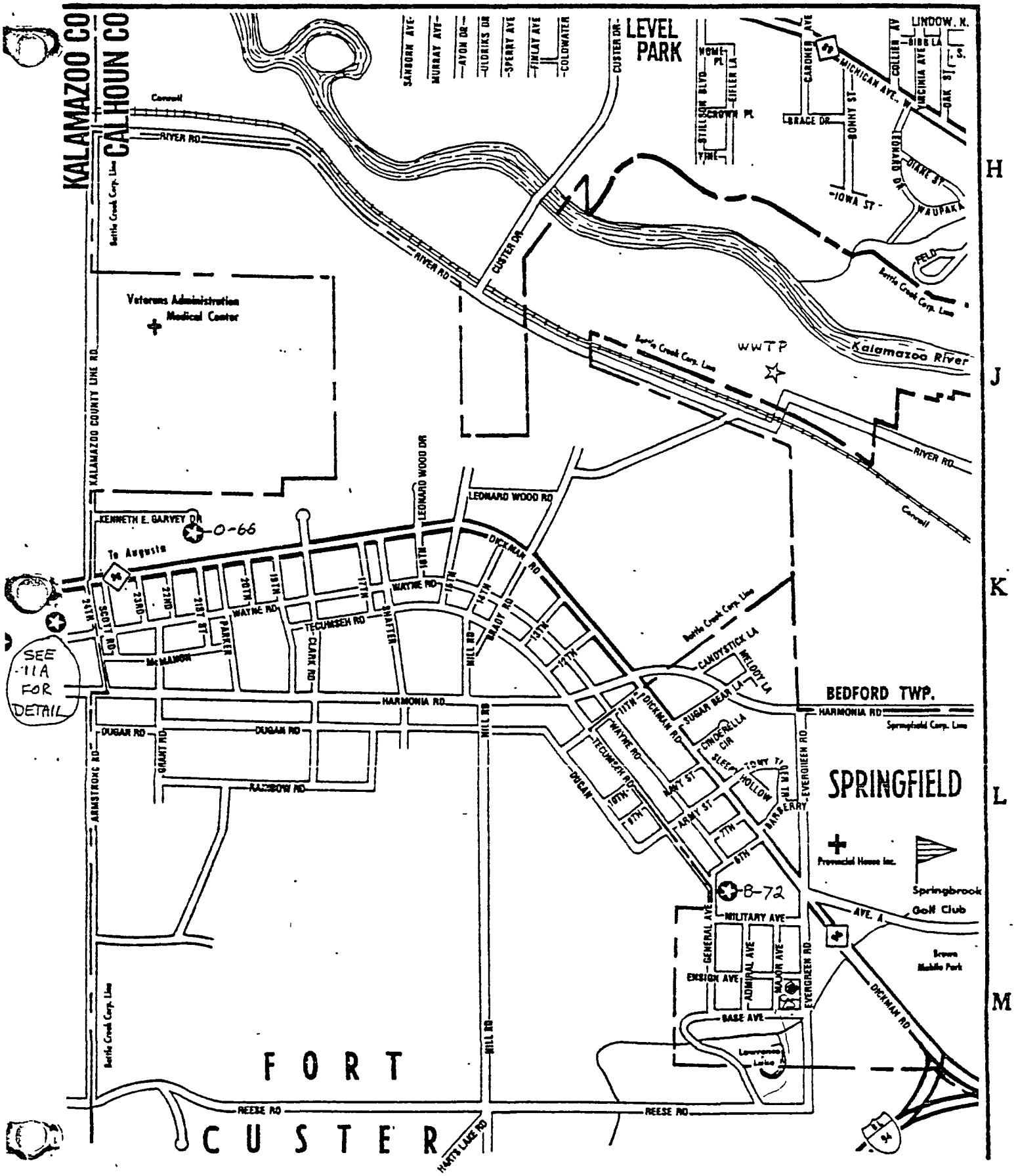
To Ionia
CAPITAL AVE. N.E.
HUNTINGTON RD
Par 3 Golf Course
PENNFIELD TWP.
ST. MARY'S LAKE RD
CAPITAL AVE. N.E.
HARDING ST
CALVIN RD
PETTY
SWIFT RD
PENNFIELD RD
Pennfield Dunlap Jr. High School
Pennfield Central Elem. School
Pennfield High School
PENNFIELD RD
Q DR. N
STORKAN
P-20
PENNBROOK TR
PRIMROSE TRAIL
WANONDOGER CT
WANONDOGER TR
WANONDOGER TR
CUTCHESS DR
PONY AVE
PONY AVE
CLARENCE BLVD
SELLERS DR
SELLERS DR
CLARENCE
DAUGHERTY
BELLEVUE RD
MC ALLISTER RD
C.T.R.R.
Battle Creek River
PINE LAKE RD
PINE LAKE RD
CLEAR LAKE RD
CHIPPEWA TR
BELLEVUE RD


Augusta
GRADE
RAILROAD
RIVER
ROAD
Post Cem
DICKMAN
ROAD
B-67
B-70
HOSPITAL
HARMONIA
Eagle Lake
ROAD
FORT
CUSTER
REESE
ROAD
CLIMAX
Gravel Pit
AUGUSTA
ROAD
Lawler Cem
NORMAN
STATE PARK
TERRITORIAL
Whitman Lake


2
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H
J
K
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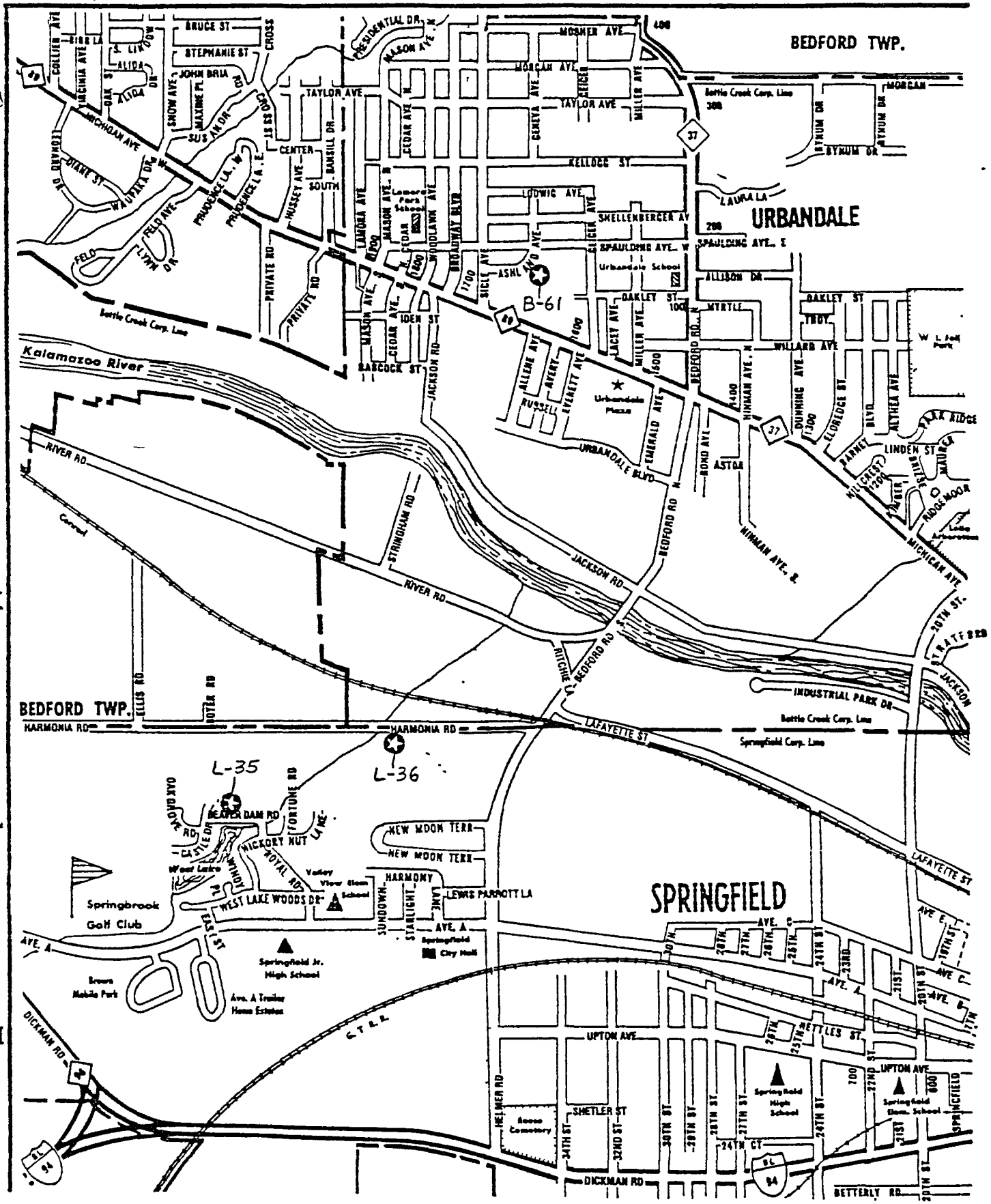
M
KALAMAZOO CO
CALHOUN CO
LEVEL PARK
SANBORN AVE
MURRAY AVE
AYON DR
ULDRIKS DR
SPERRY AVE
FINLAY AVE
COLDWATER
CUSTER DR
HOME PL
EIFLER LA
STILLSON BLVD
CROWN PL
YINE
CARDNER AVE
MICHIGAN AVE. W
BRACE DR
BONNY ST
IOWA ST
COLLIER AV
LINDOW, N.
BIBB LA
VIRGINIA AVE
OAK ST
LEONARD DR
DIANE ST
WAUPAKA
FELD
Kalamazoo River
Battle Creek Corp. Line
Conrail
RIVER RD
Veterans Administration Medical Center
KALAMAZOO COUNTY LINE RD.
WWTP
LEONARD WOOD DR
LEONARD WOOD RD
KENNETH E. GARVEY DR
O-66
To Augusta
DICKMAN RD
WAYNE RD
TECUMSEH RD
SHAFTER
CLARK RD
PARKER
McMANON
SCOTT RD
24TH
23RD
22ND
21ST ST
20TH
19TH
18TH
17TH
16TH
15TH
14TH
13TH
12TH
11TH
10TH
9TH
8TH
7TH
6TH
BRADY RD
MILL RD
CANDYSTICK LA
MELODY LA
SUGAR BEAR LA
CINDERELLA CIR
SLEEPY HOLLOW
TONY TIGER TR
BARBERRY
EVERGREEN RD
BEDFORD TWP.
HARMONIA RD
Springfield Corp. Line
SPRINGFIELD
Provincial House Inc.
Springbrook Golf Club
AVE. A
Brown Mobile Park
DUGAN RD
GRANT RD
RAINBOW RD
ARMSTRONG RD
SEE 11A FOR DETAIL
B-72
MILITARY AVE
GENERAL AVE
ADMIRAL AVE
MAJOR AVE
ENSIGN AVE
BASE AVE
Lawrence Lake
FORT CUSTER
REESE RD
HARTS LAKE RD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M
BEDFORD TWP.
URBANDALE
SPRINGFIELD
Kalamazoo River
Bottle Creek Corp. Line
Springfield Corp. Line
Urbandale School
Urbandale Plaza
Springbrook Golf Club
Springfield Jr. High School
Springfield High School
Springfield Elem. School
Brown Mobile Park
Ave. A Trailer Home Estates
Valley View Elem. School
Lamora Park School
Lake Arboretum
B-61
L-35
L-36
MOSHER AVE
MORGAN AVE
TAYLOR AVE
KELLOGG ST
LUDWIG AVE
SHELLENBERGER AV
SPAULDING AVE. W
SPAULDING AVE. E
ALLISON DR
OAKLEY ST
WILLARD AVE
LINDEN ST
MICHIGAN AVE
JACKSON RD
RIVER RD
HARMONIA RD
LAFAYETTE ST
INDUSTRIAL PARK DR
BEAVER DAM RD
NEW MOON TERR
HARMONY
LEWIS PARROTT LA
WEST LAKE WOODS DR
UPTON AVE
SHETLER ST
DICKMAN RD
BETTERLY RD
HELMER RD
Roose Cemetery
G.T.R.R.

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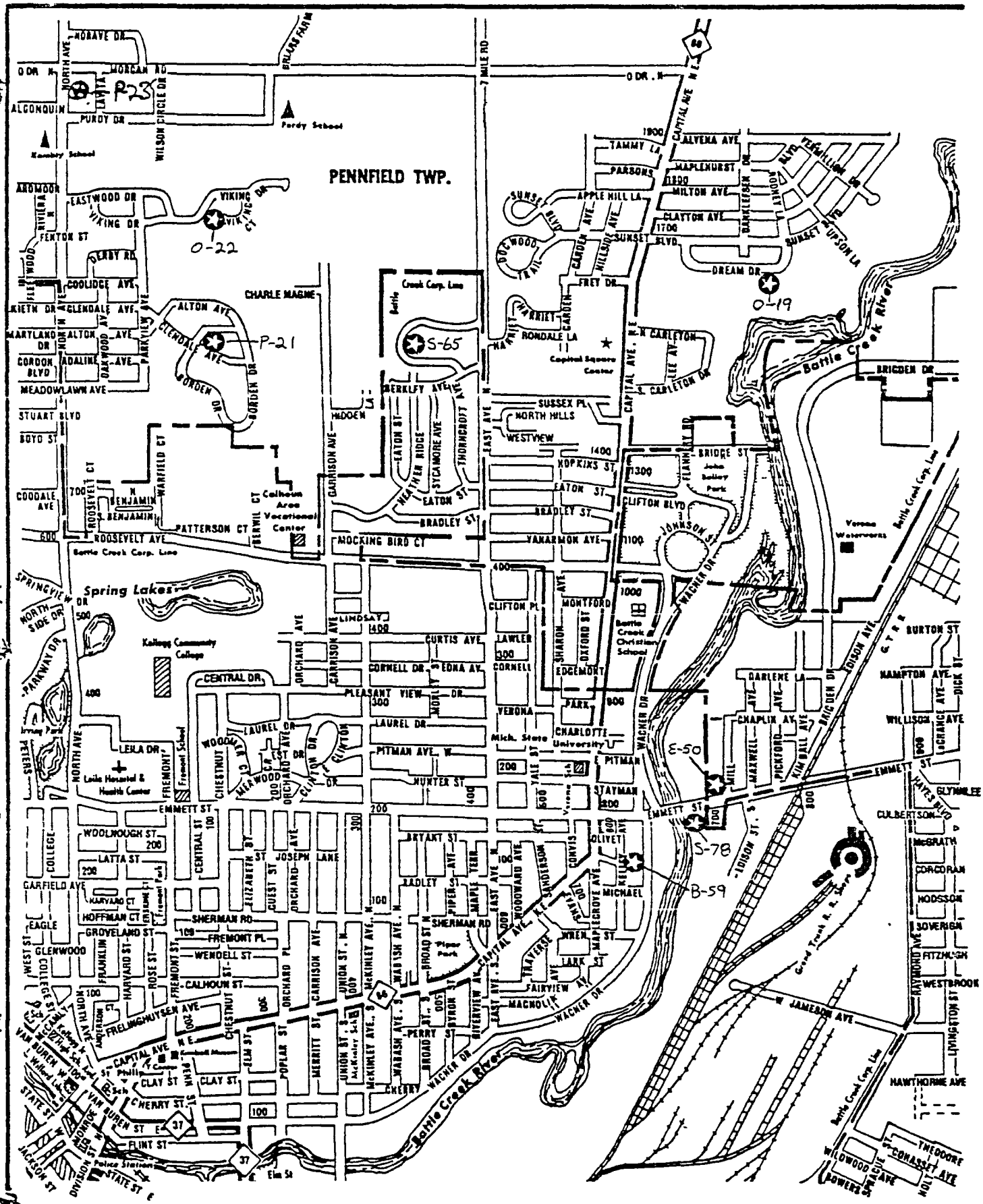
BEDFORD TWP.
MORGAN RD
WAUBASCON RD
S MILE RD
HUBBARD ST
LIMIT ST
MICHIGAN AVE
W L Kellogg Park
Leila Arboretum
Kingman Museum of Natural History
Dudley School
Northwestern Jr High School
Battle Creek Academy
Washington School
Battle Creek Corp. Line
Springfield Corp Line
Springfield Elem. School
S-60
S-69
B-63
B-56
T-99
WASHINGTON AVE N
GOODALE AVE
ROOSEVELT AVE
VAN BUREN ST W
LAFAYETTE ST
GRAND TRUNK AVE
DICKMAN RD
UPTON AVE
SANITARIUM
Federal Bldg
Community Hosp
Battle Creek Adventist Hosp
Leila Hospital & Health Center
C.W. Post Athletic Field
Youth Building
Central High
Irving Park
Claude Evans Park
Kellogg School
Trans. Center
Police Sta
Post Office
Spring


H
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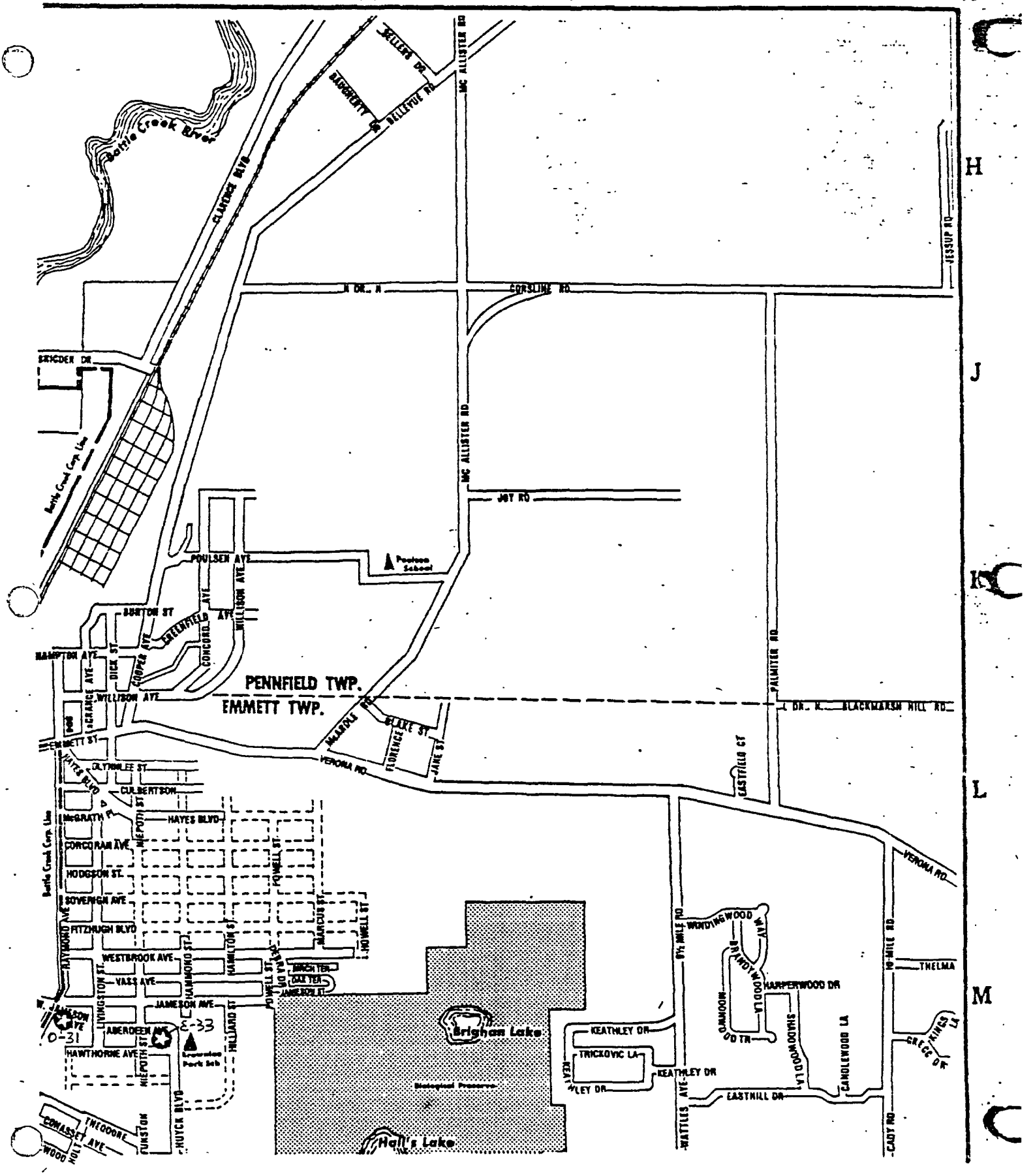
PENNFIELD TWP.
Spring Lakes
Battle Creek River
Battle Creek Corp. Line
Kellogg Community College
Calhoun Area Vocational Center
Capital Square Center
Michigan State University
Battle Creek Christian School
Leila Hospital & Health Center
Police Station
Kimball School
Purdy School
Verona Waterworks
Grand Trunk R. R. Shops
P-23
O-22
P-21
S-65
O-19
E-50
S-78
B-59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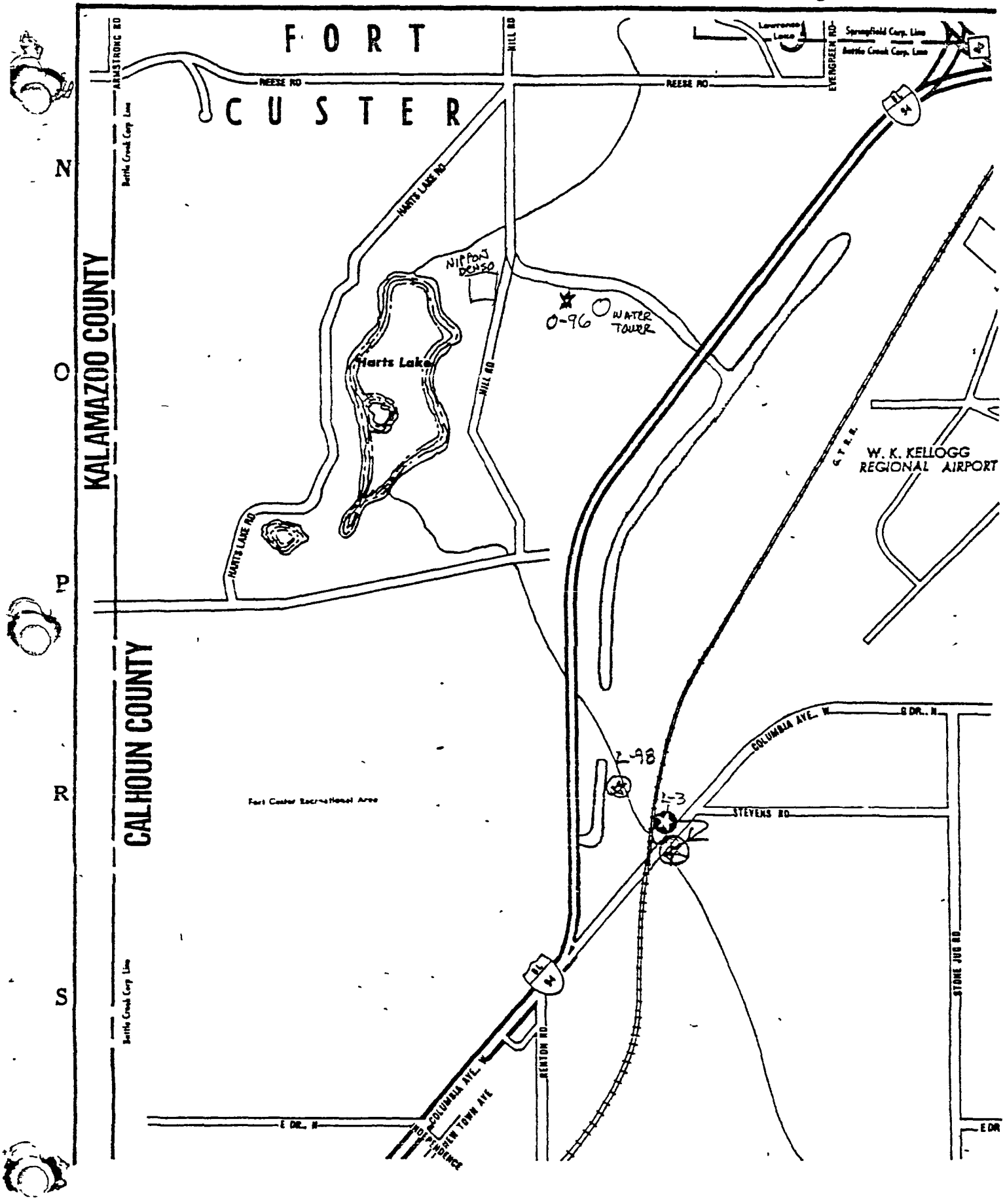
Battle Creek River
CLARENCE BLVD
BELLEVUE RD
MC ALLISTER RD
CORSLINE RD
JESSUP RD
JOY RD
POULSEN AVE
Poulsen School
BURTON ST
GREENFIELD AVE
CONCORD AVE
WILLISON AVE
HAMPTON AVE
DICK ST
COOPER AVE
LaCRANCE AVE
PENNFIELD TWP.
EMMETT TWP.
PALMITER RD
BLACKMARSH HILL RD
McARDLE RD
BLAKE ST
FLORENCE
JANE ST
VERONA RD
EASTFIELD CT
EMMETT ST
HAYES BLVD
CULBERTSON
McGRATH PL
NIEPOTH ST
CORCORAN AVE
HODGSON ST
SOVERIGN AVE
FITZHUGH BLVD
WESTBROOK AVE
VASS AVE
JAMESON AVE
ABERDEEN AVE
HAWTHORNE AVE
HAMMOND ST
HAMILTON ST
POWELL ST
MARCUS ST
HOWELL ST
LIVINGSTON ST
HILLIARD ST
HUYCK BLVD
FUNSTON
THEODORE
CONASSET AVE
Brighan Lake
Hall's Lake
Biological Preserve
KEATHLEY DR
TRICKOVIC LA
WINDINGWOOD WAY
BRANDYWOOD LA
HARPERWOOD DR
MOONWOOD TR
SHADOWOOD LA
CANDLEWOOD LA
EASTHILL DR
WATTLES AVE
CADY RD
THELMA
KINGS LA
GREGG DR
9½ MILE RD
10 MILE RD
E-33
O-31


FORT CUSTER
KALAMAZOO COUNTY
CALHOUN COUNTY
ARMSTRONG RD
REESE RD
HILL RD
HARTS LAKE RD
Harts Lake
NIPPON DENSO
O-96 WATER TOWER
Lawrence Lake
Springfield Corp. Line
Battle Creek Corp. Line
EVERGREEN RD
W. K. KELLOGG REGIONAL AIRPORT
G.T.R.R.
Fort Custer Recreational Area
I-94
I-3
COLUMBIA AVE. W
E DR. N
STEVENS RD
STONE JUG RD
E DR
KENTON RD
COLUMBIA AVE. W
NEW TOWN AVE
INDEPENDENCE
N
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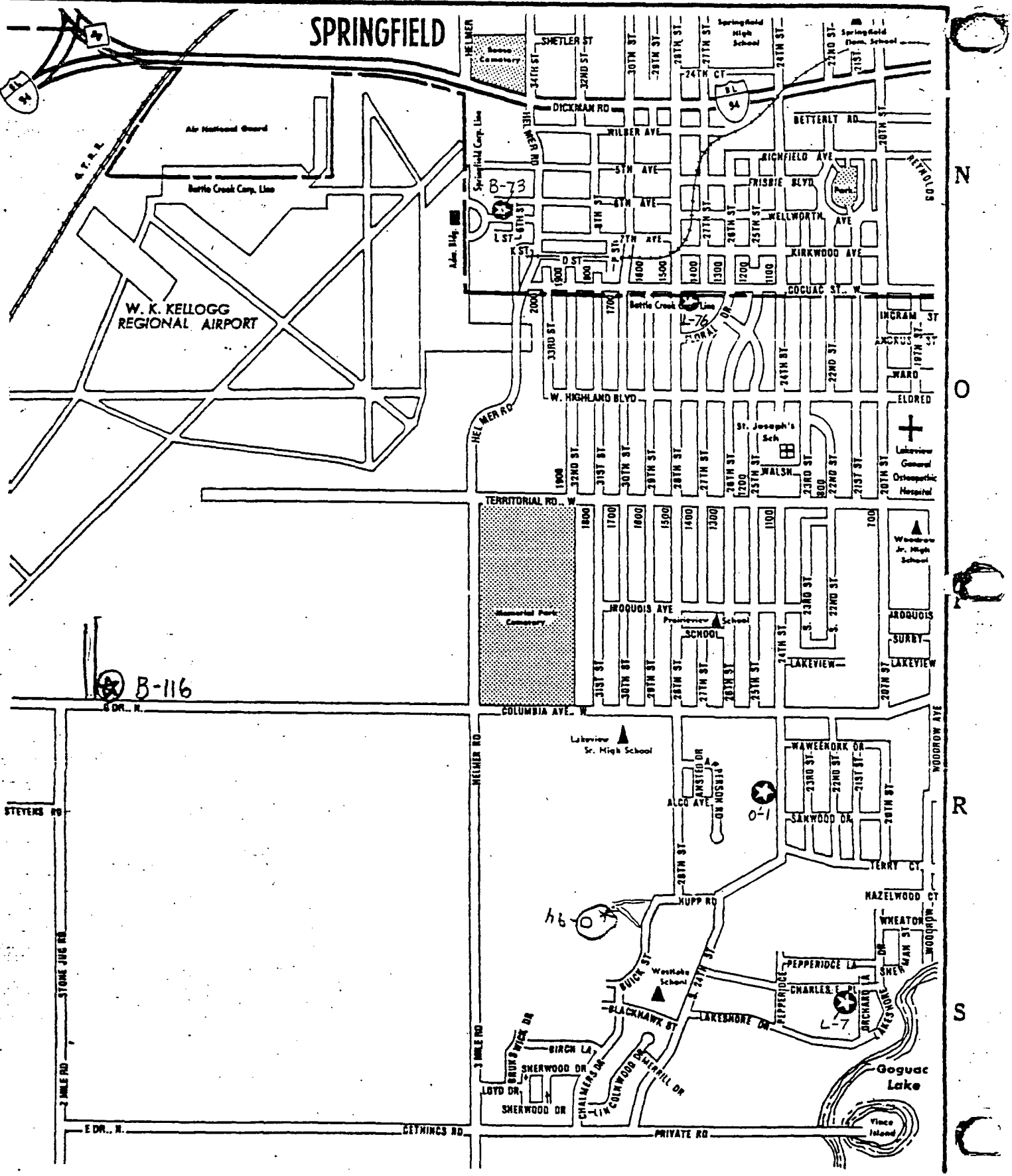
S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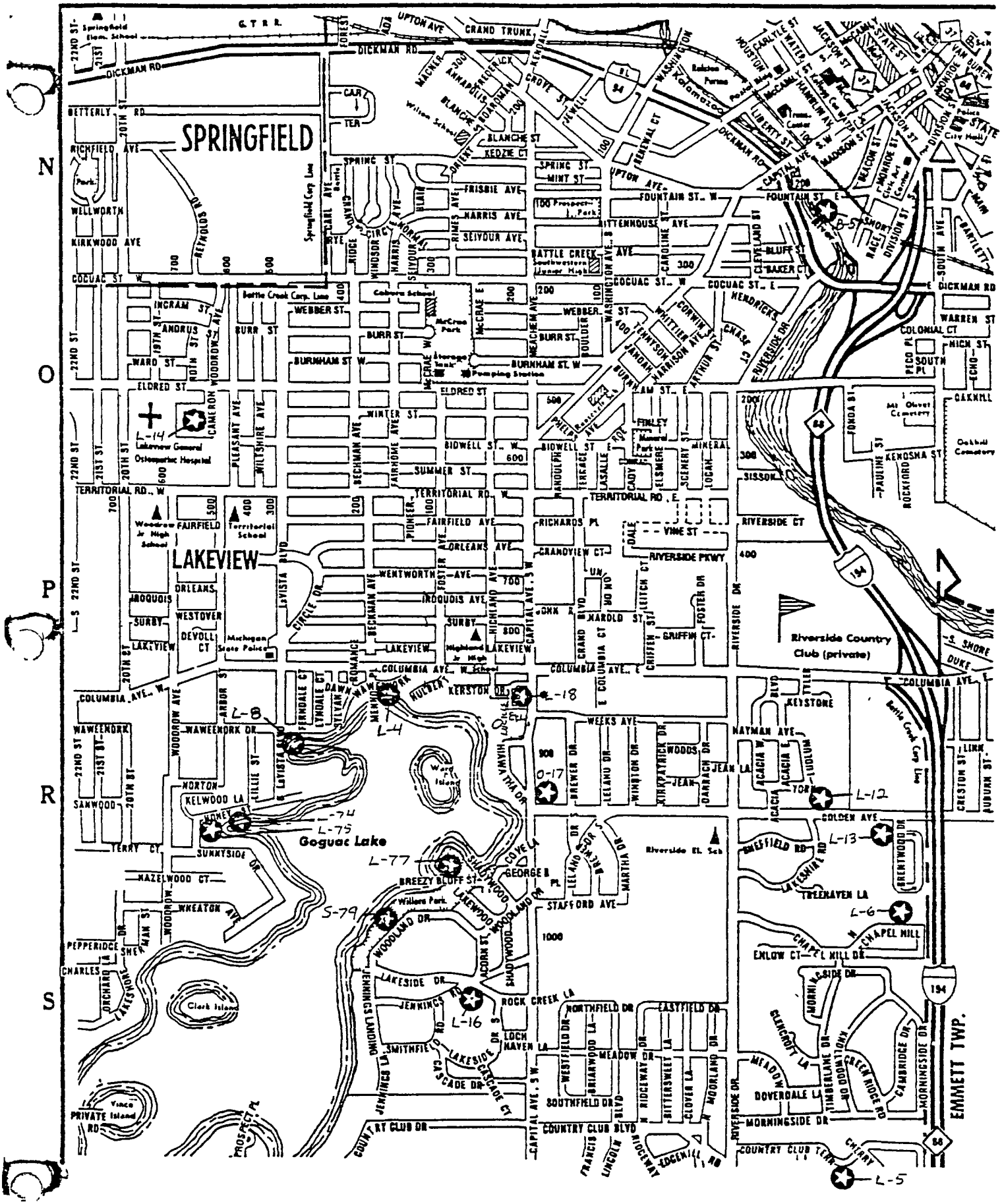
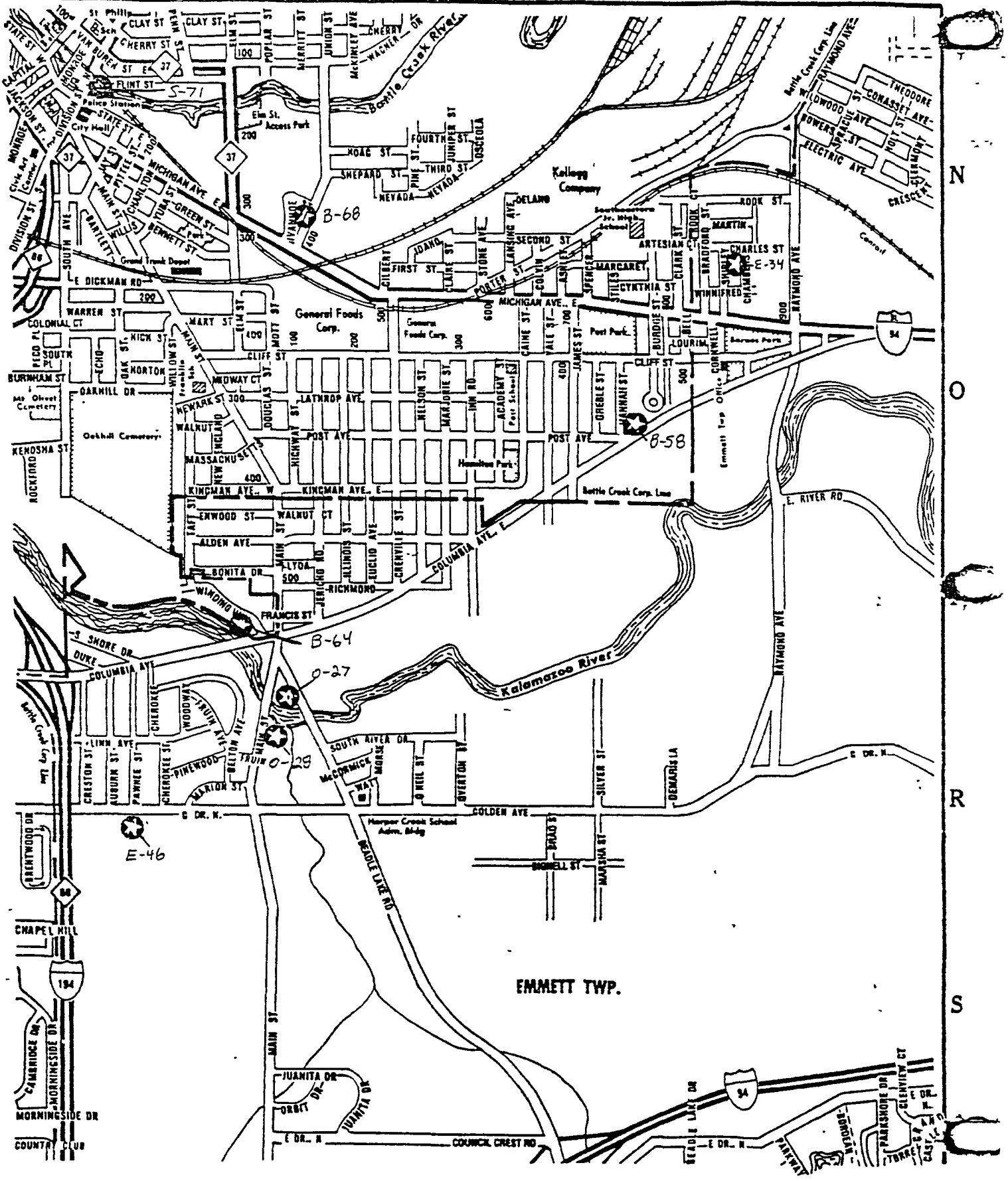
S
SPRINGFIELD
W. K. KELLOGG REGIONAL AIRPORT
Air National Guard
Battle Creek Corp. Line
Springfield Corp. Line
Adm. Bldg.
HELMER
Boose Cemetery
SHETLER ST
DICKMAN RD
WILBER AVE
5TH AVE
6TH AVE
7TH AVE
BETTERLY RD
RICHFIELD AVE
FRISBIE BLVD
WELLWORTH AVE
KIRKWOOD AVE
COGUAC ST. W
Springfield High School
Springfield Elem. School
Park
REYNOLDS
INGRAM ST
ANDRUS ST
WARD
ELDRED
FLORAL DR
W. HIGHLAND BLVD
St. Joseph's Sch
WALSH
Lakeview General Osteopathic Hospital
TERRITORIAL RD. W
Memorial Park Cemetery
IROQUOIS AVE
Prairieview School
SCHOOL
LAKEVIEW
Woodrow Jr. High School
SURBY
COLUMBIA AVE. W
Lakeview Sr. High School
WAWEENORK DR
SANWOOD DR
TERRY CT
HAZELWOOD CT
WHEATON
WOODROW AVE
ALCO AVE
PERSON RD
HUPP RD
STEVENS RD
STONE JUG RD
2 MILE RD
3 MILE RD
E DR. N.
CETHINGS RD
PRIVATE RD
Westlake School
BUICK ST
BLACKHAWK ST
LAKESHORE DR
PEPPERIDGE LA
CHARLES E. PL
ORCHARD LA
BIRCH LA
SHERWOOD DR
LOYD DR
CHALMERS DR
LINCOLNWOOD DR
MERRILL DR
Goguac Lake
Vince Island
B-73
B-116
L-76
L-7
0-1
46-0


SPRINGFIELD
LAKEVIEW
Goguac Lake
Riverside Country Club (private)
EMMETT TWP.
N
O
P
R
S
L-4
L-5
L-6
L-8
L-12
L-13
L-14
L-16
L-17
L-18
L-74
L-75
L-77
S-79


CLAY ST
CHERRY ST
FLINT ST
S-71
Police Station
City Hall
Elm St. Access Park
Battle Creek River
MICHIGAN AVE. E
B-68
Kellogg Company
GREEN ST
Park
Grand Trunk Depot
E DICKMAN RD
WARREN ST
COLONIAL CT
MARY ST
General Foods Corp.
CLIFF ST
MIDWAY CT
LATHROP AVE
POST AVE
B-58
Hamilton Park
Oakhill Cemetery
Mt. Olivet Cemetery
KENOSHA ST
OAKHILL DR
BURNHAM ST
NEWARK ST
WALNUT ST
MASSACHUSETTS
KINGMAN AVE. W
KINGMAN AVE. E
ENWOOD ST
ALDEN AVE
BONITA DR
LYDA
RICHMOND
FRANCIS ST
WINDING WAY
B-64
O-27
O-29
S SHORE DR
DUKE
COLUMBIA AVE
Kalamazoo River
LINN AVE
PINEWOOD
MARION ST
SOUTH RIVER DR
McCORMICK
COLDEN AVE
E DR. N
Harper Creek School Adm. Bldg
E-46
CHAPEL HILL
MORNINGSIDE DR
CAMBRIDGE DR
COUNTRY CLUB
EMMETT TWP.
JUANITA DR
ORBIT DR
COUNCIL CREST RD
BEADLE LAKE RD
Battle Creek Corp. Line
E. RIVER RD
RAYMOND AVE
SILVER ST
DEMARSILIA
BRADY ST
MARSHA ST
BIDWELL ST
OVERTON ST
O'NEIL ST
WATT
MORSE
MAIN ST
SECOND ST
THIRD ST
FOURTH ST
NEVADA
SHEPARD ST
ROAG ST
OSCEOLA
JUNIPER ST
PINE ST
MERRITT ST
JUNIOR ST
McKINLEY AVE
CHERRY ST
ELM ST
POPLAR ST
VAN BUREN ST
STATE ST
CAPITAL AVE
JACKSON ST
MONROE ST
DIVISION ST
CIVIC AUD. Center
MICHIGAN AVE. E
CRITTENDEN ST
CHARLTON ST
MAIN ST
WILLIS
BENNETT ST
BARTLETT
SOUTH AVE
DIVISION ST
Grand Trunk Depot
IVANHOE
ADAMS
GILBERT
LAKE ST
STONE AVE
LANSING AVE
PORTER ST
COLVIN ST
ASHLEY
SPENCER
MARGARET
STILES
CYNTHIA ST
ARTESIAN CT
CLARK ST
BRADFORD ST
CROOK
MARTIN
ROOK ST
CHARLES ST
WINNIFRED
SHIRLEY
CHAMBERS
E-34
Southeastern Jr. High School
DELANO
CAINE ST
YALE ST
JAMES ST
BURDICK ST
BILLS
LOURIM
CORNWELL
Bureau Parks
Post Park
Emmett Twp. Office
ORBLE ST
HANNAH ST
ACADEMY ST
Post School
INN RD
MARJORIE ST
NELSON ST
DOUGLAS ST
HIGHWAY ST
NEW ENGLAND
WILLOW ST
Franklin Sch
OAK ST
NORTON
ECHO
SOUTH PL
PICO PL
MOTT ST
ELM ST
MAIN ST
WALNUT CT
ILLINOIS ST
EUCLID AVE
CHENVILLE ST
COLUMBIA AVE. E
JAFT ST
HERICHO RD
CHEROKEE
WOODWAY
IRUIN AVE
BELTON AVE
CRESTON ST
AUBURN ST
PAWNEE ST
CHEROKEE ST
ARENTWOOD DR
Battle Creek Corp. Line
RAYMOND AVE
WILDWOOD AVE
BOWERS AVE
SPRAGUE ST
ELECTRIC AVE
THEODORE
COMASSET AVE
HOLT ST
CLERMONT
CRESCENT
Conrail
94
85
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N
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R
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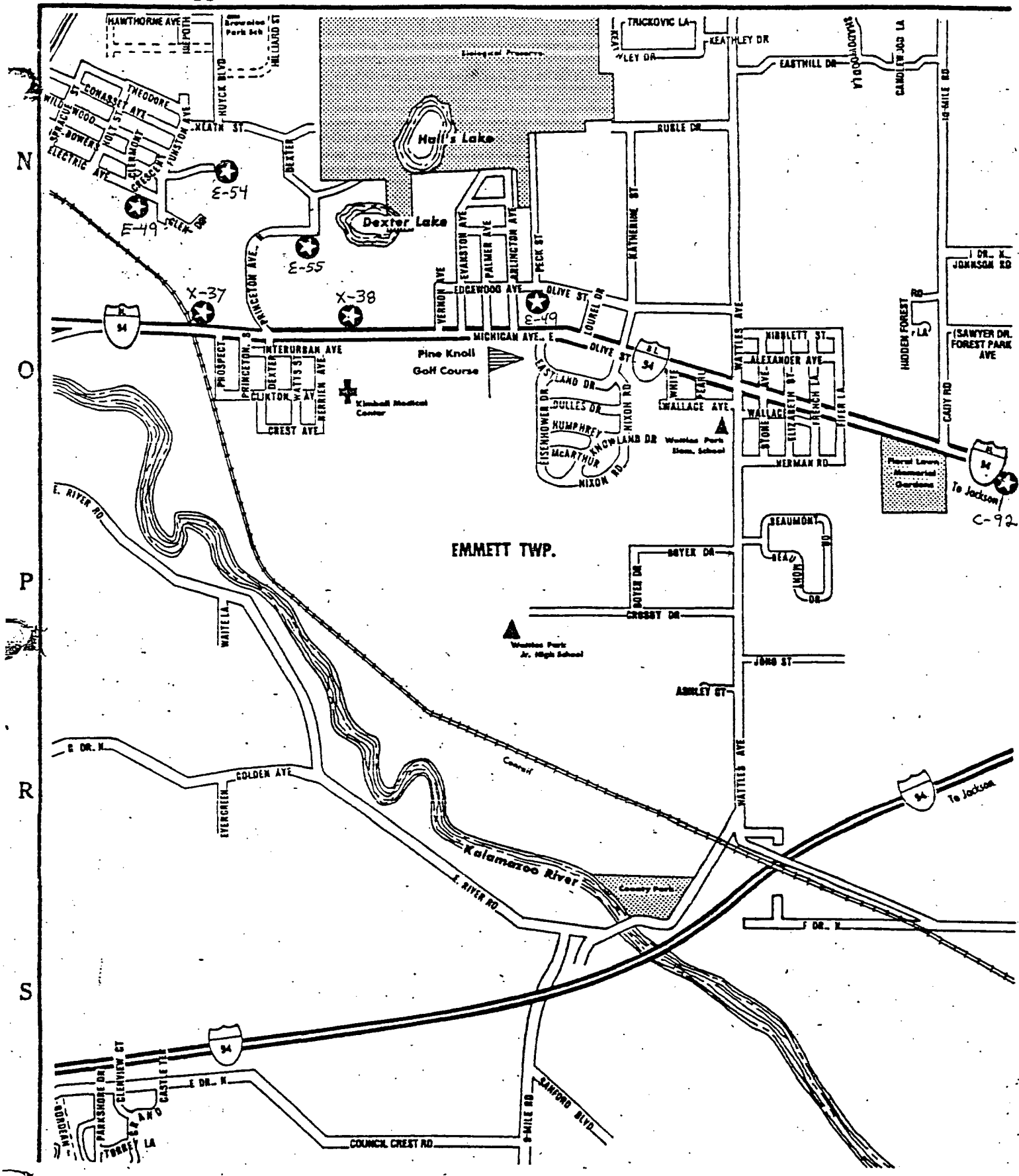
18
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N
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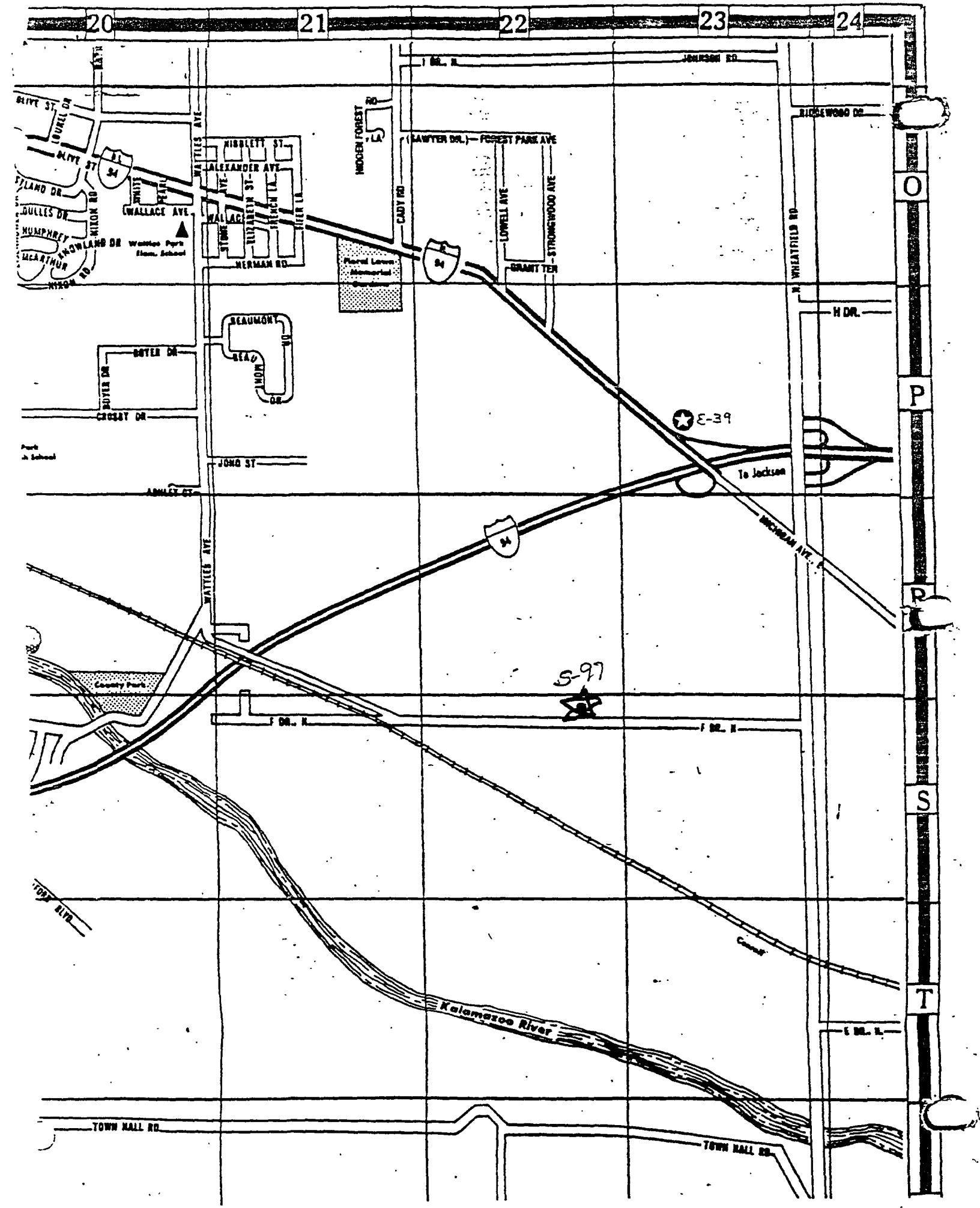
S
HAWTHORNE AVE
HILLIARD ST
HUYCK BLVD
THEODORE
CONASSET AVE
WILDWOOD
SPRAGUE ST
BOWERS
HOLT ST
CLERMONT
CRESCENT
FUNSTON AVE
ELECTRIC AVE
HEATH ST
DEXTER
Hall's Lake
Dexter Lake
E-54
E-49
E-55
X-37
X-38
E-49
PRINCETON AVE
VERNON AVE
EVANSTON AVE
PALMER AVE
ARLINGTON AVE
PECK ST
EDGEWOOD AVE
OLIVE ST
LOUREL DR
KATHERINE ST
RUBLE DR
TRICKOVIC LA
KEATHLEY DR
EASTHILL DR
SHADOWOOD LA
CANDLEWOOD LA
10-MILE RD
I DR. N.
JOHNSON RD
HIDDEN FOREST RD
(SAWYER DR.
FOREST PARK AVE
CAIIY RD
94
MICHIGAN AVE. E
INTERURBAN AVE
PROSPECT
PRINCETON
DEXTER
WATTS ST
NERRIEN AVE
CLINTON AVE
CREST AVE
Pine Knoll
Golf Course
Kimball Medical Center
EASTLAND DR
DULLES DR
HUMPHREY
McARTHUR
KNOWLAND DR
NIXON RD
EISENHOWER DR
WHITE
PEARL
WALLACE AVE
Wattles Park Elem. School
WATTLES AVE
NIBBLETT ST
ALEXANDER AVE
WALLACE
STONE
ELIZABETH ST
FRENCH LA
RIVER LA
HERMAN RD
Floral Lawn Memorial Gardens
To Jackson
C-92
E. RIVER RD
EMMETT TWP.
BEAUMONT
BOYER DR
CROSBY DR
Wattles Park Jr. High School
JONG ST
ASHLEY CT
WAITE LA
G DR. N
GOLDEN AVE
EVERGREEN
Conrail
Kalamazoo River
County Park
E. RIVER RD
F DR. N
To Jackson
E DR. N
CLENVIEW CT
CASTLE TER
PARKSHORE DR
GRAND
TORREY LA
GORDON
COUNCIL CREST RD
9-MILE RD
SANFORD BLVD


20
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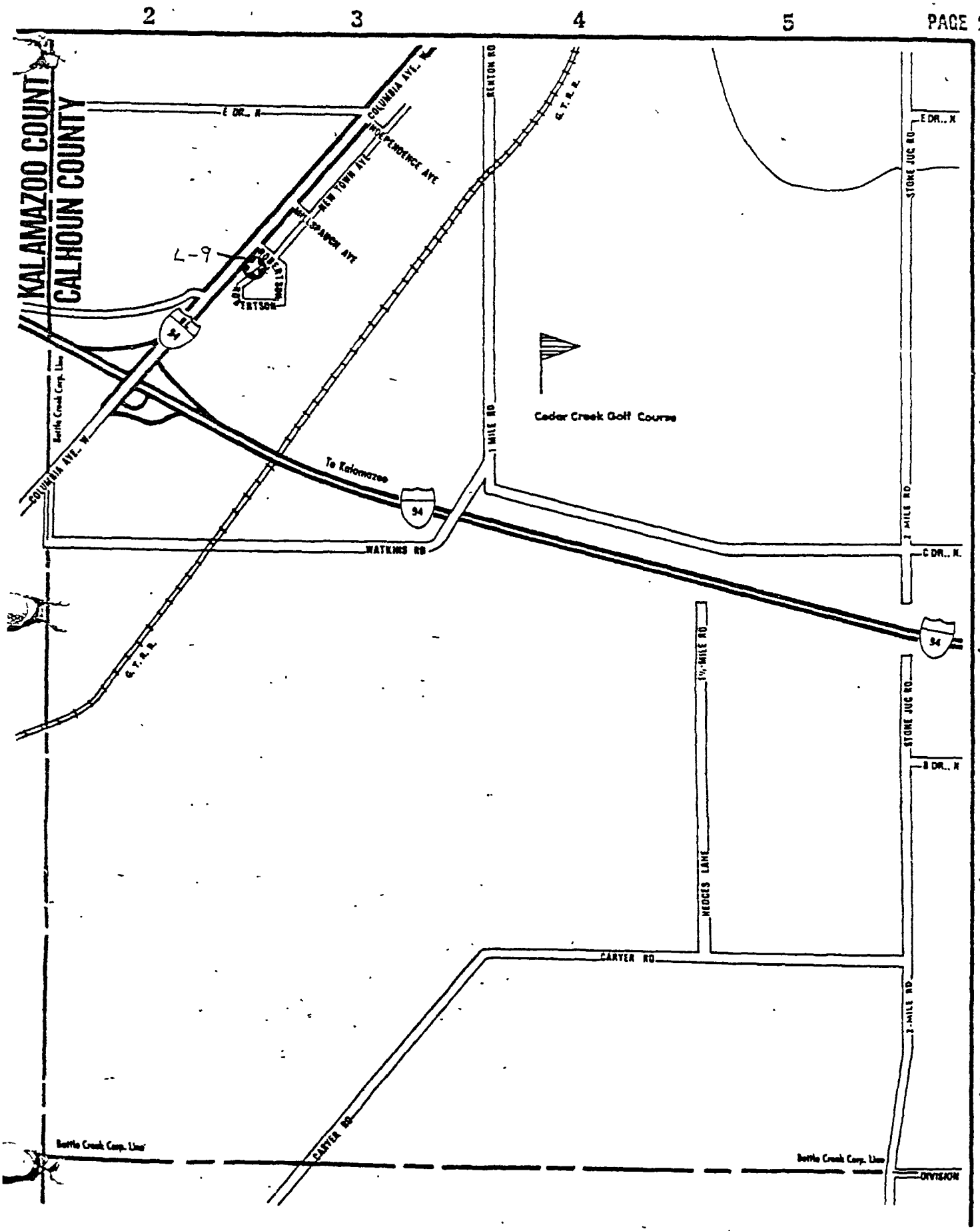
T
JOHNSON RD
RIDGEWOOD DR
(SAWYER DR.)—FOREST PARK AVE
HIDDEN FOREST RD
CADY RD
LOWELL AVE
STRONGWOOD AVE
GRANT TER
N. WHEATFIELD RD
H DR.
WATTLES AVE
NIBBLETT ST
ALEXANDER AVE
WALLACE AVE
HERMAN RD
Floral Lawn Memorial Gardens
BEAUMONT DR
BOYER DR
CROSBY DR
JONO ST
ASHLEY CT
E-39
To Jackson
MICHIGAN AVE
S-97
County Park
F DR. N
Kalamazoo River
E DR. N
TOWN HALL RD
Conrail


2
3
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T
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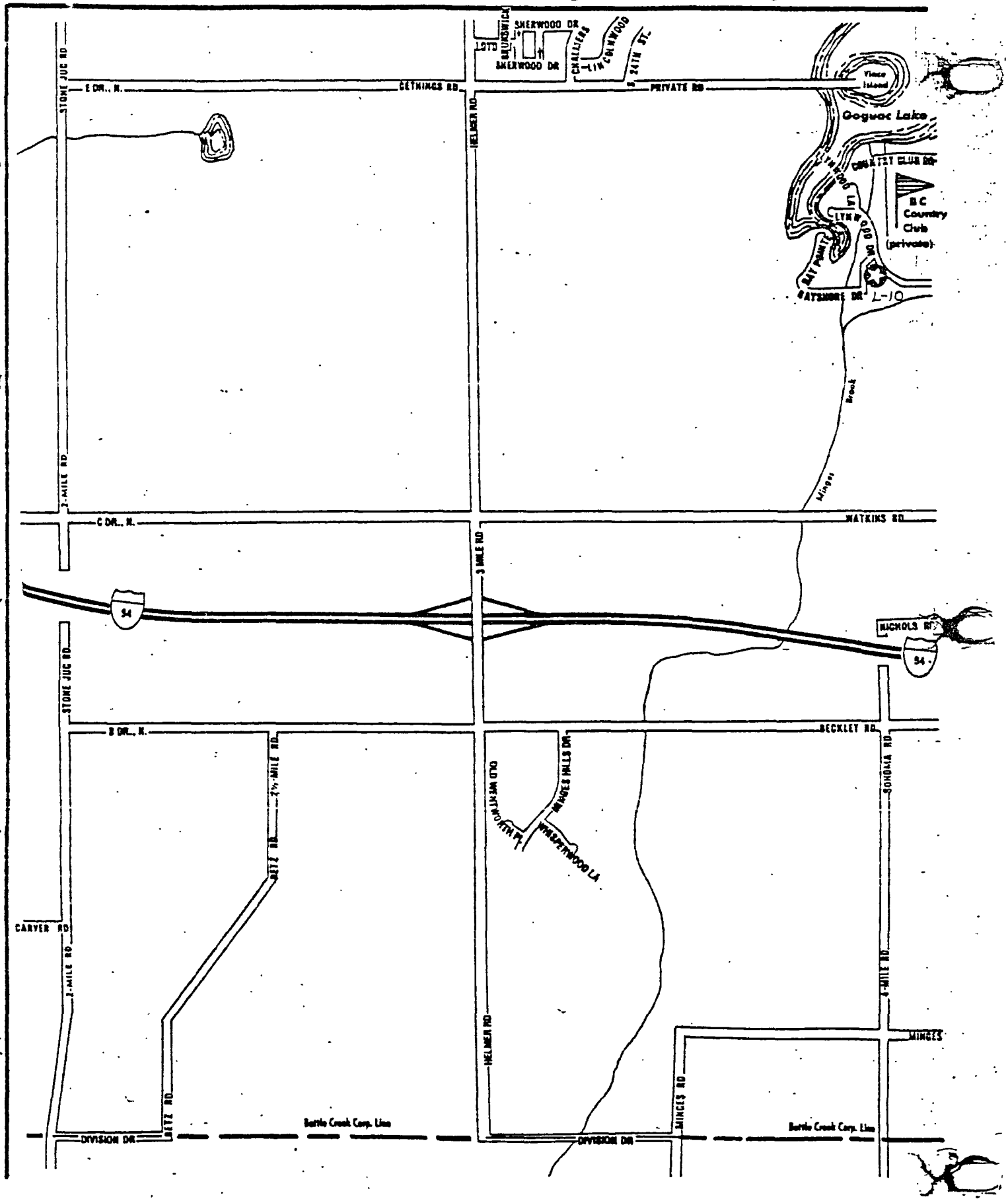
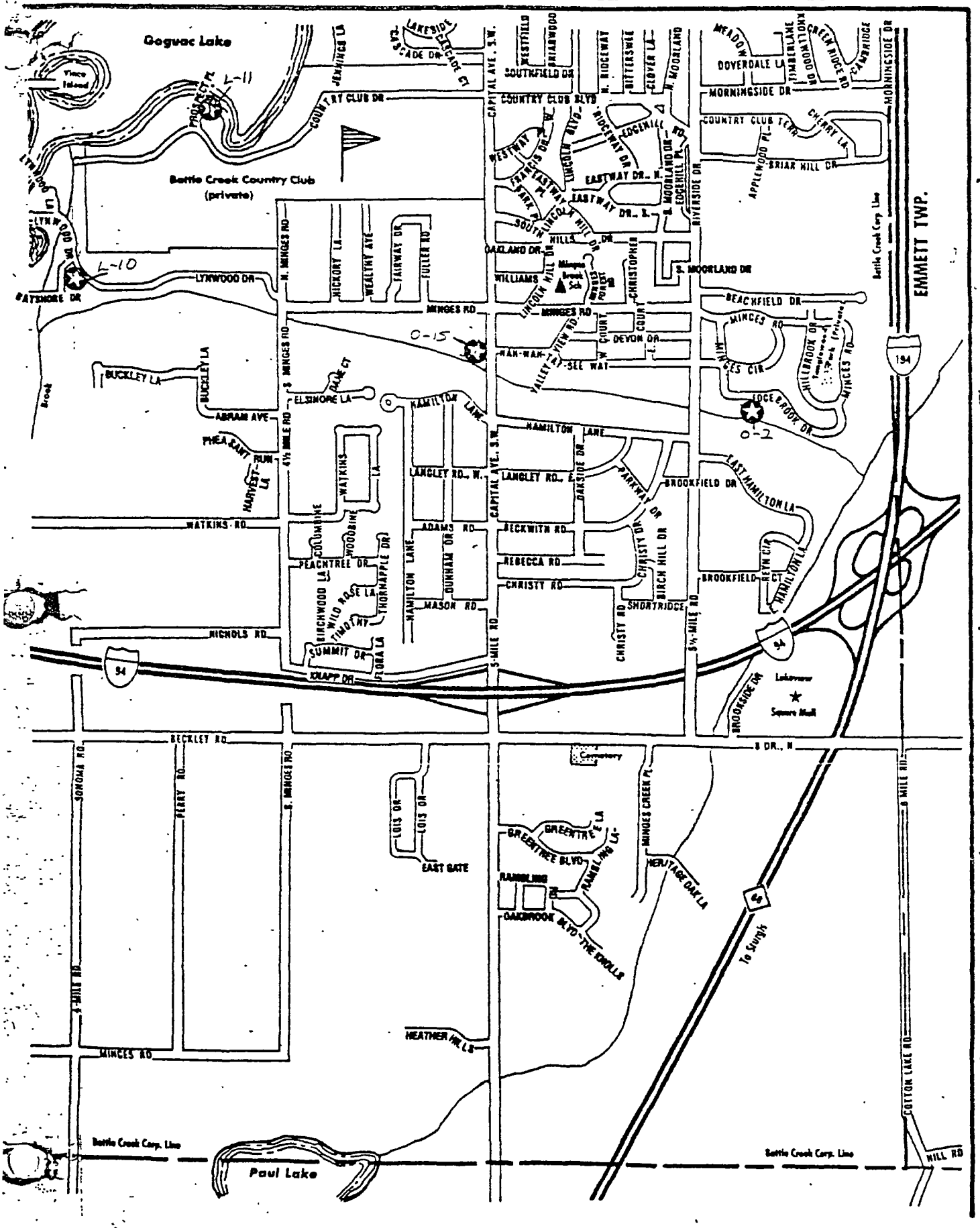
V
W
X
KALAMAZOO COUNT
CALHOUN COUNTY
E DR., N
COLUMBIA AVE., W
INDEPENDENCE AVE
NEW TOWN AVE
MILLSPAUGH AVE
ROBERTSON
RENTON RD
G.T.R.R.
STONE JUG RD
E DR., N
L-9
94
Cedar Creek Golf Course
1 MILE RD
2 MILE RD
Battle Creek Corp. Line
COLUMBIA AVE., W
To Kalamazoo
WATKINS RD
C DR., N.
1½-MILE RD
HEDGES LANE
B DR., N
CARYER RD
2-MILE RD
Battle Creek Corp. Line
DIVISION


6
7
8
9
T
U
V
W
X
SHERWOOD DR
BRUNSWICK
LOTS
SHERWOOD DR
CHALLIERS
LINCOLNWOOD
S. 24TH ST.
STONE JUG RD
E DR., N.
GETHINGS RD
PRIVATE RD
HELMER RD
Vince Island
Goguac Lake
COUNTRY CLUB RD
LYNWOOD LA
LYNWOOD DR
BAY POINTE
BAYSHORE DR
L-10
B C Country Club (private)
Minges Brook
2-MILE RD
C DR., N.
WATKINS RD
3 MILE RD
54
NICHOLS RD
54
STONE JUG RD
B DR., N.
BECKLEY RD
2½-MILE RD
BETZ RD
OLD WENTWORTH PL
MINGES HILLS DR
WHISPERWOOD LA
SONOMA RD
CARVER RD
2-MILE RD
4-MILE RD
HELMER RD
MINGES
MINGES RD
BETZ RD
Battle Creek Corp. Line
DIVISION DR
DIVISION DR
Battle Creek Corp. Line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11
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T
U
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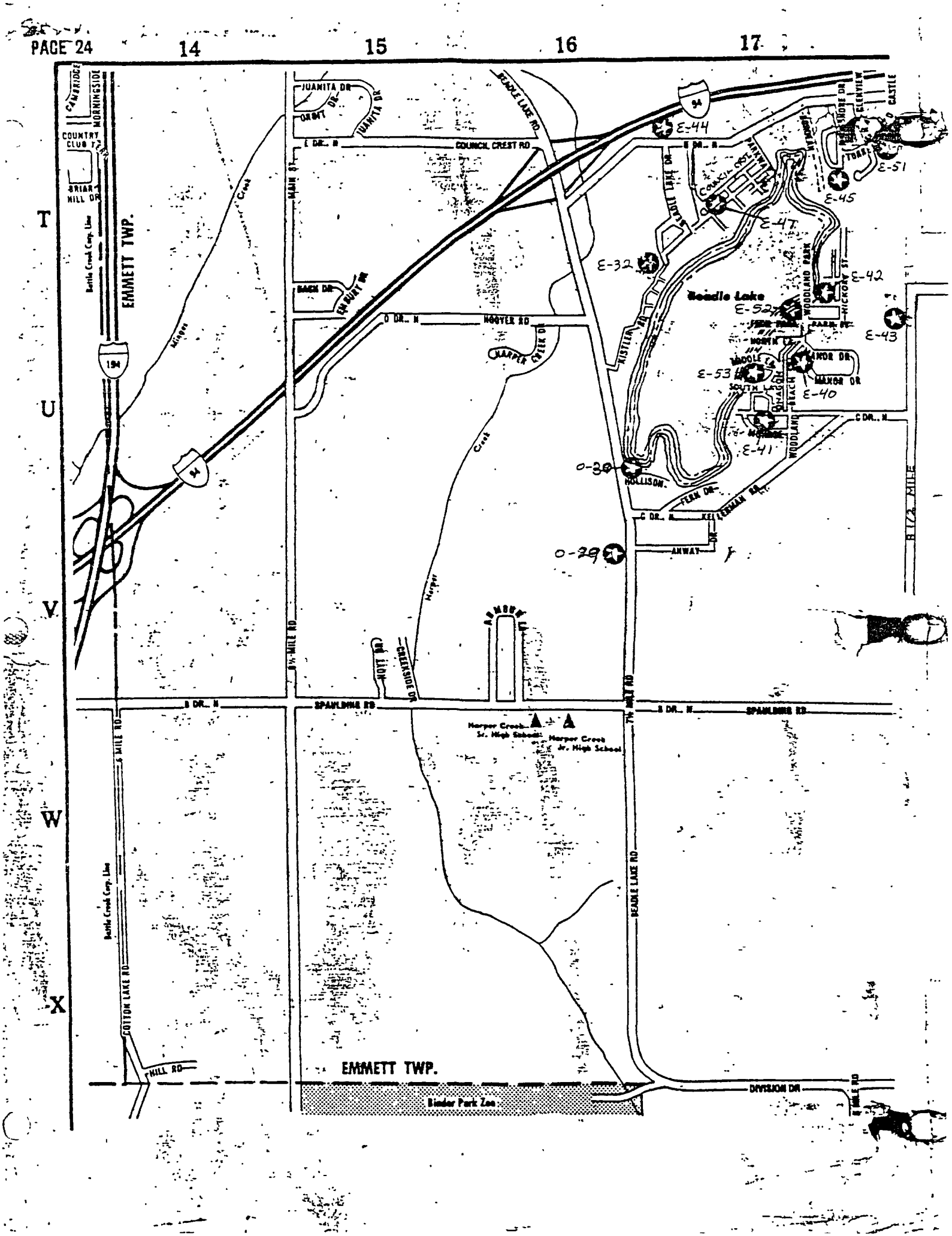
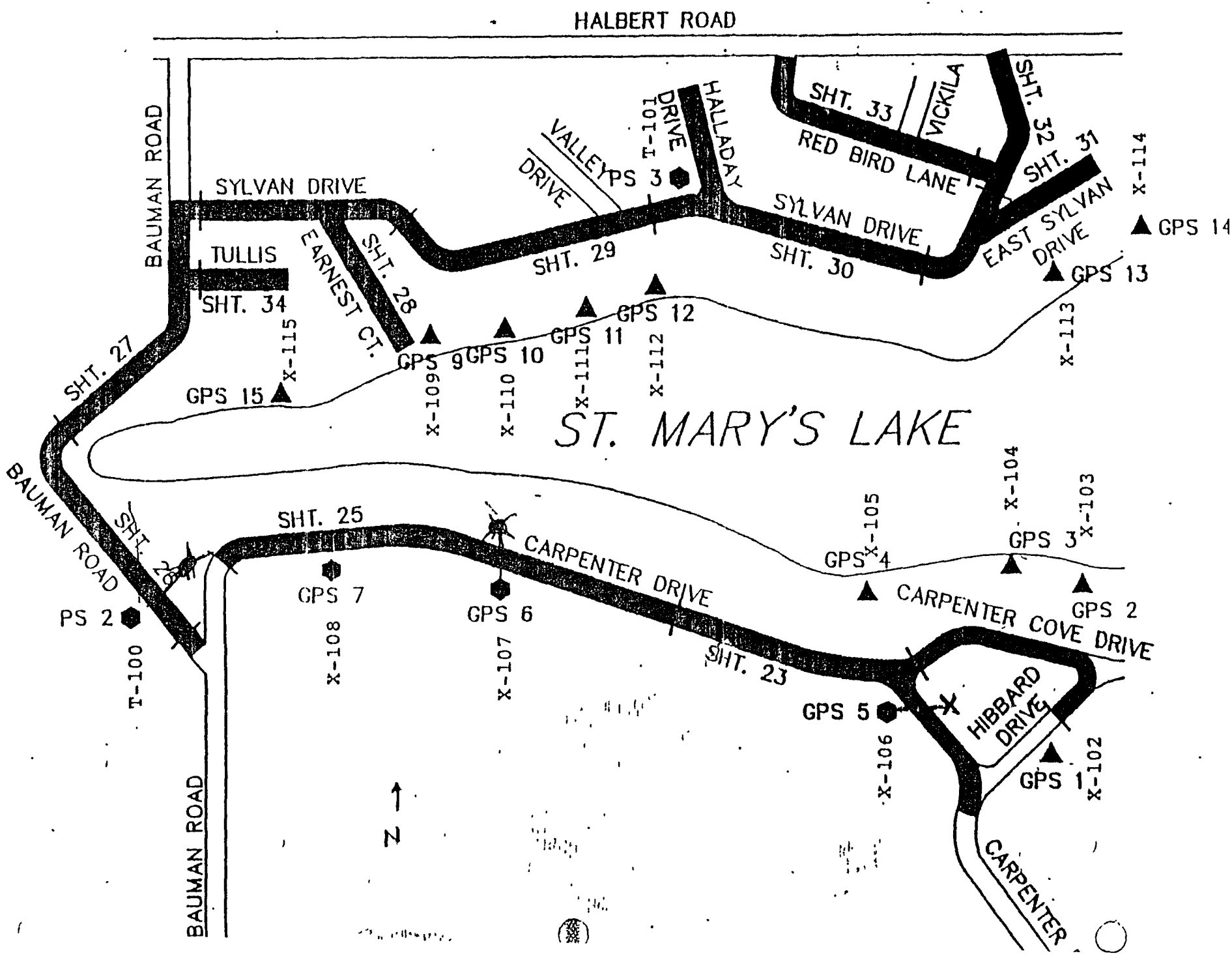
W
X
Goguac Lake
Vince Island
L-11
L-10
O-15
O-2
Battle Creek Country Club (private)
EMMETT TWP.
Battle Creek Corp. Line
Paul Lake
Lakeview Square Mall
Cemetery
To Sturgis
194
94
68
COUNTRY CLUB DR
JENNINGS LA
LAKESIDE
CASCADE DR
CASCADE CT
CAPITAL AVE. S.W.
WESTFIELD
BRIARWOOD
SOUTHFIELD DR
N. RIDGEWAY
BITTERSWEE
CLOVER LA
N. MOORLAND
MEADOW
DOVERDALE LA
TIMBERLANE
KNOLLWOOD DR
GREEN RIDGE RD
CAMBRIDGE
MORNINGSIDE DR
COUNTRY CLUB BLVD
RIDGEWAY DR
EDGEHILL RD
COUNTRY CLUB TERR
CHERRY LA
APPLEWOOD PL
BRIAR HILL DR
WESTWAY
FRANCIS DR
LINCOLN BLVD
EASTWAY DR., N.
EASTWAY DR., S.
S. MOORLAND DR
EDGEHILL PL
RIVERSIDE DR
PARK PL
SOUTH HILLS DR
LINCOLN HILL DR
OAKLAND DR
WILLIAMS
Mingus Brook Sch
CHRISTOPHER
S. MOORLAND DR
BEACHFIELD DR
MINGES RD
N. MINGES RD
HICKORY LA
WEALTHY AVE
FAIRWAY DR
FULLER RD
LYNWOOD DR
BAYSHORE DR
MINGES RD
DEVON DR
W. COURT
E. COURT
VALLEY VIEW RD
WAH-WAH-TAY-SEE WAY
MINGES CIR
HILLBROOK DR
MINGES RD
EDGEBROOK DR
BUCKLEY LA
BUCKLEY LA
S. MINGES RD
DANE CT
ELSINORE LA
HAMILTON LANE
ABRAM AVE
PHEASANT RUN
HARVEST LA
4½ MILE RD
WATKINS LA
LANGLEY RD., W.
LANGLEY RD., E.
DAKSIDE DR
PARKWAY DR
BROOKFIELD DR
EAST HAMILTON LA
WATKINS RD
COLUMBINE
WOODBINE
ADAMS RD
BECKWITH RD
PEACHTREE DR
REBECCA RD
CHRISTY DR
BIRCH HILL DR
BROOKFIELD CT
REYN CIR
HAMILTON LA
BIRCHWOOD LA
WILD ROSE LA
THORNAPPLE DR
TIMOTHY
HAMILTON LANE
DUNHAM DR
CHRISTY RD
MASON RD
SHORTRIDGE
NICHOLS RD
SUMMIT DR
FLORA LA
5-MILE RD
5½-MILE RD
KNAPP DR
BROOKSIDE DR
BECKLEY RD
8 DR., N
SONOMA RD
PERRY RD
S. MINGES RD
LOIS DR
LOIS DR
EAST GATE
GREENTREE LA
GREENTREE BLVD
RAMBLING LA
RAMBLING
OAKBROOK BLVD
THE KNOLLS
MINGES CREEK PL
HERITAGE OAK LA
6 MILE RD
4-MILE RD
HEATHER HILLS
MINGES RD
COTTON LAKE RD
HILL RD


14
15
16
17
T
U
V
W
X
EMMETT TWP.
EMMETT TWP.
Beadle Lake
Harper Creek Sr. High School
Harper Creek Jr. High School
Binder Park Zoo
COUNCIL CREST RD
HOOVER RD
SPAULDING RD
DIVISION DR
COTTON LAKE RD
HILL RD
BEADLE LAKE RD
8½ MILE RD
7½ MILE RD
6 MILE RD
8 MILE RD
Battle Creek Corp. Line
Minges Creek
Harper Creek
JUANITA DR
ORBIT DR
BEADLE LAKE RD
MAIN ST
BACK DR
EMBURY DR
HARPER CREEK DR
KISTLER RD
HOLLISON
FERN DR
KELLERMAN RD
ANWAY
WOODLAND PARK
HICKORY ST
MANOR DR
SOUTH LA
NORTH LA
CREEKSIDE DR
ARMBURN LA
HOLT DR
COUNTRY CLUB
BRIAR HILL DR
MORNINGSIDE
CAMBRIDGE
CASTLE
ELLENVIEW
E-44
E-51
E-45
E-47
E-32
E-42
E-52
E-43
E-53
E-40
E-41
O-30
O-29
94
194


HALBERT ROAD
BAUMAN ROAD
SYLVAN DRIVE
TULLIS
SHT. 34
SHT. 27
EARNEST CT.
SHT. 28
VALLEY DRIVE
PS 3
T-101
HALLADAY DRIVE
SHT. 29
SHT. 30
SHT. 33
VICKILA
RED BIRD LANE
SHT. 32
SHT. 31
EAST SYLVAN DRIVE
SYLVAN DRIVE
X-114
GPS 14
GPS 13
X-113
GPS 12
GPS 11
GPS 10
GPS 9
GPS 15
X-115
X-109
X-110
X-111
X-112
ST. MARY'S LAKE
BAUMAN ROAD
SHT. 26
SHT. 25
CARPENTER DRIVE
GPS 7
GPS 6
GPS 4
X-105
X-104
GPS 3
X-103
GPS 2
CARPENTER COVE DRIVE
PS 2
T-100
X-108
X-107
SHT. 23
GPS 5
HIBBARD DRIVE
GPS 1
X-102
X-106
N
BAUMAN ROAD
CARPENTER

PAGE 9B

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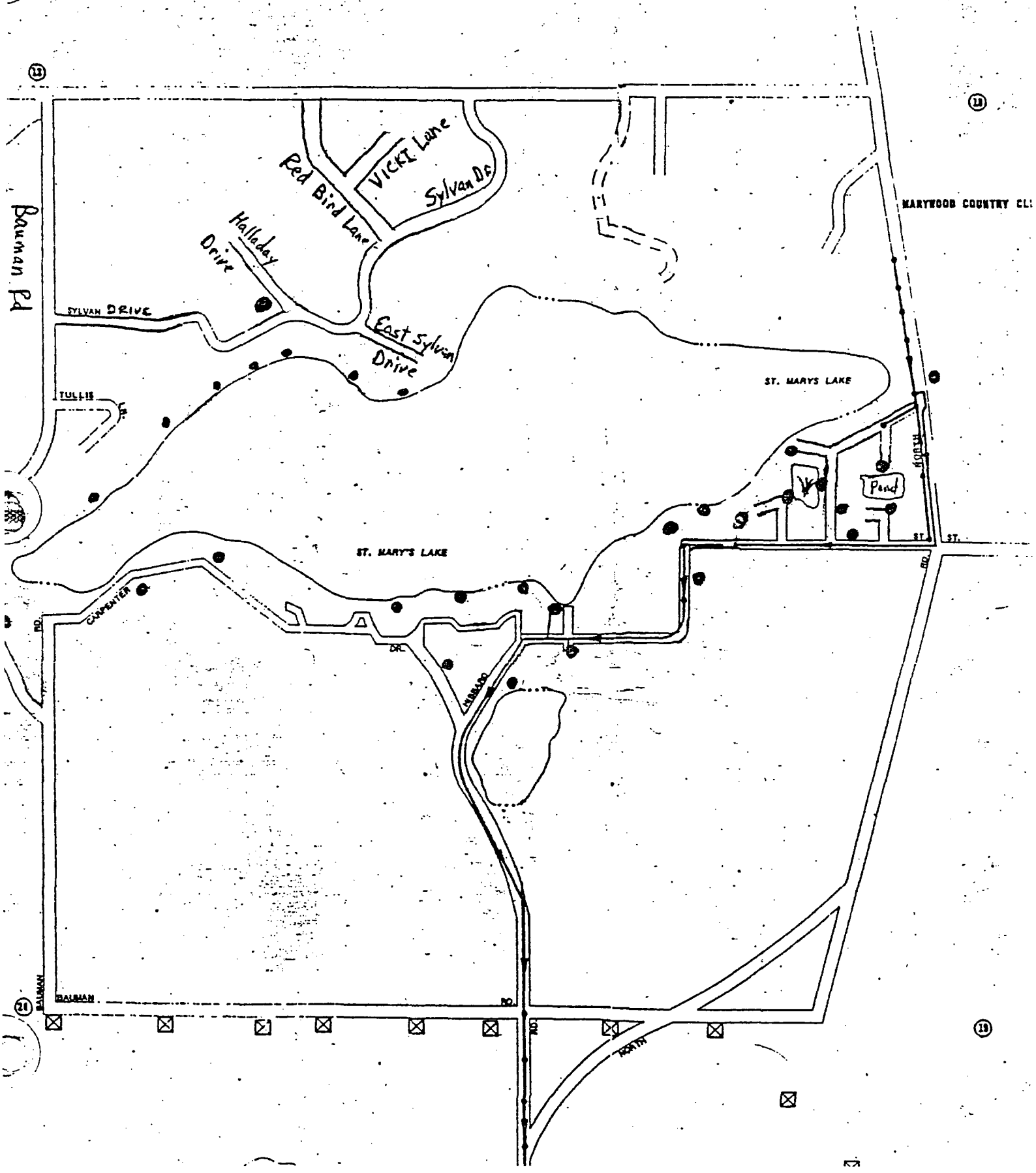
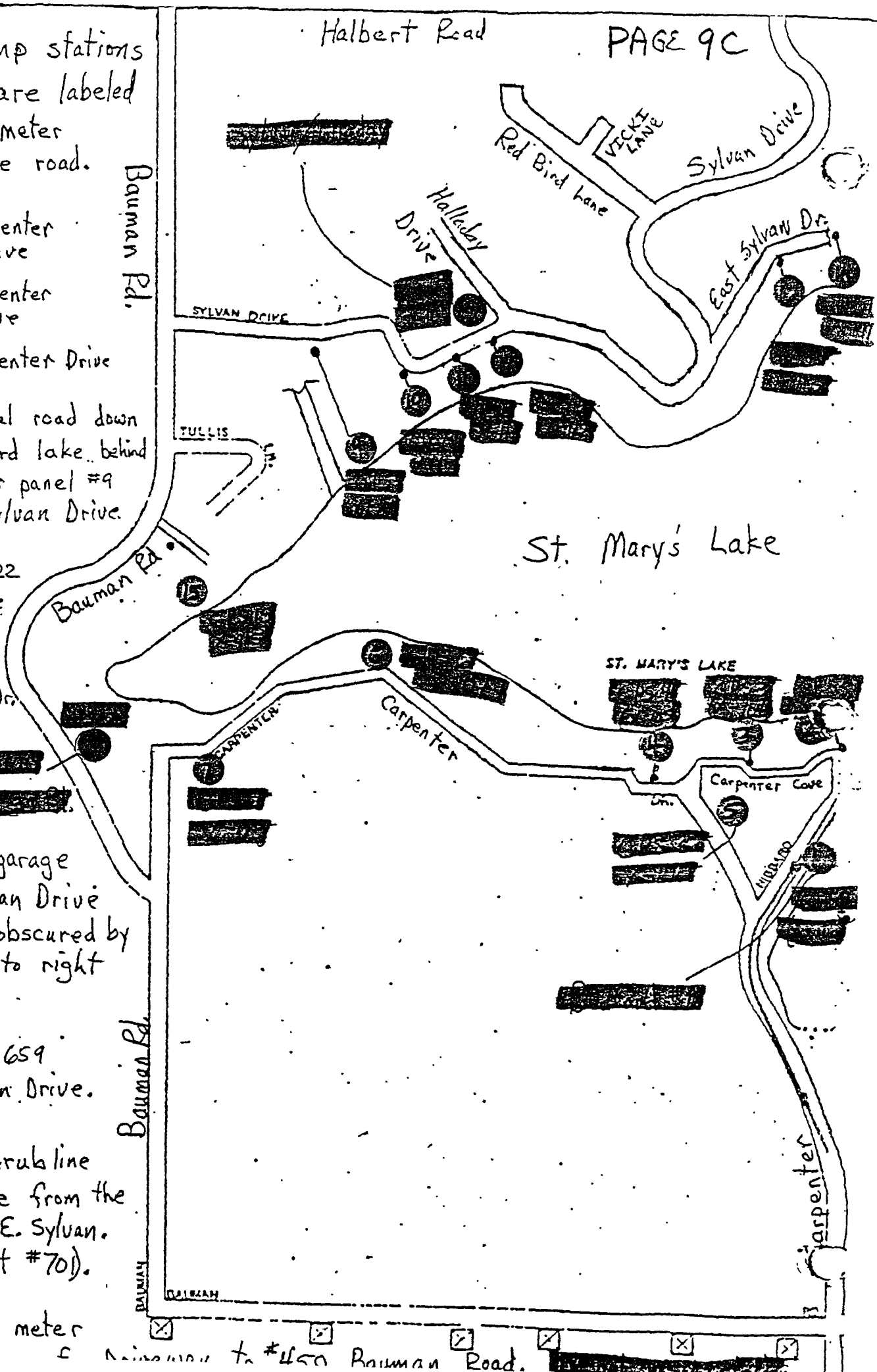
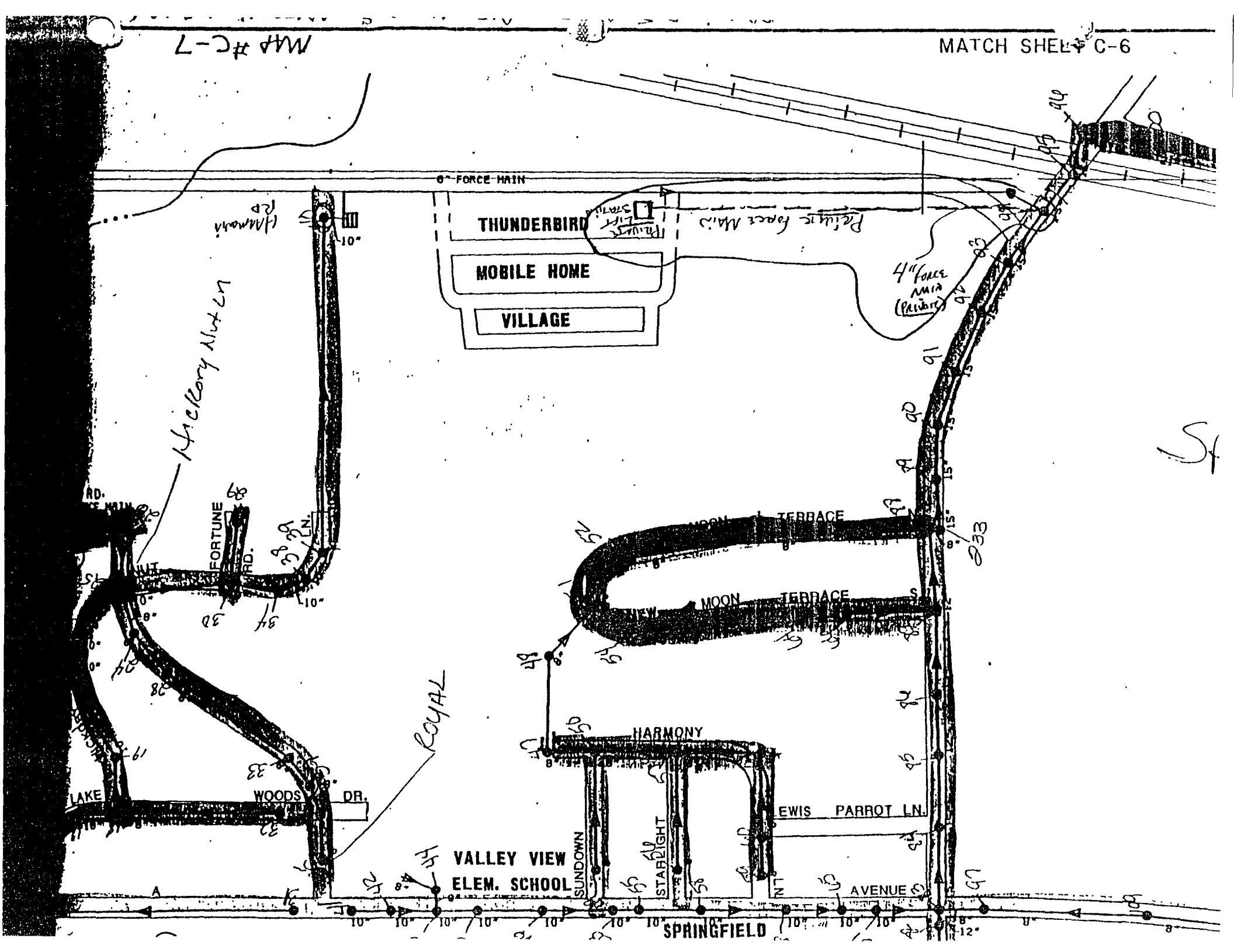


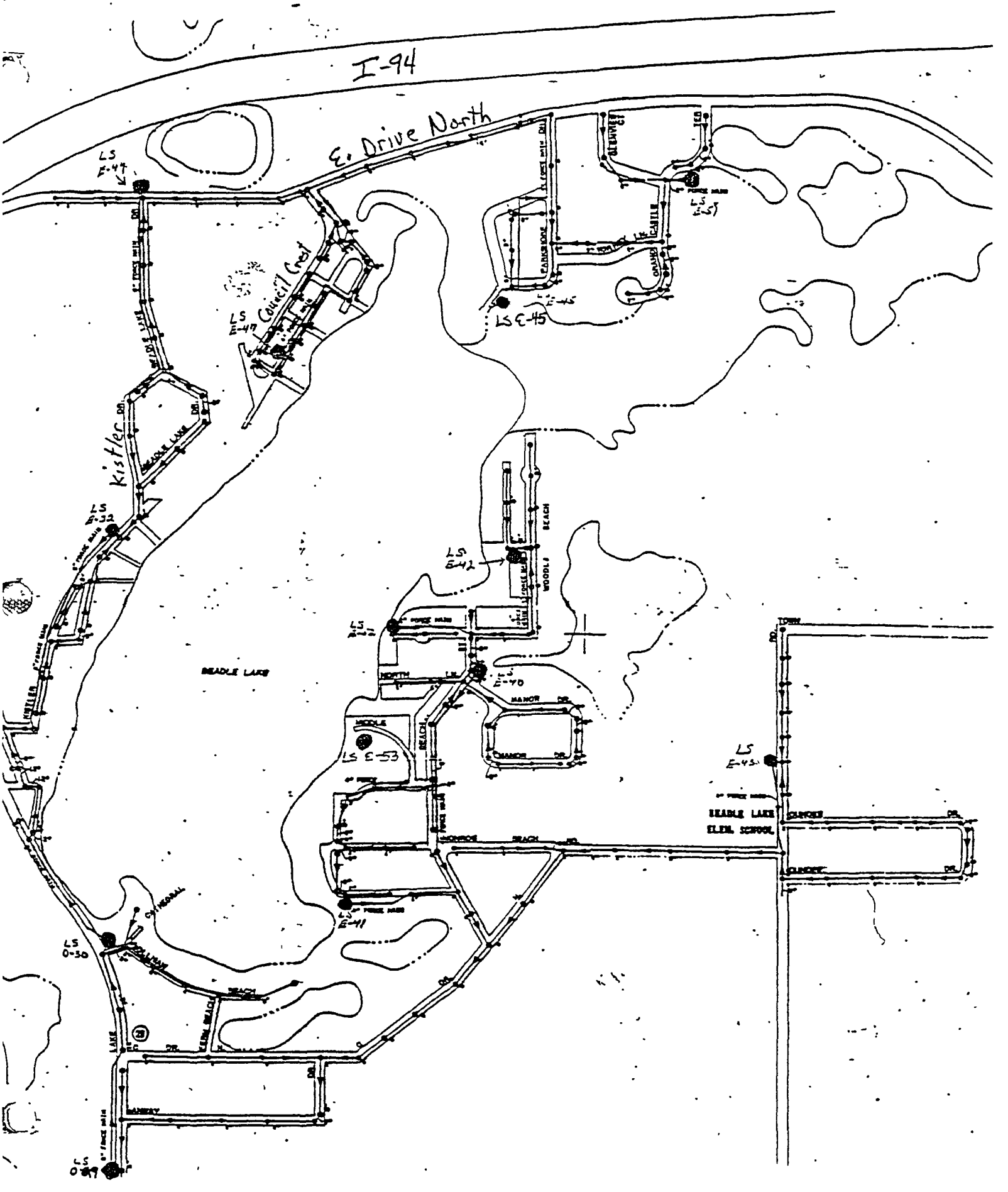
grinder pump stations the lake are labeled he electric meter l near the road.

- 278 Carpenter Cove Drive
- 287 Carpenter Cove Drive
- 303 Carpenter Drive
- Find gravel road down ravine toward lake behind electric meter panel #9 near 508 Sylvan Drive.
- Below 522 Sylvan Drive
- In yard 528 Sylvan Dr.
- Behind garage of 534 Sylvan Drive Electric meter obscured by spruce tree to right of garage.
- Behind 659 East Sylvan Drive.
- Down shrub line toward lake from the very end of E. Sylvan. (Electric meter at #701).
- Electric meter [illegible] driveway to #650 Bauman Road.

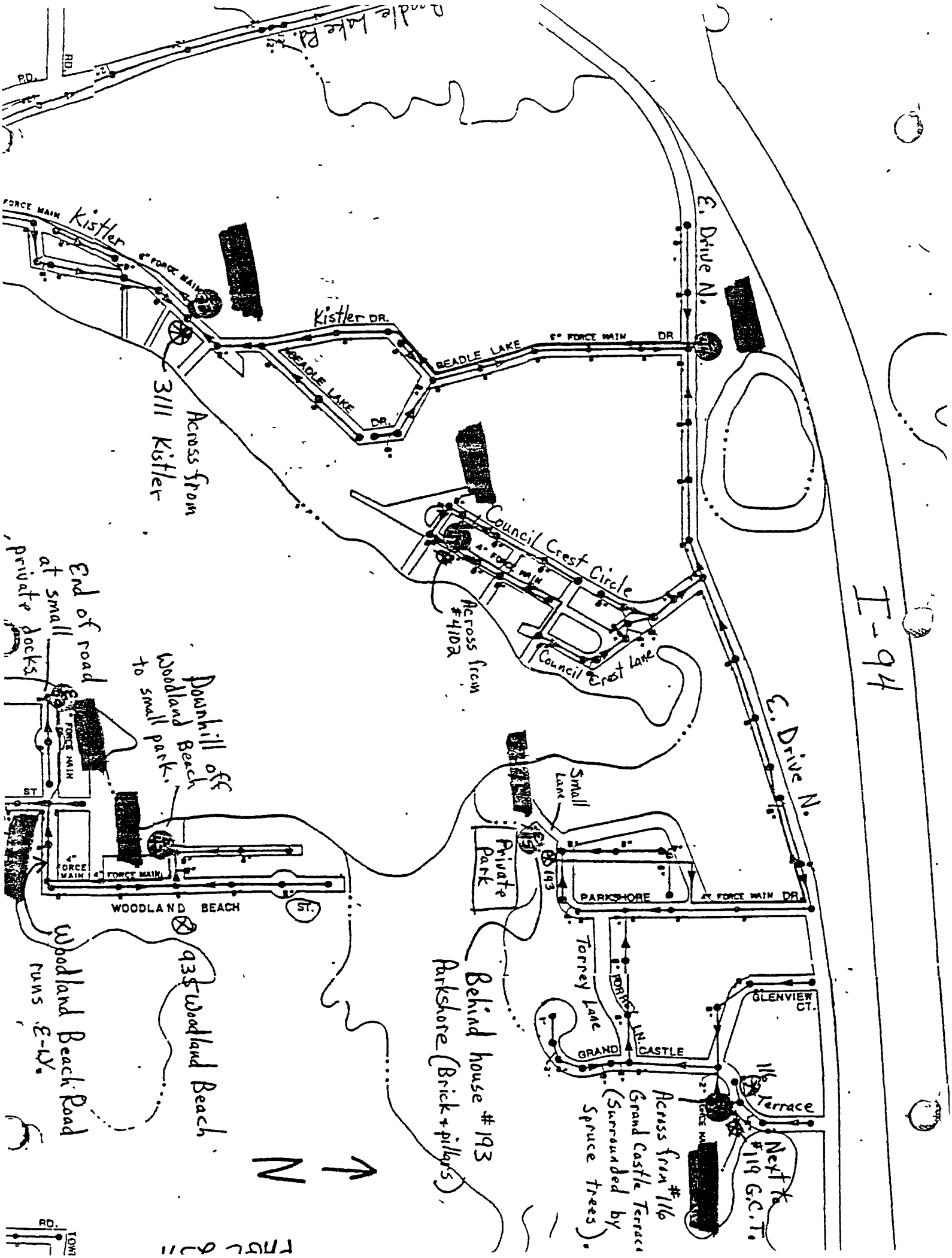



MAP #C-7
MATCH SHEET C-6
6" FORCE MAIN
THUNDERBIRD
MOBILE HOME
VILLAGE
4" FORCE MAIN (PRIVATE)
MOON TERRACE
MOON TERRACE
HARMONY
FORTUNE RD.
LAKE WOODS DR.
ROYAL
EWIS PARROT LN.
SUNDOWN
STARLIGHT
VALLEY VIEW
ELEM. SCHOOL
AVENUE
SPRINGFIELD

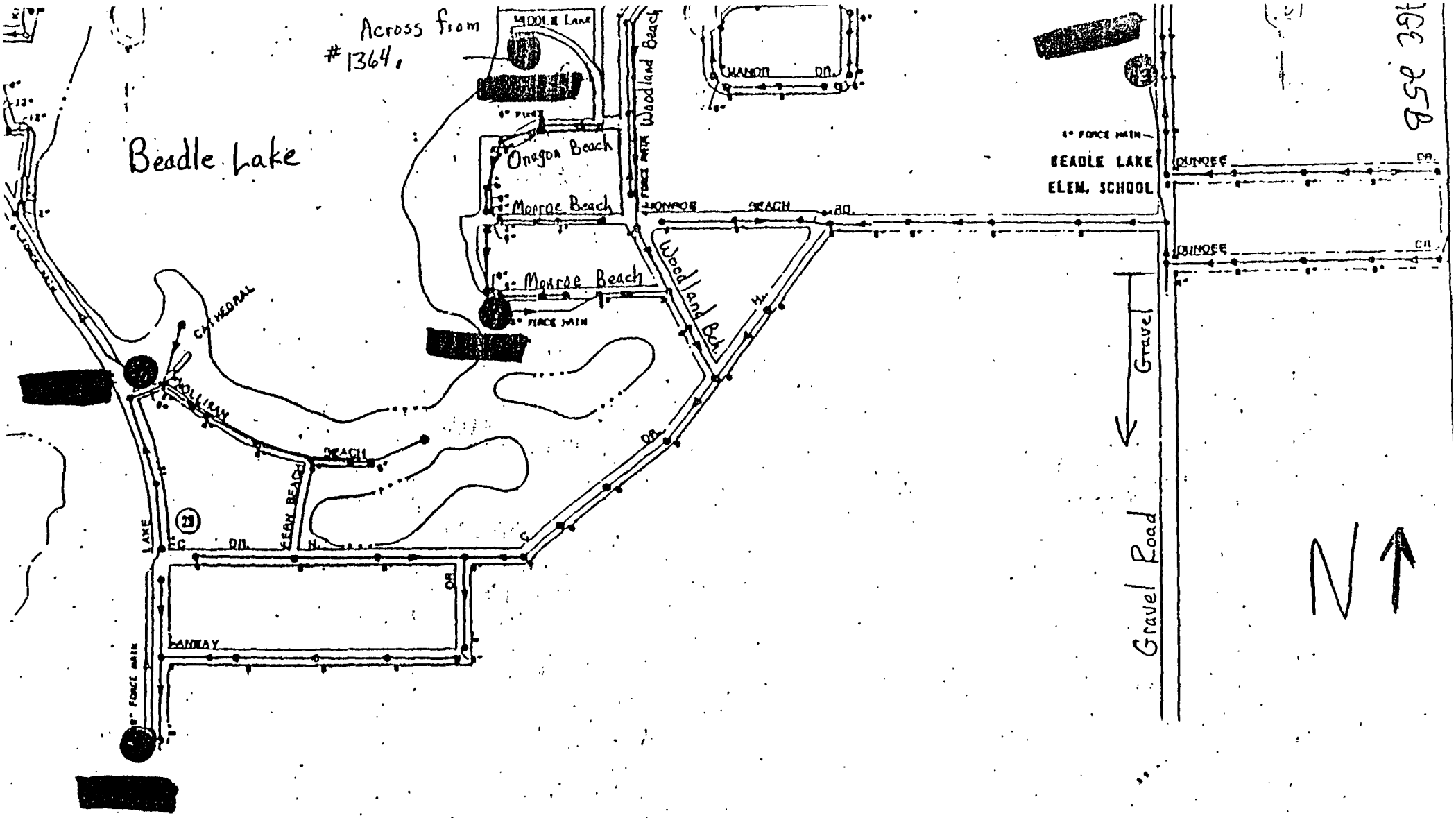
GE 25 More detailed Maps of Beadle Lake Stations next [illegible]



O-29



Kistler
6" FORCE MAIN
Kistler DR.
BEADLE LAKE
6" FORCE MAIN
DR
BEADLE LAKE
DR.
E. Drive N.
Across from 3111 Kistler
Council Crest Circle
4" FORCE MAIN
Across from #4102
Council Crest Lane
E. Drive N.
I-94
End of road at small private docks
Downhill off Woodland Beach to small park.
4" FORCE MAIN
ST
WOODLAND BEACH
ST.
Small Lane
Private Park
193
PARKSHORE
4" FORCE MAIN
DR.
Torrey Lane
TORREY LN.
GLENVIEW CT.
GRAND CASTLE
116 Terrace
Next to #119 G.C.T.
Across from #116 Grand Castle Terrace (Surrounded by Spruce trees).
Behind house #193 Parkshore (Brick + pillars)
935 Woodland Beach
Woodland Beach Road runs E-W.
N
RD.



#E-53 To get to LS #E-53 take Beadle Lake Road to C Drive N; C DR. N to Woodland Beach; Woodland Beach to Onagon Beach, then left on Onagon Beach, and then right on the first street, which is Middle Lane. Take left fork of Middle Lane (paved) down toward lake.

Water Resources Commission

Municipal Wastewater Discharge Application

◄----*Instructions on Adjacent Page*

Facility Name: Battle Creek WWTP

PLEASE PRINT PERMIT #: MI0022276

17. Bypasses and Combined Sewer Overflows

a. Is the sanitary sewer collection system totally separated from the storm sewer system or is any part of it combined?

☒ Separated — Continue below to item b.

☐ Combined — Estimate what percentage of the sanitary sewer system is combined _____ %

b. Are there any raw sewage bypass outfalls or combined sewer overflows (either at the facility or along the collection system)?

☐ No — Continue to next page, item 18.

☒ Yes — Provide the requested information below. Make additional copies of this blank page, if there are more than 3 outfalls.

OUTFALL # Not Numbered Type Raw Sewage Overflow at Battle Creek WWTP

(1) Location: County Calhoun

North ¼ of the East ¼, Section 3 2, Town 1 South, Range 8 West

Location description No recent losses from this bypass (four years)

(2) Name of water receiving the discharge Kalamazoo River

(3) Describe the conditions that cause a discharge from this outfall Total plant failure or flows in excess of plant capacity

(4) What is the average frequency and volume of discharge(s) from this outfall? None in years

days/years_____ hours/day_____ gallons/hour_____

OUTFALL # _____ Type_____

(1) Location: County_____

___ ___ ¼ of the ___ ___ ¼, Section ___ ___, Town ___ ___ ___, Range ___ ___ ___

Location description_____

(2) Name of water receiving the discharge _____

(3) Describe the conditions that cause a discharge from this outfall _____

_____

(4) What is the average frequency and volume of discharge(s) from this outfall?

days/years_____ hours/day_____ gallons/hour_____

OUTFALL # _____ Type_____

(1) Location: County_____

___ ___ ¼ of the ___ ___ ¼, Section ___ ___, Town ___ ___ ___, Range ___ ___ ___

Location description_____

(2) Name of water receiving the discharge _____

(3) Describe the conditions that cause a discharge from this outfall _____

_____

(4) What is the average frequency and volume of discharge(s) from this outfall?

days/years_____ hours/day_____ gallons/hour_____

Facility Name: Battle Creek WWTP
PERMIT #: MI0022276

PLEASE PRINT

18. a. Are they any residuals (solids, sludges, ash, grit, etc.) produced as a result of wastewater treatment that require disposal?

☐ No — Continue below to item 19.

☒ Yes — Briefly describe the type of residual(s) and its ultimate disposal Grit, screenings, and incinerator ash resulting from biosolids incineration disposed of at approved site. Additional biosolids are lime stabilized and subsurface injected in an approved manner.

b. Has a Program for Effective Residuals Management been required, submitted and approved by the Michigan Department of Natural Resources (check appropriate box(es))?

	YES	NO	
Required	☒	☐	— if No, continue below to item 19.
Submitted	☒	☐	— date submitted 12/17/92
Approved	☒	☐	— date approved 02/11/93

19. Has an Alternative Power Source Report been required, submitted and approved by the Michigan Department of Natural Resources (check appropriate box(es))?

	YES	NO	
Required	☐	☒	— if No, continue below to item 20.
Submitted	☐	☐	— date submitted _____
Approved	☐	☐	— date approved _____

20. Summarize the history of the facility with regards to when it was originally constructed, what, when and why any facility improvements were made, future plans for upgrading and anything else you wish to include.

SEE ATTACHED SHEET (follows)

BATTLE CREEK WASTEWATER TREATMENT PLANT
PERMIT NO. MI0022276

Page 7 - Question # 20:

1938 (Estimate) Initial Facility Placed in Operation: A primary treatment facility containing manually cleaned bar racks, commuters, channel type grit removal (manually cleaned), chemical flocculation followed by two primary clarifiers, and post chlorination. No secondary treatment. The solids were digested and the sludge digested was lagooned.

1942 (Addition): Digester space, lagoon area, and flame drying solids system.

1959 (Major Expansion): New mechanical screening, increased pumping capacity, fixed rate pumps, raw sewage metering, addition of mechanical grit removal. One additional primary clarifier, additional digestion space, biosolids decanting, two vacuum filters, and one incinerator with a slurry ash system, four 150 foot trickling filters with centrifugal constant speed feed pumps, three secondary clarifiers and a post chlorination system and contact chamber.

1965 (Addition): Secondary capacity added, three additional activated sludge aerators with blowers, three secondary clarifiers, additional chlorine contact chamber space, two vacuum filters, and a second biosolids incinerator.

1978 - 1983: Raw sewage pump replaced with variable speed units, three more primary clarifiers, refitted south grit system, additional raw sludge pumps, secondary treatment expanded which included three 1,000 horsepower blower units, five 1.2 MG aerators, and four additional secondary clarifiers. Both existing incinerators were refitted. A new Administration/Lab Building and a new post chlorination system were added. Two additional vacuum filters were added increasing the total number to five.

1990: Two belt presses replaced two vacuum filters.

1991: Bisulfite dechlorination added.

1993 - 1994: The existing course bubble aeration system was replaced with fine bubble aeration to improve operation economy and three final clarifier drives were replaced.

1994 - 1995: Vacuum filters, belt presses, and air flotation thickening was replaced with four centrifugal biosolids dewatering units.

Water Resources Commission

Municipal Wastewater Discharge Application

◄----*Instructions on Adjacent Page*

Facility Name: Battle Creek WWTP

PLEASE PRINT PERMIT #: MI0022276

21. Application Authorization

Federal and State statutes provide for severe penalties for submitting false information on this application form.

The State of Michigan's Water Resources Commission's Act 245, Public Acts of 1929, as amended, Section 10(2) states: "A person who discharges a substance into the waters of the state contrary to the provisions of this act, or contrary to the provisions of a permit, order, rule or stipulation of the commission, or who makes a false statement, representation, or certification in an application for, or form pertaining to a permit, or in a notice or report required by the terms and conditions of an issued permit, or who renders inaccurate a monitoring device or record required to be maintained by the commission, is guilty of a misdemeanor and shall be fined not less than $2,500.00 nor more than $25,000.00 for each violation."

Section 309(c)(4) of the Federal Clean Water Act of 1977 (P.L. 95-217), as amended, provides that "Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this Act or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this Act, shall upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or by both."

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature Walter L Thompson

Print Name Walter L. Thompson Title Superintendent

Representing City of Battle Creek Wastewater Division Date 3/27/95

Where the applicant does not represent a municipality, the following certification of the local governmental representative **is required.**

"This is to certify that I am aware of and recognize the responsibilities of the municipality as set forth in Section 6(b) of the Michigan Water Resources Commission Act 245 of 1929."

Signature _____

Print Name _____ Title _____

Representing City of Battle Creek Date _____

BATTLE CREEK WASTEWATER TREATMENT PLANT
MI 0022276
"ATTACHMENT A"

CITY OF BATTLE CREEK

INTEROFFICE MEMORANDUM Date: March 20, 1995

TO: Walt Thompson, Superintendent

From: Christine Kosmowski, Chemist

****

RE: Proposed Change in Cyanide Amenable to Chlorination Testing

After reviewing the cyanide amenable to chlorination results for the past three years, I propose that this testing be reduced to quarterly monitoring only.

As the attached summary indicates, the average for the three year period, at a detection level of 5 µg/L, is Ø.1 µg/L rounded to Ø µg/L. With such consistently low levels of cyanide detected, daily monitoring seems unwarranted.

Should you have any questions or need further information, please contact me.

cc: File

BATTLE CREEK WASTEWATER TREATMENT PLANT
MI 0022276
"ATTACHMENT A"

CYANIDE AMENABLE TO CHLORINATION
THREE YEAR SUMMARY

Month	1992	1993	1994
January	0.7	0.0	0.2
February	1.0	0.0	0.0
March	0.1	0.0	0.0
April	0.5	0.0	0.0
May	0.4	0.0	0.0
June	0.1	0.0	0.3
July	0.0	0.0	0.0
August	0.1	0.0	0.0
September	0.1	0.0	0.0
October	0.0	0.0	0.2
November	0.1	0.0	0.2
December	0.2	0.0	0.0
AVERAGE:	0.3	0.0	0.1
TOTAL AVG.:	0.1		

"ATTACHMENT B"

BATTLE CREEK WASTEWATER TREATMENT PLANT
PERMIT NO. MI0022276

Page 2 - Question # 8:

FLOW NARRATIVE: Headworks - bar and/or mechanical screening followed by four variable speed centrifugal pumps (18 MGD each) lifting the sewage for gravity feeding through two mechanically cleaned grit chambers followed by six circular primary settling tanks. The settled sewage is again pumped with three variable speed centrifuge pumps (25 MGD each) to a conventional fine bubble activated system consisting eight 1.2 MGD aerators followed by seven circular final clarifiers. Final clarifier effluent is chlorinated and then dechlorinated prior to discharge into the Kalamazoo River. Grit, screenings, scum, and incinerator ash are landfilled. Primary sludge and waste activated sludges are blended, thickened and lime stabilized prior to subsurface injection, or the solids are dewatered and incinerated. Primary sludge solids averages 70,000 gals/day of 4.0% solids, wasting average 400,000 gals/day of 0.90% solids, and the return activated sludge rate averages 50%.

BATTLE CREEK WASTEWATER TREATMENT PLANT
PERMIT NO. MI0022276

"ATTACHMENT B"

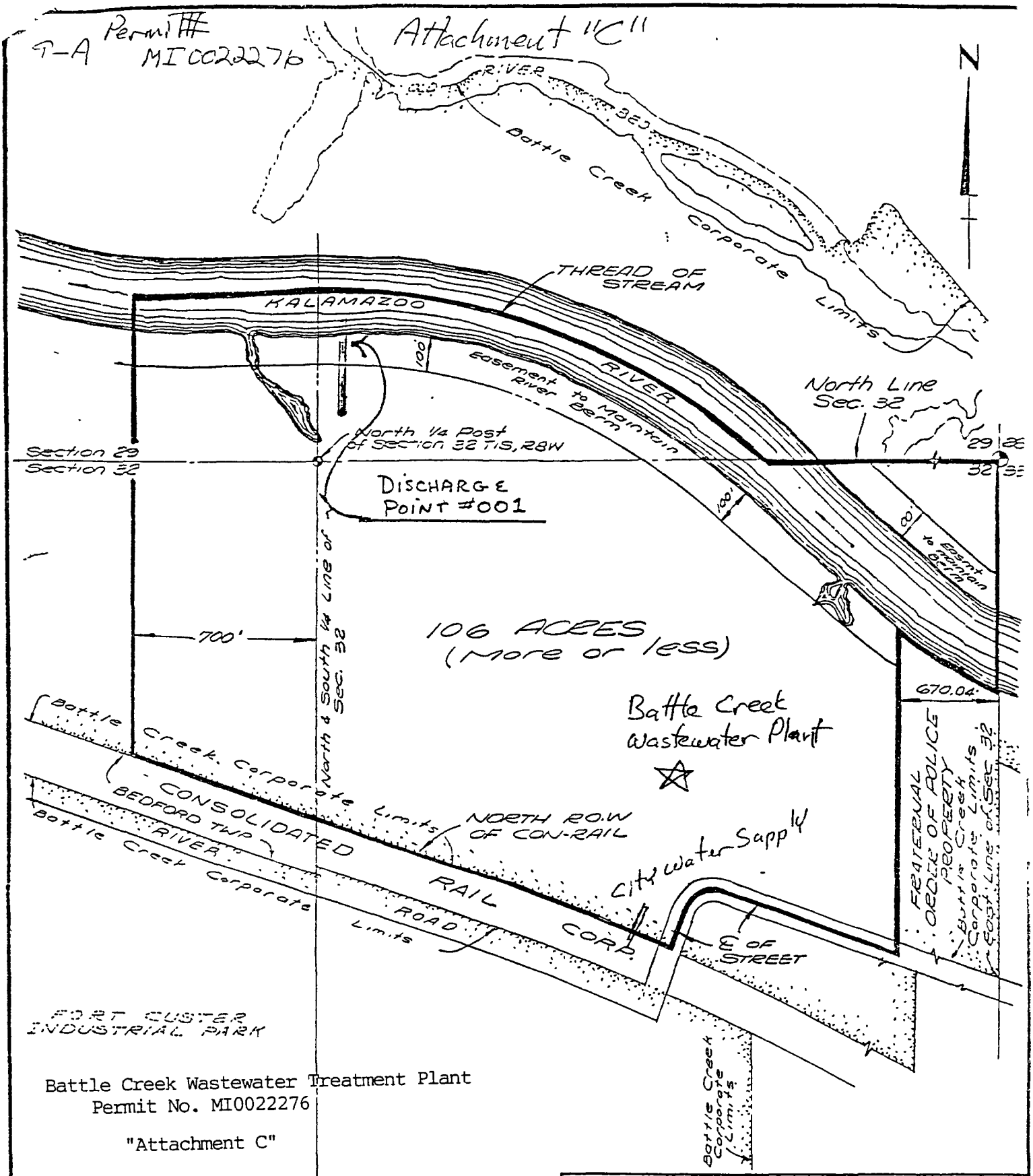
FIGURE 1

CITY OF BATTLE CREEK, MICHIGAN
WASTEWATER TREATMENT PLANT

EXISTING FLOW SCHEMATIC

Permit #
MI0022276
T-A

Attachment "C"



Battle Creek Wastewater Treatment Plant
Permit No. MI0022276

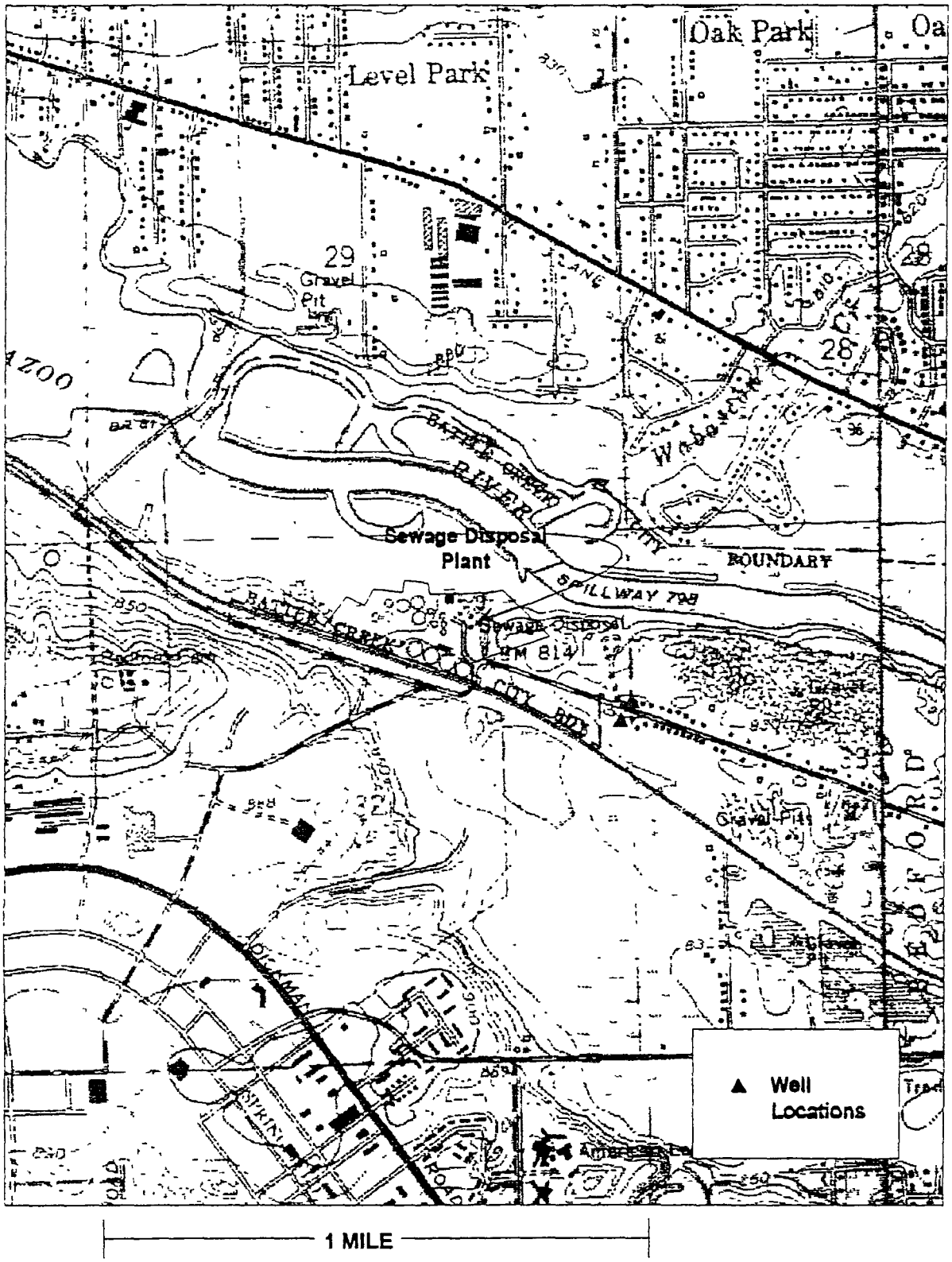
"Attachment C"

DEPARTMENT OF PUBLIC WORKS
BATTLE CREEK, MICHIGAN
- DIRECTOR OF PUBLIC WORKS
- CITY ENGINEER

WASTEWATER TREATMENT PLANT PROPERTY

DRAWN BY: KCB	APPROVED	DATE 5/88
SCALE 1" = 400'	SHEET 1 OF 2 SHEETS	DWG. NO.

9-B



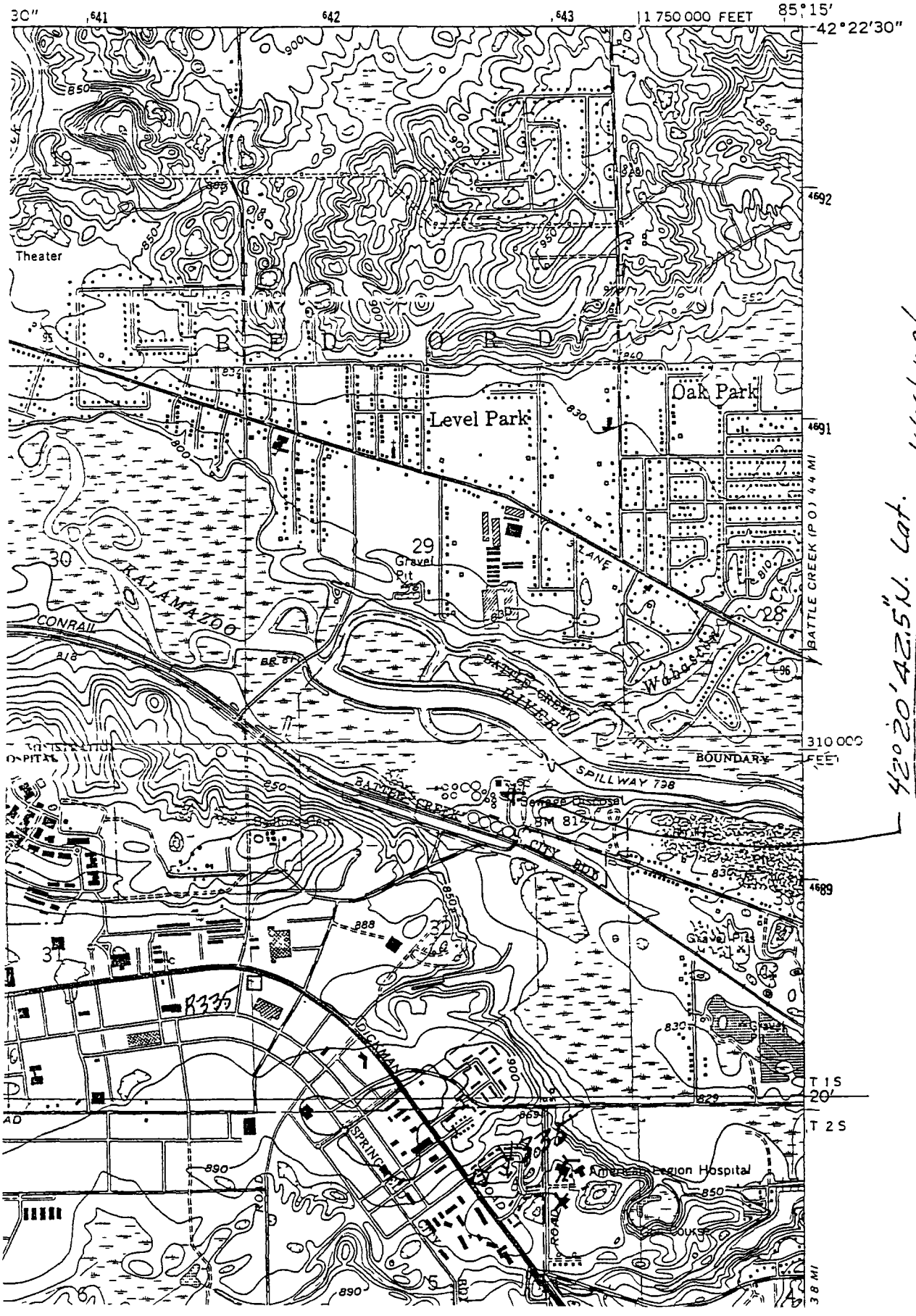
Battle Creek Wastewater Treatment Plant
SITE LOCATION

Battle Creek Wastewater Treatment Plant
Permit No. MI 0022276
"Attachment C"

9-C

AUGUSTA QUADRANGLE
MICHIGAN
7.5 MINUTE SERIES (TOPOGRAPHIC)

3968 I NW (BEDFORD)



Battle Creek Wastewater Treatment Plant
Permit No. MI 0022276
Attachment "D"

Evaluation of Effluent Toxicity of City of Battle Creek WWTP 2000 W. River Road Battle Creek, Michigan 49015

March 8 - 15, 1995

NPDES Permit No. MI 0022276

Prepared For:

City of Battle Creek
P.O. Box 1717
Battle Creek, Micigan 49016

By:

Peter G. Meier, Ph.D.
School of Public Health
The University of Michigan
Ann Arbor, Michigan 48109

March 23, 1995

this laboratory also participated in the DMR-QA Laboratory Performance Study and these results are found in Appendix C.

2.6 Statistical Analysis

Nontransformed Ceriodaphnia reproduction data were initially evaluated for normality and homogeneity employing the Chi-Square and Bartlett's Tests. Dunnett's Procedure was then utilized in exposure solutions without significant mortality to determine whether there was a significant difference in daphnid reproduction between various effluent concentrations and the control.

Similarly, nontransformed fish survival data were evaluated for normality and homogeneity using the Shapiro-Wilk's and Cochran's Tests, whereas fish growth was discriminated with Bartlett's Test for homogeneity. If passed, then Bartlett's ANOVA Procedure was employed for determining significant differences in growth between the control and the various effluent concentrations. The TOXSTAT® 3.4 program was used in these evaluations.

3.0 RESULTS AND DISCUSSION

Toxicity evaluation of the City of Battle Creek WWTP effluent was initiated on March 8, 1995 and completed on March 15, 1995. Twenty four hour composite samples collected on three separate occasions were employed in exposing both Ceriodaphnia and fatheads over this seven day period.

Alkalinity and hardness were measured and recorded (Appendix A). The remaining parameters such as conductivity and pH varied little between samples over time. Dissolved oxygen remained over 50 percent saturation after each 24 hour exposure.

3.1 Ceriodaphnia dubia

The evaluation of BC-WWTP's effluent was started on March 8, 1995 and the resulting data are presented in Test No. CC-950311 (Appendix A). Initially, the forty eight hour survival data were examined for potential acute toxicity and none was observed.

Fisher's Test was then used to analyze the seven day survival data of Ceriodaphnia dubia. The results showed no statistically significant ($p = 0.05$) reduction in survival at any of the effluent concentrations when compared to the laboratory water control. The reproduction data derived from various effluent concentrations were evaluated for normality and homogeneity employing the Chi-Square and Bartlett's Tests. The data

passed both procedures at an alpha value of 0.01 and were further analyzed with Dunnett's Test. There was no statistically significant ($p = 0.05$) reduction in reproduction at any effluent concentration when compared to the laboratory water control. Therefore, the NOEC is 100%. The LOEC and chronic value cannot be calculated.

3.2 Pimephales promelas

The fish survival and growth data are presented in Test No. CF-950308 (Appendix A). The survival data were analyzed after 96 hours and seven days and compared to the laboratory control. No significant mortality was observed in any effluent concentration.

The growth data were evaluated for normality with the Shapiro-Wilk's Test and passed. Similarly, these data passed the homogeneity test at the 0.01 level. The data were then analyzed using Dunnett's Test. There was no statistically significant ($p = 0.05$) difference in growth at any of the effluent concentrations when compared to the laboratory control water. The NOEC for this test is 100%. The LOEC and chronic value cannot be calculated.

4.0 SUMMARY

Two different species of aquatic organisms were employed in evaluating the potential toxicity of BC-WWTP's effluent during March, 1995. No adverse effect was observed on Ceriodaphnia or on fathead minnows when exposed to BC-WWTP's effluent over the same period of seven days. The estimated value of the Toxic Unit (TU_c) for both organisms is below one.

City of
BATTLE CREEK

PUBLIC WORKS
DEPARTMENT
Wastewater
Division

Lawrence L. DeLong
Superintendent

2000 West River Road
Battle Creek, Michigan
49015-1181

Phone (616) 966-3513
Fax (616) 965-3290

April 27, 2000

Mr. Andrew VanTil
DEQ-SWQ
1342 SR 89 W
Suite B
Plainwell, MI 49080

Dear Mr. VanTil:

Please see enclosed the additional testing results that you requested that were not submitted originally with our April 1, 2000, NPDES Permit Application. Also, enclosed are testing results that now show micrograms per liter instead of milligrams per liter.

Please contact me if you have further comments or questions about this matter.

Sincerely,

Lawrence L. DeLong

Lawrence L. DeLong
Superintendent

:NPDESAPP

Enclosures

cc: File

ATTACHMENT - 5. EXPANDED EFFLUENT TESTING *(Revised - 4/2000)*

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS											
Antimony	ND	mg/L	0	lbs	ND	mg/L	0	lbs	3	200.8M	0 005
Arsenic	0 002	mg/L	0 2	lbs	0.002	mg/L	0.2	lbs	6	200.8M	0.001
Barium	0.11	mg/L	11 4	lbs	0 110	mg/L	11 4	lbs	3	6010B	0 005
Beryllium	ND	mg/L	0	lbs	ND	mg/L	0	lbs	3	200 8M	0.001
Cadmium	0.0008	mg/L	0 08	lbs	0 0005	mg/L	0.08	lbs	6	200 8M	0 0002
Calcium	100	mg/L	10374	lbs	100	mg/L	10374	lbs	1	215.1	1
Chromium	ND	mg/L	0	lbs	ND	mg/L	0	lbs	6	200 8M	0.005
Copper	0 01	mg/L	1	lbs	0.01	mg/L	1	lbs	6	200.8M	0.001
Lead	0 0023	mg/L	0.24	lbs	0.0020	mg/L	0.24	lbs	6	200 8M	0.001
Magnesium	23	mg/L	2386	lbs	23	mg/L	2386	lbs	1	242.1	1
Mercury	ND	mg/L	0	lbs	ND	mg/L	0	lbs	10	245.1M	0 0002
Nickel	0 0029	mg/L	0.30	lbs	0.0027	mg/L	0 30	lbs	6	200.8M	0.025
Potassium	7.6	mg/L	788	lbs	7 6	mg/L	788	lbs	1	258.1	0 1
Selenium	ND	mg/L	0.00	lbs	ND	mg/L	0	lbs	6	200.8M	0.005
Silver	0.0006	mg/L	0.06	lbs	0.0004	mg/L	0.06	lbs	10	200.8M	0.0005 / 0.0002
Sodium	200	mg/L	20748	lbs	200	mg/L	20748	lbs	1	273.1	1
Thallium	ND	mg/L	0	lbs	ND	mg/L	0	lbs	3	200.8M	0.002
Zinc	0.064	mg/L	6.6	lbs	0.055	mg/L	6.6	lbs	6	200.8M	0.02
Cyanide	0.015	mg/L	1.6	lbs	0.008	mg/L	1 6	lbs	7	335.2	0.005
Total Phenolic Compounds	ND	mg/L	0	lbs	ND	mg/L	0	lbs	3	420.1	0 01
Hardness (as CaCO3)	390	mg/L	40458	lbs	364	mg/L	40458	lbs	6	2340B	10
VOLATILE ORGANIC COMPOUNDS											
Acrolein	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	624M	5
Acrylonitrile	2.2	µg/L	0.23	lbs	0.44	µg/L	0.05	lbs	5	624M	1.0 / 5
Benzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Bromoform	5	µg/L	0 5	lbs	1.6	µg/L	0.2	lbs	9	624M	1
Carbon tetrachloride	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Clorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Chlorodibromomethane	42	µg/L	4 9	lbs	6.9	µg/L	1.9	lbs	57	624M	1
Chloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
2-Chloro-ethylvinyl ether	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	624M	1
Chloroform	4	µg/L	0.4	lbs	2	µg/L	0.2	lbs	5	624M	1
Bromodichloromethane	19	µg/L	2.1	lbs	5.7	µg/L	1.3	lbs	57	624M	1
1,1-Dichloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1.0 / 5
1,2-Dichloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
trans-1,2-Dichloroethene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1,1-Dichloroethene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1,2-Dichloropropane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1,3-Dichloropropene (cis)	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1,3-Dichloropropene (trans)	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Ethylbenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Methyl bromide	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Methyl chloride	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1 0 / 5
Methylene chloride	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1 0 / 5
1,1,2,2-Tetrachloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1 0 / 5
Toluene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1,1,1-Trichloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1,1,2-Trichloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Trichloroethene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Vinyl chloride	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B Outfall Information

FACILITY NAME					NPDES PERMIT or COC NUMBER						OUTFALL NUMBER	
Battle Creek WWTP					MI0022276						001	
POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc	Units	Mass	Units	Conc	Units	Mass	Units	Number of Samples		
ACID-EXTRACTABLE COMPOUNDS											
p-Chloro-m-cresol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
2-Chlorophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
2 4-Dichlorophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
2 4-Dimethylphenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
4 6-Dinitro-o-cresol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	20
2 4-Dinitrophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	20
2-Nitrophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
4-Nitrophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	20
Pentachlorophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	20
Phenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
2,4 6-Trichlorophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
BASE-NEUTRAL COMPOUNDS											
Acenaphthene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Acenaphthylene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Anthracene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Benzidine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
Benzo(a)anthracene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
3 4 Benzo-fluoranthene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Benzo(g,h i)perylene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	5
Benzo(k)fluoranthene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
bis (2-chloroethoxy) methane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
bis (2-chloroethyl)-ether	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
bis (2-chloroiso-propyl) ether	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
bis (2-ethylhexyl) phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
4-Bromophenyl phenyl ether	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Butyl benzyl phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
2-Chloronaphthalene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
4-Chlorophenyl phenyl ether	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Chrysene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Di-n-butyl phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Di-n-octyl phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Dibenzo(a h)anthracene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	5
1 2-Dichlorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
1 3-Dichlorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
1 4-Dichlorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
3 3-Dichlorobenzidine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	20
Diethyl phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Dimethyl phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
2 4-Dinitrotoluene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	5/20
2 6-Dinitrotoluene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	5
1 2-Diphenylhydrazine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Fluoranthene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Fluorene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Hexachlorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Hexachlorobutadiene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Hexachlorocyclo-pentadiene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Hexachloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Isophorone	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Naphthalene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Nitrobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
n-Nitrosodi-n-propylamine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
n-Nitrosodimethylamine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
n-Nitrosodi-phenylamine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	5
Phenanthrene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Pyrene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
1 2 4-Trichlorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
CHLORINATED HYDROCARBONS, PCBs, & ORGANOCHLORINE PESTICIDES											
g-BHC (lindane)	0 02	µg/L	0 002	lbs	0 004	µg/L	0 0004	lbs	5	8081 / Scan 3	0 01

ATTACHMENT - 6. TOXIC POLLUTANTS

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

Toxic Pollutant	Maximum Daily Concentration (µg/L)	Maximum Monthly Concentration (µg/L)	Quantification Level Used (µg/L)	Number of Analyses	Sample Type
Individual Samples (µg/L)					
Arsenic	2.0	2.0	1.0	4	☐ Grab ☒ 24 Hr Comp
1: 2.0 | 2: 1.2 | 3: 2.0 | 4: 2.0 | 5: | 6: | 7: | 8: | 9: | 10:					
Arsenic	1.2	1.2	1.0	2	☒ Grab ☐ 24 Hr Comp
1: L1.0 | 2: 1.2 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Barium	110	110	5.0	1	☐ Grab ☒ 24 Hr Comp
1: 110 | 2: | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Barium	110	110	5.0	2	☒ Grab ☐ 24 Hr Comp
1: 110 | 2: 110 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Cadmium	0.6	0.6	0.2	4	☐ Grab ☒ 24 Hr Comp
1: 0.2 | 2: 0.4 | 3: 0.6 | 4: 0.6 | 5: | 6: | 7: | 8: | 9: | 10:					
Cadmium	0.8	0.8	0.2	2	☒ Grab ☐ 24 Hr Comp
1: 0.8 | 2: 0.4 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Copper	10	10	1.0	4	☐ Grab ☒ 24 Hr Comp
1: 10 | 2: 9.4 | 3: 9.0 | 4: 10 | 5: | 6: | 7: | 8: | 9: | 10:					
Copper	9.3	9.3	1.0	2	☒ Grab ☐ 24 Hr Comp
1: 5.6 | 2: 9.3 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Lead	2.0	2.0	1.0	4	☐ Grab ☒ 24 Hr Comp
1: 2.0 | 2: 1.9 | 3: 2.0 | 4: 2.0 | 5: | 6: | 7: | 8: | 9: | 10:					
Lead	2.3	2.3	1.0	2	☒ Grab ☐ 24 Hr Comp
1: 2.3 | 2: 1.6 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Nickel	2.2	2.2	25 / 2.0	4	☐ Grab ☒ 24 Hr Comp
1: L25 | 2: 2.2 | 3: L25 | 4: L25 | 5: | 6: | 7: | 8: | 9: | 10:					
Nickel	2.9	2.9	2.0	2	☒ Grab ☐ 24 Hr Comp
1: 2.9 | 2: 2.9 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Silver	0.6	0.6	0.5 / 0.2	8	☐ Grab ☒ 24 Hr Comp
1: L0.5 | 2: L0.5 | 3: 0.6 | 4: L0.2 | 5: L0.2 | 6: L0.2 | 7: L0.2 | 8: L0.2 | 9: | 10:					
Silver	L0.5	L0.5	0.5 / 0.2	2	☒ Grab ☐ 24 Hr Comp
1: L0.5 | 2: L0.5 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Zinc	64	64	20	4	☐ Grab ☒ 24 Hr Comp
1: 54 | 2: 64 | 3: 55 | 4: 48 | 5: | 6: | 7: | 8: | 9: | 10:					
Zinc	60	60	20	2	☒ Grab ☐ 24 Hr Comp
1: 51 | 2: 60 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Cyanide	15	15	5.0	7	☐ Grab ☒ 24 Hr Comp
1: 11 | 2: L5.0 | 3: L5.0 | 4: L5.0 | 5: L5.0 | 6: 15 | 7: 11 | 8: | 9: | 10:					

ATTACHMENT - 6. TOXIC POLLUTANTS - page 2

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

Toxic Pollutant	Maximum Daily Concentration (µg/L)	Maximum Monthly Concentration (µg/L)	Quantification Level Used (µg/L)	Number of Analyses	Sample Type
Individual Samples (µg/L)					
Acrylonitrile	2.2	2.2	1.0	3	☐ Grab ☒ 24 Hr Comp
1: L1.0 / 2: 2.2 / 3: L1.0					
Acrylonitrile	L5	L5	5	2	☒ Grab ☐ 24 Hr Comp
1: L5 / 2: L5					
Bromoform	4.8	4.8	1.0	7	☐ Grab ☒ 24 Hr Comp
1: 1.2 / 2: L1.0 / 3: L1.0 / 4: L1.0 / 5: 4.8 / 6: L1.0 / 7: 3.6					
Bromoform	L1.0	L1.0	1.0	2	☒ Grab ☐ 24 Hr Comp
1: L1.0 / 2: L1.0					
Chlorodibromomethane	42	19	1.0	55	☐ Grab ☒ 24 Hr Comp
1: 3 / 2: 1.6 / 3: 18 / 4: 11 / 5: L1.0 / 6: 7.4 / 7: 7.8 / 8: L1.0 / 9: L1.0 / 10: 2.9					
11: 12 / 12: 19 / 13: L1.0 / 14: L1.0 / 15: 10 / 16: L1.0 / 17: 19 / 18: 42 / 19: L1.0 / 20: L1.0					
21: L1.0 / 22: L1.0 / 23: 29 / 24: 5.7 / 25: 11 / 26: L1.0 / 27: 1.3 / 28: 17 / 29: 9.5 / 30: 13					
31: 6.5 / 32: 14 / 33: 21 / 34: 2 / 35: 3 / 36: 5.3 / 37: 28 / 39: 15 / 39: 26 / 40: 8.4					
41: 9.9 / 42: L1.0 / 43: 2.4 / 44: 3.8 / 45: L1.0 / 46: 3.9 / 47: 6.00 / 48: L1.0 / 49: 4.9 / 50: 2.6					
51: L1.0 / 52: L1.0 / 53: 4.7 / 54: L1.0 / 55: L1.0					
Chlorodibromomethane	1.2	1.2	1.0	2	☒ Grab ☐ 24 Hr Comp
1: 1.2 / 2: L1.0					
Chloroform	3.8	3.8	1.0	3	☐ Grab ☒ 24 Hr Comp
1: 3.8 / 2: L1.0 / 3: L1.0					
Chloroform	2.0	2.0	1.0	2	☒ Grab ☐ 24 Hr Comp
1: 2.0 / 2: 1.1					
Bromodichloromethane	19	14	1.0	55	☐ Grab ☒ 24 Hr Comp
1: 3.1 / 2: 2.8 / 3: 13 / 4: 11 / 5: L1.0 / 6: 6.7 / 7: 7.2 / 8: L1.0 / 9: L1.0 / 10: 3.8					
11: 9.5 / 12: 13 / 13: L1.0 / 14: L1.0 / 15: 8.3 / 16: L1.0 / 17: 16 / 18: 18 / 19: L1.0 / 20: L1.0					
21: L1.0 / 22: L1.0 / 23: 17 / 24: 4.8 / 25: 7 / 26: L1.0 / 27: 2.3 / 28: 13 / 29: 9.1 / 30: 12					
31: 4.3 / 32: 10 / 33: 13 / 34: 2.1 / 35: 4 / 36: 5.1 / 37: 19 / 39: 12 / 39: 19 / 40: 8.3					
41: 9.9 / 42: 1.2 / 43: 3.7 / 44: 5.8 / 45: L1.0 / 46: 4.4 / 47: 5.90 / 48: L1.0 / 49: 3.7 / 50: 3.8					
51: 1.5 / 52: L1.0 / 53: 6.2 / 54: L1.0 / 55: L1.0					
Bromodichloromethane	1.9	1.9	1.0	2	☒ Grab ☐ 24 Hr Comp
1: 1.9 / 2: L1.0					
g-BHC (lindane)	0.02	L0.02	0.01 / 0.02	5	☐ Grab ☒ 24 Hr Comp
1: 0.02 / 2: L0.01 / 3: L0.02 / 4: L0.02 / 5: L0.01					
Nitrate-Nitrite (as N)	230	230	10	1	☐ Grab ☒ 24 Hr Comp
1: 230 / 2:					
Nitrate-Nitrite (as N)	390	390	10	2	☒ Grab ☐ 24 Hr Comp
1: 250 / 2: 390					

ATTACHMENT - 4. EFFLUENT CHARACTERISTICS - CONVENTIONAL POLLUTANTS *(Revised - 4/2000)*

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

FACILITY NAME		NPDES PERMIT or COC NUMBER			OUTFALL NUMBER
Battle Creek WWTP		MI0022276			001
Parameter	**Maximum Daily Concentration**	**Maximum Monthly Concentration**	**Units**	**Number of Analyses**	**Sample Type**
Nitrite	8 5	2.1	mg/L	83	☐ Grab ☒ 24 Hr Comp
Chemical Oxygen Demand	45	45	mg/L	1	☐ Grab ☒ 24 Hr Comp
Total Organic Carbon	16	16	mg/L	1	☐ Grab ☒ 24 Hr Comp
Nitrate-Nitrite	0.23	0.23	mg/L	1	☐ Grab ☒ 24 Hr Comp
Nitrate-Nitrite	0.39	0 32	mg/L	2	☒ Grab ☐ 24 Hr Comp
Kjeldahl Nitrogen	3.5	3.5	mg/L	1	☐ Grab ☒ 24 Hr Comp
Kjeldahl Nitrogen	6.8	4.8	mg/L	2	☒ Grab ☐ 24 Hr Comp
Ortho Phosphate	0 06	0.06	mg/L	1	☐ Grab ☒ 24 Hr Comp
Alkalinity (as CaCO3)	285	285	mg/L	1	☐ Grab ☒ 24 Hr Comp
Conductivity (umho/cm)	1570	1570	mg/L	1	☐ Grab ☒ 24 Hr Comp
Chloride	280	280	mg/L	1	☐ Grab ☒ 24 Hr Comp
Sulfate	59	59	mg/L	1	☐ Grab ☒ 24 Hr Comp

ATTACHMENT - 5 EXPANDED EFFLUENT TESTING *(Revised - 4/2000)*

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc	Units	Mass	Units	Conc	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS											
Antimony	ND	mg/L	0	lbs	ND	mg/L	0	lbs	3	200 8M	0 005
Arsenic	0 002	mg/L	0 2	lbs	0 002	mg/L	0 2	lbs	6	200 8M	0 001
Barium	0 11	mg/L	11 4	lbs	0 110	mg/L	11 4	lbs	3	6010B	0 005
Beryllium	ND	mg/L	0	lbs	ND	mg/L	0	lbs	3	200 8M	0 001
Cadmium	0 0008	mg/L	0 08	lbs	0 0005	mg/L	0 08	lbs	6	200 8M	0 0002
Calcium	100	mg/L	10374	lbs	100	mg/L	10374	lbs	1	215 1	1
Chromium	ND	mg/L	0	lbs	ND	mg/L	0	lbs	6	200 8M	0 005
Copper	0 01	mg/L	1	lbs	0 01	mg/L	1	lbs	6	200 8M	0 001
Lead	0 0023	mg/L	0 24	lbs	0 0020	mg/L	0 24	lbs	6	200 8M	0 001
Magnesium	23	mg/L	2386	lbs	23	mg/L	2386	lbs	1	242 1	1
Mercury	ND	mg/L	0	lbs	ND	mg/L	0	lbs	10	245 1M	0 0002
Nickel	0 0029	mg/L	0 30	lbs	0 0027	mg/L	0 30	lbs	6	200 8M	0 025
Potassium	7 6	mg/L	788	lbs	7 6	mg/L	788	lbs	1	258 1	0 1
Selenium	ND	mg/L	0 00	lbs	ND	mg/L	0	lbs	6	200 8M	0 005
Silver	0 0006	mg/L	0 06	lbs	0 0004	mg/L	0 06	lbs	10	200 8M	0 0005 / 0 0002
Sodium	200	mg/L	20748	lbs	200	mg/L	20748	lbs	1	273 1	1
Thallium	ND	mg/L	0	lbs	ND	mg/L	0	lbs	3	200 8M	0 002
Zinc	0 064	mg/L	6 6	lbs	0 055	mg/L	6 6	lbs	6	200 8M	0 02
Cyanide	0 015	mg/L	1 6	lbs	0 008	mg/L	1 6	lbs	7	335 2	0 005
Total Phenolic Compounds	ND	mg/L	0	lbs	ND	mg/L	0	lbs	3	420 1	0 01
Hardness (as CaCO3)	390	mg/L	40458	lbs	364	mg/L	40458	lbs	6	2340B	10
VOLATILE ORGANIC COMPOUNDS											
Acrolein	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	624M	5
Acrylonitrile	2 2	µg/L	0 23	lbs	0 44	µg/L	0 05	lbs	5	624M	1 0 / 5
Benzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Bromoform	5	µg/L	0 5	lbs	1 6	µg/L	0 2	lbs	9	624M	1
Carbon tetrachloride	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Clorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Chlorodibromomethane	42	µg/L	4 9	lbs	6 9	µg/L	1 9	lbs	57	624M	1
Chloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
2-Chloro-ethylvinyl ether	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	624M	1
Chloroform	4	µg/L	0 4	lbs	2	µg/L	0 2	lbs	5	624M	1
Bromodichloromethane	19	µg/L	2 1	lbs	5 7	µg/L	1 3	lbs	57	624M	1
1 1-Dichloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1 0 / 5
1 2-Dichloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
trans-1 2-Dichloroethene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1 1-Dichloroethene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1 2-Dichloropropane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1 3-Dichloropropene (cis)	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1 3-Dichloropropene (trans)	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Ethylbenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Methyl bromide	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Methyl chloride	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1 0 / 5
Methylene chloride	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1 0 / 5
1 1 2 2-Tetrachloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1 0 / 5
Toluene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1 1 1-Trichloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
1 1 2-Trichloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Trichloroethene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1
Vinyl chloride	ND	µg/L	0	lbs	ND	µg/L	0	lbs	5	624M	1

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc	Units	Mass	Units	Conc	Units	Mass	Units	Number of Samples		
ACID-EXTRACTABLE COMPOUNDS											
p-Chloro-m-cresol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
2-Chlorophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
2,4-Dichlorophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
2,4-Dimethylphenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
4 6-Dinitro-o-cresol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	20
2,4-Dinitrophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	20
2-Nitrophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
4-Nitrophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	20
Pentachlorophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	20
Phenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
2,4 6-Trichlorophenol	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
BASE-NEUTRAL COMPOUNDS											
Acenaphythene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Acenaphthylene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Anthracene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Benzidine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
Benzo(a)anthracene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
3,4 Benzo-fluoranthene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Benzo(g,h,i)perylene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	5
Benzo(k)fluoranthene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
bis (2-chloroethoxy) methane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
bis (2-chloroethyl)-ether	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
bis (2-chloroiso-propyl) ether	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
bis (2-ethylhexyl) phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
4-Bromophenyl phenyl ether	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Butyl benzyl phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
2-Chloronaphthalene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
4-Chlorophenyl phenyl ether	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Chrysene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Di-n-butyl phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Di-n-octyl phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Dibenzo(a,h)anthracene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	5
1,2-Dichlorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
1 3-Dichlorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
1,4-Dichlorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
3,3-Dichlorobenzidine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	20
Diethyl phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Dimethyl phthalate	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
2,4-Dinitrotoluene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	5/20
2,6-Dinitrotoluene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	5
1,2-Diphenylhydrazine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Fluoranthene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Fluorene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Hexachlorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Hexachlorobutadiene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Hexachlorocyclo-pentadiene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
Hexachloroethane	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Isophorone	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Naphthalene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Nitrobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
n-Nitrosodi-n-propylamine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5
n-Nitrosodimethylamine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	3	625M	5
n-Nitrosodi-phenylamine	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	5
Phenanthrene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
Pyrene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	10/5
1 2 4-Trichlorobenzene	ND	µg/L	0	lbs	ND	µg/L	0	lbs	4	625M	20/5

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
CHLORINATED HYDROCARBONS, PCBs, & ORGANOCHLORINE PESTICIDES											
g-BHC (lindane)	0 02	µg/L	0 002	lbs	0 004	µg/L	0 0004	lbs	5	8081 / Scan 3	0 01

ATTACHMENT - 6. TOXIC POLLUTANTS

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

Toxic Pollutant	Maximum Daily Concentration (µg/L)	Maximum Monthly Concentration (µg/L)	Quantification Level Used (µg/L)	Number of Analyses	Sample Type
Individual Samples (µg/L)					
Arsenic	2.0	2.0	1.0	4	☐ Grab ☒ 24 Hr Comp
1: 2.0 | 2: 1.2 | 3: 2.0 | 4: 2.0 | 5: | 6: | 7: | 8: | 9: | 10:					
Arsenic	1.2	1.2	1.0	2	☒ Grab ☐ 24 Hr Comp
1: L1.0 | 2: 1.2 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Barium	110	110	5.0	1	☐ Grab ☒ 24 Hr Comp
1: 110 | 2: | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Barium	110	110	5.0	2	☒ Grab ☐ 24 Hr Comp
1: 110 | 2: 110 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Cadmium	0.6	0.6	0.2	4	☐ Grab ☒ 24 Hr Comp
1: 0.2 | 2: 0.4 | 3: 0.6 | 4: 0.6 | 5: | 6: | 7: | 8: | 9: | 10:					
Cadmium	0.8	0.8	0.2	2	☒ Grab ☐ 24 Hr Comp
1: 0.8 | 2: 0.4 | 3: | 4: | 5: | 6: | 7: | 8: | 9:					
Copper	10	10	1.0	4	☐ Grab ☒ 24 Hr Comp
1: 10 | 2: 9.4 | 3: 9.0 | 4: 10 | 5: | 6: | 7: | 8: | 9: | 10:					
Copper	9.3	9.3	1.0	2	☒ Grab ☐ 24 Hr Comp
1: 5.6 | 2: 9.3 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Lead	2.0	2.0	1.0	4	☐ Grab ☒ 24 Hr Comp
1: 2.0 | 2: 1.9 | 3: 2.0 | 4: 2.0 | 5: | 6: | 7: | 8: | 9: | 10:					
Lead	2.3	2.3	1.0	2	☒ Grab ☐ 24 Hr Comp
1: 2.3 | 2: 1.6 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Nickel	2.2	2.2	25 / 2.0	4	☐ Grab ☒ 24 Hr Comp
1: L25 | 2: 2.2 | 3: L25 | 4: L25 | 5: | 6: | 7: | 8: | 9: | 10:					
Nickel	2.9	2.9	2.0	2	☒ Grab ☐ 24 Hr Comp
1: 2.9 | 2: 2.9 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Silver	0.6	0.6	0.5 / 0.2	8	☐ Grab ☒ 24 Hr Comp
1: L0.5 | 2: L0.5 | 3: 0.6 | 4: L0.2 | 5: L0.2 | 6: L0.2 | 7: L0.2 | 8: L0.2 | 9: | 10:					
Silver	L0.5	L0.5	0.5 / 0.2	2	☒ Grab ☐ 24 Hr Comp
1: L0.5 | 2: L0.5 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Zinc	64	64	20	4	☐ Grab ☒ 24 Hr Comp
1: 54 | 2: 64 | 3: 55 | 4: 48 | 5: | 6: | 7: | 8: | 9: | 10:					
Zinc	60	60	20	2	☒ Grab ☐ 24 Hr Comp
1: 51 | 2: 60 | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10:					
Cyanide	15	15	5.0	7	☐ Grab ☒ 24 Hr Comp
1: 11 | 2: L5.0 | 3: L5.0 | 4: L5.0 | 5: L5.0 | 6: 15 | 7: 11 | 8: | 9: | 10:					

ATTACHMENT - 6 TOXIC POLLUTANTS - page 2

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

Toxic Pollutant	Maximum Daily Concentration (µg/L)	Maximum Monthly Concentration (µg/L)	Quantification Level Used (µg/L)	Number of Analyses	Sample Type
Individual Samples (µg/L)					
Acrylonitrile	2.2	2.2	1.0	3	☐ Grab ☒ 24 Hr Comp
1: L1.0 / 2: 2.2 / 3: L1.0 / 4: / 5: / 6: / 7: / 8: / 9: / 10:					
Acrylonitrile	L5	L5	5	2	☒ Grab ☐ 24 Hr Comp
1: L5 / 2: L5 / 3: / 4: / 5: / 6: / 7: / 8: / 9: / 10:					
Bromoform	4.8	4.8	1.0	7	☐ Grab ☒ 24 Hr Comp
1: 1.2 / 2: L1.0 / 3: L1.0 / 4: L1.0 / 5: 4.8 / 6: L1.0 / 7: 3.6 / 8: / 9: / 10:					
Bromoform	L1.0	L1.0	1.0	2	☒ Grab ☐ 24 Hr Comp
1: L1.0 / 2: L1.0 / 3: / 4: / 5: / 6: / 7: / 8: / 9: / 10:					
Chlorodibromomethane	42	19	1.0	55	☐ Grab ☒ 24 Hr Comp
1: 3 / 2: 1.6 / 3: 18 / 4: 11 / 5: L1.0 / 6: 7.4 / 7: 7.8 / 8: L1.0 / 9: L1.0 / 10: 2.9					
11: 12 / 12: 19 / 13: L1.0 / 14: L1.0 / 15: 10 / 16: L1.0 / 17: 19 / 18: 42 / 19: L1.0 / 20: L1.0					
21: L1.0 / 22: L1.0 / 23: 29 / 24: 5.7 / 25: 11 / 26: L1.0 / 27: 1.3 / 28: 17 / 29: 9.5 / 30: 13					
31: 6.5 / 32: 14 / 33: 21 / 34: 2 / 35: 3 / 36: 5.3 / 37: 28 / 39: 15 / 39: 26 / 40: 8.4					
41: 9.9 / 42: L1.0 / 43: 2.4 / 44: 3.8 / 45: L1.0 / 46: 3.9 / 47: 6.00 / 48: L1.0 / 49: 4.9 / 50: 2.6					
51: L1.0 / 52: L1.0 / 53: 4.7 / 54: L1.0 / 55: L1.0					
Chlorodibromomethane	1.2	1.2	1.0	2	☒ Grab ☐ 24 Hr Comp
1: 1.2 / 2: L1.0 / 3: / 4: / 5: / 6: / 7: / 8: / 9: / 10:					
Chloroform	3.8	3.8	1.0	3	☐ Grab ☒ 24 Hr Comp
1: 3.8 / 2: L1.0 / 3: L1.0 / 4: / 5: / 6: / 7: / 8: / 9: / 10:					
Chloroform	2.0	2.0	1.0	2	☒ Grab ☐ 24 Hr Comp
1: 2.0 / 2: 1.1 / 3: / 4: / 5: / 6: / 7: / 8: / 9: / 10:					
Bromodichloromethane	19	14	1.0	55	☐ Grab ☒ 24 Hr Comp
1: 3.1 / 2: 2.8 / 3: 13 / 4: 11 / 5: L1.0 / 6: 6.7 / 7: 7.2 / 8: L1.0 / 9: L1.0 / 10: 3.8					
11: 9.5 / 12: 13 / 13: L1.0 / 14: L1.0 / 15: 8.3 / 16: L1.0 / 17: 16 / 18: 18 / 19: L1.0 / 20: L1.0					
21: L1.0 / 22: L1.0 / 23: 17 / 24: 4.8 / 25: 7 / 26: L1.0 / 27: 2.3 / 28: 13 / 29: 9.1 / 30: 12					
31: 4.3 / 32: 10 / 33: 13 / 34: 2.1 / 35: 4 / 36: 5.1 / 37: 19 / 39: 12 / 39: 19 / 40: 8.3					
41: 9.9 / 42: 1.2 / 43: 3.7 / 44: 5.8 / 45: L1.0 / 46: 4.4 / 47: 5.90 / 48: L1.0 / 49: 3.7 / 50: 3.8					
51: 1.5 / 52: L1.0 / 53: 6.2 / 54: L1.0 / 55: L1.0					
Bromodichloromethane	1.9	1.9	1.0	2	☒ Grab ☐ 24 Hr Comp
1: 1.9 / 2: L1.0 / 3: / 4: / 5: / 6: / 7: / 8: / 9: / 10:					
g-BHC (lindane)	0.02	L0.02	0.01 / 0.02	5	☐ Grab ☒ 24 Hr Comp
1: 0.02 / 2: L0.01 / 3: L0.02 / 4: L0.02 / 5: L0.01					
Nitrate-Nitrite (as N)	230	230	10	1	☐ Grab ☒ 24 Hr Comp
1: 230 / 2:					
Nitrate-Nitrite (as N)	390	390	10	2	☒ Grab ☐ 24 Hr Comp
1: 250 / 2: 390					

ATTACHMENT - 4. EFFLUENT CHARACTERISTICS - CONVENTIONAL POLLUTANTS *(Revised - 4/2000)*

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

FACILITY NAME		NPDES PERMIT or COC NUMBER			OUTFALL NUMBER
Battle Creek WWTP		MI0022276			001
Parameter	**Maximum Daily Concentration**	**Maximum Monthly Concentration**	**Units**	**Number of Analyses**	**Sample Type**
Nitrite	8.5	2.1	mg/L	83	☐ Grab ☒ 24 Hr Comp
Chemical Oxygen Demand	45	45	mg/L	1	☐ Grab ☒ 24 Hr Comp
Total Organic Carbon	16	16	mg/L	1	☐ Grab ☒ 24 Hr Comp
Nitrate-Nitrite	0.23	0.23	mg/L	1	☐ Grab ☒ 24 Hr Comp
Nitrate-Nitrite	0.39	0.32	mg/L	2	☒ Grab ☐ 24 Hr Comp
Kjeldahl Nitrogen	3.5	3.5	mg/L	1	☐ Grab ☒ 24 Hr Comp
Kjeldahl Nitrogen	6.8	4.8	mg/L	2	☒ Grab ☐ 24 Hr Comp
Ortho Phosphate	0.06	0.06	mg/L	1	☐ Grab ☒ 24 Hr Comp
Alkalinity (as CaCO3)	285	285	mg/L	1	☐ Grab ☒ 24 Hr Comp
Conductivity (umho/cm)	1570	1570	mg/L	1	☐ Grab ☒ 24 Hr Comp
Chloride	280	280	mg/L	1	☐ Grab ☒ 24 Hr Comp
Sulfate	59	59	mg/L	1	☐ Grab ☒ 24 Hr Comp

City of
BATTLE CREEK

PUBLIC WORKS
DEPARTMENT
Wastewater
Division

Lawrence L. DeLong
Superintendent

2000 West River Road
Battle Creek, Michigan
49015-1181

Phone (616) 966-3513
Fax (616) 965-3290

March 29, 2000

Mr. Kevin C. Cook
Permit Section
MDEQ - SWQD

Dear Mr. Cook:

RE: NPDES PERMIT APPLICATION MI0022276 MODIFICATION OF CURRENT PERMIT

The City of Battle Creek requests that Amenable Cyanide testing be removed from our NPDES Permit because Cyanide has been undetectable in our local industries discharges and also our wastewater treatment plant effluent. We would continue to monitor our industries on our IPP Program for Cyanide.

Please see the testing results enclosed. Thank you for your consideration.

Sincerely,

Lawrence L. DeLong

Lawrence L. DeLong
Superintendent

:NPDESPERMIT

Enclosures

cc: File

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION I - General Information

(This information is required by the Part 21 Rules of Michigan Act 451, Public Acts of 1994, as amended, Part 31 A municipality, business, or industry which violates the Part 21 Rules may be enjoined by action commenced by the Attorney General in a court of competent jurisdiction)

See the facing page for instructions on completing pages 1 & 2

DEQ USE ONLY	
Permit ID #	Supplication #

PLEASE TYPE OR PRINT

1 NPDES PERMIT or COC NUMBER: MI0022276

Where addresses are duplicate you may indicate so (e.g. facility address is the same as the application mailing address).

2. APPLICANT ADDRESS

Company Name: BATTLE CREEK WASTEWATER

Street Address or P O Box: 2000 WEST RIVER ROAD

City: BATTLE CREEK | State: MI | ZIP Code: 49015

Telephone (with area code): (616) 966-3513 | FAX (with area code): (616) 965-3290

e-mail address:

3. APPLICATION CONTACT

Contact Name: LARRY DELONG

Street Address or P O Box:

City | State | ZIP Code

Telephone (with area code) | FAX (with area code)

e-mail address:

4. FACILITY MAILING ADDRESS

Facility Name: SAME

Street Address or P O Box:

City | State | ZIP Code

Telephone (with area code) | FAX (with area code)

e-mail address:

5 FACILITY CONTACT

Contact Name: SAME

Street Address or P O Box:

City | State | ZIP Code

Telephone (with area code) | FAX (with area code)

e-mail address:

6. FACILITY LOCATION ADDRESS

Facility Name: SAME

Street Address:

City | State | ZIP Code

Telephone (with area code) | FAX (with area code)

e-mail address:

7 DISCHRGE MONITORING REPORTS

Contact Name: SAME

Street Address or P O Box:

City | State | ZIP Code

Telephone (with area code) | FAX (with area code)

e-mail address:

8 BIOSOLIDS BILLING

Contact Name: SAME

Street Address or P O Box:

City | State | ZIP Code

Telephone (with area code) | FAX (with area code)

e-mail address:

9 STORM WATER BILLING

Contact Name: SAME

Street Address or P O Box:

City | State | ZIP Code

Telephone (with area code) | FAX (with area code)

e-mail address:

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT or COC NUMBER
BATTLE CREEK WWTP	MI0022276

10 PERMIT ACTION REQUESTED (Check one box only) (see instructions page iv)

- ☐ **NEW**, proposed discharge ("New Use" OR an "Existing" discharge currently unpermitted)
- ☒ **REISSUANCE** of current permit
  - ☐ Check here if the permit reissuance proposes an increased loading of pollutants to the receiving water ("Increased Use") Attach a description of the proposed "increased use"
- ☒ **MODIFICATION** of current permit SEE ENCLOSED LETTER AND TESTING RESULTS FOR CYANIDE
  - ☐ Check here if the request includes an increased loading of pollutants to the receiving water ("Increased Use") Attach a description of the proposed modification
- ☐ **GENERAL PERMIT COVERAGE** *Check here if you wish to be considered for coverage under a general permit. (see appendix Table 10)*
  - ☐ Check here if you are applying to land apply biosolids in Michigan Out of state and Groundwater discharger's see instructions on page iv

11 RULE 1098 DEMONSTRATION (see instructions page iv)

In accordance with Rule 323 1098 of the Part 4 Rules, the permittee must submit a Rule 323 1098 Demonstration for any new or increased loading of pollutants to the surface waters of the state Has the "New", "Existing Unpermitted", "Reissuance" (with increased use) or "Modification (with increased use) box in question 10 above, been checked? (see appendix for information)

- ☐ Yes, Submit a Rule 323 1098 demonstration (refer to Rule 323 1098, page 4 in the appendix for instructions) Questions should be directed to the appropriate district office (see page 2 and 3 in the appendix)
- ☒ No, Continue with Item 12

12. ADDITIONAL FACILITY LOCATION INFORMATION (see instructions on page iv)

A: County / Township	County: CALHOUN			Township: BATTLE CREEK	
B. State Planar Coordinates	¼, ¼: NORTH	¼: EAST	Section: 32	Town: 1 SOUTH	Range: 8 WEST
C. Latitude / Longitude (to the nearest 1E seconds)	Latitude: 42°20'4.25"N.			Longitude: 85°15'54.5W	

13. CERTIFIED OPERATOR (see instructions on page iv)

Does the facility have a certified operator? (Yes) No

Operator's Name: LARRY DELONG (LAWRENCE L.)

Certification Number: A-1848

Certification Classification(s): A

14. OTHER ENVIRONMENTAL PERMITS

Provide the information requested below for any other federal, state or local environmental permits in effect or applied for at the time of submittal of this application form, including, but not limited to, permits issued under any of the following programs: Air Pollution Control, Hazardous Waste Management, Wetlands Protection, Soil Erosion and Sedimentation Control, and other NPDES permits. Include any additional information on 8 1/2" x 11" paper as an attachment to this application.

Issuing Agency	Permit or COC Number	Permit Type
MDEQ - AQD	695-78	PERMIT TO INSTALL AIR
MDEQ - AQD	465-95	PERMIT TO INSTALL AIR QUALITY
USEPA	PERMIT PENDING	40CFR503 PERMIT
MDEQ-STORMWATER		GENERAL STORMWATER

PreWin DISCHARGE MONITORING REPORT - BY PARAMETER

Date Range: 01/01/1999 to 02/29/2000
IU : 128 - AtoFindley Adhesives, Inc.
Site: 1 - 28th St. front parking lot.
Industrial Category: 400 - No Category
Permit: 128

Parameter : CN- - Cyanide Daily Limits - Min: 0.000 Max: 0.500 / Min Avg: 0.000 Max Avg: 0.500 / Max TRC: 0.600 / Avg Max TRC: 0.600

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/16/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			
11/17/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - BY PARAMETER

Date Range: 01/01/1999 to 02/29/2000
IU : 164 - Denso Manufacturing, Inc
Site: 1 - Inside pretreatment building.
Industrial Category: 433 - METAL FINISHING
Permit: 164

Parameter : CN- - Cyanide Daily Limits - Min: 0.000 Max: 0.500 / Min Avg: 0.000 Max Avg: 0.500 / Max TRC: 0.600 / Avg Max TRC: 0.600

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	---------- Violations ---------- Min	Max	TRC
03/23/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			
04/27/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			
05/11/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			
08/03/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			
10/05/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			
02/03/2000	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			

** No Detect results calculated using [Detection Level x 0 50]*

PreWin DISCHARGE MONITORING REPORT - BY PARAMETER

Date Range: 01/01/1999 to 02/29/2000
IU : 164 - Denso Manufacturing, Inc
Site: S - Self-Monitoring Results
Industrial Category: 400 - No Category
Permit: 164-S

Parameter : CN- - Cyanide Daily Limits - Min: 0.000 Max: 0.500 / Min Avg: 0.000 Max Avg: 0.500 / Max TRC: 0.600 / Avg Max TRC: 0.600

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
06/14/1999	001	KARLAB	Grab	Self	ND (<0.005) mg/L			
12/08/1999	001	KARLAB	Composite/Grab	Self	ND (<0.005) mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - BY PARAMETER

Date Range: 01/01/1999 to 02/29/2000
IU : 172 - Southern Graphics System, Inc.
Site: 1 - Behind building.
Industrial Category: 400 - No Category
Permit: 172

Parameter : CN- - Cyanide Daily Limits - Min: 0.000 Max: 0.500 / Min Avg: 0.000 Max Avg: 0.500 / Max TRC: 0.600 / Avg Max TRC: 0.600

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
04/20/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - BY PARAMETER

Date Range: 01/01/1999 to 02/29/2000
IU : 172 - Southern Graphics System, Inc
Site: S - Self-Monitoring Results

Industrial Category: 400 - No Category
Permit: 172-S

Parameter : CN- - Cyanide Daily Limits - Min 0 000 Max 0 500 / Min Avg 0 000 Max Avg 0 500 / Max TRC 0 600 / Avg Max TRC 0 600

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
03/03/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
04/15/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
04/21/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
04/24/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
05/06/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
06/02/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
06/17/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
07/07/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
08/04/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
09/02/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
10/06/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
11/11/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
12/01/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
12/15/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
12/16/1999	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
12/17/1999	001	KARLAB	Composite/Grab	Self	ND (<0 100) mg/L			
01/05/2000	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			
02/03/2000	001	KARLAB	Composite/Grab	Self	ND (<0 005) mg/L			

** No Detect results calculated using [Detection Level x 0 50]*

CITY OF BATTLE CREEK
WASTEWATER DIVISION
ANNUAL OPERATING REPORT

ADDITIONAL CHEMICAL ANALYSIS

MONITORING PERIOD	FROM		TO		
YEAR	MONTH	DAY	YEAR	MONTH	DAY
96	07	01	99	12	31

		QUARTERLY										WEEKLY			
		ASE					Influent					ASE	ASE	ASE	ASE
Parameter		Lindane	Bromoform	Amenable Cyanide	Total Silver	Total Mercury	Total Chromium	Total Copper	Total Mercury	Total Nickel	Total Zinc	Chloro-Dibromo-methane	Chloro-Dibromo-methane	Bromo-dichloro methane	Bromo-dichloro methane
Parameter #		89782	82104	00722	01077	71900						84306		88693	
Units		ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L	ug/L	mg/L	mg/L	ug/L	lbs	ug/L	lbs
Month	TL/Avg														
1996	Total														
	Average	002	85	0	030	000	000	017	000	003	032	219	22	166	16
1997	Total														
	Average	003	26	0	035	000	001	019	000	002	032	203	21	111	11
1998	Total														
	Average	002	49	0	020	000	007	009	000	000	008	80	09	68	08
1999	Total														
	Average	000	42	0	000	000	001	021	000	003	022	91	00	10	00
TOTAL															
AVERAGE		002	109	0	02	00	002	016	00	002	023	148	13	89	09

*Note L = Below detectable limit
NDQ = No determinable Quantity

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT or COC NUMBER
BATTLE CREEK WWTP	MI0022276

15 WATER FLOW DIAGRAM AND NARRATIVE DESCRIPTION

Provide a flow diagram (using 8 1/2" x 11" paper **if possible**) showing the wastewater flow through the facility including all treatment units, processes and bypass piping, and a narrative description of the water flow through the facility from intake to discharge Show all operations contributing wastewater and the locations of flow meters, chemical feeds and discharge points The water balance shall show daily average flow rates at intake and discharge points and approximate daily flow rates between treatment units including influent and treatment rates Use actual measurements whenever available, otherwise use your best estimate Show all significant losses of water to products, atmosphere and discharge.

Municipal Facilities - Include a narrative that briefly describes the history of the wastewater treatment facility. Include information describing when it was first constructed, what improvements have been made, future plans for upgrade, and other pertinent information

Industrial and Commercial Facilities - The line diagram shall include all operations contributing wastewater including process and production areas, sanitary flows, cooling water and storm water runoff. **Include a narrative** which provides a brief description of the manufacturing processes

ATTACH THIS INFORMATION TO THIS APPLICATION PLEASE DO NOT BIND THIS INFORMATION

16 MAP OF FACILITY AND DISCHARGE LOCATION

Provide a detailed map on 8 1/2" x 11" paper showing the location of the existing or proposed facility, wastewater and biosolid treatment system(s), and wastewater discharge points into receiving waters (including bypasses). Include the exact location of the wastewater discharge point(s) and all areas through which the discharge flows (e.g. wetlands, open drains, storm sewers), if applicable, between the discharge point and the receiving water. *If the discharge is to a storm sewer, label the storm sewer and show its flow path to the receiving water. Also include the location of any* water supply wells and groundwater monitoring wells. This map shall be a United States Geological Survey Quadrangle (7 5 minute series) or other map of comparable detail, scale and quality (which shows surface waterbodies, roads, and other pertinent landmarks). The minimum area this map shall encompass is approximately one mile beyond property boundaries.

ATTACH THIS INFORMATION TO THIS APPLICATION

17 LIST ADJACENT PROPERTY OWNERS

List the names and addresses of all property owners adjacent to the facility, treatment systems, and discharge locations. List this information in the space provided below or include the information as an attachment on 8 1/2" x 11" paper. If additional space is necessary, copy this blank page and attach this information to this application.

Name	Address	City	State	ZIP Code
BEDFORD TOWNSHIP	115 SOUTH ULDRIKS	BATTLE CREEK	MI	49017
KALAMAZOO RIVER				
CONSOLIDATED RAIL CORP	2 COMMERCE SQUARE	PHILADELPHIA	PA	19101
FRATERNAL ORDER OF POLICE	PO BOX 922	BATTLE CREEK	MI	49016-0922

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT or COC NUMBER
BCWWTP	MI0022276

18. ALTERNATE POWER SOURCE

If you are applying for a New or Existing Unpermitted discharge, continue to Section II or Section III.

Applicants with an approved Alternate Power Source Report shall indicate any changes that have been made to the alternate power source serving the facility in the past five years. Submit the new information with the application and provide specific information regarding the appropriate pump station or treatment unit the alternate power source serves.

A. Indicate if the facility has a back-up source of power and if emergency procedures have been developed in case of a power outage to the facility.

☒ Yes, Continue to B. ☐ No ☐ Not Applicable.

B. Has an Alternate Power Source Report been approved by the DEQ?

☐ Yes, Continue to C. ☐ No. UNKNOWN

C. Have changes been made that have not been reported to DEQ since the Report was approved?

☐ Yes, Submit the information as an attachment to this application. ☒ No.

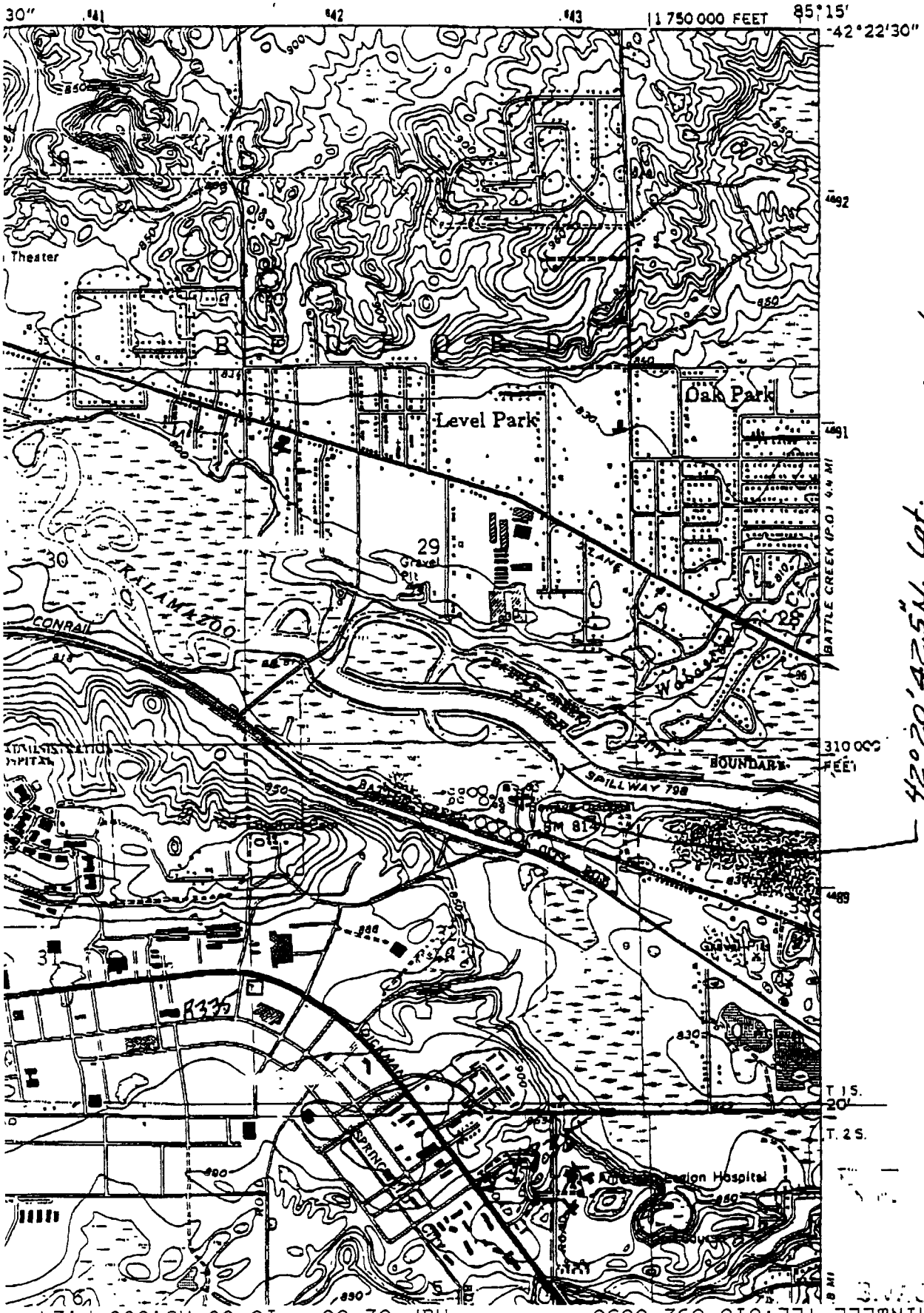
This completes Section I. Facilities requesting authorization to only discharge sanitary wastewaters continue with Section II. Other facilities requesting authorization to discharge wastewater continue with Section III. Section I shall be accompanied by either Section II or Section III of this application. If you need assistance in determining the appropriate Sections to complete, contact the district office (see Pages 2 and 3 in the appendix for district office addresses and a map of district boundaries).

Battle Creek Wastewater Treatment Plant
Permit No. MI 0022276
"Attachment C"

9-C

AUGUSTA QUADRANGLE
MICHIGAN
7.5 MINUTE SERIES (TOPOGRAPHIC)

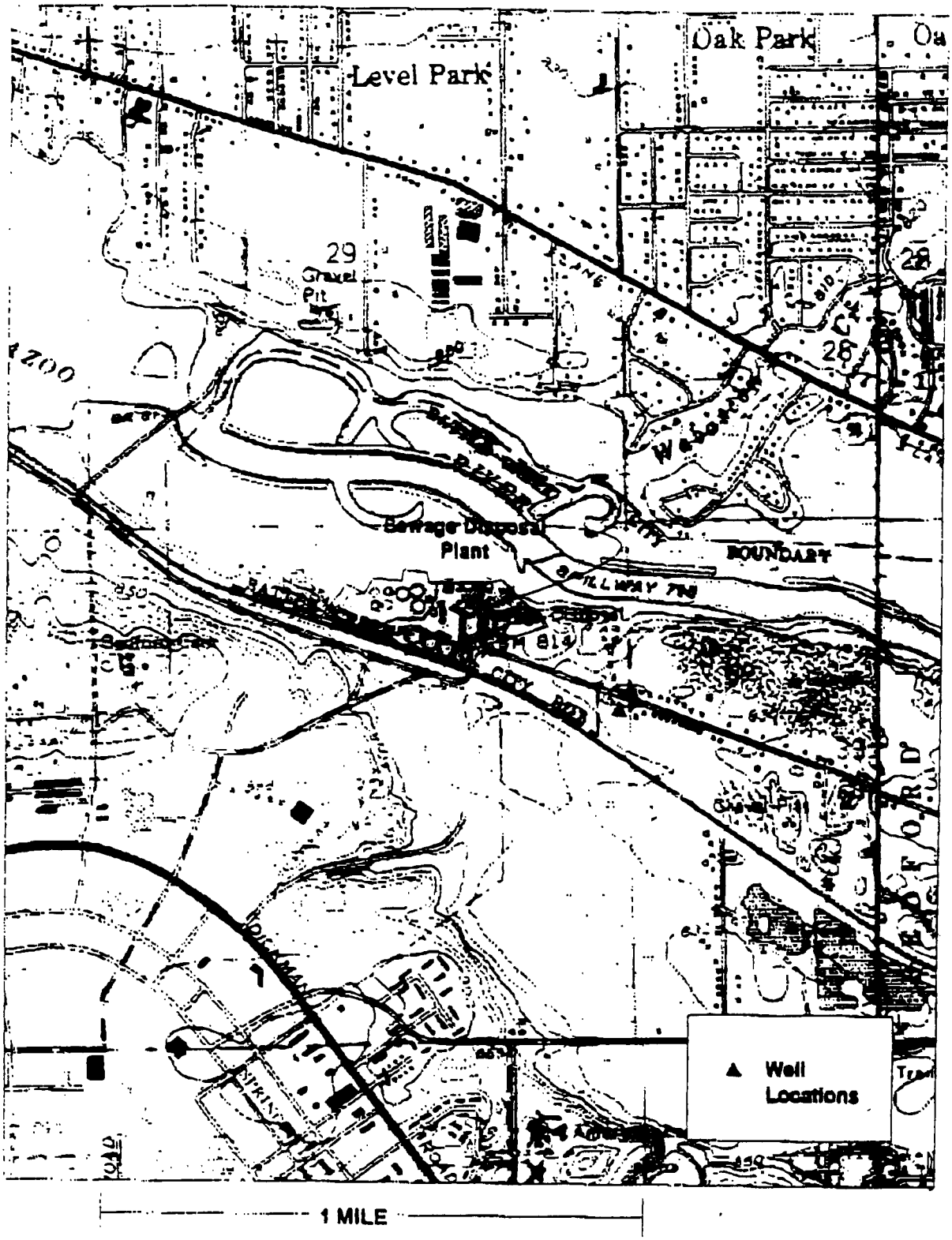
3968 I NW (BEDFORD)



MDEQ-MIDTOWN PLAINWELL TEL:616-692-3050 Mar 02 00 16:06 No.006 P.24

Battle Creek Wastewater Treatment I)t
Permit No. MI0022276
"Attachment C"

7-B



Battle Creek Wastewater Treatment Plant
SITE LOCATION

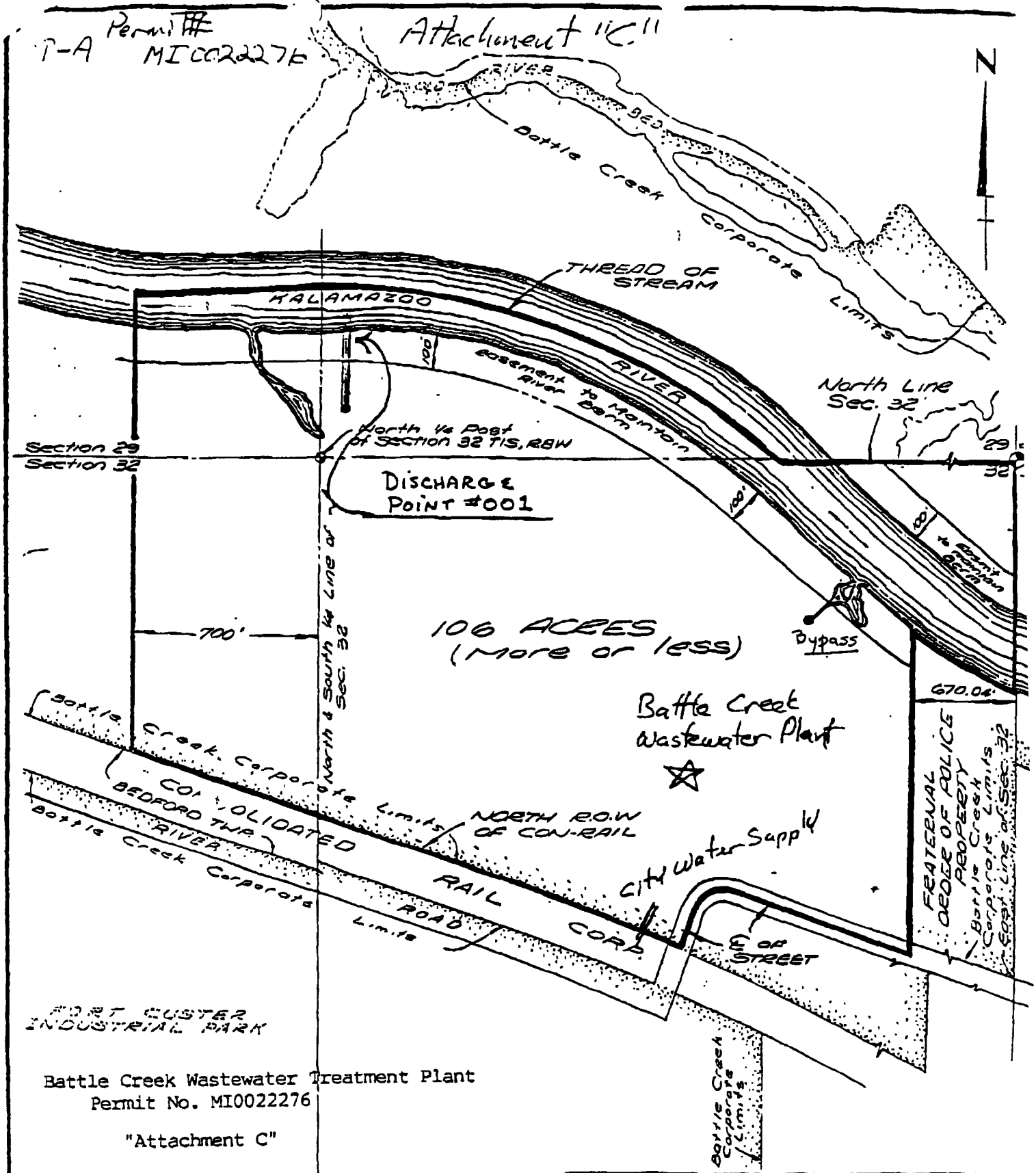
RECEIVED
MAR
S.W.G.D. PERMITS

MDEQ-MIDTOWN PLAINWELL TEL:616-692-3050 Mar 02 00 16:05 No.006 P.23

AZOO BLUEPRINT & SUPPLY CO. 50 4-75 60276

Permit #
T-A MI0022276

Attachment "C"



Battle Creek Wastewater Treatment Plant
Permit No. MI0022276

"Attachment C"

DEPARTMENT OF PUBLIC WORKS
BATTLE CREEK, MICHIGAN
- DIRECTOR OF PUBLIC WORKS
- CITY ENGINEER

WASTEWATER TREATMENT PLANT PROPERTY

DRAWN BY: ECB	APPROVED	DATE 5/88
SCALE 1" = 400'	SHEET 1 OF 2 SHEETS	DWG. NO.

CITY OF BATTLE CREEK
WASTEWATER TREATMENT PLANT
NPDES Permit No. MI0022276
2000 Wastewater Discharge Permit Application

SECTION I - Question 15.

Flow Narrative:

Collection System - 42" and 54" interceptor sewers combine in a junction chamber at the WWTP. A 36" interceptor from the south joins the 54" incoming sewer. The interceptor then extends to an emergency bypass/overflow structure. A 54" sewer flows from the bypass structure to the headworks.

Headworks - After sampling, raw wastewater flows to two 2" manual (optional) and two 3/8" mechanical bar screens. A recycle flow connection from the biosolids handling building enters just after screening. Flow then travels by one fixed speed 10 MGD and three variable speed 18 MGD raw sewage pumps. Flow travels through a magnetic flowmeter to two gravity grit chambers.

Primary Treatment - Primary treatment is provided by six circular, primary setting tanks. Flow moves by gravity to the settled sewage wet well, where it is pumped again by one 20 MGD and two 25 MGD, variable speed settled sewage pumps. A recycle stream from the incinerator scrubber drainage well joins at the settled sewage wet well.

Secondary Treatment - Activated sludge, secondary treatment is provided in eight 1.26 MGal aeration tanks. These are equipped with fine bubble diffusion, with air provided by three Roots blowers (optional) and three variable load, centrifugal blowers. Mixed liquor flows to seven circular, final clarifiers. Return activated sludge is pumped by six 3.9 MGD and four 5.8 MGD, variable speed pumps.

Disinfection/Dechlorination - Final effluent is chlorinated in one chlorine contact tank before dechlorination and discharge to the Kalamazoo River. Chlorinated effluent is recycled for use as scrubber water, process water, and effluent water (primarily for fire protection.)

Residuals - Raw (primary treatment) sludge and waste activated (secondary treatment) sludge are blended together in four holding tanks, then thickened in two (DAFT) dissolved air flotation thickeners (optional). Further thickening and/or dewatering is provided by four sludge centrifuges. During the winter months (December - March) dewatered sludge (25-30% solids) is sent to two multihearth sewage sludge incinerators. The remainder of the year thickened sludge (10% solids) is lime stabilized in two conditioning tanks, then stored in one 1.0 MG storage tank before land application.

Scum is concentrated in one flotation concentrator, then mixed with grit and sent to landfill. Screenings are compacted by two hydrosieve compactors, then sent to landfill. Ash is stored in one ash silo, then taken to landfill.

The plant processes an average of 12.44 MGD of raw sewage, 76,097 GPD of primary sludge at 3.6% solids, and 170,700 GPD secondary sludge at 1.51% solids. The return activated sludge rate averages 51% of the settled sewage flow. An average of 230 lb. of screenings, 478 lb. grit, and 10,400 lb. ash (seasonal) are produced daily. Recycled water varies between 0.1 and 1.5 MGD.

History:

1927 - Initial Facility Construction

Interceptor sewer constructed south of river, extending to new treatment plant located near present-day Bedford Road. Treatment consisted of Imhoff tank primary treatment and sludge drying beds.

1934 - Sewer Extension

Interceptor sewer extended to site of new treatment plant near the existing Ft. Custer treatment plant (Imhoff tanks) outfall. The new plant was to be located approximately 2 miles west of existing plant, and about 1/2 mile north of the existing Ft. Custer plant.

1935 - Treatment Plants Replaced

New treatment plant constructed. New plant consisted of screening, grit removal (detritor), primary clarifiers, sludge holding tank, sludge drying beds, and a digester. Construction completed about 1938. Old City and Ft. Custer plants removed from service.

1942 - Addition

Primary flocculation tanks, chemical addition, sludge dewatering/drying, and additional digester constructed.

ca. 1955 - Sewer Separation

Straightening of river channel, including separating sanitary and storm sewers, realignment and new connections to interceptor.

1959 - Secondary Treatment Addition

Increased capacity, sludge dewatering, incineration, and secondary treatment and disinfection added. Installed mechanical screening, increased pumping capacity, raw sewage metering, additional grit removal (detritor), additional primary clarifier; replaced digesters; added gravity thickener, two vacuum filters, one incinerator with slurry ash system, and ash lagoons; added secondary treatment including four trickling filters and three secondary clarifiers; installed chlorine contact tank and chlorination equipment. Removed flocculation tanks, chemical addition, and old sludge dewatering/drying facilities.

1965 - Activated Sludge Addition

Increased secondary treatment with addition of activated sludge secondary treatment. Increased sludge thickening, sludge dewatering, incineration, disinfection, and digester capacities. Replaced mechanical screens, vacuum filters, and one detritor. Added one vacuum filter, two gravity thickeners, one incinerator, and an additional chlorine contact tank. Increased sludge holding tank capacities. Added activated sludge treatment, including settled sewage metering, 3 aeration tanks, coarse bubble diffusion with 4 Roots blowers, and 3 secondary clarifiers. Added a new outfall for the secondary treatment systems. Old outfall maintained for emergency bypass, storm water, and backup use.

1978 - Upgrade and Expansion

Replaced raw sewage pumps with 4 variable speed units, added variable speed drives for settled sewage pumps, one primary clarifier and one secondary clarifier, rehabilitated 2 vacuum filters, and improved plant electrical system. Area sewer system expansion begun, extending sewer throughout entire metropolitan area. Numerous new lift stations added to system.

1978/79 - Land Application

Hearth failures on both incinerators. Land application of dewatered cake sludge begun. Added electrical capacity to allow operation of third blower for activated sludge.

1981 - Upgrade and Expansion

Rehabilitated equipment and increased solids handling, chlorination, and secondary treatment capacities. Added 2 primary clarifiers, 2 vacuum filters, 3 dissolved air flotation thickeners (DAFT), nutrient addition equipment, additional lime silo, and scum concentrator. Replace south detritor with circular grit tank. Replaced mechanical screens, 3 primary tank drives, sludge holding tank drives and mechanisms, 3 vacuum filters, vacuum pumps, sludge pumps, return activated sludge pumps, chemical addition equipment, most instrumentation, and remaining plant electrical system. Rebuilt inoperable incinerators and replaced control panels and air pollution equipment. Added to activated sludge capacity with 5 aerators, 3 secondary clarifiers, and 3 centrifugal blowers. Removed 2 gravity thickeners and converted trickling filters for use as roughing filters. Added new computerized plant monitoring (SCADA) system and telemetry for 75 lift stations. Built new administration building with new lab and maintenance shop. Built industrial monitoring (ISPP) lab and dewatered sludge storage structures for land application. Original outfall abandoned except for storm sewer use. Expansion completed in 1984.

1987 - Incineration

Land application ceases and incineration begun via contracted operations.

1990 - Improved Dewatering

Two vacuum filters replaced with 2 belt filter presses. Three vacuum filters retained as backup. Raw sewage and settled sewage pump variable speed drives replaced.

1991- Dechlorination

Added sodium bisulfite dechlorination equipment. Bedford Township sewer system built. Dial-up telemetry system added for 35 smaller (grinder) lift stations.

1993- Land Application

Seasonal land application of liquid sludge begun. Incinerators used December through March.

1993 - City Assumes Solids Handling

City takes over solids handling and incineration from contractor.

1993 - Fine Bubble Aeration

Existing coarse bubble aeration system replaced with fine bubble diffusion to improve efficiency. Drive mechanisms replaced and baffles added to 3 secondary clarifiers.

1994/95 - Biosolids Handling

Added hydrosieve compactors for screenings. Vacuum filters and belt presses replaced by 4 centrifuges. 2 DAFTs retained as backup. Remaining DAFT converted to bulk chemical storage. Polymer addition equipment installed. Lime equipment replaced and relocated for use in lime stabilization. Old conditioning chemical equipment removed. Replaced 2 holding tank drives and mechanisms, and converted tanks for sludge conditioning. Rehabilitated 4 holding tank drives. Constructed 1.0 MGal biosolids holding tank with truck loading facilities to allow land application of liquid sludge. Added odor control scrubbers for influent and biosolids tank ventilation gases. Continuous Emissions Monitor (CEMS) added to incinerators.

1998 - Improvements

Existing computer SCADA replaced with PLC I/O and personal computer system. Baffles added to 4 secondary clarifiers and replaced serpentine weirs with conventional units. Repaired RAS piping and installed cathodic protection. HVAC modifications and replacements done. Incinerator instrumentation and burners replaced, and dampers modified for fuel efficiency. Various valves replaced, and recycle piping from drainage well rerouted to settled sewage wet well.

Future

Sewer system expansion in Emmett Township scheduled for summer of 2000. Lift station telemetry to be replaced with radio system this year (2000). New headworks to replace screening, grit removal, and raw sewage pumping currently under design. SCADA system expansion in plant and instrumentation improvements under consideration.

BATTLE CREEK WASTEWATER TREATMENT PLANT
PERMIT NO. MI0022276

"ATTACHMENT B"

FIGURE 1

CITY OF BATTLE CREEK, MICHIGAN
WASTEWATER TREATMENT PLANT

EXISTING FLOW SCHEMATIC

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

INSTRUCTIONS FOR COMPLETING SECTION II, ITEM 3.

This item requests detailed information about flow variation of the facility and the location(s) of the outfall(s), frequency of discharge and volume of effluent discharged. Outfall refers to any discharge of treated or untreated wastewater Outfalls include discharges from the treatment facility, retention basins, equalization treatment basins, underdrains, CSO's, etc Please provide the information below for each individual outfall from which wastewater discharges (main outfall(s), retention basins, underdrains, etc) Fill in the Outfall Number in the top right hand box, identify the outfall by number, e g., 001, 002, etc (applicants with existing NPDES permits should refer to the facility's current NPDES permit for outfall numbers identification).

A WATERSHED Identify the receiving stream's watershed. Each receiving stream will eventually discharge into one of the Great Lakes or one of the connecting waters (i e Detroit River, St Mary's River, St Clare River) Indicate from which river the discharge eventually discharges to the Great Lakes For example Sycamore Creek is tributary to the Red Cedar River, which is tributary to the Grand River, which discharges to Lake Michigan Therefore a discharge to the Sycamore Creek is a discharge to the Grand River Watershed.

B. RECEIVING STREAM· Identify the exact location of the wastewater discharge point(s) and all areas through which the discharge flows (e.g. storm sewers, open drains, wetlands), if applicable, between the discharge point and the receiving water. Examples of receiving waters are rivers, creeks, drains, etc.

C COUNTY / TOWNSHIP: Provide the county and township where the point of discharge is located

D. STATE PLANAR COORIDINATES: Provide the location of the discharge to the receiving water in State Planar Coordinates. Report State Planar Coordinates using quarter-quarter section, quarter section, section, town and range (e.g., NE 1/4, SE 1/4, Section 34, T1N, R12E).

E. LATITUDE / LONGITUDE· Provide the latitude and longitude of the discharge to the nearest 15 seconds (e g., Latitude = 42°27'15", Longitude = 83°02'30").

F. SEASONAL DISCHARGE. If the treatment facility discharges from one to seven days per week throughout the year, check "No" and continue with Item G. If the facility stores wastewater that accumulates throughout the year and discharges it a few weeks or months a year, after treatment, check "YES" and provide the dates the facility discharges (e g., October 15 through November 10).

G DISCHARGE DURATION AND FREQUENCY· Enter the approximate hours per day and the number of days per year that the discharge occurs from this outfall. Sequencing Batch Reactors (SBRs) shall enter the number of discharges per day and the duration of each discharge (in hours per day).

H FACILITY DESIGN FLOW Enter the annual average design flow in millions of gallons per day (MGD) that the facility is designed to treat. Seasonal dischargers shall enter the total volume (million gallons per year, MGY) of wastewater the facility is designed to treat and discharge per year This number will be used in determination of appropriate effluent limitations

I EXPECTED DISCHARGE FLOWS Provide the information requested regarding the expected or measured variability of flow from this facility, if available. This information shall be representative of what you expect to discharge during the next five years.

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

INSTRUCTIONS FOR COMPLETING SECTION II, ITEM 3.

This item requests detailed information about flow variation of the facility and the location(s) of the outfall(s), frequency of discharge and volume of effluent discharged. Outfall refers to any discharge of treated or untreated wastewater Outfalls include discharges from the treatment facility, retention basins, equalization treatment basins, underdrains, CSO's, etc Please provide the information below for each individual outfall from which wastewater discharges (main outfall(s), retention basins, underdrains, etc) Fill in the Outfall Number in the top right hand box, identify the outfall by number, e g., 001, 002, etc (applicants with existing NPDES permits should refer to the facility's current NPDES permit for outfall numbers identification).

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B. RECEIVING STREAM· Identify the exact location of the wastewater discharge point(s) and all areas through which the discharge flows (e.g. storm sewers, open drains, wetlands), if applicable, between the discharge point and the receiving water. Examples of receiving waters are rivers, creeks, drains, etc

C. COUNTY / TOWNSHIP: Provide the county and township where the point of discharge is located.

D. STATE PLANAR COORIDINATES· Provide the location of the discharge to the receiving water in State Planar Coordinates. Report State Planar Coordinates using quarter-quarter section, quarter section, section, town and range (e g., NE 1/4, SE 1/4, Section 34, T1N, R12E).

E. LATITUDE / LONGITUDE: Provide the latitude and longitude of the discharge to the nearest 15 seconds (e g., Latitude = 42°27'15", Longitude = 83°02'30").

F. SEASONAL DISCHARGE. If the treatment facility discharges from one to seven days per week throughout the year, check "No" and continue with Item G. If the facility stores wastewater that accumulates throughout the year and discharges it a few weeks or months a year, after treatment, check "YES" and provide the dates the facility discharges (e g., October 15 through November 10).

G. DISCHARGE DURATION AND FREQUENCY· Enter the approximate hours per day and the number of days per year that the discharge occurs from this outfall. Sequencing Batch Reactors (SBRs) shall enter the number of discharges per day and the duration of each discharge (in hours per day).

H. FACILITY DESIGN FLOW Enter the annual average design flow in millions of gallons per day (MGD) that the facility is designed to treat. Seasonal dischargers shall enter the total volume (million gallons per year, MGY) of wastewater the facility is designed to treat and discharge per year. This number will be used in determination of appropriate effluent limitations.

I EXPECTED DISCHARGE FLOWS· Provide the information requested regarding the expected or measured variability of flow from this facility, if available This information shall be representative of what you expect to discharge during the next five years.

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

A. Facility Information

Section II is to be completed by Publicly Owned Treatment Works discharging treated or untreated sanitary and industrial wastewater to the surface waters Section II is also to be completed by all privately owned treatment facilities discharging treated sanitary wastewater to the surface waters The privately owned treatment facilities in this category generally include Mobile Home Parks, Campgrounds, Condominiums, Hotels and Motels, Nursing Homes, etc

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT or COC NUMBER
BCWWTP	MI0022276

1. SERVICE AREA INFORMATION

A Enter the source(s) of water supply serving the sewered service area Identify groundwater wells, surface water intakes and the name(s) of any surface water(s) from which intake water is drawn

PUBLICLY OWNED WELL SYSTEM, SOME PRIVATE WELLS AND I & I

Publicly Owned Treatment Works shall provide the following information:

B List the governmental jurisdictions (cities, townships, villages, etc) that this facility serves

Name	Population Served	Type of Collection System	Ownership
EMMETT TOWNSHIP	8,000	GRAVITY/LIFT STATION	EMMETT
PENNFIELD TOWNSHIP	5,000	"	PENNFIELD
BEDFORD TOWNSHIP	2,000	"	BEDFORD
BATTLE CREEK CITY OF	53,500	"	BATTLE CREEK
SPRINGFIELD CITY OF	5,600	"	SPRINGFIELD

C Enter the total population served by this facility. 77,100

Privately Owned Treatment Works shall provide the following information:

D Enter the number of residential units served by this facility. ---

E. Describe the service area (mobile home park, condominium, nursing home, industrial facility, etc)

2. BIOMONITORING FOR ACUTE AND CHRONIC TOXICITY

Publicly Owned Treatment Works (POTWs) with facility design flows of one (1) million gallons per day or greater, POTWs with approved Federal Industrial Pretreatment Programs (FIPP), and POTWs required to develop Federal Pretreatment Programs (FIPP), shall include whole-effluent toxicity (WET) test data with this application

The WET testing requirement can be met by conducting chronic toxicity tests on two test species for at least four sampling periods and submitting the test results with the application. Sampling periods shall be quarterly for a 12-month period prior to this application, or annually in the four and one-half years prior to this application. Test species shall include fathead minnows **and** Ceriodaphnia dubia unless alternative species are approved by the Department. Testing and reporting shall follow procedures contained in EPA 40 CFR Part 136 (Federal Register, 53529 October 16, 1995) unless alternative methods are approved by the Department. Current methods are contained in EPA/600/4-91/002, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" The chronic toxicity tests shall be conducted and reported such that the acute toxicity of the effluent to the two test species can be determined. Acute toxicity test data and respective median lethal concentration (LC_{50}) values at 96 hours (fathead minnow) and 48 hours (Ceriodaphnia) shall be included in the reporting of the chronic toxicity test results.

The applicant may request approval to reduce this application requirement to acute toxicity testing only based on high receiving water dilution or other site-specific factors. An 80.1 or greater dilution ratio of the receiving water 95% exceedance drought flow to facility design flow may justify reduction to acute testing only Such requests, with supporting rationale, shall be made in writing to the appropriate District Supervisor of the Surface Water Quality Division (see pages 2 and 3 of the appendix)

The biomonitoring described above will meet the whole-effluent biological testing requirement of the federal regulation under 40 CFR 122 21 for municipal applicants If you need assistance in determining if this facility shall submit WET data, or if acute toxicity testing only may be allowable, contact the appropriate district office (see pages 2 and 3 of the appendix)

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

Complete a separate Section II B Outfall Information (pages 7 - 14) for each outfall at the facility Make copies of this blank section of the application if necessary.

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
BCWWTP	MI0022276	001

3 OUTFALL INFORMATION (see page 6 for instruction on completion of this page)

A	Watershed: KALAMAZOO RIVER				
B	Receiving Water: KALAMAZOO RIVER				
C	County: CALHOUN		Township: BEDFORD		
D.	SOUTH WEST ¼, ¼	SOUTH EAST ¼	Section: 29	Town: T1 SOUTH	Range: 8 WEST
E.	Latitude (to nearest 15 seconds): 42°20'42.5"N		Longitude (to nearest 15 seconds): 85°15'54.5"W		

F Is this a Seasonal Discharge?

☐ Yes, List the discharge periods (by month) in the space provided below. ☒ No, Continue with item F

From	Through	From	Through
From	Through	From	Through

G. How often is there a discharge from this outfall (on the average)?

Hours/Day	Days/Year	Number of Discharges / Day (Sequencing Batch Reactors)
24 HRS/DAY	365 DAYS/YEAR	--

H. Facility Design Flows:

Annual Average Design Flow (MGD) 27.00 Annual Total - Seasonal Dischargers Only (MGY) N/A

I. Expected Discharge Flow (provide what you know or can obtain in the spaces below):

Annual Average	Weekly Maximum	Daily Maximum	2-Hour Maximum	Maximum Dry Weather	* Maximum Wet Weather
12.44 MGD	15.39 MGD	15.39 MGD	- MGD	12.44 MGD	12.44 MGD

Flow in Million Gallons per Day (MGD)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Continuous Dischargers Daily Average	13.57	14.18	13.30	13.93	13.34	12.84	11.93	11.58	11.23	11.30	11.00	11.21
Seasonal Dischargers Daily Maximum	16.14	17.21	16.40	17.93	16.41	16.05	15.19	14.60	13.58	14.02	13.31	13.85

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
BCWWTP	MI0022276	001

4. EFFLUENT CHARACTERISTICS – CONVENTIONAL POLLUTANTS

Report existing or projected discharge data for the listed parameters. Existing facilities shall provide effluent analytical data for the following parameters. However, applicants for new uses need only report either Carbonaceous BOD_5 or BOD_5. Data that is available for parameters not specifically listed in this page shall be provided in the blank areas of this page or included as an attachment on 8 1/2" x 11" paper. Analytical methods approved pursuant to 40 CFR Part 136, shall be used for analysis of all parameters. (See pages ii and iii for sampling definitions, including "daily concentration" and "monthly concentration".)

☐ Check this box if additional information is included as an attachment.

Parameter	Maximum Daily Concentration	Maximum Monthly Concentration	Units	Number of Analyses	Sample Type
Biochemical Oxygen Demand - five day (BOD_5)	4	4	mg/l	1	☐ Grab ☒ 24 Hr Comp
BOD_5, % Removal	Do Not Use	99	%	1	☐ Grab ☒ 24 Hr Comp
Carbonaceous BOD_5 ($CBOD_5$)	26.8	8.9	mg/l	365	☐ Grab ☒ 24 Hr Comp
Carbonaceous BOD_5, % Removal	Do Not Use	98	%	365	☐ Grab ☒ 24 Hr Comp
Ammonia Nitrogen (as N)	15.4	4.6	mg/l	365	☐ Grab ☒ 24 Hr Comp
Total Suspended Solids	116.0	16.5	mg/l	365	☐ Grab ☒ 24 Hr Comp
Total Suspended Solids, % Removal	Do Not Use	96	%	365	☐ Grab ☒ 24 Hr Comp
Total Dissolved Solids	920	920	mg/l	1	☐ Grab ☒ 24 Hr Comp
Total Phosphorus (as P)	4.5	0.9	mg/l	365	☐ Grab ☒ 24 Hr Comp
Fecal Coliform Bacteria (report geometric means)	max. 7-day 1958	125	counts/100 ml	365	Grab
Total Residual Chlorine	0.032	0.011	☐ µg/l ☒ mg/l	365	Grab
Dissolved Oxygen	min. daily 5.8	Do Not Use	mg/l	365	Grab
pH (report maximum and minimum of individual samples)	minimum 6.5	maximum 7.3	Standard Units	365	Grab
CYANIDE AMENABLE TO CHLORINATION	0.005	0.005	MG/L	4	☐ Grab ☒ 24 Hr Comp
(SEE ATTACHMENT 4 FOR ADDITIONAL PARAMETERS)					☐ Grab ☐ 24 Hr Comp
					☐ Grab ☐ 24 Hr Comp
					☐ Grab ☐ 24 Hr Comp
					☐ Grab ☐ 24 Hr Comp
					☐ Grab ☐ 24 Hr Comp
					☐ Grab ☐ 24 Hr Comp
					☐ Grab ☐ 24 Hr Comp

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
BCWWTP	MI0022276	001

5 EXPANDED EFFLUENT TESTING DATA

Publicly Owned Treatment Works (POTWs) with a design flow greater than or equal to 1.0 mgd or POTWs with an approved Federal Industrial Pretreatment Program (FIPP), or POTWs required to develop a Federal Industrial Pretreatment Program (FIPP) or POTWs otherwise required by the permitting authority to provide the information, must provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below *any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three* pollutant scans and must be no more than four and one-half years old. (Complete once for each outfall discharging effluent to waters of the state.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS											
ANTIMONY											
ARSENIC		SEE ATTACHMENT - 5 EXPANDED EFFLUENT TESTING									
BERYLLIUM											
CADMIUM											
CHROMIUM											
COPPER											
LEAD											
MERCURY											
NICKEL											
SELENIUM											
SILVER											
THALLIUM											
ZINC											
CYANIDE											
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (AS CACO 3)											
USE THIS SPACE (OR SEPARATE SHEET) TO PROVIDE INFORMATION ON OTHER METALS REQUESTED BY THE PERMIT WRITER											

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT OR COC NUMBER	OUTFALL NUMBER
BCWWTP	MI0022276	001

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number Of Samples		
VOLATILE ORGANIC COMPOUNDS	SEE ATTACHMENT 5 - EXPANDED EFFLUENT TESTING										
ACROLEIN											
ACRYLONITRILE											
BENZENE											
BROMOFORM											
CARBON TETRACHLORIDE											
CLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYLVINYL											
ETHER											
CHLOROFORM											
DICHLOROBROMO-METHANE											
1,1-DICHLOROETHANE											
1,2-DICHLOROETHANE											
TRANS-1,2-DICHLORO-ETHYLENE											
1,1-DICHLOROETHYLENE											
1,2-DICHLOROPROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRACHLORO-ETHANE											
TETRACHLORO-ETHYLENE											
TOLUENE											
1,1,1-TRICHLOROETHANE											
1,1,2-TRICHLOROETHANE											
TRICHLORETHYLENE											

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT OR COC NUMBER	OUTFALL NUMBER
BCWWTP	MI0022276	001

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number Of Samples		
VINYL CHLORIDE											
USE THIS SPACE (OR SEPARATE SHEET) TO PROVIDE INFORMATION ON OTHER VOLATILE ORGANIC COMPOUNDS REQUESTED BY THE PERMIT WRITER											
ACID-EXTRACTABLE COMPOUNDS	SEE ATTACHMENT 5 - EXPANDED EFFLUENT TESTING										
P-CHLORO-M-CRESOL											
2-CHLOROPHENOL											
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL											
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL											
4-NITROPHENOL											
PENTACHLOROPHENOL											
PHENOL											
2,4,6-TRICHLOROPHENOL											
USE THIS SPACE (OR SEPARATE SHEET) TO PROVIDE INFORMATION ON OTHER ACID-EXTRACTABLE COMPOUNDS REQUESTED BY THE PERMIT WRITER											
BASE-NEUTRAL COMPOUNDS											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											
3,4 BENZO-FLUORANTHENE											
BENZO(GHI)PERYLENE											
BENZO(K)FLUORANTHENE											
BIS (2-CHLOROETHOXY) METHANE											
BIS (2-CHLOROETHYL)-ETHER											
BIS (2-CHLOROISO-PROPYL)											

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT OR COC NUMBER	OUTFALL NUMBER
BCWWTP	MI0022276	001

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number Of Samples		
ETHER	SEE ATTACHMENT 5 - EXPANDED EFFLUENT TESTING										
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPHTHALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											
DI-N-OCTYL PHTHALATE											
DIBENZO(A,H) ANTHRACENE											
1,2-DICHLOROBENZENE											
1,3-DICHLOROBENZENE											
1,4-DICHLOROBENZENE											
3,3-DICHLOROBENZIDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											
2,4-DINITROTOLUENE											
2,6-DINITROTOLUENE											
1,2-DIPHENYLHYDRAZINE											
FLUORANTHENE											
FLUORENE											
HEXACHLOROBENZENE											
HEXACHLOROBUTADIENE											
HEXACHLOROCYCLO-PENTADIENE											
HEXACHLOROETHANE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											

The University of Michigan

SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF ENVIRONMENTAL
AND INDUSTRIAL HEALTH

109 OBSERVATORY STREET
ANN ARBOR, MICHIGAN 48109-2029
U.S.A.

August 28, 1996

Ms. Christine Kosmowski
City of Battle Creek WWTP
2000 West River Road
Battle Creek, MI 49015-1181

Dear Ms. Kosmowski:

Please find enclosed a copy of the biomonitoring report for your wastewater treatment facility. If you have any questions, please let me know. Thank you.

Sincerely,

Peter G. Meier

Peter G. Meier, Ph.D.

cc: Walt T
Mike A.

Evaluation of Effluent Toxicity of City of Battle Creek WWTP 2000 W. River Road Battle Creek, Michigan 49015

August 14 - 21, 1996

NPDES Permit No. MI 0022276

By:

Peter G. Meier, Ph.D.
School of Public Health
The University of Michigan
Ann Arbor, Michigan 48109

August 28, 1996

1.0 INTRODUCTION

Battle Creek WWTP (BC-WWTP) is submitting its biomonitoring results for assessing the aquatic toxicity of their effluent as required in Rule 57 of the Michigan Water Quality Standards. As part of the NPDES Permit No. MI 0022276, this report outlines procedures for specific toxicity testing, data evaluation, QA/QC criteria and report content. Testing was carried out by the Institute of Environmental and Industrial Health, The University of Michigan. Toxicity evaluation with Ceriodaphnia dubia and the fathead minnow (Pimephales promelas) was completed in August of 1996.

2.0 PROCEDURES AND METHODS

The seven day (three brood), chronic, Ceriodaphnia dubia static renewal, survival and reproduction test was one of the methods employed in the evaluation of BC-WWTP's effluent. In addition, the seven day, subchronic, fathead minnow (Pimephales promelas), static renewal, larval survival and growth test was also employed. The procedures followed are contained in EPA/600/4-91/002, Short-Term Methods for Estimation of the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. A summary of recommended test conditions for the waterflea and fathead minnow is found in Tables 1 and 2, respectively.

2.1 Laboratory Water Supply

A moderately hard water for daphnid and fathead cultures and maintenance is employed in our facility. Preparation of the reconstituted laboratory water is outlined in EPA/600/4-91/002. This water is made up in volumes of 200 l on which water quality parameters are run to check for consistencies between batches. This moderately hard water was employed as the laboratory control and in the preparation of exposure concentrations.

2.2 Test Organisms

Ceriodaphnia dubia are kept in the Institute's facilities. The original stock was obtained from U.S. EPA, the Newtown facility over two years ago. Mass and individual Ceriodaphnia cultures are maintained according to EPA/600/4-91/002 and fed a combination of Yeast, Cerophyll^{R} and Salmon Starter (YCS) and the unicellular alga, Selenastrum capricornutum, whereas larval fish are fed 24 hr old brine shrimp. Larval fathead minnows were obtained from Aquatox Inc., Arkansas for this evaluation.

TABLE 1 SUMMARY OF RECOMMENDED EFFLUENT TOXICITY TEST CONDITIONS FOR THE CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST

1.	Test Type:	Static renewal
2.	Temperature (^{o}C):	25 ± 1°C
3.	Light quality:	Ambient laboratory illumination
4.	Light intensity:	10-20 uE/m^{2}/s or 50-100 ft-c (ambient laboratory levels)
5.	Photoperiod:	16 h light, 8 h darkness
6.	Test chamber size:	30 mL
7.	Test solution volume:	15 mL
8.	Renewal of test solutions:	Daily
9.	Age of test organisms:	Less than 24 h and all released within a 8 h period
10.	No. neonates per test chamber:	1
11.	No. replicate test chambers per concentration:	10
12.	No. neonates per test concentration:	10
13.	Feeding regime:	Feed 0.1 mL each of YCS and algal suspension per test chamber daily.
14.	Aeration:	None
15.	Dilution water:	Moderately hard synthetic water is prepared using MILLIPORE MILLI-Q^{R} or equivalent deionized water and reagent grade chemicals or 20% DMW (see Section 7).
16.	Effluent concentration:	Minimum of 5 effluent concentrations and a control.

Test Method 1002.0. EPA Publication 600/4-91/002 (July, 1994).

TABLE 2 SUMMARY OF RECOMMENDED EFFLUENT TOXICITY TEST CONDITIONS FOR THE FATHEAD MINNOW (PIMEPHALES PROMELAS) LARVAL SURVIVAL AND GROWTH TEST

1.	Test Type:	Static renewal
2.	Temperature (^{o}C):	25 ± 1°C
3.	Light quality:	Ambient laboratory illumination
4.	Light intensity:	10-20 uE/m^{2}/s (50-100 ft-c) (ambient laboratory levels)
5.	Photoperiod:	16 h light, 8 h darkness
6.	Test chamber size:	600 mL glass beakers
7.	Test solution volume:	250 mL/replicate
8.	Renewal of test concentrations:	Daily
9.	Age of test organisms:	Newly hatched larvae less than 24 hr old
10.	No. of larvae per test chamber:	10
11.	No. replicate chambers per concentration:	3
12.	No. larvae per concentration:	30
13.	Feeding regime:	Feed 0.2 mL newly hatched (less than 24 h old) brine shrimp nauplii three times daily at 4 h intervals or, as a minimum, 0.30 mL twice daily, 6 hr between feedings (at the beginning of the work day prior to renewal, and at the end of the work day following renewal). Larvae are not fed during the final 12 h of the test
14.	Cleaning:	Siphon daiiy, immediately before test solution renewal
15.	Aeration:	None, uniess DO concentration faiis below 40% saturation. Rate should not exceed 100 bubbles/min

Test Method 1000.0. EPA Publication 600/4-91/002 (July, 1994).

2.3 Effluent Collection

Battle Creek WWTP personnel collected three 24-hour composite samples from outfall 001 for this set of chronic seven-day tests (8/12 - 8/13/96, 8/15 - 8/16/96 and 8/18 - 8/19/96). The samples were shipped in coolers containing adequate ice to ensure sample integrity. No residual chlorine was found in any of the composite samples. The temperature of the respective samples upon arrival was 10°C, 8°C and 8°C. All samples were stored in a refrigerator (4°C) until used.

2.4 Experimental Design

The aim of these chronic tests was to evaluate the potential toxicity of BC-WWTP's effluent. With this objective in mind, standard testing procedures as summarized in Tables 1 and 2 were employed. Five effluent concentrations (100%, 60%, 30%, 15% and 5%) and a laboratory control were set up. Laboratory water was employed as the diluent.

Thirty Ceriodaphnia adults were placed individually in cups containing food and dilution water approximately 16 hours before initiation of the test. Babies from broods of ten or more individuals were pooled and used for this experiment. Prior to start up of the exposures, designated concentrations of one liter effluent were prepared utilizing laboratory water as a diluent. Once accomplished, appropriate water quality parameters were measured and recorded for each concentration (Appendix A: Initial Chemistry - New). Then approximately 15 ml of the designated mixture were poured into prelabeled 30 ml cups containing 0.1 ml of YCS and 0.1 ml of Selenastrum. After this step, a 16 hour or younger neonate was transferred to each of the 60 plastic cups at random. Ten replicates per concentration were employed. Cups were placed in a rack and transferred to an incubator (25 $\pm$ 1°C). The light cycle was 16 hrs on and 8 hrs off. After 24 hours, each cup was checked for survival and/or immobility/mortality. The number of survivors was reported on data sheets (Appendix A: Ceriodaphnia Survival and Reproduction Test). The respective concentrations were renewed daily and the surviving daphnids were transferred. Live young, usually produced after day 3, were counted and also recorded on the data sheet. This procedure was repeated daily through day 7, at which point the test was terminated. Biological endpoints for this test consisted of immobility/mortality and production of live young. The validity of the test was based on greater than 80% survival and 15 or more live young produced per adult in the controls. If these criteria were not achieved, then the test would have been repeated.

In the fathead test, 10 larval fish (less than 24 hrs old) were placed at random in each of the 18 glass beakers (600 ml capacity) containing 250 ml of varying concentrations of effluent and respective controls. One tenth ml of 24 hr old brine shrimp

was also added to each exposure chamber. Prior to this transfer, water quality parameters were measured and recorded on the data sheet for each concentration (Appendix A: Routine chemical and physical data sheet for fish larval test). Three replicates of 10 larval fish for each of the five concentrations and laboratory control were employed. Exposure containers were placed in a temperature controlled room (25 ± 1°C). Larval fish were fed three times per day with brine shrimp. After the 24 hour exposure, the excess food, waste and most of the exposure solution were siphoned. Larval fish (survivors) were counted and recorded; whereas, dead ones were removed (Appendix A: Survival Data Sheet). The new exposure mixture was then carefully poured into each of the beakers and 0.2 ml of brine shrimp were also added. Exposure vessels were placed back into the temperature controlled room that has a 16 hrs on, 8 hrs off light cycle. This whole procedure was repeated daily through six days. On the seventh day, live fish were killed with 70% ethanol, rinsed and then placed in tared dishes, dried at 60°C for twenty four hours and weighed. Biological endpoints for this test consisted of mortality and growth (increase in weight). This test was considered valid if greater than 80% survival and more than 0.25 mg of biomass per fish was observed in the controls over the seven day test period. If these two criteria were not met, then the test would have been repeated.

2.5 Standard Reference Toxicity Test

The purpose of this series of experiments is important for two reasons. First of all, a reference test will monitor over time the relative sensitivity of laboratory organisms. Results on their respective EC_{50} and LC_{50} values for acute exposures and LOEC and NOEC for chronic tests will provide information on physiological changes which affect tolerances. This is of particular importance with daphnids (Ceriodaphnia) due to their relatively short generation time. Secondly, the reference test is part of the QA/QC program which provides a tool to evaluate the ability of the laboratory to generate reproducible results (Appendix B). Also, this laboratory participated in the DMR-QA Laboratory Evaluation Study and these results are presented in Appendix C.

2.6 Statistical Analysis

Mortality-immobility data were analyzed employing Fisher's test. If statistically significant immobility was observed in one concentration then this treatment was excluded from further analysis. The remaining exposure solutions were then examined for reproduction impairement. Nontransformed Ceriodaphnia reproduction data were initially evaluated for normality and homogeneity employing the Chi-Square and Bartlett's Tests. Dunnett's Procedure was then utilized in exposure solutions without significant mortality to determine whether there was a significant difference in daphnid reproduction between various effluent concentrations and the control (Figure 1).

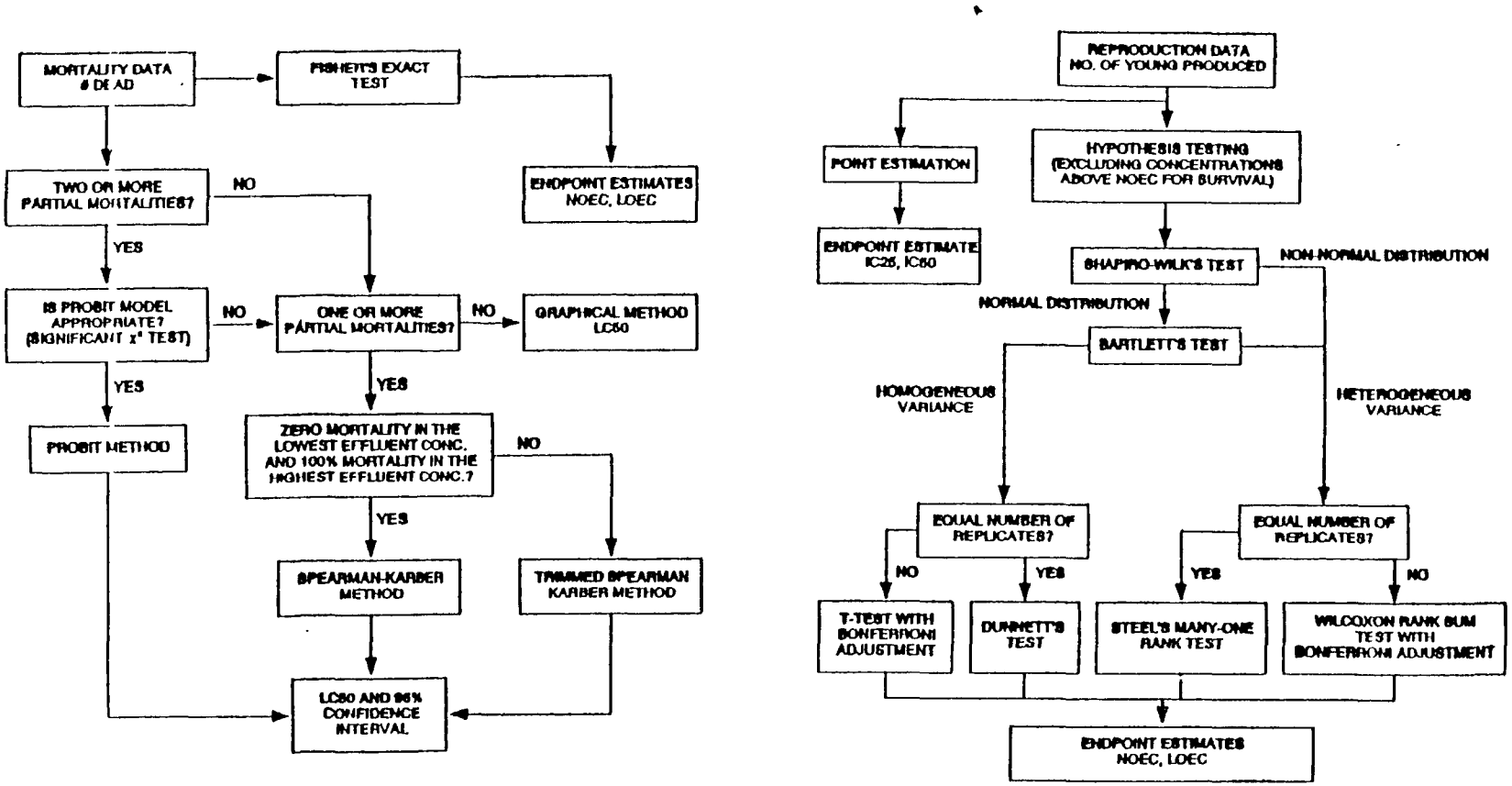


FIGURE 1 Flowcharts for the statistical analysis of the daphnid, Ceriodaphnia dubia, survival and reproduction data (EPA/600/4-91/002).

Similarly, nontransformed fish survival data were evaluated for normality and homogeneity using the Shapiro-Wilk's and Cochran's Tests, whereas fish growth was discriminated with Bartlett's Test for homogeneity. If passed, then Dunnett's Test was employed for determining significant differences in growth between the control and the various effluent concentrations (Figure 2). The TOXSTAT® 3.4 Program was used in these evaluations.

3.0 RESULTS AND DISCUSSION

Toxicity evaluation of the Battle Creek WWTP effluent was initiated on August 14, 1996 and completed on August 21, 1996. Twenty four hour composite samples collected on three separate occasions were employed in exposing both Ceriodaphnia and fatheads over this seven day period.

Alkalinity and hardness were measured and recorded (Appendix A). The remaining parameters such as conductivity and pH varied little between samples and over time. Dissolved oxygen remained over 50 percent saturation after each 24 hour exposure.

3.1 Ceriodaphnia dubia

The evaluation of BC-WWTP's effluent began on August 14, 1996 and the resulting data are presented in Test No. CC-960834 (Appendix A).

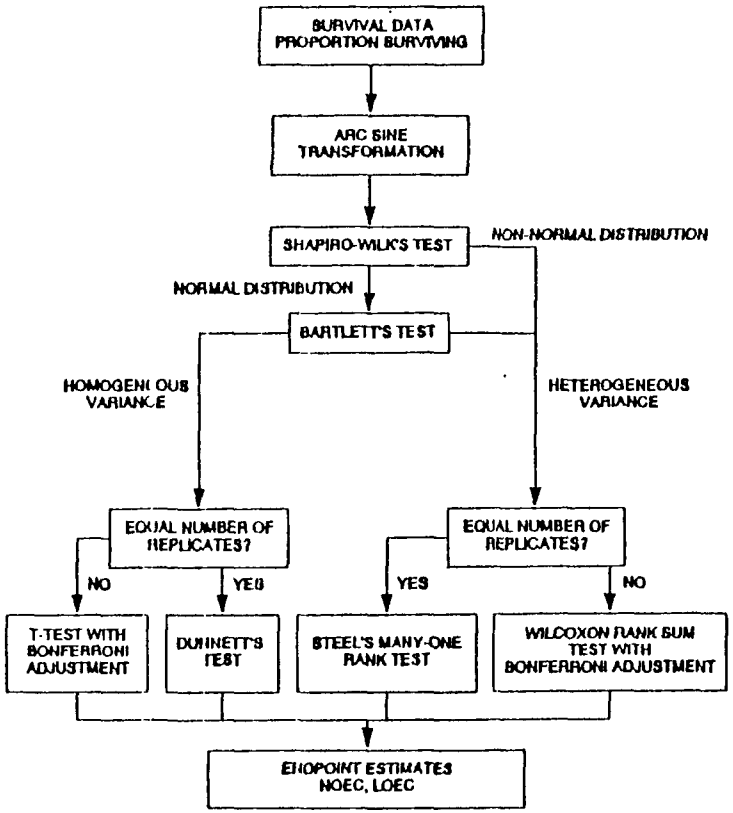
Fisher's Test was used to analyze the daphnid survival data. The results showed no statistically significant ($p = 0.05$) reduction in survival between the five effluent concentrations and the laboratory water control.

The reproduction data passed both normality employing Chi-Square Test and Bartlett's Test for homogeneity at $p = 0.01$. The data were then evaluated for reduced reproduction with Dunnett's Test. There was no statistically significant ($p = 0.05$) difference in reproduction at any effluent concentration when compared to the control. Therefore, the NOEC is 100%. The LOEC and chronic value cannot be calculated.

3.2 Pimephales promelas

The fish survival and growth data are presented in Test No. CF-960820 (Appendix A).

Survival data were evaluated for normality with the Shapiro Wilk's Test and passed. The data also passed Cochran's Test for homogeneity at the $p = 0.01$ level. Dunnett's procedure showed no statistically significant mortality in any concentration. The untransformed fish growth data passed normality and homogenity at $p = 0.01$ using Shapiro-Wilk's and Bartlett's Tests. These data were then analyzed for effects on growth employing Dunnett's Test. There was no statistically significant ($p = 0.05$) difference in



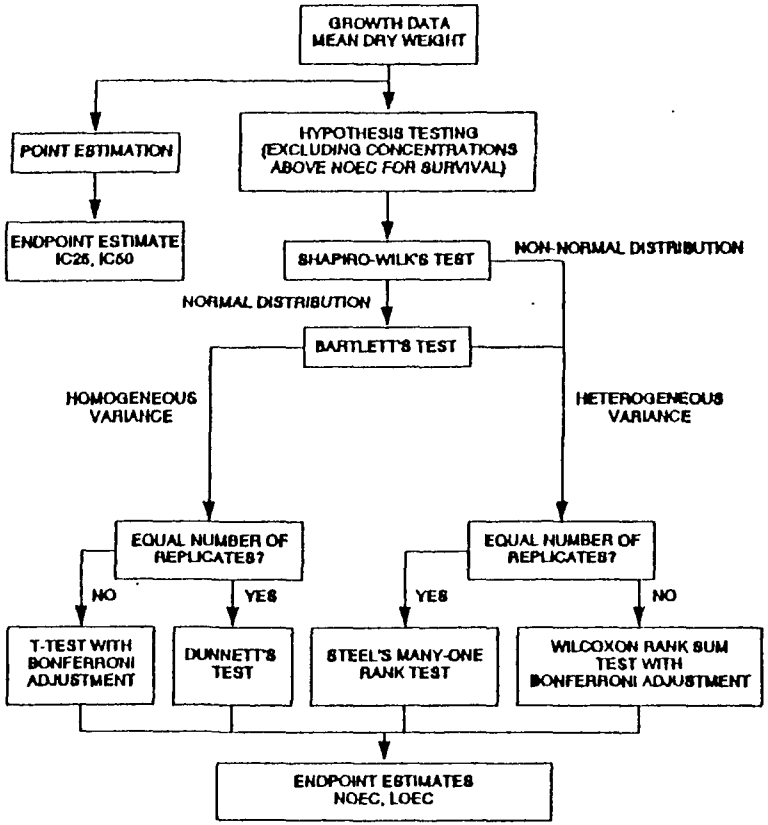


FIGURE 2 **Flowcharts for the statistical analysis of the fathead minnow, Pimephales promelas, survival and growth data (EPA/600/4-91/002)**

growth observed in any effluent concentration when compared to the laboratory control. Hence, the NOEC for this analysis is 100%. The LOEC and chronic value cannot be calculated.

4.0 SUMMARY

Two different species of aquatic organisms were employed in determining the potential toxicity of BC-WWTP's effluent over a seven day period during August, 1996. There was no effect observed on Ceriodaphnia or on fathead minnows for this period.

APPENDIX A

TOXICITY EVALUATION
Cenodaphnia Chronic Test
Initial Chemistnes

Test No. CC-960834
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 hr Composite

Analyst: PG Meier/L Sweet
Date: 8/14/96 - 8/21/96
Client: City of Battle Creek

		Day 0	1	2	3*	4	5	6*
Control:		Moderately Hard Water						
Temperature (oC)		25	25	25	25	25	25	25
DO (mg/l)	Initial	8.2	8.2	8.2	8.2	8.3	8.3	8.2
	Final	7.9	8.1	8.1	8.1	8.1	8.0	8.0
pH		7.9	8.1	8.0	8.0	7.9	8.0	7.8
Conductivity (umhos/cm)		300	310	310	320	330	330	300
Hardness (mg/CaCO3)		108	108	108	108	108	96	96
Alkalinity (mg/CaCO3)		68	68	68	68	68	60	60
Concentration No 1:		5%						
Temperature (oC)		25	25	25	25	25	25	24
DO (mg/l)	Initial	8.2	8.3	8.2	8.4	8.3	8.3	8.3
	Final	7.8	8.1	8.1	8.0	8.2	8.1	8.0
pH		7.9	8.1	8.0	8.0	7.9	7.9	7.8
Conductivity (umhos/cm)		410	380	380	380	400	400	360
Concentration No 2:		15%						
Temperature (oC)		25	25	25	25	25	25	24
DO (mg/l)	Initial	8.2	8.4	8.4	8.4	8.3	8.3	8.3
	Final	8.0	8.0	8.0	8.1	8.1	8.0	8.1
pH		7.8	8.0	7.9	7.9	7.9	7.9	7.7
Conductivity (umhos/cm)		500	530	500	530	550	540	480
Concentration No 3:		30%						
Temperature (oC)		25	25	25	25	25	25	24
DO (mg/l)	Initial	8.2	8.3	8.2	8.1	8.2	8.1	8.1
	Final	8.1	8.2	8.0	8.0	8.0	8.0	7.9
pH		7.8	7.9	7.8	7.8	7.8	7.8	7.6
Conductivity (umhos/cm)		670	690	660	690	710	680	630
Concentration No 4:		60%						
Temperature (oC)		25	25	24	25	25	25	24
DO (mg/l)	Initial	8 4	8.3	8.3	8.1	8.2	8.2	8.3
	Final	8.2	8.1	8.2	8.0	8.0	8.0	7.9
pH		7.7	7.8	7.7	7 8	7.8	7.7	7.6
Conductivity (umhos/cm)		1040	1050	1050	1050	1090	1070	970
Concentration No. 5 :		100%						
Temperature (oC)		25	25	24	25	25	25	24
DO (mg/l)	Initial	8.5	8.2	8.4	8.2	8.1	8.2	8.1
	Final	8.3	8.1	8.3	8.0	8.0	8.1	8.0
pH		7.6	7.8	7.7	7.8	7.7	7.6	7.5
Conductivity (umhos/cm)		1490	1490	1490	1500	1570	1550	1450
Hardness (mg/CaCO3)		360	360	360	340	340	340	352
Alkalinity (mg/CaCO3)		276	276	276	270	270	270	270

*New supply of effluent: 8/17/96 and 8/20/96

Date of Sample: 8/12/96 - 8/13/96
Date of Sample: 8/15/96 - 8/16/96
Date of Sample: 8/18/96 - 8/19/96

Residual Chlorine: None Detected
Residual Chlorine: None Detected
Residual Chlorine: None Detected

Arrival Temperature: 10 °C
Arrival Temperature: 8 °C
Arrival Temperature: 8 °C

TOXICITY EVALUATION
Ceriodaphnia Survival and Reproduction Test

Test No. CC-960834
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 Hr Composite

Analyst: L Sweet
Test Start - Date/Time: 8/14/96 - 1115
Test Stop - Date/Time: 8/21/96 - 1445

Client: City of Battle Creek

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
MHW	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	5 [1]	7 [1]	4 [1]	6 [1]	6 [1]	4 [1]	6 [1]	5 [1]	0	6 [1]	49	10	4.9
	5	3 [2]	0	0	0	0	0	0	0	7 [1]	0	10	10	1.0
	6	11 [3]	10 [2]	9 [2]	6 [2]	12 [2]	11 [2]	7 [2]	9 [2]	3 [2]	8 [2]	86	10	8.6
	7	0	8 [3]	12 [3]	10 [3]	16 [3]	10 [3]	14 [3]	15 [3]	9 [3]	13 [3]	107	10	10.7
	Total	19	25	25	22	34	25	27	29	19	27	252	10	25.2

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
5%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	5 [1]	6 [1]	5 [1]	2 [1]	8 [1]	7 [1]	0	6 [1]	5 [1]	44	10	4.4
	5	7 [1]	0	0	0	4 [2]	0	0	4 [1]	0	0	15	10	1.5
	6	6 [2]	8 [2]	7 [2]	11 [2]	12 [3]	7 [2]	11 [2]	9 [2]	10 [2]	10 [2]	91	10	9.1
	7	6 [3]	0	11 [3]	15 [3]	0	12 [3]	16 [3]	16 [3]	13 [3]	11 [3]	100	10	10.0
	Total	19	13	24	31	18	27	34	29	29	26	250	10	25.0

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
15%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	5 [1]	0	5 [1]	5 [1]	6 [1]	6 [1]	4 [1]	3 [1]	4 [1]	5 [1]	43	10	4.3
	5	0	3 [1]	0	0	0	0	0	5 [2]	0	0	8	10	0.8
	6	7 [2]	9 [2]	8 [2]	8 [2]	10 [2]	14 [2]	10 [2]	13 [3]	10 [2]	9 [2]	98	10	9.8
	7	16 [3]	14 [3]	14 [3]	16 [3]	17 [3]	6 [3]	15 [3]	0	13 [3]	8 [3]	119	10	11.9
	Total	28	26	27	29	33	26	29	21	27	22	268	10	26.8

TOXICITY EVALUATION
Ceriodaphnia Survival and Reproduction Test

Test No. CC-960834
Toxicant: Battle Creek WWTP Effluent

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
30%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	6[1]	0	6[1]	0	6[1]	4[1]	6[1]	4[1]	5[1]	0	37	10	3.7
	5	0	3[1]	0	6[1]	0	0	0	0	0	6[1]	15	10	1.5
	6	10[2]	9[2]	12[2]	5[2]	12[2]	5[2]	4[2]	10[2]	11[2]	11[2]	89	10	8.9
	7	11[3]	14[3]	10[3]	8[3]	13[3]	7[3]	14[3]	15[3]	14[3]	12[3]	118	10	11.8
	Total	27	26	28	19	31	16	24	29	30	29	259	10	25.9

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
60%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	8[1]	3[1]	0	4[1]	5[1]	0	6[1]	4[1]	3[1]	5[1]	38	10	3.8
	5	0	0	7[1]	0	0	8[1]	0	0	0	0	15	10	1.5
	6	13[2]	11[2]	12[2]	11[2]	13[2]	12[2]	11[2]	10[2]	8[2]	8[2]	109	10	10.9
	7	16[3]	15[3]	0	14[3]	16[3]	0	3[3]	11[3]	3[3]	10[3]	88	10	8.8
	Total	37	29	19	29	34	20	20	25	14	23	250	10	25.0

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	6[1]	6[1]	4[1]	5[1]	x	3[1]	4[1]	4[1]	0	32	9	3.6
	5	3[1]	0	0	0	0	|	0	7[2]	0	8[1]	18	9	2.0
	6	12[2]	11[2]	11[2]	9[2]	9[2]	|	12[2]	11[3]	13[2]	12[2]	100	9	11.1
	7	11[3]	12[3]	12[3]	18[3]	17[3]	|	16[3]	0	14[3]	0	100	9	11.1
	Total	26	29	29	31	31	0	31	22	31	20	250	9	27.8

CC-960834 BATTLE CREEK WWTP EFFLUENT
Ceriodaphnia Reproduction Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	10	19.000	34.000	25.200
2	5%	10	13.000	34.000	25.000
3	15%	10	21.000	36.000	28.800
4	30%	10	16.000	31.000	25.900
5	60%	10	13.000	37.000	24.000
6	100%	10	0.000	31.000	25.000

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	20.622	4.541	1.436	18.02
2	5%	42.667	6.532	2.066	26.13
3	15%	17.289	4.158	1.315	14.44
4	30%	24.100	4.909	1.552	18.95
5	60%	66.444	8.151	2.578	33.96
6	100%	92.889	9.638	3.048	38.55

CHI-SQUARE TEST FOR NORMALITY: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.020	14.520	22.920	14.520	4.020
OBSERVED	4	11	24	18	3

Calculated Chi-Square goodness of fit test statistic = 1.9972
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test. Continue analysis.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 10.06

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

CC-960834 BATTLE CREEK WWTP EFFLUENT
Ceriodaphnia Reproduction Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	137.550	27.510	0.625
Within (Error)	54	2376.100	44.002	
Total	59	2513.650		

Critical F value = 2.45 (0.05,5,40)
Since F < Critical F FAIL TO REJECT Ho: All equal

DUNNETT'S TEST Ho:Control<Treatment

GRP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 CONTROL	25.200	25.200		
2	5%	25.000	25.000	0.067	
3	15%	28.800	28.800	-1.214	
4	30%	25.900	25.900	-0.236	
5	60%	24.000	24.000	0.405	
6	100%	25.000	25.000	0.067	

Dunnett table value = 2.31 (1 Tailed Value, P=0.05, df=40,5)

TOXICITY EVALUATION
Fathead Minnow Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No: CF-960820
Toxcant: Battle Creek WWTP Effluent
Sample Type: 24 Hr Composite

Analyst: PG Meier/D Travers
Test Dates: 8/14/96 - 8/21/96

Client: City of Battle Creek

Laboratory Control:		Day						
		0	1	2	3	4	5	6
Temperature (oC)		24	25	25	25	25	25	24
D.O. (mg/l)	Initial	8.0	8.4	8.3	8.2	8.2	8.2	8.4
	Final	7.1	6.4	5.2	5.6	5.4	4.8	4.3
pH	Initial	7.9	8.1	8.0	8.1	8.0	8.0	7.9
	Final	7.4	7.2	7.1	7.1	7.1	7.1	7.0
Conductivity (umhos/cm)		310	310	310	320	310	310	310
Hardness (mg/l CaCO3)		108	108	108	108	108	96	96
Alkalinity (mg/l CaCO3)		68	68	68	68	68	60	60

Conc: 5%		Day						
		0	1	2	3*	4	5	6*
Temperature (oC)		24	25	25	25	25	25	24
D.O. (mg/l)	Initial	8.1	8.3	8.3	8.2	8.3	8.2	8.3
	Final	6.8	6.0	4.4	5.0	4.5	5.1	5.0
pH	Initial	7.9	8.0	7.9	8.0	7.9	7.9	7.8
	Final	7.4	7.2	7.1	7.1	7.1	7.2	7.3
Conductivity (umhos/cm)		360	370	370	390	390	380	370

Conc: 15%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		24	24	25	25	25	25	24
D.O. (mg/l)	Initial	8.1	8.2	8.2	8.2	8.2	8.1	8.2
	Final	7.1	6.0	4.6	5.1	4.9	5.2	5.4
pH	Initial	7.9	8.0	7.9	7.9	79.0	7.8	7.7
	Final	7.6	7.3	7.2	7.1	7.2	7.3	7.3
Conductivity (umhos/cm)		490	500	490	500	530	500	470

Conc: 30%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		24	25	25	25	25	25	24
D.O. (mg/l)	Initial	8.3	8.2	8.2	8.1	8.2	8.1	8.1
	Final	6.9	6.6	5.3	5.3	5.4	5.0	5.3
pH	Initial	7.8	7.9	7.8	7.9	7.9	7.8	7.7
	Final	7.7	7.4	7.4	7.4	7.4	7.4	7.4
Conductivity (umhos/cm)		660	670	660	670	700	680	660

*New supply of effluent: 8/17/96 and 8/20/96

Date of Sample:	8/12/96 - 8/13/96	Residual Chlorine:	None Detected
Date of Sample:	8/15/96 - 8/16/96	Residual Chlorine:	None Detected
Date of Sample:	8/18/96 - 8/19/96	Residual Chlorine:	None Detected

Arrival Temperature:	10 ° C
Arrival Temperature:	8 ° C
Arrival Temperature:	8 ° C

TOXICITY EVALUATION
Fathead Minnow Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No: CF-960820
Toxicant: Battle Creek WWTP Effluent

Conc: 60%		Day							
		0	1	2	3	4	5	6	
Temperature (oC)		24	25	24	25	25	25	24	
D.O. (mg/l)	Initial	8.5	8.1	8.1	8.0	8.1	8.0	8.0	
	Final	7.5	6.1	5.8	5.5	5.7	4.3	5.0	
pH	Initial	7.7	7.9	7.7	7.8	7.8	7.7	7.6	
	Final	8.0	7.6	7.8	7.7	7.7	7.6	7.6	
Conductivity (umhos/cm)		1020	1030	1020	1060	1090	1070	1060	

Conc: 100%		Day							
		0	1	2	3	4	5	6	
Temperature (oC)		24	25	24	25	25	25	24	
D.O. (mg/l)	Initial	8.5	8.1	8.1	8.0	8.0	8.0	7.8	
	Final	6.0	6.4	5.3	5.4	5.2	4.7	4.7	
pH	Initial	7.6	7.8	7.6	7.7	7.8	7.6	7.5	
	Final	8.0	7.8	7.9	7.8	7.8	7.8	7.9	
Conductivity (umhos/cm)		1460	1500	1500	1560	1580	1560	1420	
Hardness (mg/l CaCO3)		360	360	360	340	340	340	352	
Alkalinity (mg/l CaCO3)		276	276	276	270	270	270	270	

TOXICITY EVALUATION
Survival Data for Fathead Minow
Larval Survival and Growth Test

Test No: CF-960820
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 Hr Composite

Analyst: D Travers
Test Start: Date/Time: 8/14/96 - 1330
Test Stop: Date/Time: 8/21/96 - 1430

Client: City of Battle Creek

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
Control Moderately Hard Water	A	10	10	10	10	10	10	10	10	5.93	0.59
	B	10	10	10	10	10	10	10	9	4.57	0.51
	C	10	10	10	10	10	10	10	10	5.63	0.56

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
5%	A	10	10	10	10	10	10	10	10	5.38	0.54
	B	10	8	7	7	7	7	7	7	3.75	0.54
	C	10	10	10	10	10	10	10	10	5.27	0.53

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
15%	A	10	9	9	9	9	9	9	9	5.24	0.58
	B	10	10	10	10	10	10	10	10	5.31	0.53
	C	10	10	10	10	10	10	10	9	4.94	0.55

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
30%	A	10	10	10	10	10	10	10	9	5.47	0.61
	B	10	10	10	10	10	10	10	10	5.88	0.59
	C	10	10	10	9	9	9	9	9	4.69	0.52

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
60%	A	10	10	10	10	10	10	10	10	5.59	0.56
	B	10	10	10	10	10	9	9	9	5.26	0.58
	C	10	10	10	10	10	10	10	10	5.82	0.58

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
100%	A	10	10	10	10	10	10	10	10	5.21	0.52
	B	10	10	10	10	10	10	10	10	5.71	0.57
	C	10	10	10	10	10	10	10	10	5.88	0.59

CF-960820 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Survival Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	3	9.000	10.000	9.667
2	5%	3	7.000	10.000	9.000
3	15%	3	9.000	10.000	9.333
4	30%	3	9.000	10.000	9.333
5	60%	3	9.000	10.000	9.667
6	100%	3	10.000	10.000	10.000

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	0.333	0.577	0.333	5.97
2	5%	3.000	1.732	1.000	19.25
3	15%	0.333	0.577	0.333	6.19
4	30%	0.333	0.577	0.333	6.19
5	60%	0.333	0.577	0.333	5.97
6	100%	0.000	0.000	0.000	0.00

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 8.667

W = 0.910

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level. Continue analysis

COCHRAN'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated G statistic = 0.6923
Table value = 0.72 (alpha = 0.01, df = 6, 3)
Table value = 0.62 (alpha = 0.05, df = 6, 3)

Data PASS homogeneity test at 0.01 level. Continue analysis.

CF-960820 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Survival Data Analysis (continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	1.833	0.367	0.508
Within (Error)	12	8.667	0.722	
Total	17	10.500		

Critical F value = 3.11 (0.05,5,12)
Since F < Critical F FAIL TO REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT SIG
1	0.0 CONTROL	9.667	9.667	
2	5%	9.000	9.000	0.961
3	15%	9.333	9.333	0.480
4	30%	9.333	9.333	0.480
5	60%	9.667	9.667	0.000
6	100%	10.000	10.000	-0.480

Dunnett table value = 2.50 (1 Tailed Value, P=0.05, df=12,5)

CF-960820 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Growth Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	3	0.510	0.590	0.553
2	5%	3	0.530	0.540	0.537
3	15%	3	0.530	0.580	0.553
4	30%	3	0.520	0.610	0.573
5	60%	3	0.560	0.580	0.573
6	100%	3	0.520	0.590	0.560

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	0.002	0.040	0.023	7.30
2	5%	0.000	0.006	0.003	1.08
3	15%	0.001	0.025	0.015	4.55
4	30%	0.002	0.047	0.027	8.24
5	60%	0.000	0.012	0.007	2.01
6	100%	0.001	0.036	0.021	6.44

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 0.012

W = 0.938

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level. Continue analysis.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 7.17

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

CF-960820 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Growth Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.003	0.001	0.587
Within (Error)	12	0.012	0.001	
Total	17	0.015		

Critical F value = 3.11 (0.05,5,12)
Since F < Critical F FAIL TO REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT SIG
1	0.0 CONTROL	0.553	0.553	
2	5%	0.537	0.537	0.647
3	15%	0.553	0.553	0.000
4	30%	0.573	0.573	-0.777
5	60%	0.573	0.573	-0.777
6	100%	0.560	0.560	-0.259

Dunnett table value = 2.50 (1 Tailed Value, P=0.05, df=12,5)

APPENDIX B

Summary Reference Test Data
for

Evaluation of Effluent Toxicity of
City of Battle Creek WWTP
2000 W. River Road
Battle Creek, Michigan 49015

August 13 - 20, 1996

NPDES Permit No. MI 0022276

By:

Peter G. Meier, Ph.D.
School of Public Health
The University of Michigan
Ann Arbor, Michigan 48109

August 28, 1996

1.0 INTRODUCTION

This report contains the reference toxicity methods and data interpretation for Ceriodaphnia dubia and Pimephales promelas when exposed to various concentrations of sodium chloride over the seven day period.

2.0 PROCEDURES AND METHODS

A seven day, (three brood) chronic, Ceriodaphnia dubia, static renewal, survival and reproduction test and a seven day, subchronic fathead minnow (Pimephales promelas) static renewal, larval survival and growth tests were employed. Methods as outlined in EPA-600/4-91/002 were followed. The Ceriodaphnia and the fathead minnow test were performed from August 13 - 20, 1996.

2.1 Laboratory Water Supply

A moderately hard water is employed in our facility for daphnids and fish cultures. Preparation of the reconstituted laboratory water is outlined in EPA-600/4-91/002. This water is made up in volumes of 200 l on which water quality parameters are run to check for consistencies between batches. Moderately hard water was used to make up the various concentrations of sodium chloride for exposures of Ceriodaphnia and fatheads.

2.2 Test Organisms

Ceriodaphnia and Pimephales promelas used in these reference experiments were from the same stock as those organisms employed in the effluent toxicity tests and less than 24 hours old.

2.3 Experimental Design

The purpose of this series of tests was to evaluate the "relative sensitivity" of both organisms to our reference toxicant, sodium chloride. Ceriodaphnia were exposed to five different concentrations of NaCl and one control with 10 replicates for each treatment. The larval fatheads were also exposed to five concentrations and one control. Each exposure vessel contained 10 larval fish (less than 24 hr old) and there were three replicates for each level. The fish were fed three times per day. Exposure solutions were replaced daily over the seven day testing period. Routine parameters were measured daily prior to the transfer of organisms to their respective exposure vessels.

3.0 RESULTS AND DISCUSSION

Reference toxicity evaluations with daphnids and fathead minnows began on August 13, 1996. The routine physical-chemical parameters varied little over the testing period (CC-960808R - Initial Chemistries and CF-960808R - Routine Chemical and Physical data). Conductivity increased with increasing NaCl concentrations.

3.1 Ceriodaphnia

Mortality and reproduction data for this organism are presented in Test No. CC-960808R. The survival data were examined with the Fisher's Exact Test which showed a statistically significant daphnid mortality at $p = 0.05$ in the highest exposure concentration.

The reproduction data were normally distributed at the 0.01 alpha level employing the Chi-Square's Test. Daphnid reproduction failed Bartlett's Test for homogeneity of variance at 0.01 level. The data were then evaluated for reduced reproduction employing Steel's Many-One Rank Test. A statistically significant difference was found at concentrations of 1.6 g/l and above. Hence, the NOEC is 1.0 g/l and the LOEC is 1.6. The chronic value is 1.26 g/l.

3.2 Pimephales promelas

The fish survival and growth data are presented in Test No. CF-960808R. The survival data passed the Shapiro-Wilk's and Cochran's Tests for normality and homogeneity at the 0.01 level. Dunnett's Test showed no statistically significant ($p = 0.05$) mortality in any NaCl concentration. The growth data passed the Shapiro-Wilk's Test for normality ($p = 0.01$) and Bartlett's Test for homogeneity ($p = 0.01$). Dunnett's Test showed a statistically significant ($p = 0.05$) difference in growth in 3.0 g/l NaCl and above. Therefore, the NOEC is 2.4 g/l NaCl and the LOEC is 3.0 g/l NaCl. The chronic value is 2.68 g/l NaCl.

4.0 SUMMARY

Separate reference toxicity tests with Ceriodaphnia dubia and Pimephales promelas were carried out with sodium chloride. Both tests proved valid since 80% or greater survival in the controls were achieved after the seven day period. Also, each Ceriodaphnia in the control produced more than 15 live young and each larval fish weighed over 0.25 mg of weight.

The chronic values of 1.26 g/l of NaCl for Ceriodaphnia and 2.68 g/l of NaCl for fathead minnows agree well with previous tests.

Ceriodaphnia Chronic Test
Initial Chemistries

Test No.: CC-960808R
Toxicant: Sodium Chloride
Analyst: L Sweet/PG Meier
Date: 8/13/96 - 8/20/96

		Day						
		0	1	2	3	4	5	6
Control:		Moderately Hard Water						
Temperature (oC)		25	26	25	25	25	25	25
DO (mg/l)	Initial	8.4	8.5	8.4	8.4	8.4	8.4	8.3
DO (mg/l)	Final	8.3	8.4	8.3	8.2	8.2	8.3	8.1
pH		8.0	8.0	7.9	7.9	8.0	8.0	8.0
Conductivity (umhos/cm)		300	300	310	300	300	320	330
Hardness (mg/CaCO3)		108	108	108	108	108	108	86
Alkalinity (mg/CaCO3)		68	68	68	68	68	68	60
Concentration No 1:		0.6 g/l						
Temperature (oC)		25	26	25	25	25	25	25
DO (mg/l)	Initial	8.3	8.4	8.5	8.5	8.4	8.5	8.6
DO (mg/l)	Final	8.2	8.2	8.4	8.4	8.2	8.3	8.3
pH		7.9	8.0	7.9	7.9	7.9	8.0	8.0
Conductivity (umhos/cm)		1390	1380	1400	1390	1370	1400	1380
Concentration No 2:		1.0 g/l						
Temperature (oC)		25	26	25	25	24	25	25
DO (mg/l)	Initial	8.3	8.4	8.5	8.4	8.4	8.5	8.6
DO (mg/l)	Final	8.2	8.3	8.3	8.2	8.2	8.2	8.3
pH		8.0	8.0	7.9	7.9	7.9	8.0	8.0
Conductivity (umhos/cm)		2140	2120	2150	2140	2120	2170	2140
Concentration No 3:		1.6 g/l						
Temperature (oC)		25	26	25	25	25	25	25
DO (mg/l)	Initial	8.3	8.4	8.4	8.4	8.5	8.5	8.5
DO (mg/l)	Final	8.1	8.2	8.3	8.3	8.4	8.3	8.3
pH		8.0	8.0	7.9	7.9	7.9	8.0	8.0
Conductivity (umhos/cm)		3200	3190	3190	3180	3170	3200	3200
Concentration No. 4:		2.0 g/l						
Temperature (oC)		25	26	25	25	24	25	25
DO (mg/l)	Initial	8.2	8.4	8.4	8.5	8.5	8.5	8.5
DO (mg/l)	Final	8.0	8.2	8.2	8.4	8.4	8.3	8.3
pH		8.0	8.0	7.9	7.9	7.9	8.0	8.0
Conductivity (umhos/cm)		3809	3870	3920	3900	3890	4000	3930
Concentration No. 5:		2.4 g/l						
Temperature (oC)		25	25	25	25	—	—	—
DO (mg/l)	Initial	8.2	8.4	8.4	8.4	—	—	—
DO (mg/l)	Final	8.0	8.2	8.3	8.3	—	—	—
pH		8.0	8.0	7.9	7.9	—	—	—
Conductivity (umhos/cm)		4630	4600	4640	4620	—	—	—

Ceriodaphnia Survival and Reproduction Test

Test No. CC-960808R

Toxicant: Sodium Chloride

Analyst: L Sweet

est Start - Date/Time: 8/13/96 - 0900

est Stop - Date/Time: 8/20/96 - 0930

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
Moderately Hard Water	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	3	0	3	0	3	0	5	0	0	14	10	1.4
	5	4	0	6	0	4	0	3	0	4	5	26	10	2.6
	6	9	7	8	8	7	8	8	8	10	8	81	10	8.1
	7	9	10	14	14	12	11	12	16	6	14	118	10	11.8
	Total	22	20	28	25	23	22	23	29	20	27	239	10	23.9

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
0.6 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	4	4	0	0	4	4	4	0	3	2	25	10	2.5
	5	0	0	3	5	0	0	6	6	8	6	34	10	3.4
	6	11	10	8	8	7	10	0	8	0	0	62	10	6.2
	7	12	15	13	10	11	11	11	11	12	10	116	10	11.6
	Total	27	29	24	23	22	25	21	25	23	18	237	10	23.7

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	4	4	3	3	0	4	4	0	3	2	27	10	2.7
	5	5	0	0	8	0	5	6	4	8	5	41	10	4.1
	6	0	9	8	0	8	0	0	10	0	0	35	10	3.5
	7	15	9	10	12	11	11	13	10	10	10	111	10	11.1
	Total	24	22	21	23	19	20	23	24	21	17	214	10	21.4

Ceriodaphnia Survival and Reproduction Test

Test No. CC-960808R
Toxicant: Sodium Chloride

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
1.6 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	3	3	3	6	0	0	0	0	3	18	10	1.8
	5	3	0	3	4	0	3	2	3	0	0	18	10	1.8
	6	8	6	0	0	5	0	3	0	4	0	26	10	2.6
	7	6	0	5	5	7	8	5	6	10	6	58	10	5.8
	Total	17	9	11	12	18	11	10	9	14	9	120	10	12.0

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	x	0	0	0	0	9	0.0
	4	0	0	0	0	0	0		0	x	0	0	8	0.0
	5	0	0	0	0	0	0		0		3	3	8	0.4
	6	2	0	0	0	2	0		0		0	4	8	0.5
	7	0	0	0	0	4	6		0		0	10	8	1.3
	Total	2	0	0	0	6	6	0	0	0	3	17	8	2.1

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
2.4 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	x	x	0	x	x	x	0	x	0	x	0	3	0.0
	3			x				x		x		0	0	0.0
	4											0	0	0.0
	5											0	0	0.0
	6											0	0	0.0
	7											0	0	0.0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0.0

CC-960808-R REFERENCE TOXICITY TEST
Ceriodaphnia Reproduction Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	10	20.000	29.000	23.900
2	0.6	10	18.000	29.000	23.700
3	1.0	10	17.000	24.000	21.400
4	1.6	10	9.000	18.000	12.000
5	2.0	10	0.000	6.000	1.700

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	10.322	3.213	1.016	13.44
2	0.6	9.567	3.093	0.978	13.05
3	1.0	5.156	2.271	0.718	10.61
4	1.6	10.889	3.300	1.043	27.50
5	2.0	6.233	2.497	0.790	146.86

SHAPIRO WILK'S TEST FOR NORMALITY: actual and expected frequencies

D = 379.500

W = 0.957

Critical W (P = 0.05) (n = 50) = 0.947
Critical W (P = 0.01) (n = 50) = 0.930

Data PASS normality test at P=0.01 level. Continue analysis.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 1.82

Table Chi-square value = 13.28 (alpha = 0.01, df = 4)
Table Chi-square value = 9.49 (alpha = 0.05, df = 4)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

CC-960808-R REFERENCE TOXICITY TEST
Ceriodaphnia Reproduction Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	4	3698.920	924.730	109.652
Within (Error)	45	379.500	8.433	
Total	49	4078.420		

Critical F value = 2.61 (0.05,4,40)
Since F > Critical F REJECT Ho: All equal

DUNNETT'S TEST Ho:Control<Treatment

GRP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 CONTROL	23.900	23.900		
2	0.6	23.700	23.700	0.154	
3	1.0	21.400	21.400	1.925	
4	1.6	12.000	12.000	9.163	*
5	2.0	1.700	1.700	17.094	*

Dunnett table value = 2.23 (1 Tailed Value, P=0.05, df=40,4)

QUALITY ASSURANCE

Fathead Minnow and Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No CF-960808R
Toxicant Sodium Chloride

Analyst L Sweet
Test Dates 8/13/96 - 8/20/96

Laboratory Control: Moderately Hard Water		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	24	24	25	25	25
D O.	Initial	8 3	8 4	8 2	8 3	8 3	8 3	8 2
mg/l	Final	7 9	7 2	6 8	5 2	4 8	5 3	5 0
pH	Initial	8 0	7 9	7 9	7 9	7 9	7 9	7 8
	Final	7 7	7 3	7 5	7 1	7 1	7 1	7 2
Conductivity (umhos/cm)		310	310	310	310	310	320	300
Hardness (mg/l CaCO3)		96	96	96	96	96	96	92
Alkalinity (mg/l CaCO3)		64	64	64	64	64	64	62

Conc: 2.0 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	25	25	24
D O.	Initial	8 5	8 4	8 3	8 4	8 4	8 4	8 5
mg/l	Final	6 6	6 4	6 3	5 5	6 7	6 2	6 0
pH	Initial	8 0	8 1	8 0	8 0	7 7	7 9	8 0
	Final	7 2	7 1	7 1	7 3	7 3	7 2	7 2
Conductivity (umhos/cm)		4130	4070	4140	4090	3900	3830	3810

Conc: 2.4 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	24	24	25	25	25
D O.	Initial	8 3	8 0	8 2	8 4	8 3	8 3	8 2
mg/l	Final	7 8	7 5	6 5	5 2	5 1	5 2	6 2
pH	Initial	7 9	7 9	7 9	7 9	7 9	7 8	7 8
	Final	7 7	7 3	7 4	7 2	7 2	7 2	7 2
Conductivity (umhos/cm)		3810	3810	3750	3740	3710	3900	3860

Conc: 3 0 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	24	24	25	25	25
D O.	Initial	8 3	8 1	8 3	8 4	8 3	8 3	8 2
mg/l	Final	7 9	7 3	6 5	5 2	5 6	5 2	6 2
pH	Initial	7 9	7 9	7 9	8 0	7 9	7 8	7 9
	Final	7 7	7 3	7 4	7 2	7 3	7 4	7 2
Conductivity (umhos/cm)		5500	5500	5800	5320	5440	5600	5610

Fathead Minnow and Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No: CF-960808R
Toxicant: Sodium Chloride

Conc: 3.4 g/l		Day							
		0	1	2	3	4	5	6	
Temperature (oC)		25	24	24	24	25	25	25	
D.O.	Initial	8.2	8.2	8.3	8.3	8.4	8.4	8.2	
mg/l	Final	8.0	7.2	6.7	5.4	5.1	5.3	6.4	
pH	Initial	7.9	7.9	7.9	8.0	7.9	7.8	7.8	
	Final	7.7	7.3	7.5	7.2	7.3	7.4	7.3	
Conductivity (umhos/cm)		6280	6120	6100	5900	6080	6380	6200	

Conc: 4.0 g/l		Day							
		0	1	2	3	4	5	6	
Temperature (oC)		25	24	24	24	25	25	25	
D.O.	Initial	8.2	8.2	8.3	8.4	8.4	8.4	8.2	
mg/l	Final	8.1	7.4	6.5	5.2	5.0	5.3	6.3	
pH	Initial	7.9	7.9	7.9	8.0	7.9	7.8	7.8	
	Final	7.8	7.2	7.4	7.2	7.3	7.4	7.2	
Conductivity (umhos/cm)		7240	7100	7140	7160	7290	7410	7380	

Survival Data for Fathead Minnow
Larval Survival and Growth Test

Test No: CF-960808R
Toxicant: Sodium Chlonde

Analyst: D Travers
Test Start: Date/Time: 8/14/96 - 1500
Test Stop: Date/Time: 8/21/96 - 1530

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
Control Moderately Hard Water	A	10	10	10	10	10	10	10	10	4.49	0.45
	B	10	10	10	10	10	10	10	10	4.81	0.48
	C	10	10	10	10	10	10	10	10	5.82	0.58

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
2.0 g/l	A	10	10	10	10	10	10	10	10	4.43	0.44
	B	10	10	10	10	10	10	10	9	4.09	0.45
	C	10	10	10	10	10	10	10	10	5.17	0.52

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
2.4 g/l	A	10	10	10	10	10	10	10	10	4.33	0.43
	B	10	10	10	10	10	10	10	9	4.20	0.47
	C	10	10	10	10	10	10	10	9	3.65	0.41

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
3.0 g/l	A	10	10	10	10	10	10	10	10	4.23	0.42
	B	10	10	10	10	10	10	10	10	4.03	0.40
	C	10	10	10	10	10	10	10	10	4.16	0.42

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
3.4 g/l	A	10	10	10	10	10	10	10	9	3.23	0.36
	B	10	10	10	10	10	10	10	10	4.12	0.41
	C	10	10	10	10	10	10	10	9	3.93	0.44

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
4.0 g/l	A	10	10	10	10	10	10	10	9	3.09	0.34
	B	10	10	10	10	10	10	10	10	3.87	0.39
	C	10	10	10	10	10	10	10	10	3.62	0.36

CF-960808-R REFERENCE TEST
Fathead Minnow Larval Survival Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	3	10.000	10.000	10.000
2	2.0	3	9.000	10.000	9.667
3	2.4	3	9.000	10.000	9.333
4	3.0	3	10.000	10.000	10.000
5	3.4	3	9.000	10.000	9.333
6	4.0	3	9.000	10.000	9.667

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	0.000	0.000	0.000	0.00
2	2.0	0.333	0.577	0.333	5.97
3	2.4	0.333	0.577	0.333	6.19
4	3.0	0.000	0.000	0.000	0.00
5	3.4	0.333	0.577	0.333	6.19
6	4.0	0.333	0.577	0.333	5.97

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 2.667

W = 0.932

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level. Continue analysis.

COCHRAN'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated G statistic = 0.2500
Table value = 0.72 (alpha = 0.01, df = 6, 3)
Table value = 0.62 (alpha = 0.05, df = 6, 3)

Data PASS homogeneity test at 0.01 level. Continue analysis.

CF-960808-R REFERENCE TEST
Fathead Minnow Larval Survival Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	1.333	0.267	1.200
Within (Error)	12	2.667	0.222	
Total	17	4.000		

Critical F value = 3.11 (0.05,5,12)
Since F > Critical F REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT SIG
1	0.0 CONTROL	10.000	10.000	
2	2.0	9.667	9.667	0.866
3	2.4	9.333	9.333	1.732
4	3.0	10.000	10.000	0.000
5	3.4	9.333	9.333	1.732
6	4.0	9.667	9.667	0.866

Dunnett table value = 2.50 (1 Tailed Value, P=0.05, df=12,5)

CF-960808-R REFERENCE TEST
Fathead Minnow Larval Growth Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	3	0.450	0.580	0.503
2	2.0	3	0.440	0.520	0.470
3	2.4	3	0.410	0.470	0.437
4	3.0	3	0.400	0.420	0.413
5	3.4	3	0.360	0.440	0.403
6	4.0	3	0.340	0.390	0.363

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	0.005	0.068	0.039	13.52
2	2.0	0.002	0.044	0.025	9.27
3	2.4	0.001	0.031	0.018	7.00
4	3.0	0.000	0.012	0.007	2.79
5	3.4	0.002	0.040	0.023	10.02
6	4.0	0.001	0.025	0.015	6.93

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 0.020

W = 0.963

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level. Continue analysis.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 4.79

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

CF-960808-R REFERENCE TEST
Fathead Minnow Larval Growth Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.037	0.007	4.539
Within (Error)	12	0.020	0.002	
Total	17	0.057		

Critical F value = 3.11 (0.05,5,12)
Since F > Critical F REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 CONTROL	0.503	0.503		
2	2.0	0.470	0.470	1.007	
3	2.4	0.437	0.437	2.013	
4	3.0	0.413	0.413	2.718	*
5	3.4	0.403	0.403	3.020	*
6	4.0	0.363	0.363	4.228	*

Dunnett table value = 2.50 (1 Tailed Value, P=0.05, df=12,5)

APPENDIX C

DMR-QA Study 16

TOXICITY LABORATORY DATA

Analyte Name	EPA Use	Analyte No.	USEPA Labcode	Method Code	</>	Quantity
WHOLE EFFLUENT TOXICITY DATA (as % of the sample ready for analysis)						
Fathead Minnow Acute MHSF 20° - LC50	TT	752	48109000	11		44.60
Fathead Minnow Acute MHSF 25° - LC50	TT	754		13		
Fathead Minnow Acute 20% DMW 25° - LC50	TT	755		14		
Fathead Minnow Chronic MHSF - Survival NOEC	TT	756	48109000	15		25.00
Fathead Minnow Chronic MHSF - Growth IC25	TT	757	48109000	15		53.70
Fathead Minnow Chronic MHSF - Growth NOEC	TT	758	48109000	15		25.00
Fathead Minnow Chronic 20% DMW - Survival NOEC	TT	759		16		
Fathead Minnow Chronic 20% DMW - Growth IC25	TT	760		16		
Fathead Minnow Chronic 20% DMW - Growth NOEC	TT	761		16		
Ceriodaphnia Acute MHSF 20° - LC50	TT	762		17		
Ceriodaphnia Acute 20% DMW 20° - LC50	TT	763		18		
Ceriodaphnia Acute MHSF 25° - LC50	TT	764	48109000	x 19		30.40
Ceriodaphnia Acute 20% DMW 25° - LC50	TT	765		20		
Ceriodaphnia Chronic MHSF - Survival NOEC	TT	766	48109000	21		50.00
Ceriodaphnia Chronic MHSF - Reproduction IC25	TT	767	48109000	21		32.00
Ceriodaphnia Chronic MHSF - Reproduction NOEC	TT	768	48109000	21		25.00
Ceriodaphnia Chronic 20% DMW - Survival NOEC	TT	769		22		
Ceriodaphnia 20% DMW - Reproduction IC25	TT	770		22		
Ceriodaphnia 20% DMW - Reproduction NOEC	TT	771		22		
Daphnia Magna Acute MHSF 20° - LC50	TT	788	48109000	32		18.60
Daphnia Pulex Acute MHSF 20° - LC50	TT	792		36		
Daphnia Pulex Acute MHSF 25° - LC50	TT	794		38		
Mysid Acute 40 F 20° - LC50	TT	798		42		
Mysid Acute 40 F 20° - Survival NOEC	TT	799		43		
Mysid Acute 40 F 20° - Growth IC25	TT	800		43		
Mysid Acute 40 F 20° - Growth NOEC	TT	801		43		
Mysid Acute 40 F 20° - LC50	TT	803		44		
Sheepshead Minnow Acute 40 F 20°	TT	804		46		
Sheepshead Minnow Chronic 40 F 20° - Survival NOEC	TT	805		47		
Sheepshead Minnow Chronic 40 F 20° - Growth IC25	TT	806		47		
Sheepshead Minnow Chronic 40 F 20° - Growth NOEC	TT	807		47		

(EPA-421 (cln), Rev 3-96 Previous editions are obsolete

APPENDIX D

CHAIN-OF-CUSTODY RECORD

Institute of Environmental and Industrial Health Laboratory, School of Public Health 1, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
City of Battle Creek WWTP	2000 W. River Rd Battle Creek, MI 49015	(616) 966-3513
CONTRACTOR	**ADDRESS**	**PHONE #**
—	—	—
CONTACT PERSON	**PHONE #**	
Mike Andrews	(616) 966-3513	
SAMPLER	**SAMPLER SIGNATURE**	
Mike Andrews	Mike Andrews	

ANALYSIS DESIRED

SAMPLE NUMBER	if composite, please indicate starting and stopping date and time: DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	Acute: Chronic WET Effluent Jar					REMARKS
1	8-12-96 8-13-96	8:00am– 8:00am–	X		Final Effluent after dechlorinator	2	X					

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
Peter A. Mucci	10 c	Ammonia = 0.1 mg/l
DATE OF RECEIPT: 8/14/96	RESIDUAL CHLORINE (ug Cl2/L): ND	
TIME OF RECEIPT: 1030		

CHAIN-OF-CUSTODY RECORD

Institute of Environmental and Industrial Health Laboratory, School of Public Health 1, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
City of Battle Creek WWTP	2000 W. River Rd Battle Creek, Mi 49015	616 966-3513
CONTRACTOR	**ADDRESS**	**PHONE #**
—	—	—
CONTACT PERSON	**PHONE #**	
Mike Andrews	616-966-3513	
SAMPLER	**SAMPLER SIGNATURE**	
Mike Andrews	Mike Andrews	

SAMPLE NUMBER	if composite, please indicate starting and stopping date and time: DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	ANALYSIS DESIRED: Acute & Chronic Whole Effluent Tox					REMARKS
2 of 3	8-15-96 8-16-96	8:00am 8:30am	X		Final Effluent after dechlorination	2	X					

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
Peter G. Meier	8 °C	Ammonia ~ 0.1 mg/l
DATE OF RECEIPT: 8/17/96	RESIDUAL CHLORINE (ug Cl2/L): N.D	
TIME OF RECEIPT: 1006		

CHAIN-OF-CUSTODY RECORD

Institute of Environmental and Industrial Health Laboratory, School of Public Health 1, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
City of Battle Creek WWTP	2000 W River Rd	(616) 966-3513
CONTRACTOR	**ADDRESS**	**PHONE #**
CONTACT PERSON	**PHONE #**	
Mike Andrews	(616) 966-3513 XT 252	
SAMPLER	**SAMPLER SIGNATURE**	
Brian Fry	Brian Fry	

ANALYSIS DESIRED

SAMPLE NUMBER	if composite, please indicate starting and stopping date and time * DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	Acute & Chronic White Effluent Toxicity					REMARKS
1	8-18-96 to 8-19-96	8am to 8AM	X		Final Effluent after Dechlorination	1						

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
Peter [illegible]	8° C	Ammonia ~ 0.1 mg/l
DATE OF RECEIPT: 8/20/96	RESIDUAL CHLORINE (ug Cl2/L): N/A	
TIME OF RECEIPT: 0945		

The University of Michigan

SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF ENVIRONMENTAL
AND INDUSTRIAL HEALTH

109 OBSERVATORY STREET
ANN ARBOR, MICHIGAN 48109-2029
U.S.A.

November 6, 1996

Ms. Christine Kosmowski
City of Battle Creek WWTP
2000 West River Road
Battle Creek, MI 49015-1181

Dear Ms. Kosmowski:

Please find enclosed a copy of the biomonitoring report for your wastewater treatment facility. If you have any questions, please let me know. Thank you.

Sincerely,

Peter G. Meier

Peter G. Meier, Ph.D.

Evaluation of Effluent Toxicity of City of Battle Creek WWTP 2000 W. River Road Battle Creek, Michigan 49015

October 23 - 30, 1996

NPDES Permit No. MI 0022276

By:

Peter G. Meier, Ph.D.
School of Public Health
The University of Michigan
Ann Arbor, Michigan 48109

November 6, 1996

1.0 INTRODUCTION

Battle Creek WWTP (BC-WWTP) is submitting its biomonitoring results for assessing the aquatic toxicity of their effluent as required in Rule 57 of the Michigan Water Quality Standards. As part of the NPDES Permit No. MI 0022276, this report outlines procedures for specific toxicity testing, data evaluation, QA/QC criteria and report content. Testing was carried out by the Institute of Environmental and Industrial Health, The University of Michigan. Toxicity evaluation with Ceriodaphnia dubia and the fathead minnow (Pimephales promelas) was completed in October of 1996.

2.0 PROCEDURES AND METHODS

The seven day (three brood), chronic, Ceriodaphnia dubia static renewal, survival and reproduction test was one of the methods employed in the evaluation of BC-WWTP's effluent. In addition, the seven day, subchronic, fathead minnow (Pimephales promelas), static renewal, larval survival and growth test was also employed. The procedures followed are contained in EPA/600/4-91/002, Short-Term Methods for Estimation of the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. A summary of recommended test conditions for the waterflea and fathead minnow is found in Tables 1 and 2, respectively.

2.1 Laboratory Water Supply

A moderately hard water for daphnid and fathead cultures and maintenance is employed in our facility. Preparation of the reconstituted laboratory water is outlined in EPA/600/4-91/002. This water is made up in volumes of 200 l on which water quality parameters are run to check for consistencies between batches. This moderately hard water was employed as the laboratory control and in the preparation of exposure concentrations.

2.2 Test Organisms

Ceriodaphnia dubia are kept in the Institute's facilities. The original stock was obtained from U.S. EPA, the Newtown facility over two years ago. Mass and individual Ceriodaphnia cultures are maintained according to EPA/600/4-91/002 and fed a combination of Yeast, Cerophyll^{R} and Salmon Starter (YCS) and the unicellular alga, Selenastrum capricornutum, whereas larval fish are fed 24 hr old brine shrimp. Larval fathead minnows were obtained from Aquatox Inc., Arkansas for this evaluation.

TABLE 1 SUMMARY OF RECOMMENDED EFFLUENT TOXICITY TEST CONDITIONS FOR THE CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST

1.	Test Type:	Static renewal
2.	Temperature (^{o}C):	25 ± 1°C
3.	Light quality:	Ambient laboratory illumination
4.	Light intensity:	10-20 uE/m^{2}/s or 50-100 ft-c (ambient laboratory levels)
5.	Photoperiod:	16 h light, 8 h darkness
6.	Test chamber size:	30 mL
7.	Test solution volume:	15 mL
8.	Renewal of test solutions:	Daily
9.	Age of test organisms:	Less than 24 h and all released within a 8 h period
10.	No. neonates per test chamber:	1
11.	No. replicate test chambers per concentration:	10
12.	No. neonates per test concentration:	10
13.	Feeding regime:	Feed 0.1 mL each of YCS and algal suspension per test chamber daily.
14.	Aeration:	None
15.	Dilution water:	Moderately hard synthetic water is prepared using MILLIPORE MILLI-Q^{R} or equivalent deionized water and reagent grade chemicals or 20% DMW (see Section 7).
16.	Effluent concentration:	Minimum of 5 effluent concentrations and a control.

Test Method 1002.0. EPA Publication 600/4-91/002 (July, 1994).

TABLE 2 SUMMARY OF RECOMMENDED EFFLUENT TOXICITY TEST CONDITIONS FOR THE FATHEAD MINNOW (PIMEPHALES PROMELAS) LARVAL SURVIVAL AND GROWTH TEST

1.	Test Type:	Static renewal
2.	Temperature (^{o}C):	25 ± 1°C
3.	Light quality:	Ambient laboratory illumination
4.	Light intensity:	10-20 uE/m^{2}/s (50-100 ft-c) (ambient laboratory levels)
5.	Photoperiod:	16 h light, 8 h darkness
6.	Test chamber size:	600 mL glass beakers
7.	Test solution volume:	250 mL/replicate
8.	Renewal of test concentrations:	Daily
9.	Age of test organisms:	Newly hatched larvae less than 24 hr old
10.	No. of larvae per test chamber:	10
11.	No. replicate chambers per concentration:	3
12.	No. larvae per concentration:	30
13.	Feeding regime:	Feed 0.2 mL newly hatched (less than 24 h old) brine shrimp nauplii three times daily at 4 h intervals or, as a minimum, 0.30 mL twice daily, 6 hr between feedings (at the beginning of the work day prior to renewal, and at the end of the work day following renewal). Larvae are not fed during the final 12 h of the test
14.	Cleaning:	Siphon daily, immediately before test solution renewal
15.	Aeration:	None, unless DO concentration falls below 40% saturation. Rate should not exceed 100 bubbles/min

Test Method 1000.0. EPA Publication 600/4-91/002 (July, 1994).

2.3 Effluent Collection

Battle Creek WWTP personnel collected three 24-hour composite samples from outfall 001 for this set of chronic seven-day tests (10/21 - 10/22/96, 10/24 - 10/25/96 and 10/27 - 10/28/96). The samples were shipped in coolers containing adequate ice to ensure sample integrity. No residual chlorine was found in any of the composite samples. The temperature of the respective samples upon arrival was 1°C, 3°C and 1°C. All samples were stored in a refrigerator (4°C) until used.

2.4 Experimental Design

The aim of these chronic tests was to evaluate the potential toxicity of BC-WWTP's effluent. With this objective in mind, standard testing procedures as summarized in Tables 1 and 2 were employed. Five effluent concentrations (100%, 60%, 30%, 15% and 5%) and a laboratory control were set up. Laboratory water was employed as the diluent.

Thirty Ceriodaphnia adults were placed individually in cups containing food and dilution water approximately 16 hours before initiation of the test. Babies from broods of ten or more individuals were pooled and used for this experiment. Prior to start up of the exposures, designated concentrations of one liter effluent were prepared utilizing laboratory water as a diluent. Once accomplished, appropriate water quality parameters were measured and recorded for each concentration (Appendix A: Initial Chemistry - New). Then approximately 15 ml of the designated mixture were poured into prelabeled 30 ml cups containing 0.1 ml of YCS and 0.1 ml of Selenastrum. After this step, a 16 hour or younger neonate was transferred to each of the 60 plastic cups at random. Ten replicates per concentration were employed. Cups were placed in a rack and transferred to an incubator (25 $\pm$ 1°C). The light cycle was 16 hrs on and 8 hrs off. After 24 hours, each cup was checked for survival and/or immobility/mortality. The number of survivors was reported on data sheets (Appendix A: Ceriodaphnia Survival and Reproduction Test). The respective concentrations were renewed daily and the surviving daphnids were transferred. Live young, usually produced after day 3, were counted and also recorded on the data sheet. This procedure was repeated daily through day 7, at which point the test was terminated. Biological endpoints for this test consisted of immobility/mortality and production of live young. The validity of the test was based on greater than 80% survival and 15 or more live young produced per adult in the controls. If these criteria were not achieved, then the test would have been repeated.

In the fathead test, 10 larval fish (less than 24 hrs old) were placed at random in each of the 18 glass beakers (600 ml capacity) containing 250 ml of varying concentrations of effluent and respective controls. One tenth ml of 24 hr old brine shrimp

was also added to each exposure chamber. Prior to this transfer, water quality parameters were measured and recorded on the data sheet for each concentration (Appendix A: Routine chemical and physical data sheet for fish larval test). Three replicates of 10 larval fish for each of the five concentrations and laboratory control were employed. Exposure containers were placed in a temperature controlled room (25 $\pm$ 1°C). Larval fish were fed three times per day with brine shrimp. After the 24 hour exposure, the excess food, waste and most of the exposure solution were siphoned. Larval fish (survivors) were counted and recorded; whereas, dead ones were removed (Appendix A: Survival Data Sheet). The new exposure mixture was then carefully poured into each of the beakers and 0.2 ml of brine shrimp were also added. Exposure vessels were placed back into the temperature controlled room that has a 16 hrs on, 8 hrs off light cycle. This whole procedure was repeated daily through six days. On the seventh day, live fish were killed with 70% ethanol, rinsed and then placed in tared dishes, dried at 60°C for twenty four hours and weighed. Biological endpoints for this test consisted of mortality and growth (increase in weight). This test was considered valid if greater than 80% survival and more than 0.25 mg of biomass per fish was observed in the controls over the seven day test period. If these two criteria were not met, then the test would have been repeated.

2.5 Standard Reference Toxicity Test

The purpose of this series of experiments is important for two reasons. First of all, a reference test will monitor over time the relative sensitivity of laboratory organisms. Results on their respective EC_{50} and LC_{50} values for acute exposures and LOEC and NOEC for chronic tests will provide information on physiological changes which affect tolerances. This is of particular importance with daphnids (Ceriodaphnia) due to their relatively short generation time. Secondly, the reference test is part of the QA/QC program which provides a tool to evaluate the ability of the laboratory to generate reproducible results (Appendix B). Also, this laboratory participated in the DMR-QA Laboratory Evaluation Study and these results are presented in Appendix C.

2.6 Statistical Analysis

Mortality-immobility data were analyzed employing Fisher's test. If statistically significant immobility was observed in one concentration then this treatment was excluded from further analysis. The remaining exposure solutions were then examined for reproduction impairement. Nontransformed Ceriodaphnia reproduction data were initially evaluated for normality and homogeneity employing the Chi-Square and Bartlett's Tests. Dunnett's Procedure was then utilized in exposure solutions without significant mortality to determine whether there was a significant difference in daphnid reproduction between various effluent concentrations and the control (Figure 1).

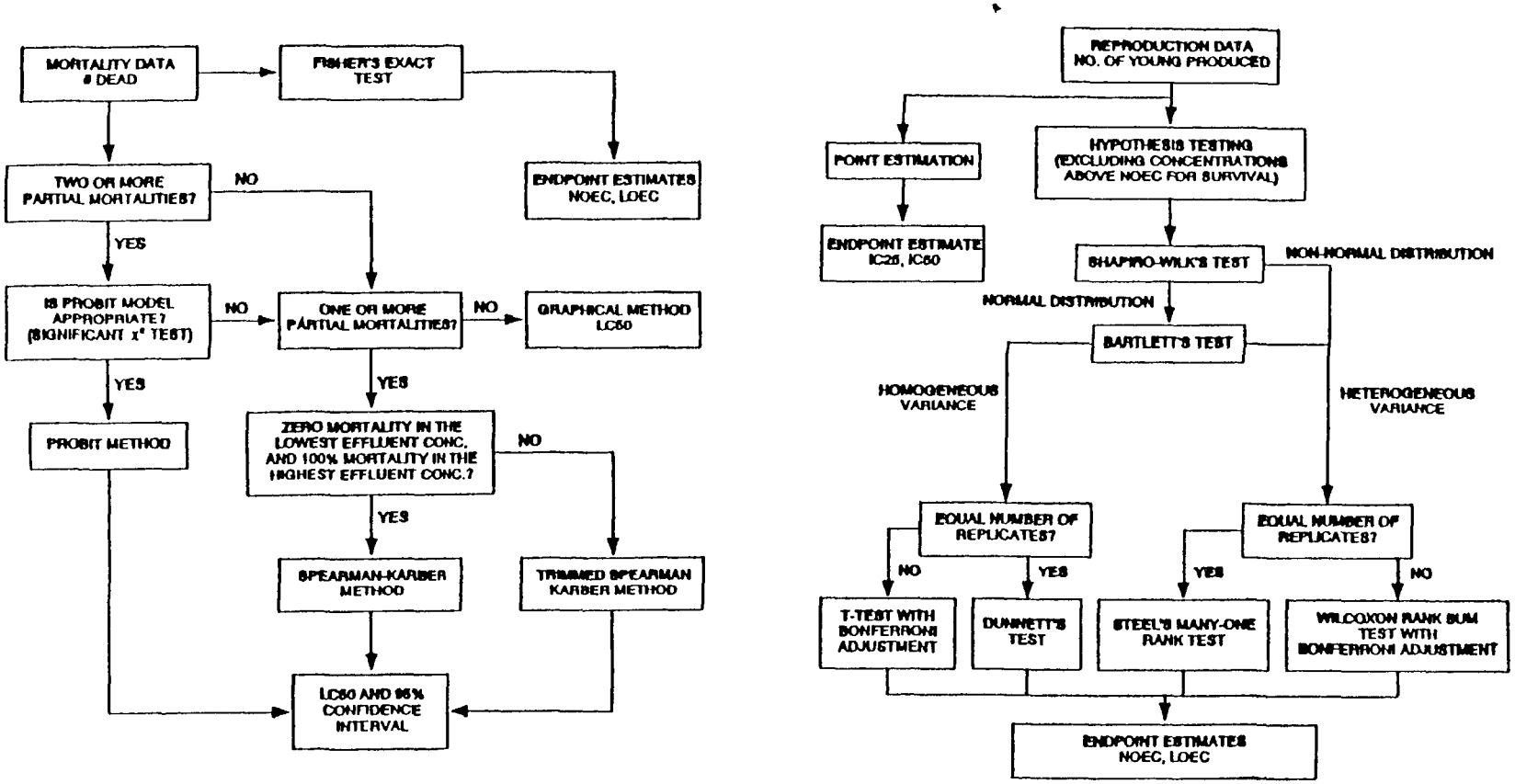


FIGURE 1 Flowcharts for the statistical analysis of the daphnid, Ceriodaphnia dubia, survival and reproduction data (EPA/600/4-91/002).

Similarly, nontransformed fish survival data were evaluated for normality and homogeneity using the Shapiro-Wilk's and Cochran's Tests, whereas fish growth was discriminated with Bartlett's Test for homogeneity. If passed, then Dunnett's Test was employed for determining significant differences in growth between the control and the various effluent concentrations (Figure 2). The TOXSTAT® 3.4 Program was used in these evaluations.

3.0 RESULTS AND DISCUSSION

Toxicity evaluation of the Battle Creek WWTP effluent was initiated on October 23, 1996 and completed on October 30, 1996. Twenty four hour composite samples collected on three separate occasions were employed in exposing both Ceriodaphnia and fatheads over this seven day period.

Alkalinity and hardness were measured and recorded (Appendix A). The remaining parameters such as conductivity and pH varied little between samples and over time. Dissolved oxygen remained over 50 percent saturation after each 24 hour exposure.

3.1 Ceriodaphnia dubia

The evaluation of BC-WWTP's effluent began on October 23, 1996 and the resulting data are presented in Test No. CC-961044 (Appendix A).

Fisher's Test was used to analyze the daphnid survival data. The results showed no statistically significant ($p = 0.05$) reduction in survival between the five effluent concentrations and the laboratory water control.

The reproduction data passed normality employing Chi-Square Test but failed Bartlett's Test for homogeneity at $p = 0.01$. The data were then evaluated for reduced reproduction with Steel's Many-One Rank Test. There was no statistically significant ($p = 0.05$) difference in reproduction at any effluent concentration when compared to the control. Therefore, the NOEC is 100%. The LOEC and chronic value cannot be calculated.

3.2 Pimephales promelas

The fish survival and growth data are presented in Test No. CF-961030 (Appendix A).

Survival data were evaluated for normality with the Shapiro Wilk's Test and failed at the $p = 0.01$ level. Wilcoxon's Rank Sum Test with Bonferroni Adjustment showed no statistically significant mortality in any concentration. The untransformed fish growth data passed normality and homogenity at $p = 0.01$ using Shapiro-Wilk's and Bartlett's Tests. These data were then analyzed for effects on growth employing Dunnett's Test. There

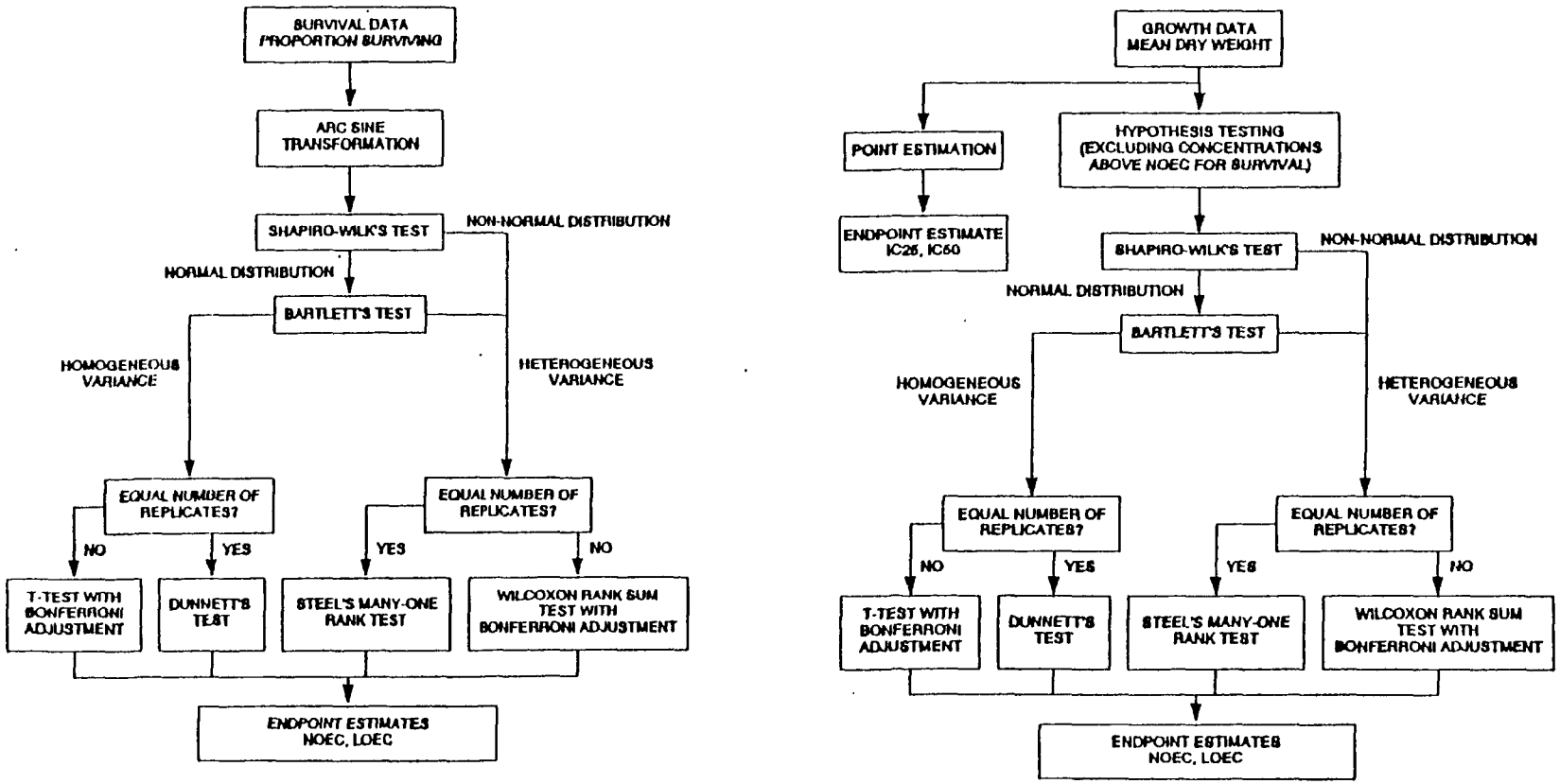


FIGURE 2 **Flowcharts for the statistical analysis of the fathead minnow, Pimephales promelas, survival and growth data (EPA/600/4-91/002)**

was no statistically significant ($p = 0.05$) difference in growth observed in any effluent concentration when compared to the laboratory control. Hence, the NOEC for this analysis is 100%. The LOEC and chronic value cannot be calculated.

4.0 SUMMARY

Two different species of aquatic organisms were employed in determining the potential toxicity of BC-WWTP's effluent over a seven day period during October, 1996. There was no effect observed on Ceriodaphnia or on fathead minnows for this period.

APPENDIX A

TOXICITY EVALUATION
Ceriodaphnia Chronic Test
Initial Chemistries

Test No. CC-961044
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 hr Composite

Analyst: L Sweet/PG Meier
Date: 10/23/96 - 10/30/96
Client: City of Battle Creek

		Day 0	1	2	3*	4	5	6*
Control:		Moderately Hard Water						
Temperature (oC)		25	24	24	25	25	24	25
DO (mg/l)	Initial	8.4	8.4	8.3	8.5	8.3	8.4	8.5
	Final	8.3	8.2	8.3	8.4	8.2	8.3	8.4
pH		8.0	8.0	7.9	7.9	7.8	8.1	7.8
Conductivity (umhos/cm)		290	300	290	290	290	290	270
Hardness (mg/CaCO3)		104	104	104	104	104	104	104
Alkalinity (mg/CaCO3)		58	58	58	58	58	58	58
Concentration No 1:		5%						
Temperature (oC)		25	24	24	25	25	24	25
DO (mg/l)	Initial	8.3	8.4	8.4	8.3	8.4	8.4	8.5
	Final	8.2	8.3	8.3	8.2	8.3	8.2	8.4
pH		8.0	8.0	7.9	7.9	7.9	8.0	7.9
Conductivity (umhos/cm)		350	370	360	400	390	360	370
Concentration No 2:		15%						
Temperature (oC)		25	24	24	25	25	24	25
DO (mg/l)	Initial	8.5	8.4	8.4	8.4	8.5	8.5	8.5
	Final	8.4	8.3	8.2	8.3	8.4	8.4	8.3
pH		7.9	8.0	7.9	7.9	7.8	7.9	7.9
Conductivity (umhos/cm)		460	470	470	520	510	520	480
Concentration No 3:		30%						
Temperature (oC)		25	24	24	25	25	24	25
DO (mg/l)	Initial	8.5	8.4	8.3	8.4	8.4	8.3	8.4
	Final	8.4	8.3	8.2	8.3	8.3	8.2	8.3
pH		7.8	7.9	7.9	7.8	7.9	7.8	7.9
Conductivity (umhos/cm)		650	600	680	660	660	710	670
Concentration No 4:		60%						
Temperature (oC)		24	24	24	25	25	24	25
DO (mg/l)	Initial	8.5	8.5	8.4	8.4	8.4	8.6	8.4
	Final	8.4	8.4	8.3	8.3	8.2	8.4	8.3
pH		7.7	7.9	7.9	7.7	7.8	7.8	7.7
Conductivity (umhos/cm)		970	1020	1030	1110	1120	1080	1090
Concentration No. 5 :		100%						
Temperature (oC)		24	24	24	25	25	24	25
DO (mg/l)	Initial	8.5	8.4	8.4	8.6	8.4	8.6	8.4
	Final	8.4	8.3	8.3	8.5	8.3	8.5	8.3
pH		7.6	7.8	7.8	7.6	7.7	7.7	7.6
Conductivity (umhos/cm)		1400	1470	1460	1580	1540	1620	1580
Hardness (mg/CaCO3)		420	420	420	424	424	424	348
Alkalinity (mg/CaCO3)		282	282	282	274	274	274	220

*New supply of effluent: 10/26/96 and 10/29/96

Date of Sample: 10/21/96 - 10/22/96
Date of Sample: 10/24/96 - 10/25/96
Date of Sample: 10/27/96 - 10/28/96

Residual Chlorine: None Detected
Residual Chlorine: None Detected
Residual Chlorine: None Detected

Arrival Temperature: 1 °C
Arrival Temperature: 3 °C
Arrival Temperature: 1°C

TOXICITY EVALUATION
Ceriodaphnia Survival and Reproduction Test

Test No. CC-961044
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 Hr Composite

Analyst: J Huang
Test Start - Date/Time: 10/23/96 - 1500
Test Stop - Date/Time: 10/30/96 -

Client: City of Battke Creek

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
MHW	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	6[1]	8[1]	4[1]	4[1]	5[1]	0	0	3[1]	6[1]	8[1]	44	10	4.4
	5	0	12[2]	0	8[2]	9[2]	6[1]	9[1]	12[2]	9[2]	0	65	10	6.5
	6	10[2]	0	8[2]	10[3]	0	10[2]	10[2]	0	0	8[2]	56	10	5.6
	7	9[3]	10[3]	10[3]	0	13[3]	10[3]	11[3]	8[3]	0	10[3]	81	10	8.1
	Total	25	30	22	22	27	26	30	23	15	26	246	10	24.6

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
5%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	6[1]	0	3[1]	0	0	0	6[1]	8[1]	0	0	23	10	2.3
	5	11[2]	8[1]	10[2]	4[1]	9[1]	6[1]	0	10[2]	4[1]	6[1]	68	10	6.8
	6	8[3]	10[2]	14[3]	6[2]	0	14[2]	10[2]	0	6[2]	0	68	10	6.8
	7	0	9[3]	0	16[3]	16[2]	12[3]	10[3]	14[3]	19[3]	14[2]	110	10	11.0
	Total	25	27	27	26	25	32	26	32	29	20	269	10	26.9

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
15%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	4[1]	0	0	4[1]	6[1]	6[1]	0	0	6[1]	26	10	2.6
	5	8[1]	12[2]	8[1]	6[1]	11[2]	10[2]	0	7[1]	8[1]	12[2]	82	10	8.2
	6	12[2]	10[3]	11[2]	10[2]	14[3]	0	12[2]	14[2]	4[2]	0	87	10	8.7
	7	0	0	0	0	0	10[3]	14[3]	0	10[3]	18[3]	52	10	5.2
	Total	20	26	19	16	29	26	32	21	22	36	247	10	24.7

TOXICITY EVALUATION
Ceriodaphnia Survival and Reproduction Test

Test No. CC-961044
Toxicant: Battle Creek WWTP Effluent

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
30%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	6 [1]	3 [1]	0	0	0	0	6 [1]	0	0	15	10	1.5
	5	8 [1]	12 [2]	10 [2]	7 [1]	4 [1]	6 [1]	6 [1]	12 [2]	9 [1]	8 [1]	82	10	8.2
	6	6 [2]	8 [3]	14 [3]	11 [2]	8 [2]	8 [2]	8 [2]	14 [3]	10 [2]	12 [2]	99	10	9.9
	7	8 [3]	0	0	9 [3]	10 [3]	16 [3]	10 [3]	0	0	0	53	10	5.3
	Total	22	26	27	27	22	30	24	32	19	20	249	10	24.9

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
60%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	6 [1]	0	0	0	4 [1]	0	4 [1]	8 [1]	0	0	22	10	2.2
	5	4 [2]	8 [1]	2 [1]	6 [1]	8 [2]	4 [1]	0	0	2 [1]	8 [1]	42	10	4.2
	6	0	0	4 [2]	0	10 [3]	8 [2]	6 [2]	8 [2]	14 [2]	0	50	10	5.0
	7	14 [3]	19 [2]	19 [3]	16 [2]	0	12 [3]	18 [3]	10 [3]	9 [3]	14 [2]	131	10	13.1
	Total	24	27	25	22	22	24	28	26	25	22	245	10	24.5

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	x	0	0	0	0	0	x	0	0	0	8	0.0
	4	0	|	5 [1]	4 [1]	6 [1]	0	0	|	6 [1]	2 [1]	23	8	2.9
	5	6 [1]	|	10 [2]	0	0	0	0	|	0	2 [2]	18	8	2.3
	6	10 [2]	|	0	14 [2]	6 [2]	6 [1]	4 [1]	|	2 [2]	8 [3]	50	8	6.3
	7	4 [3]	|	9 [3]	10 [3]	14 [3]	18 [2]	10 [2]	|	10 [3]	0	75	8	9.4
	Total	20	0	24	28	26	24	14	0	18	12	166	8	20.8

CC-961044 BATTLE CREEK WWTP EFFLUENT
Ceriodaphnia Reproduction Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	10	15.000	30.000	24.600
2	5%	10	20.000	32.000	26.900
3	15%	10	16.000	36.000	24.700
4	30%	10	19.000	32.000	24.900
5	60%	10	22.000	28.000	24.500
6	100%	10	0.000	28.000	16.600

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	19.600	4.427	1.400	18.00
2	5%	12.544	3.542	1.120	13.17
3	15%	39.344	6.273	1.984	25.39
4	30%	18.100	4.254	1.345	17.09
5	60%	4.500	2.121	0.671	8.66
6	100%	102.267	10.113	3.198	60.92

CHI-SQUARE TEST FOR NORMALITY: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.020	14.520	22.920	14.520	4.020
OBSERVED	4	15	23	15	3

Calculated Chi-Square goodness of fit test statistic = 0.2909
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Bartlett's test for homogeneity of variance
Calculated B1 statistic = 23.50

Table Chi-square value = 15.09 (alpha = 0 01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data FAIL B1 homogeneity test at 0.01 level.

CC-961044 BATTLE CREEK WWTP EFFLUENT
Ceriodaphnia Reproduction Data Analysis (Continued)

STEEL'S MANY-ONE RANK TEST - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT VALUE	df	SIG
1	0.0 CONTROL	24.600				
2	5%	26.900	120.00	75.00	10.00	
3	15%	24.700	101.00	75.00	10.00	
4	30%	24.900	105.00	75.00	10.00	
5	60%	24.500	99.50	75.00	10.00	
6	100%	16.600	79.00	75.00	10.00	

Critical values use k = 5, are 1 tailed, and alpha = 0.05

TOXICITY EVALUATION
Fathead Minnow Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No	CF-961030		Analyst	PG Meier/P Lin/D Pascual
Toxicant	Battle Creek WWTP Effluent		Test Dates	10/23/96 - 10/30/96
Sample Type	24 Hr Composite			
			Client	City of Battle Creek

		Day						
		0	1	2	3	4	5	6
Temperature (oC)		24	24	25	25	25	25	25
D O (mg/l)	Initial	8 4	8 4	8 3	8 4	8 4	8 3	8 4
	Final	6 7	6 4	6 3	4 5	5 2	5 8	6 2
pH	Initial	8 1	8 0	8 0	8 0	8 0	8 0	8 0
	Final	6 4	7 3	7 4	7 1	5 7	6 0	5 8
Conductivity (umhos/cm)		300	300	300	290	300	290	290
Hardness (mg/l CaCO3)		96	96	96	96	96	96	96
Alkalinity (mg/l CaCO3)		58	58	58	58	58	58	58

Conc	5%	Day						
		0	1	2	3*	4	5	6*
Temperature (oC)		24	24	25	25	25	25	25
D O (mg/l)	Initial	8 5	8 2	8 3	8 4	8 4	8 2	8 4
	Final	6 2	6 7	5 1	6 2	5 7	5 6	5 7
pH	Initial	8 0	8 0	8 0	7 9	7 9	8 0	8 0
	Final	6 4	7 5	7 4	7 4	5 7	6 0	5 8
Conductivity (umhos/cm)		360	370	380	370	360	370	360

Conc	15%	Day						
		0	1	2	3	4	5	6
Temperature (oC)		24	24	25	24	25	24	25
D O (mg/l)	Initial	8 5	8 3	8 3	8 3	8 4	8 2	8 5
	Final	6 3	7 1	4 6	4 9	5 9	6 7	6 2
pH	Initial	7 9	8 0	7 9	7 8	7 9	7 9	7 9
	Final	6 4	7 5	7 4	7 4	5 7	6 0	5 8
Conductivity (umhos/cm)		490	470	480	510	540	520	480

Conc	30%	Day						
		0	1	2	3	4	5	6
Temperature (oC)		24	24	25	24	25	25	25
D O (mg/l)	Initial	8 5	8 6	8 4	8 4	8 4	8 4	8 3
	Final	6 4	6 6	6 2	4 8	5 5	6 3	6 9
pH	Initial	7 8	7 9	7 9	7 7	7 8	7 9	7 8
	Final	6 4	7 7	7 6	7 6	5 7	6 0	5 8
Conductivity (umhos/cm)		660	660	660	670	680	700	680

*New supply of effluent 10/25/96 and 10/29 96

Date of Sample	10/21/96 - 10/22/96	Residual Chlorine	None Detected
Date of Sample	10/24/96 - 10/25/96	Residual Chlorine	None Detected
Date of Sample	10/27/96 - 10/28/96	Residual Chlorine	None Detected

Arrival Temperature	1 ° C
Arrival Temperature	3 ° C
Arrival Temperature	1 ° C

Test No: CF-961030
Toxicant: Battle Creek WWTP Effluent

Conc:	60%	Day						
		0	1	2	3	4	5	6
Temperature (oC)		24	24	25	25	25	25	25
D.O. (mg/l)	Initial	8.4	8.6	8.5	8.4	8.3	8.4	8.5
	Final	7.6	6.4	6.0	4.9	5.6	5.3	5.5
pH	Initial	7.7	7.9	7.8	7.6	7.6	7.8	7.9
	Final	6.3	7.8	8.0	7.8	5.7	6.0	5.8
Conductivity (umhos/cm)		1030	1020	1000	1030	1020	1100	1090

Conc:	100%	Day						
		0	1	2	3	4	5	6
Temperature (oC)		24	25	25	25	25	25	25
D.O. (mg/l)	Initial	8.5	8.6	8.4	8.4	8.4	8.3	8.4
	Final	7.3	7.2	5.9	4.6	5.6	5.6	5.9
pH	Initial	7.6	7.8	7.9	7.5	7.5	7.7	7.6
	Final	6.3	8.1	8.2	8.0	5.7	6.0	5.8
Conductivity (umhos/cm)		1400	1470	1480	1570	1560	1600	1610
Hardness (mg/l CaCO3)		420	420	420	424	424	424	348
Alkalinity (mg/l CaCO3)		282	282	282	274	274	274	220

TOXICITY EVALUATION
Survival Data for Fathead Minow
Larval Survival and Growth Test

Test No: CF-961030
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 Hr Composite

Analyst: P Lin/D Pascual
Test Start: Date/Time: 10/23/96 - 1500
Test Stop: Date/Time: 10/30/96 - 1630

Client: City of Battle Creek

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
Control Moderately Hard Water	A	10	10	10	10	10	10	10	10	5.44	0.54
	B	10	10	10	10	10	9	9	9	4.98	0.55
	C	10	10	10	10	10	10	9	9	4.34	0.48

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
5%	A	10	10	10	10	10	9	9	9	5.04	0.56
	B	10	10	10	10	10	10	10	10	5.41	0.54
	C	10	10	10	10	9	9	9	9	4.81	0.53

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
15%	A	10	10	10	10	10	10	10	10	5.60	0.56
	B	10	10	10	10	10	10	10	10	5.38	0.54
	C	10	10	10	10	9	9	9	9	4.53	0.50

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
30%	A	10	10	10	10	10	10	10	10	5.69	0.57
	B	10	10	10	10	9	9	9	9	4.38	0.49
	C	10	10	10	10	9	9	9	9	4.96	0.55

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
60%	A	10	10	10	10	10	10	10	9	4.47	0.50
	B	10	10	10	10	10	10	9	9	4.12	0.46
	C	10	10	10	10	10	10	10	10	5.40	0.54

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
100%	A	10	10	10	10	8	8	8	8	4.09	0.51
	B	10	10	10	10	10	10	10	10	4.98	0.50
	C	10	10	10	10	10	10	10	9	4.28	0.48

CF-961030 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Survival Data Analysis

Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	3	1.249	1.412	1.303
2	5%	3	1.249	1.412	1.303
3	15%	3	1.249	1.412	1.358
4	30%	3	1.249	1.412	1.303
5	60%	3	1.249	1.412	1.303
6	100%	3	1.249	1.412	1.303

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	0.009	0.094	0.054	7.22
2	5%	0.009	0.094	0.054	7.22
3	15%	0.009	0.094	0.054	6.93
4	30%	0.009	0.094	0.054	7.22
5	60%	0.009	0.094	0.054	7.22
6	100%	0.009	0.094	0.054	7.22

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 0.106

W = 0.747

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data FAIL normality test at P=0.01 level.

WILCOXON'S RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT VALUE	REPS	SIG
1	0.0 CONTROL	1.303				
2	5%	1.303	10.50	None	3	
3	15%	1.358	12.00	None	3	
4	30%	1.303	10.50	None	3	
5	60%	1.303	10.50	None	3	
6	100%	1.303	10.50	None	3	

Critical values use k = 5, are 1 tailed, and alpha = 0.05

CF-961030 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Growth Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	3	0.480	0.550	0.523
2	5%	3	0.530	0.560	0.543
3	15%	3	0.500	0.560	0.533
4	30%	3	0.490	0.570	0.537
5	60%	3	0.460	0.540	0.500
6	100%	3	0.480	0.510	0.497

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	0.001	0.038	0.022	7.23
2	5%	0.000	0.015	0.009	2.81
3	15%	0.001	0.031	0.018	5.73
4	30%	0.002	0.042	0.024	7.76
5	60%	0.002	0.040	0.023	8.00
6	100%	0.000	0.015	0.009	3.08

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 0.012

W = 0.936

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 2.95

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level.

CF-961030 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Growth Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.006	0.001	1.124
Within (Error)	12	0.012	0.001	
Total	17	0.018		

Critical F value = 3.11 (0.05,5,12)
Since F < Critical F FAIL TO REJECT Ho: All equal

DUNNETT'S TEST

				Ho:Control<Treatment	
GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 CONTROL	0.523	0.523		
2	5%	0.543	0.543	-0.764	
3	15%	0.533	0.533	-0.382	
4	30%	0.537	0.537	-0.509	
5	60%	0.500	0.500	0.891	
6	100%	0.497	0.497	1.019	

Dunnett table value = 2.50 (1 Tailed Value, P=0.05, df=12,5)

APPENDIX B

Summary Reference Test Data
for

Evaluation of Effluent Toxicity of
City of Battle Creek WWTP
2000 W. River Road
Battle Creek, Michigan 49015

October 23 - 30, 1996

NPDES Permit No. MI 0022276

By:

Peter G. Meier, Ph.D.
School of Public Health
The University of Michigan
Ann Arbor, Michigan 48109

November 6, 1996

1.0 INTRODUCTION

This report contains the reference toxicity methods and data interpretation for Ceriodaphnia dubia and Pimephales promelas when exposed to various concentrations of sodium chloride over the seven day period.

2.0 PROCEDURES AND METHODS

A seven day, (three brood) chronic, Ceriodaphnia dubia, static renewal, survival and reproduction test and a seven day, subchronic fathead minnow (Pimephales promelas) static renewal, larval survival and growth tests were employed. Methods as outlined in EPA-600/4-91/002 were followed. The Ceriodaphnia and the fathead minnow test were performed from October 23 - 30, 1996.

2.1 Laboratory Water Supply

A moderately hard water is employed in our facility for daphnids and fish cultures. Preparation of the reconstituted laboratory water is outlined in EPA-600/4-91/002. This water is made up in volumes of 200 l on which water quality parameters are run to check for consistencies between batches. Moderately hard water was used to make up the various concentrations of sodium chloride for exposures of Ceriodaphnia and fatheads.

2.2 Test Organisms

Ceriodaphnia and Pimephales promelas used in these reference experiments were from the same stock as those organisms employed in the effluent toxicity tests and less than 24 hours old.

2.3 Experimental Design

The purpose of this series of tests was to evaluate the "relative sensitivity" of both organisms to our reference toxicant, sodium chloride. Ceriodaphnia were exposed to five different concentrations of NaCl and one control with 10 replicates for each treatment. The larval fatheads were also exposed to five concentrations and one control. Each exposure vessel contained 10 larval fish (less than 24 hr old) and there were three replicates for each level. The fish were fed three times per day. Exposure solutions were replaced daily over the seven day testing period. Routine parameters were measured daily prior to the transfer of organisms to their respective exposure vessels.

3.0 RESULTS AND DISCUSSION

Reference toxicity evaluations with daphnids and fathead minnows began on October 23, 1996. The routine physical-chemical parameters varied little over the testing period (CC-961010R - Initial Chemistries and CF-961010R - Routine Chemical and Physical data). Conductivity increased with increasing NaCl concentrations.

3.1 Ceriodaphnia

Mortality and reproduction data for this organism are presented in Test No. CC-961010R. The survival data were examined with the Fisher's Exact Test which showed a statistically significant daphnid mortality at p = 0.05 in the two highest exposure concentrations.

The reproduction data were normally distributed at the 0.01 alpha level employing the Chi-Square's Test. Daphnid reproduction passed Bartlett's Test for homogeneity of variance at the 0.01 level. A statistically significant difference was found at concentrations of 1.6 g/l of NaCl. Hence, the NOEC is 1.0 g/l of NaCl and the LOEC is 1.6 g/l of NaCl. The chronic value is 1.26 g/l of NaCl.

3.2 Pimephales promelas

The fish survival and growth data are presented in Test No. CF-961010R. The survival data passed the Shapiro-Wilk's and Cochran's Test for normality and homogeneity at p = 0.01 and alpha = 0.05. A statistically significant (p = 0.05) mortality in 4.0 g/l of NaCl was indicated with Dunnett's Test. The growth data passed the Shapiro-Wilk's Test for normality (p = 0.01) and Bartlett's Test for homogeneity (p = 0.01). Dunnett's Test showed a statistically significant (p = 0.05) difference in growth in the 3.0 g/l and above concentrations. Therefore, the NOEC is 2.4 g/l of NaCl and the LOEC is 3.0 g/l of NaCl. The chronic value is 2.68 g/l of NaCl.

4.0 SUMMARY

Separate reference toxicity tests with Ceriodaphnia dubia and Pimephales promelas were carried out with sodium chloride. Both tests proved valid since 80% or greater survival in the controls were achieved after the seven day period. Also, each Ceriodaphnia in the control produced more than 15 live young and each larval fish weighed over 0.25 mg of weight.

The chronic values of 1.26 g/l of NaCl for Ceriodaphnia and 2.68 g/l of NaCl for fathead minnows agree well with previous tests.

Ceriodaphnia Chronic Test
Initial Chemistries

Test No.: CC-961010R Analyst: D Travers
Toxicant: Sodium Chloride Date: 10/10/96 - 10/17/96

		Day 0	1	2	3	4	5	6
Control:		Moderately Hard Water						
Temperature (oC)		24	24	25	25	25	25	24
DO (mg/l)	Initial	8.4	8.4	8.3	8.4	8.4	8.4	8.4
DO (mg/l)	Final	8.3	8.3	8.2	8.3	8.3	8.3	8.3
pH		8.1	8.0	7.9	8 0	7.9	8.0	7.8
Conductivity (umhos/cm)		290	290	290	300	280	280	290
Hardness (mg/CaCO3)		104	104	104	104	104	104	104
Alkalinity (mg/CaCO3)		58	58	58	58	58	58	58
Concentration No 1:		0.6 g/l						
Temperature (oC)		24	24	25	25	25	24	24
DO (mg/l)	Initial	8.4	8.5	8.3	8.3	8.4	8.6	8.4
DO (mg/l)	Final	8.3	8.4	8.2	8.1	8.3	8.3	8.3
pH		8.0	7.9	7.9	8.0	7.9	7.9	7.9
Conductivity (umhos/cm)		1340	1300	1340	1350	1350	1340	1350
Concentration No 2:		1.0 g/l						
Temperature (oC)		24	24	25	25	25	25	24
DO (mg/l)	Initial	8.4	8.5	8.4	8.4	8.5	8.4	8.5
DO (mg/l)	Final	8.3	8.4	8.3	8.3	8.4	8.3	8.4
pH		8.0	7.9	7.8	7.9	7.9	7.9	8.0
Conductivity (umhos/cm)		2100	2000	2070	2100	2100	2100	2100
Concentration No 3:		1.6 g/l						
Temperature (oC)		24	24	25	25	25	25	25
DO (mg/l)	Initial	8.3	8.4	8.4	8.3	8.4	8.4	8.5
DO (mg/l)	Final	8.2	8.3	8.3	8.2	8.3	8.3	8.4
pH		8.0	7.9	7.9	7.9	8.0	7.9	8.0
Conductivity (umhos/cm)		3140	3140	3140	3120	3150	3100	3140
Concentration No. 4:		2.0 g/l						
Temperature (oC)		24	24	25	25	25	24	24
DO (mg/l)	Initial	8.4	8.4	8.4	8.3	8.4	8.5	8.5
DO (mg/l)	Final	8.3	8.3	8.3	8.2	8.3	8.3	8.4
pH		7.9	7.9	7.8	7.9	7.9	7.9	8.0
Conductivity (umhos/cm)		3840	3830	3790	3820	3820	3800	3900
Concentration No. 5:		2.4 g/l						
Temperature (oC)		24	24	—	—	—	—	—
DO (mg/l)	Initial	8.4	8.4	—	—	—	—	—
DO (mg/l)	Final	8 3	8 3	—	—	—	—	—
pH		7 9	7.9	—	—	—	—	—
Conductivity (umhos/cm)		4510	4530	—	—	—	—	—

QUALITY ASSURANCE

Ceriodaphnia Survival and Reproduction Test

Test No. CC-961010R

Toxicant: Sodium Chloride

Analyst: PG Meier/J Huang

est Start - Date/Time: 10/23/96 - 1400

est Stop - Date/Time: 10/30/96 - 1500

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
Moderately Hard Water	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	3 [1]	4 [1]	0	4 [1]	5 [1]	3 [1]	4 [1]	2 [1]	3 [1]	0	28	10	2.8
	5	0	6 [2]	3 [1]	6 [2]	0	8 [2]	8 [2]	6 [2]	0	4 [1]	41	10	4.1
	6	8 [2]	0	7 [2]	0	8 [2]	0	0	0	9 [2]	8 [2]	40	10	4.0
	7	12 [3]	14 [3]	12 [3]	10 [3]	8 [3]	12 [3]	15 [3]	12 [3]	10 [3]	11 [3]	116	10	11.6
	Total	23	24	22	20	21	23	27	20	22	23	225	10	22.5

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
0.6 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	3 [1]	0	3 [1]	4 [1]	4 [1]	0	0	0	2 [1]	16	10	1.6
	5	6 [1]	4 [2]	3 [1]	0	6 [2]	8 [2]	8 [1]	6 [1]	4 [1]	6 [2]	51	10	5.1
	6	6 [2]	12 [3]	8 [2]	7 [2]	0	12 [3]	9 [2]	8 [2]	7 [2]	9 [3]	78	10	7.8
	7	10 [3]	0	14 [3]	11 [3]	13 [3]	0	11 [3]	13 [3]	11 [3]	0	83	10	8.3
	Total	22	19	25	21	23	24	28	27	22	17	228	10	22.8

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	3 [1]	0	4 [1]	4 [1]	3 [1]	4 [1]	2 [1]	4 [1]	3 [1]	4 [1]	31	10	3.1
	5	6 [2]	8 [1]	0	0	0	5 [2]	0	4 [2]	0	6 [2]	29	10	2.9
	6	0	7 [2]	10 [2]	7 [2]	8 [2]	0	8 [2]	0	7 [2]	12 [3]	59	10	5.9
	7	12 [3]	11 [3]	11 [3]	11 [3]	9 [3]	15 [3]	11 [3]	12 [3]	9 [3]	0	101	10	10.1
	Total	21	26	25	22	20	24	21	20	19	22	220	10	22.0

Ceriodaphnia Survival and Reproduction Test

Test No. CC-961010R
Toxicant: Sodium Chloride

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
1.8 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	3	0	4	0	3	0	4	3	0	17	10	1.7
	5	3	0	8	0	0	0	0	8	0	4	23	10	2.3
	6	0	4	0	8	6	8	4	0	6	8	44	10	4.4
	7	9	6	10	0	4	0	11	6	12	11	69	10	6.9
	Total	12	13	18	12	10	11	15	18	21	23	153	10	15.3

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	0	2	3	4	0	0	3	0	2	14	10	1.4
	5	x	4	0	0	0	x	x	4	6	x	14	6	2.3
	6		0	7	5	6			0	8		26	6	4.3
	7		6	0	6	9			8	0		29	6	4.8
	Total	0	10	9	14	19	0	0	15	14	2	83	6	12.9

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
2.4 g/l	1	x	0	x	x	x	x	0	0	0	0	0	5	0.0
	2		x					x	x	0	x	0	1	0.0
	3									x		0	0	0.0
	4											0	0	0.0
	5											0	0	0.0
	6											0	0	0.0
	7											0	0	0.0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0.0

CC-961010-R REFERENCE TOXICITY TEST
Ceriodaphnia Reproduction Data Analysis

SUMMARY OF FISHER'S EXACT TESTS

GROUP	IDENTIFICATION	NUMBER EXPOSED	NUMBER DEAD	SIG (P=.05)
	CONTROL	10	10	
1	.6	10	10	
2	1.0	10	10	
3	1.6	10	10	
4	2.0	10	6	*
5	2.4	10	0	*

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	10	4.000	27.000	20.500
2	.6	10	17.000	28.000	22.800
3	1.0	10	19.000	26.000	22.000
4	1.6	10	10.000	23.000	15.300

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	37.611	6.133	1.939	29.92
2	.6	11.511	3.393	1.073	14.88
3	1.0	5.333	2.309	0.730	10.50
4	1.6	20.011	4.473	1.415	29.24

CHI-SQUARE TEST FOR NORMALITY: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	2.680	9.680	15.280	9.680	2.680
OBSERVED	2	10	17	8	3

Calculated Chi-Square goodness of fit test statistic = 0.7065
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 8.22

Table Chi-square value = 11.34 (alpha = 0.01, df = 3)
Table Chi-square value = 7.81 (alpha = 0.05, df = 3)

Data PASS B1 homogeneity test at 0.01 level.

CC-961010-R REFERENCE TOXICITY TEST
Ceriodaphnia Reproduction Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	3	340.900	113.633	6.104
Within (Error)	36	670.200	18.617	
Total	39	1011.100		

Critical F value = 2.92 (0.05,3,30)
Since F > Critical F REJECT Ho: All equal

DUNNETT'S TEST Ho:Control<Treatment

GRP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 CONTROL	20.500	20.500		
2	.6	22.800	22.800	-1.192	
3	1.0	22.000	22.000	-0.777	
4	1.6	15.300	15.300	2.695	*

Dunnett table value = 2.15 (1 Tailed Value, P=0.05, df=30,3)

QUALITY ASSURANCE
Fathead Minnow and Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No: CF-961010R
Toxicant: Sodium Chloride

Analyst: D Travers/PG Meier
Test Dates: 10/23/96 - 10/30/96

Laboratory Control: Moderately Hard Water		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	25	25	25	24	24
D.O.	Initial	8.4	8.4	8.4	8.4	8.4	8.5	8.4
mg/l	Final	4.5	4.6	5.0	4.6	4.5	4.5	5.3
pH	Initial	8.2	8.1	8.1	8.0	8.0	7.9	7.9
	Final	7.1	7.2	7.2	7.2	7.3	7.1	7.2
Conductivity (umhos/cm)		290	290	290	290	300	290	280
Hardness (mg/l CaCO3)		96	96	96	96	96	96	96
Alkalinity (mg/l CaCO3)		58	58	58	58	58	58	58

Conc: 2.0 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	25	24	25	24	24
D.O.	Initial	8.4	8.4	8.3	8.4	8.4	8.5	8.4
mg/l	Final	5.6	6.4	6.2	5.7	4.6	6.1	6.8
pH	Initial	8.0	8.0	7.9	7.9	7.9	7.9	7.9
	Final	7.2	7.4	7.3	7.3	7.3	7.3	7.5
Conductivity (umhos/cm)		3710	3740	3680	3520	3600	3680	3450

Conc: 2.4 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	25	24	25	25	24
D.O.	Initial	8.4	8.5	8.4	8.4	8.4	8.5	8.4
mg/l	Final	5.5	6.8	6.1	6.1	4.8	6.3	6.8
pH	Initial	8.0	8.0	7.9	7.9	7.9	7.9	7.9
	Final	7.1	7.5	7.3	7.3	7.3	7.3	7.5
Conductivity (umhos/cm)		4360	4140	4320	4510	4400	4480	4400

Conc: 3.0 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	25	24	25	25	24
D.O.	Initial	8.4	8.5	8.4	8.4	8.4	8.5	8.4
mg/l	Final	5.5	6.8	6.1	6.1	4.8	6.3	6.8
pH	Initial	8.0	8.0	7.9	7.9	7.9	7.9	7.9
	Final	7.1	7.5	7.3	7.3	7.3	7.3	7.5
Conductivity (umhos/cm)		5360	5440	5320	5570	5630	5540	5450

Conc: 3.4 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	24	25	25	24	24
D.O.	Initial	8.4	8.4	8.4	8.4	8.4	8.4	8.4
mg/l	Final	5.7	6.2	6.3	5.9	5.1	6.3	7.2
pH	Initial	8.0	8.0	7.9	7.8	7.9	7.9	7.9
	Final	7.1	7.4	7.4	7.4	7.3	7.3	7.6
Conductivity (umhos/cm)		6140	6100	6100	5710	6200	6190	6070

Conc: 4.0 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	24	25	25	24	24
D.O.	Initial	8.4	8.4	8.5	8.5	8.5	8.4	8.3
mg/l	Final	5.8	6.0	5.9	5.8	5.3	6.6	6.8
pH	Initial	8.0	8.0	7.9	7.8	7.9	7.9	7.9
	Final	7.1	7.3	7.3	7.3	7.3	7.3	7.5
Conductivity (umhos/cm)		7100	7020	7100	6600	6940	6800	7230

Survival Data for Fathead Minnow
Larval Survival and Growth Test

Test No: CF-961010R

Toxicant: Sodium Chloride

Analyst: D Travers

Test Start: Date/Time: 10/23/96 - 1100

Test Stop: Date/Time: 10/30/96 - 1800

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
Control Moderately Hard Water	A	10	10	10	10	10	10	10	10	5.00	0.50
	B	10	10	10	10	9	9	9	9	4.44	0.49
	C	10	10	10	10	10	10	10	9	4.22	0.47

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
2.0 g/l	A	10	10	10	10	10	9	9	9	4.04	0.45
	B	10	10	10	10	10	9	9	9	4.40	0.49
	C	10	10	10	10	10	10	10	10	4.35	0.44

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
2.4 g/l	A	10	10	10	10	10	10	10	9	4.50	0.50
	B	10	10	10	10	10	10	10	10	5.13	0.51
	C	10	10	10	10	10	10	10	10	5.11	0.51

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
3.0 g/l	A	10	10	10	10	10	10	9	9	3.69	0.41
	B	10	10	10	10	10	10	9	9	3.87	0.43
	C	10	10	10	10	10	10	8	8	2.93	0.37

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
3.4 g/l	A	10	10	10	10	10	10	10	9	3.45	0.38
	B	10	10	10	10	10	10	8	7	2.40	0.34
	C	10	10	10	10	10	10	10	9	3.37	0.37

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
4.0 g/l	A	10	10	10	10	10	10	9	4	1.39	0.35
	B	10	10	10	10	10	10	9	2	0.82	0.41
	C	10	10	10	9	9	9	9	3	0.72	0.24

CF-961010-R REFERENCE TEST
Fathead Minnow Larval Survival Data Analysis

Transform: ARC SINE(SQUARE ROOT(Y))

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	3	0.900	1.000	0.933
2	2.0	3	0.900	1.000	0.933
3	2.4	3	0.900	1.000	0.967
4	3.0	3	0.800	0.900	0.867
5	3.4	3	0.700	0.900	0.833
6	4.0	3	0.200	0.400	0.300

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	0.003	0.058	0.033	6.19
2	2.0	0.003	0.058	0.033	6.19
3	2.4	0.003	0.058	0.033	5.97
4	3.0	0.003	0.058	0.033	6.66
5	3.4	0.013	0.115	0.067	13.86
6	4.0	0.010	0.100	0.058	33.33

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 0.135

W = 0.911

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level. Continue analysis.

COCHRAN'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 0.82

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level.

CF-961010-R REFERENCE TEST
Fathead Minnow Larval Survival Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.956	0.191	31.291
Within (Error)	12	0.073	0.006	
Total	17	1.029		

Critical F value = 3.11 (0.05,5,12)
Since F > Critical F REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 CONTROL	0.933	0.933		
2	2.0	0.933	0.933	0.000	
3	2.4	0.967	0.967	-0.522	
4	3.0	0.867	0.867	1.044	
5	3.4	0.833	0.833	1.567	
6	4.0	0.300	0.300	9.922	*

Dunnett table value = 2.50 (1 Tailed Value, P=0.05, df=12,5)

CF-961010-R REFERENCE TEST
Fathead Minnow Larval Growth Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 CONTROL	3	0.470	0.500	0.487
2	2.0	3	0.440	0.490	0.470
3	2.4	3	0.500	0.510	0.507
4	3.0	3	0.370	0.430	0.403
5	3.4	3	0.340	0.380	0.363

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 CONTROL	0.000	0.015	0.009	3.14
2	2.0	0.001	0.026	0.015	5.63
3	2.4	0.000	0.006	0.003	1.14
4	3.0	0.001	0.031	0.018	7.57
5	3.4	0.000	0.021	0.012	5.73

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 0.005

W = 0.926

Critical W (P = 0.05) (n = 15) = 0.881
Critical W (P = 0.01) (n = 15) = 0.835

Data PASS normality test at P=0.01 level.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 3.85

Table Chi-square value = 13.28 (alpha = 0.01, df = 4)
Table Chi-square value = 9.49 (alpha = 0.05, df = 4)

Data PASS B1 homogeneity test at 0.01 level.

CF-961010-R REFERENCE TEST
Fathead Minnow Larval Growth Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	4	0.044	0.011	23.407
Within (Error)	10	0.005	0.000	
Total	14	0.048		

Critical F value = 3.48 (0.05,5,12)
Since F > Critical F REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 CONTROL	0.487	0.487		
2	2.0	0.470	0.470	0.945	
3	2.4	0.507	0.507	-1.134	
4	3.0	0.403	0.403	4.725	*
5	3.4	0.363	0.363	6.992	*

Dunnett table value = 2.47 (1 Tailed Value, P=0.05, df=10,4)

APPENDIX C

DMR-QA Study 16
TOXICITY LABORATORY DATA

Analyte Name	EPA Use	Analyte No.	USEPA Laboode	Toxicity Analyte	Method Code	</>	Quantity
WHOLE EFFLUENT TOXICITY DATA (as % of the sample ready for analysis)							
Fathead Minnow Acute MHSF 20° - LC50	TT	752	4 8 1 0 9 0 0		1 1		4 4 . 6 0
Fathead Minnow Acute MHSF 25° - LC50	TT	754			1 3		
Fathead Minnow Acute 20% DMW 25° - LC50	TT	755			1 4		
Fathead Minnow Chronic MHSF - Survival NOEC	TT	756	4 8 1 0 9 0 0		1 5		2 5 . 0 0
Fathead Minnow Chronic MHSF - Growth IC25	TT	757	4 8 1 0 9 0 0		1 5		5 3 . 7 0
Fathead Minnow Chronic MHSF - Growth NOEC	TT	758	4 8 1 0 9 0 0		1 5		2 5 . 0 0
Fathead Minnow Chronic 20% DMW - Survival NOEC	TT	759			1 6		
Fathead Minnow Chronic 20% DMW - Growth IC25	TT	760			1 6		
Fathead Minnow Chronic 20% DMW - Growth NOEC	TT	761			1 6		
Ceriodaphnia Acute MHSF 20° - LC50	TT	762			1 7		
Ceriodaphnia Acute 20% DMW 20° - LC50	TT	763			1 8		
Ceriodaphnia Acute MHSF 25° - LC50	TT	764	4 8 1 0 9 0 0	x	1 9		3 0 . 4 0
Ceriodaphnia Acute 20% DMW 25° - LC50	TT	765			2 0		
Ceriodaphnia Chronic MHSF - Survival NOEC	TT	766	4 8 1 0 9 0 0		2 1		5 0 . 0 0
Ceriodaphnia Chronic MHSF - Reproduction IC25	TT	767	4 8 1 0 9 0 0		2 1		3 2 . 0 0
Ceriodaphnia Chronic MHSF - Reproduction NOEC	TT	768	4 8 1 0 9 0 0		2 1		2 5 . 0 0
Ceriodaphnia Chronic 20% DMW - Survival NOEC	TT	769			2 2		
Ceriodaphnia 20% DMW - Reproduction IC25	TT	770			2 2		
Ceriodaphnia 20% DMW - Reproduction NOEC	TT	771			2 2		
Daphnia Magna Acute MHSF 20° - LC50	TT	788	4 8 1 0 9 0 0		3 2		1 8 . 6 0
Daphnia Pulex Acute MHSF 20° - LC50	TT	792			3 6		
Daphnia Pulex Acute MHSF 25° - LC50	TT	794			3 8		
Mysid Acute 40 F 20° - LC50	TT	798			4 2		
Mysid Acute 40 F 20° - Survival NOEC	TT	799			4 3		
Mysid Acute 40 F 20° - Growth IC25	TT	800			4 3		
Mysid Acute 40 F 20° - Growth NOEC	TT	801			4 3		
Mysid Acute 40 F 20° - LC50	TT	803			4 4		
Sheepshead Minnow Acute 40 F 20°	TT	804			4 6		
Sheepshead Minnow Chronic 40 F 20° - Survival NOEC	TT	805			4 7		
Sheepshead Minnow Chronic 40 F 20° - Growth IC25	TT	806			4 7		
Sheepshead Minnow Chronic 40 F 20° - Growth NOEC	TT	807			4 7		

(EPA-421 (cln), Rev 3-96 Previous editions are obsolete

APPENDIX D

CHAIN-OF-CUSTODY RECORD

Institute of Environmental and Industrial Health Laboratory, School of Public Health I, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
BATTLE CREEK WASTEWATER TREATMENT PLANT	9000 W. RIVER RD BATTLE CREEK, MI 49015	(616) 966-3513
CONTRACTOR	**ADDRESS**	**PHONE #**
CONTACT PERSON	**PHONE #**	
~~MAYNE G. ANDREWS~~ CHAS KOSMOWSKI	(616) 966-3513 EXT ~~259~~ 233	
SAMPLER	**SAMPLER SIGNATURE**	
BRIAN F FRY	Brian F Fry	

SAMPLE NUMBER	If composite, please indicate starting and stopping date and time: DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	ANALYSIS DESIRED: Chronic & Acute Toxicity Testing	REMARKS
013	10-21-96 TO 10-22-96	7:30am To 7:30a	X		Final Effluent (ReChlorinated)	2	X	(Ammonia ≃ 0.1 to 0.5 ppm)

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
Peter L Meier	1°C	
DATE OF RECEIPT: 10/23/96	RESIDUAL CHLORINE (ug Cl2/L): N.D	
TIME OF RECEIPT: 1100		

CHAIN-OF-CUSTODY RECORD

Institute of Environmental and Industrial Health Laboratory, School of Public Health 1, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
BATTLE CREEK WWTP	2000 W. RIVER RD BATTLE CREEK, MI 49015	(616) 966-3513
CONTRACTOR	**ADDRESS**	**PHONE #**
CONTACT PERSON	**PHONE #**	
Chris Kosmowski	(616) 966-3513 XT 233	
SAMPLER	**SAMPLER SIGNATURE**	
BRIAN FFRY	Brian Ffry	

ANALYSIS DESIRED

SAMPLE NUMBER	if composite, please indicate starting and stopping date and time: DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	Acute/Chronic Whole Effluent Toxicity					REMARKS
2 of 3	10/24/96 TO 10/25/96	8:00a TO 8:00a	X		Dechlorinated Final Effluent	2	✓					(Ammonia = 0.19 mg/L

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
Peter A. Muir	3°C	
DATE OF RECEIPT: 10/26/96	RESIDUAL CHLORINE (ug Cl2/L): N.D	
TIME OF RECEIPT: 1030		

CHAIN-OF-CUSTODY RECORD

Institute of Environmental and Industrial Health Laboratory, School of Public Health 1, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
City of Battle Creek WWTP	2000 W. River Rd Battle Creek, MI 49015	(616) 966-3513
CONTRACTOR	**ADDRESS**	**PHONE #**
CONTACT PERSON	**PHONE #**	
Chris Kosmowski	(616) 966-3513 XT 233	
SAMPLER	**SAMPLER SIGNATURE**	
Brian F Fry	Brian F Fry	

ANALYSIS DESIRED

SAMPLE NUMBER	if composite, please indicate starting and stopping date and time: DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	Acute & Chronic Whole Effluent Toxicity ✓					REMARKS
3 of 3	10-27-96 10-28-96	10 am 10 7:00 am	X		Dechlorinated Final Effluent	1						ammonia ~ 0.2 mg/L

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
Peter G. Meier	1 °C	
DATE OF RECEIPT: 10/29/96	**RESIDUAL CHLORINE (ug Cl2/L):** ND	
TIME OF RECEIPT: 1030		

The University of Michigan

SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF ENVIRONMENTAL
AND INDUSTRIAL HEALTH

109 OBSERVATORY STREET
ANN ARBOR, MICHIGAN 48109-2029
U.S.A.

December 31, 1996

Ms. Christine Kosmowski
City of Battle Creek WWTP
2000 West River Road
Battle Creek, MI 49015-1181

Dear Ms. Kosmowski:

Please find enclosed a copy of the biomonitoring report for your wastewater treatment facility. If you have any questions, please let me know. Thank you.

Sincerely,

Peter G. Meier

Peter G. Meier, Ph.D.

Evaluation of Effluent Toxicity of City of Battle Creek WWTP 2000 W. River Road Battle Creek, Michigan 49015

December 16 - 23, 1996

NPDES Permit No. MI 0022276

By:

Peter G. Meier, Ph.D.
School of Public Health
The University of Michigan
Ann Arbor, Michigan 48109

December 31, 1996

1.0 INTRODUCTION

Battle Creek WWTP (BC-WWTP) is submitting its biomonitoring results for assessing the aquatic toxicity of their effluent as required in Rule 57 of the Michigan Water Quality Standards. As part of the NPDES Permit No. MI 0022276, this report outlines procedures for specific toxicity testing, data evaluation, QA/QC criteria and report content. Testing was carried out by the Institute of Environmental and Industrial Health, The University of Michigan. Toxicity evaluation with Ceriodaphnia dubia and the fathead minnow (Pimephales promelas) was completed in December of 1996.

2.0 PROCEDURES AND METHODS

The seven day (three brood), chronic, Ceriodaphnia dubia static renewal, survival and reproduction test was one of the methods employed in the evaluation of BC-WWTP's effluent. In addition, the seven day, subchronic, fathead minnow (Pimephales promelas), static renewal, larval survival and growth test was also employed. The procedures followed are contained in EPA/600/4-91/002, Short-Term Methods for Estimation of the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. A summary of recommended test conditions for the waterflea and fathead minnow is found in Tables 1 and 2, respectively.

2.1 Laboratory Water Supply

A moderately hard water for daphnid and fathead cultures and maintenance is employed in our facility. Preparation of the reconstituted laboratory water is outlined in EPA/600/4-91/002. This water is made up in volumes of 200 l on which water quality parameters are run to check for consistencies between batches. This moderately hard water was employed as the laboratory control and in the preparation of exposure concentrations.

2.2 Test Organisms

Ceriodaphnia dubia are kept in the Institute's facilities. The original stock was obtained from U.S. EPA, the Newtown facility over two years ago. Mass and individual Ceriodaphnia cultures are maintained according to EPA/600/4-91/002 and fed a combination of Yeast, Cerophyll^{R} and Salmon Starter (YCS) and the unicellular alga, Selenastrum capricornutum, whereas larval fish are fed 24 hr old brine shrimp. Larval fathead minnows were obtained from Aquatox Inc., Arkansas for this evaluation.

TABLE 1 SUMMARY OF RECOMMENDED EFFLUENT TOXICITY TEST CONDITIONS FOR THE CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST

1.	Test Type:	Static renewal
2.	Temperature (^{o}C):	25 ± 1°C
3.	Light quality:	Ambient laboratory illumination
4.	Light intensity:	10-20 uE/m^{2}/s or 50-100 ft-c (ambient laboratory levels)
5.	Photoperiod:	16 h light, 8 h darkness
6.	Test chamber size:	30 mL
7.	Test solution volume:	15 mL
8.	Renewal of test solutions:	Daily
9.	Age of test organisms:	Less than 24 h and all released within a 8 h period
10.	No. neonates per test chamber:	1
11.	No. replicate test chambers per concentration:	10
12.	No. neonates per test concentration:	10
13.	Feeding regime:	Feed 0.1 mL each of YCS and algal suspension per test chamber daily.
14.	Aeration:	None
15.	Dilution water:	Moderately hard synthetic water is prepared using MILLIPORE MILLI-Q^{R} or equivalent deionized water and reagent grade chemicals or 20% DMW (see Section 7).
16.	Effluent concentration:	Minimum of 5 effluent concentrations and a control.

Test Method 1002.0. EPA Publication 600/4-91/002 (July, 1994).

TABLE 2 SUMMARY OF RECOMMENDED EFFLUENT TOXICITY TEST CONDITIONS FOR THE FATHEAD MINNOW (PIMEPHALES PROMELAS) LARVAL SURVIVAL AND GROWTH TEST

1.	Test Type:	Static renewal
2.	Temperature (^{o}C):	25 $\pm$ 1°C
3.	Light quality:	Ambient laboratory illumination
4.	Light intensity:	10-20 uE/m^{2}/s (50-100 ft-c) (ambient laboratory levels)
5.	Photoperiod:	16 h light, 8 h darkness
6.	Test chamber size:	600 mL glass beakers
7.	Test solution volume:	250 mL/replicate
8.	Renewal of test concentrations:	Daily
9.	Age of test organisms:	Newly hatched larvae less than 24 hr old
10.	No. of larvae per test chamber:	10
11.	No. replicate chambers per concentration:	3
12.	No. larvae per concentration:	30
13.	Feeding regime:	Feed 0.2 mL newly hatched (less than 24 h old) brine shrimp nauplii three times daily at 4 h intervals or, as a minimum, 0.30 mL twice daily, 6 hr between feedings (at the beginning of the work day prior to renewal, and at the end of the work day following renewal). Larvae are not fed during the final 12 h of the test
14.	Cleaning:	Siphon daily, immediately before test solution renewal
15.	Aeration:	None, unless DO concentration falls below 40% saturation. Rate should not exceed 100 bubbles/min

Test Method 1000.0. EPA Publication 600/4-91/002 (July, 1994).

2.3 Effluent Collection

Battle Creek WWTP personnel collected three 24-hour composite samples from outfall 001 for this set of chronic seven-day tests (12/12 - 12/13/96, 12/15 - 12/16/96 and 12/18 - 12/19/96). The samples were shipped in coolers containing adequate ice to ensure sample integrity. No residual chlorine was found in any of the composite samples. The temperature of the respective samples upon arrival was 1°C, 3°C and 2°C. All samples were stored in a refrigerator (4°C) until used.

2.4 Experimental Design

The aim of these chronic tests was to evaluate the potential toxicity of BC-WWTP's effluent. With this objective in mind, standard testing procedures as summarized in Tables 1 and 2 were employed. Five effluent concentrations (100%, 60%, 30%, 15% and 5%) and a laboratory control were set up. Laboratory water was employed as the diluent.

Thirty Ceriodaphnia adults were placed individually in cups containing food and dilution water approximately 16 hours before initiation of the test. Babies from broods of ten or more individuals were pooled and used for this experiment. Prior to start up of the exposures, designated concentrations of one liter effluent were prepared utilizing laboratory water as a diluent. Once accomplished, appropriate water quality parameters were measured and recorded for each concentration (Appendix A: Initial Chemistry - New). Then approximately 15 ml of the designated mixture were poured into prelabeled 30 ml cups containing 0.1 ml of YCS and 0.1 ml of Selenastrum. After this step, a 16 hour or younger neonate was transferred to each of the 60 plastic cups at random. Ten replicates per concentration were employed. Cups were placed in a rack and transferred to an incubator (25 $\pm$ 1°C). The light cycle was 16 hrs on and 8 hrs off. After 24 hours, each cup was checked for survival and/or immobility/mortality. The number of survivors was reported on data sheets (Appendix A: Ceriodaphnia Survival and Reproduction Test). The respective concentrations were renewed daily and the surviving daphnids were transferred. Live young, usually produced after day 3, were counted and also recorded on the data sheet. This procedure was repeated daily through day 7, at which point the test was terminated. Biological endpoints for this test consisted of immobility/mortality and production of live young. The validity of the test was based on greater than 80% survival and 15 or more live young produced per adult in the controls. If these criteria were not achieved, then the test would have been repeated.

In the fathead test, 10 larval fish (less than 24 hrs old) were placed at random in each of the 18 glass beakers (600 ml capacity) containing 250 ml of varying concentrations of effluent and respective controls. One tenth ml of 24 hr old brine shrimp

was also added to each exposure chamber. Prior to this transfer, water quality parameters were measured and recorded on the data sheet for each concentration (Appendix A: Routine chemical and physical data sheet for fish larval test). Three replicates of 10 larval fish for each of the five concentrations and laboratory control were employed. Exposure containers were placed in a temperature controlled room (25 $\pm$ 1°C). Larval fish were fed three times per day with brine shrimp. After the 24 hour exposure, the excess food, waste and most of the exposure solution were siphoned. Larval fish (survivors) were counted and recorded; whereas, dead ones were removed (Appendix A: Survival Data Sheet). The new exposure mixture was then carefully poured into each of the beakers and 0.2 ml of brine shrimp were also added. Exposure vessels were placed back into the temperature controlled room that has a 16 hrs on, 8 hrs off light cycle. This whole procedure was repeated daily through six days. On the seventh day, live fish were killed with 70% ethanol, rinsed and then placed in tared dishes, dried at 60°C for twenty four hours and weighed. Biological endpoints for this test consisted of mortality and growth (increase in weight). This test was considered valid if greater than 80% survival and more than 0.25 mg of biomass per fish was observed in the controls over the seven day test period. If these two criteria were not met, then the test would have been repeated.

2.5 Standard Reference Toxicity Test

The purpose of this series of experiments is important for two reasons. First of all, a reference test will monitor over time the relative sensitivity of laboratory organisms. Results on their respective EC_{50} and LC_{50} values for acute exposures and LOEC and NOEC for chronic tests will provide information on physiological changes which affect tolerances. This is of particular importance with daphnids (Ceriodaphnia) due to their relatively short generation time. Secondly, the reference test is part of the QA/QC program which provides a tool to evaluate the ability of the laboratory to generate reproducible results (Appendix B). Also, this laboratory participated in the DMR-QA Laboratory Evaluation Study and these results are presented in Appendix C.

2.6 Statistical Analysis

Mortality-immobility data were analyzed employing Fisher's test. If statistically significant immobility was observed in one concentration then this treatment was excluded from further analysis. The remaining exposure solutions were then examined for reproduction impairement. Nontransformed Ceriodaphnia reproduction data were initially evaluated for normality and homogeneity employing the Chi-Square and Bartlett's Tests. Dunnett's Procedure was then utilized in exposure solutions without significant mortality to determine whether there was a significant difference in daphnid reproduction between various effluent concentrations and the control (Figure 1).

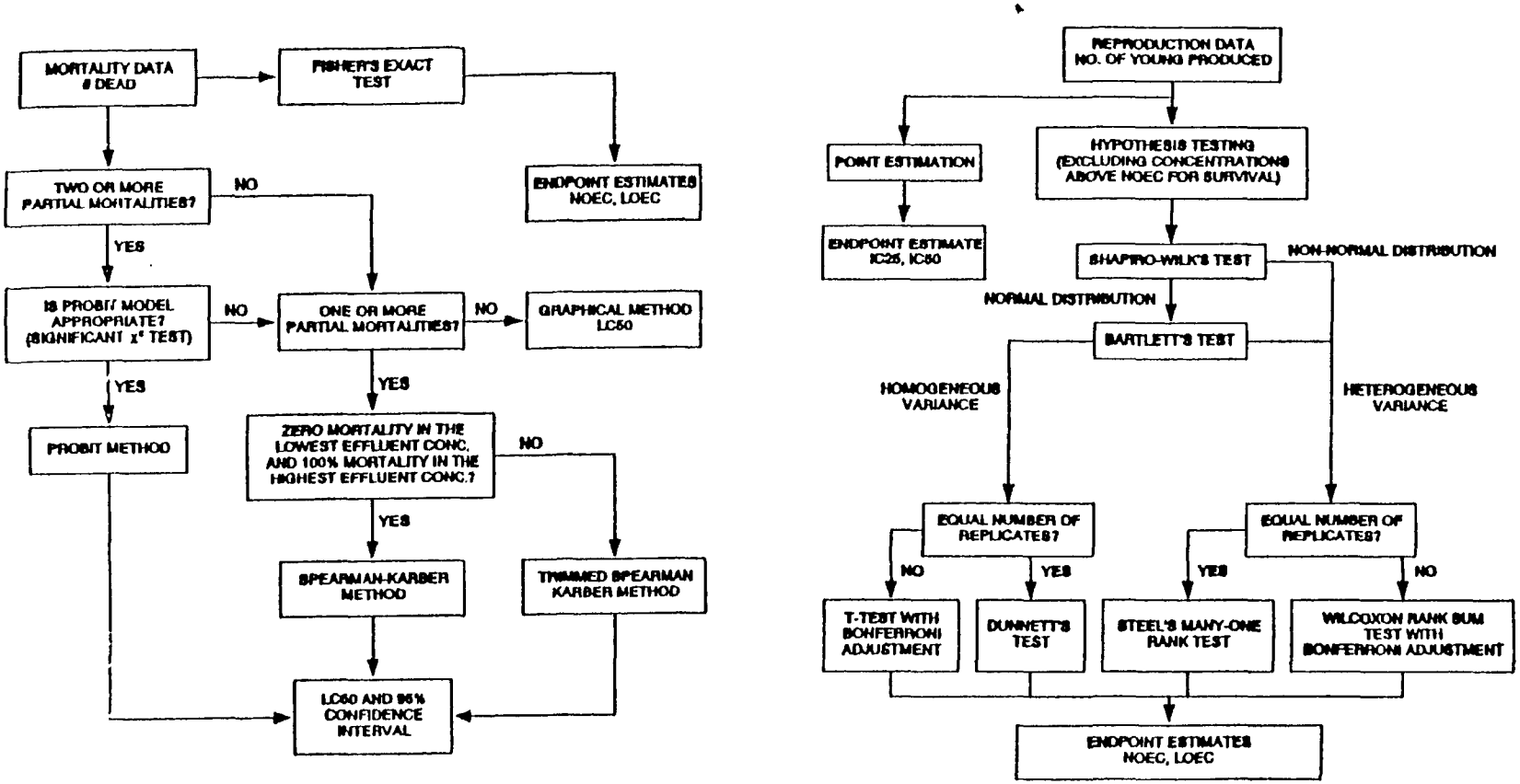


FIGURE 1 Flowcharts for the statistical analysis of the daphnid, Ceriodaphnia dubia, survival and reproduction data (EPA/600/4-91/002).

Similarly, nontransformed fish survival data were evaluated for normality and homogeneity using the Shapiro-Wilk's and Cochran's Tests, whereas fish growth was discriminated with Bartlett's Test for homogeneity. If passed, then Dunnett's Test was employed for determining significant differences in growth between the control and the various effluent concentrations (Figure 2). The TOXSTAT® 3.4 Program was used in these evaluations.

3.0 RESULTS AND DISCUSSION

Toxicity evaluation of the Battle Creek WWTP effluent was initiated on December 16, 1996 and completed on December 23, 1996. Twenty four hour composite samples collected on three separate occasions were employed in exposing both Ceriodaphnia and fatheads over this seven day period.

Alkalinity and hardness were measured and recorded (Appendix A). The remaining parameters such as conductivity and pH varied little between samples and over time. Dissolved oxygen remained over 50 percent saturation after each 24 hour exposure.

3.1 Ceriodaphnia dubia

The evaluation of BC-WWTP's effluent began on December 16, 1996 and the resulting data are presented in Test No. CC-961250 (Appendix A).

Fisher's Test was used to analyze the daphnid survival data. The results showed no statistically significant ($p = 0.05$) reduction in survival between the five effluent concentrations and the laboratory water control.

The reproduction data passed normality employing Chi-Square Test and homegeneity with Bartlett's Test at $p = 0.01$. There was no statistically significant ($p = 0.05$) difference in reproduction at any effluent concentration when compared to the control. Therefore, the NOEC is 100%. The LOEC and chronic value cannot be calculated.

3.2 Pimephales promelas

The fish survival and growth data are presented in Test No. CF-961235 (Appendix A).

Survival data were passed normality with the Shapiro Wilk's Test at $p = 0.01$ but failed homegeneity with Bartlett's Test. Wilcoxon's Rank Sum Test with Bonferroni Adjustment showed no statistically significant mortality in any concentration. The untransformed fish growth data passed normality and homogenity at $p = 0.01$ using Shapiro-Wilk's and Bartlett's Tests. These data were then analyzed for effects on growth

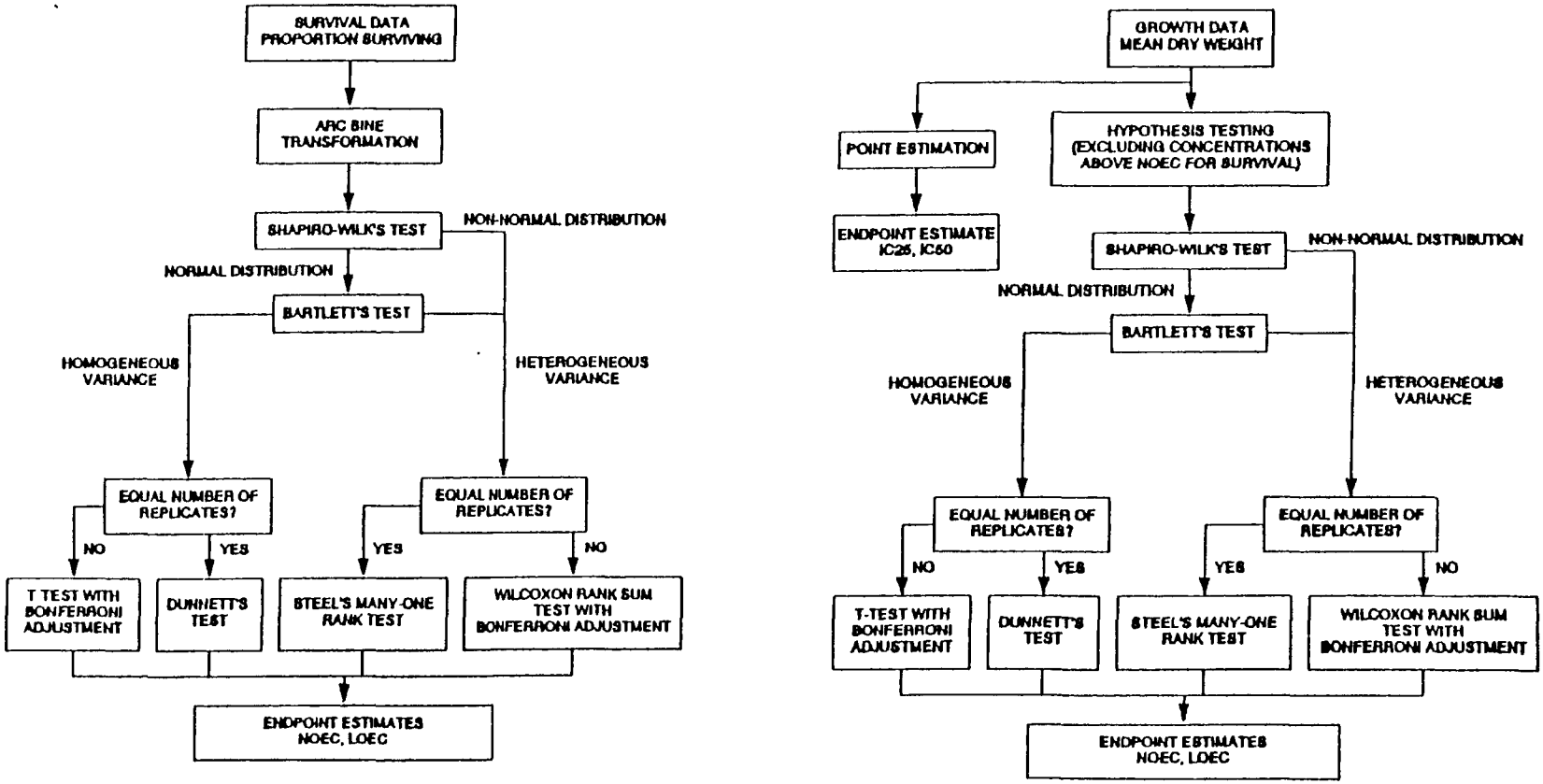


FIGURE 2 **Flowcharts for the statistical analysis of the fathead minnow, Pimephales promelas, survival and growth data (EPA/600/4-91/002)**

employing Dunnett's Test. There was no statistically significant ($p = 0.05$) difference in growth observed in any effluent concentration when compared to the laboratory control. Hence, the NOEC for this analysis is 100%. The LOEC and chronic value cannot be calculated.

4.0 SUMMARY

Two different species of aquatic organisms were employed in determining the potential toxicity of BC-WWTP's effluent over a seven day period during December, 1996. There was no effect observed on Ceriodaphnia or on fathead minnows for this period.

APPENDIX A

TOXICITY EVALUATION
Ceriodaphnia Chronic Test
Initial Chemistries

Test No. CC-961250
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 hr Composite

Analyst: L Sweet/PG Meier
Date: 12/16/96 - 12/23/96

Client: City of Battle Creek

		Day 0	1*	2	3	4*	5	6
Control:		Moderately Hard Water						
Temperature (oC)		25	25	24	25	25	25	25
DO (mg/l)	Initial	8.4	8.5	8.6	8.6	8.6	8.4	8.4
	Final	8.3	8.4	8.4	8.5	8.5	8.3	8.2
pH		7.6	7.8	7.8	7.9	7.8	8.0	7.9
Conductivity (umhos/cm)		290	280	280	300	300	310	310
Hardness (mg/CaCO3)		104	104	104	104	96	96	96
Alkalinity (mg/CaCO3)		58	58	58	58	64	64	64
Concentration No 1:		5%						
Temperature (oC)		25	24	24	25	25	25	25
DO (mg/l)	Initial	8.5	8.6	8.6	8.5	8.5	8.4	8.5
	Final	8.4	8.5	8.5	8.4	8.4	8.3	8.4
pH		7.7	7.9	8.0	8.0	8.0	8.1	7.8
Conductivity (umhos/cm)		330	320	370	350	400	370	390
Concentration No 2:		15%						
Temperature (oC)		25	24	25	24	25	25	25
DO (mg/l)	Initial	8.4	8.4	8.6	8.4	8.5	8.5	8.5
	Final	8.3	8.6	8.4	8.3	8.4	8.4	8.4
pH		7.7	7.9	8.0	8.0	8.0	8.1	7.8
Conductivity (umhos/cm)		510	440	470	480	490	500	520
Concentration No 3:		30%						
Temperature (oC)		25	24	25	25	25	25	25
DO (mg/l)	Initial	8.4	8.4	8.6	8.4	8.5	8.5	8.5
	Final	8.3	8.3	8.5	8.3	8.4	8.4	8.4
pH		77.0	7.8	7.9	8.0	7.8	8.0	7.8
Conductivity (umhos/cm)		640	590	640	660	610	680	690
Concentration No 4:		60%						
Temperature (oC)		25	25	24	25	25	25	25
DO (mg/l)	Initial	8.4	8.4	8.5	8.4	8.5	8.5	8.5
	Final	8.3	8.3	8.4	8.3	8.4	8.4	8.4
pH		7.7	7.8	7.9	8.0	7.8	7.9	7.8
Conductivity (umhos/cm)		1060	900	950	970	1100	1080	1100
Concentration No. 5 :		100%						
Temperature (oC)		25	25	25	25	25	25	24
DO (mg/l)	Initial	8.6	8.5	8.4	8.4	8.4	8.6	8.5
	Final	8.4	8.4	8.3	8.3	8.3	8.4	8.4
pH		7.7	7.7	7.8	8.0	7.8	7.8	7.8
Conductivity (umhos/cm)		1510	1420	1420	1430	1540	1580	1540
Hardness (mg/CaCO3)		360	252	252	252	364	364	364
Alkalinity (mg/CaCO3)		282	270	270	270	272	272	272

*New supply of effluent: 12/17/96 and 12/20/96

Date of Sample: 12/12/96 - 12/13/96
Date of Sample: 12/15/96 - 12/16/96
Date of Sample: 12/18/96 - 12/19/96

Residual Chlorine: None Detected
Residual Chlorine: None Detected
Residual Chlorine: None Detected

Arrival Temperature: 1 °C
Arrival Temperature: 3 °C
Arrival Temperature: 2 °C

TOXICITY EVALUATION
Ceriodaphnia Survival and Reproduction Test

Test No. CC-961250
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 Hr Composite

Analyst: J Huang
Test Start - Date/Time: 12/16/96 - 1100
Test Stop - Date/Time: 12/23/96 - 1130

Client: City of Battle Creek

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
MHW	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	4 [1]	3 [1]	6 [1]	5 [1]	5 [1]	2 [1]	7 [1]	6 [1]	5 [1]	6 [1]	49	10	4.9
	5	10 [2]	6 [2]	0	8 [2]	9 [2]	11 [2]	0	0	0	9 [2]	53	10	5.3
	6	0	0	9 [2]	0	0	0	9 [2]	8 [2]	10 [2]	0	36	10	3.6
	7	14 [3]	13 [3]	10 [3]	11 [3]	8 [3]	12 [3]	9 [3]	9 [3]	10 [3]	0	96	10	9.6
	Total	28	22	25	24	22	25	25	23	25	15	234	10	23.4

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
5%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	4 [1]	2 [1]	4 [1]	6 [1]	2 [1]	0	4 [1]	6 [1]	4 [1]	4 [1]	36	10	3.6
	5	8 [2]	0	8 [2]	0	8 [2]	6 [1]	8 [2]	0	9 [2]	0	47	10	4.7
	6	0	14 [2]	12 [3]	11 [2]	0	9 [2]	0	10 [2]	0	13 [2]	69	10	6.9
	7	11 [3]	10 [3]	0	10 [3]	13 [3]	9 [3]	11 [3]	10 [3]	13 [3]	x	87	9	9.7
	Total	23	26	24	27	23	24	23	26	26	17	239	9	24.9

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
15%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	4 [1]	4 [1]	0	4 [1]	6 [1]	0	0	8 [1]	6 [1]	8 [1]	40	10	4.0
	5	9 [2]	0	5 [1]	0	0	8 [1]	6 [1]	0	5 [2]	9 [2]	42	10	4.2
	6	13 [3]	12 [2]	15 [2]	12 [2]	13 [2]	14 [2]	16 [2]	11 [2]	12 [3]	0	118	10	11.8
	7	0	10 [3]	10 [3]	8 [3]	9 [3]	7 [3]	0	7 [3]	0	8 [3]	59	10	5.9
	Total	26	26	30	24	28	29	22	26	23	25	259	10	25.9

TOXICITY EVALUATION
Ceriodaphnia Survival and Reproduction Test

Test No. CC-961250
Toxicant: Battle Creek WWTP Effluent

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
30%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	7[1]	3[1]	0	0	4[1]	6[1]	6[1]	9[1]	0	2[1]	37	10	3.7
	5	0	9[2]	8[1]	6[1]	8[2]	0	9[2]	0	8[1]	8[2]	56	10	5.6
	6	10[2]	0	9[2]	11[2]	0	0	0	9[2]	0	0	39	10	3.9
	7	11[3]	13[3]	11[3]	8[3]	13[3]	14[2]	12[3]	13[3]	14[2]	15[3]	124	10	12.4
	Total	28	25	28	25	25	20	27	31	22	25	256	10	25.6

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
60%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	7[1]	7[1]	6[1]	5[1]	0	2[1]	4[1]	4[1]	0	6[1]	41	10	4.1
	5	0	8[2]	9[2]	0	8[1]	9[2]	9[2]	0	8[1]	0	51	10	5.1
	6	10[2]	15[3]	11[3]	9[2]	14[2]	10[3]	11[3]	12[2]	11[2]	11[2]	114	10	11.4
	7	9[3]	0	0	13[3]	6[3]	0	0	14[3]	9[3]	10[3]	61	10	6.1
	Total	26	30	26	27	28	21	24	30	28	27	267	10	26.7

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	4[1]	4[1]	6[1]	5[1]	0	5[1]	7[1]	0	3[1]	4[1]	38	10	3.8
	5	0	0	0	0	8[1]	0	0	7[1]	9[2]	0	24	10	2.4
	6	8[2]	11[2]	8[2]	8[2]	11[2]	9[2]	9[2]	11[2]	11[3]	9[2]	95	10	9.5
	7	12[3]	10[3]	12[3]	13[3]	9[3]	16[3]	6[3]	0	0	9[3]	87	10	8.7
	Total	24	25	26	26	28	30	22	18	23	22	244	10	24.4

CC-961250 BATTLE CREEK WWTP EFFLUENT
Ceriodaphnia Reproduction Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	10	15.000	28.000	23.400
2	5%	10	17.000	27.000	23.900
3	15%	10	22.000	30.000	25.900
4	30%	10	20.000	31.000	25.600
5	60%	10	21.000	28.000	26.300
6	100%	10	18.000	30.000	24.400

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	11.822	3.438	1.087	14.69
2	5%	8.100	2.846	0.900	11.91
3	15%	6.544	2.558	0.809	9.88
4	30%	9.822	3.134	0.991	12.24
5	60%	5.122	2.263	0.716	8.61
6	100%	11.600	3.406	1.077	13.96

CHI-SQUARE TEST FOR NORMALITY: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.020	14.520	22.920	14.520	4.020
OBSERVED	6	6	31	14	3

Calculated Chi-Square goodness of fit test statistic = 9.1004
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 2.27

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level.

CC-961250 BATTLE CREEK WWTP EFFLUENT
Ceriodaphnia Reproduction Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	69.483	13.897	1.573
Within (Error)	54	477.100	8.835	
Total	59	546.583		

Critical F value = 2.45 (0.05,5,40)
Since F < Critical F FAIL TO REJECT Ho: All equal

DUNNETT'S TEST Ho:Control<Treatment

GRP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 control	23.400	23.400		
2	5%	23.900	23.900	-0.376	
3	15%	25.900	25.900	-1.881	
4	30%	25.600	25.600	-1.655	
5	60%	26.300	26.300	-2.182	
6	100%	24.400	24.400	-0.752	

Dunnett table value = 2.31 (1 Tailed Value, P=0.05, df=40,5)

TOXICITY EVALUATION
Fathead Minnow Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No: CF-961235
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 Hr Composite

Analyst: PG Meier/P Lin/L Pascual
Test Dates: 12/16/96 - 12/23/96

Client: City of Battle Creek

Laboratory Control:		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	24	25	25	25	25	24
D.O. (mg/l)	Initial	8.4	8.5	8.6	8 6	8.6	8.4	8.6
	Final	7.2	5.9	5.4	6.1	5.5	6.0	5.1
pH	Initial	7.8	7.7	8.1	7.6	8.0	8.1	7.9
	Final	7.3	6.9	7.2	7.4	7.0	7.7	7.3
Conductivity (umhos/cm)		310	300	310	310	320	320	310
Hardness (mg/l CaCO3)		104	104	104	104	104	104	104
Alkalinity (mg/l CaCO3)		60	60	60	60	60	60	60

Conc: 5%		Day						
		0	1*	2	3	4*	5	6
Temperature (oC)		25	25	25	25	25	25	24
D.O. (mg/l)	Initial	8.4	8.5	8.6	8.6	8.6	8.6	8.5
	Final	7.2	6.0	5.3	6 4	5.3	5.8	5.4
pH	Initial	7.8	7.8	8.1	7 7	8.0	8.0	7.9
	Final	7.6	7.2	7.2	7 4	7 3	7.4	7.4
Conductivity (umhos/cm)		380	360	360	360	380	390	350

Conc: 15%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	25	25	24
D.O. (mg/l)	Initial	8.4	8.4	8.6	8.4	8.6	8.5	8.4
	Final	6.8	6.4	5.4	6.1	6.2	6.0	4.7
pH	Initial	7.7	7.9	8.0	7 9	7 9	8.0	7.8
	Final	7 6	7 5	7 3	7 5	7.5	7 6	7.5
Conductivity (umhos/cm)		480	460	480	480	510	480	520

Conc: 30%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	25	25	24
D.O (mg/l)	Initial	8.4	8.4	8.5	8 4	8.5	8.4	8 5
	Final	6.9	6 1	5 8	6 2	5 5	6.1	5 7
pH	Initial	7.7	7 8	8 0	7 9	7 9	8.0	7.8
	Final	7 8	7.6	7 5	7 6	7.6	7.7	7 6
Conductivity (umhos/cm)		650	600	600	660	660	720	690

*New supply of effluent: 12/17/96 and 12/20/96

Date of Sample: 12/12/96 - 12/13/96
Date of Sample: 12/15/96 - 12/16/96
Date of Sample: 12/18/96 - 12/19/96

Residual Chlorine: None Detected
Residual Chlorine: None Detected
Residual Chlorine: None Detected

Arrival Temperature: 1 ° C
Arrival Temperature: 3 ° C
Arrival Temperature: 2 ° C

TOXICITY EVALUATION
Fathead Minnow Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No: CF-961235
Toxicant: Battle Creek WWTP Effluent

Conc: 60%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	25	25	24
D.O. (mg/l)	Initial	8.4	8.4	8.6	8.5	8.4	8.4	8.6
	Final	6.9	6.4	5.3	5.9	5.5	5.7	5.3
pH	Initial	7.6	7.8	7.9	8.0	7.8	7.9	7.8
	Final	8.0	7.9	7.8	7.7	7.8	7.8	7.8
Conductivity (umhos/cm)		1000	950	930	920	950	1020	1100

Conc: 100%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	25	25	24
D.O. (mg/l)	Initial	8.5	8.4	8.4	8.4	8.4	8.5	8.6
	Final	6.5	6.2	5.2	6.0	5.3	5.5	5.4
pH	Initial	7.5	7.8	7.8	7.9	7.8	7.9	7.8
	Final	8.1	8.1	8.0	7.9	8.1	7.8	8.0
Conductivity (umhos/cm)		1460	1320	1390	1340	1400	1470	1540
Hardness (mg/l CaCO3)		360	352	352	352	364	364	364
Alkalinity (mg/l CaCO3)		282	270	270	270	272	272	272

TOXICITY EVALUATION
Survival Data for Fathead Minow
Larval Survival and Growth Test

Test No: CF-961235
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 Hr Composite

Analyst: P Lin/D Pascual
Test Start: Date/Time: 12/16/96 - 1100
Test Stop: Date/Time: 12/23/96 - 1100

Client: City of Battle Creek

Conc.	Rep. No									Total	Wt (mg)
		0	1	2	3	4	5	6	7	Wt (mg)	per Fish
Control	A	10	10	10	10	10	10	10	10	5.37	0.54
Moderately	B	10	10	10	10	10	10	10	10	5.36	0.54
Hard Water	C	10	10	10	10	10	10	10	10	4.87	0.49

Conc.	Rep. No									Total	Wt (mg)
		0	1	2	3	4	5	6	7	Wt (mg)	per Fish
5%	A	10	10	10	10	10	10	10	10	4.36	0.44
	B	10	10	10	10	10	10	10	10	5.94	0.59
	C	10	10	10	10	10	10	10	10	5.83	0.58

Conc.	Rep. No									Total	Wt (mg)
		0	1	2	3	4	5	6	7	Wt (mg)	per Fish
15%	A	10	10	10	10	10	10	10	10	5.29	0.53
	B	10	10	10	10	10	9	9	9	4.05	0.45
	C	10	10	10	10	9	9	9	9	5.13	0.57

Conc.	Rep. No									Total	Wt (mg)
		0	1	2	3	4	5	6	7	Wt (mg)	per Fish
30%	A	10	10	10	10	10	10	10	9	4.59	0.51
	B	10	10	10	10	10	10	10	10	5.30	0.53
	C	10	10	10	10	10	10	10	10	4.91	0.49

Conc.	Rep. No									Total	Wt (mg)
		0	1	2	3	4	5	6	7	Wt (mg)	per Fish
60%	A	10	10	10	10	10	10	9	9	4.70	0.52
	B	10	10	10	10	10	10	10	10	5.60	0.56
	C	10	10	10	10	10	10	10	10	4.73	0.47

Conc.	Rep. No									Total	Wt (mg)
		0	1	2	3	4	5	6	7	Wt (mg)	per Fish
100%	A	10	10	10	10	10	10	10	10	5.15	0.52
	B	10	10	10	10	10	10	10	10	5.24	0.52
	C	10	10	10	10	10	10	10	10	5.02	0.50

CF-961235 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Survival Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	3	10.000	10.000	10.000
2	5%	3	10.000	10.000	10.000
3	15%	3	9.000	10.000	9.333
4	30%	3	9.000	10.000	9.667
5	60%	3	9.000	10.000	9.667
6	100%	3	10.000	10.000	10.000

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	0.000	0.000	0.000	0.00
2	5%	0.000	0.000	0.000	0.00
3	15%	0.333	0.577	0.333	6.19
4	30%	0.333	0.577	0.333	5.97
5	60%	0.333	0.577	0.333	5.97
6	100%	0.000	0.000	0.000	0.00

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 2.000

W = 0.891

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

These two tests can not be performed because at least one group has zero variance.

WILCOXON'S RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT VALUE	REPS	SIG
1	0.0 control	10.000				
2	5%	10.000	10.50	None	3	
3	15%	9.333	7.50	None	3	
4	30%	9.667	9.00	None	3	
5	60%	9.667	9.00	None	3	
6	100%	10.000	10.50	None	3	

Critical values use k = 5, are 1 tailed, and alpha = 0.05

CF-961235 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Growth Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	3	0.490	0.540	0.523
2	5%	3	0.440	0.590	0.537
3	15%	3	0.450	0.570	0.517
4	30%	3	0.490	0.530	0.510
5	60%	3	0.470	0.560	0.517
6	100%	3	0.500	0.520	0.513

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	0.001	0.029	0.017	5.52
2	5%	0.007	0.084	0.048	15.63
3	15%	0.004	0.061	0.035	11.83
4	30%	0.000	0.020	0.012	3.92
5	60%	0.002	0.045	0.026	8.73
6	100%	0.000	0.012	0.007	2.25

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 0.028

W = 0.934

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 7.18

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level.

CF-961235 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Growth Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.001	0.000	0.115
Within (Error)	12	0.028	0.002	
Total	17	0.030		

Critical F value = 3.11 (0.05,5,12)
Since F < Critical F FAIL TO REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 control	0.523	0.523		
2	5%	0.537	0.537	-0.336	
3	15%	0.517	0.517	0.168	
4	30%	0.510	0.510	0.336	
5	60%	0.517	0.517	0.168	
6	100%	0.513	0.513	0.252	

Dunnett table value = 2.50 (1 Tailed Value, P=0.05, df=12,5)

APPENDIX B

Summary Reference Test Data
for

Evaluation of Effluent Toxicity of
City of Battle Creek WWTP
2000 W. River Road
Battle Creek, Michigan 49015

December 11 - 18, 1996

NPDES Permit No. MI 0022276

By:

Peter G. Meier, Ph.D.
School of Public Health
The University of Michigan
Ann Arbor, Michigan 48109

December 31, 1996

1.0 INTRODUCTION

This report contains the reference toxicity methods and data interpretation for Pimephales promelas when exposed to various concentrations of sodium chloride over the seven day period.

2.0 PROCEDURES AND METHODS

A seven day, subchronic fathead minnow (Pimephales promelas) static renewal, larval survival and growth test was employed. Methods as outlined in EPA-600/4-91/002 were followed. The fathead minnow test was performed from December 11 - 18, 1996.

2.1 Laboratory Water Supply

A moderately hard water is employed in our facility for fish cultures. Preparation of the reconstituted laboratory water is outlined in EPA-600/4-91/002. This water is made up in volumes of 200 l on which water quality parameters are run to check for consistencies between batches. Moderately hard water was used to make up the various concentrations of sodium chloride for exposures of fatheads.

2.2 Test Organisms

Pimephales promelas used in these reference experiments were from the same stock as those organisms employed in the effluent toxicity tests and less than 24 hours old.

2.3 Experimental Design

The purpose of this series of tests was to evaluate the "relative sensitivity" of fatheads to our reference toxicant, sodium chloride. The larval fatheads were also exposed to five concentrations and one control. Each exposure vessel contained 10 larval fish (less than 24 hr old) and there were three replicates for each level. The fish were fed three times per day. Exposure solutions were replaced daily over the seven day testing period. Routine parameters were measured daily prior to the transfer of organisms to their respective exposure vessels.

3.0 RESULTS AND DISCUSSION

A reference toxicity evaluation with fathead minnows began on December 11, 1996. The routine physical-chemical parameters varied little over the testing period (CF-961211R - Routine Chemical and Physical data). Conductivity increased with increasing NaCl concentrations.

3.1 Pimephales promelas

The fish survival and growth data are presented in Test No. CF-961211R. The survival data passed the Shapiro-Wilk's and Bartlett's Tests for normality and homogeneity at the 0.01 level. Dunnett's Test showed no statistically significant (p =

0.05) mortality in any concentration. The growth data passed the Shapiro-Wilk's Test for normality ($p = 0.01$) and Bartlett's Test for homogeneity ($p = 0.01$). Dunnett's Test showed a statistically significant ($p = 0.05$) difference in growth between the control and the 3.4 g/l of NaCl concentration and above. Therefore, the NOEC is 3.0 g/l of NaCl and the LOEC is 3.4 g/l of NaCl. The chronic value is 3.19 g/l of NaCl.

4.0 SUMMARY

A reference toxicity test with Pimephales promelas was carried out with sodium chloride. The test proved valid since 80% or greater survival in the control was achieved after the seven day period and the average control fish's weight was above 0.25 mg.

The chronic value of 3.19 g/l of NaCl for fathead minnows agrees well with previous tests.

QUALITY ASSURANCE

Ceriodaphnia Chronic Test
Initial Chemistries

Test No.: CC-961211R Analyst: L Sweet
Toxicant: Sodium Chloride Date: 12/10/96 - 12/17/96

		Day						
		0	1	2	3	4	5	6
Control:		Moderately Hard Water						
Temperature (oC)		25	25	25	25	24	25	24
DO (mg/l)	Initial	8.4	8.5	8.5	8.6	8.6	8.6	8.5
DO (mg/l)	Final	8.3	8.4	8.4	8.5	8.5	8.5	8.4
pH		7.9	7.8	8.0	8.0	7.8	7.9	7.8
Conductivity (umhos/cm)		290	310	290	300	300	300	300
Hardness (mg/CaCO3)		104	104	104	104	104	104	104
Alkalinity (mg/CaCO3)		58	58	58	58	58	58	58
Concentration No 1:		0.6 g/l						
Temperature (oC)		25	25	25	25	24	25	24
DO (mg/l)	Initial	8.5	8.4	8.4	8.6	8.4	8.6	8.4
DO (mg/l)	Final	8.4	8.3	8.3	8.5	8.5	8.3	8.5
pH		7.9	7.8	7.9	7.8	7.7	7.9	7.8
Conductivity (umhos/cm)		1400	1350	1320	1350	1400	1360	1380
Concentration No 2:		1.0 g/l						
Temperature (oC)		25	25	25	25	24	25	25
DO (mg/l)	Initial	8.4	8.6	8.6	8.6	8.6	8.4	8.6
DO (mg/l)	Final	8.3	8.5	8.5	8.5	8.4	8.2	8.4
pH		7.9	7.8	7.9	7.8	7.7	7.9	7.8
Conductivity (umhos/cm)		2120	2130	2080	1990	2120	2100	2100
Concentration No 3:		1.6 g/l						
Temperature (oC)		25	25	25	25	24	25	24
DO (mg/l)	Initial	8.5	8.4	8.5	8.6	8.6	8.4	8.6
DO (mg/l)	Final	8.4	8.3	8.4	8.4	8.5	8.3	8.5
pH		7.9	7.8	7.9	7.8	7.7	7.9	7.8
Conductivity (umhos/cm)		3230	3160	3130	3050	3200	3070	3100
Concentration No. 4:		2.0 g/l						
Temperature (oC)		25	25	25	25	24	25	24
DO (mg/l)	Initial	8.4	8.6	8.5	8.6	8.6	8.4	8.6
DO (mg/l)	Final	8.3	8.5	8.4	8.5	8.4	8.3	8.5
pH		7.9	7.8	7.9	7.8	7.7	7.9	7.8
Conductivity (umhos/cm)		3890	3850	3800	3720	3870	3830	3820
Concentration No. 5:		2.4 g/l						
Temperature (oC)		25	25	25	25	—	—	—
DO (mg/l)	Initial	8.6	8.6	8.4	8.6	—	—	—
DO (mg/l)	Final	8.5	8.4	8.3	8.5	—	—	—
pH		7.9	7.8	7.9	7.8	—	—	—
Conductivity (umhos/cm)		4590	4640	4430	4300	—	—	—

QUALITY ASSURANCE

Ceriodaphnia Survival and Reproduction Test

Test No. CC-961211R

Toxicant: Sodium Chloride

Analyst: L Sweet

est Start - Date/Time: 12/10/96 - 1000

est Stop - Date/Time: 12/17/96 - 1030

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
Moderately Hard Water	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	x	0	9	0.0
	4	3	9	6	7	6	6	7	6	6		56	9	6.2
	5	7	0	0	10	0	5	10	0	0		32	9	3.6
	6	14	12	9	0	10	0	0	10	10		65	9	7.2
	7	0	4	12	10	13	11	14	11	0		75	9	8.3
	Total	24	25	27	27	29	22	31	27	16	0	228	9	25.3

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
0.6 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	6	6	3	3	3	0	0	6	3	6	36	10	3.6
	5	0	5	6	0	0	8	9	0	0	0	28	10	2.8
	6	4	0	0	7	10	8	9	8	7	9	62	10	6.2
	7	16	11	14	14	11	8	10	12	10	6	112	10	11.2
	Total	26	22	23	24	24	24	28	26	20	21	238	10	23.8

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	6	5	6	0	4	4	5	3	7	9	49	10	4.9
	5	0	0	0	9	0	0	0	0	0	0	9	10	0.9
	6	9	10	4	6	6	8	6	7	5	5	66	10	6.6
	7	6	13	12	10	6	6	10	14	10	9	96	10	9.6
	Total	21	28	22	25	16	18	21	24	22	23	220	10	22.0

Ceriodaphnia Survival and Reproduction Test

Test No. CC-961211R
Toxicant: Sodium Chlonde

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
1.6 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	4	0	4	3	0	0	0	0	0	11	10	1.1
	5	5	0	4	0	0	6	0	4	8	6	33	10	3.3
	6	3	0	0	4	4	4	3	0	6	9	33	10	3.3
	7	0	6	9	6	0	0	0	9	8	0	38	10	3.8
	Total	8	10	13	14	7	10	3	13	22	15	115	10	11.5

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	0	0	0	0	0	0	0	0	3	3	10	0.3
	5	3	0	0	0	0	0	0	0	0	0	3	10	0.3
	6	0	0	6	x	0	x	0	0	0	0	6	8	0.8
	7	6	0	0	|	x	|	6	2	3	0	17	7	2.4
	Total	9	0	6	0	0	0	6	2	3	3	29	7	3.8

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
2.4 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	x	x	x	x	x	x	x	x	x	0	1	0.0
	3	x	|	|	|	|	|	|	|	|	|	0	0	0.0
	4	|	|	|	|	|	|	|	|	|	|	0	0	0.0
	5	|	|	|	|	|	|	|	|	|	|	0	0	0.0
	6	|	|	|	|	|	|	|	|	|	|	0	0	0.0
	7	|	|	|	|	|	|	|	|	|	|	0	0	0.0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0.0

CC-961211-R REFERENCE TOXICITY TEST
Ceriodaphnia Reproduction Data Analysis

SUMMARY OF FISHER'S EXACT TESTS

GROUP	IDENTIFICATION	NUMBER EXPOSED	NUMBER DEAD	SIG (P=.05)
	CONTROL	10	9	
1	0.6	10	10	
2	1.0	10	10	
3	1.6	10	10	
4	2.0	10	7	
5	2.4	10	0	*

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	10	0.000	31.000	22.800
2	0.6	10	20.000	28.000	23.800
3	1.0	10	16.000	28.000	22.000
4	1.6	10	7.000	15.000	11.500
5	2.0	10	0.000	9.000	3.200

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	81.289	9.016	2.851	39.54
2	0.6	5.956	2.440	0.772	10.25
3	1.0	11.556	3.399	1.075	15.45
4	1.6	7.167	2.677	0.847	23.28
5	2.0	9.067	3.011	0.952	94.10

SHAPIRO WILKS TEST FOR NORMALITY:

D = 1035.300

W = 0.834

Critical W (P = 0.05) (n = 50) = 0.947
Critical W (P = 0.01) (n = 50) = 0.930

Data FAIL normality test
The first three homogeneity tests are sensitive to non-normal data and should not be performed.

CC-961211-R REFERENCE TOXICITY TEST
Ceriodaphnia Reproduction Data Analysis (Continued)

STEEL'S MAN-ONE RANK TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT. VALUE	df	SIG
1	0.0 control	22.800				
2	0.6	23.800	93.00	76.00	10.00	
3	1.0	22.000	86.50	76.00	10.00	
4	1.6	11.500	65.00	76.00	10.00	*
5	2.0	3.200	63.50	76.00	10.00	*

Critical values use k = 4, are 1 tailed, and alpha = 0.05

QUALITY ASSURANCE
Fathead Minnow and Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No: CF-961211R
Toxicant: Sodium Chloride

Analyst: D Travers
Test Dates: 12/11/96 -12/18/96

Laboratory Control: Moderately Hard Water		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	25	25	25	25	25
D.O.	Initial	8.4	8.7	8.5	8.4	8.5	8.4	8.4
mg/l	Final	5.1	5.2	5.5	5.0	5.7	6.4	6.3
pH	Initial	8.0	7.8	8.0	7.8	7.9	7.9	7.9
	Final	7.2	7.1	7.2	7.3	7.2	7.3	7.3
Conductivity (umhos/cm)		310	250	310	290	280	310	300
Hardness (mg/l CaCO3)		104	104	104	104	104	104	104
Alkalinity (mg/l CaCO3)		60	60	60	60	60	60	60

Conc: 2.0 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	25
D.O.	Initial	8.4	8.6	8.5	8.4	8.4	8.4	8.4
mg/l	Final	5.7	6.5	6.6	6.2	5.8	6.8	6.2
pH	Initial	7.9	7.8	7.9	7.9	7.9	7.8	7.7
	Final	7.2	7.3	7.2	7.3	7.2	7.2	7.2
Conductivity (umhos/cm)		3420	3530	3470	3670	3350	3420	3440

Conc: 2.4 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	24	25	25	25	25
D.O.	Initial	8.4	8.6	8.6	8.6	8.4	8.4	8.4
mg/l	Final	5.6	6.5	6.9	6.5	6.1	6.9	6.8
pH	Initial	7.9	7.9	7.9	7.9	7.9	7.9	7.8
	Final	7.2	7.3	7.2	7.3	7.3	7.3	7.3
Conductivity (umhos/cm)		4630	4320	4350	4540	4250	4440	4400

Conc: 3.0 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	24	25	25	25	25
D.O.	Initial	8.4	8.6	8.6	8.4	8.4	8.4	8.5
mg/l	Final	5.5	6.7	6.6	6.6	6.3	7.0	7.0
pH	Initial	7.9	7.9	7.9	7.9	7.9	7.8	7.9
	Final	7.2	7.3	7.2	7.3	7.3	7.3	7.3
Conductivity (umhos/cm)		5440	5320	5390	5490	5390	5380	5410

Conc: 3.4 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	24	24	25	25	25	25
D.O.	Initial	8.4	8.6	8.5	8.5	8.4	8.4	8.6
mg/l	Final	5.7	6.8	6.9	6.4	6.2	7.1	7.0
pH	Initial	7.9	7.9	7.9	7.9	7.9	7.9	7.9
	Final	7.3	7.3	7.2	7.3	7.3	7.3	7.3
Conductivity (umhos/cm)		6150	6070	6250	6100	5800	5910	6020

Conc: 4.0 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	24	25	25	25
D.O.	Initial	8.4	8.6	8.4	8.5	8.5	8.4	8.3
mg/l	Final	6.0	6.8	7.0	6.8	6.6	7.3	7.2
pH	Initial	7.9	7.8	7.9	7.9	7.9	7.9	7.9
	Final	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Conductivity (umhos/cm)		7290	6820	6900	6890	7000	6690	6830

QUALITY ASSURANCE

Survival Data for Fathead Minnow
Larval Survival and Growth Test

Test No: CF-961211R

Toxicant: Sodium Chloride

Analyst: D Travers

Test Start: Date/Time: 12/11/96 - 1320

Test Stop: Date/Time: 12/18/96 - 1400

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
Control Moderately Hard Water	A	10	10	10	10	10	10	10	10	5.16	0.52
	B	10	10	10	10	9	9	9	9	4.49	0.50
	C	10	10	10	10	10	10	10	9	4.33	0.48

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
2.0 g/l	A	10	10	10	10	10	9	9	9	4.46	0.50
	B	10	10	10	10	10	10	10	10	5.47	0.55
	C	10	10	10	10	10	10	10	10	5.56	0.56

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
2.4 g/l	A	10	10	10	10	10	10	10	9	4.05	0.45
	B	10	10	10	10	10	10	10	10	4.88	0.49
	C	10	10	10	10	10	10	10	10	5.56	0.56

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
3.0 g/l	A	10	10	10	10	10	10	9	8	3.36	0.42
	B	10	10	10	10	10	10	8	8	3.51	0.44
	C	10	10	10	10	10	10	9	9	4.03	0.45

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
3.4 g/l	A	10	10	10	10	10	10	8	8	2.69	0.34
	B	10	10	10	10	10	10	6	6	2.36	0.39
	C	10	10	10	10	10	10	10	10	4.17	0.42

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
4.0 g/l	A	10	10	10	10	10	10	9	8	2.71	0.34
	B	10	10	10	10	10	10	9	8	2.88	0.36
	C	10	10	10	9	9	9	9	6	1.73	0.29

CF-961211-R REFERENCE TEST
Fathead Minnow Larval Survival Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	3	9.000	10.000	9.333
2	2.0	3	9.000	10.000	9.667
3	2.4	3	9.000	10.000	9.667
4	3.0	3	8.000	9.000	8.333
5	3.4	3	6.000	10.000	8.000
6	4.0	3	6.000	8.000	7.333

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	0.333	0.577	0.333	6.19
2	2.0	0.333	0.577	0.333	5.97
3	2.4	0.333	0.577	0.333	5.97
4	3.0	0.333	0.577	0.333	6.93
5	3.4	4.000	2.000	1.155	25.00
6	4.0	1.333	1.155	0.667	15.75

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 13.333

W = 0.944

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level. Continue analysis.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 5.61

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level.

CF-961211-R REFERENCE TEST
Fathead Minnow Larval Survival Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	14.278	2.856	2.570
Within (Error)	12	13.333	1.111	
Total	17	27.611		

Critical F value = 3.11 (0.05,5,12)
Since F < Critical F FAIL TO REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT SIG
1	0.0 control	9.333	9.333	
2	2.0	9.667	9.667	-0.387
3	2.4	9.667	9.667	-0.387
4	3.0	8.333	8.333	1.162
5	3.4	8.000	8.000	1.549
6	4.0	7.333	7.333	2.324

Dunnett table value = 2.50 (1 Tailed Value, P=0.05, df=12,5)

CF-961211-R REFERENCE TEST
Fathead Minnow Larval Growth Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	3	0.480	0.520	0.500
2	2.0	3	0.500	0.560	0.537
3	2.4	3	0.450	0.560	0.500
4	3.0	3	0.420	0.450	0.437
5	3.4	3	0.340	0.420	0.383
6	4.0	3	0.290	0.360	0.330

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	0.000	0.020	0.012	4.00
2	2.0	0.001	0.032	0.019	5.99
3	2.4	0.003	0.056	0.032	11.14
4	3.0	0.000	0.015	0.009	3.50
5	3.4	0.002	0.040	0.023	10.54
6	4.0	0.001	0.036	0.021	10.93

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 0.015

W = 0.970

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level. Continue analysis.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 3.27

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level.

CF-961211-R REFERENCE TEST
Fathead Minnow Larval Growth Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.095	0.019	14.729
Within (Error)	12	0.015	0.001	
Total	17	0.110		

Critical F value = 3.11 (0.05,5,12)
Since F > Critical F REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 control	0.500	0.500		
2	2.0	0.537	0.537	-1.254	
3	2.4	0.500	0.500	0.000	
4	3.0	0.437	0.437	2.165	
5	3.4	0.383	0.383	3.989	*
6	4.0	0.330	0.330	5.812	*

Dunnett table value = 2.50 (1 Tailed Value, P=0.05, df=12,5)

APPENDIX C

DMR-QA Study 16
TOXICITY LABORATORY DATA

Analyte Name	EPA Use	Analyte No.	USEPA Laboode	Recovery Analysis	Method Code	</>	Quantity
WHOLE EFFLUENT TOXICITY DATA (as % of the sample ready for analysis)							
Fathead Minnow Acute MHSF 20° - LC50	TT	752	48109000		11		4460
Fathead Minnow Acute MHSF 25° - LC50	TT	754			13		
Fathead Minnow Acute 20% DMW 25° - LC50	TT	755			14		
Fathead Minnow Chronic MHSF - Survival NOEC	TT	756	48109000		15		2500
Fathead Minnow Chronic MHSF - Growth IC25	TT	757	48109000		15		5370
Fathead Minnow Chronic MHSF - Growth NOEC	TT	758	48109000		15		2500
Fathead Minnow Chronic 20% DMW - Survival NOEC	TT	759			16		
Fathead Minnow Chronic 20% DMW - Growth IC25	TT	760			16		
Fathead Minnow Chronic 20% DMW - Growth NOEC	TT	761			16		
Ceriodaphnia Acute MHSF 20° - LC50	TT	762			17		
Ceriodaphnia Acute 20% DMW 20° - LC50	TT	763			18		
Ceriodaphnia Acute MHSF 25° - LC50	TT	764	48109000	x	19		3040
Ceriodaphnia Acute 20% DMW 25° - LC50	TT	765			20		
Ceriodaphnia Chronic MHSF - Survival NOEC	TT	766	48109000		21		5000
Ceriodaphnia Chronic MHSF - Reproduction IC25	TT	767	48109000		21		3200
Ceriodaphnia Chronic MHSF - Reproduction NOEC	TT	768	48109000		21		2500
Ceriodaphnia Chronic 20% DMW - Survival NOEC	TT	769			22		
Ceriodaphnia 20% DMW - Reproduction IC25	TT	770			22		
Ceriodaphnia 20% DMW - Reproduction NOEC	TT	771			22		
Daphnia Magna Acute MHSF 20° - LC50	TT	788	48109000		32		1860
Daphnia Pulex Acute MHSF 20° - LC50	TT	792			36		
Daphnia Pulex Acute MHSF 25° - LC50	TT	794			38		
Mysid Acute 40 F 20° - LC50	TT	798			42		
Mysid Acute 40 F 20° - Survival NOEC	TT	799			43		
Mysid Acute 40 F 20° - Growth IC25	TT	800			43		
Mysid Acute 40 F 20° - Growth NOEC	TT	801			43		
Mysid Acute 40 F 20° - LC50	TT	803			44		
Sheepshead Minnow Acute 40 F 20°	TT	804			46		
Sheepshead Minnow Chronic 40 F 20° - Survival NOEC	TT	805			47		
Sheepshead Minnow Chronic 40 F 20° - Growth IC25	TT	806			47		
Sheepshead Minnow Chronic 40 F 20° - Growth NOEC	TT	807			47		

(EPA-421 (cln), Rev 3-96 Previous editions are obsolete

APPENDIX D

CHAIN-OF-CUSTODY RECORD

Institute of Environmental and Industrial Health Laboratory, School of Public Health I, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
BATTLE CREEK WWTP	2000 W. River Rd BATTLE CREEK, MN 49015	(616) 966-3513
CONTRACTOR	**ADDRESS**	**PHONE #**
CONTACT PERSON	**PHONE #**	
Chris Kosmowski	(616) 966-3513 XT 233	
SAMPLER	**SAMPLER SIGNATURE**	
BRIAN F FRY	Brian F Fry	

ANALYSIS DESIRED

SAMPLE NUMBER	if composite, please indicate starting and stopping date and time: DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	Chronic Acute Whole Effluent TOXICITY TESTING	REMARKS
X	12-12-96 to 12-13-96	8am To 8am	X		Dechlorinated Final Effluent	2		Ammonia = 1.16 mg/l
1 of 3								

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
J. Hlavaty	3 °C	
DATE OF RECEIPT: 12/16	RESIDUAL CHLORINE (ug Cl2/L): N/D	
TIME OF RECEIPT: 11:00		

CHAIN-OF-CUSTODY RECORD

Institute of Environmental and Industrial Health Laboratory, School of Public Health I, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
BATTLE CREEK WWTP	2000 W. RIVER RD BATTLE CREEK, MI 49015	(616) 966-3513
CONTRACTOR	**ADDRESS**	**PHONE #**
CONTACT PERSON	**PHONE #**	
Chris Kosmowski	(616) 966-3513 XT 233	
SAMPLER	**SAMPLER SIGNATURE**	
BRIAN F FRY	Brian F Fry	

ANALYSIS DESIRED

SAMPLE NUMBER	if composite, please indicate starting and stopping date and time: DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	Acute; Chronic whole effluent TOXICITY TEST					REMARKS
2	12-15-96 TO 12-16-96	9am TO 9am	X		Dechlorinated Effluent	2	X					Ammonia = 0.64 mg/L
2 of 3												

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
C. J. Huang	1°C	
DATE OF RECEIPT: 12/17/96	RESIDUAL CHLORINE (ug Cl2/L): ND	
TIME OF RECEIPT: 10:30		

CHAIN-OF-CUSTODY RECORD

Institute of Environmental and Industrial Health Laboratory, School of Public Health 1, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
City of Battle Creek WWTP	20000 W. River Rd Battle Creek, MI 49015	(616) 966-3513
CONTRACTOR	**ADDRESS**	**PHONE #**
CONTACT PERSON	**PHONE #**	
Chris Kasmowski	(616) 966-3513 XT 233	
SAMPLER	**SAMPLER SIGNATURE**	
Brian F Fry	Brian F Fry	

ANALYSIS DESIRED

SAMPLE NUMBER	if composite, please indicate starting and stopping date and time: DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	Acute & Chronic Whole Effluent Toxicity Test					REMARKS
2	12-18-96 To 12-19-96	8am TO 8am	X		Dechlorinated Effluent	2	X					Ammonia = 0.067 mg/L
3 of 3												

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
Lani	2 °C	
DATE OF RECEIPT: 12/20	**RESIDUAL CHLORINE (ug Cl2/L):** ND	
TIME OF RECEIPT: 1000		

The University of Michigan

SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF ENVIRONMENTAL
AND INDUSTRIAL HEALTH

109 OBSERVATORY STREET
ANN ARBOR, MICHIGAN 48109-2029
U.S.A.

February 17, 1997

Ms. Christine Kosmowski
City of Battle Creek WWTP
2000 West River Road
Battle Creek, MI 49015-1181

Dear Ms. Kosmowski:

Please find enclosed a copy of the biomonitoring report for your wastewater treatment facility. If you have any questions, please let me know. Thank you.

Sincerely,

Peter G. Meier

Peter G. Meier, Ph.D.

Evaluation of Effluent Toxicity of City of Battle Creek WWTP 2000 W. River Road Battle Creek, Michigan 49015

February 5 - 12, 1997

NPDES Permit No. MI 0022276

By:

Peter G. Meier, Ph.D.
School of Public Health
The University of Michigan
Ann Arbor, Michigan 48109

February 17, 1997

1.0 INTRODUCTION

Battle Creek WWTP (BC-WWTP) is submitting its biomonitoring results for assessing the aquatic toxicity of their effluent as required in Rule 57 of the Michigan Water Quality Standards. As part of the NPDES Permit No. MI 0022276, this report outlines procedures for specific toxicity testing, data evaluation, QA/QC criteria and report content. Testing was carried out by the Institute of Environmental and Industrial Health, The University of Michigan. Toxicity evaluation with Ceriodaphnia dubia and the fathead minnow (Pimephales promelas) was completed in February of 1997.

2.0 PROCEDURES AND METHODS

The seven day (three brood), chronic, Ceriodaphnia dubia static renewal, survival and reproduction test was one of the methods employed in the evaluation of BC-WWTP's effluent. In addition, the seven day, subchronic, fathead minnow (Pimephales promelas), static renewal, larval survival and growth test was also employed. The procedures followed are contained in EPA/600/4-91/002, Short-Term Methods for Estimation of the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. A summary of recommended test conditions for the waterflea and fathead minnow is found in Tables 1 and 2, respectively.

2.1 Laboratory Water Supply

A moderately hard water for daphnid and fathead cultures and maintenance is employed in our facility. Preparation of the reconstituted laboratory water is outlined in EPA/600/4-91/002. This water is made up in volumes of 200 l on which water quality parameters are run to check for consistencies between batches. This moderately hard water was employed as the laboratory control and in the preparation of exposure concentrations.

2.2 Test Organisms

Ceriodaphnia dubia are kept in the Institute's facilities. The original stock was obtained from U.S. EPA, the Newtown facility over two years ago. Mass and individual Ceriodaphnia cultures are maintained according to EPA/600/4-91/002 and fed a combination of Yeast, Cerophyll® and Salmon Starter (YCS) and the unicellular alga, Selenastrum capricornutum, whereas larval fish are fed 24 hr old brine shrimp. Larval fathead minnows were obtained from Aquatox Inc., Arkansas for this evaluation.

TABLE 1 SUMMARY OF RECOMMENDED EFFLUENT TOXICITY TEST CONDITIONS FOR THE CERIODAPHNIA SURVIVAL AND REPRODUCTION TEST

1.	Test Type:	Static renewal
2.	Temperature (^{o}C):	25 ± 1°C
3.	Light quality:	Ambient laboratory illumination
4.	Light intensity:	10-20 uE/m^{2}/s or 50-100 ft-c (ambient laboratory levels)
5.	Photoperiod:	16 h light, 8 h darkness
6.	Test chamber size:	30 mL
7.	Test solution volume:	15 mL
8.	Renewal of test solutions:	Daily
9.	Age of test organisms:	Less than 24 h and all released within a 8 h period
10.	No. neonates per test chamber:	1
11.	No. replicate test chambers per concentration:	10
12.	No. neonates per test concentration:	10
13.	Feeding regime:	Feed 0.1 mL each of YCS and algal suspension per test chamber daily.
14.	Aeration:	None
15.	Dilution water:	Moderately hard synthetic water is prepared using MILLIPORE MILLI-Q^{R} or equivalent deionized water and reagent grade chemicals or 20% DMW (see Section 7).
16.	Effluent concentration:	Minimum of 5 effluent concentrations and a control.

Test Method 1002.0. EPA Publication 600/4-91/002 (July, 1994).

TABLE 2 SUMMARY OF RECOMMENDED EFFLUENT TOXICITY TEST CONDITIONS FOR THE FATHEAD MINNOW (PIMEPHALES PROMELAS) LARVAL SURVIVAL AND GROWTH TEST

1.	Test Type:	Static renewal
2.	Temperature (^{o}C):	25 ± 1°C
3.	Light quality:	Ambient laboratory illumination
4.	Light intensity:	10-20 uE/m^{2}/s (50-100 ft-c) (ambient laboratory levels)
5.	Photoperiod:	16 h light, 8 h darkness
6.	Test chamber size:	600 mL glass beakers
7.	Test solution volume:	250 mL/replicate
8.	Renewal of test concentrations:	Daily
9.	Age of test organisms:	Newly hatched larvae less than 24 hr old
10.	No. of larvae per test chamber:	10
11.	No. replicate chambers per concentration:	3
12.	No. larvae per concentration:	30
13.	Feeding regime:	Feed 0.2 mL newly hatched (less than 24 h old) brine shrimp nauplii three times daily at 4 h intervals or, as a minimum, 0.30 mL twice daily, 6 hr between feedings (at the beginning of the work day prior to renewal, and at the end of the work day following renewal). Larvae are not fed during the final 12 h of the test
14.	Cleaning:	Siphon daily, immediately before test solution renewal
15.	Aeration:	None, unless DO concentration falls below 40% saturation. Rate should not exceed 100 bubbles/min

Test Method 1000.0. EPA Publication 600/4-91/002 (July, 1994).

2.3 Effluent Collection

Battle Creek WWTP personnel collected three 24-hour composite samples from outfall 001 for this set of chronic seven-day tests (2/3 - 2/4/97, 2/6 - 2/7/97 and 2/9 - 20/10/97). The samples were shipped in coolers containing adequate ice to ensure sample integrity. No residual chlorine was found in any of the composite samples. The temperature of the respective samples upon arrival was 0°C, 2°C and 1°C. All samples were stored in a refrigerator (4°C) until used.

2.4 Experimental Design

The aim of these chronic tests was to evaluate the potential toxicity of BC-WWTP's effluent. With this objective in mind, standard testing procedures as summarized in Tables 1 and 2 were employed. Five effluent concentrations (100%, 60%, 30%, 15% and 5%) and a laboratory control were set up. Laboratory water was employed as the diluent.

Thirty Ceriodaphnia adults were placed individually in cups containing food and dilution water approximately 16 hours before initiation of the test. Babies from broods of ten or more individuals were pooled and used for this experiment. Prior to start up of the exposures, designated concentrations of one liter effluent were prepared utilizing laboratory water as a diluent. Once accomplished, appropriate water quality parameters were measured and recorded for each concentration (Appendix A: Initial Chemistry - New). Then approximately 15 ml of the designated mixture were poured into prelabeled 30 ml cups containing 0.1 ml of YCS and 0.1 ml of Selenastrum. After this step, a 16 hour or younger neonate was transferred to each of the 60 plastic cups at random. Ten replicates per concentration were employed. Cups were placed in a rack and transferred to an incubator (25 $\pm$ 1°C). The light cycle was 16 hrs on and 8 hrs off. After 24 hours, each cup was checked for survival and/or immobility/mortality. The number of survivors was reported on data sheets (Appendix A: Ceriodaphnia Survival and Reproduction Test). The respective concentrations were renewed daily and the surviving daphnids were transferred. Live young, usually produced after day 3, were counted and also recorded on the data sheet. This procedure was repeated daily through day 7, at which point the test was terminated. Biological endpoints for this test consisted of immobility/mortality and production of live young. The validity of the test was based on greater than 80% survival and 15 or more live young produced per adult in the controls. If these criteria were not achieved, then the test would have been repeated.

In the fathead test, 10 larval fish (less than 24 hrs old) were placed at random in each of the 18 glass beakers (600 ml capacity) containing 250 ml of varying concentrations of effluent and respective controls. One tenth ml of 24 hr old brine shrimp

was also added to each exposure chamber. Prior to this transfer, water quality parameters were measured and recorded on the data sheet for each concentration (Appendix A: Routine chemical and physical data sheet for fish larval test). Three replicates of 10 larval fish for each of the five concentrations and laboratory control were employed. Exposure containers were placed in a temperature controlled room (25 $\pm$ 1°C). Larval fish were fed three times per day with brine shrimp. After the 24 hour exposure, the excess food, waste and most of the exposure solution were siphoned. Larval fish (survivors) were counted and recorded; whereas, dead ones were removed (Appendix A: Survival Data Sheet). The new exposure mixture was then carefully poured into each of the beakers and 0.2 ml of brine shrimp were also added. Exposure vessels were placed back into the temperature controlled room that has a 16 hrs on, 8 hrs off light cycle. This whole procedure was repeated daily through six days. On the seventh day, live fish were killed with 70% ethanol, rinsed and then placed in tared dishes, dried at 60°C for twenty four hours and weighed. Biological endpoints for this test consisted of mortality and growth (increase in weight). This test was considered valid if greater than 80% survival and more than 0.25 mg of biomass per fish was observed in the controls over the seven day test period. If these two criteria were not met, then the test would have been repeated.

2.5 Standard Reference Toxicity Test

The purpose of this series of experiments is important for two reasons. First of all, a reference test will monitor over time the relative sensitivity of laboratory organisms. Results on their respective EC_{50} and LC_{50} values for acute exposures and LOEC and NOEC for chronic tests will provide information on physiological changes which affect tolerances. This is of particular importance with daphnids (Ceriodaphnia) due to their relatively short generation time. Secondly, the reference test is part of the QA/QC program which provides a tool to evaluate the ability of the laboratory to generate reproducible results (Appendix B). Also, this laboratory participated in the DMR-QA Laboratory Evaluation Study and these results are presented in Appendix C.

2.6 Statistical Analysis

Mortality-immobility data were analyzed employing Fisher's test. If statistically significant immobility was observed in one concentration then this treatment was excluded from further analysis. The remaining exposure solutions were then examined for reproduction impairement. Nontransformed Ceriodaphnia reproduction data were initially evaluated for normality and homogeneity employing the Chi-Square and Bartlett's Tests. Dunnett's Procedure was then utilized in exposure solutions without significant mortality to determine whether there was a significant difference in daphnid reproduction between various effluent concentrations and the control (Figure 1).

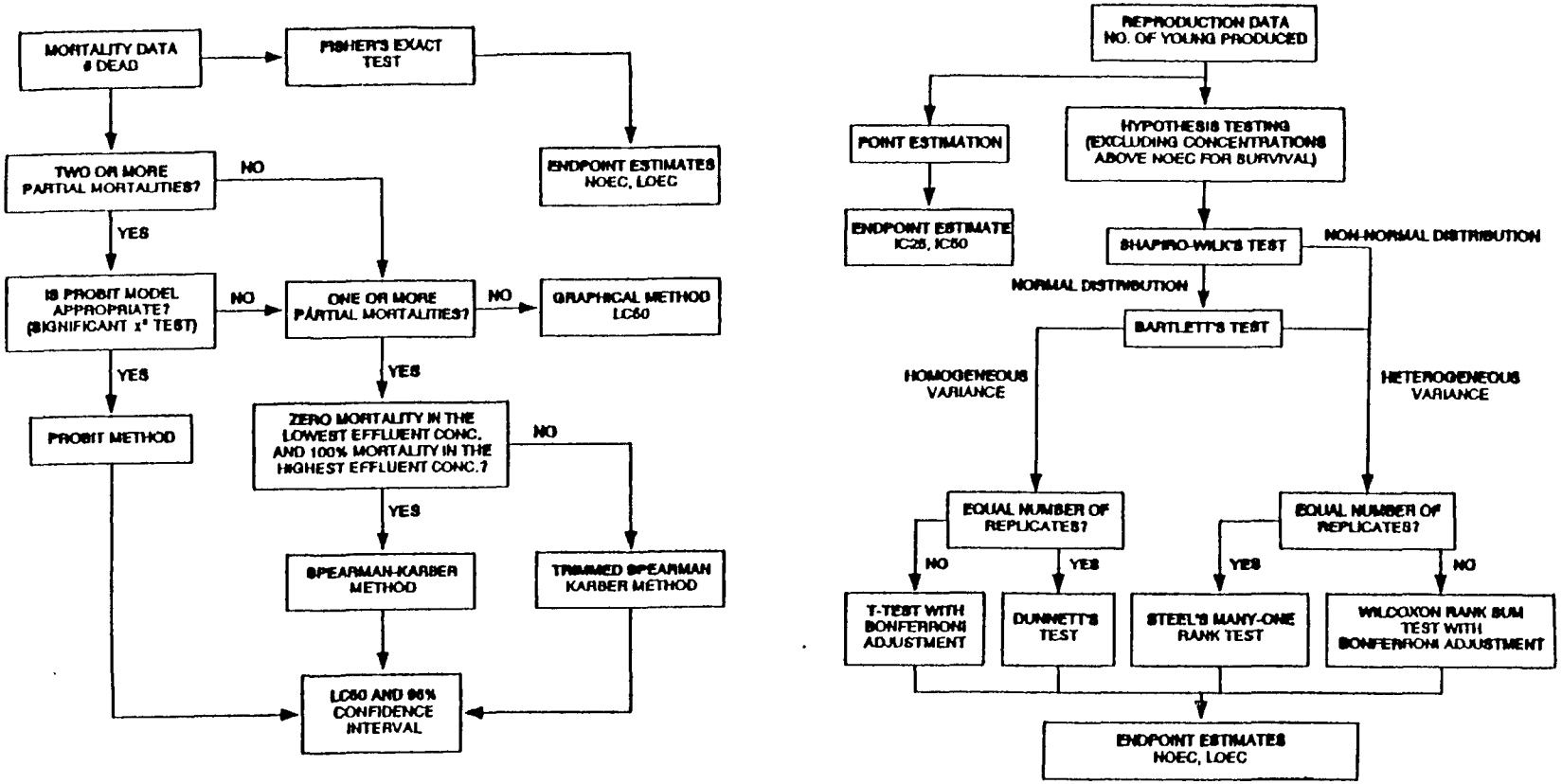


FIGURE 1 Flowcharts for the statistical analysis of the daphnid, Ceriodaphnia dubia, survival and reproduction data (EPA/600/4-91/002).

Similarly, nontransformed fish survival data were evaluated for normality and homogeneity using the Shapiro-Wilk's and Cochran's Tests, whereas fish growth was discriminated with Bartlett's Test for homogeneity. If passed, then Dunnett's Test was employed for determining significant differences in growth between the control and the various effluent concentrations (Figure 2). The TOXSTAT® 3.4 Program was used in these evaluations.

3.0 RESULTS AND DISCUSSION

Toxicity evaluation of the Battle Creek WWTP effluent was initiated on February 5, 1997 and completed on February 12, 1997. Twenty four hour composite samples collected on three separate occasions were employed in exposing both Ceriodaphnia and fatheads over this seven day period.

Alkalinity and hardness were measured and recorded (Appendix A). The remaining parameters such as conductivity and pH varied little between samples and over time. Dissolved oxygen remained over 50 percent saturation after each 24 hour exposure.

3.1 Ceriodaphnia dubia

The evaluation of BC-WWTP's effluent began on February 5, 1997 and the resulting data are presented in Test No. CC-960209 (Appendix A).

Fisher's Test was used to analyze the daphnid survival data. The results showed no statistically significant ($p = 0.05$) reduction in survival between the five effluent concentrations and the laboratory water control.

The reproduction data passed normality employing Chi-Square Test and Bartlett's Test for homogeneity at $p = 0.01$. The data were then evaluated for reduced reproduction with Dunnett's Test. There was no statistically significant ($p = 0.05$) difference in reproduction at any effluent concentration when compared to the control. Therefore, the NOEC is 100%. The LOEC and chronic value cannot be calculated.

3.2 Pimephales promelas

The fish survival and growth data are presented in Test No. CF-970205 (Appendix A).

Survival data were evaluated for normality with the Shapiro Wilk's Test and and Bartlett's Test for homogeneity and failed both. Wilcoxon's Rank Sum Test with Bonferroni Adjustment showed no statistically significant mortality in any concentration. The untransformed fish growth data passed normality and homogenity at $p = 0.01$ using Shapiro-Wilk's and Bartlett's Tests. These data were then analyzed for effects on growth employing Dunnett's Test. There was no statistically significant ($p = 0.05$) difference

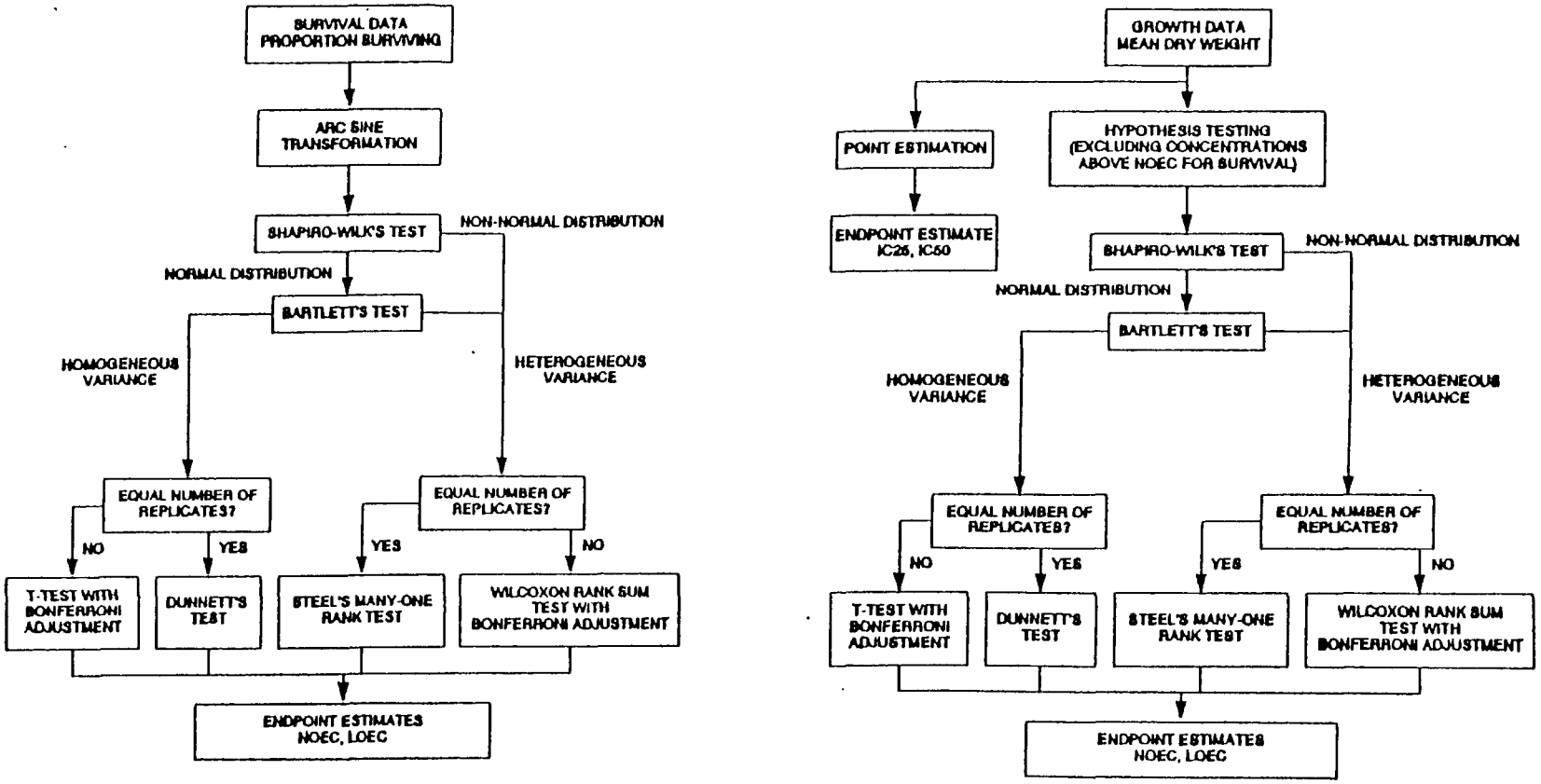


FIGURE 2 **Flowcharts for the statistical analysis of the fathead minnow, Pimephales promelas, survival and growth data (EPA/600/4-91/002)**

in growth observed in any effluent concentration when compared to the laboratory control. Hence, the NOEC for this analysis is 100%. The LOEC and chronic value cannot be calculated.

4.0 SUMMARY

Two different species of aquatic organisms were employed in determining the potential toxicity of BC-WWTP's effluent over a seven day period during February, 1997. There was no effect observed on Ceriodaphnia or on fathead minnows for this period.

APPENDIX A

TOXICITY EVALUATION
Ceriodaphnia Chronic Test
Initial Chemistries

Test No. CC-970209
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 hr Composite

Analyst: L Sweet/PG Meier
Date: 2/5/97 - 2/12/97
Client: City of Battle Creek

		Day						
		0	1	2	3*	4	5	6*
Control:		Moderately Hard Water						
Temperature (oC)		25	25	25	25	25	25	24
DO (mg/l)	Initial	8.6	8.4	8.6	8.4	8.4	8.4	8.3
	Final	8.5	8.3	8.4	8.3	8.2	8.2	8.2
pH		7.4	7.9	7.7	7.8	7.8	7.8	7.8
Conductivity (umhos/cm)		280	270	250	270	300	260	260
Hardness (mg/CaCO3)		112	112	112	112	112	112	112
Alkalinity (mg/CaCO3)		58	58	58	58	58	58	58
Concentration No 1:		5%						
Temperature (oC)		25	25	25	25	25	25	24
DO (mg/l)	Initial	8.6	8.4	8.5	8.4	8.5	8.4	8.4
	Final	8.5	8.2	8.4	8.3	8.4	8.3	8.3
pH		7.5	7.9	7.7	7.8	7.8	7.7	7.7
Conductivity (umhos/cm)		330	330	320	340	340	340	390
Concentration No 2:		15%						
Temperature (oC)		25	25	25	25	25	25	24
DO (mg/l)	Initial	8.4	8.4	8.6	8.4	8.5	8.4	8.5
	Final	8.3	8.3	8.4	8.3	8.4	8.3	8.3
pH		7.6	7.9	7.8	7.8	7.8	7.8	7.7
Conductivity (umhos/cm)		450	440	420	450	450	420	420
Concentration No 3:		30%						
Temperature (oC)		25	25	25	25	25	25	24
DO (mg/l)	Initial	8.4	8.3	8.4	8.4	8.6	8.4	8.4
	Final	8.3	8.2	8.2	8.3	8.4	8.3	8.3
pH		7.5	7.9	7.9	7.8	7.7	7.7	7.7
Conductivity (umhos/cm)		660	650	620	640	650	630	620
Concentration No 4:		60%						
Temperature (oC)		25	25	25	24	25	25	24
DO (mg/l)	Initial	8.4	8.3	8.4	8.4	8.6	8.4	8.4
	Final	8.2	8.3	8.3	8.3	8.4	8.3	8.3
pH		7.5	7.8	7.8	7.7	7.7	7.7	7.6
Conductivity (umhos/cm)		1050	990	1000	980	990	950	950
Concentration No. 5 :		100%						
Temperature (oC)		25	25	25	25	25	25	24
DO (mg/l)	Initial	8.4	8.4	8.4	8.3	8.6	8.4	8.4
	Final	8.3	8.3	8.3	8.2	8.4	8.3	8.3
pH		7.5	7.8	7.8	7.7	7.7	7.7	7.6
Conductivity (umhos/cm)		1530	1490	1460	1470	1470	1450	1440
Hardness (mg/CaCO3)		360	360	360	372	372	372	348
Alkalinity (mg/CaCO3)		270	270	270	266	266	266	298

*New supply of effluent: 2/8/97 and 2/11/97

Date of Sample: 2/3/97 - 2/4/97
Date of Sample: 2/6/97 - 2/7/97
Date of Sample: 2/9/97 - 2/10/97

Residual Chlorine: None Detected
Residual Chlorine: None Detected
Residual Chlorine: None Detected

Arrival Temperature: 0 °C
Arrival Temperature: 2 °C
Arrival Temperature: 1 °C

TOXICITY EVALUATION
Ceriodaphnia Survival and Reproduction Test

Test No. CC-970209
Toxicant: Battle Creek WWTP
Sample Type: 24 Hr Composite

Analyst: L Sweet
Test Start - Date/Time: 2/5/97 - 1445
Test Stop - Date/Time: 2/12/97 - 1400

Client: City of Battle Creek

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
MHW	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	6 [1]	5 [1]	5 [1]	4 [1]	4 [1]	4 [1]	6 [1]	4 [1]	0	3 [1]	41	10	4.1
	5	4 [2]	0	0	2 [2]	0	0	0	0	9 [1]	0	15	10	1.5
	6	9 [3]	7 [2]	7 [2]	7 [3]	8 [2]	9 [2]	7 [2]	7 [2]	8 [2]	9 [2]	78	10	7.8
	7	0	0	14 [3]	0	13 [3]	13 [3]	15 [3]	15 [3]	3 [3]	12 [3]	85	10	8.5
	Total	19	12	26	13	25	26	28	26	20	24	219	10	21.9

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
5%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	4 [1]	5 [1]	5 [1]	6 [1]	4 [1]	5 [1]	0	3 [1]	2 [1]	34	10	3.4
	5	4 [1]	0	0	3 [2]	0	0	5 [2]	0	10 [2]	0	22	10	2.2
	6	7 [2]	7 [2]	8 [2]	9 [3]	11 [2]	9 [2]	0	8 [1]	8 [3]	7 [2]	74	10	7.4
	7	6 [3]	14 [3]	13 [3]	0	17 [3]	12 [3]	15 [3]	10 [2]	0	10 [3]	97	10	9.7
	Total	17	25	26	17	34	25	25	18	21	19	227	10	22.7

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
15%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	3 [1]	6 [1]	4 [1]	4 [1]	6 [1]	3 [1]	2 [1]	5 [1]	5 [1]	38	10	3.8
	5	4 [1]	5 [2]	11 [2]	0	0	0	0	0	0	0	20	10	2.0
	6	10 [2]	10 [3]	9 [3]	8 [2]	12 [2]	8 [2]	10 [2]	8 [2]	7 [2]	9 [2]	91	10	9.1
	7	0	0	0	10 [3]	16 [3]	13 [3]	15 [3]	16 [3]	15 [3]	15 [3]	100	10	10.0
	Total	14	18	26	22	32	27	28	26	27	29	249	10	24.9

TOXICITY EVALUATION
Ceriodaphnia Survival and Reproduction Test

Test No. CC-970209
Toxicant: Battle Creek WWTP

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
30%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	5 [1]	4 [1]	3 [1]	5 [1]	4 [1]	3 [1]	0	4 [1]	3 [1]	2 [1]	33	10	3.3
	5	10 [2]	0	0	0	0	0	5 [1]	0	0	10 [2]	25	10	2.5
	6	0	9 [2]	10 [2]	13 [2]	10 [2]	13 [2]	10 [2]	13 [2]	10 [2]	11 [3]	99	10	9.9
	7	15 [3]	16 [3]	18 [3]	8 [3]	19 [3]	0	6 [3]	0	21 [3]	0	103	10	10.3
	Total	30	29	31	26	33	16	21	17	34	23	260	10	26.0

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
60%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	0	5 [1]	3 [1]	4 [1]	4 [1]	3 [1]	0	4 [1]	4 [1]	0	27	10	2.7
	5	4 [1]	0	10 [2]	0	0	0	3 [1]	0	0	3 [1]	20	10	2.0
	6	13 [2]	10 [2]	0	10 [2]	10 [2]	11 [2]	9 [2]	8 [2]	10 [2]	9 [2]	90	10	9.0
	7	10 [3]	10 [3]	15 [3]	19 [3]	0	10 [3]	10 [3]	10 [3]	6 [3]	10 [3]	100	10	10.0
	Total	27	25	28	33	14	24	22	22	20	22	237	10	23.7

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	3 [1]	0	3 [1]	0	6 [1]	4 [1]	0	0	3 [1]	0	19	10	1.9
	5	0	6 [1]	6 [2]	4 [1]	8 [2]	6 [2]	5 [1]	2 [1]	0	3 [1]	40	10	4.0
	6	10 [2]	11 [2]	13 [3]	6 [2]	11 [3]	9 [3]	0	16 [2]	10 [2]	6 [2]	92	10	9.2
	7	13 [3]	12 [3]	0	0	0	0	14 [2]	0	10 [3]	14 [3]	63	10	6.3
	Total	26	29	22	10	25	19	19	18	23	23	214	10	21.4

CC-970209 BATTLE CREEK WWTP EFFLUENT
Ceriodaphnia Reproduction Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	10	12.000	28.000	21.900
2	5%	10	17.000	34.000	22.700
3	15%	10	14.000	32.000	24.900
4	30%	10	16.000	34.000	26.000
5	60%	10	14.000	33.000	23.700
6	100%	10	10.000	29.000	21.400

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	32.322	5.685	1.798	25.96
2	5%	28.678	5.355	1.693	23.59
3	15%	29.211	5.405	1.709	21.71
4	30%	42.000	6.481	2.049	24.93
5	60%	26.011	5.100	1.613	21.52
6	100%	27.822	5.275	1.668	24.65

CHI-SQUARE TEST FOR NORMALITY: actual and expected frequencies

INTERVAL	<-1.5	-1.5 to <-0.5	-0.5 to 0.5	>0.5 to 1.5	>1.5
EXPECTED	4.020	14.520	22.920	14.520	4.020
OBSERVED	6	11	23	18	2

Calculated Chi-Square goodness of fit test statistic = 3.6779
Table Chi-Square value (alpha = 0.01) = 13.277

Data PASS normality test.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 0.66

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level.

CC-970209 BATTLE CREEK WWTP EFFLUENT
Ceriodaphnia Reproduction Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	158.333	31.667	1.021
Within (Error)	54	1674.400	31.007	
Total	59	1832.733		

Critical F value = 2.45 (0.05,5,40)
Since F > Critical F REJECT Ho: All equal

DUNNETT'S TEST Ho:Control<Treatment

GRP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 control	21.900	21.900		
2	5%	22.700	22.700	-0.321	
3	15%	24.900	24.900	-1.205	
4	30%	26.000	26.000	-1.646	
5	60%	23.700	23.700	-0.723	
6	100%	21.400	21.400	0.201	

Dunnett table value = 2.31 (1 Tailed Value, P=0.05, df=40,5)

TOXICITY EVALUATION
Fathead Minnow Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No: CF-970205
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 Hr Composite

Analyst: PG Meier/P Lin/L Pascual
Test Dates: 2/5/97 - 2/12/97

Client: City of Battle Creek

Laboratory Control:		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	24
D.O. (mg/l)	Initial	8.6	8.4	8.6	8.3	8.4	8.4	8.4
	Final	6.6	5.6	4.6	5.2	4.2	5.1	5.2
pH	Initial	7.8	7.7	7.7	7.9	7.9	7.8	7.8
	Final	7.3	7.3	7.4	7.1	7.2	7.2	7.0
Conductivity (umhos/cm)		310	290	280	300	290	290	270
Hardness (mg/l CaCO3)		120	120	120	120	120	120	120
Alkalinity (mg/l CaCO3)		70	70	70	70	70	70	70

Conc: 5%		Day						
		0	1	2	3*	4	5	6*
Temperature (oC)		25	25	25	25	24	25	24
D.O. (mg/l)	Initial	8.6	8.6	8.4	8.4	8.4	8.4	8.4
	Final	5.6	4.3	4.6	5.0	4.5	5.4	4.9
pH	Initial	7 9	7.8	7.9	7.9	7.8	7.8	7.8
	Final	7.3	7.3	7.4	7.2	7.3	7.3	7.2
Conductivity (umhos/cm)		370	370	360	360	350	330	340

Conc: 15%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	24
D.O. (mg/l)	Initial	8.6	8.6	8.4	8.4	8.4	8.4	8.4
	Final	5.8	5.1	4.8	5.5	4.4	5.3	4.9
pH	Initial	7.7	7.8	7.8	7.8	7.7	7.8	7.8
	Final	7.5	7.4	7.4	7.3	7.3	7.3	7.3
Conductivity (umhos/cm)		480	470	450	470	460	440	440

Conc: 30%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	24
D.O. (mg/l)	Initial	8.6	8.6	8.4	8.4	8.4	8.4	8.4
	Final	5.7	4.4	5.0	4.6	4.0	5.0	4.7
pH	Initial	7 7	7.7	7 8	7.8	7.7	7.7	7.8
	Final	7.6	7.5	7.5	7.4	7.4	7.5	7 5
Conductivity (umhos/cm)		680	690	660	640	620	700	620

*New supply of effluent: 2/8/97 and 2/11/97

Date of Sample: 2/3/97 - 2/4/97
Residual Chlorine: None Detected
Date of Sample: 2/6/97 - 2/7/97
Residual Chlorine: None Detected
Date of Sample: 2/9/97 - 2/10/97
Residual Chlorine: None Detected

Arrival Temperature: 0 ° C
Arrival Temperature: 2 ° C
Arrival Temperature: 10 ° C

TOXICITY EVALUATION
Fathead Minnow Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No: CF-970205
Toxicant: Battle Creek WWTP Effluent

Conc: 60%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	25
D.O. (mg/l)	Initial	8.6	8.4	8.6	8.4	8.4	8.3	8.4
	Final	5.7	4.8	4.2	5.1	4.8	5.1	5.1
pH	Initial	7.6	7.6	7.8	7.8	7.7	7.7	7.7
	Final	7.9	7.8	7.7	7.7	7.7	7.7	7.8
Conductivity (umhos/cm)		1050	1100	1050	980	860	980	990

Conc: 100%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	25
D.O. (mg/l)	Initial	8.6	8.4	8.4	8.6	8.3	8.3	8.4
	Final	5.8	4.9	4.7	4.1	3.9	5.0	4.7
pH	Initial	7.7	7.7	7.8	7.7	7.7	7.8	7.7
	Final	8.1	8.0	7.9	7.8	7.8	7.8	7.9
Conductivity (umhos/cm)		1500	1500	1480	1460	1380	1300	1390
Hardness (mg/l CaCO3)		360	360	360	372	372	372	348
Alkalinity (mg/l CaCO3)		270	270	270	266	266	266	298

TOXICITY EVALUATION
Survival Data for Fathead Minow
Larval Survival and Growth Test

Test No: CF-970205
Toxicant: Battle Creek WWTP Effluent
Sample Type: 24 Hr Composite

Analyst: P Lin/D Pascual
Test Start: Date/Time: 2/5/97 - 1400
Test Stop: Date/Time: 2/12/97 -1430

Client: City of Battle Creek

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
Control Moderately Hard Water	A	10	10	10	10	10	10	10	10	5.08	0.51
	B	10	10	10	10	10	10	10	10	5.64	0.56
	C	10	10	10	10	10	10	10	9	4.45	0.49

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
5%	A	10	10	10	10	10	10	10	10	6.12	0.61
	B	10	10	10	10	10	10	10	10	5.15	0.52
	C	10	10	10	10	10	10	10	9	4.99	0.55

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
15%	A	10	10	10	10	10	10	10	10	5.73	0.57
	B	10	10	10	10	10	10	10	10	6.00	0.60
	C	10	10	10	10	10	10	10	10	5.79	0.58

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
30%	A	10	10	10	9	9	9	9	9	3.70	0.41
	B	10	10	10	10	9	9	9	9	4.28	0.48
	C	10	10	10	10	10	10	10	10	5.61	0.56

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
60%	A	10	10	10	10	10	10	10	10	5.31	0.53
	B	10	10	10	10	10	10	10	10	5.35	0.54
	C	10	10	10	9	9	9	9	9	4.89	0.54

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
100%	A	10	10	10	10	10	10	10	10	4.84	0.48
	B	10	10	10	10	10	10	10	10	5.32	0.53
	C	10	10	10	10	10	10	10	9	5.91	0.66

CF-970205 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Survival Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	3	9.000	10.000	9.667
2	5%	3	9.000	10.000	9.667
3	15%	3	10.000	10.000	10.000
4	30%	3	9.000	10.000	9.333
5	60%	3	9.000	10.000	9.667
6	100%	3	9 000	10.000	9.667

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	0.333	0.577	0.333	5.97
2	5%	0.333	0.577	0.333	5.97
3	15%	0.000	0.000	0.000	0.00
4	30%	0.333	0.577	0.333	6.19
5	60%	0.333	0.577	0.333	5.97
6	100%	0.333	0.577	0.333	5.97

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 3.333

W = 0.837

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data FAIL normality test at P=0.01 level.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

These two tests can not be performed because at least one group has zero variance.

WILCOXON'S RANK SUM TEST W/ BONFERRONI ADJUSTMENT - Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	RANK SUM	CRIT VALUE	REPS	SIG
1	0.0 control	9.667				
2	5%	9.667	10.50	None	3	
3	15%	10.000	12.00	None	3	
4	30%	9.333	9.00	None	3	
5	60%	9.667	10.50	None	3	
6	100%	9.667	10.50	None	3	

Critical values use k = 5, are 1 tailed, and alpha = 0.05

CF-970205 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Growth Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	3	0.775	0.846	0.805
2	5%	3	0.805	0.896	0.846
3	15%	3	0.856	0.886	0.869
4	30%	3	0.695	0.846	0.769
5	60%	3	0.815	0.825	0.822
6	100%	3	0.765	0.948	0.843

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	0.001	0.036	0.021	4.49
2	5%	0.002	0.046	0.027	5.48
3	15%	0.000	0.016	0.009	1.78
4	30%	0.006	0.075	0.044	9.81
5	60%	0.000	0.006	0.003	0.70
6	100%	0.009	0.095	0.055	11.21

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 0.037

W = 0.947

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 11.00

Table Chi-square value = 15.09 (alpha = 0.01, df = 5)
Table Chi-square value = 11.07 (alpha = 0.05, df = 5)

Data PASS B1 homogeneity test at 0.01 level.

CF-970205 BATTLE CREEK WWTP EFFLUENT
Fathead Minnow Larval Growth Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	0.019	0.004	1.231
Within (Error)	12	0.037	0.003	
Total	17	0.055		

Critical F value = 3.11 (0.05,5,12)
Since F < Critical F FAIL TO REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 control	0.805	0.520		
2	5%	0.846	0.560	-0.892	
3	15%	0.869	0.583	-1.411	
4	30%	0.769	0.483	0.816	
5	60%	0.822	0.537	-0.369	
6	100%	0.843	0.557	-0.832	

Dunnett table value = 2.50 (1 Tailed Value, P=0.05, df=12,5)

APPENDIX B

Summary Reference Test Data
for

Evaluation of Effluent Toxicity of
City of Battle Creek WWTP
2000 W. River Road
Battle Creek, Michigan 49015

February 4 - 12, 1997

NPDES Permit No. MI 0022276

By:

Peter G. Meier, Ph.D.
School of Public Health
The University of Michigan
Ann Arbor, Michigan 48109

February 17, 1997

1.0 INTRODUCTION

This report contains the reference toxicity methods and data interpretation for Ceriodaphnia dubia and Pimephales promelas when exposed to various concentrations of sodium chloride over the seven day period.

2.0 PROCEDURES AND METHODS

A seven day, (three brood) chronic, Ceriodaphnia dubia, static renewal, survival and reproduction test and a seven day, subchronic fathead minnow (Pimephales promelas) static renewal, larval survival and growth tests were employed. Methods as outlined in EPA-600/4-91/002 were followed. The Ceriodaphnia and the fathead minnow test were performed from January 4 - 12, 1997.

2.1 Laboratory Water Supply

A moderately hard water is employed in our facility for daphnids and fish cultures. Preparation of the reconstituted laboratory water is outlined in EPA-600/4-91/002. This water is made up in volumes of 200 l on which water quality parameters are run to check for consistencies between batches. Moderately hard water was used to make up the various concentrations of sodium chloride for exposures of Ceriodaphnia and fatheads.

2.2 Test Organisms

Ceriodaphnia and Pimephales promelas used in these reference experiments were from the same stock as those organisms employed in the effluent toxicity tests and less than 24 hours old.

2.3 Experimental Design

The purpose of this series of tests was to evaluate the "relative sensitivity" of both organisms to our reference toxicant, sodium chloride. Ceriodaphnia were exposed to five different concentrations of NaCl and one control with 10 replicates for each treatment. The larval fatheads were also exposed to five concentrations and one control. Each exposure vessel contained 10 larval fish (less than 24 hr old) and there were three replicates for each level. The fish were fed three times per day. Exposure solutions were replaced daily over the seven day testing period. Routine parameters were measured daily prior to the transfer of organisms to their respective exposure vessels.

3.0 RESULTS AND DISCUSSION

Reference toxicity evaluations with daphnids began on February 4, 1997 and on February 5, 1997 for fathead minnows. The routine physical-chemical parameters varied little over the testing period (CC-970202R - Initial Chemistries and CF-970202R -

Routine Chemical and Physical data). Conductivity increased with increasing NaCl concentrations.

3.1 Ceriodaphnia

Mortality and reproduction data for this organism are presented in Test No. CC-970202R. The survival data were examined with the Fisher's Exact Test which showed a statistically significant daphnid mortality at p = 0.05 in the highest two exposure concentrations.

The reproduction data passed normality and homogeneity employing the Chi-Square and Bartlett's Test at p = 0.01. Dunnett's Test was used and a statistically significant difference in reproduction was found at the concentration of 1.6 g/l of NaCl. Hence, the NOEC is 1.0 g/l of NaCl and the LOEC is 1.6 g/l of NaCl. The chronic value is 1.26 g/l of NaCl.

3.2 Pimephales promelas

The fish survival and growth data are presented in Test No. CF-970202R. The survival data passed Shapiro-Wilk's Test for normality Cochran's Test for homogeneity at the 0.01 level. Dunnett's Test showed statistically significant (p = 0.05) mortality in the highest two concentrations. The growth data passed the Shapiro-Wilk's Test for normality (p = 0.01) and Bartlett's Test for homogeneity (p = 0.01). Dunnett's Test showed no statistically significant (p = 0.05) difference in growth in the concentrations. Therefore, the NOEC is 3.0 g/l of NaCl and the LOEC is 3.4 g/l of NaCl. The chronic value is 3.19 g/l of NaCl.

4.0 SUMMARY

Separate reference toxicity tests with Ceriodaphnia dubia and Pimephales promelas were carried out with sodium chloride. Both tests proved valid since 80% or greater survival in the controls was achieved after the seven day period. Also, each Ceriodaphnia in the control produced more than 15 live young and each larval fish weighed over 0.25 mg.

The chronic values of 1.26 g/l of NaCl for Ceriodaphnia and 3.19 g/l of NaCl for fathead minnows agree well with previous tests.

QUALITY ASSURANCE

Cenodaphnia Chronic Test
Initial Chemistnes

Test No : CC-970202R
Toxicant: Sodium Chlonde
Analyst: L Sweet/PG Meier
Date: 2/4/97 - 2/11/97

		Day						
		0	1	2	3	4	5	6
Control:		Moderately Hard Water						
Temperature (oC)		24	25	25	25	25	25	25
DO (mg/l)	Initial	8.6	8.4	8.6	8.6	8.4	8.5	8.4
DO (mg/l)	Final	8.4	8.2	8.4	8.5	8.3	8.3	8.3
pH		7.7	7 8	7.9	7.8	7.8	7.8	7.8
Conductivity (umhos/cm)		270	290	280	360	580	300	260
Hardness (mg/CaCO3)		112	112	112	112	112	112	112
Alkalinity (mg/CaCO3)		58	58	58	58	58	58	58
Concentration No 1:		0.6 g/l						
Temperature (oC)		24	25	25	25	25	25	25
DO (mg/l)	Initial	8.6	8.4	8.6	8.6	8.4	8.4	8.4
DO (mg/l)	Final	8.5	8.3	8.5	8.5	8.2	8.3	8.3
pH		7.8	7.8	7.9	7.7	7.7	7.7	7.7
Conductivity (umhos/cm)		1330	1320	1270	1220	1280	1290	1260
Concentration No 2:		1.0 g/l						
Temperature (oC)		24	25	24	25	25	25	25
DO (mg/l)	Initial	8.6	8.4	8.6	8.4	8.3	8.4	8.4
DO (mg/l)	Final	8.5	8.3	8.5	8.3	8.2	8.3	8.2
pH		7.9	7.9	7.9	7.8	7.8	7.7	7.7
Conductivity (umhos/cm)		1950	2050	2970	2970	2890	2900	2900
Concentration No 3:		1.6 g/l						
Temperature (oC)		24	25	25	25	25	25	25
DO (mg/l)	Initial	8.6	8.4	8.7	8.4	8.4	8.5	8.4
DO (mg/l)	Final	8.5	8.3	8.5	8.3	8.3	8.4	8.3
pH		7.9	7.9	7.9	7.8	7.7	7.7	7.9
Conductivity (umhos/cm)		2980	3100	2970	2970	2890	2900	2900
Concentration No. 4:		2.0 g/l						
Temperature (oC)		24	25	25	25	25	25	25
DO (mg/l)	Initial	8.6	8.4	8.7	8.4	8.4	8.5	8.4
DO (mg/l)	Final	8.4	8.2	8.5	8.3	8.2	8.3	8.2
pH		7.9	7.9	7.9	7.8	7.7	7.7	7.7
Conductivity (umhos/cm)		3850	3870	3640	3590	3590	3600	3600
Concentration No. 5:		2.4 g/l						
Temperature (oC)		24	25	25	25	—	—	—
DO (mg/l)	Initial	8.6	8.4	8 6	8.4	—	—	—
DO (mg/l)	Final	8.5	8 2	8.4	8.3	—	—	—
pH		7 9	7 9	7 9	7.8	—	—	—
Conductivity (umhos/cm)		4340	4490	4260	4260	—	—	—

QUALITY ASSURANCE

Ceriodaphnia Survival and Reproduction Test

Test No. CC-970202R

Toxicant: Sodium Chlonde

Analyst: L Sweet

est Start - Date/Time: 2/4/97 - 1200

est Stop - Date/Time: 2/11/97 - 1530

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
Moderately Hard Water	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	[1] 4	[1] 4	0	0	0	[1] 4	0	[1] 4	0	0	16	10	1.6
	5	[2] 3	0	[1] 2	[1] 3	[1] 2	0	[1] 3	0	[1] 3	[1] 3	19	10	1.9
	6	0	[2] 10	[2] 3	[2] 10	[2] 8	[2] 6	[2] 5	[2] 3	[2] 8	[2] 7	60	10	6.0
	7	[3] 15	[3] 8	[3] 13	[3] 8	[3] 12	[3] 15	[3] 10	[3] 16	[3] 10	[3] 15	122	10	12.2
	Total	22	22	18	21	22	25	18	23	21	25	217	10	21.7

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
0.6 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	[1] 6	[1] 6	[1] 4	[1] 8	0	0	[1] 5	0	[1] 6	0	35	10	3.5
	5	[2] 3	0	[2] 8	0	[1] 6	[1] 6	[2] 7	[1] 9	0	[1] 3	42	10	4.2
	6	[3] 10	[2] 10	[3] 5	[2] 5	0	[2] 3	[3] 4	[2] 4	[2] 9	[2] 8	58	10	5.8
	7	0	[3] 4	0	[3] 6	[2] 14	[3] 10	0	[3] 6	[3] 10	[3] 13	63	10	6.3
	Total	19	20	17	19	20	19	16	19	25	24	198	10	19.8

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
1.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	[1] 6	0	0	[1] 6	[1] 5	[1] 6	0	0	0	0	23	10	2.3
	5	0	[1] 2	[1] 8	0	[2] 2	0	[1] 2	[1] 9	[1] 6	[1] 8	37	10	3.7
	6	[2] 4	[2] 5	[2] 8	[2] 8	0	[2] 8	[2] 6	[2] 3	0	[2] 8	50	10	5.0
	7	[3] 10	[3] 10	[3] 5	[3] 9	[3] 4	[3] 10	[3] 10	[3] 10	[2] 9	[3] 7	84	10	8.4
	Total	20	17	21	23	11	24	18	22	15	23	194	10	19.4

Cenodaphnia Survival and Reproduction Test

Test No. CC-972020R
Toxicant: Sodium Chloride

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
1.6 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	4	16	0	0	16	15	0	0	0	0	x	17	9	1.9
	5	0	0	12	0	0	0	0	16	16		14	9	1.6
	6	0	16	19	0	0	18	0	18	x		31	8	3.9
	7	26	25	0	210	29	210	18	0			48	8	6.0
	Total	12	11	11	16	14	18	8	14	6	0	110	8	13.3

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
2.0 g/l	1	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0.0
	3	0	0	0	x	x	x	x	x	x	x	0	3	0.0
	4	0	0	0								0	3	0.0
	5	16	0	12								8	3	2.7
	6	0	16	0								6	3	2.0
	7	0	0	0								0	3	0.0
	Total	6	6	2	0	0	0	0	0	0	0	14	3	4.7

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
2.4 g/l	1	0	0	0	0	x	x	x	x	x	x	0	4	0.0
	2	x	x	x	x							0	0	0.0
	3											0	0	0.0
	4											0	0	0.0
	5											0	0	0.0
	6											0	0	0.0
	7											0	0	0.0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0.0

CC-970202-R REFERENCE TOXICITY TEST
Ceriodaphnia Reproduction Data Analysis

SUMMARY OF FISHER'S EXACT TESTS

GROUP	IDENTIFICATION	NUMBER EXPOSED	NUMBER ALIVE	SIG (P=.05)
	CONTROL	10	10	
1	0.6	10	10	
2	1.0	10	10	
3	1.6	10	8	
4	2.0	10	3	*
5	2.4	10	0	*

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	10	18.000	25.000	21.700
2	0.6	10	16.000	25.000	19.800
3	1.0	10	11.000	24.000	19.400
4	1.6	10	0.000	18.000	11.000

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	5.789	2.406	0.761	11.09
2	0.6	7.733	2.781	0.879	14.04
3	1.0	17.156	4.142	1.310	21.35
4	1.6	27.556	5.249	1.660	47.72

SHAPIRO WILK'S TEST FOR NORMALITY: actual and expected frequencies

D = 524.100

W = 0.960

Critical W (P = 0.05) (n = 40) = 0.940
Critical W (P = 0.01) (n = 40) = 0.919

Data PASS normality test at P=0.01 level.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 6.47

Table Chi-square value = 11.34 (alpha = 0.01, df = 3)
Table Chi-square value = 7.81 (alpha = 0.05, df = 3)

Data PASS B1 homogeneity test at 0.01 level.

CC-970202-R REFERENCE TOXICITY TEST
Ceriodaphnia Reproduction Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	3	678.875	226.292	15.544
Within (Error)	36	524.100	14.558	
Total	39	1202.975		

Critical F value = 2.92 (0.05,3,30)
Since F > Critical F REJECT Ho: All equal

DUNNETT'S TEST Ho:Control<Treatment

GRP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 control	21.700	21.700		
2	0.6	19.800	19.800	1.113	
3	1.0	19.400	19.400	1.348	
4	1.6	11.000	11.000	6.271	*

Dunnett table value = 2.15 (1 Tailed Value, P=0.05, df=30,3)

QUALITY ASSURANCE
Fathead Minnow and Larval Survival and Growth Test
Routine Chemical and Physical Determination

Test No: CF-970202R
Toxicant: Sodium Chloride

Analyst: L Pascual, P Lin
Test Dates: 2/5/97 - 2/12/97

Laboratory Control: Moderately Hard Water		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	24	24	25	24
D.O.	Initial	8.4	8.6	8.6	8.6	8.4	8.3	8.4
mg/l	Final	7 1	5 5	4 9	4.4	4.4	4.2	5.9
pH	Initial	7 9	7 9	7.9	7.8	7.8	7 8	7.8
	Final	7.3	7 4	7 2	6 9	7.2	7 1	7.2
Conductivity (umhos/cm)		330	340	330	310	300	300	310
Hardness (mg/l CaCO3)		120	120	120	120	120	120	120
Alkalinity (mg/l CaCO3)		70	70	70	70	70	70	70

Conc: 2.0 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	24	24	25	24
D.O.	Initial	8.4	8.6	8.6	8.6	8.4	8.3	8.4
mg/l	Final	7.2	6.8	6.4	6.0	6.5	5.0	6.8
pH	Initial	7.9	7.8	7.8	7.7	7.7	7.8	7.8
	Final	7.4	7.5	7.3	7.2	7.4	7.3	7.3
Conductivity (umhos/cm)		3700	3560	3620	3490	3320	3300	3300

Conc: 2.4 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	24	24	25	24
D.O.	Initial	8.4	8.6	8.4	8.6	8.4	8.3	8.4
mg/l	Final	6.9	6.5	6.3	6.1	7.4	4.7	6.8
pH	Initial	7.8	7.9	7.8	7.7	7.7	7.8	7.8
	Final	7.4	7.5	7.3	7.2	7.4	7.3	7.3
Conductivity (umhos/cm)		4400	4240	4270	4150	4150	4120	4100

Conc: 3.0 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	24	24	25	24
D.O.	Initial	8.4	8 6	8 4	8 4	8.4	8.2	8.4
mg/l	Final	7 0	6.6	6.3	5.8	5.9	4 9	6.4
pH	Initial	7.9	7 9	7 9	7.8	7.8	7.8	7.8
	Final	7 5	7 5	7.3	7.2	7.3	7 3	7.3
Conductivity (umhos/cm)		5440	5230	5210	5240	5110	5100	5080

Conc: 3.4 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	24	24	25	24
D.O.	Initial	8.4	8.6	8 6	8.4	8.4	8.4	8.4
mg/l	Final	6 8	6 5	6 0	5.7	5.9	4 8	6.7
pH	Initial	7.9	7.9	7 9	7 8	7 8	7.8	7.8
	Final	7 5	7 5	7 3	7.2	7 3	7 3	7 3
Conductivity (umhos/cm)		6120	5920	5940	5770	5720	5720	5720

Conc: 4.0 g/l		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	24	24	25	24
D.O.	Initial	8.3	8 6	8 6	8.2	8.4	8.4	8.4
mg/l	Final	6 6	6 8	6 1	6 5	5 9	5.0	6.8
pH	Initial	7 9	7 9	7 9	7 9	7 8	7 8	7.9
	Final	7 4	7 5	7 3	7 3	7 3	7 3	7.3
Conductivity (umhos/cm)		6860	6710	6500	6740	6580	6530	6610

QUALITY ASSURANCE

Survival Data for Fathead Minnow
Larval Survival and Growth Test

Test No: CF-970202R

Toxicant: Sodium Chloride

Analyst: L Pascual/P Lin

Test Start: Date/Time: 2/5/97 - 1330

Test Stop: Date/Time: 2/12/97 - 1400

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
Control Moderately Hard Water	A	10	10	10	10	10	10	10	10	4.62	0.46
	B	10	10	10	10	10	10	10	10	3.56	0.36
	C	10	10	10	10	8	8	8	8	4.43	0.55

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
2.0 g/l	A	10	10	10	10	10	10	10	9	4.30	0.48
	B	10	10	10	10	10	10	10	10	4.74	0.47
	C	10	10	10	10	10	9	9	9	3.94	0.44

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
2.4 g/l	A	10	10	10	10	10	10	9	9	3.23	0.36
	B	10	10	10	10	10	10	10	10	4.11	0.41
	C	10	10	10	10	10	10	10	10	3.73	0.37

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
3.0 g/l	A	10	10	10	10	10	10	10	10	3.41	0.34
	B	10	10	10	10	10	10	10	10	4.81	0.48
	C	10	10	10	10	10	10	10	10	4.43	0.44

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
3.4 g/l	A	10	10	10	10	10	8	8	5	1.17	0.23
	B	10	10	10	10	10	10	8	8	1.73	0.22
	C	10	10	10	10	10	9	8	7	1.78	0.25

Conc.	Rep. No	0	1	2	3	4	5	6	7	Total Wt (mg)	Wt (mg) per Fish
4.0 g/l	A	10	10	10	10	10	10	9	7	1.59	0.23
	B	10	10	10	8	8	8	5	4	0.72	0.18
	C	10	10	10	10	9	9	7	5	1.29	0.26

CF-970202-R REFERENCE TEST
Fathead Minnow Larval Survival Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	3	8.000	10.000	9.333
2	2.0	3	9.000	10.000	9.333
3	2.4	3	9.000	10.000	9.667
4	3.0	3	10.000	10.000	10.000
5	3.4	3	5.000	8.000	6.667
6	4.0	3	4.000	7.000	5.333

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	1.333	1.155	0.667	12.37
2	2.0	0.333	0.577	0.333	6.19
3	2.4	0.333	0.577	0.333	5.97
4	3.0	0.000	0.000	0.000	0.00
5	3.4	2.333	1.528	0.882	22.91
6	4.0	2.333	1.528	0.882	28.64

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 13.333

W = 0.965

Critical W (P = 0.05) (n = 18) = 0.897
Critical W (P = 0.01) (n = 18) = 0.858

Data PASS normality test at P=0.01 level.

COCHRAN'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated G statistic = 0.3500
Table value = 0.72 (alpha = 0.01, df = 6, 3)
Table value = 0.62 (alpha = 0.05, df = 6, 3)

Data PASS homogeneity test at 0.01 level.

CF-970202-R REFERENCE TEST
Fathead Minnow Larval Survival Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	5	54.944	10.989	9.890
Within (Error)	12	13.333	1.111	
Total	17	68.278		

Critical F value = 3.11 (0.05,5,12)
Since F > Critical F REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 control	9.333	9.333		
2	2.0	9.333	9.333	0.000	
3	2.4	9.667	9.667	-0.387	
4	3.0	10.000	10.000	-0.775	
5	3.4	6.667	6.667	3.098	*
6	4.0	5.333	5.333	4.648	*

Dunnett table value = 2.50 (1 Tailed Value, P=0.05, df=12,5)

CF-970202-R REFERENCE TEST
Fathead Minnow Larval Growth Data Analysis

Transform: NO TRANSFORMATION

SUMMARY STATISTICS

GRP	IDENTIFICATION	N	MIN	MAX	MEAN
1	0.0 control	3	0.360	0.550	0.457
2	2.0	3	0.440	0.480	0.463
3	2.4	3	0.360	0.410	0.380
4	3.0	3	0.340	0.480	0.420

GRP	IDENTIFICATION	VARIANCE	SD	SEM	C.V. %
1	0.0 control	0.009	0.095	0.055	20.81
2	2.0	0.000	0.021	0.012	4.49
3	2.4	0.001	0.026	0.015	6.96
4	3.0	0.005	0.072	0.042	17.17

SHAPIRO - WILK'S TEST FOR NORMALITY

D = 0.031

W = 0.963

Critical W (P = 0.05) (n = 12) = 0.859
Critical W (P = 0.01) (n = 12) = 0.805

Data PASS normality test at P=0.01 level.

BARTLETT'S TEST FOR HOMOGENEITY OF VARIANCE

Calculated B1 statistic = 4.51

Table Chi-square value = 11.34 (alpha = 0.01, df = 3)
Table Chi-square value = 7.81 (alpha = 0.05, df = 3)

Data PASS B1 homogeneity test at 0.01 level. Continue analysis.

CF-970202-R REFERENCE TEST
Fathead Minnow Larval Growth Data Analysis (Continued)

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	3	0.013	0.004	1.151
Within (Error)	8	0.031	0.004	
Total	11	0.044		

Critical F value = 4.07 (0.05,3,8)
Since F < Critical F FAIL TO REJECT Ho: All equal

DUNNETT'S TEST

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	0.0 control	0.457	0.457		
2	2.0	0.463	0.463	-0.132	
3	2.4	0.380	0.380	1.515	
4	3.0	0.420	0.420	0.725	

Dunnett table value = 2.42 (1 Tailed Value, P=0.05, df=8,3)

APPENDIX C

DMR-QA Study 16
TOXICITY LABORATORY DATA

Analyte Name	EPA Use	Analyte No.	USEPA Laboode	Sample Type	Method Code	</>	Quantity
WHOLE EFFLUENT TOXICITY DATA (as % of the sample ready for analysis)							
Fathead Minnow Acute MHSF 20° - LC50	TT	752	48109000		11		4460
Fathead Minnow Acute MHSF 25° - LC50	TT	754			13		
Fathead Minnow Acute 20% DMW 25° - LC50	TT	755			14		
Fathead Minnow Chronic MHSF - Survival NOEC	TT	756	48109000		15		2500
Fathead Minnow Chronic MHSF - Growth IC25	TT	757	48109000		15		5370
Fathead Minnow Chronic MHSF - Growth NOEC	TT	758	48109000		15		2500
Fathead Minnow Chronic 20% DMW - Survival NOEC	TT	759			16		
Fathead Minnow Chronic 20% DMW - Growth IC25	TT	760			16		
Fathead Minnow Chronic 20% DMW - Growth NOEC	TT	761			16		
Ceriodaphnia Acute MHSF 20° - LC50	TT	762			17		
Ceriodaphnia Acute 20% DMW 20° - LC50	TT	763			18		
Ceriodaphnia Acute MHSF 25° - LC50	TT	764	48109000	x	19		3040
Ceriodaphnia Acute 20% DMW 25° - LC50	TT	765			20		
Ceriodaphnia Chronic MHSF - Survival NOEC	TT	766	48109000		21		5000
Ceriodaphnia Chronic MHSF - Reproduction IC25	TT	767	48109000		21		3200
Ceriodaphnia Chronic MHSF - Reproduction NOEC	TT	768	48109000		21		2500
Ceriodaphnia Chronic 20% DMW - Survival NOEC	TT	769			22		
Ceriodaphnia 20% DMW - Reproduction IC25	TT	770			22		
Ceriodaphnia 20% DMW - Reproduction NOEC	TT	771			22		
Daphnia Magna Acute MHSF 20° - LC50	TT	788	48109000		32		18.60
Daphnia Pulex Acute MHSF 20° - LC50	TT	792			36		
Daphnia Pulex Acute MHSF 25° - LC50	TT	794			38		
Mysid Acute 40 F 20° - LC50	TT	798			42		
Mysid Acute 40 F 20° - Survival NOEC	TT	799			43		
Mysid Acute 40 F 20° - Growth IC25	TT	800			43		
Mysid Acute 40 F 20° - Growth NOEC	TT	801			43		
Mysid Acute 40 F 20° - LC50	TT	803			44		
Sheepshead Minnow Acute 40 F 20°	TT	804			46		
Sheepshead Minnow Chronic 40 F 20° - Survival NOEC	TT	805			47		
Sheepshead Minnow Chronic 40 F 20° - Growth IC25	TT	806			47		
Sheepshead Minnow Chronic 40 F 20° - Growth NOEC	TT	807			47		

(EPA-421 (cln), Rev 3-06 Previous editions are obsolete

APPENDIX D

Institute of Environmental and Industrial Health Laboratory, School of Public Health I, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
BC WWTP	2000 W. River Rd Battle Creek, MI 49015	(616) 966-3523
CONTRACTOR	ADDRESS	PHONE #
CONTACT PERSON	PHONE #	
Chris Kosmowski	(616) 966-3595	
SAMPLER	SAMPLER SIGNATURE	
Brian Fry	Brian Fry	

ANALYSIS DESIRED

SAMPLE NUMBER	If composite, please indicate starting and stopping date and time: DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	Acute; Chronic - Whole Effluent Toxicity Testing					REMARKS
1 of 3	2/3/97 TO 2/4/97	12pm TO 9am	X		Dechlorinated Final Effluent		X					Ammonia = 0.29 mg/L

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
J. Huang	0°	
DATE OF RECEIPT: 2/5/97	RESIDUAL CHLORINE (ug Cl2/L): ND	
TIME OF RECEIPT: 7:30 Am		

Institute of Environmental and Industrial Health Laboratory, School of Public Health I, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
BCWWTP	2000 W. River Rd Battle Creek, MI 49015	(616) 966-3513
CONTRACTOR	**ADDRESS**	**PHONE #**
~~CT~~		
CONTACT PERSON	**PHONE #**	
Chris Kasnowski	(616) 966-3513 XT 283	
SAMPLER	**SAMPLER SIGNATURE**	
BRIAN F FRY	Brian F Fry	

SAMPLE NUMBER	If composite, please indicate starting and stopping date and time: DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	ANALYSIS DESIRED: Acute + Chronic Whole Effluent Toxicity Testing					REMARKS
2-13	2-6-97 TO 2-7-97	9am TO 9am	X		Dechlorinated Final Effluent	1	X					Ammonia = 1.24 mg/L

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
Felicia Mann	2°C	UPS
DATE OF RECEIPT: 2/8/97	RESIDUAL CHLORINE (ug Cl2/L): N.D	sample looks pinkish
TIME OF RECEIPT: 1030		

Institute of Environmental and Industrial Health Laboratory, School of Public Health I, The University of Michigan, 109 South Observatory, Ann Arbor, MI 48109

CLIENT	ADDRESS	PHONE #
BCWWTP	2000 W. River Rd Battle Creek, MI 49015	616 966-3513
CONTRACTOR	ADDRESS	PHONE #
CONTACT PERSON	PHONE #	
Chris Kosmowski	(616) 966-3513 XT 233	
SAMPLER	SAMPLER SIGNATURE	
BRIAN F FRY	Brian F Fry	

ANALYSIS DESIRED

SAMPLE NUMBER	If composite, please indicate starting and stopping date and time: DATE	TIME	COMPOSITE X	GRAB X	SAMPLE DESCRIPTION	CONTAINER NUMBER	Acute & Chronic Whole Effluent TOXICITY TESTING					REMARKS
3of3	2-9-97 TO 2-10-97	9am to 9am	X		Dechlorinated Final Effluent		X					Ammonia = 6.25 mg/L

RECEIVED AT LAB BY:	RECEIVING TEMP:	REMARKS:
J. Hoang	1 °C	
DATE OF RECEIPT: 2/11/97	RESIDUAL CHLORINE (ug Cl2/L): ND	
TIME OF RECEIPT: 12 NOON		

TOXICITY EVALUATION

Ceriodaphnia Chronic Test
Initial Chemistries

Test No. CC-970209 Analyst: Len Smeet/PGM
Toxicant: Battle Creek WWTP Start date: 2/5/97
Sample Type: 24 HR Composite Stop date: 2/12/97
Client: City of Battle Creek

	Day 0	1	2	3*	4	5	6*
Control:	Moderately Hard Water						
Temperature (oC)	25	25	25	25	25	25	24
DO (mg/l) initial	8.6	8.4	8.6	8.4	8.4	8.4	8.3
DO (mg/l) final	8.5	8.3	8.4	8.3	8.2	8.2	8.2
pH	7.4	7.9	7.7	7.8	7.8	7.8	7.8
Conductivity (umhos/cm)	280	270	250	270	300	260	260
Hardness (mg/CaCO3)	~~120~~ 120	112	112	~~120~~ 104		112	112
Alkalinity (mg/CaCO3)	~~70~~ 70	58	58	~~70~~ 61		58	58
Concentration No 1(Low):	5%						
Temperature (oC)	25	25	25	25	25	25	24
DO (mg/l) initial	8.6	8.4	8.5	8.4	8.5	8.4	8.4
DO (mg/l) final	8.5	8.2	8.4	8.3	8.4	8.3	8.3
pH	7.5	7.9	7.7	7.8	7.8	7.7	7.7
Conductivity (umhos/cm)	330	330	320	340	340	340	330
Concentration No 2.	15%						
Temperature (oC)	25	25	25	25	25	25	24
DO (mg/l) initial	8.4	8.4	8.6	8.4	8.5	8.4	8.5
DO (mg/l) final	8.2	8.3	8.4	8.3	8.4	8.3	8.3
pH	7.6	7.9	7.8	7.8	7.8	7.8	7.7
Conductivity (umhos/cm)	450	440	420	450	450	420	420
Concentration No 3 (Middle	30%						
Temperature (oC)	25	25	25	25	25	25	24
DO (mg/l) initial	8.4	8.3	8.4	8.4	8.6	8.4	8.4
DO (mg/l) final	8.3	8.2	8.2	8.3	8.4	8.3	8.3
pH	7.5	7.9	7.8	7.7	7.7	7.7	7.7
Conductivity (umhos/cm)	650	650	620	640	650	630	622
Concentration No 4	60%						
Temperature (oC)	25	25	25	25	25	25	24
DO (mg/l) initial	8.4	8.3	8.4	8.4	8.6	8.4	8.4
DO (mg/l) final	8.2	8.3	8.3	8.3	8.4	8.3	8.3
pH	7.5	7.8	7.8	7.7	7.7	7.7	7.6
Conductivity (umhos/cm)	1050	990	1000	980	990	950	950
Concentration No. 5 (High):	100%						
Temperature (oC)	25	25	25	25	25	25	24
DO (mg/l) initial	8.4	8.4	8.4	8.3	8.6	8.4	8.4
DO (mg/l) final	8.3	8.3	8.3	8.2	8.4	8.3	8.3
pH	7.5	7.8	7.8	7.7	7.7	7.7	7.6
Conductivity (umhos/cm)	1430	1490	1460	1470	1470	1450	1440
Hardness (mg/CaCO3)	360			372			348
Alkalinity (mg/CaCO3)	270			266			298

Composite Date	2/3 - 2/4	2/6 - 2/7	2/9 - 2/10
Residual Chlorine	ND	ND	ND
Arrival Temperature	0°C	2°C	1°C
*New supply of effluent	2/8/97	2/11/97	

TOXICITY EVALUATION

Ceriodaphnia Survival and Reproduction Test

Test No. CC-970209
Toxicant: Battle Creek WWTP
Test Species: Ceriodaphnia dubia
Sample Type: 24 HR Comp.

Analyst: Z.S.
Test Start - Date/Time: 2.5.97 2:45pm
Test Stop - Date/Time: 2.12.97 12:00N
Client. City of Battle Creek

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No of Young	No. of Adults	Young per Adult
MWH	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	4	6	5	5	4	4	4	6	4	0	3	41	10	4.1
	5	4	0	0	2	0	0	0	0	9	0	15	10	1.5
	6	9	7	7	7	8	9	7	7	8	9	78	10	7.8
	7	0	0	14	0	13	13	15	15	3	12	85	10	8.5
	Total	19	12	26	13	25	26	28	26	20	24	219	10	21.9

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
5%	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	4	0	4	5	5	6	4	5	0	3	2	34	10	3.4
	5	4	0	0	3	0	0	5	0	10	0	22	10	2.2
	6	7	7	8	9	11	9	0	8	8	7	74	10	7.4
	7	6	14	13	0	17	12	15	10	0	10	97	10	9.7
	Total	17	25	26	17	34	25	25	18	21	19	227	10	22.7

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No of Young	No. of Adults	Young per Adult
15%	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	4	0	3	6	4	4	6	3	2	5	5	38	10	3.8
	5	4	5	11	0	0	0	0	0	0	0	20	10	2.0
	6	10	10	9	8	12	8	10	8	7	9	91	10	9.1
	7	9	0	0	10	16	13	15	16	15	15	100	10	10.0
	Total	23	18	26	22	32	27	28	26	27	29	249	10	24.9

TOXICITY EVALUATION

Ceriodaphnia Survival and Reproduction Test

Test No. CC-970209

Toxicant: Battle Creek WWTP

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
30%	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	4	5	4	3	5	4	3	0	4	3	2	33	10	3.3
	5	10	0	0	0	0	0	5	0	0	10	25	10	2.5
	6	8	9	10	13	10	13	10	13	10	11	99	10	9.9
	7	15	16	18	8	19	0	6	0	21	0	102	10	10.2
	Total	30	29	31	26	33	16	21	17	34	23	259	10	25.9

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
60%	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	4	0	3	4	4	3	0	4	4	0		27	10	2.7
	5	4	0	10	0	0	0	3	0	0	3	20	10	2.0
	6	13	10	0	10	10	11	9	8	10	9	90	10	9.0
	7	10	10	15	19	0	10	10	10	6	10	100	10	10.0
	Total	27	25	28	33	14	24	22	22	20	22	237	10	23.7

Conc.	Day	Replicate A	B	C	D	E	F	G	H	I	J	No. of Young	No. of Adults	Young per Adult
100%	1	0	0	0	0	0	0	0	0	0	0	0	10	0
	2	0	0	0	0	0	0	0	0	0	0	0	10	0
	3	0	0	0	0	0	0	0	0	0	0	0	10	0
	4	3	0	3	0	6	4	0	0	3	0	19	10	1.9
	5	0	6	6	4	8	6	5	2	0	3	40	10	4.0
	6	10	11	13	6	11	9	0	16	10	6	92	10	9.2
	7	13	12	5	0	0	0	14	0	10	14	63	10	6.3
	Total	26	29	22	10	25	19	19	18	23	23	214	10	21.4

TOXICITY EVALUATION

Fathead Minnow Larval Survival and Growth Test

Initial Chemistries

Test No: CF-970205 Analyst: Lan. P. Peter L.

Test Species. Pimephales promelas Test Start Date/Time: 2/5/97 1430

Toxicant: Battle Creek WWTP Test Stop Date/Time: 2/12/97 1500

Sample Type: Comp 24HR Client: City of Battle Creek

Control: Moderately Hard Water		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	24
D O	Initial	8.6	8.4	8.6	8.3	8.4	8.4	8.4
mg/l	Final	6.6	5.6	7.8	5.2	4.2	5.1	5.2
pH	Initial	7.8	7.7	7.7	7.7	7.4	7.8	7.8
	Final	7.3	7.3	7.4	7.1	7.2	7.2	7.0
Conductivity (umhos/cm)		310	290	280	300	290	290	270
Hardness (mg/l CaCO3)		120			120			120
Alkalinity (mg/l CaCO3)		70			70			70

Conc: 5%		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	24
D O.	Initial	8.6	8.6	8.4	8.4	8.4	8.4	8.4
mg/l	Final	5.6	4.3	4.6	5.0	4.5	5.84	4.9
pH	Initial	7.9	7.8	7.9	7.9	7.8	7.8	7.8
	Final	7.3	7.3	7.4	7.2	7.3	7.3	7.2
Conductivity (umhos/cm)		370	370	360	360	350	330	340

Conc: 15%		Day 0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	24
D O.	Initial	8.6	8.6	8.4	8.4	8.4	8.4	8.4
mg/l	Final	5.8	5.1	4.8	5.5	4.4	5.3	4.9
pH	Initial	7.7	7.8	7.8	7.8	7.7	7.8	7.8
	Final	7.5	7.4	7.4	7.3	7.3	7.3	7.3
Conductivity (umhos/cm)		470	470	450	470	460	440	440

*New supply of effluent 2/8/97 and 2/11/97

Date of Composite 2/3 - 2/4 Residual Chlorine ND

Date of Composite 2/6 - 2/7 Residual Chlorine ND

Date of Composite 2/9 - 2/10 Residual Chlorine ND

Arrival Temperature 0°C

Arrival Temperature 0C

Arrival Temperature 0C

TOXICITY EVALUATION
Fathead Minnow Larval Survival and Growth Test
Initial Chemistries

Test No: CF-970205
Toxicant: Battle Creek WWTP

Conc: 30%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	24
D.O.	Initial	8.6	8.6	8.4	8.4	8.4	8.4	8.4
mg/l	Final	5.7	4.4	5.0	4.6	4.0	5.0	4.7
pH	Initial	7.7	7.7	7.8	7.5	7.7	7.7	7.8
	Final	7.6	7.5	7.5	7.4	7.4	7.5	7.5
Conductivity (umhos/cm)		650	690	660	640	620	700	622

Conc: 60%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	25
D.O.	Initial	8.6	8.4	8.6	8.4	8.4	8.3	8.4
mg/l	Final	5.7	4.8	4.2	5.1	4.8	5.1	5.1
pH	Initial	7.6	7.6	7.8	7.8	7.7	7.7	7.7
	Final	7.9	7.8	7.7	7.7	7.7	7.7	7.8
Conductivity (umhos/cm)		1050	1100	1050	980	880	980	970

Conc: 100%		Day						
		0	1	2	3	4	5	6
Temperature (oC)		25	25	25	25	24	25	25
D.O.	Initial	8.6	8.4	8.4	8.4	8.4	8.3	8.4
mg/l	Final	5.8	4.7	4.7	4.1	3.9	5.0	4.2
pH	Initial	7.7	7.7	7.8	7.7	7.7	7.8	7.7
	Final	8.1	8.0	7.9	7.8	7.8	7.8	7.8
Conductivity (umhos/cm)		1500	1500	1480	1460	1350	1300	1392
Hardness (mg/l CaCO3)		360			372			348
Alkalinity (mg/l CaCO3)		270			266			298

TOXICITY EVALUATION

Survival Data for Fathead Minnows

Larval Survival and Growth Test

Test No: CF-970205 Analyst: Lahi P. Peter I.

Test Species: Pimephales promelas Test Start: Date/Time: 2/5/97

Toxicant: Battle Creek WWTP Test Stop: Date/Time: 2/12/97

Sample Type: Comp Client: City of Battle Creek

.88934

Conc.	Rep. No	0	1	2	3	4	5	6	7	Initial Wt (g)	Final Wt (g)	Net Wt (mg)	Ave. Wt (mg)
Control	A	10	10	10	10	10	10	10	10	.88926	.88943		
Moderately	B	10	10	10	10	10	10	10	10	.88921	.88785		
Hard Water	C	10	10	10	10	10	10	10	~~10~~ 9	.88208	.88653		

Conc.	Rep. No	0	1	2	3	4	5	6	7	Initial Wt (g)	Final Wt (g)	Net Wt (mg)	Ave. Wt (mg)
5%	A	10	10	10	10	10	10	10	10	.88279	.88891		
	B	10	10	10	10	10	10	10	10	.88355	.88870		
	C	10	10	10	10	10	10	10	9	.88355	.88854		

Conc.	Rep. No	0	1	2	3	4	5	6	7	Initial Wt (g)	Final Wt (g)	Net Wt (mg)	Ave. Wt (mg)
15%	A	10	10	10	10	10	10	10	10	.88232	.88805		
	B	10	10	10	10	10	10	10	10	.88286	.88886		
	C	10	10	10	10	10	10	10	10	.88276	.88855		

Conc.	Rep. No	0	1	2	3	4	5	6	7	Initial Wt (g)	Final Wt (g)	Net Wt (mg)	Ave. Wt (mg)
30%	A	10	10	10	9	9	9	9	9	.87944	.88314		
	B	10	10	10	10	9	9	9	9	.88192	.88620		
	C	10	10	10	10	10	10	10	10	.87984	.88575		

Conc.	Rep. No	0	1	2	3	4	5	6	7	Initial Wt (g)	Final Wt (g)	Net Wt (mg)	Ave. Wt (mg)
60%	A	10	10	10	10	10	10	10	10	.87135	.88266		
	B	10	10	10	10	10	10	10	10	.88135	.88670		
	C	10	10	10	9	9	9	9	9	.88331	.88820		

Conc.	Rep. No	0	1	2	3	4	5	6	7	Initial Wt (g)	Final Wt (g)	Net Wt (mg)	Ave. Wt (mg)
100%	A	10	10	10	10	10	10	10	10	.87438	.87922		
	B	10	10	10	10	10	10	10	10	.87956	.88388		
	C	10	10	10	10	10	10	10	9	.87869	.88460		

ATTACHMENT - 5 EXPANDED EFFLUENT TESTING

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS											
Antimony	ND	mg/L	0	lbs	ND	mg/L	0	lbs	1	200.8M	0.005
Arsenic	0.002	mg/L	0.2	lbs	0.001	mg/L	0.2	lbs	4	200.8M	0.001
Beryllium	ND	mg/L	0	lbs	ND	mg/L	0	lbs	1	200.8M	0.001
Cadmium	0.0008	mg/L	0.08	lbs	0.0005	mg/L	0.08	lbs	4	200.8M	0.0002
Calcium	100	mg/L	10374	lbs	100	mg/L	10374	lbs	1	215 1	1
Chromium	ND	mg/L	0	lbs	ND	mg/L	0	lbs	4	200 8M	0.005
Copper	0.01	mg/L	1	lbs	0.01	mg/L	1	lbs	4	200.8M	0.001
Lead	0.0023	mg/L	0.24	lbs	0.0020	mg/L	0.24	lbs	4	200 8M	0.001
Magnesium	23	mg/L	2386	lbs	23	mg/L	2386	lbs	1	242.1	1
Mercury	ND	mg/L	0	lbs	ND	mg/L	0	lbs	8	245.1M	0.0002
Nickel	0.0029	mg/L	0.30	lbs	0.0027	mg/L	0.30	lbs	4	200.8M	0.025
Potassium	7 6	mg/L	788	lbs	7.6	mg/L	788	lbs	1	258.1	0.1
Selenium	ND	mg/L	0.00	lbs	ND	mg/L	0	lbs	4	200.8M	0.005
Silver	ND	mg/L	0.00	lbs	ND	mg/L	0	lbs	8	200.8M	0.0005
Sodium	200	mg/L	20748	lbs	200	mg/L	20748	lbs	1	273.1	1
Thallium	ND	mg/L	0	lbs	ND	mg/L	0	lbs	1	200 8M	0.002
Zinc	0.064	mg/L	6.6	lbs	0.057	mg/L	6.6	lbs	4	200.8M	0.02
Cyanide	0.011	mg/L	1.1	lbs	0.011	mg/L	1.1	lbs	5	335.2	0.005
Total Phenolic Compounds	ND	mg/L	0	lbs	ND	mg/L	0	lbs	1	420.1	0.01
Hardness (as CaCO3)	390	mg/L	40458	lbs	356	mg/L	40458	lbs	4	2340B	10
VOLATILE ORGANIC COMPOUNDS											
Acrolein	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	624M	5
Acrylonitrile	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	4
Benzene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
Bromoform mg/l	5	ug/L	0.5	lbs	3.2	mg/L	0.3	lbs	7	624M	1
Carbon tetrachlonde	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
Clorobenzene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
Chlorodibromomethane mg/l	42	ug/L	4 9	lbs	8.2	mg/L	2.1	lbs	15	624M	1
Chloroethane	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
2-Chloro-ethylvinyl ether	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	624M	1
Chloroform	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
Bromodichloromethane mg/l	19	ug/L	2.1	lbs	7.3	mg/L	1.4	lbs	12	624M	1
1,1-Dichloroethane	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	4
1,2-Dichloroethane	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
trans-1,2-Dichloroethene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
1,1-Dichloroethene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
1,2-Dichloropropane	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
1,3-Dichloropropene (cis)	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
1,3-Dichloropropene (trans)	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
Ethylbenzene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
Methyl bromide	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
Methyl chlonde	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	4
Methylene chloride	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	2
1,1,2,2-Tetrachloroethane	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	4
Toluene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
1,1,1-Trichloroethane	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
1,1,2-Trichloroethane	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
Trichloroethene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1
Vinyl chlonde	ND	ug/L	0	lbs	ND	mg/L	0	lbs	3	624M	1

ATTACHMENT - 5 EXPANDED EFFLUENT TESTING - pg. 2

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc	Units	Mass	Units	Conc	Units	Mass	Units	Number of Samples		
ACID-EXTRACTABLE COMPOUNDS											
p-Chloro-m-cresol	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	5
2-Chlorophenol	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	5
2,4-Dichlorophenol	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	5
2,4-Dimethylphenol	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	5
4,6-Dinitro-o-cresol	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	20
2,4-Dinitrophenol	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	20
2-Nitrophenol	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	5
4-Nitrophenol	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	20
Pentachlorophenol	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	20
Phenol	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	5
2,4,6-Trichlorophenol	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	5
BASE-NEUTRAL COMPOUNDS											
Acenaphythene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Acenaphthylene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Anthracene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Benzidine	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	5
Benzo(a)anthracene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
3,4 Benzo-fluoranthene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
Benzo(g,h,i)perylene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	5
Benzo(k)fluoranthene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
bis (2-chloroethoxy) methane	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
bis (2-chloroethyl)-ether	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
bis (2-chloroiso-propyl) ether	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
bis (2-ethylhexyl) phthalate	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
4-Bromophenyl phenyl ether	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
Butyl benzyl phthalate	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
2-Chloronaphthalene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
4-Chlorophenyl phenyl ether	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Chrysene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Di-n-butyl phthalate	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Di-n-octyl phthalate	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
Dibenzo(a,h)anthracene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	5
1,2-Dichlorobenzene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
1,3-Dichlorobenzene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
1,4-Dichlorobenzene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
3,3-Dichlorobenzidine	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	20
Diethyl phthalate	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Dimethyl phthalate	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
2,4-Dinitrotoluene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	13
2,6-Dinitrotoluene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	5
1,2-Diphenylhydrazine	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
Fluoranthene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Fluorene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Hexachlorobenzene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Hexachlorobutadiene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
Hexachlorocyclo-pentadiene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
Hexachloroethane	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Isophorone	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Naphthalene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Nitrobenzene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
n-Nitrosodi-n-propylamine	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4
n-Nitrosodimethylamine	ND	ug/L	0	lbs	ND	mg/L	0	lbs	1	625M	5
n-Nitrosodi-phenylamine	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	5
Phenanthrene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
Pyrene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	3
1 2,4-Trichlorobenzene	ND	ug/L	0	lbs	ND	mg/L	0	lbs	2	625M	4

ATTACHMENT - 5 EXPANDED EFFLUENT TESTING - pg. 3

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

FACILITY NAME					NPDES PERMIT or COC NUMBER						OUTFALL NUMBER	
Battle Creek WWTP					MI0022276						001	
POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL	
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples			
CHLORINATED HYDROCARBONS, PCBs, & ORGANOCHLORINE PESTICIDES												
g-BHC (lindane)	0.02	ug/L	0.002	lbs	0.004	ug/L	0.0004	lbs	5	8081 / Scan 3	0.01	

ATTACHMENT - 4. EFFLUENT CHARACTERISTICS - CONVENTIONAL POLLUTANTS

Michigan Department of Environmental Quality - Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B Outfall Information

FACILITY NAME	NPDES PERMIT or COC NUMBER	OUTFALL NUMBER
Battle Creek WWTP	MI0022276	001

Parameter	Maximum Daily Concentration	Maximum Monthly Concentration	Units	Number of Analyses	Sample Type
Nitrite	8 5	2 1	mg/L	83	☐ Grab ☒ 24 Hr Comp
Chemical Oxygen Demand	45	45	mg/L	1	☐ Grab ☒ 24 Hr Comp
Total Organic Carbon	16	16	mg/L	1	☐ Grab ☒ 24 Hr Comp
Nitrate-Nitrite	0.23	0.23	mg/L	1	☐ Grab ☒ 24 Hr Comp
Kjeldahl Nitrogen	3 5	3 5	mg/L	1	☐ Grab ☒ 24 Hr Comp
Ortho Phosphate	0 06	0 06	mg/L	1	☐ Grab ☒ 24 Hr Comp
Alkalinity (as CaCO3)	285	285	mg/L	1	☐ Grab ☒ 24 Hr Comp
Conductivity (umho/cm)	1570	1570	mg/L	1	☐ Grab ☒ 24 Hr Comp
Chloride	280	280	mg/L	1	☐ Grab ☒ 24 Hr Comp
Sulfate	59	59	mg/L	1	☐ Grab ☒ 24 Hr Comp

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT OR COC NUMBER	OUTFALL NUMBER
BCWWTP	MI0022276	001

6. EFFLUENT CHARACTERISTICS - TOXIC POLLUTANTS

This worksheet is to be used by applicants to record information on any Michigan Critical Material, EPA Priority Pollutant, or hazardous substance for which this application requires that data be provided. This includes any substance from Table 3 which lists Organic Toxic Pollutants, Table 4, Other Toxic Pollutants, Table 5, Conventional and Nonconventional Pollutants, Table 6, Toxic Pollutants and Hazardous Substances, Table 7 the Michigan Critical Materials Register, or Table 8 the EPA Priority Pollutant Listing (in the appendix). If the applicant believes a pollutant may be present in the effluent that is not included in these lists, data shall be provided for that pollutant with this application. This information may also be included as an attachment to this application on 8 1/2" x 11" paper. Page 12 of the appendix is a list of minimum testing requirements for various dischargers. As a minimum applicants for those types of discharge must provide analytical data based on that list.

Applicants shall use EPA approved analytical methods when conducting sampling (40 CFR 136). For each parameter provide the name of the parameter as listed in the Tables, the maximum daily and monthly discharge concentrations, units, the number of analyses performed, and the sample type. If analytical results for a composite sample are being provided and the sample is not a 24-hour composite, include a description of the sample collection technique used as an attachment to this application on 8 1/2" x 11" paper. When calculating an average where some values are detectable and others are nondetectable, either provide the actual data, or regard each nondetectable value as the detection level when calculating concentrations and indicate that the result is "less than" the value reported. (See definitions of "daily concentration" and "monthly concentration" in the general provisions at the front of this form.) Please include an explanation if "Pollution Prevention" is expected to provide reductions of pollutants. (See page ii and iii for sampling definitions, including, "daily concentration", and "monthly concentration".) See Table 12 in the appendix for acceptable "Levels of Quantification".

In addition to the maximum daily and maximum monthly concentrations required above the applicant must provide individual sample data to determine if Water Quality Based Effluent Limits (WQBELs) are necessary. If more than 10 individual samples results are available please provide this data in an attachment to the application. WQBELs for toxic pollutants are incorporated into an NPDES permit when the DEQ has determined that a substance is or may be discharged into the receiving waters at a level that has a reasonable potential to exceed the substance's water quality value. The determination is made using the procedure described in the Part 8 Rules of Act 451, Public Acts of 1994 as amended. (See page 7 in the appendix)

Check this box if additional information is included as an attachment. ☐ N/A

Toxic Pollutant	Maximum Daily Concentration (µg/l)	Maximum Monthly Concentration (µg/l)	Quantification Level Used (µg/l)	Number of Analyses	Sample Type
Individual Samples (ug/l)					
					☐ Grab ☐ 24 Hr Comp
1 2 3 4	5	6	7	8 9	10
					☐ Grab ☐ 24 Hr Comp
1 2 3 4	5	6	7	8 9	10
					☐ Grab ☐ 24 Hr Comp
1 2 3 4	5	6	7	8 9	10

Are any of the above listed toxic pollutants present in the facility's supply water?

☐ No, Continue to question 7. ☐ Yes, Please read below.

In accordance with Rule 1211(7), facilities whose supply water contains toxic pollutants that are withdrawn from and discharged to the same body of water may qualify for intake credits for those toxic pollutants. See Rule 1211(7) for qualification and demonstration requirements.

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT OR COC NUMBER	OUTFALL NUMBER
BCWWTP	MI0022276	001

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML / MDL
	Conc	Units	Mass	Units	Conc.	Units	Mass	Units	Number Of Samples		
N-NITROSODI-N-PROPYLAMINE	SEE ATTACHMENT 5 - EXPANDED EFFLUENT TESTING										
N-NITROSODI- METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROBENZENE											
USE THIS SPACE (OR SEPARATE SHEET) TO PROVIDE INFORMATION ON OTHER BASE-NEUTRAL COMPOUNDS REQUESTED BY THE PERMIT WRITER											

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

C. Combined Sewer Overflow Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT or COC NUMBER
BCWWTP	MI0022276

6 BYPASSES AND COMBINED SEWER OVERFLOWS

Complete this item if there are outfalls at the treatment facility or along the collection system from which discharges of untreated, or partially treated wastewater occur. This includes outfalls from which bypasses of sewage to receiving waters occurs during mechanical or power failures at pump stations or the treatment facility Other examples include outfalls for combined sewer overflows (CSO) If additional space is needed, make copies of page 16.

A Indicate if the sanitary sewer system is totally separated from the storm sewer system or if they are combined.

☒ Separated.

☐ Combined - Estimate what percentage of the sanitary sewer system is combined. _____ %

B Are there any bypass outfalls or combined sewer overflows (either at the facility or along the collection system)?

☐ No, Go to Item 8.

☒ Yes, Provide the requested information below. Make additional copies of the next page, if necessary.

For each outfall provide the following information:

A. Identify the outfall by number (e g. 001, 002, etc.). Applicants with existing NPDES permits should refer to their current NPDES permit for outfall number identification; provide the name of the receiving water to which this outfall discharges.
B. Enter the street location and county in which the outfall is located.
C. Provide the location in State Planar Coordinates.
D. Describe the location using latitude and longitude (to the nearest 15 seconds).
E. Describe the type of discharge (pump station, bypass, CSO, etc.).
F. Describe the conditions that result in a discharge from the outfall (examples are power failures, wet weather events, etc.).
G. Approximate the number of days per year, hours per day, and gallons per hour the discharge occurs.

A.	Outfall Number: 002	Receiving Water: KALAMAZOO RIVER			
B.	County: CALHOUN		Township: BEDFORD		
C.	¼,¼: NE	¼: NE	Section: 32	Town: T1 SOUTH	Range: 8 WEST
D.	Latitude (to nearest 15 seconds): 42°20'42.5 N		Longitude (to nearest 15 seconds): 85°15'54.5 W		
E.	Type of Discharge: SANITARY WASTEWATER, UNTREATED				
F.	Discharge Conditions: PLANT FAILURE				
G.	Discharge Frequency: EMERGENCY ONLY Days/year		Hours/day		MGD

A.	Outfall Number	Receiving Water			
B.	County		Township		
C.	¼,¼	¼	Section	Town	Range
D	Latitude		Longitude		
E.	Type of Discharge				
F	Discharge Conditions				
G.	Discharge Frequency Days/year		Hours/day		MGD

EOP 4650 R (R ...

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

C. Combined Sewer Overflow Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT or COC NUMBER

BYPASSES AND COMBINED SEWER OVERFLOWS - Continued.

Use this sheet to describe additional bypass or CSO outfalls . Make additional copies of this page if necessary.

A.	Outfall Number	Receiving Water			
B.	County		Township		
C.	¼, ¼	¼	Section	Town	Range
D.	Latitude		Longitude		
E.	Type of Discharge				
F.	Discharge Conditions				
G.	Discharge Frequency Days/year		Hours/day		MGD

A.	Outfall Number	Receiving Water			
B.	County		Township		
C.	¼, ¼	¼	Section	Town	Range
D.	Latitude		Longitude		
E.	Type of Discharge				
F.	Discharge Conditions				
G.	Discharge Frequency Days/year		Hours/day		MGD

A.	Outfall Number	Receiving Water			
B.	County		Township		
C.	¼, ¼	¼	Section	Town	Range
D.	Latitude		Longitude		
E.	Type of Discharge				
F.	Discharge Conditions				
G.	Discharge Frequency Days/year		Hours/day		MGD

Wastewater Discharge Permit Application
Battle Creek - NPDES Permit MI 0022276

Section II 7 C. (2)

Approximately sixty percent of the wastewater received at the Battle Creek Wastewater Treatment Plant is primarily comprised of discharge effluent from the industrial community. It is comprised of effluent from three breakfast manufactures and three pulp and paper industries. There is also a one large metal finisher that pretreats their process water prior to discharge. There are small amount of noncontact cooling water but primarily the local industries use either closed looped systems or discharge their water to local surface waters.

Section II 7 C. (3)

Approximately twenty-five percent of the water flow is received from the aforementioned breakfast cereal and paper industries. This flow contains high strength waste for biochemical oxygen demand and suspended solids. This results in the Battle Creek Treatment Plant having a higher than average strength incoming waste. There is one large metal finisher that pretreats their wastewater effluent prior to discharge so there is a very low concentration of heavy metals. There are no facilities that discharge significant amounts of fats, oils & greases. Attached are copies of sample results from the local industries. The enclosed sampling data is representative of the sampling results for the past year which are not being sent because of the burden of copying and mailing about 300 pages of testing results. This information was collected and analyzed by the City's Industrial Pretreatment staff.

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 01/01/1999 to 03/31/1999
IU : 101 - Johnson Controls - Battle Creek
Site: 1 - Southwest corner of building
Industrial Category: 430 - PULP, PAPER, AND PAPERBOARD
Permit: 101

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 10,000.000 / Min Avg: 0.000 Max Avg: 625.000 / Max TRC: 14,000.000 / Avg Max TRC: 875.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
01/19/1999	001	BCISPP	Composite/Grab	Scheduled	140.000 mg/L			
01/20/1999	001	BCISPP	Composite	Scheduled	182.000 mg/L			
01/21/1999	001	BCISPP	Composite	Scheduled	200.000 mg/L			

Parameter : pH - pH Daily Limits - Min: 5.500 Max: 9.500 / Min Avg: 0.000 Max Avg: 9.500 / Max TRC: 9.500 / Avg Max TRC: 9.500

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
01/19/1999	001	BCISPP	Composite/Grab	Scheduled	7.800 S.U.			

Parameter : Phenl - Phenol Daily Limits - Min: 0.000 Max: 3.000 / Min Avg: 0.000 Max Avg: 3.000 / Max TRC: 3.600 / Avg Max TRC: 3.600

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
01/19/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 10,000.000 / Min Avg: 0.000 Max Avg: 820.000 / Max TRC: 14,000.000 / Avg Max TRC: 1,148.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
01/19/1999	001	BCISPP	Composite/Grab	Scheduled	337.000 mg/L			
01/20/1999	001	BCISPP	Composite	Scheduled	224.000 mg/L			
01/21/1999	001	BCISPP	Composite	Scheduled	380.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 01/01/1999 to 03/31/1999
IU : 114 - Bill Knapp's of Michigan, Inc.
Site: 1 - Across Knapp Drive in grass
Industrial Category: 400 - No Category
Permit: 114

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 3,000.000 / Min Avg: 0.000 Max Avg: 1,220.000 / Max TRC: 4,200.000 / Avg Max TRC: 1,708.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
01/19/1999	001	BCISPP	Composite/Grab	Scheduled	11,100.000 mg/L		X	X
01/20/1999	001	BCISPP	Composite/Grab	Scheduled	810.000 mg/L			
01/21/1999	001	BCISPP	Composite	Scheduled	1,080.000 mg/L			
03/10/1999	001	BCISPP	Composite/Grab	Scheduled	1,080.000 mg/L			
03/11/1999	001	BCISPP	Composite	Scheduled	810.000 mg/L			

Parameter : FOG's - Oil and grease Daily Limits - Min: 0.000 Max: 100.000 / Min Avg: 0.000 Max Avg: 100.000 / Max TRC: 120.000 / Avg Max TRC: 120.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
01/19/1999	001	BCISPP	Composite/Grab	Scheduled	182.000 mg/L		X	X
01/20/1999	001	BCISPP	Composite/Grab	Scheduled	159.000 mg/L		X	X
03/10/1999	001	BCISPP	Composite/Grab	Scheduled	41.000 mg/L			

Parameter : pH - pH Daily Limits - Min: 6.000 Max: 9.500 / Min Avg: 0.000 Max Avg: 9.500 / Max TRC: 9.500 / Avg Max TRC: 9.500

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
01/19/1999	001	BCISPP	Composite/Grab	Scheduled	7.200 S.U.			
01/20/1999	001	BCISPP	Composite/Grab	Scheduled	9.400 S.U.			
03/10/1999	001	BCISPP	Composite/Grab	Scheduled	8.100 S.U.			

Parameter : Phos - Phosphorus Daily Limits - Min: 0.000 Max: 10.000 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 12.000 / Avg Max TRC: 0.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
01/19/1999	001	BCISPP	Composite/Grab	Scheduled	8.750 mg/L			
01/20/1999	001	BCISPP	Composite/Grab	Scheduled	10.670 mg/L		X	
01/21/1999	001	BCISPP	Composite	Scheduled	12.920 mg/L		X	X
03/10/1999	001	BCISPP	Composite/Grab	Scheduled	7.080 mg/L			
03/11/1999	001	BCISPP	Composite	Scheduled	4.780 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 01/01/1999 to 03/31/1999
IU : 114 - Bill Knapp's of Michigan, Inc.
Site: 1 - Across Knapp Drive in grass
Industrial Category: 400 - No Category
Permit: 114

Parameter : Phos - Phosphorus Daily Limits - Min 0.000 Max 10.000 / Min Avg 0.000 Max Avg 0.000 / Max TRC 12.000 / Avg Max TRC 0.000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC

Parameter : TSS - TSS Daily Limits - Min 0.000 Max 2,000.000 / Min Avg 0.000 Max Avg 750.000 / Max TRC 2,800.000 / Avg Max TRC 1,050.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
01/19/1999	001	BCISPP	Composite/Grab	Scheduled	530.000 mg/L			
01/20/1999	001	BCISPP	Composite/Grab	Scheduled	536.000 mg/L			
01/21/1999	001	BCISPP	Composite	Scheduled	660.000 mg/L			
03/10/1999	001	BCISPP	Composite/Grab	Scheduled	568.000 mg/L			
03/11/1999	001	BCISPP	Composite	Scheduled	613.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 07/01/1999 to 12/31/1999
IU : 121 - Duncan Aviation
Site: 1 - 100 ft East of main entrance
Industrial Category: 400 - No Category
Permit: 121

Parameter : Ag - Silver Daily Limits - Min: 0.000 Max: 0.200 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 0.240 / Avg Max TRC:

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
09/29/1999	001	BCISPP	Composite	Scheduled	0.002 mg/L			

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 3,000.000 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 4,200.000 / Avg Max TRC:

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
09/28/1999	001	BCISPP	Composite/Grab	Scheduled	2,010.000 mg/L			
09/29/1999	001	BCISPP	Composite	Scheduled	2,130.000 mg/L			
09/30/1999	001	BCISPP	Composite	Scheduled	2,100.000 mg/L			

Parameter : Cr - Chromium Daily Limits - Min: 0.000 Max: 1.500 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 1.800 / Avg Max TRC:

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
09/29/1999	001	BCISPP	Composite	Scheduled	0.028 mg/L			

Parameter : Cu - Copper Daily Limits - Min: 0.000 Max: 1.000 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 1.200 / Avg Max TRC:

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
09/29/1999	001	BCISPP	Composite	Scheduled	0.183 mg/L			

Parameter : Metal - Total metals Daily Limits - Min: 0.000 Max: 5.750 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 6.900 / Avg Max TRC:

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
09/29/1999	001	BCISPP	Composite	Scheduled	0.324 mg/L			

Parameter : Ni - Nickel Daily Limits - Min: 0.000 Max: 0.750 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 0.900 / Avg Max TRC:

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 07/01/1999 to 12/31/1999
IU : 121 - Duncan Aviation
Site: 1 - 100 ft East of main entrance
Industrial Category: 400 - No Category
Permit: 121

Parameter : Ni - Nickel Daily Limits - Min: 0.000 Max: 0.750 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 0.900 / Avg Max TRC:

* Continued From Previous Page

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/29/1999	001	BCISPP	Composite	Scheduled	0.053 mg/L			

Parameter : Pb - Lead Daily Limits - Min: 0.000 Max: 0.200 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 0.240 / Avg Max TRC:

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/29/1999	001	BCISPP	Composite	Scheduled	ND (<0.021) mg/L			

Parameter : pH - pH Daily Limits - Min: 6.000 Max: 9.500 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 9.500 / Avg Max TRC:

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/28/1999	001	BCISPP	Composite/Grab	Scheduled	7.100 S.U.			

Parameter : Phos - Phosphorus Daily Limits - Min: 0.000 Max: 10.000 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 12.000 / Avg Max TRC:

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/30/1999	001	BCISPP	Composite	Scheduled	6.050 mg/L			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,200.000 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 1,680.000 / Avg Max TRC:

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/28/1999	001	BCISPP	Composite/Grab	Scheduled	240.000 mg/L			
09/29/1999	001	BCISPP	Composite	Scheduled	140.000 mg/L			
09/30/1999	001	BCISPP	Composite	Scheduled	242.000 mg/L			

Parameter : TTO's - Total Toxics Daily Limits - Min: 0.000 Max: 2.000 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 2.400 / Avg Max TRC:

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 07/01/1999 to 12/31/1999
IU : 121 - Duncan Aviation
Site: 1 - 100 ft East of main entrance
Industrial Category: 400 - No Category
Permit: 121

Parameter : TTO's - Total Toxics Daily Limits - Min: 0.000 Max: 2.000 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 2.400 / Avg Max TRC:

* Continued From Previous Page

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/22/1999	001	DLZLAB	Grab	Scheduled	0.012 mg/L			

Parameter : Zn - Zinc Daily Limits - Min: 0.000 Max: 2.500 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 3.000 / Avg Max TRC:

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/29/1999	001	BCISPP	Composite	Scheduled	0.060 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 01/01/1999 to 06/30/1999
IU : 123 - Embossing Printers, Inc.
Site: 1 - In field at Clark & Dickman.
Industrial Category: 400 - No Category
Permit: 123

Parameter : Ag - Silver Daily Limits - Min: 0.000 Max: 0.200 / Min Avg: 0.000 Max Avg: 0.200 / Max TRC: 0.240 / Avg Max TRC: 0.240

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
05/06/1999	001	BCISPP	Composite	Scheduled	0.065 mg/L			

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,200.000 / Min Avg: 0.000 Max Avg: 600.000 / Max TRC: 1,680.000 / Avg Max TRC: 840.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
05/06/1999	001	BCISPP	Composite	Scheduled	198.000 mg/L			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,400.000 / Min Avg: 0.000 Max Avg: 700.000 / Max TRC: 1,960.000 / Avg Max TRC: 980.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
05/06/1999	001	BCISPP	Composite	Scheduled	138.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 01/01/1999 to 06/30/1999
IU : 126 - Battle Creek Enquirer
Site: 1 - Tompkin St. lot entrance.

Industrial Category: 400 - No Category
Permit: 126

Parameter : Ag - Silver Daily Limits - Min: 0.000 Max: 0.200 / Min Avg: 0.000 Max Avg: 0.200 / Max TRC: 0.240 / Avg Max TRC: 0.240

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
02/09/1999	001	BCISPP	Composite	Scheduled	0.034 mg/L			
02/10/1999	001	BCISPP	Composite	Scheduled	0.119 mg/L			
02/11/1999	001	BCISPP	Composite	Scheduled	0.016 mg/L			
05/04/1999	001	BCISPP	Composite	Scheduled	0.031 mg/L			
05/05/1999	001	BCISPP	Composite	Scheduled	0.010 mg/L			
05/06/1999	001	BCISPP	Composite	Scheduled	0.021 mg/L			

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,600.000 / Min Avg: 0.000 Max Avg: 810.000 / Max TRC: 2,240.000 / Avg Max TRC: 1,134.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
02/09/1999	001	BCISPP	Composite	Scheduled	135.000 mg/L			
02/10/1999	001	BCISPP	Composite	Scheduled	61.000 mg/L			
02/11/1999	001	BCISPP	Composite	Scheduled	29.000 mg/L			
05/04/1999	001	BCISPP	Composite	Scheduled	74.000 mg/L			
05/05/1999	001	BCISPP	Composite	Scheduled	36.000 mg/L			
05/06/1999	001	BCISPP	Composite	Scheduled	117.000 mg/L			

Parameter : Pb - Lead Daily Limits - Min: 0.000 Max: 0.200 / Min Avg: 0.000 Max Avg: 0.200 / Max TRC: 0.240 / Avg Max TRC: 0.240

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
02/09/1999	001	BCISPP	Composite	Scheduled	ND (<0.022) mg/L			
02/10/1999	001	BCISPP	Composite	Scheduled	ND (<0.022) mg/L			
02/11/1999	001	BCISPP	Composite	Scheduled	ND (<0.022) mg/L			
05/04/1999	001	BCISPP	Composite	Scheduled	ND (<0.022) mg/L			
05/05/1999	001	BCISPP	Composite	Scheduled	ND (<0.022) mg/L			
05/06/1999	001	BCISPP	Composite	Scheduled	ND (<0.022) mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 01/01/1999 to 06/30/1999
IU : 126 - Battle Creek Enquirer
Site: 1 - Tompkin St. lot entrance.
Industrial Category: 400 - No Category
Permit: 126

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,100.000 / Min Avg: 0.000 Max Avg: 530.000 / Max TRC: 1,540.000 / Avg Max TRC: 742.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
02/09/1999	001	BCISPP	Composite	Scheduled	33.000 mg/L			
02/10/1999	001	BCISPP	Composite	Scheduled	64.000 mg/L			
02/11/1999	001	BCISPP	Composite	Scheduled	33.000 mg/L			
05/04/1999	001	BCISPP	Composite	Scheduled	74.000 mg/L			
05/05/1999	001	BCISPP	Composite	Scheduled	56.000 mg/L			
05/06/1999	001	BCISPP	Composite	Scheduled	87.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 07/01/1999 to 12/31/1999
IU : 128 - AtoFindley Adhesives, Inc.
Site: 1 - 28th St. front parking lot.
Industrial Category: 400 - No Category
Permit: 128

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 10,000.000 / Min Avg: 0.000 Max Avg: 1,775.000 / Max TRC: 14,000.000 / Avg Max TRC: 2,485.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/16/1999	001	BCISPP	Composite/Grab	Scheduled	332.000 mg/L			
11/18/1999	001	BCISPP	Composite	Scheduled	204.000 mg/L			

Parameter : CN- - Cyanide Daily Limits - Min: 0.000 Max: 0.500 / Min Avg: 0.000 Max Avg: 0.500 / Max TRC: 0.600 / Avg Max TRC: 0.600

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/16/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			
11/17/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			

Parameter : pH - pH Daily Limits - Min: 5.500 Max: 9.500 / Min Avg: 0.000 Max Avg: 9.500 / Max TRC: 9.500 / Avg Max TRC: 9.500

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/16/1999	001	BCISPP	Composite/Grab	Scheduled	6.700 S.U.			
11/17/1999	001	BCISPP	Composite/Grab	Scheduled	6.900 S.U.			

Parameter : Phenl - Phenol Daily Limits - Min: 0.000 Max: 3.000 / Min Avg: 0.000 Max Avg: 3.000 / Max TRC: 3.600 / Avg Max TRC: 3.600

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/16/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			
11/17/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.100) mg/L			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 10,000.000 / Min Avg: 0.000 Max Avg: 2,940.000 / Max TRC: 14,000.000 / Avg Max TRC: 4,116.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/16/1999	001	BCISPP	Composite/Grab	Scheduled	1,471.000 mg/L			
11/18/1999	001	BCISPP	Composite	Scheduled	28.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 07/01/1999 to 12/31/1999
IU : 128 - AtoFindley Adhesives, Inc.
Site: 1 - 28th St. front parking lot.
Industrial Category: 400 - No Category
Permit: 128

Parameter : Zn - Zinc Daily Limits - Min: 0.000 Max: 2.500 / Min Avg: 0.000 Max Avg: 2.500 / Max TRC: 3.000 / Avg Max TRC: 3.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	---------- Violations ---------- Min	Max	TRC
11/16/1999	001	BCISPP	Composite/Grab	Scheduled	0.308 mg/L			
11/18/1999	001	BCISPP	Composite	Scheduled	0.100 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 07/01/1999 to 12/31/1999
IU : 132 - Gallagher Industrial Laundry
Site: 1 - Manhole located in McQuiston

Industrial Category: 400 - No Category
Permit: 132

Parameter : BOD5 - BOD5 Daily Limits - Min 0 000 Max 900 000 / Min Avg 0 000 Max Avg 450 000 / Max TRC 1,260 000 / Avg Max TRC 630 000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/14/1999	001	BCISPP	Composite/Grab	Scheduled	357.000 mg/L			
09/15/1999	001	BCISPP	Composite/Grab	Scheduled	357 000 mg/L			
11/30/1999	001	BCISPP	Composite/Grab	Scheduled	150 000 mg/L			
12/01/1999	001	BCISPP	Composite/Grab	Scheduled	198 000 mg/L			
12/02/1999	001	BCISPP	Composite/Grab	Scheduled	186 000 mg/L			

Parameter : FOG's - Oil and grease Daily Limits - Min 0 000 Max 100 000 / Min Avg 0 000 Max Avg 100 000 / Max TRC 120 000 / Avg Max TRC 120 000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/14/1999	001	BCISPP	Composite/Grab	Scheduled	136 700 mg/L		X	X
09/15/1999	001	BCISPP	Composite/Grab	Scheduled	97 000 mg/L			

Parameter : pH - pH Daily Limits - Min 5 500 Max 9 500 / Min Avg 0 000 Max Avg 9 500 / Max TRC 9 500 / Avg Max TRC 9 500

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/14/1999	001	BCISPP	Composite/Grab	Scheduled	10 400 S U		X	X
09/15/1999	001	BCISPP	Composite/Grab	Scheduled	9 100 S U			
11/30/1999	001	BCISPP	Composite/Grab	Scheduled	9 000 S U			
12/01/1999	001	BCISPP	Composite/Grab	Scheduled	8 700 S U			
12/02/1999	001	BCISPP	Composite/Grab	Scheduled	8 600 S U			

Parameter : TSS - TSS Daily Limits - Min 0 000 Max 1,200 000 / Min Avg 0 000 Max Avg 530 000 / Max TRC 1,680 000 / Avg Max TRC 742 000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/14/1999	001	BCISPP	Composite/Grab	Scheduled	150 000 mg/L			
09/15/1999	001	BCISPP	Composite/Grab	Scheduled	128 000 mg/L			
11/30/1999	001	BCISPP	Composite/Grab	Scheduled	246 000 mg/L			
12/01/1999	001	BCISPP	Composite/Grab	Scheduled	192 000 mg/L			

** No Detect results calculated using [Detection Level x 0 50]*

PreWin DISCHARGE MONITORING REPORT - PARAMETER AVERAGES

Date Range: 07/01/1999 to 12/31/1999
IU : 132 - Gallagher Industrial Laundry
Site: 1 - Manhole located in McQuiston

Industrial Category: 400 - No Category
Permit: 132

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,200.000 / Min Avg: 0.000 Max Avg: 530.000 / Max TRC: 1,680.000 / Avg Max TRC: 742.000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
12/02/1999	001	BCISPP	Composite/Grab	Scheduled	173.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 133 - Kraft Foods, Inc. - Post
Site: 1 - W.Michigan St. sample station.

Industrial Category: 400 - No Category
Permit: 133

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 28,500.000 / Min Avg: 0.000 Max Avg: 14,250.000 / Max TRC: 39,900.000 / Avg Max TRC: 19,950.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Violations Max	Violations TRC
07/01/1999	001	BCISPP	Composite	Scheduled	114.000 mg/L			
07/02/1999	001	BCISPP	Composite	Scheduled	79.000 mg/L			
07/03/1999	001	BCISPP	Composite	Scheduled	88.000 mg/L			
07/04/1999	001	BCISPP	Composite	Scheduled	86.000 mg/L			
07/05/1999	001	BCISPP	Composite	Scheduled	105.000 mg/L			
07/06/1999	001	BCISPP	Composite	Scheduled	68.000 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	62.000 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	82.000 mg/L			
07/09/1999	001	BCISPP	Composite	Scheduled	58.000 mg/L			
07/10/1999	001	BCISPP	Composite	Scheduled	1,650.000 mg/L			
07/11/1999	001	BCISPP	Composite	Scheduled	12,853.000 mg/L			
07/12/1999	001	BCISPP	Composite	Scheduled	5,720.000 mg/L			
07/13/1999	001	BCISPP	Composite	Scheduled	4,038.000 mg/L			
07/14/1999	001	BCISPP	Composite	Scheduled	10,927.000 mg/L			
07/15/1999	001	BCISPP	Composite	Scheduled	4,552.000 mg/L			
07/16/1999	001	BCISPP	Composite	Scheduled	10,147.000 mg/L			
07/17/1999	001	BCISPP	Composite	Scheduled	5,890.000 mg/L			
07/18/1999	001	BCISPP	Composite	Scheduled	6,385.000 mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	3,746.000 mg/L			
07/20/1999	001	BCISPP	Composite	Scheduled	5,070.000 mg/L			
07/21/1999	001	BCISPP	Composite	Scheduled	3,676.000 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	5,248.000 mg/L			
07/23/1999	001	BCISPP	Composite	Scheduled	3,549.000 mg/L			
07/24/1999	001	BCISPP	Composite	Scheduled	6,507.000 mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	3,042.000 mg/L			
07/26/1999	001	BCISPP	Composite	Scheduled	3,296.000 mg/L			
07/27/1999	001	BCISPP	Composite	Scheduled	4,627.000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	9,757.000 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	4,435.000 mg/L			
07/30/1999	001	BCISPP	Composite	Scheduled	13,901.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 133 - Kraft Foods, Inc - Post
Site: 1 - W Michigan St sample station

Industrial Category: 400 - No Category
Permit: 133

Parameter : BOD5 - BOD5 Daily Limits - Min 0 000 Max 28,500 000 / Min Avg 0 000 Max Avg 14,250 000 / Max TRC 39,900 000 / Avg Max TRC 19,950 000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/31/1999	001	BCISPP	Composite	Scheduled	14,038 000 mg/L			

Parameter : Flow - Flow, total Daily Limits - Min 0 000 Max 1 500 / Min Avg 0 000 Max Avg 0 750 / Max TRC 1 800 / Avg Max TRC 0 900

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/01/1999	001	BCISPP	Composite	Scheduled	0 197 Gal			
07/02/1999	001	BCISPP	Composite	Scheduled	0 158 Gal			
07/03/1999	001	BCISPP	Composite	Scheduled	0 175 Gal			
07/04/1999	001	BCISPP	Composite	Scheduled	0 172 Gal			
07/05/1999	001	BCISPP	Composite	Scheduled	0 209 Gal			
07/06/1999	001	BCISPP	Composite	Scheduled	0 136 Gal			
07/07/1999	001	BCISPP	Composite	Scheduled	0 124 Gal			
07/08/1999	001	BCISPP	Composite	Scheduled	0 117 Gal			
07/09/1999	001	BCISPP	Composite	Scheduled	0 117 Gal			
07/10/1999	001	BCISPP	Composite	Scheduled	0 330 Gal			
07/11/1999	001	BCISPP	Composite	Scheduled	0 431 Gal			
07/12/1999	001	BCISPP	Composite	Scheduled	0 471 Gal			
07/13/1999	001	BCISPP	Composite	Scheduled	0 521 Gal			
07/14/1999	001	BCISPP	Composite	Scheduled	0 576 Gal			
07/15/1999	001	BCISPP	Composite	Scheduled	0 674 Gal			
07/16/1999	001	BCISPP	Composite	Scheduled	0 580 Gal			
07/17/1999	001	BCISPP	Composite	Scheduled	0 669 Gal			
07/18/1999	001	BCISPP	Composite	Scheduled	0 677 Gal			
07/19/1999	001	BCISPP	Composite	Scheduled	0 749 Gal			
07/20/1999	001	BCISPP	Composite	Scheduled	0 507 Gal			
07/21/1999	001	BCISPP	Composite	Scheduled	0 507 Gal			
07/22/1999	001	BCISPP	Composite	Scheduled	0 507 Gal			
07/23/1999	001	BCISPP	Composite	Scheduled	0 507 Gal			
07/24/1999	001	BCISPP	Composite	Scheduled	0 507 Gal			
07/25/1999	001	BCISPP	Composite	Scheduled	0 507 Gal			

** No Detect results calculated using [Detection Level x 0 50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 133 - Kraft Foods, Inc. - Post
Site: 1 - W.Michigan St. sample station.

Industrial Category: 400 - No Category
Permit: 133

Parameter : Flow - Flow, total Daily Limits - Min: 0.000 Max: 1.500 / Min Avg: 0.000 Max Avg: 0.750 / Max TRC: 1.800 / Avg Max TRC: 0.900

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/26/1999	001	BCISPP	Composite	Scheduled	0.507 Gal			
07/27/1999	001	BCISPP	Composite	Scheduled	0.507 Gal			
07/28/1999	001	BCISPP	Composite	Scheduled	0.532 Gal			
07/29/1999	001	BCISPP	Composite	Scheduled	0.534 Gal			
07/30/1999	001	BCISPP	Composite	Scheduled	0.749 Gal			
07/31/1999	001	BCISPP	Composite	Scheduled	0.774 Gal			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 12,200.000 / Min Avg: 0.000 Max Avg: 6,100.000 / Max TRC: 17,080.000 / Avg Max TRC: 8,540.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/01/1999	001	BCISPP	Composite	Scheduled	76.000 mg/L			
07/02/1999	001	BCISPP	Composite	Scheduled	43.000 mg/L			
07/03/1999	001	BCISPP	Composite	Scheduled	53.000 mg/L			
07/04/1999	001	BCISPP	Composite	Scheduled	57.000 mg/L			
07/05/1999	001	BCISPP	Composite	Scheduled	94.000 mg/L			
07/06/1999	001	BCISPP	Composite	Scheduled	59.000 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	95.000 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	76.000 mg/L			
07/09/1999	001	BCISPP	Composite	Scheduled	121.000 mg/L			
07/10/1999	001	BCISPP	Composite	Scheduled	349.000 mg/L			
07/11/1999	001	BCISPP	Composite	Scheduled	575.000 mg/L			
07/12/1999	001	BCISPP	Composite	Scheduled	605.000 mg/L			
07/13/1999	001	BCISPP	Composite	Scheduled	838.000 mg/L			
07/14/1999	001	BCISPP	Composite	Scheduled	1,172.000 mg/L			
07/15/1999	001	BCISPP	Composite	Scheduled	1,180.000 mg/L			
07/16/1999	001	BCISPP	Composite	Scheduled	798.000 mg/L			
07/17/1999	001	BCISPP	Composite	Scheduled	854.000 mg/L			
07/18/1999	001	BCISPP	Composite	Scheduled	1,175.000 mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	612.000 mg/L			
07/20/1999	001	BCISPP	Composite	Scheduled	1,162.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 133 - Kraft Foods, Inc. - Post
Site: 1 - W.Michigan St. sample station.

Industrial Category: 400 - No Category
Permit: 133

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 12,200.000 / Min Avg: 0.000 Max Avg: 6,100.000 / Max TRC: 17,080.000 / Avg Max TRC: 8,540.000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/21/1999	001	BCISPP	Composite	Scheduled	946.000 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	777.000 mg/L			
07/23/1999	001	BCISPP	Composite	Scheduled	815.000 mg/L			
07/24/1999	001	BCISPP	Composite	Scheduled	853.000 mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	896.000 mg/L			
07/26/1999	001	BCISPP	Composite	Scheduled	676.000 mg/L			
07/27/1999	001	BCISPP	Composite	Scheduled	1,065.000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	1,894.000 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	789.000 mg/L			
07/30/1999	001	BCISPP	Composite	Scheduled	2,636.000 mg/L			
07/31/1999	001	BCISPP	Composite	Scheduled	3,647.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 138 - II Stanley Corporation
Site: 1 - N.E. of main entrance.

Industrial Category: 400 - No Category
Permit: 138

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,200.000 / Min Avg: 0.000 Max Avg: 600.000 / Max TRC: 1,680.000 / Avg Max TRC: 840.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/14/1999	001	BCISPP	Composite	Scheduled	269.000 mg/L			
07/15/1999	001	BCISPP	Composite	Scheduled	288.000 mg/L			
11/30/1999	001	BCISPP	Composite	Scheduled	748.000 mg/L			
12/01/1999	001	BCISPP	Composite	Scheduled	348.000 mg/L			
12/02/1999	001	BCISPP	Composite	Scheduled	218.000 mg/L			

Parameter : Phos - Phosphorus Daily Limits - Min: 0.000 Max: 10.000 / Min Avg: 0.000 Max Avg: 10.000 / Max TRC: 12.000 / Avg Max TRC: 12.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/14/1999	001	BCISPP	Composite	Scheduled	7.480 mg/L			
07/15/1999	001	BCISPP	Composite	Scheduled	7.590 mg/L			
11/30/1999	001	BCISPP	Composite	Scheduled	14.180 mg/L		X	X
12/01/1999	001	BCISPP	Composite	Scheduled	10.010 mg/L		X	
12/02/1999	001	BCISPP	Composite	Scheduled	9.350 mg/L			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,400.000 / Min Avg: 0.000 Max Avg: 700.000 / Max TRC: 1,960.000 / Avg Max TRC: 980.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/14/1999	001	BCISPP	Composite	Scheduled	270.000 mg/L			
07/15/1999	001	BCISPP	Composite	Scheduled	284.000 mg/L			
11/30/1999	001	BCISPP	Composite	Scheduled	1,053.000 mg/L			
12/01/1999	001	BCISPP	Composite	Scheduled	360.000 mg/L			
12/02/1999	001	BCISPP	Composite	Scheduled	156.000 mg/L			

Parameter : Zn - Zinc Daily Limits - Min: 0.000 Max: 2.500 / Min Avg: 0.000 Max Avg: 2.500 / Max TRC: 3.000 / Avg Max TRC: 3.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/14/1999	001	BCISPP	Composite	Scheduled	0.566 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 138 - II Stanley Corporation
Site: 1 - N.E. of main entrance.

Industrial Category: 400 - No Category
Permit: 138

Parameter : Zn - Zinc Daily Limits - Min: 0.000 Max: 2.500 / Min Avg: 0.000 Max Avg: 2.500 / Max TRC: 3.000 / Avg Max TRC: 3.000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/15/1999	001	BCISPP	Composite	Scheduled	0.377 mg/L			
11/30/1999	001	BCISPP	Composite	Scheduled	0.380 mg/L			
12/01/1999	001	BCISPP	Composite	Scheduled	0.306 mg/L			
12/02/1999	001	BCISPP	Composite	Scheduled	0.202 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 146 - Kellogg Company
Site: 1 - Porter St. sample station.

Industrial Category: 400 - No Category
Permit: 146

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 64,000.000 / Min Avg: 0.000 Max Avg: 32,000.000 / Max TRC: 89,600.000 / Avg Max TRC: 44,800.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Violations Max	Violations TRC
07/01/1999	001	BCISPP	Composite	Scheduled	4,919.000 mg/L			
07/02/1999	001	BCISPP	Composite	Scheduled	19,772.000 mg/L			
07/03/1999	001	BCISPP	Composite	Scheduled	304.000 mg/L			
07/04/1999	001	BCISPP	Composite	Scheduled	303.000 mg/L			
07/05/1999	001	BCISPP	Composite	Scheduled	323.000 mg/L			
07/06/1999	001	BCISPP	Composite	Scheduled	1,120.000 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	932.000 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	18,718.000 mg/L			
07/09/1999	001	BCISPP	Composite	Scheduled	14,484.000 mg/L			
07/10/1999	001	BCISPP	Composite	Scheduled	26,269.000 mg/L			
07/11/1999	001	BCISPP	Composite	Scheduled	20,511.000 mg/L			
07/12/1999	001	BCISPP	Composite	Scheduled	13,684.000 mg/L			
07/13/1999	001	BCISPP	Composite	Scheduled	31,079.000 mg/L			
07/14/1999	001	BCISPP	Composite	Scheduled	17,110.000 mg/L			
07/15/1999	001	BCISPP	Composite	Scheduled	11,670.000 mg/L			
07/16/1999	001	BCISPP	Composite	Scheduled	21,481.000 mg/L			
07/17/1999	001	BCISPP	Composite	Scheduled	16,491.000 mg/L			
07/18/1999	001	BCISPP	Composite	Scheduled	13,023.000 mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	15,065.000 mg/L			
07/20/1999	001	BCISPP	Composite	Scheduled	13,391.000 mg/L			
07/21/1999	001	BCISPP	Composite	Scheduled	17,111.000 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	18,651.000 mg/L			
07/23/1999	001	BCISPP	Composite	Scheduled	14,940.000 mg/L			
07/24/1999	001	BCISPP	Composite	Scheduled	20,584.000 mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	40,795.000 mg/L			
07/26/1999	001	BCISPP	Composite	Scheduled	39,444.000 mg/L			
07/27/1999	001	BCISPP	Composite	Scheduled	14,622.000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	8,567.000 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	6,400.000 mg/L			
07/30/1999	001	BCISPP	Composite	Scheduled	8,252.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 146 - Kellogg Company
Site: 1 - Porter St. sample station.

Industrial Category: 400 - No Category
Permit: 146

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 64,000.000 / Min Avg: 0.000 Max Avg: 32,000.000 / Max TRC: 89,600.000 / Avg Max TRC: 44,800.000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/31/1999	001	BCISPP	Composite	Scheduled	6,375.000 mg/L			

Parameter : Flow - Flow, total Daily Limits - Min: 0.000 Max: 2.400 / Min Avg: 0.000 Max Avg: 2.400 / Max TRC: 2.880 / Avg Max TRC: 2.880

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/01/1999	001	BCISPP	Composite	Scheduled	0.983 Gal			
07/02/1999	001	BCISPP	Composite	Scheduled	0.870 Gal			
07/03/1999	001	BCISPP	Composite	Scheduled	0.608 Gal			
07/04/1999	001	BCISPP	Composite	Scheduled	0.605 Gal			
07/05/1999	001	BCISPP	Composite	Scheduled	0.645 Gal			
07/06/1999	001	BCISPP	Composite	Scheduled	0.584 Gal			
07/07/1999	001	BCISPP	Composite	Scheduled	1.862 Gal			
07/08/1999	001	BCISPP	Composite	Scheduled	2.267 Gal			
07/09/1999	001	BCISPP	Composite	Scheduled	2.144 Gal			
07/10/1999	001	BCISPP	Composite	Scheduled	2.226 Gal			
07/11/1999	001	BCISPP	Composite	Scheduled	2.246 Gal			
07/12/1999	001	BCISPP	Composite	Scheduled	2.378 Gal			
07/13/1999	001	BCISPP	Composite	Scheduled	2.501 Gal		X	
07/14/1999	001	BCISPP	Composite	Scheduled	2.206 Gal			
07/15/1999	001	BCISPP	Composite	Scheduled	2.221 Gal			
07/16/1999	001	BCISPP	Composite	Scheduled	2.192 Gal			
07/17/1999	001	BCISPP	Composite	Scheduled	2.197 Gal			
07/18/1999	001	BCISPP	Composite	Scheduled	2.263 Gal			
07/19/1999	001	BCISPP	Composite	Scheduled	2.230 Gal			
07/20/1999	001	BCISPP	Composite	Scheduled	2.230 Gal			
07/21/1999	001	BCISPP	Composite	Scheduled	1.668 Gal			
07/22/1999	001	BCISPP	Composite	Scheduled	2.315 Gal			
07/23/1999	001	BCISPP	Composite	Scheduled	2.488 Gal		X	
07/24/1999	001	BCISPP	Composite	Scheduled	2.571 Gal		X	
07/25/1999	001	BCISPP	Composite	Scheduled	2.483 Gal		X	

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 146 - Kellogg Company
Site: 1 - Porter St. sample station.

Industrial Category: 400 - No Category
Permit: 146

Parameter : Flow - Flow, total Daily Limits - Min: 0.000 Max: 2.400 / Min Avg: 0.000 Max Avg: 2.400 / Max TRC: 2.880 / Avg Max TRC: 2.880

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/26/1999	001	BCISPP	Composite	Scheduled	2.413 Gal		X	
07/27/1999	001	BCISPP	Composite	Scheduled	1.981 Gal			
07/28/1999	001	BCISPP	Composite	Scheduled	1.712 Gal			
07/29/1999	001	BCISPP	Composite	Scheduled	1.279 Gal			
07/30/1999	001	BCISPP	Composite	Scheduled	1.649 Gal			
07/31/1999	001	BCISPP	Composite	Scheduled	1.274 Gal			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 20,000.000 / Min Avg: 0.000 Max Avg: 10,000.000 / Max TRC: 28,000.000 / Avg Max TRC: 14,000.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/01/1999	001	BCISPP	Composite	Scheduled	2,148.000 mg/L			
07/02/1999	001	BCISPP	Composite	Scheduled	2,177.000 mg/L			
07/03/1999	001	BCISPP	Composite	Scheduled	325.000 mg/L			
07/04/1999	001	BCISPP	Composite	Scheduled	192.000 mg/L			
07/05/1999	001	BCISPP	Composite	Scheduled	258.000 mg/L			
07/06/1999	001	BCISPP	Composite	Scheduled	224.000 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	1,677.000 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	2,685.000 mg/L			
07/09/1999	001	BCISPP	Composite	Scheduled	2,897.000 mg/L			
07/10/1999	001	BCISPP	Composite	Scheduled	2,451.000 mg/L			
07/11/1999	001	BCISPP	Composite	Scheduled	2,810.000 mg/L			
07/12/1999	001	BCISPP	Composite	Scheduled	2,420.000 mg/L			
07/13/1999	001	BCISPP	Composite	Scheduled	3,504.000 mg/L			
07/14/1999	001	BCISPP	Composite	Scheduled	3,735.000 mg/L			
07/15/1999	001	BCISPP	Composite	Scheduled	3,075.000 mg/L			
07/16/1999	001	BCISPP	Composite	Scheduled	3,108.000 mg/L			
07/17/1999	001	BCISPP	Composite	Scheduled	3,060.000 mg/L			
07/18/1999	001	BCISPP	Composite	Scheduled	3,152.000 mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	3,273.000 mg/L			
07/20/1999	001	BCISPP	Composite	Scheduled	3,422.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 146 - Kellogg Company
Site: 1 - Porter St sample station

Industrial Category: 400 - No Category
Permit: 146

Parameter : TSS - TSS Daily Limits - Min 0 000 Max 20,000 000 / Min Avg 0 000 Max Avg 10,000 000 / Max TRC 28,000 000 / Avg Max TRC 14,000 000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/21/1999	001	BCISPP	Composite	Scheduled	2,504 000 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	3,205 000 mg/L			
07/23/1999	001	BCISPP	Composite	Scheduled	3,278 000 mg/L			
07/24/1999	001	BCISPP	Composite	Scheduled	4,717 000 mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	4,639 000 mg/L			
07/26/1999	001	BCISPP	Composite	Scheduled	4,065 000 mg/L			
07/27/1999	001	BCISPP	Composite	Scheduled	2,924 000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	1,628 000 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	1,600 000 mg/L			
07/30/1999	001	BCISPP	Composite	Scheduled	6,092 000 mg/L			
07/31/1999	001	BCISPP	Composite	Scheduled	1,913 000 mg/L			

** No Detect results calculated using [Detection Level x 0 50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 150 - Battle Creek Health System
Site: 1 - Main entrance
Industrial Category: 400 - No Category
Permit: 150

Parameter : Ag - Silver Daily Limits - Min 0 000 Max 0 200 / Min Avg 0 000 Max Avg 0 200 / Max TRC 0 240 / Avg Max TRC 0 240

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
11/16/1999	001	BCISPP	Composite	Scheduled	0 001 mg/L			
11/17/1999	001	BCISPP	Composite	Scheduled	0 003 mg/L			
11/18/1999	001	BCISPP	Composite	Scheduled	0 004 mg/L			

Parameter : Ba - Barium Daily Limits - Min 0 000 Max 2 000 / Min Avg 0 000 Max Avg 2 000 / Max TRC 2 400 / Avg Max TRC 2 400

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
11/16/1999	001	BCISPP	Composite	Scheduled	ND (<0 033) mg/L			
11/17/1999	001	BCISPP	Composite	Scheduled	0 036 mg/L			
11/18/1999	001	BCISPP	Composite	Scheduled	0 038 mg/L			

Parameter : BOD5 - BOD5 Daily Limits - Min 0 000 Max 1,200 000 / Min Avg 0 000 Max Avg 610 000 / Max TRC 1,680 000 / Avg Max TRC 854 000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
11/16/1999	001	BCISPP	Composite	Scheduled	140 000 mg/L			
11/17/1999	001	BCISPP	Composite	Scheduled	134 000 mg/L			
11/18/1999	001	BCISPP	Composite	Scheduled	132 000 mg/L			

Parameter : TSS - TSS Daily Limits - Min 0 000 Max 1,200 000 / Min Avg 0 000 Max Avg 560 000 / Max TRC 1,680 000 / Avg Max TRC 784 000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
11/16/1999	001	BCISPP	Composite	Scheduled	115 000 mg/L			
11/17/1999	001	BCISPP	Composite	Scheduled	120 000 mg/L			
11/18/1999	001	BCISPP	Composite	Scheduled	151 000 mg/L			

** No Detect results calculated using [Detection Level x 0 50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 150 - Battle Creek Health System
Site: 2 - Oncology parking lot.

Industrial Category: 400 - No Category
Permit: 150-2

Parameter : Ag - Silver Daily Limits - Min 0 000 Max 0 200 / Min Avg 0 000 Max Avg 0 200 / Max TRC 0 240 / Avg Max TRC 0 240

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/20/1999	001	BCISPP	Composite	Scheduled	0.031 mg/L			
07/21/1999	001	BCISPP	Composite	Scheduled	0 018 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	0.029 mg/L			
11/16/1999	001	BCISPP	Composite	Scheduled	0.370 mg/L		X	X
11/17/1999	001	BCISPP	Composite	Scheduled	0.406 mg/L		X	X
11/18/1999	001	BCISPP	Composite	Scheduled	0.392 mg/L		X	X

Parameter : Ba - Barium Daily Limits - Min 0 000 Max 2 000 / Min Avg 0 000 Max Avg 2 000 / Max TRC 2 400 / Avg Max TRC 2 400

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/20/1999	001	BCISPP	Composite	Scheduled	0 438 mg/L			
07/21/1999	001	BCISPP	Composite	Scheduled	0 083 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	1.529 mg/L			
11/16/1999	001	BCISPP	Composite	Scheduled	2.172 mg/L		X	
11/17/1999	001	BCISPP	Composite	Scheduled	3 910 mg/L		X	X
11/18/1999	001	BCISPP	Composite	Scheduled	1.407 mg/L			

Parameter : BOD5 - BOD5 Daily Limits - Min 0 000 Max 1,200 000 / Min Avg 0 000 Max Avg 610 000 / Max TRC 1,680 000 / Avg Max TRC 854 000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/20/1999	001	BCISPP	Composite	Scheduled	129.000 mg/L			
07/21/1999	001	BCISPP	Composite	Scheduled	126.000 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	183.000 mg/L			
11/16/1999	001	BCISPP	Composite	Scheduled	192 000 mg/L			
11/17/1999	001	BCISPP	Composite	Scheduled	162.000 mg/L			
11/18/1999	001	BCISPP	Composite	Scheduled	190.000 mg/L			
			6 Month Average:	**07/20/1999 to 11/18/1999**	**163.667 mg/L**			

** No Detect results calculated using [Detection Level x 0 50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 150 - Battle Creek Health System
Site: 2 - Oncology parking lot.

Industrial Category: 400 - No Category
Permit: 150-2

Parameter : TSS - TSS

Daily Limits - Min: 0.000 Max: 1,200.000 / Min Avg: 0.000 Max Avg: 560.000 / Max TRC: 1,680.000 / Avg Max TRC: 784.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/20/1999	001	BCISPP	Composite	Scheduled	125.000 mg/L			
07/21/1999	001	BCISPP	Composite	Scheduled	178.000 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	334.000 mg/L			
11/16/1999	001	BCISPP	Composite	Scheduled	180.000 mg/L			
11/17/1999	001	BCISPP	Composite	Scheduled	198.000 mg/L			
11/18/1999	001	BCISPP	Composite	Scheduled	166.000 mg/L			
			6 Month Average:	**07/20/1999 to 11/18/1999**	**196.833 mg/L**			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 155 - Lotte U.S.A.,Inc.
Site: 1 - Front of building on Wayne Rd.

Industrial Category: 400 - No Category
Permit: 155

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 7,500.000 / Min Avg: 0.000 Max Avg: 2,330.000 / Max TRC: 10,500.000 / Avg Max TRC: 3,262.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/27/1999	001	BCISPP	Composite	Scheduled	490.000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	1,350.000 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	3,400.000 mg/L			
10/26/1999	001	BCISPP	Composite	Scheduled	3,000.000 mg/L			
10/27/1999	001	BCISPP	Composite	Scheduled	2,080.000 mg/L			
10/28/1999	001	BCISPP	Composite	Scheduled	7,200.000 mg/L			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,800.000 / Min Avg: 0.000 Max Avg: 490.000 / Max TRC: 2,520.000 / Avg Max TRC: 686.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/27/1999	001	BCISPP	Composite	Scheduled	145.000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	237.000 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	670.000 mg/L			
10/26/1999	001	BCISPP	Composite	Scheduled	130.000 mg/L			
10/27/1999	001	BCISPP	Composite	Scheduled	112.000 mg/L			
10/28/1999	001	BCISPP	Composite	Scheduled	1,953.000 mg/L		X	

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 155 - Lotte U.S.A.,Inc.
Site: 2 - Koala Building

Industrial Category: 400 - No Category
Permit: 155-2

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 7,500.000 / Min Avg: 0.000 Max Avg: 2,330.000 / Max TRC: 10,500.000 / Avg Max TRC: 3,262.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/27/1999	001	BCISPP	Composite	Scheduled	618.000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	575.000 mg/L			
10/27/1999	001	BCISPP	Composite	Scheduled	1,320.000 mg/L			
10/28/1999	001	BCISPP	Composite	Scheduled	900.000 mg/L			
			6 Month Average:	**07/27/1999 to 10/28/1999**	**853.250 mg/L**			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,800.000 / Min Avg: 0.000 Max Avg: 490.000 / Max TRC: 2,520.000 / Avg Max TRC: 686.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/27/1999	001	BCISPP	Composite	Scheduled	410.000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	280.000 mg/L			
10/27/1999	001	BCISPP	Composite	Scheduled	713.000 mg/L			
10/28/1999	001	BCISPP	Composite	Scheduled	360.000 mg/L			
			6 Month Average:	**07/27/1999 to 10/28/1999**	**440.750 mg/L**			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 159 - Michigan Paperboard Corp.
Site: 1 - Loading dock sample station.

Industrial Category: 430 - PULP, PAPER, AND PAPERBOARD
Permit: 159

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 20,000.000 / Min Avg: 0.000 Max Avg: 10,000.000 / Max TRC: 28,000.000 / Avg Max TRC: 14,000.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/01/1999	001	BCISPP	Composite	Scheduled	6,329.000 mg/L			
07/02/1999	001	BCISPP	Composite	Scheduled	7,163.000 mg/L			
07/03/1999	001	BCISPP	Composite	Scheduled	7,066.000 mg/L			
07/04/1999	001	BCISPP	Composite	Scheduled	8,155.000 mg/L			
07/05/1999	001	BCISPP	Composite	Scheduled	7,506.000 mg/L			
07/06/1999	001	BCISPP	Composite	Scheduled	8,054.000 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	7,286.000 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	6,732.000 mg/L			
07/09/1999	001	BCISPP	Composite	Scheduled	7,337.000 mg/L			
07/10/1999	001	BCISPP	Composite	Scheduled	8,680.000 mg/L			
07/11/1999	001	BCISPP	Composite	Scheduled	7,359.000 mg/L			
07/12/1999	001	BCISPP	Composite	Scheduled	6,639.000 mg/L			
07/13/1999	001	BCISPP	Composite	Scheduled	8,012.000 mg/L			
07/14/1999	001	BCISPP	Composite	Scheduled	9,843.000 mg/L			
07/15/1999	001	BCISPP	Composite	Scheduled	10,289.000 mg/L			
07/16/1999	001	BCISPP	Composite	Scheduled	12,369.000 mg/L			
07/17/1999	001	BCISPP	Composite	Scheduled	8,414.000 mg/L			
07/18/1999	001	BCISPP	Composite	Scheduled	9,410.000 mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	8,151.000 mg/L			
07/20/1999	001	BCISPP	Composite	Scheduled	7,889.000 mg/L			
07/21/1999	001	BCISPP	Composite	Scheduled	6,680.000 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	6,290.000 mg/L			
07/23/1999	001	BCISPP	Composite	Scheduled	8,346.000 mg/L			
07/24/1999	001	BCISPP	Composite	Scheduled	8,880.000 mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	7,829.000 mg/L			
07/26/1999	001	BCISPP	Composite	Scheduled	6,711.000 mg/L			
07/27/1999	001	BCISPP	Composite	Scheduled	7,667.000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	7,417.000 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	3,473.000 mg/L			
07/30/1999	001	BCISPP	Composite	Scheduled	6,712.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 159 - Michigan Paperboard Corp.
Site: 1 - Loading dock sample station.
Industrial Category: 430 - PULP, PAPER, AND PAPERBOARD
Permit: 159

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 20,000.000 / Min Avg: 0.000 Max Avg: 10,000.000 / Max TRC: 28,000.000 / Avg Max TRC: 14,000.000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/31/1999	001	BCISPP	Composite	Scheduled	7,545.000 mg/L			

Parameter : Flow - Flow, total Daily Limits - Min: 0.000 Max: 5.000 / Min Avg: 0.000 Max Avg: 2.500 / Max TRC: 6.000 / Avg Max TRC: 3.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/01/1999	001	BCISPP	Composite	Scheduled	0.907 Gal			
07/02/1999	001	BCISPP	Composite	Scheduled	0.923 Gal			
07/03/1999	001	BCISPP	Composite	Scheduled	1.027 Gal			
07/04/1999	001	BCISPP	Composite	Scheduled	1.213 Gal			
07/05/1999	001	BCISPP	Composite	Scheduled	0.811 Gal			
07/06/1999	001	BCISPP	Composite	Scheduled	0.920 Gal			
07/07/1999	001	BCISPP	Composite	Scheduled	1.022 Gal			
07/08/1999	001	BCISPP	Composite	Scheduled	0.815 Gal			
07/09/1999	001	BCISPP	Composite	Scheduled	0.950 Gal			
07/10/1999	001	BCISPP	Composite	Scheduled	0.913 Gal			
07/11/1999	001	BCISPP	Composite	Scheduled	1.037 Gal			
07/12/1999	001	BCISPP	Composite	Scheduled	0.892 Gal			
07/13/1999	001	BCISPP	Composite	Scheduled	1.001 Gal			
07/14/1999	001	BCISPP	Composite	Scheduled	1.093 Gal			
07/15/1999	001	BCISPP	Composite	Scheduled	1.028 Gal			
07/16/1999	001	BCISPP	Composite	Scheduled	1.075 Gal			
07/17/1999	001	BCISPP	Composite	Scheduled	0.975 Gal			
07/18/1999	001	BCISPP	Composite	Scheduled	1.093 Gal			
07/19/1999	001	BCISPP	Composite	Scheduled	1.002 Gal			
07/20/1999	001	BCISPP	Composite	Scheduled	1.097 Gal			
07/21/1999	001	BCISPP	Composite	Scheduled	0.929 Gal			
07/22/1999	001	BCISPP	Composite	Scheduled	0.977 Gal			
07/23/1999	001	BCISPP	Composite	Scheduled	1.019 Gal			
07/24/1999	001	BCISPP	Composite	Scheduled	1.052 Gal			
07/25/1999	001	BCISPP	Composite	Scheduled	1.056 Gal			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 159 - Michigan Paperboard Corp
Site: 1 - Loading dock sample station

Industrial Category: 430 - PULP, PAPER, AND PAPERBOARD
Permit: 159

Parameter : Flow - Flow, total Daily Limits - Min 0 000 Max 5 000 / Min Avg 0 000 Max Avg 2 500 / Max TRC 6 000 / Avg Max TRC 3 000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/26/1999	001	BCISPP	Composite	Scheduled	0 909 Gal			
07/27/1999	001	BCISPP	Composite	Scheduled	1 005 Gal			
07/28/1999	001	BCISPP	Composite	Scheduled	1 005 Gal			
07/29/1999	001	BCISPP	Composite	Scheduled	0 703 Gal			
07/30/1999	001	BCISPP	Composite	Scheduled	1 142 Gal			
07/31/1999	001	BCISPP	Composite	Scheduled	1 097 Gal			

Parameter : Phenl - Phenol Daily Limits - Min 0 000 Max 3 000 / Min Avg 0 000 Max Avg 3 000 / Max TRC 3 600 / Avg Max TRC 3 600

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/06/1999	001	BCISPP	Composite	Scheduled	ND (<0 100) mg/L			
07/12/1999	001	BCISPP	Composite	Scheduled	ND (<0 100) mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	ND (<0 100) mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	ND (<0 100) mg/L			

Parameter : TSS - TSS Daily Limits - Min 0 000 Max 20,000 000 / Min Avg 0 000 Max Avg 10,000 000 / Max TRC 28,000 000 / Avg Max TRC 14,000 000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/01/1999	001	BCISPP	Composite	Scheduled	6,541 000 mg/L			
07/02/1999	001	BCISPP	Composite	Scheduled	8,472 000 mg/L			
07/03/1999	001	BCISPP	Composite	Scheduled	5,181 000 mg/L			
07/04/1999	001	BCISPP	Composite	Scheduled	7,740 000 mg/L			
07/05/1999	001	BCISPP	Composite	Scheduled	4,869 000 mg/L			
07/06/1999	001	BCISPP	Composite	Scheduled	5,331 000 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	7,908 000 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	4,624 000 mg/L			
07/09/1999	001	BCISPP	Composite	Scheduled	6,544 000 mg/L			
07/10/1999	001	BCISPP	Composite	Scheduled	6,929 000 mg/L			
07/11/1999	001	BCISPP	Composite	Scheduled	8,863 000 mg/L			

** No Detect results calculated using [Detection Level x 0 50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 159 - Michigan Paperboard Corp.
Site: 1 - Loading dock sample station.

Industrial Category: 430 - PULP, PAPER, AND PAPERBOARD
Permit: 159

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 20,000.000 / Min Avg: 0.000 Max Avg: 10,000.000 / Max TRC: 28,000.000 / Avg Max TRC: 14,000.000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/12/1999	001	BCISPP	Composite	Scheduled	5,135.000 mg/L			
07/13/1999	001	BCISPP	Composite	Scheduled	7,453.000 mg/L			
07/14/1999	001	BCISPP	Composite	Scheduled	3,965.000 mg/L			
07/15/1999	001	BCISPP	Composite	Scheduled	3,601.000 mg/L			
07/16/1999	001	BCISPP	Composite	Scheduled	6,005.000 mg/L			
07/17/1999	001	BCISPP	Composite	Scheduled	5,610.000 mg/L			
07/18/1999	001	BCISPP	Composite	Scheduled	4,741.000 mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	6,855.000 mg/L			
07/20/1999	001	BCISPP	Composite	Scheduled	7,624.000 mg/L			
07/21/1999	001	BCISPP	Composite	Scheduled	9,493.000 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	4,726.000 mg/L			
07/23/1999	001	BCISPP	Composite	Scheduled	5,695.000 mg/L			
07/24/1999	001	BCISPP	Composite	Scheduled	7,195.000 mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	10,701.000 mg/L			
07/26/1999	001	BCISPP	Composite	Scheduled	6,977.000 mg/L			
07/27/1999	001	BCISPP	Composite	Scheduled	7,206.000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	6,956.000 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	5,985.000 mg/L			
07/30/1999	001	BCISPP	Composite	Scheduled	6,284.000 mg/L			
07/31/1999	001	BCISPP	Composite	Scheduled	6,128.000 mg/L			

Parameter : Zn - Zinc Daily Limits - Min: 0.000 Max: 2.500 / Min Avg: 0.000 Max Avg: 2.500 / Max TRC: 3.000 / Avg Max TRC: 3.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/06/1999	001	BCISPP	Composite	Scheduled	0.142 mg/L			
07/12/1999	001	BCISPP	Composite	Scheduled	0.114 mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	0.113 mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	0.160 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 163 - Peregrine
Site: 1 - Across road from liftstation.

Industrial Category: 400 - No Category
Permit: 163

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,400.000 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 1,960.000 / Avg Max TRC:

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
09/07/1999	001	BCISPP	Composite/Grab	Scheduled	120.000 mg/L			
			1 Day Average:	**09/07/1999 to 09/07/1999**	**120.000 mg/L**			
09/08/1999	001	BCISPP	Composite	Scheduled	213.000 mg/L			
			1 Day Average:	**09/08/1999 to 09/08/1999**	**213.000 mg/L**			
09/09/1999	001	BCISPP	Composite	Scheduled	207.000 mg/L			
			1 Day Average:	**09/09/1999 to 09/09/1999**	**207.000 mg/L**			
11/02/1999	001	BCISPP	Composite	Scheduled	43.000 mg/L			
			1 Day Average:	**11/02/1999 to 11/02/1999**	**43.000 mg/L**			
11/03/1999	001		Composite	Scheduled	65.000 mg/L			
			1 Day Average:	**11/03/1999 to 11/03/1999**	**65.000 mg/L**			
11/04/1999	001	BCISPP	Composite	Scheduled	28.000 mg/L			
			1 Day Average:	**11/04/1999 to 11/04/1999**	**28.000 mg/L**			

Parameter : FOG's - Oil and grease Daily Limits - Min: 0.000 Max: 100.000 / Min Avg: 0.000 Max Avg: 100.000 / Max TRC: 120.000 / Avg Max TRC: 120.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
09/07/1999	001	BCISPP	Composite/Grab	Scheduled	13.600 mg/L			

Parameter : pH - pH Daily Limits - Min: 5.500 Max: 9.500 / Min Avg: 0.000 Max Avg: 9.500 / Max TRC: 9.500 / Avg Max TRC: 9.500

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
09/07/1999	001	BCISPP	Composite/Grab	Scheduled	5.900 S.U.			
			1 Day Average:	**09/07/1999 to 09/07/1999**	**5.900 S.U.**			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 163 - Peregrine
Site: 1 - Across road from liftstation.

Industrial Category: 400 - No Category
Permit: 163

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,200.000 / Min Avg: 0.000 Max Avg: 0.000 / Max TRC: 1,680.000 / Avg Max TRC:

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
09/07/1999	001	BCISPP	Composite/Grab	Scheduled	362.000 mg/L			
			1 Day Average:	**09/07/1999 to 09/07/1999**	**362.000 mg/L**			
09/08/1999	001	BCISPP	Composite	Scheduled	517.000 mg/L			
			1 Day Average:	**09/08/1999 to 09/08/1999**	**517.000 mg/L**			
09/09/1999	001	BCISPP	Composite	Scheduled	352.000 mg/L			
			1 Day Average:	**09/09/1999 to 09/09/1999**	**352.000 mg/L**			
11/02/1999	001	BCISPP	Composite	Scheduled	36.000 mg/L			
			1 Day Average:	**11/02/1999 to 11/02/1999**	**36.000 mg/L**			
11/03/1999	001		Composite	Scheduled	50.000 mg/L			
			1 Day Average:	**11/03/1999 to 11/03/1999**	**50.000 mg/L**			
11/04/1999	001	BCISPP	Composite	Scheduled	27.000 mg/L			
			1 Day Average:	**11/04/1999 to 11/04/1999**	**27.000 mg/L**			

Parameter : TTO's - Total Toxics Daily Limits - Min: 0.000 Max: 2.000 / Min Avg: 0.000 Max Avg: 2.000 / Max TRC: 2.400 / Avg Max TRC: 2.400

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
11/22/1999	001	DLZLAB	Grab	Scheduled	0.138 mg/L			
			1 Day Average:	**11/22/1999 to 11/22/1999**	**0.138 mg/L**			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 164 - Denso Manufacturing, Inc
Site: 1 - Inside pretreatment building.

Industrial Category: 433 - METAL FINISHING
Permit: 164

Parameter : Ag - Silver Daily Limits - Min: 0.000 Max: 0.200 / Min Avg: 0.000 Max Avg: 0.200 / Max TRC: 0.240 / Avg Max TRC: 0.240

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/06/1999	001	BCISPP	Composite	Scheduled	ND (<0.002) mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	ND (<0.002) mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	ND (<0.002) mg/L			

Parameter : Cr - Chromium Daily Limits - Min: 0.000 Max: 1.500 / Min Avg: 0.000 Max Avg: 1.500 / Max TRC: 1.800 / Avg Max TRC: 1.800

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/06/1999	001	BCISPP	Composite	Scheduled	0.092 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	0.102 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	0.169 mg/L			

Parameter : Cu - Copper Daily Limits - Min: 0.000 Max: 1.000 / Min Avg: 0.000 Max Avg: 1.000 / Max TRC: 1.200 / Avg Max TRC: 1.200

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/06/1999	001	BCISPP	Composite	Scheduled	0.139 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	0.199 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	0.295 mg/L			

Parameter : Metal - Total metals Daily Limits - Min: 0.000 Max: 5.730 / Min Avg: 0.000 Max Avg: 4.730 / Max TRC: 6.876 / Avg Max TRC: 5.676

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/06/1999	001	BCISPP	Composite	Scheduled	0.440 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	0.450 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	0.660 mg/L			

Parameter : Ni - Nickel Daily Limits - Min: 0.000 Max: 0.750 / Min Avg: 0.000 Max Avg: 0.750 / Max TRC: 0.900 / Avg Max TRC: 0.900

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 164 - Denso Manufacturing, Inc
Site: 1 - Inside pretreatment building.

Industrial Category: 433 - METAL FINISHING
Permit: 164

Parameter : Ni - Nickel Daily Limits - Min: 0.000 Max: 0.750 / Min Avg: 0.000 Max Avg: 0.750 / Max TRC: 0.900 / Avg Max TRC: 0.900

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/06/1999	001	BCISPP	Composite	Scheduled	ND (<0.053) mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	ND (<0.053) mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	ND (<0.053) mg/L			

Parameter : Pb - Lead Daily Limits - Min: 0.000 Max: 0.200 / Min Avg: 0.000 Max Avg: 0.200 / Max TRC: 0.240 / Avg Max TRC: 0.240

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/06/1999	001	BCISPP	Composite	Scheduled	0.042 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	0.025 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	0.044 mg/L			

Parameter : Zn - Zinc Daily Limits - Min: 0.000 Max: 2.500 / Min Avg: 0.000 Max Avg: 1.480 / Max TRC: 3.000 / Avg Max TRC: 1.776

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/06/1999	001	BCISPP	Composite	Scheduled	0.156 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	0.096 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	0.143 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 168 - Ralston Foods, Inc.
Site: E - McCamly St. entrance.

Industrial Category: 400 - No Category
Permit: 168

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,800.000 / Min Avg: 0.000 Max Avg: 930.000 / Max TRC: 2,520.000 / Avg Max TRC: 1,302.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/06/1999	001	BCISPP	Composite/Grab	Scheduled	20.000 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	25.000 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	30.000 mg/L			
08/03/1999	001	BCISPP	Composite/Grab	Scheduled	20.000 mg/L			
08/04/1999	001	BCISPP	Composite	Scheduled	20.000 mg/L			
08/05/1999	001	BCISPP	Composite	Scheduled	240.000 mg/L			
09/07/1999	001	BCISPP	Composite/Grab	Scheduled	31.000 mg/L			
09/08/1999	001	BCISPP	Composite	Scheduled	44.000 mg/L			
09/09/1999	001	BCISPP	Composite	Scheduled	43.000 mg/L			
10/05/1999	001	BCISPP	Composite/Grab	Scheduled	164.000 mg/L			
10/06/1999	001	BCISPP	Composite	Scheduled	30.000 mg/L			
10/07/1999	001	BCISPP	Composite	Scheduled	26.000 mg/L			

Parameter : Cu - Copper Daily Limits - Min: 0.000 Max: 1.000 / Min Avg: 0.000 Max Avg: 1.000 / Max TRC: 1.200 / Avg Max TRC: 1.200

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/06/1999	001	BCISPP	Composite/Grab	Scheduled	0.047 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	0.047 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	0.038 mg/L			
08/03/1999	001	BCISPP	Composite/Grab	Scheduled	0.043 mg/L			
08/04/1999	001	BCISPP	Composite	Scheduled	0.043 mg/L			
08/05/1999	001	BCISPP	Composite	Scheduled	0.050 mg/L			
09/07/1999	001	BCISPP	Composite/Grab	Scheduled	0.072 mg/L			
09/08/1999	001	BCISPP	Composite	Scheduled	0.089 mg/L			
09/09/1999	001	BCISPP	Composite	Scheduled	0.043 mg/L			
10/05/1999	001	BCISPP	Composite/Grab	Scheduled	0.039 mg/L			
10/06/1999	001	BCISPP	Composite	Scheduled	0.106 mg/L			
10/07/1999	001	BCISPP	Composite	Scheduled	0.044 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 168 - Ralston Foods, Inc.
Site: E - McCamly St. entrance.

Industrial Category: 400 - No Category
Permit: 168

Parameter : FOG's - Oil and grease Daily Limits - Min: 0.000 Max: 100.000 / Min Avg: 0.000 Max Avg: 100.000 / Max TRC: 120.000 / Avg Max TRC: 120.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/06/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<2.600) mg/L			
08/03/1999	001	BCISPP	Composite/Grab	Scheduled	42.500 mg/L			
09/07/1999	001	BCISPP	Composite/Grab	Scheduled	2.400 mg/L			
10/05/1999	001	BCISPP	Composite/Grab	Scheduled	58.700 mg/L			

Parameter : pH - pH Daily Limits - Min: 5.500 Max: 9.500 / Min Avg: 0.000 Max Avg: 9.500 / Max TRC: 9.500 / Avg Max TRC: 9.500

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/06/1999	001	BCISPP	Composite/Grab	Scheduled	8.000 S.U.			
08/03/1999	001	BCISPP	Composite/Grab	Scheduled	7.200 S.U.			
09/07/1999	001	BCISPP	Composite/Grab	Scheduled	7.600 S.U.			
10/05/1999	001	BCISPP	Composite/Grab	Scheduled	7.200 S.U.			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,400.000 / Min Avg: 0.000 Max Avg: 680.000 / Max TRC: 1,960.000 / Avg Max TRC: 952.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/06/1999	001	BCISPP	Composite/Grab	Scheduled	20.000 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	28.000 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	50.000 mg/L			
08/03/1999	001	BCISPP	Composite/Grab	Scheduled	21.000 mg/L			
08/04/1999	001	BCISPP	Composite	Scheduled	12.000 mg/L			
08/05/1999	001	BCISPP	Composite	Scheduled	36.000 mg/L			
09/07/1999	001	BCISPP	Composite/Grab	Scheduled	38.000 mg/L			
09/08/1999	001	BCISPP	Composite	Scheduled	114.000 mg/L			
09/09/1999	001	BCISPP	Composite	Scheduled	78.000 mg/L			
10/05/1999	001	BCISPP	Composite/Grab	Scheduled	30.000 mg/L			
10/06/1999	001	BCISPP	Composite	Scheduled	28.000 mg/L			
10/07/1999	001	BCISPP	Composite	Scheduled	58.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 168 - Ralston Foods, Inc.
Site: E - McCamly St. entrance.

Industrial Category: 400 - No Category
Permit: 168

Parameter : Zn - Zinc Daily Limits - Min: 0.000 Max: 2.500 / Min Avg: 0.000 Max Avg: 2.500 / Max TRC: 3.000 / Avg Max TRC: 3.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/06/1999	001	BCISPP	Composite/Grab	Scheduled	0.063 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	0.057 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	0.060 mg/L			
08/03/1999	001	BCISPP	Composite/Grab	Scheduled	0.050 mg/L			
08/04/1999	001	BCISPP	Composite	Scheduled	0.040 mg/L			
08/05/1999	001	BCISPP	Composite	Scheduled	0.056 mg/L			
09/07/1999	001	BCISPP	Composite/Grab	Scheduled	0.051 mg/L			
09/08/1999	001	BCISPP	Composite	Scheduled	0.060 mg/L			
09/09/1999	001	BCISPP	Composite	Scheduled	0.043 mg/L			
10/05/1999	001	BCISPP	Composite/Grab	Scheduled	0.027 mg/L			
10/06/1999	001	BCISPP	Composite	Scheduled	0.221 mg/L			
10/07/1999	001	BCISPP	Composite	Scheduled	0.053 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 170 - Cintas Corporation
Site: 1 - N.W. corner of building.

Industrial Category: 400 - No Category
Permit: 170

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,200.000 / Min Avg: 0.000 Max Avg: 610.000 / Max TRC: 1,680.000 / Avg Max TRC: 854.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/24/1999	001	BCISPP	Composite/Grab	Scheduled	92.000 mg/L			
08/25/1999	001	BCISPP	Composite	Scheduled	159.000 mg/L			
09/15/1999	001	BCISPP	Composite	Scheduled	100.000 mg/L			
10/12/1999	001	BCISPP	Composite	Scheduled	104.000 mg/L			
10/13/1999	001	BCISPP	Composite/Grab	Scheduled	90.000 mg/L			
10/14/1999	001	BCISPP	Composite	Scheduled	118.000 mg/L			

Parameter : FOG's - Oil and grease Daily Limits - Min: 0.000 Max: 100.000 / Min Avg: 0.000 Max Avg: 100.000 / Max TRC: 120.000 / Avg Max TRC: 120.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/24/1999	001	BCISPP	Composite/Grab	Scheduled	10.500 mg/L			

Parameter : pH - pH Daily Limits - Min: 5.500 Max: 9.500 / Min Avg: 0.000 Max Avg: 9.500 / Max TRC: 9.500 / Avg Max TRC: 9.500

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/24/1999	001	BCISPP	Composite/Grab	Scheduled	8.100 S.U.			
10/13/1999	001	BCISPP	Composite/Grab	Scheduled	7.400 S.U.			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,800.000 / Min Avg: 0.000 Max Avg: 930.000 / Max TRC: 2,520.000 / Avg Max TRC: 1,302.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/24/1999	001	BCISPP	Composite/Grab	Scheduled	112.000 mg/L			
08/25/1999	001	BCISPP	Composite	Scheduled	278.000 mg/L			
09/15/1999	001	BCISPP	Composite	Scheduled	230.000 mg/L			
10/12/1999	001	BCISPP	Composite	Scheduled	92.000 mg/L			
10/13/1999	001	BCISPP	Composite/Grab	Scheduled	122.000 mg/L			
10/14/1999	001	BCISPP	Composite	Scheduled	170.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 170 - Cintas Corporation
Site: 1 - N.W. corner of building.

Industrial Category: 400 - No Category
Permit: 170

Parameter : TTO's - Total Toxics Daily Limits - Min: 0.000 Max: 4.570 / Min Avg: 0.000 Max Avg: 4.570 / Max TRC: 5.484 / Avg Max TRC: 5.484

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/22/1999	001	DLZLAB	Grab	Scheduled	0.336 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 172 - Southern Graphics System, Inc
Site: 1 - Behind building
Industrial Category: 400 - No Category
Permit: 172

Parameter : Ag - Silver Daily Limits - Min 0 000 Max 0 200 / Min Avg 0 000 Max Avg 0 200 / Max TRC 0 240 / Avg Max TRC 0 240

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/27/1999	001	BCISPP	Composite/Grab	Scheduled	0 004 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	0 005 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	0 006 mg/L			
12/14/1999	001	BCISPP	Composite	Scheduled	ND (<0 001) mg/L			
12/15/1999	001	BCISPP	Composite	Scheduled	ND (<0 001) mg/L			
12/16/1999	001	BCISPP	Composite	Scheduled	0 001 mg/L			

Parameter : Cr - Chromium Daily Limits - Min 0 000 Max 1 500 / Min Avg 0 000 Max Avg 1 500 / Max TRC 1 800 / Avg Max TRC 1 800

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/27/1999	001	BCISPP	Composite/Grab	Scheduled	0 110 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	0 063 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	0 049 mg/L			
12/14/1999	001	BCISPP	Composite	Scheduled	0 032 mg/L			
12/15/1999	001	BCISPP	Composite	Scheduled	0 048 mg/L			
12/16/1999	001	BCISPP	Composite	Scheduled	0 052 mg/L			

Parameter : Cu - Copper Daily Limits - Min 0 000 Max 1 000 / Min Avg 0 000 Max Avg 1 000 / Max TRC 1 200 / Avg Max TRC 1 200

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/27/1999	001	BCISPP	Composite/Grab	Scheduled	0 116 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	0 137 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	0 145 mg/L			
12/14/1999	001	BCISPP	Composite	Scheduled	0 030 mg/L			
12/15/1999	001	BCISPP	Composite	Scheduled	0 030 mg/L			
12/16/1999	001	BCISPP	Composite	Scheduled	0 144 mg/L			

** No Detect results calculated using [Detection Level x 0 50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 172 - Southern Graphics System, Inc.
Site: 1 - Behind building.
Industrial Category: 400 - No Category
Permit: 172

Parameter : Metal - Total metals Daily Limits - Min: 0.000 Max: 5.750 / Min Avg: 0.000 Max Avg: 5.750 / Max TRC: 6.900 / Avg Max TRC: 6.900

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/27/1999	001	BCISPP	Composite/Grab	Scheduled	0.279 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	0.253 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	0.249 mg/L			
12/14/1999	001	BCISPP	Composite	Scheduled	0.142 mg/L			
12/15/1999	001	BCISPP	Composite	Scheduled	0.139 mg/L			
12/16/1999	001	BCISPP	Composite	Scheduled	0.517 mg/L			

Parameter : Ni - Nickel Daily Limits - Min: 0.000 Max: 0.750 / Min Avg: 0.000 Max Avg: 0.750 / Max TRC: 0.900 / Avg Max TRC: 0.900

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/27/1999	001	BCISPP	Composite/Grab	Scheduled	ND (<0.053) mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	ND (<0.053) mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	0.055 mg/L			
12/14/1999	001	BCISPP	Composite	Scheduled	0.080 mg/L			
12/15/1999	001	BCISPP	Composite	Scheduled	0.061 mg/L			
12/16/1999	001	BCISPP	Composite	Scheduled	0.321 mg/L			

Parameter : pH - pH Daily Limits - Min: 5.500 Max: 9.500 / Min Avg: 0.000 Max Avg: 9.500 / Max TRC: 9.500 / Avg Max TRC: 9.500

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/27/1999	001	BCISPP	Composite/Grab	Scheduled	9.400 S.U.			

Parameter : TTO's - Total Toxics Daily Limits - Min: 0.000 Max: 4.570 / Min Avg: 0.000 Max Avg: 4.570 / Max TRC: 5.484 / Avg Max TRC: 5.484

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/22/1999	001	DLZLAB	Grab	Scheduled	ND (<0.010) mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 173 - Rock-Tenn Company
Site: 1 - Sample station behind building

Industrial Category: 430 - PULP, PAPER, AND PAPERBOARD
Permit: 173

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 10,000.000 / Min Avg: 0.000 Max Avg: 5,000.000 / Max TRC: 14,000.000 / Avg Max TRC: 7,000.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	Violations Min	Max	TRC
07/01/1999	001	BCISPP	Composite	Scheduled	2,723.000 mg/L			
07/02/1999	001	BCISPP	Composite	Scheduled	2,786.000 mg/L			
07/03/1999	001	BCISPP	Composite	Scheduled	3,554.000 mg/L			
07/04/1999	001	BCISPP	Composite	Scheduled	4,487.000 mg/L			
07/05/1999	001	BCISPP	Composite	Scheduled	4,568.000 mg/L			
07/06/1999	001	BCISPP	Composite	Scheduled	3,018.000 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	3,348.000 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	4,694.000 mg/L			
07/09/1999	001	BCISPP	Composite	Scheduled	3,874.000 mg/L			
07/10/1999	001	BCISPP	Composite	Scheduled	4,814.000 mg/L			
07/11/1999	001	BCISPP	Composite	Scheduled	3,781.000 mg/L			
07/12/1999	001	BCISPP	Composite	Scheduled	3,820.000 mg/L			
07/13/1999	001	BCISPP	Composite	Scheduled	2,846.000 mg/L			
07/14/1999	001	BCISPP	Composite	Scheduled	5,153.000 mg/L			
07/15/1999	001	BCISPP	Composite	Scheduled	4,960.000 mg/L			
07/16/1999	001	BCISPP	Composite	Scheduled	3,830.000 mg/L			
07/17/1999	001	BCISPP	Composite	Scheduled	4,323.000 mg/L			
07/18/1999	001	BCISPP	Composite	Scheduled	3,137.000 mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	3,981.000 mg/L			
07/20/1999	001	BCISPP	Composite	Scheduled	3,524.000 mg/L			
07/21/1999	001	BCISPP	Composite	Scheduled	3,076.000 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	1,821.000 mg/L			
07/23/1999	001	BCISPP	Composite	Scheduled	2,778.000 mg/L			
07/24/1999	001	BCISPP	Composite	Scheduled	5,976.000 mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	4,642.000 mg/L			
07/26/1999	001	BCISPP	Composite	Scheduled	3,201.000 mg/L			
07/27/1999	001	BCISPP	Composite	Scheduled	4,287.000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	3,729.000 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	5,095.000 mg/L			
07/30/1999	001	BCISPP	Composite	Scheduled	7,927.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 173 - Rock-Tenn Company
Site: 1 - Sample station behind building

Industrial Category: 430 - PULP, PAPER, AND PAPERBOARD
Permit: 173

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 10,000.000 / Min Avg: 0.000 Max Avg: 5,000.000 / Max TRC: 14,000.000 / Avg Max TRC: 7,000.000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/31/1999	001	BCISPP	Composite	Scheduled	3,133.000 mg/L			

Parameter : Flow - Flow, total Daily Limits - Min: 0.000 Max: 5.000 / Min Avg: 0.000 Max Avg: 2.500 / Max TRC: 6.000 / Avg Max TRC: 3.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/01/1999	001	BCISPP	Composite	Scheduled	0.294 Gal			
07/02/1999	001	BCISPP	Composite	Scheduled	0.253 Gal			
07/03/1999	001	BCISPP	Composite	Scheduled	0.273 Gal			
07/04/1999	001	BCISPP	Composite	Scheduled	0.345 Gal			
07/05/1999	001	BCISPP	Composite	Scheduled	0.338 Gal			
07/06/1999	001	BCISPP	Composite	Scheduled	0.317 Gal			
07/07/1999	001	BCISPP	Composite	Scheduled	0.291 Gal			
07/08/1999	001	BCISPP	Composite	Scheduled	0.354 Gal			
07/09/1999	001	BCISPP	Composite	Scheduled	0.316 Gal			
07/10/1999	001	BCISPP	Composite	Scheduled	0.385 Gal			
07/11/1999	001	BCISPP	Composite	Scheduled	0.360 Gal			
07/12/1999	001	BCISPP	Composite	Scheduled	0.443 Gal			
07/13/1999	001	BCISPP	Composite	Scheduled	0.379 Gal			
07/14/1999	001	BCISPP	Composite	Scheduled	0.468 Gal			
07/15/1999	001	BCISPP	Composite	Scheduled	0.472 Gal			
07/16/1999	001	BCISPP	Composite	Scheduled	0.340 Gal			
07/17/1999	001	BCISPP	Composite	Scheduled	0.480 Gal			
07/18/1999	001	BCISPP	Composite	Scheduled	0.348 Gal			
07/19/1999	001	BCISPP	Composite	Scheduled	0.405 Gal			
07/20/1999	001	BCISPP	Composite	Scheduled	0.399 Gal			
07/21/1999	001	BCISPP	Composite	Scheduled	0.362 Gal			
07/22/1999	001	BCISPP	Composite	Scheduled	0.260 Gal			
07/23/1999	001	BCISPP	Composite	Scheduled	0.327 Gal			
07/24/1999	001	BCISPP	Composite	Scheduled	0.508 Gal			
07/25/1999	001	BCISPP	Composite	Scheduled	0.412 Gal			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 173 - Rock-Tenn Company
Site: 1 - Sample station behind building

Industrial Category: 430 - PULP, PAPER, AND PAPERBOARD
Permit: 173

Parameter : Flow - Flow, total Daily Limits - Min 0 000 Max 5 000 / Min Avg 0 000 Max Avg 2 500 / Max TRC 6 000 / Avg Max TRC 3 000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/26/1999	001	BCISPP	Composite	Scheduled	0 328 Gal			
07/27/1999	001	BCISPP	Composite	Scheduled	0 463 Gal			
07/28/1999	001	BCISPP	Composite	Scheduled	0 382 Gal			
07/29/1999	001	BCISPP	Composite	Scheduled	0 339 Gal			
07/30/1999	001	BCISPP	Composite	Scheduled	0 609 Gal			
07/31/1999	001	BCISPP	Composite	Scheduled	0 525 Gal			

Parameter : Phenl - Phenol Daily Limits - Min 0 000 Max 3 000 / Min Avg 0 000 Max Avg 3 000 / Max TRC 3 600 / Avg Max TRC 3 600

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/06/1999	001	BCISPP	Composite	Scheduled	ND (<0 100) mg/L			
07/12/1999	001	BCISPP	Composite	Scheduled	ND (<0 100) mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	ND (<0 100) mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	ND (<0 100) mg/L			

Parameter : TSS - TSS Daily Limits - Min 0 000 Max 14,000 000 / Min Avg 0 000 Max Avg 7,000 000 / Max TRC 19,600 000 / Avg Max TRC 9,800 000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/01/1999	001	BCISPP	Composite	Scheduled	334 000 mg/L			
07/02/1999	001	BCISPP	Composite	Scheduled	215 000 mg/L			
07/03/1999	001	BCISPP	Composite	Scheduled	346 000 mg/L			
07/04/1999	001	BCISPP	Composite	Scheduled	814 000 mg/L			
07/05/1999	001	BCISPP	Composite	Scheduled	668 000 mg/L			
07/06/1999	001	BCISPP	Composite	Scheduled	561 000 mg/L			
07/07/1999	001	BCISPP	Composite	Scheduled	866 000 mg/L			
07/08/1999	001	BCISPP	Composite	Scheduled	549 000 mg/L			
07/09/1999	001	BCISPP	Composite	Scheduled	395 000 mg/L			
07/10/1999	001	BCISPP	Composite	Scheduled	536 000 mg/L			
07/11/1999	001	BCISPP	Composite	Scheduled	564 000 mg/L			

** No Detect results calculated using [Detection Level x 0 50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 07/31/1999
IU : 173 - Rock-Tenn Company
Site: 1 - Sample station behind building

Industrial Category: 430 - PULP, PAPER, AND PAPERBOARD
Permit: 173

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 14,000.000 / Min Avg: 0.000 Max Avg: 7,000.000 / Max TRC: 19,600.000 / Avg Max TRC: 9,800.000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/12/1999	001	BCISPP	Composite	Scheduled	11,369.000 mg/L			
07/13/1999	001	BCISPP	Composite	Scheduled	569.000 mg/L			
07/14/1999	001	BCISPP	Composite	Scheduled	1,366.000 mg/L			
07/15/1999	001	BCISPP	Composite	Scheduled	4,074.000 mg/L			
07/16/1999	001	BCISPP	Composite	Scheduled	363.000 mg/L			
07/17/1999	001	BCISPP	Composite	Scheduled	1,417.000 mg/L			
07/18/1999	001	BCISPP	Composite	Scheduled	456.000 mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	1,436.000 mg/L			
07/20/1999	001	BCISPP	Composite	Scheduled	1,822.000 mg/L			
07/21/1999	001	BCISPP	Composite	Scheduled	350.000 mg/L			
07/22/1999	001	BCISPP	Composite	Scheduled	1,203.000 mg/L			
07/23/1999	001	BCISPP	Composite	Scheduled	1,109.000 mg/L			
07/24/1999	001	BCISPP	Composite	Scheduled	4,026.000 mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	2,417.000 mg/L			
07/26/1999	001	BCISPP	Composite	Scheduled	323.000 mg/L			
07/27/1999	001	BCISPP	Composite	Scheduled	433.000 mg/L			
07/28/1999	001	BCISPP	Composite	Scheduled	383.000 mg/L			
07/29/1999	001	BCISPP	Composite	Scheduled	317.000 mg/L			
07/30/1999	001	BCISPP	Composite	Scheduled	7,063.000 mg/L			
07/31/1999	001	BCISPP	Composite	Scheduled	6,081.000 mg/L			

Parameter : Zn - Zinc Daily Limits - Min: 0.000 Max: 2.500 / Min Avg: 0.000 Max Avg: 2.500 / Max TRC: 3.000 / Avg Max TRC: 3.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
07/06/1999	001	BCISPP	Composite	Scheduled	0.123 mg/L			
07/12/1999	001	BCISPP	Composite	Scheduled	0.122 mg/L			
07/19/1999	001	BCISPP	Composite	Scheduled	0.188 mg/L			
07/25/1999	001	BCISPP	Composite	Scheduled	0.213 mg/L			

** No Detect results calculated using [Detection Level x 0 50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 181 - V. A. Medical Center
Site: 1 - Behind Clark St. phone relay.

Industrial Category: 400 - No Category
Permit: 181

Parameter : Ag - Silver Daily Limits - Min: 0.000 Max: 0.200 / Min Avg: 0.000 Max Avg: 0.200 / Max TRC: 0.240 / Avg Max TRC: 0.240

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/17/1999	001	BCISPP	Composite	Scheduled	0.004 mg/L			
08/18/1999	001	BCISPP	Composite	Scheduled	0.002 mg/L			
08/19/1999	001	BCISPP	Composite	Scheduled	0.004 mg/L			
12/07/1999	001	BCISPP	Composite	Scheduled	0.002 mg/L			
12/08/1999	001	BCISPP	Composite	Scheduled	0.003 mg/L			
12/09/1999	001	BCISPP	Composite	Scheduled	0.001 mg/L			

Parameter : Ba - Barium Daily Limits - Min: 0.000 Max: 2.000 / Min Avg: 0.000 Max Avg: 2.000 / Max TRC: 2.400 / Avg Max TRC: 2.400

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/17/1999	001	BCISPP	Composite	Scheduled	ND (<0.044) mg/L			
08/18/1999	001	BCISPP	Composite	Scheduled	0.090 mg/L			
08/19/1999	001	BCISPP	Composite	Scheduled	1.039 mg/L			
12/07/1999	001	BCISPP	Composite	Scheduled	0.072 mg/L			
12/08/1999	001	BCISPP	Composite	Scheduled	0.464 mg/L			
12/09/1999	001	BCISPP	Composite	Scheduled	0.081 mg/L			

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,100.000 / Min Avg: 0.000 Max Avg: 540.000 / Max TRC: 1,540.000 / Avg Max TRC: 756.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/17/1999	001	BCISPP	Composite	Scheduled	135.000 mg/L			
08/18/1999	001	BCISPP	Composite	Scheduled	177.000 mg/L			
08/19/1999	001	BCISPP	Composite	Scheduled	162.000 mg/L			
12/07/1999	001	BCISPP	Composite	Scheduled	253.000 mg/L			
12/08/1999	001	BCISPP	Composite	Scheduled	192.000 mg/L			
12/09/1999	001	BCISPP	Composite	Scheduled	228.000 mg/L			

** No Detect results calculated using [Detection Level x 0 50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 181 - V. A. Medical Center
Site: 1 - Behind Clark St. phone relay.

Industrial Category: 400 - No Category
Permit: 181

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,200.000 / Min Avg: 0.000 Max Avg: 640.000 / Max TRC: 1,680.000 / Avg Max TRC: 896.000

--- Sampling --- Date	Number	Lab Name	Collection Method	Sample Type	Results	---------- Violations ---------- Min	Max	TRC
08/17/1999	001	BCISPP	Composite	Scheduled	119.000 mg/L			
08/18/1999	001	BCISPP	Composite	Scheduled	164.000 mg/L			
08/19/1999	001	BCISPP	Composite	Scheduled	180.000 mg/L			
12/07/1999	001	BCISPP	Composite	Scheduled	214.000 mg/L			
12/08/1999	001	BCISPP	Composite	Scheduled	146.000 mg/L			
12/09/1999	001	BCISPP	Composite	Scheduled	216.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 199 - Consolidated Textile Care
Site: 1 - N. side of building.

Industrial Category: 400 - No Category
Permit: 199

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,000.000 / Min Avg: 0.000 Max Avg: 450.000 / Max TRC: 1,400.000 / Avg Max TRC: 630.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/17/1999	001	BCISPP	Composite/Grab	Scheduled	40.000 mg/L			
08/18/1999	001	BCISPP	Composite	Scheduled	60.000 mg/L			
08/19/1999	001	BCISPP	Composite	Scheduled	123.000 mg/L			
12/07/1999	001	BCISPP	Composite	Scheduled	40.000 mg/L			
12/08/1999	001	BCISPP	Composite/Grab	Scheduled	58.000 mg/L			
12/09/1999	001	BCISPP	Composite	Scheduled	58.000 mg/L			

Parameter : FOG's - Oil and grease Daily Limits - Min: 0.000 Max: 100.000 / Min Avg: 0.000 Max Avg: 100.000 / Max TRC: 120.000 / Avg Max TRC: 120.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/17/1999	001	BCISPP	Composite/Grab	Scheduled	292.300 mg/L		X	X
12/08/1999	001	BCISPP	Composite/Grab	Scheduled	41.900 mg/L			

Parameter : pH - pH Daily Limits - Min: 5.500 Max: 9.500 / Min Avg: 0.000 Max Avg: 9.500 / Max TRC: 9.500 / Avg Max TRC: 9.500

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/17/1999	001	BCISPP	Composite/Grab	Scheduled	9.800 S.U.		X	X
12/08/1999	001	BCISPP	Composite/Grab	Scheduled	8.500 S.U.			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,100.000 / Min Avg: 0.000 Max Avg: 530.000 / Max TRC: 1,540.000 / Avg Max TRC: 742.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/17/1999	001	BCISPP	Composite/Grab	Scheduled	47.000 mg/L			
08/18/1999	001	BCISPP	Composite	Scheduled	63.000 mg/L			
08/19/1999	001	BCISPP	Composite	Scheduled	237.000 mg/L			
12/07/1999	001	BCISPP	Composite	Scheduled	33.000 mg/L			
12/08/1999	001	BCISPP	Composite/Grab	Scheduled	64.000 mg/L			
12/09/1999	001	BCISPP	Composite	Scheduled	43.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 199 - Consolidated Textile Care
Site: 1 - N side of building
Industrial Category: 400 - No Category
Permit: 199

Parameter : TSS - TSS Daily Limits - Min 0 000 Max 1,100 000 / Min Avg 0 000 Max Avg 530 000 / Max TRC 1,540 000 / Avg Max TRC 742 000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC

** No Detect results calculated using [Detection Level x 0 50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 202 - Battle Creek ANG Base
Site: 1 - Located in intersection
Industrial Category: 400 - No Category
Permit: 202

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,100.000 / Min Avg: 0.000 Max Avg: 530.000 / Max TRC: 1,540.000 / Avg Max TRC: 742.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/03/1999	001	BCISPP	Composite/Grab	Scheduled	270.000 mg/L			
08/04/1999	001	BCISPP	Composite/Grab	Scheduled	210.000 mg/L			
08/05/1999	001	BCISPP	Composite	Scheduled	180.000 mg/L			
10/05/1999	001	BCISPP	Composite/Grab	Scheduled	420.000 mg/L			
10/06/1999	001	BCISPP	Composite/Grab	Scheduled	300.000 mg/L			
10/07/1999	001	BCISPP	Composite	Scheduled	282.000 mg/L			

Parameter : FOG's - Oil and grease Daily Limits - Min: 0.000 Max: 100.000 / Min Avg: 0.000 Max Avg: 100.000 / Max TRC: 120.000 / Avg Max TRC: 120.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/03/1999	001	BCISPP	Composite/Grab	Scheduled	39.700 mg/L			
08/04/1999	001	BCISPP	Composite/Grab	Scheduled	12.600 mg/L			
10/05/1999	001	BCISPP	Composite/Grab	Scheduled	43.200 mg/L			
10/06/1999	001	BCISPP	Composite/Grab	Scheduled	27.300 mg/L			

Parameter : pH - pH Daily Limits - Min: 5.500 Max: 9.500 / Min Avg: 0.000 Max Avg: 9.500 / Max TRC: 9.500 / Avg Max TRC: 9.500

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/03/1999	001	BCISPP	Composite/Grab	Scheduled	7.000 S.U.			
08/04/1999	001	BCISPP	Composite/Grab	Scheduled	6.900 S.U.			
10/05/1999	001	BCISPP	Composite/Grab	Scheduled	7.200 S.U.			
10/06/1999	001	BCISPP	Composite/Grab	Scheduled	7.100 S.U.			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,000.000 / Min Avg: 0.000 Max Avg: 450.000 / Max TRC: 1,400.000 / Avg Max TRC: 630.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/03/1999	001	BCISPP	Composite/Grab	Scheduled	605.000 mg/L			
08/04/1999	001	BCISPP	Composite/Grab	Scheduled	330.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 202 - Battle Creek ANG Base
Site: 1 - Located in intersection
Industrial Category: 400 - No Category
Permit: 202

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,000.000 / Min Avg: 0.000 Max Avg: 450.000 / Max TRC: 1,400.000 / Avg Max TRC: 630.000

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--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/05/1999	001	BCISPP	Composite	Scheduled	297.000 mg/L			
10/05/1999	001	BCISPP	Composite/Grab	Scheduled	423.000 mg/L			
10/06/1999	001	BCISPP	Composite/Grab	Scheduled	264.000 mg/L			
10/07/1999	001	BCISPP	Composite	Scheduled	277.000 mg/L			

Parameter : TTO's - Total Toxics Daily Limits - Min: 0.000 Max: 4.570 / Min Avg: 0.000 Max Avg: 4.570 / Max TRC: 5.484 / Avg Max TRC: 5.484

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/22/1999	001	DLZLAB	Grab	Scheduled	0.084 mg/L			
			1 Day Average:	**11/22/1999 to 11/22/1999**	**0.084 mg/L**			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 204 - Paradigm Sintered Products, Inc.
Site: 1 - In field at Wayne & FritzKeipr
Industrial Category: 400 - No Category
Permit: 204

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,400.000 / Min Avg: 0.000 Max Avg: 720.000 / Max TRC: 1,960.000 / Avg Max TRC: 1,008.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/03/1999	001	BCISPP	Composite	Scheduled	200.000 mg/L			
11/04/1999	001	BCISPP	Composite	Scheduled	660.000 mg/L			

Parameter : Cr - Chromium Daily Limits - Min: 0.000 Max: 1.500 / Min Avg: 0.000 Max Avg: 1.500 / Max TRC: 1.800 / Avg Max TRC: 1.800

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/03/1999	001	BCISPP	Composite	Scheduled	0.113 mg/L			
11/04/1999	001	BCISPP	Composite	Scheduled	0.146 mg/L			

Parameter : Cu - Copper Daily Limits - Min: 0.000 Max: 1.000 / Min Avg: 0.000 Max Avg: 1.000 / Max TRC: 1.200 / Avg Max TRC: 1.200

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/03/1999	001	BCISPP	Composite	Scheduled	11.840 mg/L		X	X
11/04/1999	001	BCISPP	Composite	Scheduled	14.780 mg/L		X	X

Parameter : Ni - Nickel Daily Limits - Min: 0.000 Max: 0.750 / Min Avg: 0.000 Max Avg: 0.750 / Max TRC: 0.900 / Avg Max TRC: 0.900

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/03/1999	001	BCISPP	Composite	Scheduled	1.584 mg/L		X	X
11/04/1999	001	BCISPP	Composite	Scheduled	2.148 mg/L		X	X

Parameter : Pb - Lead Daily Limits - Min: 0.000 Max: 0.200 / Min Avg: 0.000 Max Avg: 0.200 / Max TRC: 0.240 / Avg Max TRC: 0.240

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/03/1999	001	BCISPP	Composite	Scheduled	0.777 mg/L		X	X
11/04/1999	001	BCISPP	Composite	Scheduled	0.798 mg/L		X	X

** No Detect results calculated using [Detection Level x 0 50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 204 - Paradigm Sintered Products, Inc.
Site: 1 - In field at Wayne & FritzKeipr
Industrial Category: 400 - No Category
Permit: 204

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 2,400.000 / Min Avg: 0.000 Max Avg: 1,120.000 / Max TRC: 3,360.000 / Avg Max TRC: 1,568.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/03/1999	001	BCISPP	Composite	Scheduled	3,420.000 mg/L		X	X
11/04/1999	001	BCISPP	Composite	Scheduled	4,620.000 mg/L		X	X

Parameter : Zn - Zinc Daily Limits - Min: 0.000 Max: 2.500 / Min Avg: 0.000 Max Avg: 2.500 / Max TRC: 3.000 / Avg Max TRC: 3.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/03/1999	001	BCISPP	Composite	Scheduled	3.570 mg/L		X	X
11/04/1999	001	BCISPP	Composite	Scheduled	4.930 mg/L		X	X

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 206 - Cello-Foil Products, Inc.
Site: 1 - S. of building in Brooks St.

Industrial Category: 400 - No Category
Permit: 206

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,200.000 / Min Avg: 0.000 Max Avg: 600.000 / Max TRC: 1,680.000 / Avg Max TRC: 840.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/24/1999	001	BCISPP	Composite	Scheduled	620.000 mg/L			
08/25/1999	001	BCISPP	Composite	Scheduled	108.000 mg/L			
08/26/1999	001	BCISPP	Composite	Scheduled	269.000 mg/L			
10/19/1999	001	BCISPP	Composite	Scheduled	176.000 mg/L			
10/20/1999	001	BCISPP	Composite	Scheduled	225.000 mg/L			
10/21/1999	001	BCISPP	Composite	Scheduled	216.000 mg/L			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,800.000 / Min Avg: 0.000 Max Avg: 1,340.000 / Max TRC: 2,520.000 / Avg Max TRC: 1,876.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/24/1999	001	BCISPP	Composite	Scheduled	133.000 mg/L			
08/25/1999	001	BCISPP	Composite	Scheduled	116.000 mg/L			
08/26/1999	001	BCISPP	Composite	Scheduled	128.000 mg/L			
10/19/1999	001	BCISPP	Composite	Scheduled	253.000 mg/L			
10/20/1999	001	BCISPP	Composite	Scheduled	146.000 mg/L			
10/21/1999	001	BCISPP	Composite	Scheduled	430.000 mg/L			

Parameter : TTO's - Total Toxics Daily Limits - Min: 0.000 Max: 4.570 / Min Avg: 0.000 Max Avg: 4.570 / Max TRC: 5.484 / Avg Max TRC: 5.484

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/22/1999	001	DLZLAB	Grab	Scheduled	ND (<0.010) mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 210 - Dare Products, Inc.
Site: 1 - In Lot at building front.

Industrial Category: 400 - No Category
Permit: 210

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 900.000 / Min Avg: 0.000 Max Avg: 450.000 / Max TRC: 1,260.000 / Avg Max TRC: 630.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/15/1999	001	BCISPP	Composite	Scheduled	34.000 mg/L			
09/16/1999	001	BCISPP	Composite	Scheduled	29.000 mg/L			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,200.000 / Min Avg: 0.000 Max Avg: 530.000 / Max TRC: 1,680.000 / Avg Max TRC: 742.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/15/1999	001	BCISPP	Composite	Scheduled	24.000 mg/L			
09/16/1999	001	BCISPP	Composite	Scheduled	25.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 03/31/2000
IU : 214 - Grand Trunk Western Railroad
Site: 1 - Located on site, new manhole
Industrial Category: 400 - No Category
Permit: 214

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,000.000 / Min Avg: 0.000 Max Avg: 450.000 / Max TRC: 1,400.000 / Avg Max TRC: 630.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
01/28/2000	001	BCISPP	Grab	Scheduled	48.000 mg/L			

Parameter : FOG's - Oil and grease Daily Limits - Min: 0.000 Max: 100.000 / Min Avg: 0.000 Max Avg: 100.000 / Max TRC: 120.000 / Avg Max TRC: 120.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
01/28/2000	001	BCISPP	Grab	Scheduled	8.000 mg/L			

Parameter : Pb - Lead Daily Limits - Min: 0.000 Max: 0.200 / Min Avg: 0.000 Max Avg: 0.200 / Max TRC: 0.240 / Avg Max TRC: 0.240

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
01/28/2000	001	BCISPP	Grab	Scheduled	ND (<0.021) mg/L			

Parameter : pH - pH Daily Limits - Min: 5.500 Max: 9.500 / Min Avg: 0.000 Max Avg: 9.500 / Max TRC: 9.500 / Avg Max TRC: 9.500

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
01/28/2000	001	BCISPP	Grab	Scheduled	6.700 S.U.			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,100.000 / Min Avg: 0.000 Max Avg: 530.000 / Max TRC: 1,540.000 / Avg Max TRC: 742.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
01/28/2000	001	BCISPP	Grab	Scheduled	8.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 234 - TRMI, Inc.
Site: 1 - S.E. corner of parking lot.

Industrial Category: 400 - No Category
Permit: 234

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,000.000 / Min Avg: 0.000 Max Avg: 450.000 / Max TRC: 1,400.000 / Avg Max TRC: 630.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/23/1999	001	BCISPP	Composite	Scheduled	60.000 mg/L			
10/26/1999	001	BCISPP	Composite	Scheduled	212.000 mg/L			
10/27/1999	001	BCISPP	Composite	Scheduled	60.000 mg/L			
10/28/1999	001	BCISPP	Composite	Scheduled	141.000 mg/L			

Parameter : Cu - Copper Daily Limits - Min: 0.000 Max: 1.000 / Min Avg: 0.000 Max Avg: 1.000 / Max TRC: 1.200 / Avg Max TRC: 1.200

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/23/1999	001	BCISPP	Composite	Scheduled	0.168 mg/L			
10/26/1999	001	BCISPP	Composite	Scheduled	0.260 mg/L			
10/27/1999	001	BCISPP	Composite	Scheduled	0.167 mg/L			
10/28/1999	001	BCISPP	Composite	Scheduled	0.135 mg/L			

Parameter : Pb - Lead Daily Limits - Min: 0.000 Max: 0.200 / Min Avg: 0.000 Max Avg: 0.200 / Max TRC: 0.240 / Avg Max TRC: 0.240

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/23/1999	001	BCISPP	Composite	Scheduled	ND (<0.022) mg/L			
10/26/1999	001	BCISPP	Composite	Scheduled	ND (<0.021) mg/L			
10/27/1999	001	BCISPP	Composite	Scheduled	ND (<0.021) mg/L			
10/28/1999	001	BCISPP	Composite	Scheduled	ND (<0.021) mg/L			

Parameter : Phos - Phosphorus Daily Limits - Min: 0.000 Max: 10.000 / Min Avg: 0.000 Max Avg: 10.000 / Max TRC: 12.000 / Avg Max TRC: 12.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/23/1999	001	BCISPP	Composite	Scheduled	4.990 mg/L			
10/26/1999	001	BCISPP	Composite	Scheduled	7.990 mg/L			
10/28/1999	001	BCISPP	Composite	Scheduled	3.790 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 234 - TRMI, Inc.
Site: 1 - S.E. corner of parking lot.

Industrial Category: 400 - No Category
Permit: 234

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,400.000 / Min Avg: 0.000 Max Avg: 700.000 / Max TRC: 1,960.000 / Avg Max TRC: 980.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/23/1999	001	BCISPP	Composite	Scheduled	83.000 mg/L			
10/26/1999	001	BCISPP	Composite	Scheduled	126.000 mg/L			
10/27/1999	001	BCISPP	Composite	Scheduled	39.000 mg/L			
10/28/1999	001	BCISPP	Composite	Scheduled	40.000 mg/L			

Parameter : Zn - Zinc Daily Limits - Min: 0.000 Max: 2.500 / Min Avg: 0.000 Max Avg: 2.500 / Max TRC: 3.000 / Avg Max TRC: 3.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
09/23/1999	001	BCISPP	Composite	Scheduled	0.063 mg/L			
10/26/1999	001	BCISPP	Composite	Scheduled	0.152 mg/L			
10/27/1999	001	BCISPP	Composite	Scheduled	0.063 mg/L			
10/28/1999	001	BCISPP	Composite	Scheduled	0.052 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

DISCHARGE MONITORING REPORT

Date Range: 07/01/1999 to 12/31/1999
IU : 236 - David Brown Union Pump Co.
Site: 1 - In field S.W. of building.

Industrial Category: 400 - No Category
Permit: 236

Parameter : BOD5 - BOD5 Daily Limits - Min: 0.000 Max: 1,300.000 / Min Avg: 0.000 Max Avg: 650.000 / Max TRC: 1,820.000 / Avg Max TRC: 910.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/24/1999	001	BCISPP	Composite	Scheduled	289.000 mg/L			
08/25/1999	001	BCISPP	Composite	Scheduled	261.000 mg/L			
08/26/1999	001	BCISPP	Composite	Scheduled	147.000 mg/L			
12/01/1999	001	BCISPP	Composite	Scheduled	270.000 mg/L			
12/02/1999	001	BCISPP	Composite	Scheduled	460.000 mg/L			

Parameter : FOG's - Oil and grease Daily Limits - Min: 0.000 Max: 100.000 / Min Avg: 0.000 Max Avg: 100.000 / Max TRC: 120.000 / Avg Max TRC: 120.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/30/1999	001	BCISPP	Composite/Grab	Scheduled	64.000 mg/L			

Parameter : pH - pH Daily Limits - Min: 5.500 Max: 9.500 / Min Avg: 0.000 Max Avg: 9.500 / Max TRC: 9.500 / Avg Max TRC: 9.500

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
11/30/1999	001	BCISPP	Composite/Grab	Scheduled	7.400 S.U.			

Parameter : TSS - TSS Daily Limits - Min: 0.000 Max: 1,800.000 / Min Avg: 0.000 Max Avg: 910.000 / Max TRC: 2,520.000 / Avg Max TRC: 1,274.000

--- Sampling ---						---------- Violations ----------		
Date	Number	Lab Name	Collection Method	Sample Type	Results	Min	Max	TRC
08/24/1999	001	BCISPP	Composite	Scheduled	825.000 mg/L			
08/25/1999	001	BCISPP	Composite	Scheduled	420.000 mg/L			
08/26/1999	001	BCISPP	Composite	Scheduled	540.000 mg/L			
12/01/1999	001	BCISPP	Composite	Scheduled	260.000 mg/L			
12/02/1999	001	BCISPP	Composite	Scheduled	630.000 mg/L			

** No Detect results calculated using [Detection Level x 0.50]*

Wastewater Discharge Permit Application
Battle Creek - NPDES Permit MI 0022276

Section II 7 C. (2)

Approximately sixty percent of the wastewater received at the Battle Creek Wastewater Treatment Plant is primarily comprised of discharge effluent from the industrial community. It is comprised of effluent from three breakfast manufactures and three pulp and paper industries. There is also a one large metal finisher that pretreats their process water prior to discharge. There are small amount of noncontact cooling water but primarily the local industries use either closed looped systems or discharge their water to local surface waters.

Section II 7 C. (3)

Approximately twenty-five percent of the water flow is received from the aforementioned breakfast cereal and paper industries. This flow contains high strength waste for biochemical oxygen demand and suspended solids. This results in the Battle Creek Treatment Plant having a higher than average strength incoming waste. There is one large metal finisher that pretreats their wastewater effluent prior to discharge so there is a very low concentration of heavy metals. There are no facilities that discharge significant amounts of fats, oils & greases. Attached are copies of sample results from the local industries. The enclosed sampling data is representative of the sampling results for the past year which are not being sent because of the burden of copying and mailing about 300 pages of testing results. This information was collected and analyzed by the City's Industrial Pretreatment staff.

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

D. Industrial Pretreatment Program Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT or COC NUMBER
BCWWTP	MI0022276

7. INDUSTRIAL AND COMMERCIAL SOURCES

A. Does this facility receive any nondomestic wastewater from any industrial or commercial facilities? (Nondomestic wastewater refers to water-carried wastes other than human and household wastes.)

☐ No, - Continue with Item 9.

☒ Yes, - Continue with B below.

B. Is an Industrial Pretreatment Program (IPP) currently required by the DEQ? If you are unsure if the facility is required to submit an IPP contact the appropriate district office (see pages 2 and 3 of the appendix).

☐ No, - Continue with Item 9.

☒ Yes, - Which program ?

☒ Michigan Industrial Pretreatment Program?

☐ Federal Industrial Pretreatment Program? Submit a written technical evaluation with this application on the need to revise local limits.

The technical evaluation is a determination of whether the POTW's current local limits need to be revised. Changes to the local limits would be made only when the evaluation indicates it is necessary; or when otherwise required by applicable provisions of the NPDES permit. The technical evaluation also requires a determination of the Maximum Allowable Headworks Loading (MAHL) for the following:

- Pollutants that are subject to limits or monitoring requirements in the current permit.
- The following inorganic priority pollutants: Arsenic, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Silver and Zinc.
- All pollutants for which there are local limits contained in an approved IPP.
- All other pollutants of concern which would be reasonably expected to be discharged or transported by truck or rail or otherwise introduced to the POTW in quantities which could pass through, cause interference, or jeopardize health or safety.
- Any new pollutant proposed to be discharged or transported by truck or rail or otherwise introduced to the POTW prior to "acceptance".

C. Provide the following information:

1) Estimate the average volume of non-sanitary wastewater received by this facility: 6,000,000 gallons/day

2) Describe the type of nondomestic wastewater(s) received by this facility in the space provided below. Include industrial process wastewaters, contact cooling waters, noncontact cooling waters, Resource Conservation and Recovery Act (RCRA) or Comprehensive Environmental Response and Liability Act (CERCLA) wastes received, or other wastes received from remediation or clean-up efforts. If additional space is necessary, provide the information as an attachment to this application on 8 1/2" x 11" paper.

3) Describe what is known about the quality of the nondomestic wastewater in the space provided below (include sampling results if available). This information may also be provided as an attachment to this application on 8 1/2" x 11" paper.

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

E. Biosolids Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
BCWWTP	MI0022276

8. RESIDUALS HANDLING

Provide total English dry tons per 365-day period of biosolids handled under the following practices:

Amount generated at the facility:	4465	Amount applied to land in bulk form:	2977
Amount received from off site:	-	Amount fired in biosolids incinerator	1488
Amount treated on site (including blending):	2977	Amount sent to municipal solid waste landfill:	N/A
Amount of bulk biosolids shipped off site for treatment or for sale/give-away in a bag or other container for application to the land:	N/A	Amount sold or given away in a bag or other container for application to the land:	N/A
Amount used or disposed by another practice:	N/A	Describe:	N/A

9. RESIDUALS STORAGE

Enter the volume of residual storage capacity at this facility. 1.0 ☒ million gallons or ☐ cubic feet

10. BIOSOLIDS CHARACTERISTICS

Report one year biosolids monitoring data, and in no case less than three sampling events for the following Part 24 Rules required parameters Provide the actual analytical data sheets as an attachment. All sampling shall be representative of the biosolids being proposed to be applied to the land. Analytical methods shall be in accordance with R 323.2406 (2) Methods for Biosolids. See Appendix C. Data that is available for parameters not specifically listed on this page shall be provided on the adjoining page.

Parameter	Average Monthly Concentration	Maximum Concentration	Units	Number of Analyses	Sample Type	Analytical Method	Method Detection Level
Total Solids	6.2	15	%	12	☒ Grab ☐ Composite	2540G	-
Total Arsenic	2.5	6.0	Mg/kg	12	☒ Grab ☐ Composite	6020	0.10
Total Cadmium	0.7	1.2	Mg/kg	12	☒ Grab ☐ Composite	6020	0.05
Total Copper	195	340	Mg/kg	12	☒ Grab ☐ Composite	6020	0.10
Total Lead	17	43	Mg/kg	12	☒ Grab ☐ Composite	6020	0.10
Total Mercury	0.87	4.6	Mg/kg	12	☒ Grab ☐ Composite	7471	0.10
Total Molybdenum	6.5	12.0	Mg/kg	12	☒ Grab ☐ Composite	6020	0.10
Total Nickel	15.4	55.0	Mg/kg	12	☒ Grab ☐ Composite	6020	0.10
Total Selenium	1.3	2.0	Mg/kg	12	☒ Grab ☐ Composite	6020	0.10
Total Zinc	235	540	Mg/kg	12	☒ Grab ☐ Composite	6020	0.10
Total Kjeldahl Nitrogen	17,183	39,000	Mg/kg	12	☒ Grab ☐ Composite	351.3M	1.0
Ammonium Nitrogen	2,054	9,200	Mg/kg	12	☒ Grab ☐ Composite	EPA1 CE 81-1	2.5
Total Phosphorus	3,880	7,500	Mg/kg	12	☒ Grab ☐ Composite	EPA1 CE 81-1	5.0
Total Potassium	2428	746	Mg/kg	12	☒ Grab ☐ Composite	7610	0.50

DLZ LABORATORIES, INC.
A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24803-1
Report Date: 01/03/00

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE	Solid Waste		06 DEC 99	07 DEC 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Arsenic	3.6	0.10	mg/Kg	6020	12-28-99	PH
Total Barium	140	1.0	mg/Kg	6020	12-28-99	PH
Total Beryllium	<0.050	0.050	mg/Kg	6020	12-22-99	PH
Total Cadmium	0.49	0.050	mg/Kg	6020	12-22-99	PH
Total Calcium	1,000,000	1.0	mg/Kg	6010	12-30-99	PH
Total Chromium	14	0.50	mg/Kg	6020	12-22-99	PH
Total Copper	150	1.0	mg/Kg	6020	12-22-99	PH
Total Lead	14	0.10	mg/Kg	6020	12-22-99	PH
Total Magnesium	22,000	1.0	mg/Kg	6010	12-30-99	PH
Total Mercury	0.57	0.10	mg/Kg	7471	12-10-99	KF
Total Molybdenum	6.1	0.10	mg/Kg	6020	12-22-99	PH
Total Nickel	55	0.10	mg/Kg	6020	12-22-99	PH
Total Potassium	3100	1.0	mg/Kg	7610	12-17-99	PH
Total Selenium	2.0	0.10	mg/Kg	6020	12-22-99	PH
Total Silver	4.6	0.50	mg/Kg	6010	01-03-00	PH
Total Sodium	6000	1.0	mg/Kg	7770	12-17-99	PH
Total Zinc	210	1.0	mg/Kg	6020	12-22-99	PH

* Reportable Detection Limit

All positive Total Calcium results for sample DL24803-1 was confirmed in duplicate.
Results reported as dry weight values.
The suspect Calcium result could be caused from the high dilutions and the low Total Solids in the calculation.

Approved By
Scott Hayward
Production Manager

Ohio EPA Drinking Water Certified
DEQ
USACE Certification
Wisconsin Department of Natural Resources
Ohio EPA VAP Certified

1120 May Street • Lansing, Michigan 48906-5599 • Telephone (517) 374-9656 • FAX (517) 374-6910
E-Mail: dlzlabs@dlzcorp.com

DLZ LABORATORIES, INC.
A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24621-1
Report Date: 12/07/99

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILZED SLUDGE	Solid Waste		08 NOV 99/11:20	09 NOV 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Arsenic	1.8	0.10	mg/Kg	6020	12-06-99	JH
Total Barium	150	0.10	mg/Kg	6020	12-06-99	JH
Total Beryllium	0.088	0.050	mg/Kg	6020	12-06-99	JH
Total Cadmium	0.72	0.050	mg/Kg	6020	12-06-99	JH
Total Calcium	160,000	1.0	mg/Kg	6010	12-02-99	PH
Total Chromium	26	0.10	mg/Kg	6020	12-06-99	JH
Total Copper	210	0.10	mg/Kg	6020	12-06-99	JH
Total Lead	17	0.10	mg/Kg	6020	12-06-99	JH
Total Magnesium	5,800	0.50	mg/Kg	6010	12-02-99	JH
Total Mercury	0.66	0.10	mg/Kg	7471	11-23-99	KF
Total Molybdenum	5.9	0.10	mg/Kg	6020	12-06-99	JH
Total Nickel	12	0.10	mg/Kg	6020	12-06-99	JH
Total Potassium	3,000	0.50	mg/Kg	7610	12-01-99	PH
Total Selenium	1.0	0.10	mg/Kg	6020	12-06-99	JH
Total Silver	4.2	0.50	mg/Kg	6010	12-01-99	KF
Total Sodium	6,700	0.50	mg/Kg	7770	12-01-99	PH
Total Zinc	240	1.0	mg/Kg	6020	12-06-99	JH

* Reportable Detection Limit

Approved By
Scott Hayward
Production Manager

INITIAL dy 12/14/99

DLZ LABORATORIES, INC.
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ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24337-1
Report Date: 11/09/99

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE	Solid Waste		04 OCT 99/12:00	06 OCT 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Arsenic	1.6	0.10	mg/Kg	6020	11-05-99	JH
Total Barium	180	0.10	mg/Kg	6020	11-05-99	JH
Total Beryllium	<0.050	0.050	mg/Kg	6020	11-04-99	JH
Total Cadmium	0.99	0.050	mg/Kg	6020	11-04-99	JH
Total Calcium	79,000	1.0	mg/Kg	6010	11-05-99	PH
Total Chromium	13	0.10	mg/Kg	6020	11-04-99	JH
Total Copper	210	0.10	mg/Kg	6020	11-04-99	JH
Total Lead	43	0.10	mg/Kg	6020	11-04-99	JH
Total Magnesium	3,200	0.50	mg/Kg	6010	11-05-99	PH
Total Mercury	0.46	0.10	mg/Kg	7471	11-03-99	KF
Total Molybdenum	7.7	0.10	mg/Kg	6020	11-04-99	JH
Total Nickel	9.3	0.10	mg/Kg	6020	11-04-99	JH
Total Potassium	2,300	0.50	mg/Kg	7610	11-06-99	KF
Total Selenium	1.0	0.10	mg/Kg	6020	11-04-99	JH
Total Silver	4.2	0.10	mg/Kg	6010	11-04-99	JH
Total Sodium	2,400	0.50	mg/Kg	7770	11-06-99	KF
Total Zinc	250	0.10	mg/Kg	6020	11-04-99	JH

* Reportable Detection Limit

Sample 24500-1 was analyzed for Total Cyanide. The result was less than the RDL for Amenable Cyanide, therefore there is no reportable Amenable Cyanide.

Approved By
Scott Hayward
Production Manager

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ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24049-1
Report Date: 10/08/99

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE	Solid Waste		07 SEP 99/07:50	07 SEP 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Arsenic	1.6	0.10	mg/Kg	6020	10-05-99	JH
Total Barium	100	0.10	mg/Kg	6020	10-05-99	JH
Total Beryllium	0.059	0.050	mg/Kg	6020	10-05-99	JH
Total Cadmium	0.35	0.050	mg/Kg	6020	10-05-99	JH
Total Calcium	41,000	1.0	mg/Kg	6010	10-07-99	PH
Total Chromium	8.7	0.10	mg/Kg	6020	10-05-99	JH
Total Copper	180	0.10	mg/Kg	6020	10-05-99	JH
Total Lead	8.8	0.10	mg/Kg	6020	10-05-99	JH
Total Magnesium	2,000	0.50	mg/Kg	6010	10-07-99	PH
Total Mercury	0.27	0.10	mg/Kg	7471	10-06-99	KF
Total Molybdenum	5.7	0.10	mg/Kg	6020	10-05-99	JH
Total Nickel	5.2	0.10	mg/Kg	6020	10-05-99	JH
Total Potassium	1,500	0.50	mg/Kg	7610	10-05-99	PH
Total Selenium	0.80	0.10	mg/Kg	6020	10-05-99	JH
Total Silver	2.2	0.10	mg/Kg	6020	10-05-99	JH
Total Sodium	1,500	0.50	mg/Kg	7770	10-05-99	PH
Total Zinc	140	0.10	mg/Kg	6020	10-05-99	JH

* Reportable Detection Limit

Approved By
Scott Hayward
Production Manager

OhioEPA Drinking Water Certified
USACE Certification
Wisconsin Department of Natural Resources
OhioEPA VAP Certified

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E-Mail: dlzlabs@dlzcorp.com

DLZ LABORATORIES, INC.
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ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL23684-1
Report Date: 09/07/99

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABALIZED SLUDGE	Solid Waste		02 AUG 99/12:00	03 AUG 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Arsenic	2.3	0.10	mg/Kg	6020	09-03-99	JH
Total Barium	150	0.10	mg/Kg	6020	09-03-99	JH
Total Beryllium	<0.050	0.050	mg/Kg	6020	09-03-99	JH
Total Cadmium	0.64	0.050	mg/Kg	6020	09-03-99	JH
Total Calcium	78,000	1.0	mg/Kg	6010	09-03-99	PH
Total Chromium	18	0.10	mg/Kg	6020	09-03-99	JH
Total Copper	290	0.10	mg/Kg	6020	09-03-99	JH
Total Lead	18	0.10	mg/Kg	6020	09-03-99	JH
Total Magnesium	3,100	0.50	mg/Kg	6010	09-03-99	PH
Total Mercury	0.28	0.10	mg/Kg	7471	08-24-99	KF
Total Molybdenum	11	0.10	mg/Kg	6020	09-03-99	JH
Total Nickel	14	0.10	mg/Kg	6020	09-03-99	JH
Total Potassium	2,200	0.10	mg/Kg	7610	09-03-99	PH
Total Selenium	2.0	0.10	mg/Kg	6020	09-03-99	JH
Total Silver	7.2	0.10	mg/Kg	6010	09-02-99	PH
Total Sodium	2,800	0.50	mg/Kg	7770	09-03-99	PH
Total Zinc	310	0.10	mg/Kg	6020	09-03-99	JH

* Reportable Detection Limit

Results reported as dry weight values.

Approved By
Scott Hayward
Production Manager

DLZ LABORATORIES, INC.
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ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL23329-1
Report Date: 07/26/99

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE	Solid Waste		06 JUL 99	06 JUL 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Arsenic	2.6	0.10	mg/Kg	6020	07-20-99	PH
Total Barium	160	0.10	mg/Kg	6020	07-19-99	PH
Total Beryllium	0.19	0.050	mg/Kg	6020	07-21-99	PH
Total Cadmium	0.75	0.050	mg/Kg	6020	07-19-99	PH
Total Calcium	85,000	1.0	mg/Kg	6010	07-19-99	JH
Total Chromium	19	0.10	mg/Kg	6020	07-20-99	PH
Total Copper	280	0.10	mg/Kg	6020	07-20-99	PH
Total Lead	18	0.10	mg/Kg	6020	07-19-99	PH
Total Magnesium	3,400	0.50	mg/Kg	6010	07-19-99	JH
Total Mercury	0.16	0.10	mg/Kg	7471	07-19-99	AR
Total Molybdenum	10	0.10	mg/Kg	6020	07-19-99	PH
Total Nickel	10	0.10	mg/Kg	6020	07-20-99	PH
Total Potassium	2,400	0.50	mg/Kg	7610	07-19-99	JH
Total Selenium	1.6	0.10	mg/Kg	6020	07-21-99	PH
Total Silver	8.3	0.50	mg/Kg	6010	07-23-99	JH
Total Sodium	2,500	0.50	mg/Kg	7770	07-19-99	JH
Total Zinc	270	0.10	mg/Kg	6020	07-20-99	PH

* Reportable Detection Limit

Approved By
Scott Hayward
Production Manager

INITIAL 8/19/99

OhioEPA Drinking Water Certified
DEQ
USACE Certification
Wisconsin Department of Natural Resources
OhioEPA VAP Certified

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E-Mail: dlzlabs@dlzcorp.com

LABORATORIES, INC.
A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL23204-1
Report Date: 06/29/99

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE	Solid Waste		07 JUN 99/10:30	08 JUN 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Phosphorous	1,400	5.0	mg/Kg	EPA/CE81-1	06-24-99	JV
Total Solids	15	---	%	2540G	06-17-99	KG
Total Sulfate	3,200	20	mg/Kg	4500SO4-E	06-25-99	MB
Total Volatile Solids	43	1	%	EPA/CE81-1	06-17-99	KG
pH	12.54	---	Units	9045	06-08-99	KS

* Reportable Detection Limit

Results reported as dry weight values.
Detection limit was raised in sample DL23204-1 for Nitrate Nitrogen compounds due to low percent solids.

Approved

INITIAL

DLZ Laboratories, Inc.

ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

Lab Number: DL22683-1
Report Date: 05/19/99

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE	Solid Waste		03 MAY 99	04 MAY 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Arsenic	1.9	0.10	mg/Kg	6020	05-17-99	PH
Total Barium	61	0.10	mg/Kg	6020	05-13-99	PH
Total Beryllium	0.20	0.050	mg/Kg	6020	05-17-99	PH
Total Cadmium	0.70	0.050	mg/Kg	6020	05-17-99	PH
Total Calcium	170,000	1.0	mg/Kg	6010	05-17-99	PH
Total Chromium	7.3	0.10	mg/Kg	6020	05-13-99	PH
Total Copper	110	0.10	mg/Kg	6020	05-13-99	PH
Total Lead	7.3	0.10	mg/Kg	6020	05-13-99	PH
Total Magnesium	4,000	0.50	mg/Kg	6010	05-17-99	PH
Total Mercury	1.2	0.10	mg/Kg	7471	05-13-99	AR
Total Molybdenum	6.9	0.10	mg/Kg	6020	05-13-99	PH
Total Nickel	11	0.10	mg/Kg	6020	05-13-99	PH
Total Potassium	2,200	0.50	mg/Kg	7610	05-17-99	JH
Total Selenium	1.7	0.10	mg/Kg	6020	05-17-99	PH
Total Silver	3.7	0.10	mg/Kg	6010	05-13-99	JH
Total Sodium	5,200	0.50	mg/Kg	7770	05-17-99	JH
Total Zinc	180	0.10	mg/Kg	6020	05-13-99	PH

* Reportable Detection Limit

Approved

DLZ Laboratories, Inc.

ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

Lab Number: DL22390-1
Report Date: 04/20/99

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE	Solid Waste		05 APR 99	06 APR 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Arsenic	6.0	0.10	mg/Kg	6020	04-15-99	JH
Total Barium	160	0.10	mg/Kg	6020	04-15-99	JH
Total Beryllium	<0.050	0.050	mg/Kg	6020	04-15-99	JH
Total Cadmium	0.55	0.050	mg/Kg	6020	03-15-99	JH
Total Calcium	170,000	1.0	mg/Kg	6010	04-15-99	PH
Total Chromium	33	0.10	mg/Kg	6020	04-15-99	JH
Total Copper	340	0.10	mg/Kg	6020	04-15-99	JH
Total Lead	23	0.10	mg/Kg	6020	04-15-99	JH
Total Magnesium	4,600	0.50	mg/Kg	6010	04-15-99	PH
Total Mercury	<0.10	0.10	mg/Kg	7471	04-17-99	AR
Total Molybdenum	6.6	0.10	mg/Kg	6020	04-15-99	JH
Total Nickel	19	0.10	mg/Kg	6020	04-15-99	JH
Total Potassium	2,500	0.50	mg/Kg	7610	04-15-99	PH
Total Selenium	<0.10	0.10	mg/Kg	6020	04-16-99	JH
Total Silver	4.8	0.10	mg/Kg	6010	04-15-99	PH
Total Sodium	61,000	0.50	mg/Kg	7770	04-16-99	PH
Total Zinc	540	0.10	mg/Kg	6020	04-15-99	JH

* Reportable Detection Limit

Approved

INITIAL 4/16/99

DLZ Laboratories, Inc.

ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

Lab Number: DL22131-1
Report Date: 03/10/99

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE	Solid Waste		01 MAR 99/13:00	02 MAR 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Arsenic	2.0	0.10	mg/Kg	6020	03-05-99	PH
Total Barium	90	0.1	mg/Kg	6020	03-05-99	PH
Total Beryllium	0.11	0.05	mg/Kg	6020	03-05-99	PH
Total Cadmium	0.70	0.050	mg/Kg	6020	03-05-99	PH
Total Calcium	172,000	1.0	mg/Kg	6010	03-08-99	PH
Total Chromium	28	0.1	mg/Kg	6020	03-05-99	PH
Total Copper	160	0.1	mg/Kg	6020	03-05-99	PH
Total Lead	16	0.1	mg/Kg	6020	03-05-99	PH
Total Magnesium	7,000	0.5	mg/Kg	6010	03-08-99	PH
Total Mercury	0.35	0.10	mg/Kg	7471	03-07-99	AR
Total Molybdenum	1.1	0.10	mg/Kg	6020	03-05-99	PH
Total Nickel	8.2	0.1	mg/Kg	6020	03-05-99	PH
Total Potassium	2,400	0.5	mg/Kg	7610	03-09-99	PH
Total Selenium	1.3	0.1	mg/Kg	6020	03-05-99	PH
Total Silver	4.2	0.1	mg/Kg	6010	03-08-99	PH
Total Sodium	5,900	0.5	mg/Kg	7770	03-09-99	PH
Total Zinc	170	0.1	mg/Kg	6020	03-05-99	PH

* Reportable Detection Limit

Approved

INITIAL 3/11/99

DLZ Laboratories, Inc.

ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

Lab Number: DL21929-1
Report Date: 02/17/99

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE	Solid Waste		01 FEB 99/10:30	02 FEB 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Arsenic	3.3	0.10	mg/Kg	6020	02-15-99	PH
Total Barium	110	0.10	mg/Kg	6020	02-10-99	PH
Total Beryllium	<0.050	0.050	mg/Kg	6020	02-15-99	PH
Total Cadmium	1.2	0.050	mg/Kg	6020	02-15-99	PH
Total Calcium	340,000	1.0	mg/Kg	6010	02-11-99	JH
Total Chromium	19	0.10	mg/Kg	6020	02-10-99	PH
Total Copper	210	0.10	mg/Kg	6020	02-10-99	PH
Total Lead	22	0.10	mg/Kg	6020	02-10-99	PH
Total Magnesium	8,600	1.0	mg/Kg	6010	02-11-99	JH
Total Mercury	0.95	0.10	mg/Kg	7471	02-14-99	AR
Total Molybdenum	12	0.10	mg/Kg	6020	02-10-99	PH
Total Nickel	23	0.10	mg/Kg	6020	02-10-99	PH
Total Potassium	3,600	0.50	mg/Kg	7610	02-12-99	JH
Total Selenium	1.2	0.10	mg/Kg	6020	02-10-99	PH
Total Silver	5.0	0.50	mg/Kg	6010	02-11-99	JH
Total Sodium	8,400	0.50	mg/Kg	7770	02-12-99	JH
Total Zinc	280	0.10	mg/Kg	6020	02-10-99	PH

* Reportable Detection Limit

Approved

DLZ Laboratories, Inc.

ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

Lab Number: DL21719-1
Report Date: 01/18/99

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE	Solid Waste		04 JAN 99	05 JAN 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Arsenic	1.9	0.10	mg/Kg	6020	01-11-99	PH
Total Barium	94	0.10	mg/Kg	6020	01-11-99	PH
Total Beryllium	<0.050	0.050	mg/Kg	6020	01-12-99	PH
Total Cadmium	<0.050	0.050	mg/Kg	6020	01-11-99	PH
Total Calcium	390,000	1.0	mg/Kg	6010	01-12-99	JH
Total Chromium	10	0.10	mg/Kg	6020	01-11-99	PH
Total Copper	150	0.10	mg/Kg	6020	01-12-99	PH
Total Lead	11	0.10	mg/Kg	6020	01-11-99	PH
Total Magnesium	6,200	0.50	mg/Kg	6010	01-12-99	JH
Total Mercury	4.6	0.10	mg/Kg	7471	01-09-99	AR
Total Molybdenum	2.2	0.10	mg/Kg	6020	01-12-99	PH
Total Nickel	6.2	0.10	mg/Kg	6020	01-11-99	PH
Total Potassium	3,100	0.50	mg/Kg	7610	01-12-99	JH
Total Selenium	<0.10	0.10	mg/Kg	6020	01-11-99	PH
Total Silver	3.1	0.10	mg/Kg	6010	01-13-99	JH
Total Sodium	7,800	0.50	mg/Kg	7770	01-12-99	JH
Total Zinc	170	0.10	mg/Kg	6020	01-12-99	PH

* Reportable Detection Limit

Results reported as dry weight values.

Approved

LABORATORIES, INC.
A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00
Analyzed :12-02-99
Analyzed by:SSH
Method :8260

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

ANALYTE	RESULT ug/Kg	*RDL ug/Kg
TTO VOLATILE ORGANIC COMPOUNDS		
Chloromethane	<1100	50
Vinyl Chloride	<1100	50
Bromomethane	<1100	50
Chloroethane	<1100	50
1,1-Dichloroethene	<1100	50
Methylene Chloride	<1100	50
Acrylonitrile	<1100	50
Acrolein	<1100	50
trans-1,2-Dichloroethene	<1100	50
1,1-Dichloroethane	<1100	50
Chloroform	<1100	50
1,1,1-Trichloroethane	<1100	50
Carbon tetrachloride	<1100	50
1,2-Dichloroethane	<1100	50
Benzene	<1100	50
Trichloroethene	<1100	50
1,2-Dichloropropane	<1100	50
Bromodichloromethane	<1100	50
cis-1,3-Dichloropropene	<1100	50
Toluene	<1100	50

* Reportable Detection Limit

LABORATORIES, INC.
A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00
Analyzed :12-02-99
Analyzed by:SSH
Method :8260

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

ANALYTE	RESULT ug/Kg	*RDL ug/Kg
trans-1,3-Dichloropropene	<1100	50
1,1,2-Trichloroethane	<1100	50
Tetrachloroethene	<1100	50
Dibromochloromethane	<1100	50
Chlorobenzene	<1100	50
Ethylbenzene	<1100	50
Bromoform	<1100	50
1,1,2,2-Tetrachloroethane	<1100	50
1,3-Dichlorobenzene	<1100	50
1,4-Dichlorobenzene	<1100	50
1,2-Dichlorobenzene	<1100	50
SURROGATE:	---	---
Dibromofluoromethane	2%	
Toluene-d8	55%	
4-Bromofluorobenzene	48%	
1,2-Dichloroethane-d4	60%	

* Reportable Detection Limit

A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00
Analyzed :12-10-99
Analyzed by:COL
Method :8151A

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

ANALYTE	RESULT mg/Kg	*RDL mg/Kg
HERBICIDE COMPOUNDS		
2,4-D	<0.3	0.2
2,4,5-TP(Silvex)	<0.3	0.05
2,4,5-T	<0.3	0.05

* Reportable Detection Limit

LABORATORIES, INC.
A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00

Analyzed :12-04-99
Analyzed by:TRK
Method :8082

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

ANALYTE	RESULT ug/Kg	*RDL ug/Kg
PCB COMPOUNDS		
PCB-1016	<400	330
PCB-1221	<400	330
PCB-1232	<400	330
PCB-1242	<400	330
PCB-1248	<400	330
PCB-1254	<400	330
PCB-1260	<400	330
PCB-1262	<400	330
PCB-1268	<400	330
SURROGATE:	---	---
2,4,5,6-Tetrachloro-m-xylene	80%	
Decachlorobiphenyl	77%	

* Reportable Detection Limit

A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00
Analyzed :12-15-99
Analyzed by:TRK
Method :8081

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

ANALYTE	RESULT ug/Kg	*RDL ug/Kg
PESTICIDE COMPOUNDS		
alpha-BHC	<34	20
gamma-BHC (Lindane)	<34	20
beta-BHC	<34	20
delta-BHC	<34	20
Heptachlor	<34	20
Aldrin	<34	20
Heptachlor Epoxide	<34	20
gamma-Chlordane	<50	50
alpha-Chlordane	<50	50
Endosulfan I	<34	20
4,4'-DDE	<34	20
Dieldrin	<34	20
Endrin	<34	20
4,4'-DDD	<34	20
Endosulfan II	<34	20
4,4'-DDT	<34	20
Endrin Aldehyde	<34	20
Methoxychlor	<50	50
Endrin Ketone	<34	20

* Reportable Detection Limit

LABORATORIES, INC.
A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00

Analyzed :12-06-99
Analyzed by:TRK
Method :8081

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

ANALYTE	RESULT ug/Kg	*RDL ug/Kg
TOXAPHENE SCAN		
Toxaphene	<670	170

* Reportable Detection Limit

A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00
Analyzed :12-17-99
Analyzed by:PB
Method :8270

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

ANALYTE	RESULT ug/Kg	*RDL ug/Kg
2,3,7,8-TCDD	NO	

* Reportable Detection Limit

A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00
Analyzed :12-17-99
Analyzed by:PB
Method :8270

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

ANALYTE	RESULT ug/Kg	*RDL ug/Kg
TTO SEMIVOLATILE ORGANIC COMPOUNDS		
N-Nitrosodimethylamine	<4200	330
bis(2-chloroethyl)ether	<4200	330
Phenol	<4200	330
2-Chlorophenol	<4200	330
1,3-Dichlorobenzene	<4200	330
1,4-Dichlorobenzene	<4200	330
1,2-Dichlorobenzene	<4200	330
bis(2-chloroisopropyl)ether	<4200	330
Hexachloroethane	<4200	330
N-nitroso-di-n-propylamine	<4200	330
Nitrobenzene	<4200	330
Isophorone	<4200	330
2-Nitrophenol	<4200	330
2,4-Dimethylphenol	<4200	330
bis(2-chloroethoxy)methane	<4200	330
2,4-Dichlorophenol	<4200	330
1,2,4-Trichlorobenzene	<4200	330
Naphthalene	<4200	330
Hexachlorobutadiene	<4200	330
4-Chloro-3-methylphenol	<4200	330

* Reportable Detection Limit

A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00
Analyzed :12-17-99
Analyzed by:PB
Method :8270

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

ANALYTE	RESULT ug/Kg	*RDL ug/Kg
Hexachlorocyclopentadiene	<4200	330
2,4,6-Trichlorophenol	<4200	330
2-Chloronaphthalene	<4200	330
Acenaphthylene	<4200	330
Dimethyl phthalate	<4200	330
2,6-Dinitrotoluene	<4200	330
Acenaphthene	<4200	330
2,4-Dinitrophenol	<17,000	1,700
4-Nitrophenol	<4200	1,700
2,4-Dinitrotoluene	<4200	330
Fluorene	<4200	330
4-Chlorophenyl-phenyl ether	<4200	330
Diethyl phthalate	<4200	330
4,6-Dinitro-2-methylphenol	<17,000	1,700
N-Nitrosodiphenylamine	<4200	330
Azobenzene	<4200	330
4-Bromophenyl-phenyl ether	<4200	330
Hexachlorobenzene	<4200	330
Pentachlorophenol	<17,000	3,400
Phenanthrene	<4200	330
Anthracene	<4200	330

* Reportable Detection Limit

LABORATORIES, INC.
A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00

Analyzed :12-17-99
Analyzed by:PB
Method :8270

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

ANALYTE	RESULT ug/Kg	*RDL ug/Kg
Di-n-butylphthalate	<4200	330
Fluoranthene	<4200	330
Benzidine	<4200	1,000
Pyrene	<4200	330
Butylbenzylphthalate	<4200	330
3,3'-Dichlorobenzidine	<4200	2,000
Benzo(a)anthracene	<4200	330
Chrysene	<4200	330
bis(2-ethylhexyl)phthalate	31,000	330
Di-n-octyl phthalate	<4200	330
Benzo(b)fluoranthene	<4200	330
Benzo(k)fluoranthene	<4200	330
Benzo(a)pyrene	<4200	330
Indeno(1,2,3-cd)pyrene	<4200	330
Dibenz(a,h)anthracene	<4200	330
Benzo(g,h,i)perylene	<4200	330
SURROGATE:	---	---
2-Fluorophenol	1.4%	
Phenol-d6	8.3%	
Nitrobenzene-d5	41%	
2-Fluorobiphenyl	45%	

* Reportable Detection Limit

LABORATORIES, INC.
A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00
Analyzed :12-17-99
Analyzed by:PB
Method :8270

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

ANALYTE	RESULT ug/Kg	*RDL ug/Kg
2,4,6-Tribromophenol	<1.0%	
p-Terphenyl-d14	73%	

* Reportable Detection Limit

Results reported as dry weight values.
NO = Not Observed
Sample DL24701-1 had low surrogate recoveries. All results for Semivolatile and Volatile compounds must be considered estimated.
A library search for 2,3,7,8-TCDD was performed with the semi-volatile analysis. This compound was not detected in sample DL24701-1 extracts.
Detection limit was raised in sample DL24701-1 for Semivolatile, Pesticide, Herbicide, Toxaphene and PCB compounds due to low percent solids.
Extraction date is 11/29/99 for sample DL24701-1 for Semivolatile compounds.
Sample DL24701-1 was lab preserved with methanol for volatile analysis.
Detection limit was raised in sample DL24701-1 for some volatile compounds to correct for percent solids.
Extraction date is 12/1/99 for sample DL24701-1 for Pesticide, Toxaphene and PCB compounds.

Approved By
Scott Hayward
Production Manager

LABORATORIES, INC.
A DLZ Company
ENVIRONMENTAL TESTING • COMPLIANCE ANALYSES
INDUSTRIAL HYGIENE

Lab Number: DL24701-1
Report Date: 01/03/00

MS. CHRISTINE KOSMOWSKI
BATTLE CREEK WWTP
2000 WEST RIVER ROAD
BATTLE CREEK, MI 49015

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED DATE/TIME	RECEIVED
LIME STABILIZED SLUDGE ISPP TTO STUDY	Solid Waste		23 NOV 99	23 NOV 99

CONSTITUENT	RESULT	*RDL	UNITS	METHOD	ANALYZED	BY
Total Solids	4%	---	%	2540G	12-10-99	RB

* Reportable Detection Limit

1120 May Street • Lansing, Michigan 48906-5599 • Telephone (517) 374-9656 • FAX (517) 374-6910
E-Mail: dlzlabs@dlzcorp.com

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

E. Biosolids Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
BCWWTP	MI0022276

11. POLLUTANTS OF CONCERN

Is there currently or is there potential for pollutants (other than parameters listed on the previous page) to be present in the biosolids at concentrations that would make them unsuitable for land application?

☐ Yes - Describe the circumstances below and provide representative analytical data for those Pollutants of Concern in Item 3.

☒ No - Continue with Item 12.

12. ADDITIONAL BIOSOLIDS MONITORING DATA

Report any biosolids monitoring data from the last permit cycle for parameters not specifically listed on the previous page. Include the actual analytical data sheets as an attachment. Upon submittal review, additional monitoring may be required if SWQD has reason(s) to suspect that the information provided (or not provided) does not adequately characterize the residuals proposed to be land applied. For assistance on completing this section or determining the necessity for completing this section, you may contact the appropriate DEQ Surface Water Quality Division (SWQD) Office (see pages 2 and 3 of the Appendix).

Parameter	Average Monthly Concentration	Maximum Concentration	Units	Number of Analyses	Sample Type	Analytical Method	Method Detection Level
					☐ Grab ☐ Composite		
BARIUM	119	180	Mg/kg	12	☒ Grab ☐ Composite	6020	1.0
BERYLLIUM	0.12	0.2	Mg/kg	12	☒ Grab ☐ Composite	6020	0.050
CALCIUM	257,083	1,000,000	Mg/kg	12	☒ Grab ☐ Composite	6010	1.0
CHROMIUM	17	33	Mg/kg	12	☒ Grab ☐ Composite	6020	0.50
MAGNESIUM	6283	22000	Mg/kg	12	☒ Grab ☐ Composite	6010	1.0
SILVER	6	18	Mg/kg	12	☒ Grab ☐ Composite	6010	0.50
SODIUM	9317	61000	Mg/kg	12	☒ Grab ☐ Composite	7770	1.0
SEE ATTACHMENT - FOR	TTO SCAN				☒ Grab ☐ Composite		
					☐ Grab ☐ Composite		
					☐ Grab ☐ Composite		
					☐ Grab ☐ Composite		
					☐ Grab ☐ Composite		
					☐ Grab ☐ Composite		
					☐ Grab ☐ Composite		
					☐ Grab ☐ Composite		

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

E. Biosolids Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
BCWWTP	MI0022276

13. Land Application Site List

Provide the following information for every new or existing site that you intend to use in the next five years (biosolids permit cycle). Each listed site should either have had a Site Identification Form with attachments submitted to the MDEQ since January 1, 1998, or that information should be included with this form. Additional sites may be added to the Land Application Site List during the biosolids permit cycle by submitting a completed Site Identification Form with the appropriate attachments and waiting the required ten day notification period. Use additional pages as necessary.

Site Identification Number	Latitude (dd,mm,ss)	Longitude (dd,mm,ss)	Acres	Owners Last Name	New Site? (check if yes)	CPLR* Site? (check if yes)
		SEE ATTACHMENT			☐	☐
					☐	☐
					☐	☐
					☐	☐
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					☐	☐
					☐	☐

see definitions

Received: 3/15/00 2:08PM; 616 887 1188 -> City of Battle Creek; Page 2
MAR.16.2000 3:57AM SYNAGRO MIDWEST NO.277 P.2/18

Residuals Management Program - Land Application Site List

CLIENT *Battle Creek*

OWNER LAST	*FARMER LAST*	*MDEQ*	*SYNAGRO*	*Longitude*	*Latitude*	*ACRE*	*CPLR*
Avery	Avery	04S06W31-JA05	TE31-JA05	85:03:515	42:04:876	14	☐
Avery	Avery	04S06W31-JA01	TE31-JA01	85:03:537	42:05:111	27	☐
Avery	Avery	04S06W31-JA02	TE31-JA02	85:03:342	42:05:111	6	☐
Avery	Avery	04S06W31-JA04	TE31-JA04	85:03:331	42:04:904	5	☐
Avery	Avery	04S06W31-JA03	TE31-JA03	85:03:526	42:04:966	18	☐
Belole	Hoskins	03S08W18-MB01	LE18-MB01	85:16:936	42:12:842	71.4	☐
Bossard	Bossard	02S06W16-BB09	MA16-BB09	85:00:383	42:17:965	41	☐
Bossard	Bossard	02S06W16-BB06	MA16-BB06	85:00:732	42:18:152	21	☐
Bossard	Bossard	02S06W16-BB05	MA16-BB05	85:00:901	42:18:152	25	☐
Bossard	Bossard	02S06W16-BB04	MA16-BB04	85:01:022	42:18:152	30	☐
Bossard	Bossard	02S06W16-BB03	MA16-BB03	85:00:943	42:18:254	12	☐
Bossard	Bossard	02S06W16-BB02	MA16-BB02	85:01:107	42:18:183	18	☐
Bossard	Bossard	02S06W16-BB01	MA16-BB01	85:01:255	42:18:183	72	☐
Bossard	Bossard	02S06W16-BB07	MA16-BB07	85:00:584	42:18:152	54	☐
Bossard	Bossard	02S06W16-BB08	MA16-BB08	85:00:394	42:18:246	38	☐
Bostwick	Bostwick	01S09W11-RB01	RO11-RB01	85:19:565	42:23:546	30	☐
Bostwick	Bostwick	01S09W14-RB02	RO14-RB02	85:19:290	42:23:491	37	☐
Bostwick	Bostwick	01S09W14-RB01	RO14-RB01	85:19:566	42:23:668	71	☐

Bostwick	Bostwick	01S09W13-KB01	RO13-KB01	85:17:793	42:23:405	33	☐
Braden	Green	03S08W20-BB02	LE20-BB02	85:16:278	42:11:421	18	☐
Braden	Green	03S08W30-BB01	LE30-BB01	85:16:710	42:11:116	51	☐
Braden	Green	03S08W20-BB01	LE20-BB01	85:16:104	42:11:405	50	☐
Braden	Hoskins	03S08W20-BB03	LE20-BB03	85:16:422	42:11:469	74.9	☐
Bryant	Smith	01S06W331-JB02	CO31-JB02	85:03:077	42:20:281	53	☐
Bryant	Smith	01S06W331-JB01	CO31-JB01	85:03:182	42:20:257	67	☐
Burham	Burham	01S09W09-GF01	RO09-GF01	85:21:967	42:24:225	30	☐
Burlingame	Burlingame	01S06W11-DB01	CO11-DB01	84:58:829	42:24:050	20	☐
Burrows	Deyo	01N08W32-FB01	JO32-FB02	85:16:232	42:25:895	10	☐
Burrows	Deyo	01N08W32-FB01	JO32-FB01	85:16:232	42:25:961	16	☐
Case	Bostwick	01S08W16-EC03	BE16-EC03	85:15:457	42:23:270	30	☐
Case	Bostwick	01S08W16-EC04	BE16-EC04	85:15:457	42:23:172	25	☐
Case	Bostwick	01S08W16-EC02	BE16-EC02	85:15:552	42:23:613	17	☐
Case	Bostwick	01S08W16-EC01	BE16-EC01	85:15:547	42:23:652	18	☐
Casterline	Mahmat	01N08W30-JC01	JO30-JC01	85:17:474	42:26:302	9	☐
Coller	Coller	01N07W28-KC01	AS28-KC01			14	☐
Conklin	Smith	01S07W36-DC01	PE36-DC01	85:04:140	42:20:800	40	☐
Conklin	Smith	01S07W36-DC03	PE36-DC03	85:03:881	42:20:699	25	☐
Conklin	Smith	01S07W36-DC02	PE36-DC02	85:03:876	42:20.800	40	☐
Cook	Cook	01N08W25-RC02	JO25-RC02	85:12:390	42:26:919	10	☐
Cook	Cook	01N08W13-TC01	JO13-TC01	85:12:162	42:28:223	15	☐

Cook	Cook	01T08W24-JC01	JO24-JC01	85:12:469	42:27:063	8	☐
Cook	Cook	01N08W25-RC01	JO25-RC01	85:12:427	42:26:809	5	☐
Coy	Coy	01N08W10-BC01	JO10-BC01	85:14:158	42:28:727	34	☐
Day	Day	03S07W12-DD02	NE12-DD02	85:03:847	42:13:147	46	☐
Day	Day	03S06W06-DD03	FR06-DD03	85:03:369	42:14:452	65	☐
Day	Day	03S06W06-DD01	FR06-DD01	85:03:580	42:14:467	25	☐
Day	Day	02S06W32-DD01	MA32-DD01	85:01:496	42:14:483	24	☐
Day	Day	03S07W12-DD01	NE12-DD01	85:04:200	42:13:534	48	☐
Day	Day	03S06W06-RD03	FR06-RD03	85:02:119	42:14:190	10	☐
Day	Day	03S06W06-DD02	FR06-DD02	85:03:359	42:14:592	40	☐
Day	Day	03S06W06-DD04	FR06-DD04	85:03:153	42:14:475	85	☐
Day	Day	03S06W06-RD01	FR06-RD01	85:02:398	42:14:178	35	☐
Day	Day	03S07W12-DD03	NE12-DD03	85:03:836	42:13:581	38	☐
Day	Day	03S06W06-RD02	FR06-RD02	85:02:267	42:14:186	30	☐
Day	Day	03S06W06-RD04	FR06-RD04	85:01:966	42:14:198	21	☐
Dunham	Wright	03S08W09-BD01	LE09-BD01	85:15:322	42:13:768	13	☐
Earl	Davidson	02N07W33-ME03	MG33-ME03	85:08:692	42:30:728	10	☐
Earl	Davidson	02N07W33-ME02	MG33-ME02	85:08:798	42:30:841	10	☐
Earl	Davidson	02N07W33-ME01	MG33-ME01	85:08:650	42:30:962	20	☐
Eppley	Mathias	01S06W34-LE01	BE34-LE01	85:00:647	42:26:112	17	☐
Francisco	Francisco	03S07W23-FF02	NE23-FF02	85:04:965	42:12:018	50	☐
Francisco	Francisco	03S07W23-FF03	NE23-FF03	85:05:076	42:11:846	40	☐

Francisco	Francisco	03S07W23-FF01	NE23-FF01	85:05:171	42:12:010	40	☐
Francisco	Francisco	03S07W23-FF04	NE23-FF04	85:05:076	42:11:709	40	☐
Freds	Freds	03S06W18-CF01	FR18-CF01	85:02:680	42:12:459	16	☐
Freds	Freds	03S06W20-CF01	FR20-CF01	85:02:817	42:12:408	7	☐
Freds	Freds	03S06W18-TF01	FR18-TF01	85:03:065	42:12:498	12	☐
Freds	Freds	03S07W36-CF04	NE36-CF04	85:04:468	42:09:713	14	☐
Freds	Freds	03S07W36-CF03	NE36-CF03	85:04:800	42:09:732	13	☐
Freds	Freds	03S06W1-CF01	FR17-CF01	85:02:363	42:12:338	10	☐
Freds	Freds	03S07W36-CF01	NE36-CF01	85:04:600	42:09:857	16	☐
Freds	Freds	03S06W18-CF02	FR18-CF02	85:02:680	42:12:318	18	☐
Freds	Freds	03S07W36-CF02	NE36-CF02	85:04:479	42:09:775	14	☐
Fuller	Fuller	04S08W18-DF04	AT18-DF04	85:17:474	42:07:099	19	☐
Fuller	Fuller	04S08W18-DF03	AT18-DF03	85:17:547	42:07:451	16	☐
Fuller	Fuller	04S08W18-DF02	AT18-DF02	85:17:253	42:07:755	13	☐
Fuller	Fuller	04S08W08-DF02	AT08-DF02	85:15:799	42:08:017	69	☐
Fuller	Fuller	03S08W28-DF03	LE28-DF03	85:14:533	42:11:040	31	☐
Fuller	Fuller	03S08W28-DF02	LE28-DF02	85:14:322	42:11:157	16	☐
Fuller	Fuller	03S08W28-DF01	LE28-DF01	85:14:517	42:11:150	13	☐
Fuller	Fuller	04S08W18-DF01	AT18-DF01	85:17:553	42:07:658	17	☐
Fuller	Fuller	03S08W28-DF04	LE28-DF04	85:14:322	42:11:072	20	☐
Fuller	Fuller	04S08W17-DF02	AT17-DF02	85:16:253	42:07:233	71	☐
Fuller	Fuller	04S08W06-DF01	AT06-DF01	85:17:095	42:08:818	40	☐

Fuller	Fuller	04S08W07-DF01	AT07-DF01	85:17:021	42:09:044	68	☐
Fuller	Fuller	04S08W06-DF02	AT06-DF02	85:17:084	42:08:654	48	☐
Gardner	Betts	03N06W29-RG01	VE29-RG01	85:02:927	42:36:828	28	☐
Garside	Lawrence	01S09W05-JG01	RO05-JG01	85:23:744	42:25:102	26	☐
Gillaspie	Fuller	04S08W18-JG01	AT18-JG01	85:16:926	42:07:235	19	☐
Good	Good	03S07W02-JG02	NE02-JG02	85:05:162	42:14:216	22	☐
Good	Good	03S07W02-JG01	NE02-JG01	85:05:283	42:14:247	15	☐
Good	Good	03S07W02-JG03	NE02-JG03	85:05:014	42:14:228	37	☐
Good	Good	03S07W02-JG04	NE02-JG04	85:05:278	42:14:075	27	☐
Goyings	Goyings	01N10W15-LG01	PR15-LG01	85:28:799	42:28:416	31	☐
Goyings	Goyings	01N10W15-LG03	PR15-LG03	85:28:910	42:28:615	28	☐
Goyings	Goyings	01N10W15-LG04	PR15-LG04	85:28:698	42:28:576	29	☐
Goyings	Goyings	01N10W16-LG01	PR16-LG01	85:29:138	42:28:502	16	☐
Goyings	Goyings	01N10W15-LG02	PR15-LG02	85:28:783	42:28:526	22	☐
Green	Green	03S08W18-EG01	LE18-EG01	85:17:361	42:12:189	12	☐
Green	Green	03S08W18-EG02	LE18-EG02	85:17:292	42:12:299	19	☐
Green	Green	03S08W18-EG03	LE18-EG03	85:17:451	42:12:291	36	☐
Green	Green	03S08W18-EG04	LE18-EG04	85:17:461	42:12:189	30	☐
Green	Green	03S08W18-EG05	LE18-EG05	85:17:282	42:12:186	20	☐
Greer	Greer	01S09W10-LG01	RO10-LG01	85:20:854	42:23:971	37	☐
Greer	Greer	01S09W11-LG01	RO11-LG01	85:19:881	42:23:733	28	☐
Greer	Greer	01S09W11-LG02	RO11-LG02	85:19:553	42:23:850	17	☐

Greer	Greer	01S09W14-LG01	RO14-LG01	85:19:682	42:23:339	28	☐
Greer	Greer	01S09W14-LG03	RO14-LG03	85:19:426	42:23:350	16	☐
Greer	Greer	01S09W15-GG01	RO15-GG01	85:20:479	42:23:315	38	☐
Greer	Greer	01S09W15-GG02	RO15-GG02	85:20:368	42:23:323	35.6	☐
Greer	Greer	01S09W14-LG02	RO14-LG02	85:19:537	42:23:354	16	☐
Groholske	Groholske	04S06W30-EG04	TE30-EG04	85:02:622	42:05:936	70	☐
Groholske	Groholske	04S06W32-IG01	TE32-IG01	85:02:117	42:05:097	60	☐
Groholske	Groholske	04S07W25-EG02	BU25-EG02	85:04:044	42:05:709	85	☐
Groholske	Groholske	04S06W32-IG02	TE32-IG02	85:01:870	42:05:120	47	☐
Groholske	Groholske	04S07W25-EG03	BU25-EG03	85:03:796	42:05:721	45	☐
Groholske	Groholske	04S06W30-EG03	TE30-EG03	85:03:433	42:05:296	47	☐
Groholske	Groholske	04S06W30-EG02	TE30-EG02	85:03:417	42:05:948	47	☐
Groholske	Groholske	04S06W30-EG01	TE30-EG01	85:03:291	42:06:073	91	☐
Groholske	Groholske	04S07W26-EG01	BU36-EG01	85:03:769	42:05:155	54	☐
Groholske	Groholske	04S07W25-EG01	BU25-EG01	85:04:417	42:06:154	109	☐
Groholske	Groholske	04S06W33-AG01	TE33-AG01	85:01:059	42:04:593	51	☐
Groholske	Groholske	04S06W32-AG03	TE32-AG03	85:01:322	42:04:780	11	☐
Groholske	Groholske	04S07W25-EG04	BU25-EG04	85:03:886	42:05:447	53	☐
Guthrie	Guthrie	01N10W24-TG12	PR24-TG12	85:25:683	42:27:285	20	☐
Guthrie	Guthrie	01N10W24-TG11	PR24-TG11	85:25:789	42:27:281	13	☐
Guthrie	Guthrie	01N10W24-TG13	PR24-TG13	85:26:016	42:26:996	24	☐
Guthrie	Guthrie	01N10W24-TG17	PR24-TG17	85:25:593	42:27:281	27	☐

Guthrie	Guthrie	01N10W24-TG03	PR24-TG03	85:26:562	42:27:340	16	
Guthrie	Guthrie	01N10W24-TG08	PR24-TG08	85:26:265	42:27:242	19	
Guthrie	Guthrie	01N10W25-TG15	PR25-TG15	85:26:011	42:26:863	25	
Guthrie	Guthrie	01N10W24-TG09	PR24-TG09	85:25:789	42:27:351	17	
Guthrie	Guthrie	01N10W24-TG10	PR24-TG10	85:26:276	42:27:160	19	
Guthrie	Guthrie	01N10W24-TG04	PR24-TG04	85:26:276	42:27:340	17	
Guthrie	Guthrie	01N10W24-TG14	PR24-TG14	85:25:778	42:27:011	28	
Guthrie	Guthrie	01N10W24-TG05	PR24-TG05	85:26:587	42:27:258	18	
Guthrie	Guthrie	01N10W24-TG06	PR24-TG06	85:26:577	42:27:152	15	
Guthrie	Guthrie	01N10W24-TG07	PR24-TG07	85:26:577	42:27:051	17	
Guthrie	Guthrie	01N10W24-TG16	PR24-TG16	85:26:270	42:27:105	20	
Guthrie	Guthrie	01N10W24-TG01	PR24-TG01	85:25:815	42:27:531	35	
Guthrie	Guthrie	01N10W13-TG02	PR13-TG02	85:26:276	42:28:566	75	
Guthrie	Guthrie	01N10W13-TG01	PR13-TG01	85:26:572	42:28:492	43	
Hadley	Hungerford	01S08W07-DH02	BE07-DH02	85:17:566	42:23:806	11.7	
Hadley	Hungerford	01S08W07-DH01	BE07-DH01	85:17:704	42:23:798	7	
Hagadorn	Freds	03S06W17-CH01	FR17-CH01	85:01:754	42:12:686	12	
Hagerty	Hagerty	01N09W36-DH01	BA36-DH01	85:19:438	42:25:397	20	
Hall	Hall	03S09W012-BH04	CL12-BH04	85:18:117	42:13:779	22	
Hall	Hall	03S09W012-BH03	CL12-BH03	85:18:296	42:13:752	40	
Hall	Hall	03S09W012-BH02	CL12-BH02	85:18:111	42:13:678	34	
Hall	Hall	03S09W01-BH01	CL01-BH01	85:18:117	42:14:170	100	

Hall	Hall	03S09W01-BH02	CL01-BH02	85:18.122	42:13:865	70	
Hall	Hall	03S09W012-BH01	CL12-BH01	85:18.117	42:13 736	22	
Hall	Hall	03S08W18-BH01	LE18-BH01	85:16.753	42:12:384	77	
Hargus	Hargus	03S08W22-WH02	LE22-WH02	85:14 216	42.11 560	21	
Hargus	Hargus	03S08W27-EH02	LE27-EH02	85:13:779	42:10 826	97	
Hargus	Hargus	03S08W27-EH01	LE27-EH01	85:13:431	42 11:111	118	
Hargus	Hargus	03S08W27-EH03	LE27-EH03	85:13 774	42:10 685	40	
Hargus	Hargus	03S08W29-EH02	LE29-EH02	85:16.130	42 10:443	15	
Hargus	Hargus	03S08W32-EH02	LE32-EH02	85.16 098	42.10.306	20	
Hargus	Hargus	03S08W21-WH04	LE21-WH04	85 14:443	42:11:365	18	
Hargus	Hargus	03S08W19-WH04	LE19-WH04	85:17:063	42.11.591	39	
Hargus	Hargus	03S08W19-WH01	LE19-WH01	85 17.290	42 12 052	29	
Harmon	Harmon	01S09W25-JA01	RO25-JA01	85:18 697	42 21.348	35	
Harmon	Harmon	01S09W25-JA02	RO25-JA02	85 18:755	42:21:508	20	
Harrington	Harrington	01N09W13-JH01	BA13-JH01	85.19 221	42:28:116	15	
Harrington	Harrington	01N09W13-JH04	BA13-JH04	85 19:189	42 27 842	19	
Harrington	Harrington	01N09W13-JH03	BA13-JH03	85 19.194	42 27 889	39	
Harvey	Freds	03S06W17-MH06	FR17-MH06	85 01:964	42.12 504	20	
Harvey	Freds	03S06W17-MH05	FR17-MH05	85:01.964	42.12 629	10	
Harvey	Freds	03S06W17-MH04	FR17-MH04	85:01.974	42:12 754	10	
Harvey	Freds	03S06W17-MH03	FR17-MH03	85 01:969	42 12 871	10	
Harvey	Freds	03S06W17-MH02	FR17-MH02	85 01:969	42.12 981	10	

Harvey	Freds	03S06W17-MH01	FR17-MH01	85:01:974	42:13:082	15	☐
Harvey	Freds	03S06W17-MH07	FR17-MH07	85:02:074	42:12:336	15	☐
Herman	Hungerford	01S09W01-MH01	RO01-MH01	85:18:920	42:24:477	9	☐
Herr	Herr	01N08W19-LH01	JO19-LH01	85:17:950	42:27:738	24	☐
Herrington	Boles	01N07LW31-EH03	AS31-EH03	85:10:529	42:25:412	40	☐
Herrington	Boles	01N07LW31-EH01	AS31-EH01	85:10:539	42:25:779	24	☐
Herrington	Boles	01N07LW31-EH04	AS31-EH04	85:10:677	42:25:514	14	☐
Herrington	Boles	01N07LW31-EH02	AS31-EH02	85:10:539	42:25:631	20	☐
Hibbard	Hargus	03S08W22-RH01	LE22-RH01	85:13:827	42:11:880	21	☐
Hofman	Hofman		MA22-DH02	84:52:635	42:16:799	33	☐
Hoskins	Hoskins	03S09W35-LH01	CL35-LH01	85:18:783	42:10:143	51	☐
Hoskins	Hoskins	03S09W23-LH01	CL23-LH01	85:19:632	42:12:045	33.7	☐
Hoskins	Hoskins	03S09W13-LH05	CL13-LH05	85:18:162	42:12:628	35	☐
Hoskins	Hoskins	03S09W13-LH01	CL13-LH01	85:17:977	42:12:807	33	☐
Hoskins	Hoskins	03S09W13-LH02	CL13-LH02	85:17:961	42:12:733	55	☐
Hoskins	Hoskins	03S08w18-LH02	LE18-LH02	85:17:489	42:12:764	122.4	☐
Hungerford	Hungerford	01S09W01-WH01	RO01-WH01	85:18:965	42:24:926	13	☐
Hungerford	Hungerford	01S09W01-WH02	RO01-WH02	85:18:944	42:25:094	8.3	☐
Hungerford	Hungerford	01S09W01-WH05	RO01-WH05	85:18:971	42:25:027	9	☐
Hungerford	Hungerford	01S08W07-RH01	BE07-RH01	85:17:874	42:23:766	10	☐
Hungerford	Hungerford	01S08W06-SH01	BE06-SH01	85:17:747	42:24:462	10	☐
Hungerford	Hungerford	01S09W02-WH01	RO02-WH01	85:19:145	42:25:035	11	☐

Hungerford	Hungerford	01S09W13-WH01	RO13-WH01	85:16:923	42:23:468	15	☐
Jansen	Bostwick	01S08W07-CJ01	BE07-CJ01	85:18:920	42:23:386	86	☐
Jansen	Bostwick	01S09W12-CJ01	RO12-CJ01	85:18:280	42:24:054	31	☐
Jansen	Bostwick	01S09W12-CJ03	RO12-CJ03	85:18:005	42:24:058	28	☐
Jansen	Bostwick	01S09W12-CJ02	RO12-CJ02	85:18:127	42:24:051	35	☐
Jansen	Bostwick	01S08W07-CJ02	BE07-CJ02	85:18:926	42:23:246	59	☐
Johncock	Mott	01N05W28-JJ05	WA28-JJ05	84:53:356	42:26:498	20	☐
Johncock	Mott	01N05W28-JJ04	WA28-JJ04	84:53:488	42:26:461	19	☐
Johncock	Mott	01N05W28-JJ02	WA28-JJ02	84:53:403	42:26:598	14	☐
Johncock	Mott	01N05W28-JJ07	WA28-JJ07	84:53:276	42:26:328	19	☐
Johncock	Mott	01N05W28-JJ06	WA28-JJ06	84:53:282	42:26:434	18	☐
Johncock	Mott	01N05W28-JJ03	WA28-JJ03	84:53:599	42:26:391	23	☐
Johncock	Mott	01N05W28-JJ01	WA28-JJ01	84:56:753	42:26:609	13	☐
Jones	Osborne	01N09W30-LJ01	BA30-LJ01	85:25:294	42:26:905	65	☐
Jones	Osborne	01N09W30-LJ02	BA30-LJ02	85:25:294	42:26:816	51	☐
King	Betts	03N06W29-AK01	VE29-AK01	85:03:008	42:36:785	17	☐
King	Hoskins	03S08W07-LH01	LE07-LH01	85:17:500	42:13:229	110	☐
Kline	Fuller, Jr	04S08W16-LK01	AT16-LK01	85:15:143	42:07:431	47	☐
Langs	Langs	01N09W36-DL01	BA36-DL01	85:19:187	42:25:297	40	☐
Langs	Langs	01N08W31-DL01	JO31-DL01	85:17:404	42:25:738	24	☐
Langs	Langs	01N08W32-DL01	JO32-DL01	85:17:150	42:25:263	14	☐
Langs	Langs	01N08W31-DL02	JO31-DL02	85:17:531	42:25:793	15	☐

Langs	Langs	01N09W01-DL01	RO01-DL01	85:18:700	42:24:672	22	☐
Lawrence	Harmon	01S09W25-JL01	RO25-JL01	85:18:984	42:21:405	17	☐
Lawrence	Lawrence	01N09W32-RL04	BA32-RL04	85:23:464	42:25:674	45	☐
Lawrence	Lawrence	01N09W32-RL02	BA32-RL02	85:23:448	42:25:924	20	☐
Lawrence	Lawrence	01N09W33-RL01	BA33-RL01	85:22:537	42:25:254	35	☐
Lawrence	Lawrence	01N09W32-RL03	BA32-RL03	85:23:453	42:25:795	75.4	☐
Lawrence	Lawrence	01N09W32-RL01	BA32-RL01	85:23:607	42:25:549	43	☐
Linsley	Lundquist	01N97W04-BL01	AS04-BL01	85:09:187	42:29:693	64	☐
London	London	01N08W19-RL01	JO19-RL01	85:18:387	42:27:609	15	☐
Lundquest	Betts	01N07W17-KL01	AS14-KL01	85:05:896	42:28:555	159	☐
Lundquest	Betts	02N07W28-KL01	MG28-KL01	85:08:278	42:31:657	128	☐
Mabey	Bostwick	01S09W14-RM01	RO14-RM01	85:20:375	42:23:336	32	☐
Mabey	Bostwick	01S09W14-RM02	RO14-RM02	85:20:211	42:23:343	26	☐
Mahmat	Mahmat	01N08W31-DM02	JO31-DM02	85:17:670	42:25:790	9	☐
Mahmat	Mahmat	01N08W31-DM01	JO31-DM01	85:17:771	42:25:782	27	☐
Mathias	Mathias	01S06W27-JM01	BE27-JM01	85:00:298	42:26:749	36	☐
Meck	Meck	04S06W18-MM01	TE18-MM01	85:02:897	42:07:258	77	☐
Mercer	Freds	03S06W15-GM01	FR15-GM01	84:59:318	42:13:298	8	☐
Minehart	Mahmat	01N08W20-JM01	JO30-JM01	85:17:826	42:26:368	13	☐
Moon	Webb	01N05W32-CM01	WA32-CM01	84:55:752	42:25:740	55	☐
Moon	Webb	01N05W32-CM02	WA32-CM02	84:55:985	42:25:490	13	☐
Moon	Webb	01N05W32-CM03	WA32-CM03	84:55:774	42:25:517	16	☐

Moon	Webb	01N05W30-CM02	WA30-CM02	84:56:578	42:26:361	23	☐
Moon	Webb	01N05W30-CM01	WA30-CM01	84:56:769	42:26:353	38	☐
Mott	Mott	01N05W34-LM10	WA34-LM10	84:53:466	42:25:705	18	☐
Mott	Mott	01N05W34-LM01	WA34-LM01	84:53:620	42:26:134	8	☐
Mott	Mott	01N05W34-LM12	WA34-LM12	84:53:302	42:25:630	13	☐
Mott	Mott	01N05W34-LM04	WA34-LM04	84:53:366	42:26:115	9	☐
Mott	Mott	01N05W34-LM06	WA34-LM06	84:53:598	42:25:908	13	☐
Mott	Mott	01N05W34-LM05	WA34-LM05	84:53:604	42:25:986	22	☐
Mott	Mott	01N05W34-LM03	WA34-LM03	84:53:466	42:26:111	9	☐
Mott	Mott	01N05W34-LM09	WA34-LM09	84:53:625	42:25:689	8	☐
Mott	Mott	01N05W34-LM02	WA34-LM02	84:53:620	42:26:037	8	☐
Mott	Mott	01N05W34-LM11	WA34-LM11	84:53:524	42:25:603	24	☐
Mott	Mott	01N05W34-LM07	WA34-LM07	84:53:604	42:25:837	8	☐
Mott	Mott	01N05W34-LM08	WA34-LM08	84:53:620	42:25:767	18	☐
Orns	Ringewold	01N09W34-WO02	BA34-WO02			40	☐
Orns	Ringewold	01N09W34-WO01	BA34-WO01			15	☐
Osborne	Osborne	01N10W13-KO02	PR13-KO02	85:26:036	42:28:437	40	☐
Pearson	Fuller	04S08W21-MP01	AT21-MP01	85:15:170	42:06:771	25	☐
Pennings	Pennings	03S07W13-JP05	NE13-JP05	85:03:821	42:12:423	20	☐
Pennings	Pennings	03S06W19-JP01	FR19-JP01	85:03:489	42:12:185	20	☐
Pennings	Pennings	03S07W13-JP04	NE13-JP04	85:03:921	42:12:427	30	☐
Pennings	Pennings	03S07W13-JP07	NE13-JP07	85:03:705	42:12:435	36	☐

Pennings	Pennings	03S06W19-JP03	FR19-JP03	85:03:568	42:12:009	20	☐
Pennings	Pennings	03S06W19-JP05	FR19-JP05	85:03:289	42:12:036	24	☐
Pennings	Pennings	03S07W13-JP03	NE13-JP03	85:04:011	42:12:419	20	☐
Pennings	Pennings	03S06W19-JP04	FR19-JP04	85:03:431	42:12:038	28	☐
Pennings	Pennings	03S07W13-JP02	NE13-JP02	85:04:106	42:12:427	10	☐
Pennings	Pennings	03S07W13-JP01	NE13-JP01	85:04:217	42:12:415	10	☐
Pennings	Pennings	03S06W19-JP06	FR19-JP06	85:03:125	42:12:056	28	☐
Pennings	Pennings	03S06W19-JP02	FR19-JP02	85:03:484	42:12:115	26	☐
Raymond	Raymond	03S06W06-MR01	FR06-MR01	85:03:561	42:14:318	15	☐
Raymond	Raymond	03S07W01-MR04	NE01-MR04	85:05:503	42:14:283	19	☐
Raymond	Raymond	03S07W01-MR05	NE01-MR05	85:05:508	42:14:408	21	☐
Raymond	Raymond	03S07W12-MR02	NE12-MR02	85:04:152	42:13:807	32	☐
Raymond	Raymond	03S06W07-MR03	FR07-MR03	85:03:482	42:13:815	8	☐
Raymond	Raymond	03S07W01-MR02	NE01-MR02	85:05:904	42:14:064	19	☐
Raymond	Raymond	03S07W13-AR03	NE13-AR03	85:03:746	42:13:924	19	☐
Raymond	Raymond	03S07W13-AR04	NE13-AR04	85:04:247	42:13:760	38	☐
Raymond	Raymond	03S07W12-AR05	NE12-AR05	85:04:368	42:13:760	23	☐
Raymond	Raymond	03S07W01-MR01	NE01-MR01	85:06:078	42:14:053	18	☐
Raymond	Raymond	03S07W12-MR01	NE12-MR01	85:04:015	42:13:818	40	☐
Reese	Belts	03N06W29-JR01	VE29-JR01	85:02:605	42:36:801	25	☐
Roe	Roe	04S08W17-LR03	AT17-LR03	85:15:808	42:07:436	29	☐
Roe	Roe	04S08W17-LR02	AT17-LR02	85:15:808	42:07:608	10	☐

Roe	Roe	04S08W17-LR01	AT17-LR01	85:15:798	42:07:721	21	☐
Roe	Roe	04S08W17-LR04	AT17-LR04	85:15:629	42:07:456	5	☐
Roe	Roe	04S08W17-LR05	AT17-LR05	85:15:440	42:07:463	2	☐
Sackrider Farms	Sackrider Farms	02S06W30-SF01	MA30-SF01	85:03:069	42:16:435	170	☐
Sackrider Farms	Sackrider Farms	04S07W13-SF01	BU13-SF01	85:03:887	42:07:894	112	☐
Sackrider Farms	Sackrider Farms	02S06W13-SF01	MA19-SF01	85:03:169	42:16:775	176	☐
Schwencer	Schwencer	01N08W09-TS03	JO09-TS03	85:15:986	42:28:800	15	☐
Schwencer	Schwencer	01N08W09-TS02	JO09-TS02	85:15:817	42:28:906	10	☐
Schwencer	Schwencer	01N08W09-TS01	JO09-TS01	85:16:108	42:29:031	37	☐
Shedd	Groholske	04S06W30-MS01	TE30-MS01	85:02:741	42:05:367	82	☐
Sherriff	Lawrence	01N09W32-RS01	BA32-RS01	85:24:259	42:25:355	16	☐
Smith	Langs	01N08W29-JS03	JO29-JS03	85:16:580	42:26:105	18	☐
Smith	Langs	01N08W29-JS02	JO29-JS02	85:16:776	42:26:073	13	☐
Smith	Langs	01N08W29-JS01	JO29-JS01	85:16:776	42:26:210	6	☐
Smith	Smith	01S06W31-LS02	CO31-LS02	85:03:538	42:20:526	45	☐
Smith	Smith	01S06W30-LS03	CO30-LS03	85:03:152	42:21:155	50	☐
Smith	Smith	01S06W31-LS01	CO31-LS01	85:03:559	42:20:761	25	☐
Smith	Smith	01S06W30-LS04	CO30-LS04	85:03:501	42:21:019	51	☐
Smith	Smith	01S06W31-LS04	CO31-LS04	85:02:656	42:20:171	68	☐
Smith	Smith	01S07W25-LS01	PE25-LS01	85:04:013	42:21:242	18	☐
Smith	Smith	01S06W31-LS03	CO31-LS03	85:03:544	42:20:198	67	☐
Smith	Smith	01S07W36-LS01	PE36-LS01	85:03:907	42:20:265	58	☐

Smith	Smith	01S07W25-LS02	PE25-LS02			18	☐
Smith	Smith	01S07W25-LS03	PE25-LS03			24	☐
Smith	Smith	01S06W30-LS02	CO30-LS02	85:03:398	42:21:319	90	☐
Smith	Smith	01S06W30-LS01	CO30-LS01	85:03:633	42:21:308	60	☐
Sommers	Sommers	02S06W04-RS01	MA04-RS01	85:00:906	42:19:831	73	☐
Sommers	Sommers	01S06W33-RS01	CO33-RS01	85:00:579	42:20:222	85	☐
Stafford	Green	03S08W26-LS01	LE26-LS01	85:12:558	42:11:167	30	☐
Stafford	Green	03S08W26-LS02	LE26-LS02	85:12:679	42:11:167	39	☐
Stultz	Stultz	01S05W19-RS01	LE19-RS01	84:56:097	42:21:871	63	☐
Vanderzee	Guthrie	01N10W26-RV01	PR26-RV01	85:27:387	42:26:855	24	☐
Vanderzee	Guthrie	01N10W23-RV01	PR23-RV01	85:27:393	42:27:140	69	☐
Vanderzee	Guthrie	01N10W23-RV02	PR23-RV02	85:27:138	42:27:187	38	☐
Vanderzee	Guthrie	01N10W26-RV02	PR26-RV02	85:27:149	42:26:875	35	☐
Waffle	Waffle	04S06W20-EW01	TE20-EW01	85:01:672	42:06:430	20	☐
Waffle	Waffle	04S06W21-EW01	TE21-EW01	85:01:045	42:06:751	72	☐
Waffle	Waffle	04S06W20-EW04	TE20-EW04	85:01:108	42:06:590	19	☐
Waffle	Waffle	04S06W29-EW02	TE29-EW02	85:01:740	42:05:829	27	☐
Waffle	Waffle	04S06W20-EW03	TE20-EW03	85:01:103	42:06:477	18	☐
Waffle	Waffle	04S06W04-EW02	TE04-EW02	85:01:098	42:09:153	27	☐
Waffle	Waffle	04S06W04-EW04	TE04-EW04	85:00:655	42:09:118	20	☐
Waffle	Waffle	04S06W04-EW03	TE04-EW03	85:00:829	42:09:227	32	☐
Waffle	Waffle	04S06W29-EW01	TE29-EW01	85:01:914	42:06:012	9	☐

Waffle	Waffle	05S07W08-EW01	UN08-EW01	85:08:429	42:03:495	23	☐
Waffle	Waffle	04S06W20-EW02	TE20-EW02	85:01:408	42:06:430	56	☐
Waffle	Waffle	04S06W04-EW01	TE04-EW01	85:01:077	42:09:008	17	☐
Wallen	Groholske	04S06W29-SW01	TE29-SW01	85:02:260	42:05:807	78	☐
Wallen	Groholske	04S06W29-SW02	TE29-SW02	85:02:186	42:05:593	63	☐
Wallen	Groholske	04S06W29-SW03	TE29-SW03	85:01:950	42:05:460	57	☐
Walter	Walter	01S07W24-JW01	PE27-JW01	85:07:065	42:20:958	23	☐
Walter	Walter	01S07W34-JW01	PE34-JW01	85:06:896	42:20:638	42	☐
Walter	Walter	01S07W24-JW02	PE34-JW02	85:07:044	42:20:630	40	☐
Walters	Lawrence	01N09W33-JW01	BA33-JW01	85:22:998	42:25:744	35	☐
Warren	Warren	01S08W13-TW01	BE13-TW01	85:11:570	42:23:230	20	☐
Warren	Warren	01N08W21-BW01	JO21-BW01	85:15:987	42:27:658	10	☐
Warren	Warren	01N08W20-Bw01	JO20-BW01	85:16:146	42:27:708	30	☐
Warren	Warren	01N08W21-BW02	JO21-BW02	85:15:870	42:27:685	11	☐
Webb	Webb	01N06W36-GW01	BE36-GW01	84:58:272	42:25:857	10	☐
Weeks	Greer	01S08W19-RW01	BE19-RW01	85:17:264	42:22:186	42	☐
Wheeler	Freds	03S06W10-WW01	FR10-WW01	84:59:355	42:13:131	13	☐
Wheeler	Freds	03S06W10-WW02	FR10-WW02	84:59:128	42:13:151	6	☐
Wheeler	Freds	03S06W10-WW03	FR10-WW03	84:59:117	42:13:026	7	☐
Wright	Wright	03S08W04-LW02	LE04-LW02	85:14:885	42:15:804	47	☐
Wright	Wright	03S06W03-LW01	LE03-LW01	85:13:902	42:14:057	70	☐
Wright	Wright	03S08W04-LW01	LE04-LW01	85:15:348	42:14:131	70	☐

Wright	Wright	03S08W03-LW02	LE03-LW02	85:13:897	42:14:264	52	☐
Zimmerman	Zimmerman	01N08W26-EZ02	JO26-EZ02	85:12:967	42:26:608	8	☐
Zimmerman	Zimmerman	01N08W26-EZ01	JO26-EZ01	85:13:057	42:26:604	14	☐
Zimmerman	Zimmerman	01N08W23-EZ02	JO23-EZ02	85:12:972	42:27:057	14	☐
Zimmerman	Zimmerman	01N08W23-EZ01	JO23-EZ01	85:13:083	42:27:050	8	☐

Michigan Department of Environmental Quality- Surface Water Quality Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II - Sanitary Wastewater

F Signature Page

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT or COC NUMBER
BATTLE CREEK WWTP	MI 0022276

14 CERTIFICATION

Rule 323 2114(1-4) of the Part 21 Rules of Michigan Act 451, Public Act of 1994, Part 31, as amended, requires that this application be signed as follows

A For a municipal state, or other public facility, by a principal executive officer or ranking elected official (such as the mayor, village president, city or village manager or clerk)
B For an organization, company, corporation or authority, by a principal executive officer
C For a partnership, by a general partner
D For a sole proprietor, by the proprietor

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining information, I believe that the information is true, accurate and complete I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment "

Print Name MERRILL STANLEY Title CITY MANAGER

Representing CITY OF BATTLE CREEK

Signature M R Stanley Date 3/30/00

Lawrence L. DeBerg, Superintendent March 29, 2000

If the application is for a privately owned treatment system serving a mobile home park, campground, apartment complex, condominium, nursing home, prison, or other facility for treatment of domestic wastewater from two or more residences, a principal executive officer or a ranking elected official from the local unit of government shall sign the permit application in the space provided The signature is only a certification that the local unit of government is aware of its responsibilities as set forth in Section 3109(2) of Michigan Act 451, P A. of 1994, as amended The refusal of the local unit of government to sign the application does not reduce its liability under the statute

"This is to certify that I am aware of and recognize the responsibilities of the municipality as set forth in Section 3109(2) of Michigan Act 451 of 1994, as amended "

Print Name _____ Title _____

Representing _____

Signature _____ Date _____

This completes Section II. Section II must be completed for all applicants requesting authorization to; discharge sanitary wastewater(s) to a surface water of the State or; to land apply biosolids in the state. When Section I and II are complete, please return application to the appropriate district office (see pages 2 and 3 of the appendix for district office addresses and a map of district boundaries).

If assistance is needed in determining the appropriate sections to complete, or if assistance is needed completing this application, contact the appropriate district office.

RESPONSES TO:

#17 & 19 Sewer Use Ordinances

City of Battle Creek
Local Limits

April 1988

Toxicants	Maximum Concentration (mg/l)
Antimony	1.0
Arsenic	0.3
Barium	2.0
Benzidine	0.001
Beryllium	0.5
Cadmium	0.1
Carbon Tetrachloride	8.5
2-chlorophenol	4.2
Chromium, hexavalent	0.5
Chromium, total	1.5
Copper	1.0
Cyanides, total	0.5
2,4-dichlorophenol	7.1
Herbicides	0.001
Lead	0.2
Mercury	0.01
Nickel	0.75
PBB's	0.02
PCB's	1.2×10^{-8}
Phenols	3.0
Selenium	2.0
Silver	0.04
2,4,6-trichlorophenol	0.7
Zinc	2.5
Phosphorus	10.0
5-day BOD	300.0
Suspended Solids	350.0
Chlorides	1000.0
Oil & Grease	100.0
ph	9.5-5.5

1978
Sewer use Ordinance

CHAPTER 24 CITY SEWER SERVICE

ARTICLE I - PUBLIC PURPOSE

2.121. Public Purpose. The public purpose of this Chapter is declared to be: (a) to prevent the pollution of the public waters; (b) to preserve and maintain the sewage collection and treatment facilities of the City; (c) to preserve the public health, safety, comfort and convenience; (d) to comply with State and Federal water quality standards; and (e) to provide for the equitable recovery of the cost of wastewater treatment.

ARTICLE II - DEFINITIONS

2.122. Definitions. In addition to words and terms elsewhere defined in this Chapter, the following words and terms as used in this Chapter shall have the following meanings, unless some other meaning is plainly intended:

(1) "BOD" (denoting biochemical oxygen demand) shall mean the quantity of oxygen utilized in the biochemical oxidation of organic matter in five days at 20° C., expressed in milligrams per liter, as determined in accordance with standard laboratory procedure after laboratory settling of waste, as set out in "Standard Methods for the Examination of Water and Wastewater".

(2) "Building Drain" shall mean the lowest part of the wastewater drainage pipes of a building and which conveys wastewater to the building sewer, terminating five (5) feet outside the inner face of the building wall.

(3) "City" shall mean the City of Battle Creek, Michigan, acting by and through its officers and agents.

(4) "Combined sewer" shall mean a sewer originally designed and currently designated to receive both surface water runoff and wastewater.

(5) "Contract User" shall mean any user which shall have entered into a contract with the City for the treatment of its wastewater.

(6) "Cubic Foot" with respect to wastewater shall be the equivalent of 7.48 gallons (U.S. Liquid), and a "gallon" shall be the equivalent of 0.13368 cubic foot.

(7) A "gallon" with respect to wastewater shall be the equivalent of 0.13368 cubic foot, and a cubic foot shall be the equivalent of 7.48 gallons (U.S. Liquid).

(8) "Garbage" shall mean solid wastes resulting from the domestic, commercial and industrial preparation, cooking, dispensing, handling, storage or sale of food.

(9) "Industrial Contract User" shall mean any industrial user which is also a contract user.

(10) "Industrial User" shall mean any user which discharges industrial waste into the sewage system, including, but without limitation, any user identifiable in Divisions A, B, D, E and I in the Standard Industrial Classification Manual, 1972, U.S. Office of Management and Budget.

(11) "Industrial Wastes" shall mean the liquid or gaseous wastes resulting from industrial or manufacturing processes, trade or business, or from the development, recovery or processing of natural resources.

(12) "Infiltration" shall mean water entering a sewer system, including sewer service connections, from the ground, through such means as, but not limited to, defective pipes, pipe joints, connections, or manhole walls. Infiltration does not include, and is distinguished from, inflow.

(13) "Infiltration/inflow" shall be the total quantity of water from both infiltration and inflow without distinguishing the source.

(14) "Inflow" shall mean the water discharged into a sewer system, including service connections, from such sources as, but not limited to, roof leaders, cellar, yard and area drains, foundation drains, cooling water discharges,

drains from springs and swampy areas, manhole covers, cross connections from storm sewers and combined sewers, catch basins, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include and is distinguished from infiltration.

(15) "Natural Outlet" shall mean any outlet into a watercourse, pond, ditch, lake, or other body of surface or groundwater.

(16) "Normal Sewage" shall mean sewage having concentrations of waste components, expressed in milligrams per liter, not greater than the following:

BOD: 240
Suspended Solids: 260
Phosphorous: 10

(17) "Other Wastes" shall mean other substances except sewage or wastewater.

(18) "Owner" shall mean the owner of any real property from which sewage is discharged.

(19) "Person" shall mean any individual, firm, company, association, society, corporation, municipal corporation, governmental unit, or group.

(20) "pH" shall mean the logarithm of the reciprocal of the weight of hydrogen ions in grams per liter of solution.

(21) "Premises" shall mean each lot or parcel of land, building having any connection to the sewage collection or treatment facilities of the City.

(22) "Public Sewer" shall mean any sewer owned or operated by the City.

(23) "Sanitary Sewer" shall mean a public sewer which carries sewage and to which storm, surface and groundwaters are not intentionally admitted.

(24) "Sewage" and "Wastewater" shall mean a combination of the water-carried wastes from residences, business buildings, institutions and industrial establishments, together with such ground, surface and storm waters as may be present.

(25) "Sewer" shall mean a pipe or conduit for the transmission of sewage.

(26) "Sewage System" shall mean pipelines or conduits, pumping stations, force mains, constructed drainage ditches, surface water intercepting ditches, and all other constructions, devices and appliances appurtenant thereto, used by the City for collecting or conducting sewage to a point of ultimate disposal.

(27) "Shall" is mandatory; "may" is permissive.

(28) "Slug" shall mean any discharge of water or sewage which in concentration of any given waste component or in quantity of flow exceeds for any period of time longer than 15 minutes more than five times the average 24-hour concentration or quantity of flow during normal discharge.

(29) "Storm Sewer" shall mean a public sewer which carries storm and surface waters and drainage, but which excludes sewage other than unpolluted cooling water.

(30) "Storm Water" shall mean that part of the rainfall which reaches the sewers as run-off from natural land surface, building roofs or pavements.

(31) "Suspended Solids" shall mean solids that either float on the surface of, or are in suspension in water, sewage, or other liquids, in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater.

(32) "Treatment Plant" shall mean the City's interceptor sewers and sewage treatment facilities.

(33) "User" shall mean any person which either directly or indirectly discharges sewage into the sewage system.

(34) "Watercourse" shall mean a channel, natural or artificial, lined or unlined, in which a flow of storm water, ground water or clean water occurs, either continuously or intermittently.

(35) Waste Component" shall mean any constituent of sewage

other than water, including, but not limited to, BOD, suspended solids, other soluble matter and phosphate concentrates.

2.123. Gender and Number. The meaning of any other term shall be that understood by those working in the field of wastewater treatment. Words of the masculine gender shall be deemed and construed to include correlative words of the feminine and neuter genders. Words importing the singular number shall include the plural number and vice versa unless the context shall otherwise indicate.

ARTICLE III - PROHIBITED DISPOSAL OF SEWAGE; CONNECTION TO SEWAGE SYSTEM REQUIRED

2.127. Unlawful Discharge. It shall be unlawful to discharge from any place in or under the jurisdiction of the City, into any natural outlet, any sewage or other wastes, except where suitable treatment has been provided in accordance with the provisions of this Chapter.

2.128. Privies and Septic Tanks. Except as hereinafter provided, it shall be unlawful to construct or maintain any privy, privy vault, septic tank, cesspool, or other private facility intended or used for the disposal of sewage.

2.129. Connection Required. The owner of any real property which is located within the City and adjacent to a sewer or in a block through which a public sewer extends, and from which property there is discharged sewage, shall be required to connect to a public sewer at his expense within 90 days after date of written official notice to do so from the Director of Public Works. In the event an owner shall fail to connect to a public sewer in compliance with this section the Director of Public Works shall undertake to have said connection made and shall assess the cost thereof as a special charge against said property and said assessment shall be a lien against said property as provided in Section 5.2712, Michigan Statutes Annotated. The

rights of the City under this section shall be in addition to any other remedial or enforcement provisions of this Code.

ARTICLE IV - USE OF THE SEWAGE SYSTEM

2.132. Uncontaminated Water. No person shall discharge or cause to be discharged into any sanitary sewer, directly or indirectly, any stormwater, surface water, groundwater, roof runoff, subsurface drainage, uncontaminated cooling water or unpolluted industrial process water, except as specifically permitted by the Director of Public Utilities. Stormwater and all other unpolluted drainage shall be discharged to a storm sewer, except that industrial cooling water or unpolluted industrial process water shall only be so discharged upon approval by the Director of Public Utilities and the Director of Public Works. The Director of Public Utilities and the Director of Public Works may also approve discharge of unpolluted water into a natural outlet storm or sanitary sewer unless such discharge shall fail to comply with applicable State and federal regulations.

2.133. Prohibited Uses. No person shall discharge or cause to be discharged into any public sewer, directly or indirectly, sewage containing any of the following described substances:

(1) Gasoline, benzene, naptha, fuel oil, or other flammable or explosive liquid, solid or gas.

(2) Toxic or poisonous solids, liquids or gases in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, to constitute a hazard to humans or animals, create a public nuisance, or create any hazard in the public sewers, the treatment plant or any watercourse or body of water.

(3) Any substance having a pH lower than 5.5, or having any other corrosive property capable of causing damage or hazard to the sewage system and the structures, equipment and personnel of the treatment plant.

(4) Solid or viscous substances, either whole or ground, in quantities or of such size capable of causing obstruction to the flow in public sewers, or interference with the proper operation of the treatment plant including, but not limited to ashes, cinders, disposable diapers, glass grinding or polishing waste, stone cutting or polishing waste, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, unshredded garbage, whole blood, paunch manure, hair and fleshings, entrails, sanitary napkins, paper dishes, cups, milk containers, and other paper products.

(5) Noxious or malodorous liquids, gases or substances which either singly or by interaction with other waste are sufficient to create a public nuisance or hazard to life, or are sufficient to prevent entry into the public sewers for their maintenance and repair.

2.134. Special Discharge Permits. No person shall discharge or cause to be discharged into any public sewer, directly or indirectly, the following described substances unless the Director of Public Utilities shall issue his written determination that such discharge will not harm the public sewers or the treatment plant, or have an adverse effect on any public waters, or otherwise endanger life, health or property, or constitute a nuisance. In determining the acceptability of such substances, the Director of Public Utilities may give consideration to such factors as the quantity of the substance in question in relation to quantity of flow and velocity in the public sewers, the material of construction of the public sewers, the nature of the sewage treatment process, the capacity of the treatment plant, the degree of treatability of such substance in the treatment plant, and other pertinent factors. The Director of Public Utilities may make such determination either on a general basis or as to specific discharges from individual owners, and may prohibit the discharge of a substance by an individual owner because of unusual concentrations or combinations which may occur. The substances prohibited are:

(1) Any liquid or vapor having a temperature higher than 150° F.

(2) Any fat, wax, grease, or oil, whether emulsified or not, in excess of 100 milligrams per liter, or any substance which may solidify or become viscous at temperatures between 32° F and 150° F.

(3) Any garbage that has not been shredded to such a degree that all particles will be carried freely in suspension under normal flow conditions, or having particles greater than one-half inch in any dimension.

(4) Any acid, iron pickling waste, or concentration plating solutions, unless neutralized or rendered amenable to the City's treatment process and as approved by the Director of Public Utilities.

(5) Any phenols or other taste- or odor-producing substance which constitutes a nuisance or hazard to the public sewers or the treatment plant or its personnel, or which prevents sewage treatment adequate to meet the requirements of any government or public agency having authority to regulate the discharge into public waters.

(6) Any radioactive substance or isotope.

(7) Any substance having a pH in excess of 9.5, or lower than 5.5.

(8) Any substance which exerts or causes:

(a) Unusual concentrations of inert suspended solids, including, but not limited to, Fullers earth, lime slurries and lime residues; or of dissolved solids, including, but not limited to, sodium chloride and sodium sulfate.

(b) Excessive discoloration, including, but not limited to, dye wastes and vegetable tanning solutions.

(c) Unusual BOD, chemical oxygen demand, or chlorine requirements to an extent constituting a significant load on the treatment plant.

(d) Unusual quantity of flow or concentration of a waste component constituting a slug.

(e) Any substance which is not amenable to adequate sewage treatment or reduction by the processes employed by the treatment plant.

(9) Any waste with a component in excess of:

(a) 1 mg/l of hexavalent chromium or three (3) pounds in twenty-four (24) hours, whichever is greater.

(b) 10 mg/l of trivalent chromium or thirty (30) pounds in twenty-four (24) hours, whichever is greater.

(c) 1 mg/l of cyanide as total cyanide.

(d) 1 mg/l of copper or three (3) pounds in twenty-four (24) hours, whichever is greater.

(e) 1 mg/l of nickel or three (3) pounds in twenty-four (24) hours, whichever is greater.

(f) 1 mg/l of cadmium or three (3) pounds in twenty-four (24) hours, whichever is greater.

(g) 1 mg/l of zinc or three (3) pounds in twenty-four (24) hours, whichever is greater.

(h) 15 mg/l of total iron.

(i) 15 mg/l of chlorine demand.

(j) .02 mg/l of phenols.

(k) or any other metallic or organic compounds as determined by the Director of Public Utilities to be sufficient to impair the operation of the sewage treatment processes.

2.135. Pretreatment or other Protective Action.

(1) If any sewage shall be discharged, or shall be proposed to be discharged, directly or indirectly into the public sewers, and which shall either be prohibited by or shall not meet the standards set out in this Chapter, or which in the judgment of the Director of Public Utilities or the Director of Public Works may have a harmful effect upon the public sewers, the treatment plant or any public waters, or which otherwise creates a hazard to health or life or constitutes a public nuisance, the Director of

Public Utilities may take any or all of the following steps:

(a) Reject the discharge, or

(b) Require pretreatment, or

(c) Require control over quantities or rates of discharge, or

(d) Impose surcharges to cover the added cost of measuring, analyzing, handling and treating the discharge, or

(e) Discontinue water service.

(2) The design and installation of any plant or equipment for pretreatment or control of quantities or rates of discharge shall be subject to the review and approval by the Director of Public Utilities and the Director of Public Works. Grease, oil and sand traps shall be provided when necessary for the proper transmission and treatment of sewage containing grease, any flammable waste, sand or any other harmful ingredient. Any trap required under this section shall be of a type and capacity approved by the Director of Public Utilities and the Director of Public Works and shall be located at a place easily accessible for cleaning and inspection. Any facilities for pretreatment or the control of quantities or rates of discharge, or interceptors, shall be operated and maintained continuously in satisfactory and effective condition by the user at his expense, and shall be available for inspection by the Director of Public Utilities and the Director of Public Works at all reasonable times.

2.136. Garbage Shredders. Any garbage shredder equipped with a motor of three-fourths horsepower or greater shall be installed or used in any building connected directly or indirectly to a public sewer only upon prior written approval of the Director of Public Utilities and the Director of Public Works. The Director of Public Utilities and the Director of Public Works shall not approve any garbage shredder which does not shred garbage to a degree of fineness so that no particle is

greater than one-half inch in any dimension or which otherwise results in the discharge of sewage prohibited by this Chapter.

2.137. Sampling Devices. The Director of Public Utilities may require any industrial user or contract user to install a suitable control structure and necessary measuring and sampling devices to facilitate the observation, sampling, and measurement of the quantity, composition and concentration of such industrial waste. Such structure and devices shall be constructed at the user's expense in accordance with plans approved by the Director of Public Utilities, and shall be maintained by the user so as to be safe and accessible at all times.

2.138. Measurement Standards. All measurements, tests, and analyses of the quantity, composition and concentration of sewage made pursuant to this Chapter shall be in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater, and shall be determined at the control structure provided, or from suitable samples taken at said control structure. In the event that a special structure shall not have been required, or shall be impractical, the control structure shall be considered to be the downstream manhole in the public sewer nearest to the point at which the building sewer is connected.

2.139. Entry for Testing. The Director of Public Utilities and the Director of Public Works may conduct such tests as may be necessary to implement and enforce this Chapter, and employees and agents of the Director of Public Utilities and the Director of Public Works may enter upon any property for the purpose of obtaining information or conducting surveys or investigations. Entry shall be made during operating hours unless circumstances require otherwise.

2.140. Industrial Users Testing. The Director of Public Utilities may require any industrial user or contract user to test at his expense and on a regular basis the quantity, composition and concentration of such discharge, and to report such test results to the Director of Public Utilities within reasonable times. All such tests shall be [illegible] by the Director of

Public Utilities and shall be conducted by qualified personnel and in accordance with the standards provided by section 2.138.

2.141. Report Slug or Prohibited Waste Discharge. Any accidental discharge of a slug or a prohibited substance directly or indirectly into a public sewer shall be promptly reported to the Director of Public Utilities or the Director of Public Works by the person responsible for such discharge, or by the owner or occupant of the property from which the discharge was made.

2.142. Failure to Install Devices. If a user (including any contract user) which shall have been required by the Director of Public Utilities to install a suitable control structure and the devices necessary to determine the quantity, composition and concentration of the user's discharge to the sewage system, and such structure and devices shall not have been installed, or shall not be maintained, to the satisfaction of the Director of Public Utilities; or if a user which shall have been required by the Director of Public Utilities to measure and analyze at his expense the quantity, composition and concentration of his discharge to the sewage system, and shall have failed to do so to the satisfaction of the Director of Public Utilities; then the Director of Public Utilities may determine the quantity, composition and concentration of such discharge either (a) by estimates on the basis of data available to it or (b) by samplings, measurements and analyses performed by the Director of Public Utilities at the expense of the user.

2.143. Special Agreements. This Chapter shall not be construed to prohibit any agreement between the City and any user pursuant to which industrial wastes of unusual quantity, composition or concentration are collected and treated by the City on the basis of the equitable recovery of the cost thereof.

ARTICLE V - PRIVATE SEWAGE DISPOSAL

2.147. Sewer Unavailable. If a public sanitary or combined sewer shall not be available within the meaning of section 2.129 to any property from which sewage shall be discharged, such sewage shall be discharged to a private sewage disposal system complying with the provisions of this Article.

2.148. Septic Tank Specifications. The type, capacities, location, and layout of a private sewage disposal system shall comply with all requirements of the Calhoun County Health Department, and shall be constructed and connected in accordance with the plumbing regulations of the City. No septic tank or cesspool shall be permitted to discharge to any public sewer or natural outlet.

2.149. Sewer Become Available. At such time as a public sewer becomes available to a property served by a private sewage disposal system, a direct connection shall be made to the public sewer in compliance with this Chapter, and any septic tanks, cesspools and similar private sewage disposal facilities shall be abandoned and filled with a suitable material within ninety (90) days after official notice to do so.

2.150. Operation of System. The owner shall operate and maintain the private sewage disposal facilities in a sanitary manner at all times, at no expense to the City.

2.151. Additional Requirements. Nothing herein contained shall be construed to interfere with any additional requirements that may be imposed by the County Health Officer, or otherwise limit his powers.

ARTICLE VI
BUILDING SEWERS AND CONNECTIONS

2.155. Unauthorized Connections. No unauthorized person shall uncover, make any connection with or opening into, or use, alter, or disturb any public sewer or appurtenance thereof.

2.156. Connection Permits. There shall be two classes of permits for constructing a building sewer: (a) for residential and commercial service, and (b) for property from which industrial wastes shall be discharged. Application shall be made on a special form provided by the Director of Public Works. Applications shall be supplemented with any plans, specifications, and other information considered pertinent by the Director of Public Works. A permit and inspection fee in an amount established from time to time by the City Commission upon the recommendation of the Director of Public Works shall be paid to the City at the time the application shall be filed.

2.157. Building Sewer Expense. All costs and expenses incident to the installation and connection of a building sewer to a public sewer shall be borne by the owner of the building sewer. The owner shall indemnify the City from any loss or damage that may directly or indirectly be occasioned by the installation and connection of a building sewer.

2.158. Separate Installation Required. A separate and independent building sewer shall be provided for each building except as otherwise provided in the permit.

2.159. Use of Old Building Sewer. An old building sewer may be used in connection with a new building only when found, on examination and test by the Director of Public Works, to meet all requirements of this Chapter.

2.160. Building Sewer Specifications. The size, slope, alignment, materials of construction of a building sewer, and the method to be used in excavation, placing of the pipe, jointing, testing, and backfilling the trench, shall all conform to the

requirements of the Building and Plumbing Code or other applicable rules and regulations of the Director of Public Works and the State of Michigan. In the absence of Code provisions or in amplification thereof, the materials and procedures set forth in appropriate specifications of Water Pollution Control Federation Manual of Practice No. 9, and applicable American Society for Testing and Materials standards shall apply.

2.161. Connection to Building Drain. Whenever possible, a building sewer shall be connected with a building drain at an elevation below the basement floor. In any building in which the building drain shall be too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by an approved means and discharged to the building sewer.

2.162. Downspouts. No roof downspout, exterior foundation drain, areaway drain, or other source of surface run-off or groundwater shall be connected to a building sewer or building drain.

2.163. Inspection. An applicant for a permit for the construction of a building sewer shall notify the Building Inspection Division of the City when the building sewer shall be ready for inspection and connection to the public sewer. Such connection shall be made under the supervision of the Building Inspection Division.

2.164. Separate Building Sewers; Exception. A separate and independent building sewer shall be provided for every building; except where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard, or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer.

2.165. Street Openings. Street openings shall be subject to the requirements of Title IV of this Code. All excavations for building sewer installation shall be adequately guarded with

barricades and lights approved by the Department of Public Works so as to protect the public from hazard. Streets, sidewalks, parkways and other public property disturbed in the course of the work shall be restored in a manner satisfactory to the Department of Public Works.

ARTICLE VII - MAIN AND LATERAL SEWERS

2.171. Construction of Public Sewers. No public sewer shall be constructed in the City except by the City, or by others in accordance with plans and specifications approved by the Director of Public Works and subject to inspection by the Director of Public Works during construction. No sewer shall be considered to be a part of the sewage system until accepted in writing by the Director of Public Works.

2.172. Specifications. The size, slope, alignment, material of construction, method to be used in excavation, placing of pipe, jointing, testing, backfilling any sewer, and any other work connected with the construction of a sewer, shall conform to the requirements of the Director of Public Works.

ARTICLE VIII - DAMAGE OR DESTRUCTION

2.177. Damage or Destruction. No person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface, or tamper with any sewer or any part of the sewage system or the treatment plant.

ARTICLE IX
INSPECTION ON PRIVATE PROPERTY

2.182. Entry for Inspection. Authorized representatives of the Director of Public Utilities or Director of Public Works

bearing proper credentials and identification shall be permitted to enter any property for the purposes of inspection, observation, measurements, sampling, and testing in accordance with the provisions of this Chapter. Such representatives shall have no authority to inquire into any industrial process except to establish the source, quantity, composition and concentration of sewage.

2.183. Owner's Responsibility. Such representatives shall observe all safety rules applicable to the property and established by the owner, and the owner shall be held harmless for injury or death to such representatives for reasons other than the owner's fault, and the City shall indemnify the owner against loss or damage to its property for personal injury or property damage asserted against the owner and growing out of such entry, except any which may have been caused by the fault of the owner.

2.184. Control Manholes. When required by the Department of Public Utilities, the owner of any property served by a building sewer carrying industrial wastes shall install a suitable control manhole in the building sewer to facilitate observation, sampling and measurement of wastes. Such manhole, when required, shall be accessibly and safely located and shall be constructed in accordance with plans approved by the Director of Public Utilities. The manhole shall be installed by the owner at his expense, and shall be maintained by him so as to be safe and accessible at all times.

ARTICLE X - PENALTIES

2.186. Penalties. Any person violating any provision of this Chapter shall be guilty of a penal offense and punished by a fine not to exceed $500. Each day any such violation shall be committed, or permitted to continue, shall constitute a separate offense and shall be punishable as such hereunder.

2.187. Liability for Violation; Expenses, etc. Any person violating any of the provisions of this Chapter shall be come

liable to the City for any expense, loss, or damage occasioned to the City by reason of such violation.

2.188. Disconnection Order. If a violation of any provision of this Chapter is likely to cause damage to the sewage system or the treatment plant, or is of such a nature as to threaten the health or safety of any person, the City Commission may authorize disconnection of any building sewer to avoid or terminate such a violation. No such building sewer shall be reconnected until the cost of such disconnection shall have been paid to the City together with payment for any damage to the sewage system or the treatment plant caused by such violation.

2.189. Permit Revocation. Any permit obtained hereunder on the basis of false information shall be revoked.

ARTICLE XI - SEWER SERVICE CHARGES AND SURCHARGES; BILLING; PENALTIES

2.192. Charges for Service. Every user shall be charged for the use of the sewage system and the treatment plant. Charges for such use shall consist of a service charge for the collection, treatment and disposal of normal sewage; and surcharges for the treatment of waste components appearing in concentrations greater than those in normal sewage, or for the treatment and disposal of prohibited substances, or for sampling, measurement and analyses performed by the City. Service charges shall be based on the volume of sewage discharged by the user into the sewage system as hereinafter provided. Surcharges for excessive concentrations of waste components shall be based on the quantity of waste components discharged into the sewage system in excess of those appearing in normal sewage, and shall be determined by the methods prescribed by this Chapter. Other surcharges shall be based on the actual cost to the City as estimated by the Director of Public Utilities.

2.193. Determining Volume. The volume of sewage discharged into the sewage system during any period shall be determined either by (a) measurement of such discharge during such period by a meter installed and maintained at the expense of the user and in a manner satisfactory to the Director of Public Utilities and the Director of Public Works, or (b) by measurement of the quantity of water generated by or delivered to the user from all sources during such period, less the quantity of any such water which shall not be discharged into the sewage system during such period. The quantity of water delivered to the user by the City shall be measured by the City's water meter. The quantity of water generated by or delivered to the user from any source other than the City shall be measured by a meter installed and maintained by the user at his expense and in a manner satisfactory to the Director of Public Works and Director of Public Utilities.

Any quantity of such water not discharged into the sewage system may be excluded in computing the service charge if the quantity thereof shall be measured as hereinafter provided upon written application for such exclusion reviewed and approved by the Director of Public Utilities and the Director of Public Works. Measurement of water not discharged into the sewage system shall be by a meter purchased from the City and installed and maintained at the expense of the user and in a manner satisfactory to the Director of Public Works. During any period in which such meter shall fail to register, or shall fail to register properly, the amount of discharge during such period shall be estimated by the Director of Public Works.

The user shall pay to the City its actual cost of any repair of such meter.

2.194. Rate Schedule. Service charges, and unit costs of collection, treatment and treatment plant debt service, shall be

(1) Users within the City limits, other than contract users, as follows:

> $0.52 per one hundred cubic feet of normal sewage; provided that there shall be a minimum of $2.06 per metered connection, per monthly billing.

Sections 2.191, 2.195 amended, Ord. No. 1[illegible]76, 1/1/1976.

(2) All industrial contract users:

(a) Unit cost of treatment with respect to flow, $78.31 per million gallons;

(b) Unit cost of treatment with respect to BOD, $21.36 per thousand pounds; and

(c) Unit cost of treatment with respect to Suspended Solids, $41.82 per thousand pounds;

(3) All industrial contract users within the City limits: unit cost of collection of wastewater (trunk and interceptor sewers), $25.05 per million gallons;

(4) All industrial contract users outside the City limits:

(a) Unit cost of collection of wastewater, $122.70 per million gallons;

(b) Unit cost of treatment plant debt service with respect to flow, $31.72 per million gallons;

(c) Unit cost of treatment plant debt service with respect to BOD, $9.63 per thousand pounds; and

(d) Unit cost of treatment plant debt service with respect to Suspended Solids, $5.85 per thousand pounds;

(5) Accounting service charge for certain contract users outside the City limits: $0.03 per 100 cubic feet of wastewater.

2.195. Surcharges. Surcharges during any period for excessive concentrations of waste components of users other than industrial contract users shall be determined as follows, concentrations being expressed in milligrams per liter:

(1) For BOD: 1.5 x 8.34 x .001 x unit cost of treatment with respect to BOD x (actual concentration minus 240) per each one million gallons of wastewater discharged into the sewerage system during such period;

(2) For Suspended Solids: 1.5 x 8.34 x .001 x unit cost of treatment with respect to Suspended Solids x (actual concentrations minus 260) per each one million gallons of wastewater discharged into the sewerage system during such period;

(3) For Phosphorous (P) concentration: 1.5 x 8.34 x .001 unit cost of treatment with respect to Phosphorous x (actual concentration minus 10) per each one million gallons of wastewater discharged into the sewerage system during such period.

2.196. Billing. Service charges and surcharges shall be billed on a monthly basis, and shall be payable within 15 days after mailing by the City. Any bill not paid when due shall carry a penalty of five per cent of the amount of the bill. All bills shall be payable at the office of the City Treasurer, City Hall, Battle Creek, Michigan. Unpaid service charges and surcharges shall be a lien upon the property served, and shall be enforced as provided by Section 5.2751, Michigan Statutes Annotated. The City may, not earlier than 20 days following written notice to any user which shall be delinquent in the payment of service charges or surcharges, discontinue water service or sewer service, or both, to such user until such service charges and surcharges, including any applicable penalties and including a charge of $10.00 for each disconnection and reconnection shall have been paid in full.

2.197. Revision of Charges. Service charges and surcharges may be revised at any time by the City for the purpose of complying with any judicial order or governmental regulation.

2.198. Collection of Charges. The Department of Public Works is hereby authorized to enforce the payment of charges for sewage service to any premises by discontinuing the water service to such premises and an action of assumpsit may be instituted by the City against the customer. The charges for sewage service, which, under the provisions of Act 94, Public Act of 1933 of the State of Michigan, as amended, are made a lien on the premises to which furnished, are hereby recognized

WASTEWATER TREATMENT CONTRACT - 1984

THIS AGREEMENT, effective the first day of April, 1986, between the CITY OF BATTLE CREEK, MICHIGAN, a Municipal Corporation ("City"), and MICHIGAN HOLDING CORPORATION, A Delaware Corporation, having an office at 79 East Fountain Street, Battle Creek, Michigan 49015 ("Company"),

W I T N E S S E T H:

WHEREAS the Company operates facilities in the City of Battle Creek that discharge industrial and sanitary waste into the City's existing wastewater treatment plant ("Treatment Plant"); and

WHEREAS the Company and its predecessors and the City have had contractual relationships for the treatment of Company's wastewater since 1959; and

WHEREAS the City has during this contractual period reserved for the Company certain capacity in its wastewater treatment plant and the Company has made certain annual payments toward the local cost of constructing the improvements necessary to treat Company's discharges; and

WHEREAS the City was recently required to expand and upgrade its wastewater treatment facilities; and

WHEREAS certain federal and state regulations require that the user charges be spread among all users of the Wastewater Treatment Plant on the basis of the use of said facility;

NOW, THEREFORE, in consideration of the mutual promises made herein the City and the Company agree as follows:

1. Treatment. The City shall treat the wastewater discharges from the Company during the term of this Contract at its Wastewater Treatment Plant in the amounts set forth below. City has made and will keep available to the Company, so long as it desires to utilize them and on the terms and conditions hereinafter set forth facilities for the collection and treatment to the extent required by law of the Company's waste in the following average monthly amounts:

Flow	2,500,000 gallons per day
Suspended Solids	5,000 pounds per day
Biochemical Oxygen Demand	3,250 pounds per day

2. Treatment Plant. The City shall maintain and operate its Treatment Plant as enlarged and its sanitary sewer system serving the Company's plant in good repair and working order and will make or cause to be made all necessary renewals and replacements.

3. Flow Meters, Sampling, Testing and Monitoring Devices.

a) During the term of this Contract, wastewater discharged by Company shall be measured at Company's locations so as to determine flow, suspended solids and BOD and such other measurements required by the appropriate state or federal agency, actually delivered to the collection system of City. Said measurements shall be made by flow meters, sampling and testing devices which shall be installed by Company at its expense. The City shall calibrate, maintain and replace said devices at City's expense. The City will have access to the flow meters at all times. Testing of samples shall be performed in accordance with procedures set forth in the latest edition of Standard Methods For The Examination Of Water and Wastewater or such other standards as may from time to time be mutually agreeable. The City will report in writing to the Company by the fifteenth day of each month the result of its measurements, tests, and most recent calibration reports of the quantities and characteristics of the waste discharged by the Company into the City's sewer system during the preceding month. Sampling and testing shall be conducted with such frequency and on such

operating and non-operating days of the Company as will fairly reflect the representative amounts and characteristics of the Company's waste discharge into the City's sewer system. The City shall check and calibrate the waste flow meter on site in accordance with manufacturer's instructions at a minimum frequency of once every three months. The City shall notify Company prior to calibration so industry may have a representative present during calibration.

b) In the event that the City and the Company jointly determine that the volume of wastewater transmitted to the point of recording has not been recorded accurately for any period of time, the City and Company shall estimate the volume and characteristics of wastewater transmitted to the point of recording during such period of time by use of the present and prior meter readings, production operation experience, records, and such other data as may be available to assist in making such estimate.

c) The Company may, at its own expense, make such measurements and tests as it shall desire of the

quantities and characteristics discharged by the Company into the City's sewer system. If Company and City tests do not substantially show the same quantities and characteristics of such waste discharged by the Company into the City's sewer system, competent independent engineers acceptable to the City and the Company shall make such measurements and tests and their determination of the quantities and characteristics of the waste discharged by the Company into the City's system shall be final and binding on the parties. The cost of such independent review shall be borne by the Company unless the independent review demonstrates that the results of the City's sampling and testing have resulted in billing cost errors of ten (10%) percent or greater within one billing period, in which case the cost of such review shall be borne by the City.

4. Capital Charges.

a) Company agrees to compensate the City for that portion of the Wastewater Treatment Plant constructed since 1959 for the purpose of treating waste discharged by Company and upgrading facilities necessary to treat

Company's waste to the degree required by law. As long as Company does not exceed its purchased capacity on an annual basis, the Company is not responsible for and will not be charged for capital cost of the Wastewater Treatment Plant associated with expansion of the Plant. The capital charges heretofore incurred by Company in the 1959 contract and the 1967 supplement as shown in Exhibit A are continued and Company further agrees to undertake to pay capital charges for upgrading required to provide a greater degree of treatment and/or greater reliability of treatment only if required by State or Federal law or regulation. The total annual capital charges will be as shown in Exhibit A as written or as hereafter modified by increase or reduction of capacity set forth in Paragraph 1.

b) Company obligates itself to pay the charges for capital set forth above and for the times set forth in Exhibit A throughout the term of this Contract whether Company continues discharging wastewater into City's system or not, except as Company's liability may be modified under Paragraphs 8 or 9 of this Agreement. Company's operating and maintenance rate set forth in

Paragraph 5 of this Contract shall take into account that capital charges are separately paid for and are not included in the operation and maintenance rate, including contribution to the replacement fund set forth in Paragraph 21. Even after capital obligations as set forth in Exhibit A are fully paid by Company, Company shall not be charged capital charges for those improvements added in 1959, 1967 and 1978 through 1985 in its operation and maintenance charges for capacity reserved under this Contract.

c) Any future upgrading of facilities maintained to serve Company, under this Contract, necessitated by state or federal law will, at the Company's option, be paid for in additional capital charges in an amount negotiated and agreed upon by the parties or as part of the monthly rate for sewer service. Company shall elect either the additional capital cost charge or monthly rate method for payment of improvements necessary for upgrading within one hundred eighty (180) days of notification by City that such additional construction will be undertaken to meet State or Federal law or regulations.

d) City shall use its best efforts to notify Company within ninety (90) days of any event which could possibly cause any change in the capital charges set forth in Exhibit A, including without limitation the retention of an engineering or construction firm by the City concerning additions or modifications to the Battle Creek wastewater facility, any proposed construction, expansion or upgrading plans concerning said facility, any order issued by the Water Resources Commission, Department of Natural Resources or any other state or governmental order which could require a change in the capital investment of the facility and City agrees to discuss such events with Company.

e) In order for any increase in capital charges to be effective, City shall notify Company at least one hundred eighty (180) days prior to the effective date of any proposed increase in the capital charges set forth in Exhibit A and shall discuss such proposed increases with Company prior to implementation.

f) The 1980 estimated costs will be updated to reflect actual costs within ninety (90) days of the final audit

of the construction costs accepted by EPA. Updated Exhibits A, B and C will be prepared to reflect any changes. Adjustments to charges will be made from the effective date of this Contract.

5. Operation, Maintenance and Replacement Charges. Company also agrees to pay City for the collection and treatment of the Company's wastewater discharges in accordance with rates charged below. The rates to be charged for said discharges shall be developed and established from time to time in accordance with applicable federal and state regulations for use charge systems. City agrees that the rates established shall be supported by rate studies according to accepted practices and shall be reasonable in relation to the cost of service. The City will notify industry when City intends to undertake a rate study. Changes in the operation, maintenance and replacement rate will be imposed only after a sixty (60) day notice by City to Company that the rate study is complete.

6. Penalty Charges. In addition to capital charges and operation and maintenance charges set forth above, Company will pay the City a penalty as determined and provided in

Exhibit B attached hereto and made a part hereof, on all quantities of the Company's daily waste averaged over each calendar month that are in excess of the total treatment capacity reserved for the Company and set forth in Paragraph 1 above. The penalty shall remain in effect as long as the Company's waste is discharged to the Treatment Plant. Notwithstanding this paragraph, Company shall have no right to discharge amounts in excess of the amounts set forth in Paragraph 1 and City may prohibit discharges in excess of those amounts.

7. Billing. The Company shall be billed by the City on a monthly basis and the billing shall contain four separate items: a) Capital Charges: a charge of 1/12th of the total annual capital charge applicable to the Company as calculated from Exhibit A for each of the improvements so long as a portion of that improvement remains unpaid. b) Operation and Maintenance Charges: a charge at the unit rates for the treatment of the waste delivered by the Company to the City during the billing period; c) Penalty Charges: the penalty as set forth in Exhibit B; and d) Monitoring Charges: the pro-rata share of actual costs per the latest rate study for monitoring the Company's effluent.

8. Decrease of Capacity.

a) Prior to the termination under Paragraph 13 of the Company's obligation to pay capital charges, the Company may obtain a reduction or termination of the charges as provided in this paragraph. At any time that the Company signifies in writing to the City Manager its offer to surrender a part or all of the waste treatment capacity reserved for the Company as specified in Paragraph 1, the City will promptly cause a survey to be made by competent independent engineers of the current use of its Treatment Plant and notify other companies with contracts substantially the same as this one of that request.

b) If such survey shows that the capacity proposed to be surrendered by the Company is capacity that has been allocated to Company's capital charge and is being used to treat the sewage or waste of other customers, or that there is a current demand for such use by other customers, then the cost of such engineering survey will be borne by the City and the Company equally and this Contract will be and stand amended to reduce the annual

waste disposal charge in proportion to the amount of its total reserve treatment capacity that the Company has offered to surrender and thereafter the obligation of the City to provide waste treatment capacity for the Company shall be reduced accordingly.

If more than one company which has an industrial wastewater contract with the City of Battle Creek substantially the same as this Contract, desires to decrease its purchased capacity within the same thirty-day period and the survey shows that the total requested reduction in capacity of all requesting companies is greater than the offset capacity to be used by other customers, the capacity of each requesting company will be reduced in proportion to the requested amounts of decrease.

In the event the survey permits the Company to surrender all of the capacity reserved for it, and Company so elects, then this Contract shall automatically terminate upon payment by the Company of all charges then due and owing by it hereunder.

c) In the event that such engineering survey fails to show that the plant capacity proposed to be surrendered by the Company is then being used to treat the sewage or waste of other customers or that there is a current demand for such use by other customers then the Company shall pay the entire cost of such survey and may either give up as much of its capacity as the survey would permit with the appropriate reductions as set forth in Paragraph 8a or shall continue to pay the capital charges as set forth in Paragraph 4 with full rights under this Contract. The Company may from time to time request a resurvey of the plant under the same terms and conditions as set forth above, if in its judgment circumstances now indicate that the capacity reserved for Company is now being used to treat the sewage or wastes of other customers, or that there is a current demand for such use by other customers.

d) City agrees to provide Company with an annual report containing data regarding the use of the Wastewater Treatment Plant including data about the flow and loadings experience over the past year and a projection

of the flow and loadings for the on-coming year within thirty days after the close of the fiscal year.

9. Increase of Capacity. The Company may at any time give notice to the City that it desires that the quantities of waste treatment capacity set forth in Paragraph 1 of this Contract reserved for the Company at the City's sewage Treatment Plant be increased by the amount set forth in said notice. The City shall notify the Company within ninety (90) days from the date of such notice the total plant capacity available. The cost of additional capacity will be as set forth in Exhibit C, using the date of Company's notice to determine the year. Payments will continue at that amount until September 30, 2003. Company may purchase up to one-half the capacity stated by City to be available and may not purchase additional capacity for twenty-four (24) months.

If Company disagrees with the City as to the availability or amount of unused capacity, the City and Company shall meet to agree upon retaining an independent engineering consultant who shall make a survey of the available capacity. At the conclusion of such study Company may elect to purchase such additional capacity as set forth

in its notice up to one-half the amount the consultants agree are available at the cost set forth above. Company shall have a period of ninety (90) days after its receipt of the consultants' report to inform the City of its decision to purchase additional capacity. The cost of the consultants shall be shared equally if the Company buys the capacity it stated it desired in its notice to the City or all of the capacity permitted, whichever is less. In all other cases the Company shall pay the entire cost of the consultants retained for the purposes set forth in this paragraph.

If Company elects to purchase the additional capacity, the sewage treatment capacity set forth for the Company in Paragraph 1 shall be deemed increased by the amounts agreed upon and the annual capital waste charge set forth in Exhibit A shall be increased accordingly and the penalty charges to be paid by the Company under Paragraph 6 and set forth in Exhibit B shall be determined after such date on the basis of such increased capacity reserved for Company.

10. Most Favored Rate Clause. If at any time before the termination of the Company's obligation under this Contract the City enters into a contract agreement rate

structure or other arrangement which provides wastewater disposal to any industrial user on terms more favorable than the terms set forth in this Contract, the Company may at its option elect to have its wastewater treated under the same terms, if said terms can be granted to Company under state and federal regulations, and this Contract shall be construed to have been amended to provide for such terms. Company must elect a course within ninety (90) days of being informed by the City that such more favorable rates are being granted to another user or within ninety (90) days of actual notice by the Company of such favorable rates, whichever shall first occur. Failure by Company to elect such more favorable rates within the time specified shall constitute a waiver by Company of its right to amend this Contract to contain the more favorable rates.

11. Discharge Characteristics and Contaminants. The Company agrees that it will not substantially alter the characteristics or chemical content of the waste it is discharging into the City's sewage system from those being discharged from the date hereof which would result in damage to the City sewer system or create a health hazard to persons or property. City agrees to give Company ninety (90) days

advance notice before changing its ordinance of restricted or prohibited substances except in an emergency.

12. Future Sewer Plant Enlargements. The City shall have the right to expand or upgrade the Treatment Plant at any time in the future.

13. Termination. This Contract will remain in effect until September 30, 2003.

14. Non-Interference With Company Wastewater Treatment. The City will not accept wastewater from other customers or users for processing in the Treatment Plant so long as this Contract is operative that have characteristics that will entail additional treatment cost to the Company, or that will interfere with the proper treatment of the Company's waste or the proper and efficient operation of the Treatment Plant.

15. No Obligation To Discharge. Anything in this Contract to the contrary notwithstanding, the Company shall not be obligated to discharge into the City's sewer system any waste whatsoever.

16. Records. The City shall keep and preserve complete and accurate records and accounts of its costs of operating

the Treatment Plant, such records to be available for examination and copying by the Company during all usual business hours at any time and to be sufficiently detailed to enable the Company to ascertain operating costs.

17. Efficient Operation. The City will use its best efforts to operate its Treatment Plant and Sanitary Sewer Facilities efficiently in order that the effluent discharged therefrom into the Kalamazoo River will comply with the requirements of the Michigan Water Resources Commission and other governmental authorities that may now or hereafter have jurisdiction over said river.

18. Contract. This Contract sets forth the entire understanding and agreement between the parties respecting the subject matter hereof and is intended by the parties to replace the contracts on this subject between City and Company entered into in 1959 and 1967, provided however, any rights Company may have in an assignment between St. Regis/Champion, City and Company dated March 30, 1984 are preserved.

19. Assignment. The rights and obligations of the parties hereunder shall inure to and be binding upon their

respective successors and assigns and may be freely assigned by either party without consent of the other party. However, Company agrees that in the event Company assigns its rights and obligations under this Contract and said assignee fails to pay the remaining capital charges set forth in Exhibit A, in such cases only, Company shall remain secondarily liable to City for such capital charges and City, upon exhausting reasonable best efforts fails to obtain said charges from assignee, shall be able to require Company to pay such capital charges. City shall cooperate with Company to recover such capital charges from said assignee.

20. Sewer Fund. Monies paid to the City by the Company or other persons, firms or corporations, public or private, for the treatment of sewage, wastewater or other waste treated by the City's sewage Treatment Plant shall be used by the City exclusively for sewer purposes in accordance with generally accepted accounting principles.

21. Replacement Fund. City agrees to provide and fund a wastewater replacement fund from wastewater revenues in the amount of One Hundred Forty-Five Thousand ($145,000.00) Dollars annually.

22. Force Majeure. Either party shall be excused from liability for failure to perform its obligations hereunder when such failure is due to an act of God or the elements, fire, war, the public enemy, strikes, labor difficulties, civil commotion, transportation or other embargoes, act of civil or military authority, governmental priority, allocation, or order, except that the City shall not be excused for failure to perform its obligations if such failure is due to an act by the City.

IN WITNESS WHEREOF, the parties have caused this Contract to be executed by their respective duly authorized officers the 11th day of April, 1986.

WITNESS:

CITY OF BATTLE CREEK

BY

WITNESS:

MICHIGAN HOLDING CORPORATION

BY

EXHIBIT "A"

CAPITAL COSTS

980 Construction	Total	Flow	B.O.D.	S.S.
Cost	$13,650,000			
Interest	16,603.506			
Total	$30,253,506			
Upgrading 43%	13,009,008			
Distribution	100%	16.94%	45.82%	37.24%
Annual Amortization (Sept., 2003)	$ 650,450	$110,186	$298,036	$242,228
Design Capacity		27 mgd	64.08M#/d	61.81M#/d
Per Unit Per Year		$ 4,080.96/mg	$ 4,651.00/Mlb	$ 3,918.91/Mlb
Per Unit Per Day		11.18/mg	$ 12.42/Mlb	$ 10.94/Mlb

	Total	Kelloggs	General Foods	Waldorf	Michiga Holdir
Contract Capacities					
Flow	6.95mgd	1.4mgd	.55mgd	2.5mgd	2.5m
B.O.D.	35,550#/d	21,000#/d	8,050#/d	3,250#/d	3,250#/d
S.S.	16,500#/d	4,000#/d	2,500#/d	5,000#/d	5,000#/d
Annual Contract Capital Charge for 1980 Construction					
Flow	$ 28,362	$ 5,713	$ 2,244	$10,203	$10,202
B.O.D.	163,345	97,671	37,442	15,116	15,116
S.S.	64,662	15,676	9,797	19.594	19.595
(A) Total	$258,369	$119,060	$49,483	$44,913	$44,913
Annual Contract Capital Charge Per 1967 Contract					
1960 Construction (Nov., 1992)	$ 97,096	$ 25,033	$17,315	$27,374	$27,374
(B) 1966 Construction (Oct., 1997)	50,753	40,702	7,523	1,264	1,264
Sub Total	$147,849	$ 65,735	$24,838	$28,638	$28,638
(B) 1971 Capacity Increase (Oct., 1997)	4,513		4,513		
(C) Total)	$153,362	$ 65,735	$29,351	$28,638	$28,638
Total Contract Capital Charge					
Annual Charge:					
Oct. 1983-Nov. 1992 (A + C)	$410,731	$184,795	$78,834	$73,551	$73,551
Dec. 1992-Oct. 1997 (A + B)	$313,635	$159,762	$61,519	$46,177	$46,177
Nov. 1997-Sept. 2003 (A)	$258,369	$119,060	$49,483	$44.913	$44.913

EXHIBIT "B"

PENALTY CHARGES FOR EXCEEDING PURCHASED CAPACITY ON A MONTHLY AVERAGE

	Total	Flow	B.O.D.	S.S.
1960 Construction				
Cost	$3,351,911			
Interest	2,136,360			
Hydroscience (64-65)	18,361			
Interest	5,851			
Total	$5,512,483			
Distribution	100%	24.8%	43.5%	31.7%
Annual Amortization (Nov., 1992)	$ 183,749	$ 45,570.00	$ 79,931.00	$ 58,248.00
Design Capacity Factor		22 mg/d	66 M#/d	66.595M#/d
Per Unit Per Day		$ 5.67/mg	$ 3.32/M#	$ 2.39/
1966 Construction				
Cost	$3,046,000			
Interest	2,206.000			
Total	$5,252,000			
Distribution	100%	19.0%	47.0%	34.0%
Annual Amortization (Oct., 1997)	$ 175,067	$ 33,263.00	$ 82,281.00	$ 59,523.00
Design Capacity		22 mg/d	66 M#/d	66.595M#/d
Per Unit Per Day		$ 4.14	$ 3.41	$ 2.45
Sub Total 1960 and 1966 Construction				
Per Unit Per Day		$ 9.81/mg	$ 6.73/M#	$ 4.84/M
1980 Construction				
Cost	$13,650,000			
Interest	16,603.506			
Total	$30,253,506			
Distribution	100%	16.94%	45.82%	37.24%
Annual Amortization (Sept., 2003)	$ 1,512,675	$256,247.00	$693,108	$563,320.00
Design Capacity		27 mg/d	64.080 M#/d	61.81M#/d
Per Unit Per Day		$ 26.00	$ 29.63	$ 24.77
Grand Total - All Construction				
Per Unit Per Day		$ 35.81/mg	$ 36.36/M#	$ 29.81/

This penalty is not reduced at 1992, 1997 or 2003 bench marks when Exhibit A capital charges reflect bond issue payoffs and shall remain in effect until termination of this Cont

MONTHLY PENALTY COMPUTATION

	Flow	B.O.D.	S.S.	Total
Actual Loadings (Daily Average)	_____ mg	_____ M#	_____ M#	
Less: Purchased Capacity (Paragraph 1)	_____ mg	_____ M#	_____ M#	
Excess Loadings	_____ mg	_____ M#	_____ M#	
Total Daily Penalty Rate	X $35.81	X $36.36	X $29.81	
Days in Month	X _____	X _____	X _____	
Total Monthly Contract Penalty Charge	$			

EXHIBIT "C"

CAPITAL COSTS FOR INCREASED CAPACITY
PER CAPACITY UNIT FOR FLOW, B.O.D., AND S.S.

For Fiscal Year Ending June 30:	Flow (mgd)	B.O.D.(lbs/d)	S.S.(lbs/d)
1984	$35.81	$36.36	$29.81
1985	34.91	35.45	29.06
1986	34.02	34.54	28.32
1987	33.12	33.63	27.57
1988	32.23	32.72	26.83
1989	31.33	31.82	26.08
1990	30.44	30.91	25.34
1991	29.54	30.00	24.59
1992	28.65	29.09	23.85
1993	27.75	28.18	23.10
1994	26.86	27.27	22.36
1995	25.96	26.36	21.61
1996	25.07	25.45	20.86
1997	24.17	24.54	20.12
1998	23.28	23.63	19.37
1999	22.38	22.73	18.63
2000	21.49	21.82	17.88
2001	20.59	20.91	17.14
2002	19.70	20.00	16.39
2003	18.80	19.09	15.65

Assumes 20 year useful life and salvage value of 50%.

THIS AGREEMENT, made this [illegible] day of [illegible], 1967, between the CITY OF BATTLE CREEK, Michigan, a municipal corporation (hereinafter called the "City"), and MORTON SALT CO., a Michigan corporation, having an office at 19 East Goodale Street in said City of Battle Creek (hereinafter called the "Company"), WITNESSETH that:

WHEREAS, the Company operates two paperboard mills and other manufacturing facilities in the City of Battle Creek and discharges industrial and sanitary wastes into the City's sanitary wastewater treatment plant (hereinafter called the "Treatment Plant"); and

WHEREAS, the Company and the City are parties to a waste treatment contract dated April 3, 1959 (hereinafter called the "1959 Contract"), whereby the City has reserved for the Company certain waste treatment capacity in the City's Treatment Plant; and

WHEREAS, the City is constructing substantial additions to its Treatment Plant and has invited the Company as well as Kellogg Company and General Foods Corporation (Post Division) to contract with the City for additional waste treatment capacity as needed by the said industries; and

WHEREAS, the Company desires to have the City reserve for the Company the capacity to treat an additional 9,000 pounds of suspended solids daily on the terms and conditions hereinafter stated;

NOW, THEREFORE, in consideration of the above premises and of their respective promises hereinafter made, the City and the Company agree as follows:

1. The City will construct and maintain additions (hereinafter called the "1966 Additions") to its Treatment Plant in accordance with plans approved by the Michigan Department of Health and substantially as described in "Exhibit A" attached hereto, and will make and keep available to the Company for the life of the 1966 Additions, so long as the Company desires to utilize them and on the terms and conditions hereinafter set forth, facilities in the 1966 Additions for the collection and complete treatment of 2,000 pounds per day of suspended solids, in addition to the quantities of each type of the Company's wastes that the City agreed to treat under the 1959 Contract.

2. In addition to the Total Annual Waste Disposal Charge provided for in the 1959 Contract, the Company will pay the City an Additional Annual Capital Waste Disposal Charge in an amount calculated to reimburse the City for that portion of its costs of financing and constructing the 1966 Additions that are reasonably attributable to the additional waste treatment capacity reserved for the Company under this Contract. On the basis of the City's estimated costs of financing and constructing the 1966 Additions, such Additional Annual Capital Waste Disposal Charge would be $2,600.00 as determined in accordance with the provisions of "Exhibits B, B-1, B-2 and B-3" attached hereto and made a part of this Contract. It is understood and agreed, however, that such Additional Annual Capital Waste Disposal Charge will be adjusted

upward or downward to reflect the financing and construction costs actually incurred by the City in making the 1966 Additions after deducting from such costs all contributions thereto that may be received from the United States Government or any other governmental unit or agency or from any other source.

3. The Additional Annual Capital Waste Disposal Charge provided for herein shall become payable from the effective date of this Supplemental Contract, shall continue for 30 years thereafter, and shall be paid in equal monthly installments under the billing procedure provided for in the 1959 Contract.

4. The Company's obligation to pay the Additional Annual Capital Waste Disposal Charge provided for hereunder may be reduced or terminated as provided in Paragraphs 4(f), 6, 7, and 9 of the 1959 Contract.

5. The Company's obligation to pay the Additional Annual Capital Waste Disposal Charge described in the preceding paragraphs shall terminate when the Company shall have paid said Additional Annual Capital Waste Disposal Charge in an aggregate amount sufficient to reimburse the City for the portion of the City's costs of financing and constructing the 1966 Additions that are attributable under the provisions of this Contract and attached exhibits to the additional waste treatment capacity reserved for the Company under this Contract, either as provided herein or on a commuted basis, unless the Company's obligation is terminated earlier under the provisions of this Contract.

6. The Company also will pay the City for treating the

wastes delivered to the City's [illegible] pursuant to this Contract, to the Unit Rates in effect from time to time under the 1959 Contract. Payment of the Unit Rates shall be made at the times and in the manner provided in the 1959 Contract. It is mutually understood that the Unit Rates constitute charges intended to reimburse the City for its expenditures incurred in processing the Company's wastes, as distinguished from the Annual Capital Waste Disposal Charge which is intended to reimburse the City for its capital costs of financing and constructing the waste treatment capacity reserved for the Company.

7. In addition to such Unit Rates, the Company will pay the City a Demand Factor, determined as provided in "Exhibit C" attached hereto and made a part hereof, on all quantities of the Company's daily wastes averaged over each calendar month that are in excess of the following total treatment capacity reserved for the Company under said 1959 Contract and under this Supplemental Waste Treatment Contract (see Exhibit B-2 and Exhibit C attached):

Flow - 5 million gallons per day
Suspended solids - 10,000 lbs. per day
Bio-chemical oxygen demand - 6,500 lbs. per day.

The Demand Factor charge shall remain in effect as long as the Company's waste is discharged to the treatment plant.

8. In the event that the City does not construct the 1966 additions substantially as specified in "Exhibit A" and place them in operation within eighteen (18) months after the date of this Contract, then this Contract shall be subject to termination on written notice given by either party to the other, and after such termination neither party shall be under any obligation to the other

by reason of this Contract.

9. Paragraphs 2, 8, 9, 12, 14, 15 and 16 of the 1959 Contract apply to this Supplemental Waste Treatment Contract as if such paragraphs were fully set forth herein, and a breach of any of their provisions either before or after the termination of the Company's obligations to pay charges under the 1959 Contract shall be considered to be a breach of this Contract.

10. For the duration of its obligations hereunder the Company will maintain the meters and the sampling and testing devices required of it by Paragraph 3 of the 1959 Contract, except that the City will install and maintain new flow meters as soon as is practicable after the effective date of this Contract, and, after the installation of such new meters, the Company no longer will be obliged to maintain flow meters. The cost of procuring, installing and maintaining the new meters will be borne by the City. The new meters will contain both recording and totalizing features. The City will have access to the new flow meters at all reasonable times on prior notification to the Company in order to assure the safety of City personnel. Measurements of the characteristics of the wastes discharged by the Company into the City's sewer system shall be determined as set forth in Paragraph 3 of the 1959 Contract.

11. In the event that before termination of the Company's obligations to pay the Additional Annual Capital Waste Disposal Charge hereunder the City enters into a contract with any other user or prospective user or Metered User of the City's sewer system covering use thereof, or, having entered into such contract, an amendment thereof, and any of the terms of such a

contract or amendment as to (a) Annual Capital Waste Disposal Charge in proportion to the sewage capacity to be served for such user, (b) unit rates for flow, B.O.D. or solids or any of them or any combination of them, (c) time of termination, or (d) any other term or condition, is more favorable to such user than the terms either of this Contract alone or of the resultant of the 1959 Contract and this Contract together, then this Contract shall be considered amended to include such terms more favorable to the Company.

12. The City shall have the right further to enlarge or change the treatment plant at any time in the future, but the Company will not be obligated to pay any charges based upon the capital cost to the City of future enlargements or changes so long as its wastes discharged into the City system are within the average amounts specified in the 1959 Contract and in this Supplemental Waste Treatment Contract, and the degree of waste treatment required of the City by law is no greater than the treatment specified in the Final Order of Determination entered against the City by the Michigan Water Resources Commission on April 28, 1954. In no event, however, shall the Company be obligated to pay charges relating to such future enlargements or changes unless before the enlargements or changes are made, it notifies the City in writing of its election to continue to have its wastes treated in the City's treatment plant.

13. The Company's obligation under the 1959 Contract to pay the Annual Waste Treatment Charge and the Minimum Annual Charge shall not be affected by this Contract except to the extent

of such amendments as may be considered made pursuant to Paragraph 10. of this Contract.

14. The Company, at any time and from time to time, may give notice to the City that it desires that the quantities of waste treatment capacity set forth in Paragraph 7. of this Contract reserved for the Company at the City's sewage treatment plant be increased by the amount set forth in said notice. The City shall notify the Company within ninety (90) days from the date of such notice if any additional plant capacity is available, and the additional cost to the Company of reserving such additional amount of capacity as contained in said notice. In the event of a disagreement between the Company and the City as to the availability or amount of unused capacity at the sewage treatment plant, or with respect to the method of computing the additional costs to the Company of reserving such additional capacity at the sewage treatment plant, qualified representatives of the City and the Company shall meet and resolve such disagreement. Such studies by independent engineers as may be agreed on by the City and the Company shall be conducted with the obligation to pay the costs thereof to be agreed upon by the representatives of the Company and the City. The sewage treatment capacities set forth for the Company in Paragraph 7. hereof shall be deemed, as after date of the notice by the Company to the City, to be increased by the amount so agreed upon, and the Additional Annual Capital Waste Disposal Charge to be paid by the Company pursuant to in Paragraph 8. shall be increased accordingly, and the Burden Factor Charges to be paid by the Company under Paragraph 7. to "Exhibit C" referred to therein shall be forthwith fixed upon such data on the basis of

such increased capacity reserved for the Company.

15. The parties acknowledge a disagreement exists with respect to the allocation of the cost of "Sludge Handling Facilities" between B.O.D. and Suspended Solids shown on "Exhibit A". Therefore, following each year ending June 30, an annual adjustment of the additional Annual Capital Waste Disposal Charge, retroactive for the year then ended, shall be determined as shown on "Exhibits C-1 and C-2" attached hereto. The amount of such annual adjustment shall be paid by or credited to the Company when determined. The City agrees that it will make such observations and keep such records, including meter readings at the points designated as Points 1 through 7 on "Exhibit C-1", for each year ending June 30 for the life of this Contract, as may be necessary in order that such annual adjustment may be determined, if any.

16. The Company agrees that it will not substantially alter the characteristics or chemical content of the wastes it is discharging into the City's sewage system from those being discharged on the date hereof, which alteration results in damage to the City's sewage system or creates a health hazard to persons or property. The City acknowledges that the characteristics and chemical content of the wastes being received from the Company into the City's sewage system on the date hereof are not damaging to the system, nor do they create a health hazard for persons or property.

17. Anything in this Contract to the contrary notwithstanding, the Company shall not be obligated to discharge into

the City's sewer system any waste whatsoever.

18. This Contract shall continue in force until its termination as herein provided.

19. The rights and obligations of the parties hereunder shall inure to and be binding upon their respective successors and assigns.

20. This Contract, together with the 1959 Contract, sets forth the entire understanding and agreement between the parties respecting the subject matter hereof. This Contract shall be effective on the first day of the first month after it has been approved by resolution of the Commission of the City of Battle Creek.

IN WITNESS WHEREOF, the parties have caused this Contract to be executed by their respective officers thereto duly authorized as of the day and year first above written.

CITY OF BATTLE CREEK

By _____
Acting City Manager

MICHIGAN CARLO CO.

By _____

By _____

ATTEST:

_____
Secretary

-3-

STATE OF MICHIGAN)
) ss.
COUNTY OF CALHOUN)

On this 31st day of October, 1957, before me, a Notary Public in and for said County, personally appeared James G. Willis, to me known, who, being by me duly sworn, did say that he is the Acting City Manager of the City of Battle Creek, Michigan, the municipal corporation named in and on behalf of which he executed the foregoing instrument, and the said instrument was signed and sealed on behalf of said municipal corporation by authority of its City Commission, and said James G. Willis acknowledged said instrument to be the free act and deed of said municipal corporation.

Notary Public, Calhoun County, Michigan
My commission expires: May 18, 1959

STATE OF MICHIGAN)
) ss.
COUNTY OF CALHOUN)

On this 27th day of October, 1957, before me, a Notary Public in and for said County, personally appeared Dan Int-Hout, Jr. and Joseph G. McCarthy, to me known, who, being by me duly sworn, did each for himself say that they are, respectively, the President and Secretary of Michigan Carton Co., the corporation named in and on behalf of which they executed the foregoing instrument, and that the seal affixed to said instrument is the corporate seal of said corporation, and the said instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors; and said Dan Int-Hout, Jr. and Joseph G. McCarthy acknowledged said instrument to be the free act and deed of said corporation.

Notary Public, Calhoun County, Michigan
My commission expires: _____

WILLIAM M. HARRINGTON
NOTARY PUBLIC, CALHOUN COUNTY, MICHIGAN
ACTING IN CALHOUN COUNTY, MICHIGAN
MY COMMISSION EXPIRES NOVEMBER 9, 1959

RESOLUTION

NO. 810

APPROVED

Battle Creek, Mich., March 30, 1984

Resolved by the Commission of the City of Battle Creek:

THAT the City Manager is hereby authorized to enter into the Assignment Agreement transferring certain rights in the contract between the City of Battle Creek and the St. Regis Corporation to the Michigan Holding Corporation as per the attached Assignment Agreement.

RECEIVED

APR 18 1984

WASTEWATER
TREATMENT PLANT

ASSIGNMENT AGREEMENT

AGREEMENT, entered into this 30th day of March, 1984, between ST. REGIS CORPORATION, a New York Corporation, and MICHIGAN HOLDING CORPORATION, a Delaware Corporation, and the CITY OF BATTLE CREEK, a Michigan Municipal Corporation.

WHEREAS, St. Regis Corporation and the City of Battle Creek are parties to certain Contracts for sanitary sewer services dated the 3rd day of April, 1959, and the 31st day of October, 1967, (hereinafter referred to as the "Contracts") wherein the City has reserved the following capacities for St. Regis Corporation:

Flow - 5,000,000 gallons per day
Suspended Solids - 10,000 lbs. per day
B.O.D. - 6,500 lbs. per day

and,

WHEREAS, the Contracts are, at the date of this execution, still in effect between the parties; and

WHEREAS, the Contracts contains a clause providing that St. Regis Corporation is entitled to rates as favorable as any rates given by the City to other industrial dischargers; and

WHEREAS, Michigan Holding Corporation intends to purchase from St. Regis Corporation certain mills in the City of Battle Creek known as the Folding Carton Plant and the Paperboard Mill owned by St. Regis Corporation; and

WHEREAS, the City, as an inducement to Michigan Holding Corporation to purchase and upgrade those obsolete facilities, is

intending to enter into an agreement granting Michigan Holding Corporation certain consideration for said purchase and upgrading, including but not limited to special sewer rates as set forth in the agreement attached hereto; and

WHEREAS, St. Regis Corporation is obligated to pay annual capital waste disposal charges to the City under the Contracts; and

WHEREAS, the St. Regis Corporation and Michigan Holding Corporation have agreed to an assignment of a portion of the capacity reserved for St. Regis to and the assumption for a period of two years of St. Regis Corporation's capital charges by Michigan Holding Corporation,

NOW, THEREFORE, the parties hereto do hereby agree as follows:

1. St. Regis Corporation does hereby assign to Michigan Holding Corporation for the term of this Agreement, the following capacities reserved under the Contracts:

Flow - 2,500,000 gallons per day
Suspended Solids - 5,000 lbs. per day
B.O.D. - 3,250 lbs. per day

2. Michigan Holding Corporation agrees to assume during the term of this Agreement the payment of the capital charges due the City of Battle Creek under the Contracts with respect to the above capacities.

3. City of Battle Creek does hereby consent to the assignment and assumption, and the City and Michigan Holding Corporation do hereby agree that the capital charges under this Agreement shall be considered "Deferred Charges" as provided in paragraph 1(b) of the aforementioned Agreement between the City of Battle Creek and

Michigan Holding Corporation which may be reduced by the credits provided for in paragraphs 1(c) and (d) and which may be paid in installments as provided in paragraph 1(e) and which payments shall also be secured as provided in paragraph 1(f).

4. St. Regis Corporation agrees to waive all rights it has to demand sewer rates as favorable as rates given by City to Michigan Holding Corporation under the Contracts, or under any contract hereafter existing between St. Regis Corporation and City for the term of this Agreement. It is further agreed that neither St. Regis Corporation not City waive any other rights under the aforesaid waste treatment contracts.

5. This Agreement shall become effective on April 2, 1984, provided that St. Regis Corporation and Michigan Holding Corporation enter into an Asset Purchase Agreement with respect to the Folding Carton Plant and the Paperboard Mill on or before said date. This Agreement shall terminate on April 2, 1986, at which time the St. Regis Corporation shall become responsible for the payment of capital charges due the City under the Contracts and shall have the benefit of the total capacities as provided for therein, and Michigan Holding Corporation shall have no further liability to the City for capital charges with respect thereto and shall have no rights to any portion of the capacities reserved thereunder after April 2, 1986.

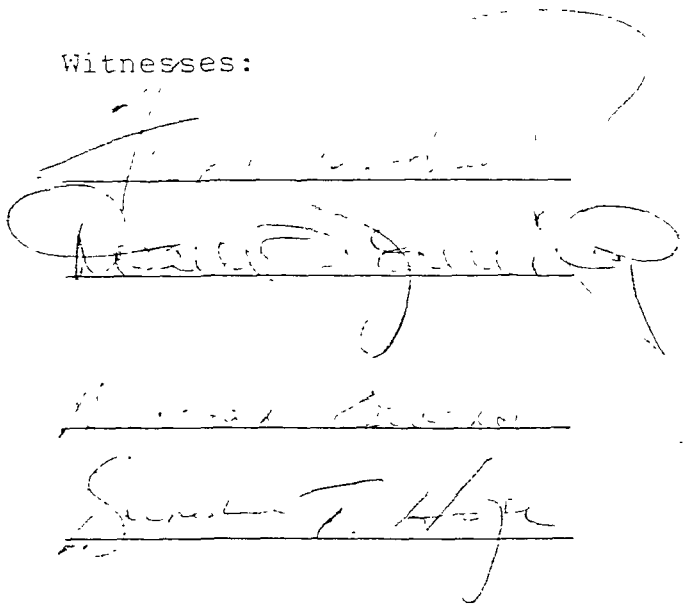
IN WITNESS WHEREOF, the parties hereto have hereunto executed this Agreement on the date and year first written above.

Witnesses:

ST. REGIS CORPORATION

By _____
W. P. Myers, Jr.
Its

Witnesses:



MICHIGAN HOLDING CORPORATION

By _____
Jay L. Nevins
Its _____

CITY OF BATTLE CREEK

By _____
Gordon B. Jaeger
Its City Manager

WASTE TREATMENT CONTRACT

THIS AGREEMENT, made this 29 day of April, 1959, between the CITY OF BATTLE CREEK, Michigan, a municipal corporation (hereinafter called "the City"), and MICHIGAN CARTON CO., a Michigan corporation, of 79 East Fountain Street in said City of Battle Creek (hereinafter called "the Company"), WITNESSETH THAT:

WHEREAS, the Company operates two paperboard mills and certain other manufacturing facilities in said City of Battle Creek (which mills and facilities are hereinafter inclusively described as the "Angell Street Plant" and the "Fountain Street Plant"), and discharges industrial wastes into the Kalamazoo River; and

WHEREAS, the City proposes to enlarge and improve its primary sewage treatment plant (hereinafter called the "Treatment Plant") in a manner that will enable it to accept the industrial wastes of the Company for complete treatment; and

WHEREAS, the Michigan Water Resources Commission has issued orders for the abatement of the pollution of the Kalamazoo River by the Company and also by the City, and the parties are mutually desirous of complying with said orders and are advised by their respective engineering consultants that the industrial wastes of the Company may effectively be treated by the enlarged and improved Treatment Plant so as to bring the Company and the City into conformity with the said abatement orders;

NOW, THEREFORE, in consideration of their respective covenants and agreements herein expressed, the City and the Company agree as follows:

1. The City will enlarge and improve its Treatment Plant

in accordance with plans approved by the Michigan Department of Health, and substantially as described in "Exhibit A" attached hereto, and will make and keep available to the Company, so long as it desires to utilize them and on the terms and conditions hereinafter set forth, facilities for the collection and complete treatment of the Company's wastes in the following average annual amounts:

Flow	- 5,000,000 gallons per day
Suspended solids	- 8,000 lbs per day
Biochemical oxygen demand	- 6,500 lbs per day.

In the event that plans for enlargement of the Treatment Plant substantially as described in "Exhibit A" are not approved by the Michigan Department of Health, neither the Company nor the City shall be under any obligation hereunder.

2. The City will maintain and operate its Treatment Plant and its sanitary sewer system serving the Company's Fountain Street plant and Angell Street plant in proper repair and working order, and will make or cause to be made all necessary renewals and replacements.

3. (a) The Company at its own expense will connect its Fountain Street plant and its Angell Street plant to the City's sanitary sewer system at the points indicated on the maps attached hereto and marked "Exhibit B-2 and Exhibit B-1". The Company, at its own expense, will install and maintain meters, sampling and testing devices of types and in locations to be approved by the City for the purpose of measuring the volume of flow, the quantity of suspended solids and the quantity of biochemical oxygen demand of the wastes discharged into the City's sewer by the Company. The City shall have access to said meters and devices at all times for purposes of inspection, reading and testing, and the Company will, at its own expense, adjust, repair and replace said meters and de-

vices at the reasonable request of the City from time to time. Sampling and testing of the Company's wastes shall be carried out in accordance with the current uniform procedures specified from time to time in "Standard Methods", published jointly by the American Public Health Association, the American Waterworks Association, and the Federation of Sewage and Industrial Wastes Associations. The City will report in writing to the Company not less often than monthly the results of its measurements and tests of the quantities and characteristics of the wastes discharged by the Company into the City's sewer system during the period subsequent to the next preceding report. Sampling and testing shall be conducted with such frequency and on such operating and non-operating days of the Company as will fairly reflect the average amounts and characteristics of the Company's waste discharged into the City's sewer system.

(b) The Company may sample and test its wastes independently of the City, and, in the event that the results of its tests differ materially from the City's, may elect to have the sampling and testing procedures reviewed and, if not proper and accurate, modified by independent engineers selected by the City and the Company. The cost of such review shall be borne by the Company, unless it demonstrates that the results of the City's sampling and testing have been materially inaccurate, in which case the cost of such review shall be borne by the City.

4. (a) Following each month that the Company's industrial wastes are treated by the City, and upon being billed by the City, the Company will pay the City its charges for the treatment of the Company's wastes as hereinafter specified. The charges for such treatment shall be determined in accordance with the applicable ordi-

nances of the City from time to time, provided that such charges shall not exceed those required to reimburse the City for the portion of its cost of constructing, maintaining and operating the Treatment Plant that is reasonably attributable to the treatment or provision for treatment of the Company's wastes, including amortization of the part of the City's capital expenditures for the said proposed enlargement and improvement of the Treatment Plant attributable to the facilities reserved for the Company as specified in paragraph "1" of this Contract. Attached hereto, marked "Exhibit C" and hereby made a part of this Contract, is an "Initial Schedule of Rates" that will go into effect at the end of the first month that the new treatment facilities are in operation, showing:

(1) The Total Annual Waste Disposal Charge to be paid by the Company; and

(2) The unit rates of charge for waste quantities actually delivered by the Company to the City system;

provided that, regardless of waste quantities actually delivered, the Company shall pay the City a total sum annually (including said Total Annual Waste Disposal Charge) that is not less than the Minimum Annual Charge specified for the Company in "Exhibit C". The Total Annual Waste Disposal Charge as set forth in "Exhibit C" is computed in part with reference to estimates of the cost of constructing the additional facilities described in "Exhibit A", including interest and repayment requirements on indebtedness incurred to provide funds for such construction. In the event that the actual costs of said construction vary from such estimated costs by reason of contributions thereto received from the United States Government or any other source, or by reason of changes in the other factors weighed in such estimates, the Total Annual Waste Disposal Charge shall be

adjusted to reflect such actual costs.

(b) The Company's obligations to pay the Total Annual Waste Disposal Charge and the Minimum Annual Charge shall terminate (i) when debt incurred by the City for the construction of the facilities described in "Exhibit A" has been fully paid or (ii) when the Company shall have paid Total Annual Waste Disposal Charges in the amount reasonably required to reimburse the City for the portion of the City's construction cost, together with interest and financing charges on any funds borrowed therefor, attributable to the facilities reserved for the Company as specified in paragraph "1" of this Contract, or the then commuted value of said portion of the City's construction cost, whichever shall have occurred sooner, unless earlier terminated under other provisions of this Contract. Thereafter, the Company shall pay operating and maintenance charges on the basis of such quantities of waste as it shall actually discharge to the City's sewer system in accordance with ordinances applicable at the time.

(c) The Company will be billed by the City for waste treatment on a monthly basis, and the billing shall contain two separate items: First, a charge of one-twelfth of the Total Annual Waste Disposal Charge applicable to the Company as shown in "Exhibit C", and secondly, a charge at the unit rates for the treatment of the wastes delivered by the Company to the City system during the billing period. If, at the close of the annual operating period, the total paid by the Company for Total Annual Waste Disposal Charges and for waste treatment at the unit rates shall not amount to the Minimum Annual Charge applicable to the Company as shown in "Exhibit C", the Company shall pay the City the difference upon being billed

for the same.

(d) Prior to termination under paragraph "4" (b) of the Company's obligation to pay charges, the Company may obtain a reduction or termination of the charges as provided in this paragraph. At any time that the Company signifies in writing to the City Clerk its desire to surrender a part or all of the waste treatment capacity reserved for the Company as specified in Paragraph "1", the City will promptly cause a survey to be made by competent, independent engineers, of the current use of its Treatment Plant. If such survey shows that the capacity proposed to be surrendered by the Company is then being used to treat the sewage or wastes of other customers, or that there is a current demand for such use by other customers, then the cost of such engineering survey will be borne by the City and the Company equally and this Contract will be and stand amended to reduce the Total Annual Waste Disposal Charge and also the Minimum Annual Charge, both as specified for the Company in "Exhibit C", in proportion to the amount of its total reserved treatment capacity that the Company is offering to surrender, and thereafter the obligation of the City to provide waste treatment capacity for the Company shall be reduced accordingly. In the event that the Company so surrenders all of the capacity reserved for it, then this Contract shall automatically terminate upon payment by the Company of all charges for waste treatment then due and owing by it hereunder. In the event that such engineering survey fails to show that the plant capacity proposed to be surrendered by the Company is then being used to treat the sewage or wastes of other customers or that there is a current demand for such use by other customers, then the Company shall pay the entire cost of such survey. At its

election the Company may have a parallel engineering survey made by engineers of its choice and the City will make available to the Company's engineers all data requisite to determination of the factors mentioned in this paragraph.

(e) After the first twelve months that the new treatment facilities are in operation, the City may revise the unit rates specified in "Exhibit C" from time to time, but only after first giving the Company ~~sixty~~ ninety (90) days written notice of all proposed rate changes and of the time and place of a hearing at which the City shall show the necessity for any proposed rate increases and at which the Company shall have an opportunity to negotiate fully with the City regarding all proposed changes. Unit rates for operating and maintenance charges shall be uniform as to all customers for the same type, kind and amount of use and service, and the unit rates fixed for the Company shall at all times accord with the provisions of this Contract. The reasonableness of the City's charges to the Company for waste treatment shall be subject to review and redetermination by the Calhoun County Circuit Court without a jury on petition of the Company at any time, and the City and the Company each hereby waive their right to trial of any related issues of fact by a jury.

5. The City shall enter into agreements on substantially the same terms and conditions as set forth herein with each of the other metered users under which the City agrees to reserve to each of them facilities for the collection and complete treatment of the amount of wastes applicable to them respectively as shown on the schedule attached hereto and marked "Exhibit D" and such metered users agree to pay the unit rate for waste quantities and the Total

Annual Waste Disposal Charges and Minimum Annual Charges applicable to them respectively as shown on "Exhibit C". The Company shall be under no obligation to pay the Total Annual Waste Disposal Charge or Minimum Annual Charge before such agreements have been executed.

6. In the event that any user of the Treatment Plant other than one of the metered users discharges waste into the City's sewer system which waste involves total annual costs of treatment equal to or greater than one-half of such costs of treatment of the waste for which capacity is to be reserved for Post Cereals Division of General Foods Corporation, as provided for and on the cost allocation basis in "Exhibit D", then before accepting further sewage from such user the City shall require such user to install and maintain meters and to enter into an agreement with the City on substantially the same terms as set forth herein for the reservation of an appropriate amount of capacity for such user and payment of a Total Annual Waste Disposal Charge and a Minimum Annual Charge dependent on the capacity reserved for such user as well as unit rates of charge for waste quantities delivered. Such user shall thereafter be deemed to be one of the metered users, and the charges to the other metered users shall be reduced so that each pays a Total Minimum Annual Charge proportionate to the amount of capacity then reserved for it in relation to the total amount reserved for all metered users. In the event that before termination of the Company's obligations to pay the Total Annual Waste Disposal Charge and Minimum Annual Charge the City enters into a contract with any other user, or prospective user, or metered user, of the City's system covering use thereof or, having entered into such a contract, amends the same, and any of the terms of such a contract or amendment as to (i) Total Annual Waste Disposal Charge

or Minimum Annual Charge or both in proportion to the sewage facilities reserved for such user, (ii) unit rates for flow, B.O.D. or lids or any of them or any combination of them, (iii) time of termination, or (iv) any other term or condition, are more favorable to such user than the terms hereof are to the Company, then the Company shall have the benefit of such terms and this agreement shall be considered amended to include such terms more favorable to the Company.

7. In the event that (i) any metered user signifies in writing to the City Clerk its desire to surrender capacity in accordance with paragraph "4" (d) after either of the other metered users has so signified its desire to surrender capacity but before a survey shall have been completed and the charge to such other metered users for the Total Annual Waste Disposal Charge and the Minimum Operating Cost shall have been reduced, and (ii) there shall be current use of or demand for such capacity but in quantity less than the total ount which such metered users desire to surrender, then each of the metered users that have signified a desire to surrender capacity shall surrender capacity in the proportion that the capacity reserved initially for it bears to the total of such surrendered capacity, which total shall be equal to the amount of capacity for which there is current use or demand by other users, and charges to such metered users shall be reduced as provided in paragraph "4" (d). The cost of any survey shall be divided equally among the City and the metered users surrendering capacity.

8. The City shall provide by ordinance for the payment by users of the Treatment Plant other than the metered users of the Total Annual Waste Disposal Charge and Minimum Annual Charge attributed to the "City of Battle Creek" as set forth on "Schedule C".

9. If the City fails to enact the ordinances and changes provided for herein when required, the Company shall thereafter be under no obligation to pay the Total Annual Waste Disposal Charge or the Minimum Annual Charge.

10. The City shall have the right further to enlarge or change the Treatment Plant at any time in the future, but the Company will not be obliged by virtue of this Contract to pay any charges based on the capital cost to the City of future enlargements or changes from the plans described in "Exhibit A", so long as its wastes discharged into the City system are within the average annual amounts specified in paragraph "1" hereof and the degree of waste treatment required of the City by law is no greater than the treatment specified in the Final Order of Determination entered against the City by the Michigan Water Resources Commission on April 28, 1954. In no event, however, shall the Company be obliged to pay charges relating to such future enlargements or changes unless, before the enlargements or changes are made, it notifies the City in writing of its election to continue to have its wastes treated in the City's Treatment Plant.

11. This Contract may be terminated or amended by the mutual consent of the parties at any time, provided that the interests of the holders of outstanding bonds issued to finance the said enlargement and improvement of the Treatment Plant will not be prejudiced by such amendment or termination.

12. The City will not accept wastes from other customers or users for processing in the Treatment Plant so long as this Contract is operative that have characteristics that will entail additional treatment costs to the Company, or that will interfere with the proper treatment of the Company's wastes or the proper and efficient opera-

tion of the Treatment Plant.

13. Anything in this Contract to the contrary notwithstanding, Company shall not (a) be obliged to discharge into the City's sewer system any wastes which, if discharged into the Kalamazoo River, would not violate any law or order to which the Company is then subject, nor (b) be obliged to discharge into the City's sewer system any wastes whatever.

14. The City shall keep and preserve complete and accurate records and accounts of its costs of operating the Treatment Plant, such records to be available for examination and copying by the Company during all usual business hours at any time, and to be sufficiently detailed to enable the Company to ascertain what operating costs and what proportions of each of those costs are allocated to the various types of waste treated in the plant.

15. The City will operate its Treatment Plant and sanitary sewer facilities efficiently in order that the effluent discharged therefrom into the Kalamazoo River may comply as fully as possible with the present requirements of the Michigan Water Resources Commission.

16. Monies paid to the City by the Company or other persons, firms or corporations, public or private, for the treatment of sewage, industrial or other wastes, shall be used by the City exclusively for water and sewer purposes in accordance with accepted accounting principles.

17. This Contract shall continue in force until terminated as herein provided.

18. The rights and obligations of the parties hereunder shall inure to and be binding upon their respective successors and assigns.

19. This Contract sets forth the entire understanding and agreement between the parties respecting the subject matter hereof.

IN WITNESS WHEREOF, the parties have caused this agreement to be executed by their respective officers thereto duly authorized as of the day and year first above written.

CITY OF BATTLE CREEK, MICHIGAN

ATTEST:

By _____
Its Mayor

_____
Its _____

and _____
Its Clerk

MICHIGAN CARTON CO.

ATTEST:

_____ By _____
Its Secretary Its President

STATE OF MICHIGAN)
) SS.
COUNTY OF CALHOUN)

On this 4th day of _____, 1959, before me, a Notary Public in and for said County, personally appeared _____ and _____, to me known, who, being by me duly sworn, did each for himself say that they are, respectively, the Mayor and the Clerk of the City of Battle Creek, Michigan, the municipal corporation named in and on behalf of which they executed the foregoing instrument, and the said instrument was signed and sealed on behalf of said municipal corporation by authority of its City Commission; and said _____ and _____ acknowledge said instrument to be the free act and deed of said municipal corporation.

_____
Notary Public in and for Calhoun County, Michigan.
My commission expires Feb 15, 1961

STATE OF MICHIGAN)
) SS.
COUNTY OF CALHOUN)

On this 3rd day of April, 1959, before me, a Notary Public in and for said County, personally appeared DAN INT-HOUT, JR., and C. H. CAMERSON, to me known, who, being by me duly sworn, did each for himself say that they are, respectively, the President and Secretary of Michigan Carton Co., the corporation named in and on behalf of which they executed the foregoing instrument, and that the seal affixed to said instrument is the corporate seal of said corporation, and the said instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors; and said Dan Int-Hout, Jr., and C.H. Cameron acknowledged said instrument to be the free act and deed of said corporation.

Wilbur C. Ingerson

Notary Public in and for Calhoun County, Michigan.

My commission expires _____

WILBUR C. INGERSON
Notary Public Calhoun County, Mich.
My Commission Expires Oct. 17, 1959

STATE OF MICHIGAN)
) ss.
COUNTY OF CALHOUN)

On this 31st day of October, 1967, before me, a Notary Public in and for said County, personally appeared James G. Willis, to me known, who, being by me duly sworn, did say that he is the Acting City Manager of the City of Battle Creek, Michigan, the municipal corporation named in and on behalf of which he executed the foregoing instrument, and the said instrument was signed and sealed on behalf of said municipal corporation by authority of its City Commission, and said James G. Willis acknowledged said instrument to be the free act and deed of said municipal corporation.

Evelyn S. Brown

Notary Public, Calhoun County, Michigan
My commission expires: May 18, 1968

STATE OF MICHIGAN)
) ss.
COUNTY OF CALHOUN)

On this 27th day of October, 1967, before me, a Notary Public in and for said County, personally appeared Dan Int-Hout, Jr. and Joseph G. McCarthy, to me known, who, being by me duly sworn, did each for himself say that they are, respectively, the President and Secretary of Michigan Carton Co., the corporation named in and on behalf of which they executed the foregoing instrument, and that the seal affixed to said instrument is the corporate seal of said corporation, and the said instrument was signed and sealed on behalf of said corporation by authority of its Board of Directors; and said Dan Int-Hout, Jr. and Joseph G. McCarthy acknowledged said instrument to be the free act and deed of said corporation.

Verne K. Livingston

Notary Public, Calhoun County, Michigan
My commission expires: _____

VERNE K. LIVINGSTON
NOTARY PUBLIC BRANCH COUNTY, MICHIGAN
ACTING IN CALHOUN COUNTY, MICHIGAN
MY COMMISSION EXPIRES NOVEMBER 9, 1970

February 23, 1965

Mr. Donald Wilson,
Vice President of Engineering,
235 Porter Street,
Battle Creek, Michigan.

Dear Mr. Wilson:

Pursuant to the provisions of the Waste Treatment Contract now in effect, the City on October 19, 1964 proposed certain changes in the use charges currently in effect. Since that time there has been a full and frank series of negotiations between the City and your company with the City showing the need for the proposed changes and the reasonableness of the City's charges as proposed.

At a meeting of the Industrial Waste Advisory Group held at the Kellogg Company on February 16, 1965 the City made known its intent to place the following use rates into effect as soon as practical which rates appeared to be acceptable to all parties:

ITEM	NEW USE RATE	
1. Flow	$14.20 per million gallons	1430
2. B.O.D.	$ 5.14 per thousand pounds	316
3. Suspended Solids	$11.04 per thousand pounds	970

Therefore, on and after March 1, 1965 the City will bill the Company at the above rates for all wastes delivered into the City sewerage system for treatment. The City deems it necessary to collect one year's data under the new system of sampling in order to have sufficient significant data on which to base a review of the above charges and the City will as soon as practical after such data has been collected institute such a review in cooperation with your company and the other interested parties.

I would like to take this means of thanking both you and your Company for the very considerable effort you have put forth during the past months in regard to this matter and to assure you that your cooperation has been greatly appreciated.

Yours very truly,

L. B. Crandall,
Director.

LBC:b
cc: Mr. Dawson

EXHIBIT A

16.0 MGD COMPLETE TREATMENT PLANT

Serving: City of Battle Creek, Michigan Carton Co.
Kellogg Company, General Foods Corporation

Item	Principal Items in Treatment Plant	
	No. of Units	Capacity or Rating
Raw sewage pumps	4	32 mgd
Primary settling tanks	3	-
Overflow rate	1,060 gpd/sq.ft.	@ 16.0 mgd
Detention time	1.7 hours	@ 16.0 mgd
Trickling filters	8	-
Applied loading to filters (without recycle load)	-	1.5 #/c.y./day
Recycling pumps	4	32 mgd
Final settling tanks	3	-
Overflow rate	900 gpd/sq.ft.	@ 24.0 mgd
Detention time	2.0 hours	@ 24.0 mgd
Chlorination facilities:		
Chlorinators	1	8,000 #/day
Chlorine contact tank	1	20,300 c.f.
Sludge Disposal facilities:		
Thickeners	2	22,300 # Solids/day
Digesters	3	198,000 c.f.
Filters	2	3,100 # Solids/hour
Incinerator	1	10,000 # H_2O/hour

INITIAL SCHEDULE OF R[illegible] 1973

Minimum Annual Waste Disp[illegible]l Charges

ESTIMATED AMOUNTS	Annual Waste Disposal Charge SECONDARY TREATMENT	Annual Waste Disposal Charge PRIMARY TREATMENT	TOTAL Annual Waste Disposal Charge
Contributor			
1. City of Battle Creek (2)*	$ 94,150	$ 17,202	$111,352
2. Michigan Carton Co.	48,525	5,704	54,229
3. Kellogg Co.	22,760	2,029	24,789
4. General Foods Corp.	16,365	775	17,140
	$181,800	$ 25,710	$207,510
ESTIMATED % of Total	%	%	%
1. City of Battle Creek	51.8	66.9	53.7
2. Michigan Carton Co.	26.7	22.2	26.1
3. Kellogg Co.	12.5	7.8	11.9
4. General Foods Corp.	9.0	3.1	8.3
	100.0	100.0	100.0

96.158

(cont'd)

EXHIBIT (

UNIT RATES FOR WASTE QUANTITIES (3)*

Characteristic	Unit	Unit Rate
Flow	Million Gallons	14.30
B.O.D.	Thousand Pounds	3.16
Solids	Thousand Pounds	9.20

MINIMUM ANNUAL CHARGE

	% of Total	Estimated Amount	
1. City of Battle Creek	51.5	$187,839	
2. Michigan Carton Co.	19.0	69,275	118,495
3. Kellogg Co.	8.3	30,385	
4. General Foods Corp.	5.2	18,835	
	84.0	$306,334	

(1)* See Exhibit D, attached for basis of calculations.

(2)* Refers to all users except the three Metered Users named above.

(3)* To be paid in addition to the "Total Annual Waste Disposal Charge." The total annual payment is to be not less than the "Minimum Annual Charge."

EXHIBIT D

I. The "Total Annual Waste Disposal Charge" shown on Exhibit C is based on a proposed primary and secondary waste treatment plant and system designed to accommodate estimated 1980 waste loads, as follows:

	Flow		Suspended Solids		B.O.D.	
	mgd	%	#/day	%	#/day	%
City of Battle Creek	9.7	60.5	12,800	56.5	16,000	43.5
Kellogg Co.	1.1	6.9	1,210	5.4	7,650	20.9
General Foods Corp.	0.2	1.4	595	2.8	6,500	17.8
Michigan Carton Co.	5.0	31.2	8,000	35.3	6,500	17.8
	16.0	100.0	22,605	100.0	36,650	100.0

II. The "Unit Rates for Waste Quantities" shown on Exhibit C are based on the volume and strength of wastes from the City and principal industries, estimated as follows for 1960:

	Flow in Million Gals.		Suspended Solids in 1000 lbs.		B.O.D. in 1000 lbs.	
	Daily	Annual	Daily	Annual	Daily	Annual
City of Battle Creek	6.32	2,271 - 360	11.0	3,855 - 350	13.05	4,603.0 - 354
Kellogg Co.	1.47	460 - 313	1.52	476 - 313	6.10	1,900.0 - 311
General Foods Corp.	0.23	72 - 313	.55	164 - 300	5.00	1,565.0 - 313
Michigan Carton Co.	5.00	1,375 - 275	8.00	2,200 - 275	6.50	1,788.0 - 275
Totals	13,02	4,178	21.07	6,695	30.65	9,856.0

III. The costs of treating all wastes are allocated between flow, suspended solids and B.O.D. substantially as follows:

	Flow	Suspended Solids	B.O.D.
Primary Treatment	15.8%	67.5%	16.7%
Secondary Treatment	24.8%	31.7%	43.5%
Complete Treatment Operation (1960)	39.4%	40.0%	20.6%

CHAPTER 1042
Sewers

1042.01 Public purposes.
1042.02 Definitions.
1042.03 Untreated discharge prohibited; exception.
1042.04 Private disposal systems generally.
1042.05 Mandatory connection to the system.
1042.06 Use of private systems permitted.
1042.07 Specifications for private systems.
1042.08 Operation of private systems.
1042.09 Classes of sewer service; connection applications.
1042.10 Cost of sewer connections; permits required.
1042.11 Unauthorized connections.
1042.12 Construction permits; application; fee.
1042.121 Connection tap fees.
1042.13 Construction costs; indemnification of City for loss.
1042.14 Separate installations required.
1042.15 Use of old building sewers.
1042.16 Building sewer specifications.
1042.17 Connections of building sewers to building drains.
1042.18 Downspouts and other unlawful connections to building sewers or drains.
1042.19 Inspections.
1042.20 Separate building sewers required; exception.
1042.21 Street openings; barricades and warning lights. (Repealed)
1042.22 Construction of public sewers.
1042.23 Construction specifications.
1042.24 General requirements for use of public sewers.
1042.25 Discharge of uncontaminated water into City sewers.
1042.26 Prohibited discharges.
1042.27 Garbage grinders.
1042.28 Stored liquid wastes.
1042.29 Special discharge authorization.
1042.30 Pretreatment; treatment; protection against accidental discharge.
1042.305 Industrial user dishcarge authorization.
1042.307 Bypasses.
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CROSS REFERENCES

Sewers and sewer systems generally - see Mich. Const. Art. 7, Sec. 24; M.C.L.A. Secs. 46.171 et seq., 67.34, 123.241 et seq., 323.151 et seq., 325.201 et seq.

Sewers and sewer systems in home rule cities - see M.C.L.A. Secs. 117.4b, 117.4e, 117.4f, 117.35

Department of Public Works - see ADM. Ch. 238

Accumulation and deposit of liquid waste - see GEN. OFF. 672.08

Sanitary and storm sewer improvements in subdivisions - see P. & Z. 1222.05, 1222.06

Wastewater from house trailers - see B. & H. 1468.05

Sewers in dwellings - see B. & H. 1460.30

Maintenance of utilities; required facilities and services in dwellings - see B. & H. 1460.37

1042.01 PUBLIC PURPOSES.

The public purposes of this chapter are to prevent the pollution of public waters, to preserve and maintain the sewage collection and treatment facilities of the City, to preserve the public health, safety, comfort and convenience, to comply with State and Federal water quality standards and to provide for the equitable recovery of the cost of wastewater treatment.

(Ord. 22-80. Passed 11-4-80.)

1042.02 DEFINITIONS.

Words, phrases and terms not specifically defined herein, and having a technical or specialized meaning, shall be defined as set forth in the latest edition of Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association, the American Water Works Association and the Water Pollution Control Federation. Reference to waste constituents and characteristics shall have the meanings ascribed thereto in the aforesaid Standard Methods for the Examination of Water and Wastewater and measurements thereof shall be as set forth in such publication or as established by Federal or State regulatory agencies. In addition, as used in this chapter, unless the context indicates otherwise:

(1) "Act" means the Federal Water Pollution Control Act, as amended by the Clean Water Act and the Water Quality Act of 1987, 33 U.S.C. Part 1251, et seq.

(2) "Authorized representative of industrial user" means:

A. In the case of a corporation, a president, secretary, treasurer or vice president of the corporation in charge of a principal business function;

B. In the case of a partnership or proprietorship, a general partner or proprietor; and

C. An authorized representative of the individual designated in paragraphs (2)A. and B hereof if:

1. Such representative is responsible for the overall operation of the facilities from which the discharge into the POTW originates;

2. The authorization is in writing; and

3. The written authorization is submitted to the POTW.

(3) "Beneficial uses" means uses of the waters of the City, subscribing agencies or the State which may, or do, require protection against quality degradation thereof, including, but not limited to, waters for domestic, Municipal, agricultural, industrial, power generation, recreation, aesthetic enjoyment or navigation purposes, or for the protection and enhancement of fish, wildlife or other aquatic resources or reserves, and such other uses, both tangible and intangible, as are or may be specified by Federal or State law as beneficial uses.

(4) "Billable parameters" means those parameters (i.e. flow, BOD, SS, volume and I/I) which the treatment works is designed to treat and for which average user charge unit costs are calculated.

(5) "Blow-down water." See "Cooling water."

(6) "BOD (biochemical oxygen demand)" means the quantity of oxygen utilized in the biochemical oxidation of organic matter in five days at twenty degrees Centigrade, expressed in milligrams per liter, as determined in accordance with standard laboratory procedure after laboratory settling of waste, as set out in the latest edition of Standard Methods for the Examination of Water and Wastewater.

(7) "Building drain" and "building sewer" mean the lowest part of the wastewater drainage pipes and sumps of a building which convey wastewater to the building sewer, terminating at the public sewer or monitoring station within a public right of way.

(8) "Bypass" means the intentional diversion of waste streams from any portion of an industrial user's treatment facility.

(9) "Capital costs" means the debt service requirements and the costs of depreciable assets that are purchased from current year revenues.

(10) "Charge" means a rental fee or other fee established pursuant to this chapter for services and facilities furnished by the City and/or subscribing agencies to any premises in connection with the operation of the sewerage facilities.

(11) "City" means the City of Battle Creek, Michigan, acting by and through its officers and agents.

(12) "City Sewer Reserve Fund" means the local City sewer service charge revenue deposited in a fund to be used to defray any local cost in connection with sewage collection and treatment facilities in the City.

(13) "Commercial user" means any nonresidential user who, in the determination of the Director of Public Works, introduces into the sewerage system primarily segregated domestic wastes or waste from sanitary conveniences.

(14) "Compatible pollutant" means BOD, suspended solids, pH and fecal coliform bacteria and such additional pollutants as are identified and controlled in the City's NPDES permit for its wastewater treatment plant where such plant has been designed and used to reduce or remove such pollutants.

(15) "Contamination" means an impairment of the quality of the waters of the City, subscribing agencies or the State, by waste, to a degree which creates a hazard to public health. Contamination shall include any equivalent effect resulting from the disposal of wastewater, whether or not waters of the City, subscribing agencies or the State are affected thereby.

(16) "Contract capacity" means the industrial capacity contracted for with the City.

(17) "Contract user" means any private entity which contracts to use the City's sewerage system.

(18) "Cooling water" means noncontact water discharged from any use during which the only pollutant added to the water is heat, such as that from air conditioning, refrigeration units or boilers.

(19) "Cubic foot" means the equivalent of 7.48 gallons (U.S. liquid). "Gallon" means the equivalent of 0.13368 cubic foot.

(20) "Director" means the Director of Public Works of the City or his or her designees, including, but not limited to, duly authorized personnel.

(21) "DNR" means the Department of Natural Resources of the State.

(22) "Domestic wastes" means liquid wastes from the noncommercial preparation, cooking or handling of food or containing human excrement and similar matter from the sanitary conveniences of dwellings, commercial buildings, industrial facilities and institutions.

(23) "EPA" means the Federal Environmental Protection Agency.

(24) "Federal Act" means the Federal Water Pollution Control Act, P.L. 92-500, as amended, as well as any regulation, limitation or standard promulgated by the Environmental Protection Agency pursuant to the Act.

(25) "Fiscal year" means July 1 through June 30.

(26) "Gallon." See "Cubic foot."

(27) "Garbage" means solid wastes resulting from the domestic, commercial and industrial preparation, cooking, dispensing, handling, storage or sale of food.

(28) "Health Officer" means the County Health Officer, his or her assistant or authorized deputy acting as Health Officer of the City and subscribing agencies.

(29) "Holding tank waste" means any waste from holding tanks, including, but not limited to, chemical toilets, campers, trailers, septic tanks and tank trucks.

(30) "ICR" means industrial cost recovery.

(31) "Incompatible pollutant" means any pollutant which is not a compatible pollutant, interferes with, is not removed by, or is otherwise incompatible with, the sewage treatment process or sludge management.

(32) "Industrial users" means all establishments engaged in producing, manufacturing or processing operations; other establishments engaged in any activity resulting in the production of industrial wastes which have sewer service; or any wastewater contributor identified in the SIC Manual, latest edition, prepared and published by the Executive Office of Management and Budget of the United States, classified with divisions A, B, D, E and I therein. A user in the divisions listed is excluded if the user discharges less than 25,000 gallons per day of equivalent sanitary flows with domestic waste loadings or if the user is a governmental or residential user, provided that its waste discharge does not contain pollutants which are toxic or incompatible, which interfere with treatment plant processes or which may otherwise contaminate or reduce the utility of the sludge.

(33) "Industrial waste" means the waterborne waste and wastewater from any production, manufacturing or processing operation of whatever nature, including institutional and commercial operations where water is used for the removal of significant quantities of waste other than from human habitation of premises connected to the public sewers. Contents of chemical toilets, septic tanks, waste holding tanks and waste sumps shall be classed as industrial waste.

(34) "Infiltration/Inflow (I/I)" means the ground water and surface water which enters through collection system defects and cross connections from storm sewers.

(35) "Institutional user" means any hospital or public or private school that introduces into the sewerage system primarily segregated domestic waste or wastes from sanitary conveniences.

(36) "Interceptor sewer line" means a sewer line whose basic function is to collect wastewater from two or more trunk sewers and conduct the wastewater to a point for treatment or disposal. A trunk or primary sewer is that which receives wastewater from a number of branch or transverse sewers or outlets.

(37) "Interference" means an inhibition or disruption of the sewerage system and its sludge processes, use or disposal, which is a cause of or significantly contributes to either a violation (including an increase in the magnitude or duration of a violation) of any requirement of the Wastewater Treatment Plant's NPDES permit, State-approved Program for Effective Residuals Management (PERM) or any other Federal, State or local statutory provision, regulation or permit. A user significantly contributes to such a violation whenever such user:

A. Discharges a daily pollutant loading or concentration in excess of that allowed by contract, by Federal or State law or by other sections of this chapter; or
B. Discharges wastewater which substantially differs in quantity, nature or constituents from the user's average discharge.

(38) "Local costs" means those costs which are borne in their entirety by each subscribing agency and the City and includes all expenses incurred up to the point of delivery to the regional system.

(39) "Major user" means an industrial or nonindustrial user discharging more than 25,000 gallons per day of equivalent sanitary, domestic waste loading flows directly into a sewer line.

(40) "Mass emission rate" means the weight of material discharged to the sewerage system during a given time interval. Unless otherwise specified, the mass emission rate means pounds per day of a particular constituent or combination of constituents.

(41) "MG" means million gallons; "mgd" means a million gallons per day; and "M lb/d" means a thousand pounds per day.

(42) "National categorical pretreatment standard" or "categorical pretreatment standard" means any regulation containing pollutant discharge limits promulgated by the EPA in accordance with Section 307(b) and (c) of the Act (33 U.S.C. Part 1317), which applies to a specific category of industrial users.

(43) "New source" means any building, structure, facility or installation the construction of which commenced after the publication of proposed pretreatment standards under Section 307(c) (33 U.S.C. Part 1317) which will be applicable to such source if such standards are thereafter promulgated in accordance with that section, provided that:
A. The construction is a site at which no other source is located;
B. The process or production equipment that caused the discharge of pollutants at an existing source is totally replaced; or
C. The production or wastewater generating processes are substantially independent of an existing source at the same site.

(44) "Nonmajor user" includes all users, except industrial users and major users discharging into a sewer line.

(45) "Normal domestic strength" means wastewater with concentrations that do not exceed the following:
A. BOD (biochemical oxygen demand) 300 parts per million; or
B. SS (suspended solids) 300 parts per million.

(46) "NPDES permit" means a permit issued pursuant to the National Pollutant Discharge Elimination Systems, as prescribed in Section 402 of Public Law 92-500.

(47) "Operation and maintenance costs" means all costs for labor, power, chemicals, materials and supplies, replacements, contractual services, billing and administration chargeable to wastewater operations.

(48) "Outlet" means any natural or man-made exit which terminates into a watercourse, pond, ditch, lake or other body of surface water, or an exit into the ground water.

(49) "Owner" means the owner of any real property from which sewage is discharged.

(50) "Pass-through" means a discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, causes a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

(51) "Person" means any individual, firm, company, association, society, corporation, municipal corporation, governmental unit or group.

(52) "pH" means the logarithm of the reciprocal of the weight of hydrogen ions in grams per liter of solution.

(53) "P.L. 92-500" means Public Law 92-500, being the Federal Water Pollution Control Act of 1972 and amendments.

(54) "P.L. 95-217" means Public Law 95-217, being the Federal Water Pollution Control Act Amendments of 1977.

(55) "Pollutant" means any dredged soil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt and industrial, municipal, commercial and agricultural waste or any other contaminant.

(56) "Pollution" means an alteration of the quality of the waters of the City, subscribing agencies or the State by waste which unreasonably affects such waters for any beneficial use or affects facilities serving such beneficial use. "Pollution" may also include contamination.

(57) "Premises" means each lot, parcel of land, or portion thereof, including any improvement thereon, which is directly or indirectly connected to the sewage facilities or treatment facilities of the City. Each dwelling unit of a duplex, apartment or any other multifamily residence shall be deemed a separate premises.

(58) "Pretreatment" or "treatment" means the reduction, elimination or alteration of pollutant properties to a less harmful state prior to or in lieu of discharge or introduction into a POTW. This can be accomplished by physical, chemical or biological processes, process changes or other means, except as prohibited by 40 CFR Section 403.6(d).

(59) "Pretreatment standards" means all applicable Federal rules and regulations implementing Section 307 of Public Act 92-217, as well as any nonconflicting State or local standards. In cases of conflicting standards or regulations, the more stringent thereof shall apply.

(60) "Public water" means waters of the City or waters of the State.

(61) "Publicly owned treatment works" or "(POTW)" means a treatment works as defined by Section 212 of the Act, including any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage and industrial waste. The systems include sewers, pipes and equipment used to convey wastewater to the treatment facility. The term also includes the municipality as defined in Section 502(4) of the Act which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

(62) "Reclaimed water" means water which, as a result of treatment of waste, is suitable for direct beneficial use or a controlled use that would not otherwise occur.

(63) "Regional costs" means the costs shared by all subscribing agencies and the City in accordance with the cost of providing regional service for each subscribing agency and the City.

(64) "Regional Sewer Reserve Fund" means the regional sewer service charge revenue deposited in a fund to be used to defray any regional costs incurred by the City.

(65) "Residential equivalent" means water discharged in the amount of 11,000 cubic feet annually.

(66) "Residential user" means a user whose premises are primarily for providing living accommodations, have no significant producing or processing activity of a commercial or industrial nature and primarily produce domestic waste.

(67) "Severe property damage" means substantial physical damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(68) "Sewage" means the waterborne wastes received from human habitation and use of premises for residential, commercial, institutional or industrial purposes.

(69) "Sewer," "sanitary sewer" and "public sewer" mean a pipe or conduit which carries sewage and/or industrial wastes and to which storm, surface and ground waters are not intentionally admitted. Unless otherwise qualified, "sewer," when used in this chapter, means "sanitary sewer." A City sewer or public sewer is any sewer located within an easement or public right of way and which is maintained by the City.

(70) "Sewerage system" means all sewers, facilities and appurtenances owned or operated by the City or a subscribing agency for the carrying, collecting, pumping and treatment of sewage.

(71) "Shall" is mandatory; "may" is permissive.

(72) "SIC" means Standard Industrial Classification. (See also "Industrial user.")

(73) A. "Significant industrial user" means, except as provided in paragraph (73)B. hereof:

1. All industrial users subject to categorical pretreatment standards under 40 CFR, Section 403.6 and 40 CFR Chapter I, Subchapter N; and
2. Any other industrial user that:
   a. Discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater);
   b. Contributes a process waste stream which makes up five percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or
   c. Is designated as a significant industrial user by the POTW on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR, Section 403.(f)(6)).

B. Upon a finding that an industrial user meeting the criteria in paragraph (73)A.2. hereof has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the POTW may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR, Section 403.8(f)(6), determine that such industrial user is not a significant industrial user.

(74) "Significant noncompliance (SNC)" means:

A. Chronic violations of wastewater discharge limits, defined here as those in which sixty-six percent or more of all of the measurements taken during a six-month period exceed (by any magnitude) the daily maximum limit or the average limit for the same pollutant parameter.

B. Technical review criteria (TRC) violations, defined here as those in which thirty-three percent or more of all of the measurements for each pollutant parameter taken during a six-month period equal or exceed the product of the daily maximum limit or the average limit multiplied by the applicable TRC (TRC = 1.4 for BOD, TSS, fats, oil, and grease, and 1.2 for all other pollutants except pH).

C. Any other violation of a pretreatment effluent limit (daily maximum or longer-term average) that the Control Authority determines has caused, alone or in combination with other discharges, interference or pass-through (including endangering the health of POTW personnel or the general public);

D. Any discharge of a pollutant that has caused imminent endangerment to human health or welfare or to the environment or has resulted in the POTW's exercise of its emergency authority to halt or prevent such a discharge;

E. Failure to meet, within ninety days after the schedule date, a compliance schedule milestone contained in a local control mechanism or enforcement order for starting construction, completing construction or attaining final compliance;

F. Failure to provide, within thirty days after the due date, required reports such as baseline monitoring reports, ninety-day compliance reports, periodic self-monitoring reports and reports on compliance with compliance schedules;

G. Failure to accurately report noncompliance;

H. Any other violation or group of violations which the Control Authority determines will adversely affect the operation or implementation of the local pretreatment program.

(75) "Slug" means any discharge of water or sewage in which the quantity or concentration of any component, including flow, exceeds the maximum allowable quantity or concentration by more than five times the allowable quantity or concentration, or is more than the allowable quantity or concentration, but not greater than five times the allowable quantity or concentration for a period of time exceeding fifteen minutes.

(76) "State" means the State of Michigan.

(77) "Storm sewer" means a public sewer which carries storm and surface waters and drainage, but which excludes sewage other than unpolluted cooling water.

(78) "Storm water" means that part of the rainfall which reaches the sewers as run-off from natural land surfaces, building roofs or pavements.

(79) "Subscribing agency" means any agency which contracts to use the City's sewerage system, including the Federal Center, Veteran's Administration, City of Springfield and the Townships of Battle Creek, Emmett, Pennfield and Bedford.

(80) "Suspended solids" means the solids that either float on the surface of, or are in suspension in, water, sewage or other liquids, in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater.

(81) "Toxic pollutant" means any pollutant or combination of pollutants identified as toxic pursuant to Section 307(a) of the Federal Water Pollution Control Act or other Federal statutes or in regulations promulgated by the State under State law.

(82) "Treatment plant." See "Wastewater treatment plant."

(83) "Unpolluted water" means water not containing any pollutants limited or prohibited by the effluent standards in effect, or water whose discharge will not cause any violation of receiving water quality standards.

(84) "User" means any person who directly or indirectly discharges, causes or permits the discharge of wastewater into a City sewer.

(85) "Waste" means sewage and any and all other water substances, whether liquid, solid, gaseous or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing or processing operation of whatever nature, including such waste placed within containers of whatever nature prior to, and for the purposes of, disposal.

(86) "Wastewater" means waste and water, whether treated or untreated, discharged into or permitted to enter a City sewer.

(87) "Wastewater components, constituents and characteristics" means the individual chemical, physical, bacteriological and radiological parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the contents, quality, quantity and strength of wastewater.

(88) "Wastewater treatment plant" means any arrangement of devices and structures used for treating sewage, whether publicly or privately owned.

(89) "Water quality requirements" means the requirements for the City's treatment plant effluent established by an NPDES permit or by State or Federal regulatory agencies for the protection of receiving water quality. Water quality requirements include effluent limitations and waste discharge standards, limitations or prohibitions which may be established or adopted from time to time by State or Federal laws or regulatory agencies.

(90) "Watercourse" means a channel, natural or artificial, lined or unlined, in which a flow of storm water, ground water or clean water occurs, either continuously or intermittently.

(91) "Waters of the City" means any water, surface or underground, within the boundaries of the City or subscribing agencies.

(92) "Waters of the State" means and includes:

A. Both surface and underground waters within the boundaries of this State subject to its jurisdiction, including all ponds, lakes, rivers, streams, public ditches, tax ditches and public drainage systems within this State, other than those designed and used to collect, convey or dispose of sanitary sewage;

B. The flood plain free-flowing waters determined by the Department of Natural Resources on the basis of 100-year flood frequency; and

C. Any other waters specified by State law.

(Ord. 22-80. Passed 11-4-80; Ord. 33-82. Passed 1-4-83; Ord. 2-84. Passed 1-24-84; Ord. 8-93. Passed 6-8-93.)

1042.03 UNTREATED DISCHARGE PROHIBITED: EXCEPTION.

No person shall discharge, from any place in or under the jurisdiction of the City, into any outlet, any sewage or other wastes, except where suitable treatment has been provided in accordance with the provisions of this chapter or where a discharge is under jurisdiction of an NPDES permit.
(Ord. 22-80. Passed 11-4-80.)

1042.04 PRIVATE DISPOSAL SYSTEMS GENERALLY.

Except as hereinafter provided, no person shall construct or maintain any privy, privy vault, septic tank, cesspool or other private facility intended or used for the disposal of sewage.
(Ord. 22-80. Passed 11-4-80.)

1042.05 MANDATORY CONNECTION TO THE SYSTEM.

(a) It is hereby determined and declared that public sanitary sewers are essential to the health, safety and welfare of the residents of the City; that all structures in which sanitary sewage originates shall connect to the sewerage system at the earliest reasonable date as a matter for the protection of the health, safety and welfare of the residents of the City; and, therefore, all structures in which sanitary sewage originates that are situated or become situated within 200 feet of a street, alley, right of way or easement which contains a public sanitary sewer shall be connected to such sewer within ninety days after the mailing or posting of notice to such premises by the appropriate City official that such services are available. Such notification and the enforcement of this section shall be in conformity with Act 288 of the Public Acts of 1972, as amended. (Ord. 2-84. Passed 1-24-84.)

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.06 USE OF PRIVATE SYSTEMS PERMITTED.

If a public sanitary or combined sewer is not available, within the meaning of Section 1042.05, to any property from which sewage is discharged, such sewage shall be discharged to a private sewage disposal system complying with Sections 1042.07 and 1042.08. (Ord. 22-80. Passed 11-4-80.)

1042.07 SPECIFICATIONS FOR PRIVATE SYSTEMS.

(a) The type, capacity, location and layout of a private sewage disposal system shall comply with all requirements of the County Health Department and shall be constructed and connected in accordance with the plumbing regulations of the City. No septic tank or cesspool shall be permitted to discharge to any public sewer or outlet. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.08 OPERATION OF PRIVATE SYSTEMS.

(a) The owner of a private sewage disposal system shall operate and maintain such system in a sanitary manner and nuisance-free at all times, at no expense to the City. The owner shall comply with all requirements which may be imposed by the Health Officer. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.09 CLASSES OF SEWER SERVICE; CONNECTION APPLICATIONS.

(a) There are hereby established the following classes of sewer service:
- (1) Residential user;
- (2) Commercial user;
- (3) Industrial user; and
- (4) Institutional user.

(b) An application for connection to a public sewer shall, in every case, be made by the owner or his agent on a form furnished by the City. Each application shall be supplemented by such plans, specifications, analyses or estimates of strength and quantity of wastewater to be produced, flow data or other information relative to wastewater conveyance, characteristics, quantities or pretreatment as are, in the judgment of the Director of Public Works, considered pertinent. In the case of every industrial service connection, irrespective of whether or not a new physical connection is to be made, a new or amended application shall be filed with the City upon a change of ownership of the property served, upon a change of occupancy or upon a change of any activity resulting in changes in type of industrial waste. The holders of all permits issued under this chapter shall be subject at all times to all applicable Federal, State and local laws and regulations. At no time and in no way shall the holder of any permit acquire or be regarded as having acquired a vested or continuing right to maintain or to have continued any connection to the public sewer.
(Ord. 22-80. Passed 11-4-80.)

1042.10 COST OF SEWER CONNECTIONS; PERMITS REQUIRED.

(a) A connection to the public sewer, including the piping within any public street right of way, shall be made at the sole expense of the owner of the property served. Such connection shall not be made without the required approved permits issued by the Director of Public Works. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98.
(Ord. 11-95. Passed 5-16-95.)

1042.11 UNAUTHORIZED CONNECTIONS.

(a) No person, without the approval of the Director of Public Works, shall uncover, make any connection with or opening into, or use, alter or disturb, any public sewer or appurtenance thereof. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98.
(Ord. 11-95. Passed 5-16-95.)

1042.12 CONSTRUCTION PERMITS; APPLICATION; FEE.

(a) The two classes of permits for constructing a building sewer are as follows:
   (1) For residential and commercial service; and
   (2) For property from which industrial wastes will be discharged.

(b) Application for such a permit shall be made on a special form provided by the Director of Public Works. Applications shall be supplemented with any plans, specifications and offer information considered pertinent by the Director. Tap fees as set forth in Section 1042.121 shall be paid to the City at the time the application is made, except that the City Commission may provide for a payment schedule established by resolution from time to time.
(Ord. 2-84. Passed 1-24-84.)

1042.121 CONNECTION TAP FEES.

(a) Direct Connection. For each direct connection to the lines of the system there shall be a fee of one thousand five hundred dollars ($1,500) per residential equivalent use in accordance with the equivalent user table set forth in subsection (f) hereof. Direct connection charges shall be due and payable in cash upon application for connection to the system, except for charges to premises existing before connection of the system, which may be paid in installments. For premises qualifying for the installment payment, the installment period shall be five years with interest at the rate of seven percent per annum of the unpaid balance. If payment is made in installments, the first installment of such connection charge shall be payable upon application for connection to the system and all subsequent installments, plus interest, shall be payable annually with the normal City taxes.

(b) Indirect Connection. An indirect connection means one made to the system after construction where a developer extends the sewer and deeds the same to the City. The fee for an indirect connection to the system shall be seven hundred fifty dollars ($750.00) per residential equivalent in accordance with the equivalent user table set forth in subsection (f) hereof. The indirect connection fee shall be payable in cash upon application for connection to the system.

(c) Credits Against the Connection Fee. The connection fee, either direct or indirect, shall be credited by an amount equal to, but not greater than, the benefit special assessment attributable to the property upon which the premises connected to the system is located.

(d) Equivalent User Factor. Subsection (f) hereof is a reasonable determination of the proportionality of sewer usage of single-family residential users and other users of the sewage disposal system. If metered water service is provided to a premises other than a single-family residence, the preceding two-year historical annual wate volume purchased divided by 11,000 cubic feet annually shall be used in lieu of such subsection to determine the equivalent number of premises. For premises that have no history of water consumption, the City, at its option, may agree to establish the connection fee pursuant to subsection (f) hereof and may charge a connection fee in accordance with subsection (f) hereof, with a proviso that upon a two-year history the premises will be reviewed, based on its historical annual water consumption divided by 11,000 cubic feet, and the City will then redetermine the equivalent number of premises. If this option is elected, the property owner shall agree, in writing, to pay additional charges that may result from the selection of this alternative.

(e) Miscellaneous Connection Tap Fees.

(1) Potential users who complete the main and service construction of sanitary sewerage system in a public right of way or within a private development, which construction is accepted for operation and maintenance by the City, will be levied an indirect connection fee charge. Such indirect connection fee charge will be equal to one-half of the number of connection tap fees otherwise required in this section.

(2) Potential users who complete the main or service construction of a sanitary sewerage system in a public right of way or within a private development, which construction is accepted for operation and maintenance by the City, will be levied an indirect connection fee charge. Such indirect connection fee charge will be equal to three-quarters of the number of connection tap fees otherwise required in this section.

(f) Equivalent User Table. A connection tap fee, based on the number of units set forth in the following schedule, will be charged:

Single-family residence - 1.0 per residence
Auto dealers - new and/or used - 1.0 per premises, plus 0.25 per 1,000 square feet of building in service area
Auto repair/collision - 1.0 per premises, plus 0.25 per 1,000 square feet of building in service area
Auto wash (coin-operated, do-it-yourself, ten gallons or less per car) - 1.0 per stall
Auto wash (mechanical - over ten gallons per car - not recycled) 10.0 per stall or production line, including approach and drying area
Auto wash (mechanical - over ten gallons per car - recycled) - 5.0 per stall of production line, including approach and drying area
Barber shop - 1.0 per shop, plus 0.1 per chair after 2
Bar - 4.0 per 1,000 square feet (public serving area)
Beauty shop - 1.0 per shop, plus 0.1 per booth
Bowling alley (no bar) - 1.0 per premises, plus 0.2 per lane
Churches - 0.25 per 1,000 square feet; minimum 1 unit per church
Cleaners (pick-up only) - 1.0 per shop
Cleaners (cleaning and pressing facilities) - 1.0 per premises, plus 0.5 per 500 square feet
Clinics (medical or dental) - 1.0 per premises, plus 0.5 per examination room
Convalescent or boarding homes - 1.0 per premises, plus 0.25 per bedroom
Convents - 1.0 per premises, plus 0.25 per bedroom
Country clubs and athletic clubs - 1.5 per 1,000 square feet of clubhouse, plus restaurant and bar
Drug stores - 1.0 per premises, plus snack bar
Factories (office and production) - 0.75 per 1,000 square feet; minimum 1 unit
Funeral home - 1.5 per 1,000 square feet, plus residence to be computed separately
Grocery stores and supermarkets - 1.0 per premises, plus 0.8 per 1,000 square feet
Hospitals - 1.1 per bed
Hotels and motels - 0.40 per bedroom, plus restaurant and bar
Laundry (self-serve) - 1.0 per premises, plus 0.5 per washer
Two-family residential - 1.0 per unit
Mobile homes (free-standing) - 1.0 per unit
Mobile homes (parks or subdivision) - 0.75 per pad or site at indirect connection rate, plus laundry, community buildings and office to be computed separately per schedule
Multifamily residences
    Duplex or row house - 1.0 per dwelling unit
    Apartments - 0.50 per dwelling unit
    Fraternity or sorority houses - 0.50 per dwelling unit
Professional office - 0.25 per 500 square foot minimum unit
Public institutions - 0.75 per 1,000 square feet
Restaurants (fast food) - 5.0 per 1,000 square feet
Restaurants (meals only) - 2.5 per 1,000 square feet (public serving area)
Restaurants (meals and drinks) - 6.5 per 1,000 square feet (public serving area)

Restaurants, auxiliary dining rooms when used less than 20 hours per week - 2.0 per 1,000 square feet (public serving area)
Schools - 1.0 per classroom
Service stations - 1.5 per 1,000 square feet of building area
Snack bars, drive-ins, etc. - 2.5 per 1,000 square feet; minimum 1 unit (public serving area)
Retail store (other than listed) - 1.0 per premises, plus 0.1 per 1,000 square feet
Theaters (drive-in) - 0.04 per car space
Post office - 1.0 per 1,000 square feet
Warehouse and storage - 0.2 per 1,000 square feet; minimum 1 unit
Veterinary facility - 1.5 per facility
Veterinary facility with kennel - 1.5 per facility, plus 0.5 per 5 kennels

Connection tap fee charges may be determined for premises not connected to the City water system in a manner similar to that set forth in this section if an approved wastewater meter is installed in the sewage discharge line and is read by the City Water Department in accordance with their meter reading schedule. A connection fee will be charged for each 1,000 cubic feet of wastewater discharged per month, based on a twenty-four month average, as described in this section.

(g) Installment Payments. Any connection tap fee or connection charge imposed by this section may be paid in installments in accordance with the following:

(1) Application. Application for an installment payment may be made to the City Treasurer.

(2) Installments. The fee or charge may be made in not more than ten annual installments, bearing interest on the unpaid installment at the rate of six percent per annum to accrue from the date of billing by the City. Any person paying such fee or charge on the basis of five annual installments, the first of which was paid prior to February 2, 1981, allowing such fee or charge to be payable in ten annual installments, shall be allowed, upon request, to pay the balance of such fee or charge on the basis of the remaining years of a ten-year installment plan.
(Ord. 2-84. Passed 1-24-84.)

1042.13 CONSTRUCTION COSTS; INDEMNIFICATION OF CITY FOR LOSS.

All costs and expenses incident to the installation and connection of a building sewer to a public sewer shall be borne by the owner of the building sewer. The owner shall indemnify the City for any loss or damage that may directly or indirectly be occasioned by the installation and connection of a building sewer.
(Ord. 22-80. Passed 11-4-80.)

1042.14 SEPARATE INSTALLATIONS REQUIRED.

(a) A separate and independent building sewer shall be provided for each building, except as otherwise provided in the construction permit. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.15 USE OF OLD BUILDING SEWERS.

An old building sewer may be used in connection with a new building only when found, on examination and test by the Director of Public Works, to meet all requirements of this chapter. (Ord. 22-80. Passed 11-4-80.)

1042.16 BUILDING SEWER SPECIFICATIONS.

(a) The size, slope, alignment and materials of construction of a building sewer, and the method to be used in excavating, placing of the pipe, jointing, testing and backfilling the trench, shall all conform to the requirements of the Building and Housing Code or other applicable rules and regulations of the Director of Public Works and the State, provided, however, that this section shall not be construed to prevent the use of any material for a building sewer which is included in the most recent edition of the State Plumbing Code, as adopted by the City, including the use of copper or plastic pipe in applications permitted by the State Plumbing Code. In the absence of Code provisions or in amplification thereof, the materials and procedures set forth in appropriate specifications of Water Pollution Control Federation Manual of Practice No. 9 and applicable American Society for Testing and Materials (A.S.T.M.) standards shall apply. (Ord. 34-90. Passed 12-18-90.)

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.17 CONNECTIONS OF BUILDING SEWERS TO BUILDING DRAINS.

(a) Whenever possible, a building sewer shall be connected with a building drain at an elevation below the basement floor. In any building in which the building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by an approved means and discharged to the building sewer. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.18 DOWNSPOUTS AND OTHER UNLAWFUL CONNECTIONS TO BUILDING SEWERS OR DRAINS.

(a) No roof downspout, exterior foundation drain, areaway drain or other source of surface run-off or ground water shall be connected to a building sewer or building drain. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.19 INSPECTIONS.

An applicant for a permit for the construction of a building sewer shall notify the Building Inspection Department of the City when the building sewer is ready for inspection and connection to the public sewer. Such connection shall be made under the supervision of the Department. (Ord. 29-80. Passed 11-4-80.)

1042.20 SEPARATE BUILDING SEWERS REQUIRED; EXCEPTION.

(a) A separate and independent building sewer shall be provided for every building, except that where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.21 STREET OPENINGS; BARRICADES AND WARNING LIGHTS. (REPEALED)

(EDITOR'S NOTE: Section 1042.21 was repealed by Ordinance 11-95, passed May 16, 1995.)

1042.22 CONSTRUCTION OF PUBLIC SEWERS.

(a) No public sewer shall be constructed in the City, except by the City or by others in accordance with plans and specifications approved by the Director of Public Works and subject to inspection by the Director during construction. No sewer shall be considered to be a part of the sewerage system until accepted in writing by the Director. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.23 CONSTRUCTION SPECIFICATIONS.

(a) The size, slope, alignment and material of construction of a sewer, the method to be used in excavating, placing of pipe, jointing, testing and backfilling of a sewer, and any other work connected with the construction of a sewer, shall conform with the requirements of the Director of Public Works. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.24 GENERAL REQUIREMENTS FOR USE OF PUBLIC SEWERS.

(a) All sewage, waste and wastewater shall be discharged to public sanitary sewers, except as otherwise expressly provided for in this chapter.

(b) No person shall discharge any substance directly into a manhole or other opening in a City sewer other than through an approved building sewer.

(c) In no event shall a storm drain or outlet or channel be used to discharge any sewage, industrial waste or other polluted waters, except where permitted by an NPDES permit.

(d) The use of diluting waters to meet requirement standards for the discharge of wastes is prohibited. (Ord. 22-80. Passed 11-4-80.)

(e) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.25 DISCHARGE OF UNCONTAMINATED WATER INTO CITY SEWERS.

(a) The City may approve the discharge of the waters listed in this section into a City sewer only when no reasonable alternative method of disposal is available. Approval shall be by letter of acceptance, with the user paying the applicable user charges and fees. The user shall meet other conditions as may be required by the City. In no event shall an approval be valid if such discharge fails to comply with applicable State and Federal regulations. The waters to which this section refers are as follows:

(1) Storm water, surface water, ground water, rain water, roof run-off, street drainage, subsurface drainage or yard drainage; and

(2) Unpolluted water, including, but not limited to, cooling water. (Ord. 29-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. (Ord. 11-95. Passed 5-16-95.)

1042.26 PROHIBITED DISCHARGES.

(a) No person shall discharge or cause to be discharged into any public sewer, directly or indirectly, sewage containing any of the following described substances:

(1) Gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas, or any substance having a cup flash point less than 140 degrees Fahrenheit;

(2) Any pollutant, including oxygen demanding pollutants and toxic or poisonous solids, liquids or gases in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, to constitute a hazard to humans or animals, to create a public nuisance or to create any hazard in the public sewers, the treatment plant or any watercourse or body of water;

(3) Any substance having a pH higher than 9.5 or lower than 5.5 or having any other corrosive property capable of causing damage or hazard to the sewerage system and the structures, equipment and personnel of the treatment plant;

(4) Solid or viscous substances, either whole or ground, in quantities or of such size capable of causing obstruction to the flow in public sewers, or interference with the proper operation of the treatment plant, including, but not limited to, asphalt, ashes, cement, cinders, disposable

diapers, glass grindings or polishing wastes, stone cuttings or polishing wastes, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, resins, unshredded garbage, whole blood, paunch manure, hair and fleshings, entrails, sanitary napkins, paper dishes, cups, milk containers and other paper products or fibrous matter;

(5) Noxious or malodorous liquids, gases or substances which, either singly or by interaction with other wastes, are sufficient to create a public nuisance or hazard to life or are sufficient to prevent entry into the public sewers for their maintenance and repair;

(6) Substances, alone or interacting with others, which would have a detrimental environmental impact or constitute a nuisance in the waters of the State, including discoloration or other conditions in the quality of the City's treatment works effluent such that receiving water quality requirements established by law or any public agency or State or Federal regulatory body having jurisdiction over the City cannot be met, including, but not limited to, National Categorical Pretreatment Standards; and
(Ord. 22-80. Passed 11-4-80; Ord 9-85. Passed 4-30-85; Ord. 8-93. Passed 6-8-93.)

(7) Any substance, the discharge of which would cause the influent wastewater temperature at the Wastewater Treatment Plant to exceed 104 degrees Fahrenheit. (Ord. 34-82. Passed 1-4-83.)

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.27 GARBAGE GRINDERS.

(a) Waste from garbage grinders shall not be discharged into a City sewer except:

(1) Wastes generated in preparation of food normally consumed on the premises; or

(2) Where the user has obtained a permit for that specific use from the City and agrees to undertake whatever self-monitoring is required to enable the City to equitably determine the charges and fees based on the waste constituents and characteristics. Such grinders must shred the waste to a degree that all particles will be carried freely under normal flow conditions prevailing in the City sewers. Garbage grinders shall not be used for grinding plastic, paper products, inert materials, garden refuse or waste products resulting from the handling, storage and sale of fruits and vegetables in wholesale and retail produce establishments. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98.
(Ord. 11-95. Passed 5-16-95.)

1042.28 STORED LIQUID WASTES.

(a) Liquid wastes that have been collected and held in tanks or containers shall not be discharged into the City sewerage system. Wastes of this category include, but are not limited to:

(1) Septic tank pumpings;
(2) Chemical toilet wastes;
(3) Trailer, camper, housecar or other recreational vehicle wastes;
(4) Pleasure boat wastes;
(5) Industrial wastes collected in containers or tanks, except where the tanks and sumps are an integral part of the wastewater system and where discharges will not violate any of the provisions of this chapter; (Ord. 22-80. Passed 11-4-80.)
(6) Any trucked wastes or hauled pollutants, except at discharge points designated by the POTW. (Ord. 8-93. Passed 6-8-93.)

(b) A person who violates any provision of paragraphs (a)(1) through (4) hereof is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. A person who violates paragraph (a)(5) or (6) hereof shall be subject to the penalty provided in Section 1042.99(a). (Ord. 11-95. Passed 5-16-95.)

1042.29 SPECIAL DISCHARGE AUTHORIZATION.

(a) No person shall discharge or cause to be discharged into any public sewer, directly or indirectly, the following described substances, except as provided by contract, unless the Director of Public Works issues his written determination that such discharge will not harm the public sewers or the treatment plant, or have an adverse effect on any public waters, or otherwise endanger life, health or property, or constitute a nuisance, and expressly gives written authorization for the discharge. In no event, by contract or otherwise, shall any discharge be made in violation of the Federal pretreatment standards and requirements. In determining the acceptability of such substances, the Director may give consideration to such factors as the quantity of the substance in question in relation to the quantity of flow and velocity in the public sewers, the material of construction of the public sewers, the nature of the sewage treatment process, the capacity of the treatment plant, the degree of treatability of such substance in the treatment plant and other pertinent factors. The Director may make such determination either on a general basis or as to specific discharges from individual owners and may prohibit the discharge of a substance by an individual owner because of unusual concentrations or combinations which may occur. The substances prohibited are as follows:

(1) Any wastewater, liquid or vapor form, having a temperature higher than 140 degrees Fahrenheit;
(2) Any fat, wax, grease or oil, whether emulsified or not, in excess of 100 milligrams per liter (mg/l) or any substance which may solidify or become discernibly viscous at temperatures between thirty-two degrees Fahrenheit and 140 degrees Fahrenheit;
(3) Any garbage that has not been shredded to such a degree that all particles will be carried freely in suspension under normal flow conditions, or having particles greater than one-half inch in any dimension;
(4) Any acid, iron pickling waste or concentration plating solution, unless neutralized or rendered amenable to the City's treatment process and as approved by the Director;

(5) Any phenols or other taste or odor-producing substances which constitute a nuisance or hazard to the public sewers or the treatment plant or its personnel, or which prevent sewage treatment adequate to meet the requirements of any government or public agency having authority to regulate the discharge into public waters;

(6) Any radioactive waste, except that persons authorized to use radioactive materials by the State Department of Health or other governmental agency empowered to regulate the use of radioactive materials may discharge, cause to be discharged, or permit to be discharged, such waste, in strict conformity with the current State radiation control regulations and Federal regulations and recommendations for safe disposal of such wastes, as they now exist or may hereafter be amended, provided that such persons notify the Director of the discharge and comply with all applicable rules and regulations of all other regulatory agencies;

(7) Any quantity of flow or concentration of a waste component constituting a slug;

(8) Excessive discoloration, including, but not limited to, dye wastes and vegetable tanning solutions;

(9) Any wastewater containing, as a twenty-four average concentration, the following materials:

A. Phosphorus greater than 10.0 mg/l;

B. A five day BOD greater than 300.0 mg/l;

C. Suspended solids, including, but not limited to, fuller's earth, lime slurries and lime residues greater than 350.0 mg/l;

D. Dissolved or precipitable inorganic solids, including, but not limited to, sodium chloride and sodium sulfate of greater than 1,000.0 mg/l;

(10) Any wastewater with a component in excess of:

Toxicants	Maximum Concentration Allowable (mg/l)
Antimony	1.0
Arsenic	0.3
Barium	2.0
Benzidine	0.001
Beryllium	0.5
Cadmium	0.1
Carbon Tetrachloride	8.5
2-chlorophenol	4.2
Chromium hexavalent	0.5
Chromium, total	1.5
Copper	1.0
Cyanides, total	0.5
2, 4-dichlorophenol	7.1
Herbicides and/or pesticides	0.001
Lead	0.2
Mercury	0.01
Nickel	0.75
PBB, alone or in combination	0.2

RESOLUTION

APPROVED

A RESOLUTION ADOPTING ORDINANCE NO. 13-94 WHICH WAS INTRODUCED 08/16/94 TO AMEND CHAPTER 1042, SEWERS, SECTION 1042.29, SPECIAL DISCHARGE AUTHORIZATION, BY THE ADDITION OF SUBSECTION 1042.29(1) TO REGULATE THE DISCHARGE OF TOXIC ORGANICS

NO. 385

Public Works
WWTP ✓

BATTLE CREEK MICH., 09/06/94

Resolved by the Commission of the City of Battle Creek:

THAT Ordinance No. 13-94 which was introduced on August 16, 1994 entitled:

AN ORDINANCE TO AMEND CHAPTER 1042, SEWERS, SECTION 1042.29, SPECIAL DISCHARGE AUTHORIZATION, BY THE ADDITION OF SUBSECTION 1042.29(1) TO REGULATE THE DISCHARGE OF TOXIC ORGANICS

be adopted, with scrivener's errors corrected.

RECEIVED

SEP 08 1994

WASTEWATER
TREATMENT PLANT

CHAPTER 1042

SEWERS

1042.29 SPECIAL DISCHARGE AUTHORIZATION.

No person shall discharge or cause to be discharged into any public sewer, directly or indirectly, the following described substances, except as provided by contract, unless the Director of Public Works issues his written determination that such discharge will not harm the public sewers or the treatment plant, or have an adverse effect on any public waters, or otherwise endanger life, health or property, or constitute a nuisance, and expressly gives written authorization for the discharge. In no event, by contract or otherwise, shall any discharge be made in violation of the Federal pretreatment standards and requirements. In determining the acceptability of such substances, the Director may give consideration to such factors as the quantity of the substance in question in relation to the quantity of flow and velocity in the public sewers, the material of construction of the public sewers, the nature of the sewage treatment process, the capacity of the treatment plant, the degree of treatability of such substance in the treatment plant and other pertinent factors. The Director may make such determination either on a general basis or as to specific discharges from individual owners and may prohibit the discharge of a substance by an individual owner because of unusual concentrations or combinations which may occur. The substances prohibited are as follows:

(a) thru (k) - UNCHANGED

(l) Any wastewater containing the following organics:

(1) Cumulative Total Toxic Organics (TTO's) listed below greater than 2.0 milligrams per liter:

a. Purgeable Halocarbons
b. Purgeable Aromatics
c. Acrolein and Acrylonitrile
d. Phenols
e. Benzidines
f. Phthalate Esters
g. Nitrosamines
h. Organochlorine Pesticides and PCB's
i. Nitroaromatics and Isophorone
j. Polynuclear Aromatic Hydrocarbons
k. Haloethers
l. Chlorinated Hydrocarbons
m. 2,3,7,8-Tetrachlorodibenzeno-p-dioxin
n. Purgeables
o. Base/Neutral, Acids and Pesticides

(2) Individual Trihalomethanes (THM's) greater than 0.20 milligrams per liter.

(3) All other individual organics greater than 0.10 milligrams per liter.

Toxicants	Maximum Concentration Allowable (mg/l)
PCB's	1.2×10^{-8}
Phenols	3.0
Selenium	2.0
Silver	0.04
2, 4, 6-trichlorophenol	0.7
Zinc	2.5

(11) Any other metallic or organic compounds as determined by the Director to be sufficient to impair the operation of the sewage treatment process, or which may affect the capability of the City treatment works to comply with water quality standards or effluent limitations specified in a City NPDES permit. Where appropriate, if Federal effluent limitations are more stringent, including, but not limited to, National Categorical Pretreatment Standards, they shall apply. (Ord. 22-80. Passed 11-4-80; Ord. 35-82. Passed 1-4-83; Ord. 9-85. Passed 4-30-85; Ord. 26-85. Passed 9-3-85.)

(12) Any wastewater containing the following organics:

A. Cumulative total toxic organics (TTO's) listed below greater than 2.0 mg/l:
   1. Purgeable halocarbons
   2. Purgeable aromatics
   3. Acrolein and acrylonitrile
   4. Phenols
   5. Benzidines
   6. Phthalate esters
   7. Nitrosamines
   8. Organochlorine--pesticides and PCB's
   9. Nitroaromatics and isophorone
   10. Polynuclear aromatic hydrocarbons
   11. Haloethers
   12. Chlorinated hydrocarbons
   13. 2, 3, 7, 8-tetrachlorodibenzeno-p-dioxin
   14. Purgeables
   15. Base/neutral, acids and pesticides

B. Individual trihalomethanes (THM's) greater than 0.20 mg/l.

C. All other individual organics greater than 0.10 mg/l.
(Ord. 13-94. Passed 9-6-94.)

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.30 PRETREATMENT; TREATMENT; PROTECTION AGAINST ACCIDENTAL DISCHARGE.

(a) Industrial users shall provide necessary wastewater treatment as required to comply with this chapter, Federal pretreatment standards and permit conditions, and shall achieve compliance with all national categorical pretreatment standards within the time limitations as specified by the Federal pretreatment regulations.

(b) Any facilities required to pretreat wastewater shall be provided, operated and maintained at the industrial user's expense. New sources shall install and have in operating condition and shall "start-up" all pollution control equipment required to meet applicable pretreatment standards before beginning to discharge. Within the shortest feasible time (not to exceed ninety days), new sources must meet all applicable pretreatment standards. Detailed plans showing the pretreatment facilities and operating procedures shall be submitted to the Director of Public Works for review and shall be approved by the Director of Public Works before construction of the facility. The review and approval of plans and operating procedures does not relieve the industrial user from complying with the provisions of this chapter and permit conditions. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to and approved by the Director of Public Works prior to the industrial user's initiation of the changes.

(c) The Director of Public Works may issue an industrial user discharge authorization (permit) for not more than five years upon application by a user subject to Section 1042.301. Applications for industrial user discharge authorizations shall contain such material as required to evaluate the user effluent, including, but not limited to, information required in Section 1042.32.

(d) Each user shall provide protection from accidental discharge of prohibited materials or other wastes regulated by this chapter. In each instance, detailed plans showing the required pretreatment facilities and operating procedures shall be submitted to the City for review and shall be approved by the City before construction of the facility. The review and approval of such plans and operating procedures shall in no way relieve the user from the responsibility of modifying the facilities as necessary to produce an effluent complying with this chapter. Any subsequent changes in the required pretreatment facilities or method of operating affecting the effluent shall be reported to, and approved by, the City. The facilities shall be available for inspection by the Director at all reasonable times. No authorization to construct or operate the pretreatment facilities shall be valid until all conditions herein have been satisfactorily met.
(Ord. 8-93. Passed 6-8-93.)

(e) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.305 INDUSTRIAL USER DISCHARGE AUTHORIZATION.

(a) The following industrial users are required to apply for an industrial user discharge authorization (permit):

(1) Any significant industrial user;
(2) Any user required by State pretreatment requirements to obtain a permit;
(3) Any user providing pretreatment; and
(4) Any other user directed by the Director of Public Works to apply for a permit.

(b) Existing users required to obtain a permit by subsection (a) hereof must apply for a wastewater contribution permit within ninety days of the effective date of this section, unless they presently hold a valid industrial user discharge authorization.

(c) New sources required to obtain a permit by subsection (a) hereof must apply for and receive a wastewater contribution permit prior to discharging pollutants into the POTW.

(d) Any user not required to obtain a permit for existing discharges must apply for and receive an industrial user discharge authorization changing the user's discharge in such a manner meeting the conditions of subsection (a) hereof.
(Ord. 8-93. Passed 6-8-93.)

(e) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.307 BYPASSES.

(a) Permitted. An industrial user may allow any bypass to occur which does not violate pretreatment standards or requirements, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to subsection (b) and (c) hereof.

(b) Notice.

(1) If an industrial user knows in advance of the need for a bypass, it shall submit prior notice to the POTW, if possible at least ten days before the date of the bypass.
(2) An industrial user shall orally notify the POTW of an unanticipated bypass that exceeds applicable pretreatment standards or requirements within twenty-four hours of becoming aware of the bypass. A written submission shall also be provided within five days of becoming aware of the bypass. The written submission shall contain a description of the bypass and its cause, the duration of the bypass, including exact times and dates and, if the bypass has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate and prevent reccurrence of the bypass.

(c) Prohibited.

(1) A bypass is prohibited and the POTW may take enforcement action against an industrial user for a bypass, unless:

A. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage;

B. There were no feasible alternatives to bypass, such as use of auxiliary treatment facilities, retention of wastes or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed to prevent bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

C. The industrial user submitted notices as required by subsection (b) hereof.

(2) The POTW may approve an anticipated bypass, after considering its adverse effects, if the POTW determines that it will meet the three conditions listed ln paragraph (c)(1) of this section.
(Ord. 8-93. Passed 6-8-93.)

(d) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.31 DISCHARGE REPORTS.

(a) The Director of Public Works may require that any person discharging wastewater into a City sewer file a periodic discharge report. The discharge report may include, but need not be limited to, the general nature of the process, volume, rates of flow, mass emission rate, production quantities, hours of operation, normal number and classification of employees or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge. Such reports may also require the chemical constituents and quantity of liquid or gaseous materials stored on site even though they may not normally be discharged. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.32 INFORMATIONAL REPORTS.

(a) All current and proposed industrial users shall be required by the Director of Public Works to file informational reports for the benefit of local, State and Federal governmental units. The user shall comply with the Director's request for data by submitting, as may be necessary, in units and terms apropriate for evaluation:

(1) The name, address and SIC number of the industrial user;

(2) The volume of wastewater to be discharged;

(3) The wastewater constituents and characteristics, including, but not limited to, those mentioned in Section 1042.29, as determined by a laboratory approved by the Director;

(4) The time and duration of discharge;

(5) The average and fifteen-minute peak instant wastewater flow rates, including daily, monthly and seasonal variations, if any;

(6) Site plans, floor plans, mechanical and plumbing plans and details to show all transfers and appurtenances by size, location and elevation;
(7) A description of activities, facilities and plant processes on the premises, including all materials, processes and type of materials which are or could be discharged;
(8) Each product produced, by type, amount and rate of production;
(9) The number and type of employees and hours of work;
(10) A hazardous materials survey;
(11) Informational reports from categorical industries within 180 days after the effective date of the categorical pretreatment standards, which reports shall include a statement as to whether pretreatment standards are being met on a consistent basis and, if not, whether additional operations and maintenance and/or additional pretreatment is required to meet the pretreatment standards and requirements;
(12) Any other information relative to wastewater conveyance, characteristics, quantities or pretreatment, as may be determined by the Director to be necessary to evaluate the data furnished by the user, including reports of monitoring of any pollutant more frequently than required by POTW;
(13) The results of sampling and analysis identifying the nature and concentration of any pollutants in the discharge which are limited by any national categorical pretreatment standards or which are described in Section 1042.29. Both daily maximum and average concentration shall be reported. The sample shall be representative of daily operations. Sample should be taken immediately downstream of pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with wastewater regulated by a national categorical pretreatment standard prior to pretreatment, the user should measure the flows and concentrations necessary to allow use of the combined waste stream formula in 40 CFR, Section 403.6(e) in order to evaluate compliance with pretreatment standards;
(14) The shortest schedule by which the user will provide additional pretreatment or operation and maintenance if required to meet pretreatment standards. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. In no case shall the increments of progress in the schedule exceed nine months;
(15) A listing of any toxic pollutant which the applicant uses or manufactures as an intermediate or final product or by-product;
(16) The signature of an authorized representative of the user certified by a qualified professional indicating whether pretreatment standards are being met on a consistent basis and, if not, whether additional operation and maintenance and additional pretreatment is required and the Certification Statement required by 40 CFR, Section 403.6(a)(2)(ii).
(17) Evidence of the following by users subject to a national categorical pretreatment standard:
    A. A baseline monitoring report submitted to the Director ninety days prior to first discharge, a ninety-day report and semiannual reports that meet Federal pretreatment requirements at 40 CFR, Section 403.12 or any revision thereto indicating the nature and concentration of pollutants in the discharge.

B. Use of a minimum of four grab samples for pH, cyanide, total phenols, oil and grease, sulfide and volatile organics. For all other pollutants, twenty-four-hour composite samples must be obtained through flow-proportional composite sampling techniques where feasible. The Control Authority may waive flow-proportional composite sampling for any industrial user that demonstrates that flow-proportional composite sampling is infeasible. In such cases samples may be obtained through time-proportional composite sampling techniques or through a minimum of four grab samples where the user demonstrates that this will provide a representative sample of the effluent being discharged.

C. A minimum of one representative sample taken to compile that data necessary to comply with the requirements of this paragraph.

(18) Semiannual reports to the Director from any significant industrial user or other user required to have a permit, indicating the nature and concentration of pollutants in the discharge. The specific standards or the POTW itself may require this report to be filed more frequently. In addition, this report shall include a report of all daily flows which, during the reporting period, exceeded the average daily flow in the permit.

(19) Notification to the City in advance of any substantial change in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous wastes for which the industrial user has submitted initial notification under paragraph (a)(20) hereof.

(20) Hazardous waste notification, as follows:

A. Any industrial user, except as specified in paragraph (a)(20)E. hereof, which discharges to the public sewer any substance which, if otherwise disposed of, would be a listed or characteristic hazardous waste under 40 CFR, Part 261, shall notify the City in writing of such discharge.

B. All hazardous waste notifications shall include:

1. The name of the hazardous waste as set forth in 40 CFR, Part 261;
2. The EPA hazardous waste number;
3. The type of discharge (continuous, batch or other); and
4. A certification that the user has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

C. In addition to to the information submitted under paragraph (a)(20)B. hereof, industrial users discharging more than 100 kilograms of hazardous waste per calendar month to the public sewer shall provide, to the extent such information is known and readily available to the industrial user:

1. An identification of the hazardous constituents contained in the waste;
2. An estimation of the mass and concentration of such constituents in the waste stream discharged during that calendar month; and

3. An estimation of the mass of constituents in the waste stream expected to be discharged during the following twelve months.

D. Hazardous waste notifications shall be submitted no later than February 19, 1991, except that industrial users commencing the discharge of listed or characteristic hazardous waste after August 23, 1990, shall provide the notification no later than 180 days from the discharge of the wastes. Any notification under this section need be submitted only once for each hazardous waste discharged, although notifications of changed discharges must be submitted under paragraph (a)(19) hereof.

E. Industrial users are exempt from the hazardous waste notification requirement during a calendar month in which they discharge fifteen kilograms or less of non-acute hazardous wastes. Discharge of any quantity of acute hazardous waste, as specified in 40 CFR, Sections 261.30(d) and 261.33(e), requires a one-time notification.

(21) An industrial user discharge authorization containing, at a minimum:

A. A statement of duration, in no case more than five years;

B. A statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator;

C. Effluent limits based on applicable general pretreatment standards, categorical pretreatment standards, local limits and State and local law;

D. Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency and same type, based on the applicable general pretreatment standards, categorical pretreatment standards, local limits and State and local law;

E. A statement of applicable civil and criminal penalties for a violation of pretreatment standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable Federal deadlines.
(Ord. 8-93. Passed 6-8-93.)

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.33 PUBLIC INSPECTION OF RECORDS; CONFIDENTIAL INFORMATION.

(a) Information and data on a user obtained from reports, questionnaires, permit applications, permits, monitoring programs and inspections shall be available to the public or other governmental agencies in accordance with appropriate State and Federal laws and regulations. When requested by the person furnishing information, portions of that information which disclose trade secrets or secret processes shall not be made available for inspection by the public. However, all

effluent data which must be made available to the public under 40 CFR, 403.14, or such regulations as shall replace that regulation, shall be made available to the public as required by Federal law or regulation. Information may be made available to governmental agencies which require it for making studies only after conforming to the requirements for disclosure of confidential information contained in 40 CFR, Part 2, Subpart B, Confidentiality of Business Information. Requirements listed therein shall be considered the minimum requirement for local agencies. Industrial users shall maintain all records pertaining to their discharges, whether created internally or for the purpose of complying with reports required by this chapter, for at least three years from the creation of such records. (Ord. 9-85. Passed 4-30-85.)

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.34 RIGHT OF ENTRY.

(a) Persons or occupants of premises where wastewater is created or discharged shall allow the City or its representatives ready access at all reasonable times to all parts of the premises for the purposes of inspection, observation, measurements, sampling and testing in the performance of any of their duties. The City shall have the right to set up on a user's property, in locations that will not interfere with the user's operations and where the user's products will not become damaged or contaminated, such devices as are necessary to conduct sampling or metering operations, and to inquire into any industrial process to the extent necessary to establish the source, quantity, composition and concentration of the wastewater. When necessary, the user shall make arrangements with its security force, using procedures as might be reasonable, to allow for entry without delay by the City representatives for the purpose of performing their specific responsibilities. The City may examine and/or copy records pertaining to discharges into the City sewerage system and pertaining to persons or occupants of premises where wastewater is created or discharged.
(Ord. 9-85. Passed 4-30-85.)

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.35 RESPONSIBILITY AND LIABILITY OF INSPECTORS AND OWNERS.

City representatives shall observe all safety rules applicable to the property and established by the owner. The owner shall be held harmless for injury or death to such representatives for reasons other than the owner's fault. The City shall indemnify the owner against loss or damage to its property for personal injury or property damage asserted against the owner and growing out of such entry, except any which may have been caused by the fault of the owner.
(Ord. 22-80. Passed 11-4-80.)

1042.36 DISCHARGE TESTING.

The Director of Public Works may require a user to test, at the user's expense and on a regular basis, the quantity, composition and concentration of its discharge, to sample and analyze the same in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater and to report the test results to the Director. If a user which has been so required by the Director fails to test and report to the satisfaction of the Director, then the Director may determine the quantity, composition and concentration of such discharge either by estimates on the basis of data available to the Director or by samplings, measurements and analyses performed by the Director at the expense of the user.
(Ord. 22-80. Passed 11-4-80.)

1042.37 MONITORING BUILDING SEWERS AND DRAINS.

(a) The Director of Public Works may require the user to construct, at his or her own expense, monitoring facilities, including a control manhole, if necessary, to allow observation, inspection, sampling and measurement of the quantity, composition and concentration of waste to the building sewer or internal drainage systems and may also require sampling or metering equipment to be provided, installed and operated at the user's expense. The monitoring facility shall be situated on the user's premises, with accommodations to allow access by City representatives. There shall be ample room in or near the sampling point to allow accurate sampling and composting for analysis. All equipment and appurtenances thereto shall be maintained at all times in a safe and proper operating condition at the expense of the user. If self-monitoring reveals violation of any discharge limitations specified herein, the industrial user shall notify the City within twenty-four hours of becoming aware of the violation. The industrial user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City within thirty days after becoming aware of the violation. (Ord. 8-93. Passed 6-8-93.)

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.38 MONITORING FACILITIES.

(a) When the location of monitoring facilities would be impractical or cause undue hardship on the user, the City may allow the facilities to be constructed in the public street or sidewalk area, located so that it is not obstructed by landscaping or parked vehicles. Whether constructed on public or private property, the control manhole, sampling and monitoring facilities and monitoring equipment shall be provided in accordance with all local and State governmental unit construction standards and specifications. Once required in writing by the Director of Public Works, the monitoring facility and appurtenances thereto shall be operational within ninety days, unless a written extension is granted by the Director. If no monitoring facility is required, the point of inspection shall be considered to be the upstream and downstream manhole in the public sewer. (Ord. 22-80. Passed 11-4-80.)

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.39 NOTICES AND INSTRUCTIONS FOR ACCIDENTAL DISCHARGES.

(a) A notice prepared by the user shall be prominently and permanently posted at appropriate locations at each commercial and industrial user facility advising its employees of whom to call in case of an accidental discharge in violation of any provision of this chapter. In addition, instruction shall be given to appropriate employees of the user and the same certified to the City on an annual basis.
(Ord. 22-80. Passed 11-4-80.)

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.40 ACCIDENTAL DISCHARGES; REPORTS AND STATEMENTS.

(a) Any accidental discharge of a slug or a prohibited substance, or any substance which could cause a problem, directly or indirectly into a public sewer, shall be immediately reported to the wastewater treatment plant or the Director of Public Works by the person responsible for such discharge or by the owner or occupant of the property from which the discharge was made, to enable counter-measures to be taken by the City to minimize damage to the City sewers, treatment facilities, treatment processes and receiving waters. (Ord. 8-93. Passed 6-8-93.)

(b) Such notification shall be followed, within seven days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent future occurrence. Such notification shall not relieve users of liability for any expense, loss or damage to the sewerage system, treatment plant or treatment process or for any fines imposed on the City on account thereof by any regulatory agency.
(Ord. 22-30. Passed 11-4-80.)

(c) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.41 SUBMISSION OF TIME SCHEDULE FOR CORRECTIVE ACTIONS.

(a) When the Director of Public Works determines that discharge of wastewater is taking place, has been taking place or may take place, in violation of prohibitions or limitations prescribed in this chapter, or wastewater source control requirements, effluent permit limitations or pretreatment standards, the Director may require the user to submit for approval, with such modifications as he deems necessary, a detailed time schedule of specific actions which the user shall take in order to prevent or correct a violation of requirements.
(Ord. 22-80. Passed 11-4-80.)

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.42 CEASE AND DESIST ORDERS.

When the Director of Public Works determines that a discharge of wastewater has taken place or is likely to take place in violation of any of the provisions of this chapter, the Director may issue an order to cease and desist such discharge, or practice or operation likely to cause such discharge, and direct those persons not complying with such prohibitions, limits, requirements or provisions to:

(a) Comply forthwith;
(b) Comply in accordance with a time schedule set forth by the City; or
(c) Take appropriate remedial or preventive action.

(Ord. 22-80. Passed 11-4-80.)

1042.43 DAMAGE TO SEWERAGE SYSTEM; ASSESSMENT OF CHARGES.

When a discharge of wastes causes an obstruction, damage or any other impairment to the sewerage system, the City and/or a subscribing agency may assess a charge against the user for the work required to clean or repair the facility and add such charge to the user's charges and fees.
(Ord. 22-80. Passed 11-4-80.)

1042.44 EMERGENCY CORRECTIONS; LIABILITY FOR COSTS.

If repairs, construction or other public work is performed on the premises of a facility pursuant to any provision of law relating to the emergency performance of public work and the expenditure of public funds therefor, or pursuant to any other provision of law authorizing public work on private property in order to correct, eliminate or abate a condition upon such premises which threatens to cause, causes or has caused a violation of any provision of this chapter, or of any other requirement of law, the user responsible for the occurrence or condition giving rise to such work, the occupant and the owner of the premises shall be liable, jointly and severally, to the City for such public expenditures.
(Ord. 22-80. Passed 11-4-80.)

1042.45 ENFORCEMENT.

The primary responsibility for the enforcement of this chapter is hereby vested in the Director of Public Works or agents of the City and/or the subscribing agency that he designates. In addition, field inspectors or other employees of the City and/or the subscribing agency may be authorized to act for and on behalf of the Director with the power to inspect and issue notices for violations of any of the provisions of this chapter. (Ord. 22-80. Passed 11-4-80.)

1042.46 APPEALS.

(a) Any user, permittee, applicant or other person aggrieved by any decision, action, finding, determination, order or directive of the Director of Public Works, made or authorized pursuant to this chapter, or interpreting or implementing the same, may file a written request with the Director for reconsideration thereof within ten working days of mailing or delivery of such decision, action, finding, determination or order, setting forth in detail the facts supporting the request for reconsideration. The Director, after consulting with the City Manager or other appropriate administrative personnel, shall render a final written decision within ten working days of the receipt of such request for reconsideration. Notification of the decision shall be made by personal service or certified mail to the address provided by the appealing party.

(b) Any user, permittee, applicant or other person aggrieved by the final determination of the Director may appeal such determination to the appropriate judicial tribunal within ten working days after receipt of the notification of the final determination of the Director. The appeal shall set forth in detail the facts and reasons supporting the appeal. Failure to comply with these statutory limitations and procedures shall bar further relief. During the pendency of any such appeal, the final determination of the Director shall remain in full force and effect.
(Ord. 22-80. Passed 11-4-80.)

1042.47 TERMINATION OF SERVICE.

In addition to statutes, rules or regulations authorizing termination of service for delinquency in payment, the City may terminate or cause to be terminated wastewater service to users for:

(a) Submitting to the Director of Public Works, the City or a State or Federal governmental unit false statements, representations, records, reports, plans or other documents;
(b) Tampering with or rendering inaccurate any monitoring device, public or private meter or equipment installed or operated pursuant to this chapter;
(c) Failure to report significant changes in operations or wastewater constituents and characteristics;
(d) Discharging or causing to be discharged prohibited substances or substances requiring special discharge authorization without having obtained such authorization or with such authorization having been denied or revoked;
(e) Obtaining special discharge authorization under Section 1042.29 on the basis of false or misleading information;
(f) Refusal to allow the Director or City representatives reasonable access to the user's premises for the purpose of inspection and/or monitoring;
(g) Nonpayment of fees, surcharges or charges; or
(h) In cases where a user is causing or about to cause an imminent endangerment to the public health. The City may issue an order requiring the user to immediately cease and desist from discharging such endangerment. If the user fails to comply with such order, the City may take such steps as may be necessary to prevent further discharge, including physical blocking or severance of the user's connection to the City's system to stop such endangerment.
(Ord. 22-80. Passed 11-4-80; Ord. 9-85. Passed 4-30-85.)

1042.48 PUBLIC NUISANCES.

Waste or wastewater discharge, threatened waste or wastewater discharge or any condition or act in violation of any provision of this chapter, or of a provision of any State or Federal agency, or of any order or directive of the Director of Public Works authorized by this chapter, is hereby declared to be a public nuisance. Such nuisance may be abated, removed or enjoined, and damages assessed therefor, in any manner provided by law.

(Ord. 22-80. Passed 11-4-80.)

1042.49 USER CLASSIFICATIONS.

Users of the wastewater treatment plant shall be categorized as follows:

(a) Residential, which may be further categorized as follows:
  (1) Single-family
  (2) Multifamily
  (3) Mobile-family

(b) Commercial, which shall be further categorized as follows:
  (1) Bakeries
  (2) Commercial laundries
  (3) Grocery stores with garbage disposals
  (4) Mortuaries
  (5) Restaurants
  (6) All other

(c) Industrial, which shall be further categorized as follows:
  (1) Contract
  (2) Major
  (3) Nonmajor

(d) Institutional.

(Ord. 22-80. Passed 11-4-80.)

1042.50 AUTHORITY TO LEVY REGIONAL USER CHARGES ON SUBSCRIBING AGENCIES AND THE CITY.

Monthly user charges shall be established by the City Commission from time to time by resolution for each subscribing agency and the City to recover regional costs of the City. Such charges shall be assessed against each subscribing agency and the City and shall be based upon the cost of service to treat both quantity (volume) and quality (BOD and SS) of wastewater discharge as determined by contribution to both average and for capital recovery, peak system use. Such charges shall recover from each subscribing agency and the City their proportional share of capital and operation and maintenance costs, including replacement.

(Ord. 22-80. Passed 11-4-80.)

1042.51 METHOD OF ASSESSING REGIONAL USER CHARGES TO SUBSCRIBING AGENCIES AND CITY.

(a) User charges shall be the sum of the following charges:

(1) Fixed charges shall be based on costs associated with regional ground water infiltration/inflow (I/I) and costs of operating and maintaining monitoring stations.

(2) Demand charges shall be based on the peak month discharge of the billable parameters during the fiscal year. Each subscribing agency and the City shall submit established peak month loadings of the billable parameters two months prior to the beginning of each fiscal year. If the estimated demand is exceeded, the agency or City shall be billed the demand unit rate multiplied by the new peak month discharge. This amount shall be assessed retroactively to the beginning of the fiscal year and for each month through the remainder of the fiscal year. If the estimated demand is not reached by the end of the fiscal year, the subscribing agency or City shall be credited an amount equal to the difference of the demand charges paid and the peak month discharge multiplied by the demand unit rate.

(3) Loading charges shall be based on the quantity of billing parameters discharged during the billing period.

(b) Demand charges shall not be assessed under either of the following conditions:

(1) New connections to the City sewer shall only be assessed demand charges for the balance of the current fiscal year and for each subsequent fiscal year. New connections shall not be assessed demand charges retroactively to the beginning of the current fiscal year.

(2) Demand charges shall not be assessed for "act of God" accidental discharges by the City or a subscribing agency. Accordingly, no such "act of God" accidental discharge shall be included in the determination of peak month flow on which flow demand charges are based.
(Ord. 22-80. Passed 11-4-80.)

1042.52 AUTHORITY FOR SUBSCRIBING AGENCIES AND CITY TO LEVY CHARGES ON REGIONAL USERS.

The following charges shall be established from time to time by resolution for each user classification and category by each subscribing agency's governing body and the City Commission to recover regional costs of the City and local costs of the City and each subscribing agency:

(a) No free service shall be furnished by the City or any subscribing agency to any person or to any public agency or instrumentality. Monthly charges shall be assessed to all system users. Such charges shall be based upon the cost of service to treat both the quantity (volume) and quality (BOD and SS) of wastewater discharged and as to capital charges by contribution to both average and peak system use. Charges shall be comprised of user charges and industrial cost recovery charges where applicable. (Ord. 22-80. Passed 11-4-80.)

(b) User charges shall be comprised of flat monthly service charges and quantity charges and shall be levied on all existing users of the wastewater treatment

plant to recover their proportional share of operational and maintenance costs, including replacement.

(c) Capital charges shall be recovered by such flat monthly service charges and quantity charges as to recover the proportional share of capital, including replacement, and may include methods to reflect the necessity of having capital available for such users who need such capital plant during only certain portions of the year.

(Ord. 9-82. Passed 4-6-82.)

1042.53 METHOD OF ASSESSING USER SERVICE CHARGES TO USERS.

Flat monthly service charges shall be assessed for each customer to recover the local and regional costs allocated on a per customer basis. Such charges shall be identical for all customers within the boundaries of the City or a subscribing agency, but may vary between the City and subscribing agencies as a result of local and regional cost variances. (Ord. 22-80. Passed 11-4-80.)

1042.54 METHOD OF ASSESSING USER QUANTITY CHARGES.

(a) Sewer charges shall be established by resolution of the City Commission according to water usage or sewer meter data, together with any extra strength charges which may be required by the cost of treatment of such extra strength effluent. Charges for strength and quantity of discharges pursuant to a special discharge authorization may be established by the City Commission resolution.

(b) Flat monthly user charges shall be assessed in accordance with the schedule of residential equivalent factors set forth in Section 1042.52(c). Quantity user charges shall be applied to such schedule to determine flat monthly charges for different types of users. (Ord. 8-93. Passed 6-8-93.)

1042.55 USE OF USER CHARGE AND INDUSTRIAL COST RECOVERY CHARGE REVENUES.

General revenues derived from regional sewer charges shall be deposited to the credit of the Regional Sewer Reserve Fund and may be used to defray any regional expense incurred by the City, except the revenues obtained from the industrial cost recovery charges so recovered. General revenues derived from local sewer charges shall be deposited to the credit of Local Sewer Reserve Funds and may be used to defray any local expense incurred by the City and subscribing agencies, except the revenues obtained from the industrial cost recovery charges so recovered. Of the ICR, fifty percent shall be returned, at least annually, to the U.S. Treasury, together with any interest earned thereon, and forty percent shall be deposited in U.S. obligations or securities guaranteed by the Federal government. The remaining ten percent shall be used by the City as it sees fit. (Ord. 22-80. Passed 11-4-80.)

1042.56 BIENNIAL REVIEW OF CHARGES.

User charges and industrial cost recovery charges shall be reviewed biennially and adjusted as required to ensure consistency with PL 95-217 and regulations issued pursuant to PL 95-217. (Ord. 2-80. Passed 11-4-80.)

1042.57 BILLING; HEARINGS.

(a) Service charges and surcharges for sewer service shall be established by the City Commission from time to time and shall be billed on a monthly basis. Service charges for residential users shall be included as a separate item on the City services bill. Payments received for the City services bill shall only be applied in the following order:

(1) Refuse;
(2) Sewer; and
(3) Water.

(b) All bills shall be paid monthly to the City Treasurer's office on or before the due date. If the service charges and surcharges for sewer service remain unpaid for sixty days, a delinquency and termination notice shall be issued. The delinquency and termination notice shall provide the customer of record with the following information:

(1) The amount due;
(2) The customer's right to a disputed bills hearing before the City Manager or his authorized representative;
(3) Notice that water service will be terminated in fifteen days if the bill remains unpaid; and
(4) Notice of the late charge as set forth in this section.

(c) A late charge of ten percent of the unpaid bill shall be assessed on all bills paid more than thirty days after the due date.

(d) A request for a hearing by the customer must be filed with the City Clerk not later than three working days before the date of discontinuance. In instances where the service is actually terminated and later reinstated, the customer shall be charged fifteen dollars ($15.00) to cover the costs of reinstating the service. Where service is discontinued, the water shall be shut off from the premises until the unpaid bill, together with reconnection charges, has been paid.

(e) When water service commences or ceases, applicable charges may be prorated. If water service is supplied to a location, the customer of which has vacated the premises, and the City is satisfied that there has been a termination of the need for sewer charges, then the City, on application of the customer, may suspend liability for such charges and such charges shall be reinstated with the next bill rendered to a customer of such premises.

(f) The portion of the account which remains outstanding for 180 days shall then be collected under the procedures of a special lot assessment as set forth in Chapter 216 of these Codified Ordinances or in the Revenue Bond Act of 1933, if applicable.
(Ord. 2-84. Passed 1-24-84.)

1042.58 DELINQUENCY; REMEDY OF CITY.

Unpaid service charges shall constitute a lien upon the property served, which lien shall be enforced as provided in M.S.A. 5.2751. Whenever sewer charges have remained unpaid for six months, the Director of Finance may certify such unpaid charges to the City Assessor who shall place the same on a special assessment roll of the City. Such charges so assessed shall be collected in the same manner as special assessments as set forth in Section 216.13 of the Administration Code.
(Ord. 22-80. Passed 11-4-80.)

1042.59 BOND ORDINANCES.

Nothing contained in this chapter shall be deemed to alter or repeal any of the provisions of ordinances providing for the issuance of sewerage system revenue bonds, with respect to the obligations of the City and the security of the bondholders thereunder. This chapter is intended to be in conformity with such ordinances and if there is any conflict whereby the security of the bondholders or the obligations of such bonds are impaired, then with respect to such conflict, the provisions of such ordinances shall prevail, so long as any sewage bonds issued under such ordinances are outstanding and unredeemed. (Ord. 22-80. Passed 11-4-80.)

1042.60 ORDINANCE AUTHORIZING CONSTRUCTION OF SEWER AND WATER SYSTEM SAVED FROM REPEAL.

All terms and provisions of that ordinance entitled "An Ordinance Authorizing the Construction of Extensions and Improvements to the Water and Sewer System of the City of Battle Creek, Michigan; Authorizing the Issuance of Water and Sewer Revenue Bonds, Series 1957; Providing for the Retirement and Securing of Said Bonds; Providing for the Fixing of the Rates and Charges for Services Provided by Said Water and Sewer System; and Providing for Other Matters Relative to Said System and Said Bonds," except as otherwise provided in this chapter, shall remain in full force and effect. (Ord. 22-80. Passed 11-4-80.)

1042.61 CONFLICTS WITH CONTRACTS.

If any provision of this chapter is inconsistent or in conflict with a provision of any contract between the City and any contract user, in effect on the date of the adoption of this chapter (Ordinance 22-80, passed November 4, 1980), the provision of such contract shall prevail. However, in no case shall contract provisions circumvent Federal pretreatment standards and requirements.
(Ord. 9-85. Passed 4-30-85.)

1042.62 INTENTIONAL DAMAGE OF SEWERAGE SYSTEM.

(a) No person shall maliciously, willfully or with gross negligence break, damage, destroy, uncover, deface or tamper with any sewer or any part of the sewerage system or the treatment plant.
(Ord. 22-80. Passed 11-4-80.)

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1042.99(a).
(Ord. 11-95. Passed 5-16-95.)

1042.63 HARDSHIP EXEMPTION OF CHARGES.

Any user who has been assessed connection charges under this chapter may submit a hardship application to a committee composed of the City Manager, the Finance Director and the City Attorney, or their designees, seeking a deferment in the partial or total payment of the charges based upon a showing of financial hardship subject to and in accordance with the following:

(a) The user shall complete a hardship application provided by the Finance Director and shall file such application, together with all other required information, with the Finance Director not less than sixty days prior to the due date of the annual installment. Any such deferment shall be for that annual installment only. An application shall be completed and filed by each and every legal and equitable interest holder in the premises so assessed, except financial institutions having a security interest in the premises.

(b) Hardship applications shall be reviewed by the committee, as set forth above, and after due deliberation of such applications, the committee shall determine, in each case, whether or not there has been an adequate showing of financial hardship and shall forthwith notify the applicant of such determination.

(c) An applicant who is aggrieved by the determination of the committee may request, within ten days from the mailing of the decision of the committee, the opportunity to appear before the committee, in person, for the purpose of showing hardship and presenting any argument or additional evidence. Denial of hardship following such a personal appearance before the committee shall be final and conclusive.

(d) If the committee makes a finding of hardship, the committee shall fix the amount of deferment of partial or total charges so imposed and in so doing shall require an annual filing of the financial status of each applicant. Upon any material change of the financial status of an applicant, such applicant shall immediately notify the Finance Director so that a further review of the matter may be made. The duration of the deferment granted shall be self-terminating upon the occurrence of any one of the following events:
    (1) A change of the applicant's financial status which removes the basis for financial hardship;
    (2) A conveyance of an interest in the premises by any applicant, including the execution of a new security interest in the premises or an extension thereof; or
    (3) A death of any applicant.

(e) Upon receiving a determination of the committee deferring partial or total charges imposed, the user shall, within one month, execute a recordable security interest in the premises to the City as the secured party, payable on or before the death of the applicant, or, in any event, upon any transfer of the premises. Such security interest shall be in an amount necessary to cover all fees and charges required under applicable ordinances, the consideration for such security interest being the grant of deferment pursuant to this section. (Ord. 2-84. Passed 1-24-84.)

1042.64 FREE SERVICE PROHIBITED.

No free service shall be furnished by the system to any person, firm or corporation, public or private, or to any public agency or instrumentality. (Ord. 2-84. Passed 1-24-84.)

1042.65 REPLACEMENT RESERVE FUND.

The City shall set aside one hundred forty-five thousand dollars ($145,000) into a Replacement Reserve Fund. If, at the end of each fiscal year, there is sufficient cash flow to create a balance of that amount in the sewer funds, the Replacement Reserve Fund shall be used for maintenance or capital improvements to the sewer plant. (Ord. 2-84 Passed 1-24-84.)

1042.66 MODIFICATIONS OF CHAPTER.

Nothing in this chapter shall be construed to limit the right of the City to modify this chapter as may be necessary to comply with Federal or State laws, regulations, limitations or requirements applicable to discharge. (Ord. 9-85. Passed 4-30-85.)

1042.67 NOTICE TO INDUSTRIAL USERS; TIME LIMIT FOR COMPLIANCE.

The City shall provide all industrial users with notice of the applicable standards and requirements that such users may be required to follow. Such notice shall be provided within thirty days after such standards and requirements are promulgated by the City and such notice shall stipulate a date by which the industry must be in compliance with such standards and requirements. However, in no event shall compliance be required with less than ninety days prior written notice to an industry. (Ord. 9-85. Passed 4-30-85.)

1042.68 PUBLICATION OF LIST OF VIOLATORS.

The City shall publish annually, in the largest daily newspaper published in the City, or in the largest daily newspaper published in the County if the City does not have a daily newspaper, a list of the industrial users who, during the previous twelve months, were significantly violating applicable pretreatment standards or other pretreatment requirements. (Ord. 9-85. Passed 4-30-85.)

1042.69 CONFLICT OF LAWS.

If any other ordinance or part of an ordinance is inconsistent or in conflict with any of the provisions of this chapter, this chapter shall prevail. (Ord. 9-85. Passed 4-30-85.)

1042.99 PENALTY.

(a) Civil Penalty. Whoever intentionally or negligently violates any provision of this chapter or any provision of any permit issued pursuant to this chapter, or intentionally or negligently discharges waste or wastewater which causes pollution, or intentionally or negligently violates any cease and desist order, prohibition, effluent limitation, national standard of performance or national pretreatment or toxicity standard, shall be civilly liable to the City in a sum not to exceed ten thousand dollars ($10,000) for each day on which such violation occurs. The City may petition the appropriate court of jurisdiction to impose, assess and collect such sums pursuant to this chapter, or to seek injunctions or restraining orders to enforce provisions of this chapter. (Ord. 8-93. Passed 6-8-93.)

(b) Criminal Penalty. A person who violates any of the provisions of this chapter, for which no penalty is otherwise provided, shall be subject to the penalty provided in Section 202.99. (Ord. 11-95. Passed 5-16-95.)

(c) Intentional Damage. (EDITOR'S NOTE: Subsection (c) was repealed by Ordinance 11-95, passed 5-16-95.)

(d) Remedies Cumulative. (EDITOR'S NOTE: Subsection (d) was repealed by Ordinance 11-95, passed 5-16-95.)

I. 2

ORDINANCE NO ____

AN ORDINANCE TO AMEND AND COMBINE CHAPTERS 1040 AND 1042 OF TITLE FOUR OF THE CITY CODE REGULATING THE USE OF WATER AND SEWERS TO COMBINE THE CHAPTERS INTO A NEW CHAPTER 1040 AND TO COMBINE THE WATER SYSTEM AND SEWER SYSTEM INTO THE CITY'S WATER SUPPLY AND SEWAGE DISPOSAL SYSTEM

THE CITY COMMISSION HEREBY ORDAINS:

Section 1 Chapter 1040 of Title Four of the City Code be and is hereby amended to read as follows

Chapter 1040
Water and Sewer

1040 01 Findings and Public Purposes
1040 02 Definitions
1040 03 Establishment of the Water Supply and Sewage Disposal System
1040 04 Service connections, application, fees
1040 05 Turning on water service
1040 06 Water meters
1040 07 Access to meters
1040 08 Reimbursement for damaged meters
1040 09 Meter failure, estimated bills
1040 10 Inaccurate meters
1040 11 Standard of accuracy
1040 12 Bill adjustment
1040 13 Hydrant use, permit required
1040 14 Regulations of water use
1040 15 Additional regulations
1040 16 Injury to system or facilities
1040 17 Cross connections
1040 18 Unauthorized connections, special connections
1040 19 Service, liabilities
1040 20 Water rates and charges billing, termination of service, water supply system revenue bonds
1040 21 Conflicts with contracts
1040 22 Water well restricted zone
1040 23 Untreated discharge prohibited exception
1040 24 Private disposal systems generally
1040 25 Mandatory connection to the system

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1040.26 Use of private systems permitted
1040.27 Specifications for private systems
1040.28 Operation of private systems
1040.29 Connection applications
1040.30 Cost of sewer connections, permits required
1040.31 Unauthorized connections
1040.32 Construction permits, application fee
1040.33 Connection fees
1040.34 Construction costs, indemnification of City for loss
1040.35 Separate installations required
1040.36 Use of old building sewers
1040.37 Building sewer specifications
1040.38 Connections of building sewers to building drains
1040.39 Downspouts and other unlawful connections to building sewers or drains
1040.40 Inspections
1040.41 Separate building sewers required, exception
1040.42 Construction of public sewers
1040.43 Construction specifications
1040.44 General requirements for use of public sewers
1040.45 Discharge of uncontaminated water into City sewers
1040.46 Prohibited discharges
1040.47 Garbage grinders.
1040.48 Stored liquid wastes
1040.49 Special discharge authorization
1040.50 Pretreatment, treatment, protection against accidental discharge
1040.51 Industrial user discharge authorization
1040.52 Bypasses
1040.53 Discharge reports
1040.54 Informational reports
1040.55 Public inspection of records, confidential information
1040.56 Right of entry
1040.57 Responsibility and liability of inspectors and owners
1040.58 Discharge testing
1040.59 Monitoring building sewers and drains
1040.60 Monitoring facilities
1040.61 Notices and instructions for accidental discharges
1040.62 Accidental discharges, reports and statements
1040.63 Submission of time schedule for corrective actions
1040.64 Cease and desist orders
1040.65 Damage to sewerage system, assessment of charges
1040.66 Emergency corrections, liability for costs
1040.67 Enforcement
1040.68 Appeals
1040.69 Termination of service

Chapter 1040
Water and Sewer

1040 70 Public nuisances
1040 71 Authority to levy regional user charges on subscribing agencies and the City
1040 72 Method of assessing regional user charges to subscribing agencies and City
1040 73 Authority for subscribing agencies and City to levy
1040 74 Method of assessing user service charges to users
1040 75 Method of assessing user quantity charges
1040 76 Use of user charge and industrial cost recovery charge revenues
1040 77 Biennial review of charges
1040 78 Billing, hearings
1040 79 Delinquency, remedy of City
1040 80 Bond ordinances
1040 81 Conflicts with contracts
1040 82 Intentional damage of sewerage system
1040 83 Hardship exemption of charges
1040 84 Free service prohibited
1040 85 Modifications of chapter
1040 86 Notice to industrial users, time limit for compliance
1040 87 Publication of list of violators
1040 88 Conflict of laws
1040 89 Penalty

Sec. 1040.01 Findings and Public Purposes.

a Necessity for Potable Water The City Commission has previously found, and currently reaffirms that the businesses, industries, governmental and charitable agencies and residents located in the City need to have potable and otherwise usable water

b Availability of Potable Water The City Commission further has previously found, and currently reaffirms, that the supply of potable water available from private wells within the City is insufficient to assure that all businesses, industries, governmental and charitable agencies, and residents will have sufficient potable water available for their use and other water necessary for industrial and fire prevention and control unless the City offers water to all properties located within the City

c Necessity for Sewage Disposal The City Commission further has previously found, and currently reaffirms that the use of septic tanks, privies, privy vaults, cesspools, or similar private sewage disposal

facilities, is deleterious to the health safety and welfare of the businesses, industries, governmental and charitable agencies, and residents of the City and that the health, safety and welfare of the businesses, industries, governmental and charitable agencies and residents is enhanced by the creation of a public sewer system and wastewater treatment plant, with regulation by the City of pollutants and other harmful materials according to state and federal standards and to provide for the equitable recovery of the cost of wastewater treatment

e Method for Measuring Use – Water Supply System Based on advice of its engineers, the City Commission has previously found, and currently reaffirms, that the most precise method, given available technology, of measuring the use of the water supply from the System by any user is by a meter or meters installed and controlled by the City

f Method for Measuring Use – Sewage Disposal System Based on advice of its engineers, the City Commission has previously found, and currently reaffirms, that the most practical, cost effective and accurate method, given available technology, of measuring the use of the System's sewers by any user is by the meter or meters used to measure water usage The City Commission has previously found, and currently reaffirms, that for unmetered premises, the fixed commodity charge set forth herein reflects a reasonable estimate of the cost of the sewage disposal and treatment services provided to average residential users

g Continuation of Service The City Commission has previously found, and further currently reaffirms that, in order to provide and continue to provide clean potable and other usable water to all customers of the System, in quantities necessary for all varieties of use, it is necessary from time to time to install improvements, enlargements, extensions and repairs to the water system The City Commission has previously found and, further currently reaffirms that, in order to provide and continue to provide for the safe and uninterrupted removal and treatment of sewage, pollutants and other harmful materials, it is necessary from time to time to install improvements, enlargements, extensions and repairs to the System

h Purpose of Charges The charges and fees for the use of and connection to the System are hereby established for the purpose of recovering the cost of construction, reconstruction, maintenance,

repair, administration and operation of the System and to comply with Federal and State legislation and related regulations, to provide for the payment principal of and interest on any bonds authorized to be issued as and when the same become due and payable, to create a bond and interest redemption fund therefor, to provide a fund for reasonable and necessary improvements to the System and to provide for such other funds as are necessary to meet contractual obligations of the City Such charges and fees shall be made in accordance with the provisions hereinafter set forth and shall be made against all users of the System

(i) All premises connected directly or indirectly to the System, except as hereinafter provided, shall be charged and shall make payments to the City in amounts computed on the basis of this Chapter.

(ii) The charges, rates and fees for water and sewer service by the System are established herein to adequately provide for bond requirements and to ensure that the System does not operate at a deficit

(iii) The City staff or designated parties shall periodically review the charges, rates, fees, rules and regulations of the System, which review shall be completed not less than one (1) time per fiscal year Results of the review shall be reported to the City Commission with recommendations for any adjustments

(iv) The charges, rates and fees shall be set so as to recover costs from users in reasonable proportion to the cost of serving those users

1 Proportionality, Fairness, and Benefits of Charges, Rates and Fees The City Commission has previously found and further currently reaffirms that the fairest and most reasonable method of providing for the operation, maintenance, repair, replacement and improvement of the System is to charge each user, based in all cases on amount of use, for the costs of (i) retiring debt secured by the net revenues of the System issued to pay for improvements and replacements to the System, (ii) ongoing repair, replacement and improvement and budgeted as part of the annual costs of the System, and (iii) operation, administration and maintenance costs of the System

Service Charges The City has investigated several methods of apportioning the costs of the water and sewer service provided by the System Based on its investigation and on the advice of its engineers, the City Commission has previously found, and currently reaffirms, that to ensure the stability and viability of the System for the benefit of its users, the fairest and most accurate way to apportion the costs of operation, maintenance, replacement and improvement of the System is to charge each user· (i) a Connection Fee for water and sewer service when such user's property is first connected to the System, (ii) a monthly service charge for water and sewer service (which varies depending on the size of the water meter) which fee reflects each user's proportionate share of the fixed costs of the System, (iii) a commodity charge for water usage which is based on the user's actual use of water supplied by the System; and (iv) a commodity charge for sewage disposal service which is based on the user's actual use of water supplied by the System The City Commission has previously found, and currently reaffirms that the rates and charges set forth in this Chapter accurately apportion the fixed and variable costs of the System among the users of the System and that Connection Fee, the monthly service charge and the commodity charges provide actual benefits to such users in the form of ready access to water supply and sewage disposal services that would be unavailable if such charges were not charged The City Commission has previously found and currently reaffirms that the charges for water and sewer service to non-residents, represent fair and accurate charges necessary to make such services available and that such charges are equal to the actual benefit conferred upon such users

Connection Fees In addition to the findings set forth above, the City Commission has previously found and currently reaffirms that the Connection Fees required prior to connection to the System, reflect the proportional capital costs of the System, previously paid by the City and the System, attributable to each new user and that the connection to the System provides actual benefits to each new user equal to or greater than the amount of such fees The connection fee shall also reflect all costs of water and sewer service installation

1040.02 DEFINITIONS.

Words, phrases and terms not specifically defined herein, and having a technical or specialized meaning, shall be defined as set forth in the latest edition of Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association, the American Water Works Association and the Water Environment Federation Reference to waste constituents and characteristics shall have the meanings ascribed thereto in the aforesaid Standard Methods for the Examination of Water and Wastewater and measurements thereof shall be as set forth in such publication or as established by Federal or State regulatory agencies In addition, as used in this chapter, unless the context indicates otherwise

(1) "Act" means the Federal Water Pollution Control Act, as amended by the Clean Water Act and the Water Quality Act of 1987, 33 U S C Part 1251, et seq , as may otherwise be amended, as the context may indicate or require

(2) "Authorized representative of industrial user" means

A In the case of a corporation, a president, secretary, treasurer or vice president of the corporation in charge of a principal business function,

B In the case of a partnership or proprietorship, a general partner or proprietor, and

C An authorized representative of the individual designated in paragraphs (2) A and B hereof if

1 Such representative is responsible for the overall operation of the facilities from which the discharge into the POTW originates,

2 The authorization is in writing, and

3 The written authorization is submitted to the POTW

(3) "Beneficial uses" means uses of the waters of the City, subscribing agencies or the State which may, or do, require protection against quality degradation thereof, including, but not limited to, waters for domestic, Municipal, agricultural, industrial, power generation, recreation, aesthetic enjoyment or navigation purposes, or for the protection and enhancement of fish, wildlife or other aquatic resources or reserves, and such other uses,

both tangible and intangible, as are or may be specified by Federal or State law as beneficial uses

(4) "Billable parameters" means those parameters (i e flow, BOD SS, volume and I/I) which the treatment works is designed to treat and for which average user charge unit costs are calculated

(5) "BOD (biochemical oxygen demand)" means the quantity of oxygen utilized in the biochemical oxidation of organic matter in five days at twenty degrees Centigrade, expressed in milligrams per liter, as determined in accordance with standard laboratory procedure after laboratory settling of waste, as set out in the latest edition of Standard Methods for the Examination of Water and Wastewater

(6) "Building drain" and "building sewer" mean the lowest part of the wastewater drainage pipes and sumps of a building which convey wastewater to the building sewer, terminating at the public sewer or monitoring station within a public right of way

(7) "Bypass" means the intentional diversion of waste streams from any portion of an industrial user's treatment facility

(8) "Capital costs" means the debt service requirements and the costs of depreciable assets that are purchased from current year revenues

(9) "Charge" means a rental fee or other fee established pursuant to this chapter for services and facilities furnished by the City and/or subscribing agencies to any premises in connection with the operation of the water supply and sewerage facilities

(10) "City" means the City of Battle Creek, Michigan, acting by and through its officers and agents

(11) "Commercial user" means any nonresidential user who, in the determination of the Director of Public Works, introduces into the sewerage system primarily segregated domestic wastes or waste from sanitary conveniences

(12) "Compatible pollutant" means BOD, suspended solids, pH and fecal coliform bacteria and such additional pollutants as are identified and controlled in the City's NPDES permit for its wastewater treatment plant where such plant has been designed and used to reduce or remove such pollutants

(13) "Connection Fee" means those charges provided in Section 1040.04 and 1040.32

(14) "Contamination" means an impairment of the quality of the waters of the City, subscribing agencies or the State, by waste, to a degree which creates a hazard to public health. Contamination shall include any equivalent effect resulting from the disposal of wastewater, whether or not waters of the City, subscribing agencies or the State are affected thereby.

(15) "Contract capacity" means the industrial capacity contracted for with the City.

(16) "Contract user" means any private entity which contracts to use the City's water supply or sewerage disposal system.

(17) "Cooling water" means noncontact water discharged from any use during which the only pollutant added to the water is heat, such as that from air conditioning, refrigeration units or boilers.

(18) "Cubic foot" means the equivalent of 7.48 gallons (U.S. liquid). "Gallon" means the equivalent of 0.13368 cubic foot.

(19) "Department" means the Department of Public Works.

(20) "Director" means the Director of Public Works of the City or his or her designees, including, but not limited to, duly authorized personnel.

(21) "DNR" means the Department of Natural Resources of the State.

(22) "Domestic wastes" means liquid wastes from the noncommercial preparation, cooking or handling of food or containing human excrement and similar matter from the sanitary conveniences of dwellings, commercial buildings, industrial facilities and institutions.

(23) "EPA" means the Federal Environmental Protection Agency.

(24) "Fiscal year" means July 1 through June 30.

(25) "Garbage" means solid wastes resulting from the domestic, commercial and industrial preparation, cooking, dispensing, handling, storage or sale of food.

(26) "Health Officer" means the County Health Officer, his or her assistant or authorized deputy acting as Health Officer of the City and subscribing agencies.

(27) "Holding tank waste" means any waste from holding tanks, including, but not limited to, chemical toilets, campers, trailers, septic tanks and tank trucks

(28) "ICR" means industrial cost recovery

(29) "Incompatible pollutant" means any pollutant which is not a compatible pollutant, interferes with, is not removed by, or is otherwise incompatible with, the sewage treatment process or sludge management

(30) "Industrial users" means all establishments engaged in producing, manufacturing or processing operations, other establishments engaged in any activity resulting in the production of industrial wastes which have sewer service, or any wastewater contributor identified in the SIC Manual, latest edition, prepared and published by the Executive Office of Management and Budget of the United States, classified with divisions A, B, D, E and I therein. A user in the divisions listed is excluded if the user discharges less than 25,000 gallons per day of equivalent sanitary flows with domestic waste loadings or if the user is a governmental or residential user, provided that its waste discharge does not contain pollutants which are toxic or incompatible, which interfere with treatment plant processes or which may otherwise contaminate or reduce the utility of the sludge

(31) "Industrial waste" means the waterborne waste and wastewater from any production, manufacturing or processing operation of whatever nature, including institutional and commercial operations where water is used for the removal of significant quantities of waste other than from human habitation of premises connected to the public sewers Contents of chemical toilets, septic tanks, waste holding tanks and waste sumps shall be classed as industrial waste

(32) "Infiltration/Inflow (I/I)" means the ground water and surface water which enters through collection system defects and cross connections from storm sewers

(33) "Institutional user" means any hospital or public or private school that introduces into the sewerage system primarily segregated domestic waste or wastes from sanitary conveniences

(34) "Interceptor sewer line" means a sewer line whose basic function is to collect wastewater from two or more trunk sewers and conduct the wastewater to a point for treatment or disposal A trunk or primary sewer is that which receives wastewater from a number of branch or transverse sewers or outlets

(35) Interference" means an inhibition or disruption of the sewerage system and its sludge processes, use or disposal, which is a cause of or significantly contributes to either a violation (including an increase in the magnitude or duration of a violation) of any requirement of the Wastewater Treatment Plant's NPDES permit, State-approved Program for Effective Residuals Management (PERM) or any other Federal, State or local statutory provision, regulation or permit A user significantly contributes to such a violation whenever such user

A Discharges a daily pollutant loading or concentration in excess of that allowed by contract, by Federal or State law or by other sections of this chapter, or

B Discharges wastewater which substantially differs in quantity, nature or constituents from the user's average discharge

(36) "Local costs" means those costs which are borne in their entirety by each subscribing agency and the City and includes all expenses incurred up to the point of delivery to the regional system

(37) "Major user" means an industrial or nonindustrial user discharging more than 25,000 gallons per day of equivalent sanitary, domestic waste loading flows directly into a sewer line

(38) "Mass emission rate" means the weight of material discharged to the sewerage system during a given time interval Unless otherwise specified, the mass emission rate means pounds per day of a particular constituent or combination of constituents

(39) "MG" means million gallons, "mgd" means a million gallons per day, and "M lb/d" means a thousand pounds per day

(40) "National categorical pretreatment standard" or "categorical pretreatment standard" means any regulation containing pollutant discharge limits promulgated by the EPA in accordance with Section 307(b) and (c) of the Act (33 U S C Part 1317), which applies to a specific category of industrial users

(41) "New source" means any building, structure, facility or installation the construction of which commenced after the publication of proposed pretreatment standards under Section 307(c) (33 U S C Part 1317) which will be applicable to such source if such standards are thereafter promulgated in accordance with that section, provided that

A The construction is a site at which no other source is located,

B The process or production equipment that caused the discharge of pollutants at an existing source is totally replaced, or

C The production or wastewater generating processes are substantially independent of an existing source at the same site

(42) "Nondomestic User" means an industry, commercial establishment, or other entity that discharges wastewater to a publicly owned treatment works other than, or in addition to, sanitary sewage

(43) "Nonmajor user" includes all users, except industrial users and major users discharging into a sewer line

(44) "Normal domestic strength" means wastewater with concentrations that do not exceed the following

A BOD (biochemical oxygen demand) 300 parts per million, or

B SS (suspended solids) 300 parts per million

(45) "NPDES permit" means a permit issued pursuant to the National Pollutant Discharge Elimination Systems, as prescribed in Section 402 of Public Law 92-500.

(46) "Operation and maintenance costs" means all costs for labor, power, chemicals, materials and supplies, replacements, contractual services, billing and administration chargeable to water supply and wastewater operations

(47) "Outlet" means any natural or man-made exit which terminates into a watercourse, pond, ditch, lake or other body of surface water, or an exit into the ground water

(48) "Owner" means the owner of any real property from which sewage is discharged

(49) "Pass-through" means a discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, causes a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation)

(50) "Person" means any individual, firm, company, association, society, corporation, municipal corporation, governmental unit or group

(51) "pH" means the logarithm of the reciprocal of the weight of hydrogen ions in grams per liter of solution.

(52) "P.L. 92-500" means Public Law 92-500, being the Federal Water Pollution Control Act of 1972 and amendments.

(53) "P.L. 95-217" means Public Law 95-217, being the Federal Water Pollution Control Act Amendments of 1977.

(54) "Pollutant" means any dredged soil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discharged equipment, rock, sand, cellar dirt and industrial, municipal, commercial and agricultural waste or any other contaminant.

(55) "Pollution" means an alteration of the quality of the waters of the City, subscribing agencies or the State by waste which unreasonably affects such waters for any beneficial use or affects facilities serving such beneficial use. "Pollution" may also include contamination.

(56) "Premises" means each lot, parcel of land, or portion thereof, including any improvement thereon, which is directly or indirectly connected to the water supply or sewage facilities or treatment facilities of the City. Each dwelling unit of a duplex, apartment or any other multifamily residence shall be deemed a separate premises.

(57) "Pretreatment" or "treatment" means the reduction, elimination or alteration of pollutant properties to a less harmful state prior to or in lieu of discharge or introduction into a POTW. This can be accomplished by physical, chemical or biological processes, process changes or other means, except as prohibited by 40 CFR Section 403.6(d).

(58) "Pretreatment standards" means all applicable Federal rules and regulations implementing Section 307 of Public Act 95-217, as well as any nonconflicting State or local standards. In cases of conflicting standards or regulations, the more stringent thereof shall apply.

(59) "Public water" means waters of the City or waters of the State.

(60) "Publicly owned treatment works" or "(POTW)" means a treatment works as defined by Section 212 of the Act, including any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage and industrial waste. The systems include sewers, pipes and equipment used to convey wastewater to the treatment facility. The term also includes the municipality as defined in Section 502(4) of the Act which

has jurisdiction over the indirect discharges to and the discharges from such a treatment works

(61) "Reclaimed water" means water which, as a result of treatment of waste, is suitable for direct beneficial use or a controlled use that would not otherwise occur

(62) "Regional costs" means the costs shared by all subscribing agencies and the City in accordance with the cost of providing regional service for each subscribing agency and the City

(63) "Regional Sewer Reserve Fund" means the regional sewer service charge revenue deposited in a fund to be used to defray any regional costs incurred by the City

(64) "Residential equivalent" means water discharged in the amount of 11,000 cubic feet annually

(65) "Residential user" means a user whose premises are primarily for providing living accommodations, have no significant producing or processing activity of a commercial or industrial nature and primarily produce domestic waste

(66) "Service Installation" means the construction and installation of service lines including all excavation and restoration, appurtenances and attachments thereto, and all necessary equipment charges, material and labor

(67) "Severe property damage" means substantial physical damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass Severe property damage does not mean economic loss caused by delays in production

(68) "Sewage" means the waterborne wastes received from human habitation and use of premises for residential, commercial, institutional or industrial purposes

(69) "Sewer," "sanitary sewer" and "public sewer" mean a pipe or conduit which carries sewage and/or industrial wastes and to which storm, surface and ground waters are not intentionally admitted Unless otherwise qualified, "sewer," when used in this chapter, means "sanitary sewer " A City sewer or public sewer is any sewer located within an easement or public right of way and which is maintained by the City

(70) "Sewerage system" means all sewers, facilities and appurtenances owned or operated by the City or a subscribing agency for the carrying, collecting, pumping and treatment of sewage.

(71) "Shall" is mandatory; "may" is permissive.

(72) "SIC" means Standard Industrial Classification. (See also "Industrial user.")

(73) A. "Significant industrial user" means, except as provided in paragraph (74)B. hereof:

1. All industrial users subject to categorical pretreatment standards under 40 CFR, Section 403.6 and 40 CFR Chapter I, Subchapter N; and

2. Any other industrial user that:
   a. Discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater);
   b. Contributes a process waste stream which makes up five percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or
   c. Is designated as a significant industrial user by the POTW on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR, Section 403.(f)(6)).

B. Upon a finding that an industrial user meeting the criteria in paragraph (74)A.2. hereof has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the POTW may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR, Section 403.8 (f) (6), determine that such industrial user is not a significant industrial user.

(74) "Significant noncompliance (SNC)" means:

A. Chronic violations of wastewater discharge limits, defined here as those in which sixty-six percent or more of all of the measurements taken during a six-month period exceed (by any magnitude) the daily maximum limit or the average limit for the same pollutant parameter.

B Technical review criteria (TRC) violations, defined here as those in which thirty-three percent or more of all of the measurements for each pollutant parameter taken during a six-month period equal or exceed the product of the daily maximum limit or the average limit multiplied by the applicable TRC (TRC = 1 4 for BOD, TSS, fats, oil, and grease, and 1 2 for all other pollutants except pH)

C Any other violation of a pretreatment effluent limit (daily maximum or longer-term average) that the Control Authority determines has caused, alone or in combination with other discharges, interference or pass-through (including endangering the health of POTW personnel or the general public),

D Any discharge of a pollutant that has caused imminent endangerment to human health or welfare or to the environment or has resulted in the POTW's exercise of its emergency authority to halt or prevent such a discharge,

E Failure to meet, within ninety days after the schedule date, a compliance schedule milestone contained in a local control mechanism or enforcement order for starting construction, completing construction or attaining final compliance,

F Failure to provide, within thirty days after the due date, required reports such as baseline monitoring reports, ninety-day compliance reports, periodic self-monitoring reports and reports on compliance with compliance schedules,

G Failure to accurately report noncompliance,

H Any other violation or group of violations which the Control Authority determines will adversely affect the operation or implementation of the local pretreatment program

(75) "Slug" means any discharge of water or sewage in which the quantity or concentration of any component, including flow, exceeds the maximum allowable quantity or concentration by more than five times the allowable quantity or concentration, or is more than the allowable quantity or concentration, but not greater than five times the allowable quantity or concentration for a period of time exceeding fifteen minutes

(76) "State" means the State of Michigan

(77) "Storm sewer" means a public sewer which carries storm and surface waters and drainage, but which excludes sewage other than unpolluted cooling water

(78) "Storm water" means that part of the rainfall which reaches the sewers as run-off from natural land surfaces, building roofs or pavements

(79) "Subscribing agency" means any agency which contracts to use the City's sewerage system, including the Federal Center, Veteran's Administration, City of Springfield and the Townships of Emmett, Leroy, Pennfield and Bedford

(80) "Suspended solids" means the solids that either float on the surface of, or are in suspension in, water, sewage or other liquids, in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater.

(81) "System" means the combined water supply and sewerage disposal systems of the City including all works and instrumentalities necessary or useful in the supply of potable water or the collection and treatment of sanitary sewage including but not limited to all well, pumping, treatment and storage facility facilities and equipment, water main pressure systems, connections, service pipes, valves, hydrants, meters, sewer services, interceptors, pump stations, force mains, service connections, treatment works, and all other appurtenances to the System

(82) "Toxic pollutant" means any pollutant or combination of pollutants identified as toxic pursuant to Section 307(a) of the Federal Water Pollution Control Act or other Federal statutes or in regulations promulgated by the State under State law

(83) "Treatment plant " See "Wastewater treatment plant "

(84) "Unpolluted water" means water not containing any pollutants limited or prohibited by the effluent standards in effect, or water whose discharge will not cause any violation of receiving water quality standards

(85) "User" means any person or premises which either directly or indirectly is supplied water by the City or who directly or indirectly discharges, causes or permits the discharge of wastewater into a City sewer

(86) "Waste" means sewage and any and all other water substances, whether liquid, solid, gaseous or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing or processing operation of whatever nature, including such waste placed

within containers of whatever nature prior to, and for the purposes of, disposal

(87) "Wastewater" means waste and water, whether treated or untreated, discharged into or permitted to enter a City sewer

(88) "Wastewater components, constituents and characteristics" means the individual chemical, physical, bacteriological and radiological parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the contents, quality, quantity and strength of wastewater

(89) "Wastewater treatment plant" means any arrangement of devices and structures used for treating sewage, whether publicly or privately owned

(90) "Water Connection" means that part of the water distribution system connecting the water main with the premises served

(91) "Water Main" means that part of the water distribution system located within the easement lines or streets which is designed to supply more than one water connection

(92) "Water quality requirements" means the requirements for the City's treatment plant effluent established by an NPDES permit or by State or Federal regulatory agencies for the protection of receiving water quality Water quality requirements include effluent limitations and waste discharge standards, limitations or prohibitions which may be established or adopted from time to time by State or Federal laws or regulatory agencies

(93) "Watercourse" means a channel, natural or artificial, lined or unlined, in which a flow of storm water, ground water or clean water occurs, either continuously or intermittently

(94) "Waters of the City" means any water, surface or underground, within the boundaries of the City or subscribing agencies

(95) "Waters of the State" means and includes

A Both surface and underground waters within the boundaries of this State subject to its jurisdiction, including all ponds, lakes, rivers, streams, public ditches, tax ditches and public drainage systems within this State, other than those designed and used to collect, convey or dispose of sanitary sewage,

B The flood plain free-flowing waters determined by the Department of Natural Resources on the basis of 100-year flood frequency, and

C Any other waters specified by State law

1040.03 ESTABLISHMENT OF THE WATER SUPPLY AND SEWAGE DISPOSAL SYSTEM.

Based on the above findings and for the purposes set forth above, the City has previously established each system separately and hereby establishes the water supply and sewage disposal system as a combined utility system

1040.04 SERVICE CONNECTIONS; APPLICATION; FEES.

(a) Application for water connections shall be made to the Department of Public Works on forms prescribed and furnished by the Department Water connections and water meters shall be installed in accordance with rules and regulations of the Department and upon payment of the required connection fee and meter installation fee as shall be established by a resolution of the City Commission All meters and water connections shall be the property of the City

(b) The connection charges set forth in subsection (a) hereof shall be due and payable in cash upon application for connection to the system, except for charges to premises existing before connection to the system, which may be paid in installments as follows

(1) Application Application for an installment payment may be made to the City Treasurer

(2) Installments The fee or charge may be made in not more than ten annual installments, bearing interest on the unpaid installments, at the rate of six percent per annum, to accrue from the date of billing by the City

(c) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.05 TURNING ON WATER SERVICE.

(a) No person, other than an authorized employee of the Department of Public Works, shall turn on or off any water service, except that a licensed plumber may turn on water service for testing his work (in which case it must be immediately turned off), or upon receiving a written order from the Department However, upon written permission from the Department, water may be turned on for construction purposes only, prior to the

granting of a certificate of occupancy for the premises and upon payment of the charges applicable thereto

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.06 WATER METERS.

(a) All premises using water shall be metered, except as otherwise provided in this chapter No person, except a Department of Public Works employee, shall break or injure the seal or change the location of, alter or interfere in any way with a water meter

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98

1040.07 ACCESS TO METERS.

(a) The Department of Public Works shall have the right to shut off the supply of water to any premises where the Department is not able to obtain access to the meter. Any qualified employee of the Department shall, at all reasonable hours, have the right to enter the premises where such meters are installed for the purpose of reading, testing, removing or inspecting the same. No person shall hinder, obstruct or interfere with such employee in the lawful discharge of his duties.

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.08 REIMBURSEMENT FOR DAMAGED METERS.

Any damage which a meter may sustain resulting from carelessness of the owner, agent or tenant or from neglect of such persons to properly secure and protect the meter, as well as any damage which may be wrought by frost, hot water or steam backing from a boiler, shall be paid by the owner of the property to the City on presentation of a bill therefor If the bill is not paid, the water shall be shut off and shall not be turned on until all charges have been paid to the City

1040.09 METER FAILURE; ESTIMATED BILLS.

If a meter fails to register properly, the Department of Public Works shall estimate the consumption on the basis of former consumption and bill accordingly

1040.10 INACCURATE METERS.

The Department may, at the request of the consumer, make a test of a water meter once every twelve months without cost to the consumer. Additional consumer requested tests, which result in the meter not being found defective, shall be subject to the testing fee pursuant to Section 1040.15. If the meter is found to be defective, it shall be repaired or an accurate meter shall be installed and no charge shall be made to the consumer

1040.11 STANDARD OF ACCURACY.

A meter shall be considered accurate if, when tested, it registers not to exceed two percent more or two percent less than the actual quantity of water passing through it. If a meter registers in excess of two percent of the actual quantity of water passing through it, it shall be considered "fast" to that extent. If a meter registers in excess of two percent less than the actual quantity of water passing through it, it shall be considered "slow" to that extent.

1040.12 BILL ADJUSTMENT.

If a meter has been tested at the request of a consumer and has been determined to register "fast," the City shall credit the consumer with a sum equal to the percent "fast" multiplied by the amount of all bills incurred by such consumer within the two months prior to the test. If a meter so tested is determined to register "slow," the Department of Public Works may collect from the consumer a sum equal to the percent "slow" multiplied by the amount of all bills incurred by the consumer for the prior two months. When the Department, on its own initiative, makes a test of a water meter, it shall be done without cost to the consumer, other than the payment of the amount due to the City for water used by the consumer if the meter is found to be "slow."

1040.13 HYDRANT USE; PERMIT REQUIRED.

(a) No person, except an employee of the City in the performance of his duties, shall open or use any fire hydrant, except in a case of emergency, without first obtaining a written permit therefor from the Department of Public Works and paying such fee therefor as may be prescribed.

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.14 REGULATIONS OF WATER USE.

(a) The Director may regulate, limit or prohibit the use of water for any purpose. Such regulations shall restrict less essential water uses to the extent deemed

necessary to assure an adequate supply for essential domestic and commercial needs and for fire fighting No such regulation, limitation or prohibition shall be effective until twenty-four hours after the publication thereof in a newspaper of general circulation in the City No person shall violate any such rule or regulation

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.15 ADDITIONAL REGULATIONS.

The Director may make and issue additional rules and regulations concerning the water production facilities and the water distribution system, connection thereto, meter installations and maintenance, connection and meter installation and testing fees, and hydrants and water mains and the appurtenances thereto, not inconsistent herewith Such rules and regulations shall be effective upon approval by resolution of the City Commission.

1040.16 INJURY TO SYSTEM OR FACILITIES.

(a) No person, shall willfully or carelessly break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment which is a part of the City water distribution system or water production facilities

(b) A person who violates this section is responsible for a Class F Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.17 CROSS CONNECTIONS.

(a) The Water Supply Cross Connection Rules of the Michigan Department of Public Health, being R 325 11401 to R 325 11407 of the Michigan Administrative Code, are hereby adopted by reference

(b) The Department of Public Works shall cause inspections to be made of all properties served by the public water supply where cross connection with the public water supply is deemed possible The frequency of inspections and reinspections, based on potential health hazards involved, shall be as established by the Department of Public Works and as approved by the Michigan Department of Public Health The owner shall provide the water supplier with proof of backflow prevention devices working properly, on a regularly scheduled basis as determined by the Department in accordance with regulations set forth by the Michigan Department of Public Health

(c) Representatives of the Department of Public Works shall have the right to enter, at a reasonable time, any property served by a connection to the public water

supply system of the City for the purpose of inspecting the piping system or systems thereof for cross connections. On request, the owner, lessee or occupant of any property so served shall furnish to the inspection agency any pertinent information regarding the piping system or systems on such property. The refusal of such information or refusal of access, when requested, shall be deemed evidence of the presence of cross connections.

(d) The Department of Public Works is hereby authorized and directed to discontinue water service, after giving reasonable notice to a property owner, to any property wherein a connection in violation of any provision of this chapter exists. The Department is authorized to take such other precautionary measures as are deemed necessary to eliminate any danger of contamination of the public water supply system. Water service to such property shall not be restored until the cross connection has been eliminated in compliance with this section.

(e) The potable water supply made available on properties served by the public water supply shall be protected from possible contamination as specified by this chapter and by the State Plumbing Code. Any water outlet which could be used for potable or domestic purposes and which is not supplied by the potable system must be labeled in a conspicuous manner as: WATER UNSAFE FOR DRINKING.

(f) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98.

1040.18 UNAUTHORIZED CONNECTIONS; SPECIAL CONNECTIONS.

(a) Except as provided by this subsection, no person shall open any valve or make any connection which will make possible the use of water which has not passed through a water meter, provided that:

(1) In special cases where it is impractical to meter the water and where the amount used can be accurately estimated and where proper arrangements are made for the payment of water so used, the Director of Public Works may grant temporary permission, in writing, for such use of water without a meter.

(2) In cases of ordinary building construction, a water meter shall be set in a place approved by the Department of Public Works, at the expense of the user, to measure the water used during construction. Water so used shall be charged for at the rates set forth in the schedule provided for in Section 1040.20.

(b) No person shall willfully or fraudulently prevent a water meter from duly registering the quantity of water, measured through the meter, or in any way hinder or interfere with the meter's proper action or just registration

(c) In all prosecutions under this section, proof that the defendant other than a lessor, had control of or occupied the premises where the offense was committed, or received the benefit of the water, used or consumed, shall be prima facie evidence of a violation of this section

(d) A person who violates this section is responsible for a Class F Municipal civil infraction if the value of the water used or wasted, as a result of the violation is not more than $500, and shall be subject to the civil fines provided in Section 202 98 Provided, however, nothing in this section shall prevent or estop the city from assessing a person violating this section for the reasonable costs and charges associated with any unmetered water use

1040.19 SERVICE; LIABILITIES.

The City shall endeavor to furnish continuous service to users, but does not guarantee uninterrupted service and shall not be liable for any damage which a user may sustain by reason of the failure of the service, whether caused by accident, repair or otherwise, nor shall the City be liable for damages which the user may sustain by reason of failure of water supply, or for damages to persons or property arising, occurring or resulting from the supply of water or from any apparatus or appurtenance in connection therewith

1040.20 WATER RATES AND CHARGES; BILLING; TERMINATION OF SERVICE; WATER SUPPLY SYSTEM REVENUE BONDS.

(a) All water service shall be charged for on the basis of water consumed as determined by the water meter installed in or near the premises of a user and shall include a readiness to serve charge No free water service shall be furnished to any person or premises

(b) Charges for all water service shall be billed by the Finance Department and collected monthly by the City Treasurer All water meters shall be read at least every second month and bills shall be rendered within fourteen days following the meter readings All bills shall be payable when rendered and shall be deemed delinquent if not paid on or before the due date shown on the bill A late charge of ten percent of the unpaid bill shall be assessed on all bills paid more than thirty days after the due date

(c) The Office of the City Manager is hereby authorized to enforce the payment of charges for water service to any premises by discontinuing the water service to such premises and an action of assumpsit may be instituted by the City against the customer. The charges for water service which, under the provisions of Public Act 94 of 1933, as amended, ("Act 94") are made a lien on the premises to which such service is furnished, are hereby recognized to constitute such lien. The Director of Finance shall, on June 30 and January 1, certify all unpaid charges for such service furnished to any premises which, as of these dates, have remained unpaid for a period of six months, to the City Assessor who shall place the same on a special assessment roll of the City. Such charges so assessed shall be collected in the same manner as general City taxes. If the City is properly notified, in accordance with Act 94, that a tenant is responsible for water service charges, no such service shall be commenced or continued to such premises until there has been deposited with the City Treasurer a sum sufficient to cover three times the average monthly or bimonthly bill for such premises, as estimated by the Director of Finance. Such deposit shall be in no case less than sixty dollars ($60.00). Where the meter service to any premises is turned off to enforce the payment of water service charges, the water service shall not be recommended until all delinquent charges have been paid and a deposit, as in the case of tenants, is made. In addition, there shall be a water turn-on charge of thirty dollars ($30.00). In any other case where, at the discretion of the Finance Director, the collection of charges for water service may be difficult or uncertain, the Director may require a similar deposit. Such deposits may be applied against any delinquent water service charges and the application thereof shall not affect the right of the City to turn off the water service to, any premises for a delinquency thereby satisfied. No such deposit shall bear interest. Such deposits, or any remaining balance thereof, shall be returned to the customer making the same when the water service is discontinued or, except as to tenants as to whom notice of responsibility for such charges has been filed with the City, when any eight successive monthly or bimonthly bills have been paid by such customer with no delinquency.

(d) Nothing contained in this chapter shall be deemed to alter or repeal any of the provisions of ordinances providing for the issuance of water supply system revenue bonds, with respect to the obligations of the City and the security of the bondholders thereunder. This chapter is intended to conform with such ordinances and if there is any conflict whereby the security of the bondholders or the obligations of such bonds are impaired, then, with respect to such conflict, the provisions of such ordinances shall prevail, so long as any water bonds issued under such ordinances are outstanding and unredeemed.

(e) The rates and charges established by the City for water service shall be as set forth in a schedule which shall be enacted by the City Commission from time to time by resolution.

1040.21 CONFLICTS WITH CONTRACTS.

If any provision of this chapter is inconsistent or in conflict with a provision of any contract between the City and a contract user, in effect on the date of the adoption of this chapter, the provisions of such contract shall prevail.

1040.22 WATER WELL RESTRICTED ZONE.

(a) The purpose of this section is to provide for the protection of the public health, safety and welfare in connection with the use of groundwater within certain portions of the City of Battle Creek. It has been determined that groundwater within the restricted zone (as defined in subsection (b) hereof) may contain hazardous substances at concentration levels which the Michigan Department of Environmental Quality has determined would be unsafe for consumption or certain other uses. It is further recognized that the protection of the residents of the City of Battle Creek from consumption and other uses of groundwater containing hazardous substances which may be injurious to human health may in certain cases be fostered by the adoption of restrictions in certain areas with regard to the installation and/or use of wells.

(1) The following described area is the restricted zone as defined under the terms of this section: An area commencing at the intersection of Waubascon Road and Limit Street and continuing in a southerly direction along the centerline of Limit Street to the centerline of Parkway Drive and then east along the centerline of Parkway Drive to the centerline of Howland Street and then north along the centerline of Howland Street to the centerline of Roosevelt Avenue, then east along the centerline of Roosevelt Avenue to Washington Avenue, then north along the centerline of Washington Avenue to the northern City limits, then west along the northern City limits to Limit Street.

(2) No person or legal entity shall install, allow, permit or provide for the installation or utilization of a well on any property on which he, she or it has an ownership interest, or a lessee or tenant interest, or control within the restricted zone. Property within the restricted zone shall be serviced only by the public water supply

(3) Any person, firm or corporation found responsible for violating this section shall be responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98 Each day a violation continues shall be deemed a separate offense In addition, the City may seek an order from the District Court to restrain any person from violating this section, including the

collection of costs and attorney fees associated with such enforcement action. Any well in violation of this section shall also be declared and deemed to be a nuisance, subject to abatement, and shall be immediately taken out of service and lawfully abandoned. Any person found to be in violation of this section is subject to being ordered by the District Court to properly and lawfully remove or abandon the well.

(4) At least thirty days prior to any amendment or repeal in whole or in part of this section, the City shall notify the Michigan Department of Environmental Quality of its intent to so act.

(5) If any article, section, subsection, sentence, clause, phrase or portion of this section is held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of remaining portions of this section, it being the intent of the City that this section shall be fully severable. The City shall promptly notify the Michigan Department of Environmental Quality upon the occurrence of any event described in the preceding sentence.

(b) As used in this section:

(1) "Restricted zone" means the area legally described and incorporated in this section.

(2) "Well" means an opening in the surface of the earth for the purpose of removing fresh water through nonmechanical or mechanical means for any purpose other than the obtaining of groundwater samples as part of a remedial activity consistent with the Michigan Natural Resources and Environmental Protection Act of 1994, as amended.

1040.23 UNTREATED DISCHARGE PROHIBITED: EXCEPTION.

No person shall discharge, from any place in or under the jurisdiction of the City, into any outlet, any sewage or other wastes, except where suitable treatment has been provided in accordance with the provisions of this chapter or where a discharge is under jurisdiction of an NPDES permit.

1040.24 PRIVATE DISPOSAL SYSTEMS GENERALLY.

Except as hereinafter provided, no person shall construct or maintain any privy, privy vault, septic tank, cesspool or other private facility intended or used for the disposal of sewage

1040. 25 MANDATORY CONNECTION TO THE SYSTEM.

(a) It is hereby determined and declared that public sanitary sewers are essential to the health, safety and welfare of the residents of the City, that all structures in which sanitary sewage originates shall connect to the sewerage system at the earliest reasonable date as a matter for the protection of the health, safety and welfare of the residents of the City, and, therefore, all structures in which sanitary sewage originates that are situated or become situated within 200 feet of a street, alley, right of way or easement which contains a public sanitary sewer shall be connected to such sewer within ninety days after the mailing or posting of notice to such premises by the appropriate City official that such services are available Such notification and the enforcement of this section shall be in conformity with Act 368 of the Public Acts of 1978, as amended

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.26 USE OF PRIVATE SYSTEMS PERMITTED.

If a public sanitary or combined sewer is not available, within the meaning of Section 1040 25, to any property from which sewage is discharged, such sewage shall be discharged to a private sewage disposal system complying with Sections 1040 27 and 1040 28

1040.27 SPECIFICATIONS FOR PRIVATE SYSTEMS.

(a) The type, capacity, location and layout of a private sewage disposal system shall comply with all requirements of the County Health Department and shall be constructed and connected in accordance with the plumbing regulations of the City No septic tank or cesspool shall be permitted to discharge to any public sewer or outlet

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.28 OPERATION OF PRIVATE SYSTEMS.

(a) The owner of a private sewage disposal system shall operate and maintain such system in a sanitary manner and nuisance-free at all times, at no expense to the City

The owner shall comply with all requirements which may be imposed by the County Health Department

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.29 CONNECTION APPLICATIONS.

An application for connection to a public sewer shall, in every case be made by the owner or his agent on a form furnished by the City Each application shall be supplemented by such plans, specifications, analyses or estimates of strength and quantity of wastewater to be produced, flow data or other information relative to wastewater conveyance, characteristics, quantities or pretreatment as are, in the judgment of the Director, considered pertinent In the case of every industrial service connection, irrespective of whether or not a new physical connection is to be made, a new or amended application shall be filed with the City upon a change of ownership of the property served, upon a change of occupancy or upon a change of any activity resulting in changes in type of industrial waste The holders of all permits issued under this chapter shall be subject at all times to all applicable Federal, State and local laws and regulations At no time and in no way shall the holder of any permit acquire or be regarded as having acquired a vested or continuing right to maintain or to have continued any connection to the public sewer

1040.30 COST OF SEWER CONNECTIONS; PERMITS REQUIRED.

(a) A connection to the public sewer, including the piping within any public street right of way, shall be made at the sole expense of the owner of the property served Such connection shall not be made without the required approved permits issued by the Director of Public Works

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.31 UNAUTHORIZED CONNECTIONS.

(a) No person, without the approval of the Director of Public Works, shall uncover, make any connection with or opening into, or use, alter or disturb, any public sewer or appurtenance thereof

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.32 CONSTRUCTION PERMITS; APPLICATION; FEE.

(a) The two classes of permits for constructing a building sewer are as follows:

(1) For residential and commercial service; and

(2) For property from which industrial wastes will be discharged.

(b) Application for such a permit shall be made on a special form provided by the Director of Public Works. Applications shall be supplemented with any plans, specifications and offer information considered pertinent by the Director. Tap fees as set forth in Section 1040.33 shall be paid to the City at the time the application is made.

1040.33 CONNECTION FEES.

(a) Connection Fee. A connection fee schedule shall be established from time to time by resolution of the City Commission.

(b) Premises Not Connected to Water System. The connection fee or connection tap fee may be determined for premises not connected to the City water system in a manner similar to that set forth in this section if an approved wastewater meter is installed in the sewage discharge line and is read by the City Water Department in accordance with their meter reading schedule. A connection fee will be charged for each 1,000 cubic feet of wastewater discharged per month, based on a twenty-four month average, as described in this section.

(c) Installment Payments. Any connection tap fee or connection charge permitted to be paid in installments may be paid in accordance with the following:

(1) Application. Application for an installment payment may be made to the City Treasurer.

(2) Installments. The fee or charge may be made in not more than ten annual installments, bearing interest on the unpaid installment at the rate of six percent per annum to accrue from the date of billing by the City.

1040.34 CONSTRUCTION COSTS; INDEMNIFICATION OF CITY FOR LOSS.

All costs and expenses incident to the installation and connection of a building sewer to a public sewer shall be borne by the owner of the building sewer. The owner

shall indemnify the City for any loss or damage that may directly or indirectly be occasioned by the installation and connection of a building sewer

1040.35 SEPARATE INSTALLATIONS REQUIRED.

(a) A separate and independent building sewer shall be provided for each building, except as otherwise provided in the construction permit

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.36 USE OF OLD BUILDING SEWERS.

An old building sewer may be used in connection with a new building only when found, on examination and test by the Director of Public Works, to meet all requirements of this chapter

1040.37 BUILDING SEWER SPECIFICATIONS.

(a) The size, slope, alignment and materials of construction of a building sewer, and the method to be used in excavating, placing of the pipe, jointing, testing and backfilling the trench, shall all conform to the requirements of the Building and Housing Code or other applicable rules and regulations of the Director of Public Works and the State, provided, however, that this section shall not be construed to prevent the use of any material for a building sewer which is included in the most recent edition of the State Environment Plumbing Code, as adopted by the City, including the use of copper or plastic pipe in applications permitted by the State Plumbing Code In the absence of Code provisions or in amplification thereof, the materials and procedures set forth in appropriate specifications of Water Environment Federation Manual of Practice No 9 and applicable American Society for Testing and Materials (A S T M) standards shall apply

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.38 CONNECTIONS OF BUILDING SEWERS TO BUILDING DRAINS.

(a) Whenever possible, a building sewer shall be connected with a building drain at an elevation below the basement floor In any building in which the building drain is too low to permit gravity flow to the public sewer, sanitary sewage carried by such building drain shall be lifted by an approved means and discharged to the building sewer

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98.

1040.39 DOWNSPOUTS AND OTHER UNLAWFUL CONNECTIONS TO BUILDING SEWERS OR DRAINS.

(a) No roof downspout, exterior foundation drain, areaway drain or other source of surface run-off or ground water shall be connected to a building sewer or building drain.

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98.

1040.40 INSPECTIONS.

An applicant for a permit for the construction of a building sewer shall notify the Building Inspection Department of the City when the building sewer is ready for inspection and connection to the public sewer. Such connection shall be made under the supervision of the Department.

1040.41 SEPARATE BUILDING SEWERS REQUIRED; EXCEPTION.

(a) A separate and independent building sewer shall be provided for every building, except that where one building stands at the rear of another on an interior lot and no private sewer is available or can be constructed to the rear building through an adjoining alley, court, yard or driveway, the building sewer from the front building may be extended to the rear building and the whole considered as one building sewer

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.42 CONSTRUCTION OF PUBLIC SEWERS.

(a) No public sewer shall be constructed in the City, except by the City or by others in accordance with plans and specifications approved by the Director of Public Works and subject to inspection by the Director during construction No sewer shall be considered to be a part of the sewerage system until accepted in writing by the Director

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.43 CONSTRUCTION SPECIFICATIONS.

(a) The size, slope, alignment and material of construction of a sewer, the method to be used in excavating, placing of pipe, jointing, testing and backfilling of a sewer, and any other work connected with the construction of a sewer, shall conform with the requirements of the Director of Public Works

(b) A person who violates this section is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.44 GENERAL REQUIREMENTS FOR USE OF PUBLIC SEWERS.

(a) All sewage, waste and wastewater shall be discharged to public sanitary sewers, except as otherwise expressly provided for in this chapter

(b) No person shall discharge any substance directly into a manhole or other opening in a City sewer other than through an approved building sewer

(c) In no event shall a storm drain or outlet or channel be used to discharge any sewage, industrial waste or other polluted waters, except where permitted by an NPDES permit

(d) The use of diluting waters to meet requirement standards for the discharge of wastes is prohibited

(e) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.45 DISCHARGE OF UNCONTAMINATED WATER INTO CITY SEWERS.

(a) The City may approve the discharge of the waters listed in this section into a City sewer only when no reasonable alternative method of disposal is available Approval shall be by letter of acceptance, with the user paying the applicable user charges and fees The user shall meet other conditions as may be required by the City In no event shall an approval be valid if such discharge fails to comply with applicable State and Federal regulations The waters to which this section refers are as follows

(1) Storm water, surface water, ground water, rain water, roof run-off, street drainage, subsurface drainage or yard drainage, and

(2) Unpolluted water, including, but not limited to, cooling water

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.46 PROHIBITED DISCHARGES.

(a) A non-domestic user shall not introduce into the POTW any pollutant that causes pass-through or interference The City shall investigate incidences of pass-through or interference and take appropriate enforcement action and inform the responsible non-domestic user of the impact thereof The general application of this subsection and the specific prohibitions at subsection (b) hereof shall apply to each non-domestic user introducing pollutants into a POTW whether or not the non-domestic user is subject to any other national, state or local pre-treatment standards or requirements

(b) No person shall discharge or cause to be discharged into any public sewer, directly or indirectly, sewage containing any of the following described substances or cause any of the following substances to be introduced into a POTW

(1) Pollutants that create a fire or explosion hazard in the POTW, including waste streams that have a closed cup flash point of less than 140 degrees Fahrenheit using the test methods specified at 40 CFR Section 261 21 (1990)

(2) Pollutants that will cause corrosive structural damage to the POTW Discharges that have a pH higher than 9 5 or lower than 6 0 or having any other corrosive property capable of causing damage or hazard to the sewerage system and its structures, equipment and personnel of the POTW shall not be discharged

(3) Solid or viscous pollutants in amounts that will cause obstruction to the flow in the POTW resulting in interference

(4) Any pollutant, including oxygen-demanding pollutants, released in a discharge at a flow rate or pollutant concentration that will cause interference with the POTW.

(5) Heat that will inhibit biological activity in the POTW resulting in interference and, in no case, heat that produces a temperature at the POTW of more than 104 degrees Fahrenheit

(6) Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass-through

(7) Pollutants that result in the presence of toxic gases, vapors or fumes within the POTW in a quantity that may cause acute worker health or safety problems.

(8) Any trucked or hauled pollutants, except at discharge points designated by the POTW, but only when trucked or hauled in compliance with all State and Federal Hazardous Waste and Liquid Industrial Waste Laws

(c) A non-domestic user shall have an affirmative defense in any action brought against it alleging violation of the general prohibition at subsection (a) and the specific prohibitions at subsections (b)(3)(4)(5) and (6) if the user can demonstrate both of the following

(1) It did not know or have reason to know that its discharge, alone or in conjunction with a discharge or discharges from other sources, would cause pass-through or interference

(2) During the pass-through or interference the user was in compliance with any local limit designed to prevent pass-through or interference before and during the pass-through or interference, or, if no local limit has been developed to prevent pass-through or interference, the user's discharge directly before and during the pass-through or interference did not change substantially in nature or constituents from the user's

prior discharge activity when the POTW was regularly in compliance with its NPDES permit requirements and, in the case of interference, applicable requirements for sewage sludge use or disposal

1040.47 GARBAGE GRINDERS.

(a) Waste from garbage grinders shall not be discharged into a City sewer except

(1) Wastes generated in preparation of food normally consumed on the premises, or

(2) Where the user has obtained a permit for that specific use from the City and agrees to undertake whatever self-monitoring is required to enable the City to equitably determine the charges and fees based on the waste constituents and characteristics. Such grinders must shred the waste to a degree that all particles will be carried freely under normal flow conditions prevailing in the City sewers Garbage grinders shall not be used for grinding plastic, paper products, inert materials, garden refuse or waste products resulting from the handling, storage and sale of fruits and vegetables in wholesale and retail produce establishments

(b) A person who violates this section is responsible for a Class E Municipal civil infraction and shall be subject to the civil fines provided in Section 202 98

1040.48 STORED LIQUID WASTES.

(a) Liquid wastes that have been collected and held in tanks or containers shall not be discharged into the City sewerage system Wastes of this category include, but are not limited to

(1) Septic tank pumpings,

(2) Chemical toilet wastes,

(3) Trailer, camper, housecar or other recreational vehicle wastes,

(4) Pleasure boat wastes,

(5) Industrial wastes collected in containers or tanks, except where the tanks and sumps are an integral part of the wastewater system and where discharges will not violate any of the provisions of this chapter

(6) Any trucked wastes or hauled pollutants, except at discharge points designated by the POTW.

(b) A person who violates any provision of paragraphs (a) (1) through (4) hereof is responsible for a Class D Municipal civil infraction and shall be subject to the civil fines provided in Section 202.98. A person who violates paragraph (a)(5) or (6) hereof shall be subject to the penalty provided in Section 1040 89(a).

1040.49 SPECIAL DISCHARGE AUTHORIZATION.

(a) No person shall discharge or cause to be discharged into any public sewer, directly or indirectly, the following described substances, except as provided by contract, unless the Director of Public Works issues his written determination that such discharge will not harm the public sewers or the treatment plant, or have an adverse effect on any public waters, or otherwise endanger life, health or property, or constitute a nuisance, and expressly gives written authorization for the discharge. In no event, by contract or otherwise, shall any discharge be made in violation of the Federal pretreatment standards and requirements. In determining the acceptability of such substances, the Director may give consideration to such factors as the quantity of the substance in question in relation to the quantity of flow and velocity in the public sewers, the material of construction of the public sewers, the nature of the sewage treatment process, the capacity of the treatment plant, the degree of treatability of such substance in the treatment plant -and other pertinent factors. The Director may make such determination either on a general basis or as to specific discharges from individual owners and may prohibit the discharge of a substance by an individual owner because of unusual concentrations or combinations which may occur. The substances prohibited are as follows:

(1) Any wastewater, liquid or vapor form, having a temperature higher than 140 degrees Fahrenheit;

(2) Any fat, wax, grease or oil, whether emulsified or not, in excess of 100 milligrams per liter (mg/l) or any substance which may solidify or become discernibly viscous at temperatures between thirty-two degrees Fahrenheit and 140 degrees Fahrenheit;

(3) Any garbage that has not been shredded to such a degree that all particles will be carried freely in suspension under normal flow conditions, or having particles greater than one-half inch in any dimension,

(4) Any acid, iron pickling waste or concentration plating solution, unless neutralized or rendered amenable to the City's treatment process and as approved by the Director;

(5) Any phenols or other taste or odor-producing substances which constitute a nuisance or hazard to the public sewers or the treatment plant or its personnel, or which prevent sewage treatment adequate to meet the requirements of any government or public agency having authority to regulate the discharge into public waters,

(6) Any radioactive waste, except that persons authorized to use radioactive materials by the State Department of Health or other governmental agency empowered to regulate the use of radioactive materials may discharge, cause to be discharged, or permit to be discharged, such waste, in strict conformity with the current State radiation control regulations and Federal regulations and recommendations for safe disposal of such wastes, as they now exist or may hereafter be amended, provided that such persons notify the Director of the discharge and comply with all applicable rules and regulations of all other regulatory agencies,

(7) Any quantity of flow or concentration of a waste component constituting a slug,

(8) Excessive discoloration, including, but not limited to, dye wastes and vegetable tanning solutions,

(9) Any wastewater containing, as a twenty-four hour average concentration, the following materials

A Phosphorus greater than 10 0 mg/l,

B A five day BOD greater than 300 0 mg/1,

C Suspended solids, including but not limited to, fuller's earth, lime slurries and lime residues greater than 350 0 mg/1,

D Dissolved or precipitable inorganic solids, including, but not limited to, sodium chloride and sodium sulfate of greater than 1,000 0 mg/1,

(10) Any wastewater with a component in excess of

Toxicants	Maximum Concentration Allowable (mg/l)
Antimony	1 0
Arsenic	0 3
Barium	2 0
Benzidine	0 001

Toxicants	Maximum Concentration Allowable (mg/l)
Beryllium	0.5
Cadmium	0.1
Carbon Teetrachloride	8.5
2-chlorophenol	4.2
Chromium hexavalent	0.5
Chromium, total	1.5
Copper	1.0
Cyanides, total	0.5
2, 4-dichlorophenol	7.1
Herbicides and/or pesticides	0.001
Lead	0.2
Mercury	0.01
Nickel	0.75
PBB, alone or in combination	0.2
PCB's	1.2×10^{-8}
Phenols	3.0
Selenium	2.0
Silver	0.04
2, 4, 6-trichlorophenol	0.7
Zinc	2.5

(11) Any other metallic or organic compounds as determined by the Director to be sufficient to impair the operation of the sewage treatment process, or which may affect the capability of the City treatment works to comply with water quality standards or effluent limitations specified in a City NPDES permit. Where appropriate, if Federal effluent limitations are more stringent, including, but not limited to, National Categorical Pretreatment Standards, they shall apply.

(12) Any wastewater containing the following organics:

A. Cumulative total toxic organics (TTO's) listed below greater than 2.0 mg/l:

1. Purgeable halocarbons

2. Purgeable aromatics

3. Acrolein and acrylonitrile

4 Phenols

5. Benzidines

6. Phthalate esters

7. Nitrosamines

8. Organochlorine--pesticides and PCB's

9. Nitroaromatics and isophorone

10. Polynuclear aromatic hydrocarbons

11. Haloethers

12. Chlorinated hydrocarbons

13. 2, 3, 7, 8-tetrachlorodibenzeno-p-dioxin

14. Purgeables

15. Base/neutral, acids and pesticides

B. Individual trihalomethanes (THM's) greater than 0.20 mg/l.

C. All other individual organics greater than 0.10 mg/1.

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a).

1040.50 PRETREATMENT; TREATMENT; PROTECTION AGAINST ACCIDENTAL DISCHARGE.

(a) Industrial users shall provide necessary wastewater treatment as required to comply with this chapter, Federal retreatment standards and permit conditions, and shall achieve compliance with all national categorical pretreatment standards within the time limitations as specified by the Federal pretreatment regulations.

(b) Any facilities required to pretreat wastewater shall be provided, operated and maintained at the industrial user's expense. New sources shall install and have in operating condition and shall "start-up" all pollution control equipment required to meet applicable pretreatment standards before beginning to discharge. Within the shortest feasible time (not to exceed ninety days), new sources must meet all applicable

pretreatment standards. Detailed plans showing the pretreatment facilities and operating procedures shall be submitted to the Director of Public Works for review and shall be approved by the Director of Public Works before construction of the facility. The review and approval of plans and operating procedures does not relieve the industrial user from complying with the provisions of this chapter and permit conditions. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to and approved by the Director of Public Works prior to the industrial user's initiation of the changes.

(c) The Director of Public Works may issue an industrial user discharge authorization (permit) for not more than five years upon application by a user subject to Section 1040.51. Applications for industrial user discharge authorizations shall contain such material as required to evaluate the user effluent, including, but not limited to, information required in Section 1040.54.

(d) Each user shall provide protection from accidental discharge of prohibited materials or other wastes regulated by this chapter. In each instance, detailed plans showing the required pretreatment facilities and operating procedures shall be submitted to the City for review and shall be approved by the City before construction of the facility. The review and approval of such plans and operating procedures shall in no way relieve the user from the responsibility of modifying the facilities as necessary to produce an effluent complying with this chapter. Any subsequent changes in the required pretreatment facilities or method of operating affecting the effluent shall be reported to, and approved by, the City. The facilities shall be available for inspection by the Director at all reasonable times. No authorization to construct or operate the pretreatment facilities shall be valid until all conditions herein have been satisfactorily met.

(e) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a).

1040.51 INDUSTRIAL USER DISCHARGE AUTHORIZATION.

(a) The following industrial users are required to apply for an industrial user discharge authorization (permit):

(1) Any significant industrial user;

(2) Any user required by State pretreatment requirements to obtain a permit;

(3) Any user providing pretreatment; and

(4) Any other user directed by the Director to apply for a permit.

(b) Existing users required to obtain a permit by subsection (a) hereof must apply for a wastewater contribution permit within ninety days of the effective date of this section, unless they presently hold a valid industrial user discharge authorization

(c) New sources required to obtain a permit by subsection (a) hereof must apply for and receive a wastewater contribution permit prior to discharging pollutants into the POTW

(d) Any user not required to obtain a permit for existing discharges must apply for and receive an industrial user discharge authorization changing the user's discharge in such a manner meeting the conditions of subsection (a) hereof

(e) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040 89(a)

1040.52 BYPASSES.

(a) Permitted. An industrial user may allow any bypass to occur which does not violate pretreatment standards or requirements, but only if it also is for essential maintenance to assure efficient operation These bypasses are not subject to subsection (b) and (c) hereof.

(b) Notice.

(1) If an industrial user knows in advance of the need for a bypass, it shall submit prior notice to the POTW, if possible at least ten days before the date of the bypass

(2) An industrial user shall orally notify the POTW of an unanticipated bypass that exceeds applicable pretreatment standards or requirements within twenty-four hours of becoming aware of the bypass A written submission shall also be provided within five days of becoming aware of the bypass The written submission shall contain a description of the bypass and its cause, the duration of the bypass, including exact times and dates and, if the bypass has not been corrected, the anticipated time it is expected to continue, and steps taken or planned to reduce, eliminate and prevent reccurrence of the bypass

(c) Prohibited

(1) A bypass is prohibited and the POTW may take enforcement action against an industrial user for a bypass, unless

A Bypass was unavoidable to prevent loss of life, personal injury or severe property damage,

B There were no feasible alternatives to bypass, such as use of auxiliary treatment facilities, retention of wastes or maintenance during normal periods of equipment downtime This condition is not satisfied if adequate back-up equipment should have been installed to prevent bypass which occurred during normal periods of equipment downtime or preventive maintenance, and

C The industrial user submitted notices as required by subsection (b) hereof

(2) The POTW may approve an anticipated bypass, after considering its adverse effects, if the POTW determines that it will meet the three conditions listed in paragraph (c)(1) of this section

(d) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040 89(a)

1040.53 DISCHARGE REPORTS.

(a) The Director may require that any person discharging wastewater into a City sewer file a periodic discharge report. The discharge report may include, but need not be limited to, the general nature of the process, volume, rates of flow, mass emission rate, production quantities, hours of operation, normal number and classification of employees or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge Such reports may also require the chemical constituents and quantity of liquid or gaseous materials stored on site even though they may not normally be discharged

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040 89(a)

1040.54 INFORMATIONAL REPORTS.

(a) All current and proposed industrial users shall be required by the Director to file informational reports for the benefit of local, State and Federal governmental units The user shall comply with the Director's request for data by submitting, as may be necessary, in units and terms appropriate for evaluation:

(1) The name, address and SIC number of the industrial user;

(2) The volume of wastewater to be discharged;

(3) The wastewater constituents and characteristics, including, but not limited to, those mentioned in Section 1042.29, as determined by a laboratory approved by the Director;

(4) The time and duration of discharge;

(5) The average and fifteen-minute peak instant wastewater flow rates, including daily, monthly and seasonal variations, if any;

(6) Site plans, floor plans, mechanical and plumbing plans and details to show all transfers and appurtenances by size, location and elevation;

(7) A description of activities, facilities and plant processes on the premises, including all materials, processes and type of materials which are or could be discharged;

(8) Each product produced, by type, amount and rate of production,

(9) The number and type of employees and hours of work,

(10) A hazardous materials survey,

(11) Informational reports from categorical industries within 180 days after the effective date of the categorical pretreatment standards, which reports shall include a statement as to whether pretreatment standards are being met on a consistent basis and, if not, whether additional operations and maintenance and/or additional pretreatment is required to meet the pretreatment standards and requirements;

(12) Any other information relative to wastewater conveyance, characteristics, quantities or pretreatment, as may be determined by the Director to be

necessary to evaluate the data furnished by the user, including reports of monitoring of any pollutant more frequently than required by POTW,

(13) The results of sampling and analysis identifying the nature and concentration of any pollutants in the discharge which are limited by any national categorical pretreatment standards or which are described in Section 1042 29. Both daily maximum and average concentration shall be reported The sample shall be representative of daily operations. Sample should be taken immediately downstream of pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with wastewater regulated by a national categorical pretreatment standard prior to pretreatment, the user should measure the flows and concentrations necessary to allow use of the combined waste stream formula in 40 CFR, Section 403.6(e) in order to evaluate compliance with pretreatment standards;

(14) The shortest schedule by which the user will provide additional pretreatment or operation and maintenance if required to meet pretreatment standards. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. All of the following conditions shall apply to compliance schedules:

A. The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the non-domestic user to meet the applicable categorical pretreatment standards. Such event may include but are not limited to any of the following

1. The hiring of an engineer,

2 Completing preliminary plans,

3. Completing final plans,

4. Executing contracts for major components,

5. Commencing construction,

6 Completing construction,

7. Other similar major events

B. An increment referred to in this Section shall not be more than nine months.

C. Not later than 14 days following each date in the schedule and the final date for compliance, the non-domestic user shall submit a progress report to the City which shall include at a minimum, whether or not the user complied with the increment of progress to be met on a particular date and, if not, the date on which the user expects to comply with the increment of progress, the reason for the delay, and the steps being taken by the non-domestic user to return the construction to the schedule established. Not more than nine months shall elapse between progress reports to the City.

(15) A listing of any toxic pollutant which the applicant uses or manufactures as an intermediate or final product or by-product;

(16) The signature of an authorized representative of the user certified by a qualified professional indicating whether pretreatment standards are being met on a consistent basis and, if not, whether additional operation and maintenance and additional pretreatment is required and the Certification Statement required by 40 CFR, Section 403.6(a)(2)(ii).

(17) Evidence of the following by users subject to a national categorical pretreatment standard:

A. A baseline monitoring report submitted to the Director ninety days prior to first discharge, a ninety-day report and semiannual reports that meet Federal pretreatment requirements at 40 CFR, Section 403.12 or any revision thereto indicating the nature and concentration of pollutants in the discharge.

B. Use of a minimum of four grab samples for pH, cyanide, total phenols, oil and grease, sulfide and volatile organics. For all other pollutants, twenty-four hour composite samples must be obtained through flow-proportional composite sampling techniques where feasible. The City may waive flow-proportional composite sampling for any industrial user that demonstrates that flow-proportional composite sampling is infeasible. In such cases samples may be obtained through time-proportional composite sampling techniques or through a minimum of four grab samples where the user demonstrates that this will provide a representative sample of the effluent being discharged.

C A minimum of one representative sample taken to compile that data necessary to comply with the requirements of this paragraph

(18) Semiannual reports to the Director from any significant industrial user or other user required to have a permit, indicating the nature and concentration of pollutants in the discharge The specific standards or the POTW itself may require this report to be filed more frequently In addition, this report shall include a report of all daily flows which, during the reporting period, exceeded the average daily flow in the permit

(19) Notification to the City in advance of any substantial change in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous wastes for which the industrial user has submitted initial notification under paragraph (a)(20) hereof.

(20) Hazardous waste notification, as follows.

A. Any industrial user, except as specified in paragraph (a) (20)E hereof, which discharges to the public sewer an substance which, if otherwise disposed of, would be a listed or characteristic hazardous waste under 40 CFR, Part 261, shall notify the City in writing of such discharge.

B. All hazardous waste notifications shall include

1 The name of the hazardous waste as set forth in 40 CFR, Part 261,

2 The EPA hazardous waste number,

3 The type of discharge (continuous, batch or other), and

4 A certification that the user has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical

C In addition to to the information submitted under paragraph (a) (20)B hereof, industrial users discharging more than 100 kilograms of hazardous waste per calendar month to the public sewer shall provide, to the extent such information is known and readily available to the industrial user

1. An identification of the hazardous constituents contained in the waste;

2. An estimation of the mass and concentration of such constituents in the waste stream discharged during that calendar month; and

3. An estimation of the mass or constituents in the waste stream expected to be discharged during the following twelve months.

D. Hazardous waste notifications shall be submitted no later than February 19, 1991, except that industrial users commencing the discharge of listed or characteristic hazardous waste after August 23, 1990, shall provide the notification no later than 180 days from the discharge of the wastes. Any notification under this section need be submitted only once for each hazardous waste discharged, although notifications of changed discharges must be submitted under paragraph (a)(19) hereof.

E. Industrial users are exempt from the hazardous waste notification requirement during a calendar month in which they discharge fifteen kilograms or less of non-acute hazardous wastes. Discharge of any quantity of acute hazardous waste, as specified in 40 CFR, Sections 261.30(d) and 261.33(e), requires a one-time notification.

(21) An industrial user discharge authorization containing, at a minimum:

A. A statement of duration, in no case more than five years;

B. A statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator;

C. Effluent limits based on applicable general pretreatment standards, categorical pretreatment standards, local limits and State and local law;

D. Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency and same type, based on the applicable general pretreatment

standards, categorical pretreatment standards, local limits and State and local law,

E A statement of applicable civil and criminal penalties for a violation of pretreatment standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable Federal deadlines

(22) Both of the following provisions apply to the notification of a changed discharge

A A non-domestic user shall promptly notify the City in advance of any substantial change in the volume or character of pollutants in its discharge, including all of the following, if applicable

1. Ground waters that are purged for remedial action programs

2. Ground waters containing pollutants that infiltrate into the sewers

3. Listed or characteristic hazardous wastes for which the non-domestic user has submitted notification under paragraph (a)(20 hereof

B. The City shall evaluate all new or changed discharges with respect to general and specific prohibitions contained at Section 1040 /47 before acceptance by the POTW

(b) Unless another period of time is specifically provided elsewhere in this section, any changes in information required by this section shall be submitted by the user to the City within 60 days

(c) Compliance by existing sources with categorical pretreatment standards shall be obtained within three years of the date the standards are effective, unless a shorter compliance time is specified by the appropriate subpart of 40 CFR Chapter I, Subchapter N (1990) Direct discharges that have had National Pollutant Discharge Elimination System Permits modified or reissued to provide a variance pursuant to Section 301 of the Act shall be required to meet compliance dates set in any applicable categorical pretreatment standards Existing sources that become non-domestic users subsequent to the promulgation of an applicable categorical pretreatment standard shall be considered existing non-domestic users, except where the sources meet the definition of a new source as that term is defined at Rule R 323 2302(r) of the Rules promulgated

by the Michigan Department of Environmental Quality, Environmental Response Division, regarding pretreatment of waste water

(d) Any person who violates any of the provisions of such Section (b) shall be subject to the penalty provided at Section 1040 89(a)

1040.55 PUBLIC INSPECTION OF RECORDS; CONFIDENTIAL INFORMATION.

(a) Information and data on a user obtained from reports, questionnaires, permit applications, permits, monitoring programs and inspections shall be available to the public or other governmental agencies in accordance with appropriate State and Federal laws and regulations When requested by the person furnishing information, portions of that information which disclose trade secrets or secret processes shall not be made available for inspection by the public However, all such regulations as shall replace that regulation, shall be made available to the public as required by Federal law or regulation. Information may be made available to governmental agencies which require it for making studies only after conforming to the requirements for disclosure of confidential information contained in 40 CFR, Part 2, Subpart B, Confidentiality of Business Information. Requirements listed therein shall be considered the minimum requirement for local agencies. Industrial users shall maintain all records pertaining to their discharges, whether created internally or for the purpose of complying with reports required by this chapter, for at least three years from the creation of such records

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040 89(a)

1040.56 RIGHT OF ENTRY.

(a) Persons or occupants of premises where wastewater is created or discharged shall allow the City or its representatives ready access at all reasonable times to all parts of the premises for the purposes of inspection, observation, measurements, sampling and testing in the performance of any of their duties The City shall have the right to set up on a user's property, in locations that will not interfere with the user's operations and where the user's products will not become damaged or contaminated, such devices as are necessary to conduct sampling or metering operations, and to inquire into any industrial process to the extent necessary to establish the source, quantity, composition and concentration of the wastewater When necessary, the user shall make arrangements with its security force, using procedures as might be reasonable, to allow for entry without delay by the City representatives for the purpose of performing their specific responsibilities The City may examine and/or copy records pertaining to discharges into the City sewerage system and pertaining to persons or occupants of premises where wastewater is created or discharged

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a).

1040.57 RESPONSIBILITY AND LIABILITY OF INSPECTORS AND OWNERS.

City representatives shall observe all safety rules applicable to the property and established by the owner. The owner shall be held harmless for injury or death to such representatives for reasons other than the owner's fault. The City shall indemnify the owner against loss or damage to its property for personal injury or property damage asserted against the owner and growing out of such entry, except any which may have been caused by the fault of the owner.

1040.58 DISCHARGE TESTING.

(a) The Director may require a user to test, at the user's expense and on a regular basis, the quantity, composition and concentration of its discharge, to sample and analyze the same in accordance with the analytical methods of 40 CFR 136 and to report the test results to the Director. If a user which has been so required by the Director fails to test and report to the satisfaction of the Director, then the Director may determine the quantity, composition and concentration of such discharge either by estimates on the basis of data available to the Director or by samplings, measurements and analyses performed by the Director at the expense of the user.

(b) Any person who violates any provision of this Section shall be subject to the penalty provided at Section 1040.89(a).

1040.59 MONITORING BUILDING SEWERS AND DRAINS.

(a) The Director may require the user to construct, at his or her own expense, monitoring facilities, including a control manhole, if necessary, to allow observation, inspection, sampling and measurement of the quantity, composition and concentration of waste to the building sewer or internal drainage systems and may also require sampling or metering equipment to be provided, installed and operated at the user's expense. The monitoring facility shall be situated on the user's premises, with accommodations to allow access by City representatives. There shall be ample room in or near the sampling point to allow accurate sampling and composting for analysis. All equipment and appurtenances thereto shall be maintained at all times in a safe and proper operating condition at the expense of the user. If self-monitoring reveals violation of any discharge limitations specified herein, the industrial user shall notify the City within twenty-four hours of becoming aware of the violation. The industrial user shall also repeat the

sampling and analysis and submit the results of the repeat analysis to the City within thirty days after becoming aware of the violation

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a)

1040.60 MONITORING FACILITIES.

(a) When the location of monitoring facilities would be impractical or cause undue hardship on the user, the City may allow the facilities to be constructed in the public street or sidewalk area, located so that it is not obstructed by landscaping or parked vehicles. Whether constructed on public or private property, the control manhole, sampling and monitoring facilities and monitoring equipment shall be provided in accordance with all local and State governmental unit construction standards and specifications. Once required in writing by the Director of Public Works, the monitoring facility and appurtenances thereto shall be operational within ninety days, unless a written extension is granted by the Director. If no monitoring facility is required, the point of inspection shall be considered to be the upstream and downstream manhole in the public sewer.

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a).

1040.61 NOTICES AND INSTRUCTIONS FOR ACCIDENTAL DISCHARGES.

(a) A notice prepared by the user shall be prominently and permanently posted at appropriate locations at each commercial and industrial user facility advising its employees of whom to call in case of an accidental discharge in violation of any provision of this chapter. In addition, instruction shall be given to appropriate employees of the user and the same certified to the City on an annual basis.

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040 89(a).

1040.62 ACCIDENTAL DISCHARGES; REPORTS AND STATEMENTS.

(a) Any accidental discharge of a slug or a prohibited substance, or any substance which could cause a problem, directly or indirectly into a public sewer, shall be immediately reported to the wastewater treatment plant or the Director of Public Works by the person responsible for such discharge or by the owner or occupant of the property from which the discharge was made, to enable counter-measures to be taken by the City

to minimize damage to the City sewers, treatment facilities, treatment processes and receiving waters

(b) Such notification shall be followed, within seven days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent future occurrence Such notification shall not relieve users of liability for any expense, loss or damage to the sewerage system, treatment plant or treatment process or for any fines imposed on the City on account thereof by any regulatory agency

(c) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040 89(a)

1040.63 SUBMISSION OF TIME SCHEDULE FOR CORRECTIVE ACTIONS.

(a) When the Director determines that discharge of wastewater is taking place, has been taking place or may take place, in violation of prohibitions or limitations prescribed in this chapter, or wastewater source control requirements, effluent permit limitations or pretreatment standards, the Director may require the user to submit for approval, with such modifications as is deemed necessary, a detailed time schedule of specific actions which the user shall take in order to prevent or correct a violation of requirements

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040 89(a)

1040.64 CEASE AND DESIST ORDERS.

When the Director determines that a discharge of wastewater has taken place or is likely to take place in violation of any of the provisions of this chapter, the Director may issue an order to cease and desist such discharge, or practice or operation likely to cause such discharge, and direct those persons not complying with such prohibitions, limits, requirements or provisions to

(a) Comply forthwith,

(b) Comply in accordance with a time schedule set forth by the City, or

(c) Take appropriate remedial or preventive action

1040.65 DAMAGE TO SEWERAGE SYSTEM; ASSESSMENT OF CHARGES.

When a discharge of wastes causes an obstruction, damage or any other impairment to the sewerage system, the City and/or a subscribing agency may assess a charge against the user for the work required to clean or repair the facility and add such charge to the user's charges and fees

1040.66 EMERGENCY CORRECTIONS; LIABILITY FOR COSTS.

If repairs, construction or other public work is performed on the premises of a facility pursuant to any provision of law relating to the emergency performance of public work and the expenditure of public funds therefor, or pursuant to any other provision of law authorizing public work on private property in order to correct, eliminate or abate a condition upon such premises which threatens to cause, causes or has caused a violation of any provision of this chapter, or of any other requirement of law, the user responsible for the occurrence or condition giving rise to such work, the occupant and the owner of the premises shall be liable, jointly and severally, to the City for such public expenditures

1040.67 ENFORCEMENT.

The primary responsibility for the enforcement of this chapter is hereby vested in the Director or designated agents of the City and/or any designated subscribing agency In addition, field inspectors or of other employees of the City and/or the subscribing agency may be authorized to act for and on behalf of the Director with the power to inspect and issue notices for violations of any of the provisions of this chapter

1040.68 APPEALS.

(a) Any user, permitted, applicant or other person aggrieved by any decision, action, finding, determination, order or directive of the Director, made or authorized pursuant to this chapter, or interpreting or implementing the same, may file a written request with the Director for reconsideration thereof within ten working days of mailing or delivery of such decision, action, finding, determination or order, setting forth in detail the facts supporting the request for reconsideration The Director, after consulting with the City Manager or other appropriate administrative personnel, shall render a final written decision within ten working days of the receipt of such request for reconsideration Notification of the decision shall be made by personal service or certified mail to the address provided by the appealing party

(b) Any user, permittee, applicant or other person aggrieved by the final determination of the Director may appeal such determination to the appropriate judicial

tribunal within ten working days after receipt of the notification of the final determination of the Director The appeal shall set forth in detail the facts and reasons supporting the appeal. Failure to comply with these statutory limitations and procedures shall bar further relief. During the pendency of any such appeal, the final determination of the Director shall remain in full force and effect.

1040.69 TERMINATION OF SERVICE.

In addition to statutes, rules or regulations authorizing termination of service for delinquency in payment, the City may terminate or cause to be terminated wastewater service to users for:

(a) Submitting to the Director, the City or a State or Federal governmental unit false statements, representations, records, reports, plans or other documents;

(b) Tampering with or rendering inaccurate any monitoring device, public or private meter or equipment installed or operated pursuant to this chapter;

(c) Failure to report significant changes in operations or wastewater constituents and characteristics;

(d) Discharging or causing to be discharged prohibited substances or substances requiring special discharge authorization without having obtained such authorization or with such authorization having been denied or revoked;

(e) Obtaining special discharge authorization under Section 1040.49 on the basis of false or misleading information;

(f) Refusal to allow the Director or City representatives reasonable access to the user's premises for the purpose of inspection and/or monitoring,

(g) Nonpayment of fees, surcharges or charges, or

(h) In cases where a user is causing or about to cause an imminent endangerment to the public health. The City may issue an order requiring the user to immediately cease and desist from discharging such endangerment. If the user fails to comply with such order, the City may take such steps as may be necessary to prevent further discharge, including physical blocking or severance of the user's connection to the City's system to stop such endangerment.

1040.70 PUBLIC NUISANCES.

Waste or wastewater discharge, threatened waste or wastewater discharge or any condition or act in violation of any provision of this chapter, or of a provision of any State or Federal agency, or of any order or directive of the Director of Public Works authorized by this chapter, is hereby declared to be a public nuisance Such nuisance may be abated, removed or enjoined, and damages assessed therefor, in any manner provided by law

1040.71 AUTHORITY TO LEVY REGIONAL USER CHARGES ON SUBSCRIBING AGENCIES AND THE CITY.

Monthly user charges shall be established by the City Commission from time to time by resolution for each subscribing agency and the City to recover regional costs of the City. Such charges shall be assessed against each subscribing agency and the City and shall be based upon the cost of service to treat both quantity (volume) and quality (BOD and SS) of wastewater discharge as determined by contribution to both average and for capital recovery, peak system use Such charges shall recover from each subscribing agency and the City their proportional share of capital and operation and maintenance costs, including replacement

1040.72 METHOD OF ASSESSING REGIONAL USER CHARGES TO SUBSCRIBING AGENCIES AND CITY.

(a) User charges shall be the sum of the following charges

(1) Fixed charges shall be based on costs associated with regional ground water infiltration/ inflow (I/I) and costs of operating and maintaining monitoring stations

(2) Demand charges shall be based on the peak month discharge of the billable parameters during the fiscal year Each subscribing agency and the City shall submit established peak month loadings of the billable parameters two months prior to the beginning of each fiscal year If the estimated demand is exceeded, the agency or City shall be billed the demand unit rate multiplied by the new peak month discharge This amount shall be assessed retroactively to the beginning of the fiscal year and for each month through the remainder of the fiscal year If the estimated demand is not reached by the end of the fiscal year, the subscribing agency or City shall be credited an amount equal to the difference of the demand charges paid and the peak month discharge multiplied by tile demand unit rate

(3) Loading charges shall be based on the quantity of billing parameters discharged during the billing period

(b) Demand charges shall not be assessed under either of the following conditions

(1) New connections to the City sewer shall only be assessed demand charges for the balance of the current fiscal year and for each subsequent fiscal year New connections shall not be assessed demand charges retroactively to the beginning of the current fiscal year

(2) Demand charges shall not be assessed for "act of God" accidental discharges by the City or a subscribing agency Accordingly, no such "act of God" accidental discharge shall be included in the determination of peak month flow on which flow demand charges are based

1040.73 AUTHORITY FOR SUBSCRIBING AGENCIES AND CITY TO LEVY CHARGES ON REGIONAL USERS.

The following charges shall be established from time to time by resolution for each user classification and category by each subscribing agency's governing body and the City Commission to recover regional costs of the City and local costs of the City and each subscribing agency

(a) No free service shall be furnished by the City or any subscribing agency to any person or to any public agency or instrumentality Monthly charges shall be assessed to all system users Such charges shall be based upon the cost of service to treat both the quantity (volume) and quality (BOD and SS) of wastewater discharged and as to capital charges by contribution to both average and peak system use Charges shall be comprised of user charges and industrial cost recovery charges where applicable

(b) User charges shall be comprised of flat monthly service charges and quantity plant to recover their proportional share of operational and maintenance costs, including replacement

(c) Capital charges shall be recovered by such flat monthly service charges and quantity charges as to recover the proportional share of capital, including replacement, and may include methods to reflect the necessity of having capital available for such users who need such capital plant during only certain portions of the year

1040.74 METHOD OF ASSESSING USER SERVICE CHARGES TO USERS.

Flat monthly service charges shall be assessed for each customer to recover the local and regional costs allocated on a per customer basis Such charges shall be identical for all customers within the boundaries of the City or a subscribing agency, but may vary between the City and subscribing agencies as a result of local and regional cost variances

1040.75 METHOD OF ASSESSING USER QUANTITY CHARGES.

(a) Sewer charges shall be established by resolution of the City Commission according to water usage or sewer meter data, together with any extra strength charges which may be required by the cost of treatment of such extra strength effluent Charges for strength and quantity of discharges pursuant to a special discharge authorization may be established by the City Commission resolution

(b) Flat monthly user charges shall be assessed in accordance with Section 1040 33(b) Quantity user charges shall be applied to such schedule to determine flat monthly charges for different types of users

1040.76 USE OF USER CHARGE AND INDUSTRIAL COST RECOVERY CHARGE REVENUES.

General revenues derived from regional sewer charges shall be deposited to the credit of the Regional Sewer Reserve Fund and may be used to defray any regional expense incurred by the City, except the revenues obtained from the industrial cost recovery charges so recovered General revenues derived from local sewer charges shall be deposited to the credit of Local Sewer Reserve Funds and may be used to defray any local expense incurred by the City and subscribing agencies, except the revenues obtained from the industrial cost recovery charges so recovered Of the ICR, fifty percent shall be returned, at least annually, to the U S Treasury, together with any interest earned thereon, and forty percent shall be deposited in U S obligations or securities guaranteed by the Federal government The remaining ten percent shall be used by the City as it sees fit

1040.77 BIENNIAL REVIEW OF CHARGES.

User charges and industrial cost recovery charges shall be reviewed biennially and adjusted as required to ensure consistency with PL 95-217 and regulations issued pursuant to PL 95-217

1040.78 BILLING; HEARINGS.

(a) Service charges and surcharges for sewer service shall be established by resolution of the City Commission adopted from time to time and shall be billed on a monthly basis Service charges for residential users shall be included as a separate item on the City services bill Payments received for the City services bill shall only be applied in the following order

(1) Refuse,

(2) Sewer, and

(3) Water

(b) All bills shall be paid monthly to the City Treasurer's office on or before the due date If the service charges and surcharges for water or sewer service remain unpaid for thirty days, a delinquency and termination notice shall be issued The delinquency and termination notice shall provide the customer of record with the following information

(1) The amount due,

(2) The customer's right to disputed bills hearing before the Finance Director or his authorized representative,

(3) Notice that service will be terminated in fifteen days if the bill remains unpaid, and

(4) Notice of the late charge as set forth in this section

(c) A late charge of ten percent of the unpaid bill shall be assessed on all bills paid more than thirty days after the due date

(d) A request for a hearing by the customer must be filed with the Finance Director not later than three working days before the date of discontinuance In instances where the service is actually terminated and later reinstated, the customer shall be charged thirty dollars ($30 00) to cover the costs of reinstating the service Where service is discontinued, the water shall be shut off from the premises until the unpaid bill, together with reconnection charges, has been paid A request for hearing form may be obtained from the Finance Department and must be filed before the scheduled termination date Such hearing shall be conducted by the Finance Director or his or her designee, for the purpose of allowing the customer of record to present objections to the

bill The Finance Director shall have authority to make corrections on the utility bill if an error is found

(e) When water service commences or ceases, applicable charges may be prorated. If water service is supplied to a location, the customer of which has vacated the premises, and the City is satisfied that there has been a termination of the need for sewer charges, then the City, on application of the customer, may suspend liability for such charges and such charges shall be reinstated with the next bill rendered to a customer of such premises

(f) The portion of the account which remains outstanding for 180 days shall then be collected under the procedures of a special lot assessment as set forth in Chapter 216 of these Codified Ordinances or in the Act 94 of the Public Acts of 1933, as amended, if applicable.

1040.79 DELINQUENCY; REMEDY OF CITY.

Unpaid service charges shall constitute a lien upon the property served, which lien shall be enforced as provided in Act 94 of the Public Acts of 1933, as amended Whenever sewer charges have remained unpaid for six months, the Director of Finance may certify such unpaid charges to the City Assessor who shall place the same on a special assessment roll of the City. Such charges so assessed shall be collected in the same manner as special assessments as set forth in Section 216.13 of the Administration Code.

1040.80 BOND ORDINANCES.

Nothing contained in this chapter shall be deemed to alter or repeal any of the provisions of ordinances providing for the issuance of revenue bonds payable from the revenues of the system, with respect to the obligations of the City and the security of the bondholders thereunder. This chapter is intended to be in conformity with such ordinances and if there is any conflict whereby the security of the bondholders or the obligations of such bonds are impaired, then with respect to such conflict, the provisions of such ordinances shall prevail, so long as any bonds issued under such ordinances are outstanding and unredeemed

1040.81 CONFLICTS WITH CONTRACTS.

If any provision of this chapter is inconsistent or in conflict with a provision of any contract between the City and any contract user, in effect on the date of the adoption of this chapter, the provision of such contract shall prevail However, in no case shall contract provisions circumvent Federal pretreatment standards and requirements

1040.82 INTENTIONAL DAMAGE OF SEWERAGE SYSTEM.

(a) No person shall willfully or carelessly break, damage, destroy, uncover, deface or tamper with any sewer or any part of the sewerage system or the treatment plant.

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89.

1040.83 HARDSHIP EXEMPTION.

Any user who has been assessed connection charges under this chapter may submit a hardship application to a committee composed of the City Manager, the Finance Director and the City Attorney, or their designees, seeking a deferment in the partial or total payment of the charges based upon a showing of financial hardship subject to and in accordance with the following:

(a) The user shall complete a hardship application provided by the Finance Director and shall file such application, together with all other required information, with the Finance Director not less than sixty days prior to the due date of the annual installment. Any such deferment shall be for that annual installment only. An application shall be completed and filed by each and every legal and equitable interest holder in the premises so assessed, except financial institutions having a security interest in the premises

(b) Hardship applications shall be reviewed by the committee, as set forth above, and after due deliberation of such applications, the committee shall determine, in, each case, whether or not there has been an adequate showing of financial hardship and shall forthwith notify the applicant of such determination.

(c) An applicant who is aggrieved by the determination of the committee may request, within ten days from the mailing of the decision of the committee, the opportunity to appear before the committee, in person, for the purpose of showing hardship and presenting any argument or additional evidence Denial of hardship following such a personal appearance before the committee shall be final and conclusive

(d) If the committee makes a finding of hardship, the committee shall fix the amount of deferment of partial or total charges so imposed and in so doing shall require an annual filing of the financial status of each applicant Upon any material change of the financial status of an applicant, such applicant shall immediately notify the Finance Director so that a further review of the

matter may be made The duration of the deferment granted shall be self-terminating upon the occurrence of any one of the following events

(1) A change of the applicant's financial status which removes the basis for financial hardship,

(2) A conveyance of an interest in the premises by any applicant, including the execution of a new security interest in the premises or an extension thereof, or

(3) A death of any applicant

(e) Upon receiving a determination of the committee deferring partial or total charges imposed, the user shall, within one month, execute a recordable security interest in the premises to the City as the secured party, payable on or before the death of the applicant, or, in any event, upon any transfer of the premises Such security interest shall be in an amount necessary to cover all fees and charges required under applicable ordinances, the consideration for such security interest being the grant of deferment pursuant to this section

1040.84 FREE SERVICE PROHIBITED.

No free service shall be furnished by the system to any person, firm or corporation, public or private, or to any public agency or instrumentality

1040.85 MODIFICATIONS OF CHAPTER.

Nothing in this chapter shall be construed to limit the right of the City to modify this chapter as may be necessary to comply with Federal or State laws, regulations, limitations or requirements applicable to discharge

1040.86 NOTICE TO INDUSTRIAL USERS; TIME LIMIT FOR COMPLIANCE.

The City shall provide all industrial users with notice of the applicable standards and requirements that such users may be required to follow Such notice shall be provided within thirty days after such standards and requirements are promulgated by the City and such notice shall stipulate a date by which the industry must be in compliance with such standards and requirements However, in no event shall compliance be required with less than ninety days prior written notice to an industry

1040.87 PUBLICATION OF LIST OF VIOLATORS.

The City shall publish annually, in the largest daily newspaper published in the City, or in the largest daily newspaper published in the County if the City does not have a daily newspaper, a list of the industrial users who, during the previous twelve months, were significantly violating applicable pretreatment standards or other pretreatment requirements

1040.88 CONFLICT OF LAWS.

If any other ordinance or part of an ordinance is inconsistent or in conflict with any of the provisions of this chapter, this chapter shall prevail

1040.89 PENALTY.

(a) Civil Penalty Except as otherwise specifically provided, whoever intentionally or negligently violates any provision of this Chapter, or any provision of any permit issued pursuant to this Chapter, or intentionally or negligently discharges waste or wastewater which causes pollution, or intentionally or negligently violates any cease and desist order, prohibition, effluent limitation, national standard of performance or national pretreatment or toxicity standard, shall be civilly liable to the City in a sum not less than $1,000 or more than $10,000 for each day on which such violation occurs The City may petition the appropriate court of jurisdiction to impose, assess and collect such sums pursuant to this Chapter, or to seek injunctions or restraining orders to enforce provisions of this Chapter

Section 2 All ordinances and resolutions, or parts of ordinances and resolutions, which conflict with this ordinance, are hereby repealed to the extent of such conflict, provided, however, that this section shall not operate to repeal any provision or any prior ordinance or resolution adopted by the City, the repeal of which would impair the obligation of the City or the System with regard to any outstanding bonds of the City secured by a lien on the net revenues of the System

Section 3 The paragraph headings in this Ordinance are furnished for convenience of reference only and shall not be considered to be a part of this Ordinance

Section 4 The City Clerk shall publish this Ordinance in summary in the Battle Creek Enquirer, a newspaper of general circulation in the City, and shall record the Ordinance in the ordinance book of the City

Section 5 Each section of this Ordinance, and every paragraph of each section is hereby declared to be separable and the holding of any section or paragraph thereof to be void, ineffective or unconstitutional for any cause shall not affect any other section or part thereof

Section 6 This Ordinance shall take effect on the ___ day after its enactment

AYES Commission _____

_____

NAYS Commission _____

ORDINANCE DECLARED ADOPTED THIS ___ DAY OF _____, 2001

_____

_____, Mayor

_____

_____, Clerk

DELIB 2249433 2\006548-00086

RESPONSES TO:

#19 Industrial User Permits and Applications

/ / ' /

CATEGORICAL INDUSTRIAL USERS REPORT

IU CODE	INDUSTRIAL NAME - ADDRESS	CATEGORY
1Ø1	AMERICAN FIBRIT, INC. 76 ARMSTRONG RD. BATTLE CREEK MI 49Ø15-1Ø79 CONTACT: MR. PAUL LESTER PHONE: 968-3ØØØ EXT:	PULP & PAPER
143	ATWOOD AUTOMOTIVE, INC. 57Ø1 W. DICKMAN RD. BATTLE CREEK MI 49Ø15-1Ø77 CONTACT: MR. KEN ENGLAND PHONE: 962-5473 EXT:	METAL FINISHING
159	MICHIGAN PAPERBOARD CORP. 79 E. FOUNTAIN ST. BATTLE CREEK MI 49Ø17-4198 CONTACT: MR. JIM HOSKING PHONE: 963-4ØØ4 EXT:	PULP & PAPER
164	NIPPONDENSO MANUFACTURING U.S.A.INC. ONE DENSO ROAD BATTLE CREEK MI 49Ø15-1Ø56 CONTACT: MR. RANDY JOHNSON PHONE: 965-3322 EXT: 473	METAL FINISHING
178	UNITED STEEL & WIRE CO. #3 1Ø5 S. WASHINGTON P.O.BOX 256 BATTLE CREEK MI 49Ø16- CONTACT: MR. MICHAEL SMITH PHONE: 962-5571 EXT: 3Ø4	METAL FINISHING
173	WALDORF PAPER CORP. 1ØØ GRAND TRUNK AVE. BATTLE CREEK MI 49Ø17-2226 CONTACT: MR. PAUL STOFER PHONE: 963-5511 EXT:	PULP & PAPER

1987

INDUSTRIAL SURVEILLANCE PROGRAM
(CATEGORICAL INDUSTRY)
ADDRESS LISTING

1. American Fibrit, Inc.
   ATTN: Mr. Paul Lester
   76 Armstrong Road
   Battle Creek, MI 49015

2. American Stamping Company
   310 Burnham Street
   Battle Creek, MI 49017

3. Consumer's Power Company
   311 E. Michigan Avenue
   ATTN: Mr. R.A. Frakes
   Battle Creek, MI 49016

4. Hi-Lex, Incorporated
   ATTN: Mr. Nick Baum
   5241 W. Dickman
   Battle Creek, MI 49015

5. Martin-Vogt Plating Company
   ATTN: Mr. Donald Martin
   780 Lafayette Street
   Battle Creek, MI 49016

6. Michigan Carton & Container
   ATTN: Mr. Terry Tiffany
   79 E. Fountain Street
   Battle Creek, MI 49016

7. Omega Casting Company
   ATTN: Mr. Robert Cutshall
   301 Fritz-Keiper
   Battle Creek, MI 49015

8. United Steel & Wire #3
   ATTN: Mr. Michael Pejakovich
   P.O. Box 256
   Battle Creek, MI 49015

9. Waldorf Corporation
   ATTN: Mr. Paul Stofer
   100 Grand Trunk Avenue
   Battle Creek, MI 49016

RECEIVED
APR 1 1 1986
PUBLIC UTILITIES

CITY OF BATTLE CREEK

Office of the City Attorney

TO: Gordon B. Jaeger
City Manager

Merrill Stanley
Finance Director

Larry Osborn
Public Utilities Director

DATE: 4/11/86

FROM: Paul R. Levy
City Attorney

RE: Wastewater Treatment Contract - 1984
Michigan Holding Co./Waldorf Corporation

Attached for each of your files please find a copy of the executed contracts between the City and Michigan Holding Company and the City and Waldorf Corporation for wastewater treatment for 1984.

By copy of this memo I am forwarding the original signed contract with each Company to the City Clerk's Office for filing.

Should you have any questions, do not hesitate to contact me.

PRL:mlp

Attachments

RECEIVED

APR 16 1986

WASTEWATER
TREATMENT PLANT

WASTEWATER TREATMENT CONTRACT - 1984

THIS AGREEMENT, effective the first day of April, 1986, between the CITY OF BATTLE CREEK, MICHIGAN, a Municipal Corporation ("City"), and MICHIGAN HOLDING CORPORATION, A Delaware Corporation, having an office at 79 East Fountain Street, Battle Creek, Michigan 49015 ("Company"),

W I T N E S S E T H:

WHEREAS the Company operates facilities in the City of Battle Creek that discharge industrial and sanitary waste into the City's existing wastewater treatment plant ("Treatment Plant"); and

WHEREAS the Company and its predecessors and the City have had contractual relationships for the treatment of Company's wastewater since 1959; and

WHEREAS the City has during this contractual period reserved for the Company certain capacity in its wastewater treatment plant and the Company has made certain annual payments toward the local cost of constructing the improvements necessary to treat Company's discharges; and

WHEREAS the City was recently required to expand and upgrade its wastewater treatment facilities; and

WHEREAS certain federal and state regulations require that the user charges be spread among all users of the Wastewater Treatment Plant on the basis of the use of said facility;

NOW, THEREFORE, in consideration of the mutual promises made herein the City and the Company agree as follows:

1. Treatment. The City shall treat the wastewater discharges from the Company during the term of this Contract at its Wastewater Treatment Plant in the amounts set forth below. City has made and will keep available to the Company, so long as it desires to utilize them and on the terms and conditions hereinafter set forth facilities for the collection and treatment to the extent required by law of the Company's waste in the following average monthly amounts:

Flow	2,500,000 gallons per day
Suspended Solids	5,000 pounds per day
Biochemical Oxygen Demand	3,250 pounds per day

2. Treatment Plant. The City shall maintain and operate its Treatment Plant as enlarged and its sanitary sewer system serving the Company's plant in good repair and working order and will make or cause to be made all necessary renewals and replacements.

3. Flow Meters, Sampling, Testing and Monitoring Devices.

a) During the term of this Contract, wastewater discharged by Company shall be measured at Company's locations so as to determine flow, suspended solids and BOD and such other measurements required by the appropriate state or federal agency, actually delivered to the collection system of City. Said measurements shall be made by flow meters, sampling and testing devices which shall be installed by Company at its expense. The City shall calibrate, maintain and replace said devices at City's expense. The City will have access to the flow meters at all times. Testing of samples shall be performed in accordance with procedures set forth in the latest edition of Standard Methods For The Examination Of Water and Wastewater or such other standards as may from time to time be mutually agreeable. The City will report in writing to the Company by the fifteenth day of each month the result of its measurements, tests, and most recent calibration reports of the quantities and characteristics of the waste discharged by the Company into the City's sewer system during the preceding month. Sampling and testing shall be conducted with such frequency and on such

operating and non-operating days of the Company as will fairly reflect the representative amounts and characteristics of the Company's waste discharge into the City's sewer system. The City shall check and calibrate the waste flow meter on site in accordance with manufacturer's instructions at a minimum frequency of once every three months. The City shall notify Company prior to calibration so industry may have a representative present during calibration.

b) In the event that the City and the Company jointly determine that the volume of wastewater transmitted to the point of recording has not been recorded accurately for any period of time, the City and Company shall estimate the volume and characteristics of wastewater transmitted to the point of recording during such period of time by use of the present and prior meter readings, production operation experience, records, and such other data as may be available to assist in making such estimate.

c) The Company may, at its own expense, make such measurements and tests as it shall desire of the

quantities and characteristics discharged by the Company into the City's sewer system. If Company and City tests do not substantially show the same quantities and characteristics of such waste discharged by the Company into the City's sewer system, competent independent engineers acceptable to the City and the Company shall make such measurements and tests and their determination of the quantities and characteristics of the waste discharged by the Company into the City's system shall be final and binding on the parties. The cost of such independent review shall be borne by the Company unless the independent review demonstrates that the results of the City's sampling and testing have resulted in billing cost errors of ten (10%) percent or greater within one billing period, in which case the cost of such review shall be borne by the City.

4. Capital Charges.

a) Company agrees to compensate the City for that portion of the Wastewater Treatment Plant constructed since 1959 for the purpose of treating waste discharged by Company and upgrading facilities necessary to treat

Company's waste to the degree required by law. As long as Company does not exceed its purchased capacity on an annual basis, the Company is not responsible for and will not be charged for capital cost of the Wastewater Treatment Plant associated with expansion of the Plant. The capital charges heretofore incurred by Company in the 1959 contract and the 1967 supplement as shown in Exhibit A are continued and Company further agrees to undertake to pay capital charges for upgrading required to provide a greater degree of treatment and/or greater reliability of treatment only if required by State or Federal law or regulation. The total annual capital charges will be as shown in Exhibit A as written or as hereafter modified by increase or reduction of capacity set forth in Paragraph 1.

b) Company obligates itself to pay the charges for capital set forth above and for the times set forth in Exhibit A throughout the term of this Contract whether Company continues discharging wastewater into City's system or not, except as Company's liability may be modified under Paragraphs 8 or 9 of this Agreement. Company's operating and maintenance rate set forth in

Paragraph 5 of this Contract shall take into account that capital charges are separately paid for and are not included in the operation and maintenance rate, including contribution to the replacement fund set forth in Paragraph 21. Even after capital obligations as set forth in Exhibit A are fully paid by Company, Company shall not be charged capital charges for those improvements added in 1959, 1967 and 1978 through 1985 in its operation and maintenance charges for capacity reserved under this Contract.

c) Any future upgrading of facilities maintained to serve Company, under this Contract, necessitated by state or federal law will, at the Company's option, be paid for in additional capital charges in an amount negotiated and agreed upon by the parties or as part of the monthly rate for sewer service. Company shall elect either the additional capital cost charge or monthly rate method for payment of improvements necessary for upgrading within one hundred eighty (180) days of notification by City that such additional construction will be undertaken to meet State or Federal law or regulations.

d) City shall use its best efforts to notify Company within ninety (90) days of any event which could possibly cause any change in the capital charges set forth in Exhibit A, including without limitation the retention of an engineering or construction firm by the City concerning additions or modifications to the Battle Creek wastewater facility, any proposed construction, expansion or upgrading plans concerning said facility, any order issued by the Water Resources Commission, Department of Natural Resources or any other state or governmental order which could require a change in the capital investment of the facility and City agrees to discuss such events with Company.

e) In order for any increase in capital charges to be effective, City shall notify Company at least one hundred eighty (180) days prior to the effective date of any proposed increase in the capital charges set forth in Exhibit A and shall discuss such proposed increases with Company prior to implementation.

f) The 1980 estimated costs will be updated to reflect actual costs within ninety (90) days of the final audit

of the construction costs accepted by EPA. Updated Exhibits A, B and C will be prepared to reflect any changes. Adjustments to charges will be made from the effective date of this Contract.

5. Operation, Maintenance and Replacement Charges. Company also agrees to pay City for the collection and treatment of the Company's wastewater discharges in accordance with rates charged below. The rates to be charged for said discharges shall be developed and established from time to time in accordance with applicable federal and state regulations for use charge systems. City agrees that the rates established shall be supported by rate studies according to accepted practices and shall be reasonable in relation to the cost of service. The City will notify industry when City intends to undertake a rate study. Changes in the operation, maintenance and replacement rate will be imposed only after a sixty (60) day notice by City to Company that the rate study is complete.

6. Penalty Charges. In addition to capital charges and operation and maintenance charges set forth above, Company will pay the City a penalty as determined and provided in

Exhibit B attached hereto and made a part hereof, on all quantities of the Company's daily waste averaged over each calendar month that are in excess of the total treatment capacity reserved for the Company and set forth in Paragraph 1 above. The penalty shall remain in effect as long as the Company's waste is discharged to the Treatment Plant. Notwithstanding this paragraph, Company shall have no right to discharge amounts in excess of the amounts set forth in Paragraph 1 and City may prohibit discharges in excess of those amounts.

7. Billing. The Company shall be billed by the City on a monthly basis and the billing shall contain four separate items: a) Capital Charges: a charge of 1/12th of the total annual capital charge applicable to the Company as calculated from Exhibit A for each of the improvements so long as a portion of that improvement remains unpaid. b) Operation and Maintenance Charges: a charge at the unit rates for the treatment of the waste delivered by the Company to the City during the billing period; c) Penalty Charges: the penalty as set forth in Exhibit B; and d) Monitoring Charges: the pro-rata share of actual costs per the latest rate study for monitoring the Company's effluent.

8. Decrease of Capacity.

a) Prior to the termination under Paragraph 13 of the Company's obligation to pay capital charges, the Company may obtain a reduction or termination of the charges as provided in this paragraph. At any time that the Company signifies in writing to the City Manager its offer to surrender a part or all of the waste treatment capacity reserved for the Company as specified in Paragraph 1, the City will promptly cause a survey to be made by competent independent engineers of the current use of its Treatment Plant and notify other companies with contracts substantially the same as this one of that request.

b) If such survey shows that the capacity proposed to be surrendered by the Company is capacity that has been allocated to Company's capital charge and is being used to treat the sewage or waste of other customers, or that there is a current demand for such use by other customers, then the cost of such engineering survey will be borne by the City and the Company equally and this Contract will be and stand amended to reduce the annual

waste disposal charge in proportion to the amount of its total reserve treatment capacity that the Company has offered to surrender and thereafter the obligation of the City to provide waste treatment capacity for the Company shall be reduced accordingly.

If more than one company which has an industrial wastewater contract with the City of Battle Creek substantially the same as this Contract, desires to decrease its purchased capacity within the same thirty-day period and the survey shows that the total requested reduction in capacity of all requesting companies is greater than the offset capacity to be used by other customers, the capacity of each requesting company will be reduced in proportion to the requested amounts of decrease.

In the event the survey permits the Company to surrender all of the capacity reserved for it, and Company so elects, then this Contract shall automatically terminate upon payment by the Company of all charges then due and owing by it hereunder.

c) In the event that such engineering survey fails to show that the plant capacity proposed to be surrendered by the Company is then being used to treat the sewage or waste of other customers or that there is a current demand for such use by other customers then the Company shall pay the entire cost of such survey and may either give up as much of its capacity as the survey would permit with the appropriate reductions as set forth in Paragraph 8a or shall continue to pay the capital charges as set forth in Paragraph 4 with full rights under this Contract. The Company may from time to time request a resurvey of the plant under the same terms and conditions as set forth above, if in its judgment circumstances now indicate that the capacity reserved for Company is now being used to treat the sewage or wastes of other customers, or that there is a current demand for such use by other customers.

d) City agrees to provide Company with an annual report containing data regarding the use of the Wastewater Treatment Plant including data about the flow and loadings experience over the past year and a projection

of the flow and loadings for the on-coming year within thirty days after the close of the fiscal year.

9. Increase of Capacity. The Company may at any time give notice to the City that it desires that the quantities of waste treatment capacity set forth in Paragraph 1 of this Contract reserved for the Company at the City's sewage Treatment Plant be increased by the amount set forth in said notice. The City shall notify the Company within ninety (90) days from the date of such notice the total plant capacity available. The cost of additional capacity will be as set forth in Exhibit C, using the date of Company's notice to determine the year. Payments will continue at that amount until September 30, 2003. Company may purchase up to one-half the capacity stated by City to be available and may not purchase additional capacity for twenty-four (24) months.

If Company disagrees with the City as to the availability or amount of unused capacity, the City and Company shall meet to agree upon retaining an independent engineering consultant who shall make a survey of the available capacity. At the conclusion of such study Company may elect to purchase such additional capacity as set forth

in its notice up to one-half the amount the consultants agree are available at the cost set forth above. Company shall have a period of ninety (90) days after its receipt of the consultants' report to inform the City of its decision to purchase additional capacity. The cost of the consultants shall be shared equally if the Company buys the capacity it stated it desired in its notice to the City or all of the capacity permitted, whichever is less. In all other cases the Company shall pay the entire cost of the consultants retained for the purposes set forth in this paragraph.

If Company elects to purchase the additional capacity, the sewage treatment capacity set forth for the Company in Paragraph 1 shall be deemed increased by the amounts agreed upon and the annual capital waste charge set forth in Exhibit A shall be increased accordingly and the penalty charges to be paid by the Company under Paragraph 6 and set forth in Exhibit B shall be determined after such date on the basis of such increased capacity reserved for Company.

10. Most Favored Rate Clause. If at any time before the termination of the Company's obligation under this Contract the City enters into a contract agreement rate

structure or other arrangement which provides wastewater disposal to any industrial user on terms more favorable than the terms set forth in this Contract, the Company may at its option elect to have its wastewater treated under the same terms, if said terms can be granted to Company under state and federal regulations, and this Contract shall be construed to have been amended to provide for such terms. Company must elect a course within ninety (90) days of being informed by the City that such more favorable rates are being granted to another user or within ninety (90) days of actual notice by the Company of such favorable rates, whichever shall first occur. Failure by Company to elect such more favorable rates within the time specified shall constitute a waiver by Company of its right to amend this Contract to contain the more favorable rates.

11. Discharge Characteristics and Contaminants. The Company agrees that it will not substantially alter the characteristics or chemical content of the waste it is discharging into the City's sewage system from those being discharged from the date hereof which would result in damage to the City sewer system or create a health hazard to persons or property. City agrees to give Company ninety (90) days

advance notice before changing its ordinance of restricted or prohibited substances except in an emergency.

12. Future Sewer Plant Enlargements. The City shall have the right to expand or upgrade the Treatment Plant at any time in the future.

13. Termination. This Contract will remain in effect until September 30, 2003.

14. Non-Interference With Company Wastewater Treatment. The City will not accept wastewater from other customers or users for processing in the Treatment Plant so long as this Contract is operative that have characteristics that will entail additional treatment cost to the Company, or that will interfere with the proper treatment of the Company's waste or the proper and efficient operation of the Treatment Plant.

15. No Obligation To Discharge. Anything in this Contract to the contrary notwithstanding, the Company shall not be obligated to discharge into the City's sewer system any waste whatsoever.

16. Records. The City shall keep and preserve complete and accurate records and accounts of its costs of operating

the Treatment Plant, such records to be available for examination and copying by the Company during all usual business hours at any time and to be sufficiently detailed to enable the Company to ascertain operating costs.

17. Efficient Operation. The City will use its best efforts to operate its Treatment Plant and Sanitary Sewer Facilities efficiently in order that the effluent discharged therefrom into the Kalamazoo River will comply with the requirements of the Michigan Water Resources Commission and other governmental authorities that may now or hereafter have jurisdiction over said river.

18. Contract. This Contract sets forth the entire understanding and agreement between the parties respecting the subject matter hereof and is intended by the parties to replace the contracts on this subject between City and Company entered into in 1959 and 1967, provided however, any rights Company may have in an assignment between St. Regis/Champion, City and Company dated March 30, 1984 are preserved.

19. Assignment. The rights and obligations of the parties hereunder shall inure to and be binding upon their

respective successors and assigns and may be freely assigned by either party without consent of the other party. However, Company agrees that in the event Company assigns its rights and obligations under this Contract and said assignee fails to pay the remaining capital charges set forth in Exhibit A, in such cases only, Company shall remain secondarily liable to City for such capital charges and City, upon exhausting reasonable best efforts fails to obtain said charges from assignee, shall be able to require Company to pay such capital charges. City shall cooperate with Company to recover such capital charges from said assignee.

20. Sewer Fund. Monies paid to the City by the Company or other persons, firms or corporations, public or private, for the treatment of sewage, wastewater or other waste treated by the City's sewage Treatment Plant shall be used by the City exclusively for sewer purposes in accordance with generally accepted accounting principles.

21. Replacement Fund. City agrees to provide and fund a wastewater replacement fund from wastewater revenues in the amount of One Hundred Forty-Five Thousand ($145,000.00) Dollars annually.

22. Force Majeure. Either party shall be excused from liability for failure to perform its obligations hereunder when such failure is due to an act of God or the elements, fire, war, the public enemy, strikes, labor difficulties, civil commotion, transportation or other embargoes, act of civil or military authority, governmental priority, allocation, or order, except that the City shall not be excused for failure to perform its obligations if such failure is due to an act by the City.

IN WITNESS WHEREOF, the parties have caused this Contract to be executed by their respective duly authorized officers the 11th day of April, 1986.

WITNESS:

CITY OF BATTLE CREEK

BY

WITNESS:

MICHIGAN HOLDING CORPORATION

BY

EXHIBIT "A"

CAPITAL COSTS

	Total	Flow	B.O.D.	S.S.
1980 Construction				
Cost	$13,650,000			
Interest	16,603,506			
Total	$30,253,506			
Upgrading 43%	13,009,008			
Distribution	100%	16.94%	45.82%	37.24%
Annual Amortization (Sept., 2003)	$ 650,450	$110,186	$298,036	$242,228
Design Capacity		27 mgd	64.08M#/d	61.81M#/d
Per Unit Per Year		$ 4,080.96/mg	$ 4,651.00/Mlb	$ 3,918.91/Mlb
Per Unit Per Day		11.18/mg	$ 12.42/Mlb	$ 10.94/Mlb

	Total	Kelloggs	General Foods	Waldorf	Michig Holdi
Contract Capacities					
Flow	6.95mgd	1.4mgd	.55mgd	2.5mgd	2.5
B.O.D.	35,550#/d	21,000#/d	8,050#/d	3,250#/d	3,250#/
S.S.	16,500#/d	4,000#/d	2,500#/d	5,000#/d	5,000#/
Annual Contract Capital Charge for 1980 Construction					
Flow	$ 28,362	$ 5,713	$ 2,244	$10,203	$10,202
B.O.D.	163,345	97,671	37,442	15,116	15,116
S.S.	64,662	15,676	9,797	19,594	19,595
(A) Total	$258,369	$119,060	$49,483	$44,913	$44,913
Annual Contract Capital Charge Per 1967 Contract					
1960 Construction (Nov., 1992)	$ 97,096	$ 25,033	$17,315	$27,374	$27,374
(B) 1966 Construction (Oct., 1997)	50,753	40,702	7,523	1,264	1,264
Sub Total	$147,849	$ 65,735	$24,838	$28,638	$28,638
(B) 1971 Capacity Increase (Oct., 1997)	4,513		4,513		
(C) Total)	$153,362	$ 65,735	$29,351	$28,638	$28,638
Total Contract Capital Charge					
Annual Charge:					
Oct. 1983-Nov. 1992 (A + C)	$410,731	$184,795	$78,834	$73,551	$73,551
Dec. 1992-Oct. 1997 (A + B)	$313,635	$159,762	$61,519	$46,177	$46,177
Nov. 1997-Sept. 2003 (A)	$258,369	$119,060	$49,483	$44,913	$44,913

EXHIBIT "B"

PENALTY CHARGES FOR EXCEEDING PURCHASED CAPACITY ON A MONTHLY AVERAGE

	Total	Flow	B.O.D.	S.S.
1960 Construction				
Cost	$3,351,911			
Interest	2,136,360			
Hydroscience (64-65)	18,361			
Interest	5,851			
Total	$5,512,483			
Distribution	100%	24.8%	43.5%	31.7%
Annual Amortization (Nov., 1992)	$ 183,749	$ 45,570.00	$ 79,931.00	$ 58,248.00
Design Capacity Factor		22 mg/d	66 M#/d	66.595M#/
Per Unit Per Day		$ 5.67/mg	$ 3.32/M#	$ 2.39
1966 Construction				
Cost	$3,046,000			
Interest	2,206,000			
Total	$5,252,000			
Distribution	100%	19.0%	47.0%	34.0%
Annual Amortization (Oct., 1997)	$ 175,067	$ 33,263.00	$ 82,281.00	$ 59,523.00
Design Capacity		22 mg/d	66 M#/d	66.595M#/d
Per Unit Per Day		$ 4.14	$ 3.41	$ 2.45
Sub Total 1960 and 1966 Construction				
Per Unit Per Day		$ 9.81/mg	$ 6.73/M#	$ 4.84/
1980 Construction				
Cost	$13,650,000			
Interest	16,603,506			
Total	$30,253,506			
Distribution	100%	16.94%	45.82%	37.24%
Annual Amortization (Sept., 2003)	$ 1,512,675	$256,247.00	$693,108	$563,320.00
Design Capacity		27 mg/d	64.080 M#/d	61.81M#/d
Per Unit Per Day		$ 26.00	$ 29.63	$ 24.77
Grand Total - All Construction				
Per Unit Per Day		$ 35.81/mg	$ 36.36/M#	$ 29.81

This penalty is not reduced at 1992, 1997 or 2003 bench marks when Exhibit A capital charges reflect bond issue payoffs and shall remain in effect until termination of this Con

MONTHLY PENALTY COMPUTATION

	Flow	B.O.D.	S.S.	Total
Actual Loadings (Daily Average)	_____ mg	_____ M#	_____ M#	
Less: Purchased Capacity (Paragraph 1)	_____ mg	_____ M#	_____ M#	
Excess Loadings	_____ mg	_____ M#	_____ M#	
Total Daily Penalty Rate	X$35.81	X$36.36	X$29.81	
Days in Month	X_____	X_____	X_____	
Total Monthly Contract Penalty Charge	$_____	$_____	$_____	$

EXHIBIT "C"

CAPITAL COSTS FOR INCREASED CAPACITY
PER CAPACITY UNIT FOR FLOW, B.O.D., AND S.S.

For Fiscal Year Ending June 30:	Flow (mgd)	B.O.D.(M#/d)	S.S.(M#/d)
1984	$35.81	$36.36	$29.81
1985	34.91	35.45	29.06
1986	34.02	34.54	28.32
1987	33.12	33.63	27.57
1988	32.23	32.72	26.83
1989	31.33	31.82	26.08
1990	30.44	30.91	25.34
1991	29.54	30.00	24.59
1992	28.65	29.09	23.85
1993	27.75	28.18	23.10
1994	26.86	27.27	22.36
1995	25.96	26.36	21.61
1996	25.07	25.45	20.86
1997	24.17	24.54	20.12
1998	23.28	23.63	19.37
1999	22.38	22.73	18.63
2000	21.49	21.82	17.88
2001	20.59	20.91	17.14
2002	19.70	20.00	16.39
2003	18.80	19.09	15.65

Assumes 20 year useful life and salvage value of 50%.

CITY OF BATTLE CREEK, MICHIGAN

WASTEWATER DIVISION

OFFICE OF THE SUPERINTENDENT

Cortland V. Overmyer

(616) 966-3513

2000 W. River Road

Battle Creek, MI 49015

AUTHORIZATION NO. 159

INDUSTRIAL USER DISCHARGE AUTHORIZATION

In accordance with the provisions of the Codified Ordinance of Battle Creek Section 1Ø42

Michigan Paperboard Corporation
79 E. Fountain St.
Battle Creek, Michigan 49Ø17-4198

is hereby authorized to discharge industrial wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in this discharge authorization.

All discharges authorized herein shall be consistent with the terms and conditions of this discharge authorization. The discharge of any pollutant identified in this discharge authorization more frequently than or at a level in excess of that authorized shall constitute a violation.

This authorization shall become effective on May 1, 199Ø and shall expire at midnight on April 3Ø, 1993.

If the user wishes to continue to discharge after this expiration date an application must be filed for reissuance of this authorization, a minimum of 9Ø days prior to the expiration date. At this time a review will be performed to determine if any changes are required in the requirements of this authorization.

By: Cortland V. Overmyer
Control Authority's signature

Issued this 25TH day of April, 199Ø.

PART I - SELF-MONITORING REQUIREMENTS (The user is required to comply with all the following conditions.)

1. DISCHARGE TESTING

The Director of Public Works may require a user to test, at the user's expense and on a regular basis, the quantity, composition and concentration of its discharge, to sample and analyze the same in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater and to report the test results to the Director. If a user which has been so required by the Director fails to test and report to the satisfaction of the Director, then the Director may determine the quantity, composition and concentration of such discharge either by estimates on the basis of data available to the Director or by samplings, measurements and analyses performed by the Director at the expense of the user. Section 1Ø42.36

2. SELF-MONITORING/REPORTING SCHEDULE

PARAMETER	FREQUENCY OF SAMPLING	REPORTING SCHEDULE
Zinc	Monthly	Quarterly
2-chlorophenol[1]	Quarterly	Quarterly
2-4-dichlorophenol[1]	Quarterly	Quarterly
2-4-6-trichlorophenol[1]	Quarterly	Quarterly
Pentachlorophenol[1]	Quarterly	Quarterly

[1] Federal Pretreatment Regulations may be waived by certification from industry that phenolic compounds are not used in process.

3. SAMPLE TYPES

All sampling will be conducted according to the requirements for that specific parameter. Unless otherwise specified, all samples will be time composited samples representing a twenty-four (24) hour period or one working day (i.e. 8 hours) which ever is applicable. Samples shall be taken while your facility is in production.

4. REPORTING FREQUENCY

Quarterly reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months January, April, July and October of the current year.

Semi-annual reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months of January and July of the current year.

5. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this authorization, the user shall record the following data:

(a) The Exact Place, Date and Time of Sampling
(b) The Dates the Analyses were Performed
(c) The Person(s) Who Performed the Analyses
(d) The Analytical Techniques or Methods Used
(e) The Results of All Required Analyses

PART II - DISCHARGE LIMITATIONS (The user is required to comply with all the following conditions.)

POINT SOURCE CATEGORY * Pulp, Paper & Paperboard

40 CFR PART 430-431 SUBCATEGORY Paperboard from Wastepaper

POLLUTANT	ONE DAY MAXIMUM mg/l	MAXIMUM MONTHLY AVERAGE mg/l
Flow - MGD	----	----
Zinc	2.5	2.5
2-chlorophenol	4.2[1]	4.2[1]
2-4-dichlorophenol	7.1[1]	7.1[1]
2-4-6-trichlorophenol	0.7[1]	0.7[1]
Pentachlorophenol	2.35[2]	2.35[2]
BOD - 5 Day	See Attachment A	See Attachment A
Suspended Solids	See Attachment A	See Attachment A

[1] Discharge limit based on certification that facility does not use phenolic compounds

[2] Production based equivalency.

*If applicable, refer to Part III (4)

PART III - REPORTING REQUIREMENTS (The user is required to comply with all the following conditions.)

1. DISCHARGE REPORTS

The Director of Public Works may require that any person discharging wastewater into a City sewer file a periodic discharge report. The discharge report may include, but need not be limited to, the general nature of the process, volume, rates of flow, mass emission rate, production quantities, hours of operation, normal number and classification of employees or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge. Such reports may also require the chemical constituents and quantity of liquid or gaseous material stored on site even though they may not normally be discharged Section 1Ø42.31

2. INFORMATIONAL REPORTS

All current and proposed industrial users may be required by the Director of Public Works to file informational reports for the benefit of Local, State and Federal governmental units. The user shall comply with the Director's request for data by submitting as may be necessary, in units and terms appropriate for evaluation, information such as:

(a) The name, address and SIC number of the industrial user;

(b) The volume of wastewater to be discharged;

(c) The wastewater constituents and characteristics, including, but not limited to, those mentioned in Section 1Ø42.29, as determined by a laboratory approved by the Director;

(d) The time and duration of discharge;

(e) The average and fifteen-minute peak instant wastewater flow rates, including daily, monthly and seasonal variations, if any;

(f) Site plans, floor plans, mechanical and plumbing plans and details to show all sewers and appurtenances by size, location and elevation;

(g) A description of activities, facilities and plant processes on the premises, including all materials, processes and types of material which are or could be discharged;

(h) Each product produced, by type, amount and rate of production.

(i) The number and type of employees and hours of work;

(j) A hazardous materials survey; and

(k) Any other information relative to wastewater conveyance, characteristics, quantities or pretreatment, as may be determined by the Director to be necessary to evaluate the data furnished by the user. Section 1Ø42.32

3. ACCIDENTAL DISCHARGES

A notice prepared by the user shall be prominently and permanently posted at appropriate locations at each commercial and industrial user facility advising its employees of whom to call in case of an accidental discharge in violation of any provision of this chapter. In addition, instruction shall be given to appropriate employees of the user and the same certified to the City on an annual basis. Section 1Ø42.39

Any accidental discharge of a slug or a prohibited substance directly or indirectly into a public sewer shall be immediately reported to the wastewater treatment plant by the person responsible for such discharge or by the owner or occupant of the property from which the discharge was made, to enable counter measures to be taken by the City to minimize damage to the City sewers, treatment facilities, treatment processes and receiving waters. Section 1Ø42.4Ø(a)

Such notification shall be followed, with seven days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent further occurrence. Such notification shall not relieve users of liability for any expense, loss or damage to the sewerage system, treatment plant or treatment process or for any fines imposed on the City on account thereof by any regulatory agency. Section 1Ø42.4Ø (b)

Accidental discharges will be reported to the Industrial Surveillance personnel or the on-duty Foreman at the Wastewater Treatment Plant. The 24-hour phone number is (616) 966-3513.

4. BASELINE MONITORING REPORTS

All industrial users subject to Categorical Pretreatment Standards (See Part III) must submit a Baseline Monitoring Report (BMR) to the Control Authority. The purpose of the BMR is to provide information to the Control Authority to document the industrial user's current compliance status with a Categorical Pretreatment Standard.

5. GENERAL NONCOMPLIANCE REPORT

If self-monitoring reveals violation of any discharge limitations specified herein, the industrial user shall notify the City within 24 hours of becoming aware of the violation. The industrial user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City within 3Ø days after becoming aware of the violation.

6. SUBMISSION OF REPORTS

All reports shall be submitted to the following address:

City of Battle Creek
ATTN: Industrial Surveillance
2ØØØ West River Road
Battle Creek, Michigan 49Ø15-1181

PART IV - STANDARD CONDITIONS

1. SEWER USE ORDINANCE

The Industrial User shall comply with all general standards in Section 1Ø42 of the Codified Ordinances of the City of Battle Creek.

2. RIGHT OF ENTRY

Persons or occupants of premises where wastewater is created or discharged shall allow the City or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection, observation, measurements, sampling and testing in the performance of any of their duties. The City shall have the right to set up on a user's property, in locations that will not interfere with the user's operations and where the user's products will not become damaged or contaminated, such devices as are necessary to conduct sampling or metering operations, and to inquire into any industrial process to the extent necessary to establish the source, quantity, composition and concentration of the wastewater. When necessary, the user shall make arrangements with its security force, using procedures as might be reasonable, to allow for entry without delay by the City representatives for the purpose of performing their specific responsibilities. Section 1Ø42.34

3. CONFIDENTIAL INFORMATION

Information and data on a user obtained from reports, questionnaires, permit applications, permits, monitoring programs and inspections shall be available to the public or other governmental agencies in accordance with appropriate State and Federal laws and regulations. When requested by

the person furnishing information, portions of that information which disclose trade secrets or secret processes shall not be made available for governmental agencies which require it for making studies only after conforming to the requirements for disclosure of confidential information contained in 4Ø CFR, Part 2, Subpart B, Confidentially of Business Information. Requirements listed therein shall be considered the minimum requirement for local agencies. Section 1Ø42.33

4. CONTROL MANHOLES

The Director of Public Works may require the user to construct, at his own expense, monitoring facilities, including a control manhole, if necessary, to allow observation, inspection, sampling and measurement of the quantity, composition and concentration of waste to the building sewer or internal drainage systems and may also require sampling or metering equipment to be provided, installed and operated at the user's expense. The monitoring facility shall be situated on the user's premises, with accommodations to allow access by City representatives. There shall be ample room in or near the sampling point to allow accurate sampling and compositing for analysis. All equipment and appurtenances thereto shall be maintained at all times in a safe and proper operating condition at the expense of the user. Section 1Ø42.37

5. DISPOSAL OF PRETREATMENT SLUDGES AND SPENT CHEMICALS

The disposal of sludges and spent chemicals generated shall be done in accordance with Section 4Ø5 of the Clean Water Act and Subtitles C and D of the Resource Conversation and Recovery Act.

6. SIGNATORY REQUIREMENTS

All reports required in this discharge authorization shall be signed by a principal executive officer of the User, or his designee.

7. TERMINATION OF SERVICE

In addition to statutes, rules or regulations authorizing termination of service for delinquency in payment, the City may terminate or cause to be terminated wastewater service to users for:

(a) Submitting to the Director of Public Works, the City or a State or Federal government unit false statements, representations, records, reports, plans or other documents;

(b) Tampering with or rendering inaccurate any monitoring device, public or private meter or equipment installed or operated pursuant to this chapter;

(c) Failure to report significant changes in operations or wastewater constituents or characteristics;

(d) Discharging or causing to be discharged prohibited substances or substances requiring special discharge authorization without having obtained such authorization or with such authorization having been denied or revoked;

(e) Obtaining special discharge authorization under Section 1Ø42.29 on the basis of false or misleading information;

(f) Refusal to allow the Director or City representative reasonable access to the user's premises for the purpose of inspection and/or monitoring; or

(g) Nonpayment of fees, surcharges or charges. Section 1Ø42.47

8. OUT-OF-CITY USER

Those nondomestic users located outside the Battle Creek city limits, who contribute to the City of Battle Creek's wastewater collection system, must comply with the conditions established by this Discharge Authorization and the Codified Ordinance of the City of Battle Creek Section 1Ø42. If applicable, a completed Out-Of-City User Consent Form has been attached.

9. PUBLIC NOTIFICATION

The POTW is required, on an annual basis, to publish in the local newspaper all significant violators over the past twelve months (4Ø CFR 4Ø3.8 (f) (2) (vii)). A significant violation is one which remains uncorrected 45 days after notification of noncompliance; which is part of the pattern of noncompliance; which involves a failure to accurately report noncompliance; or which resulted in the municipality exercising its emergency authority.

1Ø. SELF-MONITORING/REPORTING PENALTIES

Commencing September 1, 1989, those industries which do not submit the required self-monitoring reports in accordance with the specified deadlines, will be assessed as a minimum, fines and penalties amounting to $5ØØ per delinquent report. Continued violation may cause additional penalties up to and including ultimate termination of service. (letter dated July 26, 1989)

11. DISCHARGE AUTHORIZATION MODIFICATION

This authorization may be modified for good causes including, but not limited to, the following:

(a) To incorporate any new or revised Federal, State, or local pretreatment standards or requirements.

(b) Material or substantial alterations or additions to the user's operation processes, or discharge volume or character which were not considered in drafting the effective authorization.

(c) A change in any condition in either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge.

(d) Information indicating that the permitted discharge poses a threat to the Control Authority's collection and treatment systems, POTW personnel or the receiving waters.

(e) Violation of any terms or conditions of the authorization.

(f) Misrepresentation or failure to disclose fully all relevant facts in the authorization application or in any required reporting.

(g) Revision of or a grant of variance from such categorical standards pursuant to 40 CFR 403.13; or

(h) To correct typographical or other errors in the authorization

(i) Upon request of the user, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

12. Transferability of Discharge Authorization

This discharge authorization is not transferable. A new owner or operator must apply at least thirty (30) days in advance, for a new authorization to be issued. This authorization is considered site and owner or operator specific.

ATTACHMENT A

SPECIAL DISCHARGE AUTHORIZATION NO.159-S
(COMPATIBLE - CONTRACT)

In accordance with Section 1Ø42.29 of the Battle Creek Utilities Code (Chapter 1Ø42, Sewers)

COMPANY NAME: Michigan Paperboard Corporation

FACILITY ADDRESS: 79 E. Fountain St.

Battle Creek, Michigan 49Ø17-4198

is hereby authorized to discharge industrial wastewater from the above identified facility into the City of Battle Creek sewer system in accordance with the following effluent limitations.

PARAMETER	ONE DAY MAXIMUM (LBS)	MAXIMUM MONTHLY AVERAGE (LBS)
SUSPENDED SOLIDS	1Ø,ØØØ	5,ØØØ
BOD 5-DAY	6,5ØØ	3,25Ø

In addition, the discharge shall comply with all other applicable regulations or standards as established in the Battle Creek Utilities Code. If found in violation of any of these regulations, the company shall be subject to enforcement action as defined by Federal, State, or City law.

This authorization shall become effective on March 1, 1991 and shall expire at midnight on February 28, 1992.

A letter of application must be filed a minimum of ninety (9Ø) days prior to the expiration date in order for reissuance of this authorization to occur. At this time a review will be performed to determine if any changes are required in the discharge limits before a new authorization is issued.

By: _____
Control Authority Signature

Issued this 28TH day of February, 1991.

CITY OI BATTLE CREEK, M. CHIGAN

WASTEWATER DIVISION

OFFICE OF THE SUPERINTENDENT

Cortland V. Overmyer

(616) 966-3513

2000 W. River Road

Battle Creek, MI 49015

AUTHORIZATION NO. 173

INDUSTRIAL USER DISCHARGE AUTHORIZATION

In accordance with the provisions of the Codified Ordinance of Battle Creek Section 1Ø42

Waldorf Paper Corporation
1ØØ Grand Trunk Ave.
Battle Creek, Michigan 49Ø17-2226

is hereby authorized to discharge industrial wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in this discharge authorization.

All discharges authorized herein shall be consistent with the terms and conditions of this discharge authorization. The discharge of any pollutant identified in this discharge authorization more frequently than or at a level in excess of that authorized shall constitute a violation.

This authorization shall become effective on May 1, 199Ø and shall expire at midnight on April 3Ø, 1993.

If the user wishes to continue to discharge after this expiration date an application must be filed for reissuance of this authorization, a minimum of 9Ø days prior to the expiration date. At this time a review will be performed to determine if any changes are required in the requirements of this authorization.

By: Cortland V. Overmyer
Control Authority's signature

Issued this 25TH day of April, 199Ø.

PART I - SELF-MONITORING REQUIREMENTS (The user is required to comply with all the following conditions.)

1. DISCHARGE TESTING

The Director of Public Works may require a user to test, at the user's expense and on a regular basis, the quantity, composition and concentration of its discharge, to sample and analyze the same in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater and to report the test results to the Director. If a user which has been so required by the Director fails to test and report to the satisfaction of the Director, then the Director may determine the quantity, composition and concentration of such discharge either by estimates on the basis of data available to the Director or by samplings, measurements and analyses performed by the Director at the expense of the user. Section 1Ø42.36

2. SELF-MONITORING/REPORTING SCHEDULE

PARAMETER	FREQUENCY OF SAMPLING	REPORTING SCHEDULE
Zinc	Monthly	Quarterly
2-chlorophenol[1]	Quarterly	Quarterly
2-4-dichlorophenol[1]	Quarterly	Quarterly
2-4-6-trichlorophenol[1]	Quarterly	Quarterly
Pentachlorophenol[1]	Quarterly	Quarterly
Phenols, total	Monthly	Quarterly

[1] Federal Pretreatment Regulations may be waived by certification from industry that phenolic compounds are not used in process.

3. SAMPLE TYPES

All sampling will be conducted according to the requirements for that specific parameter. Unless otherwise specified, all samples will be time composited samples representing a twenty-four (24) hour period or one working day (i.e. 8 hours) which ever is applicable. Samples shall be taken while your facility is in production.

4. REPORTING FREQUENCY

Quarterly reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months January, April, July and October of the current year.

Semi-annual reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months of January and July of the current year.

5. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this authorization, the user shall record the following data:

(a) The Exact Place, Date and Time of Sampling
(b) The Dates the Analyses were Performed
(c) The Person(s) Who Performed the Analyses
(d) The Analytical Techniques or Methods Used
(e) The Results of All Required Analyses

PART II - DISCHARGE LIMITATIONS (The user is required to comply with all the following conditions.)

POINT SOURCE CATEGORY * Pulp, Paper & Paperboard

40 CFR PART 430-431 SUBCATEGORY Paperboard from Wastepaper

POLLUTANT	ONE DAY MAXIMUM mg/l	MAXIMUM MONTHLY AVERAGE mg/l
Flow - MGD	----	----
Zinc	2.5	2.5
2-chlorophenol	4.2[1]	4.2[1]
2-4-dichlorophenol	7.1[1]	7.1[1]
2-4-6-trichlorophenol	0.7[1]	0.7[1]
Pentachlorophenol	2.35[2]	2.35[2]
BOD - 5 Day	See Attachment A	See Attachment A
Suspended Solids	See Attachment A	See Attachment A
Phenols, total	3.0	3.0

[1] Discharge limit based on certification that facility does not use phenolic compounds

[2] Production based equivalency.

*If applicable, refer to Part III (4)

PART III - REPORTING REQUIREMENTS (The user is required to comply with all the following conditions.)

1. DISCHARGE REPORTS

The Director of Public Works may require that any person discharging wastewater into a City sewer file a periodic discharge report. The discharge report may include, but need not be limited to, the general nature of the process, volume, rates of flow, mass emission rate, production quantities, hours of operation, normal number and classification of employees or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge. Such reports may also require the chemical constituents and quantity of liquid or gaseous material stored on site even though they may not normally be discharged Section 1Ø42.31

2. INFORMATIONAL REPORTS

All current and proposed industrial users may be required by the Director of Public Works to file informational reports for the benefit of Local, State and Federal governmental units. The user shall comply with the Director's request for data by submitting as may be necessary, in units and terms appropriate for evaluation, information such as:

(a) The name, address and SIC number of the industrial user;

(b) The volume of wastewater to be discharged;

(c) The wastewater constituents and characteristics, including, but not limited to, those mentioned in Section 1Ø42.29, as determined by a laboratory approved by the Director;

(d) The time and duration of discharge;

(e) The average and fifteen-minute peak instant wastewater flow rates, including daily, monthly and seasonal variations, if any;

(f) Site plans, floor plans, mechanical and plumbing plans and details to show all sewers and appurtenances by size, location and elevation;

(g) A description of activities, facilities and plant processes on the premises, including all materials, processes and types of material which are or could be discharged;

(h) Each product produced, by type, amount and rate of production.

(i) The number and type of employees and hours of work;

(j) A hazardous materials survey; and

(k) Any other information relative to wastewater conveyance, characteristics, quantities or pretreatment, as may be determined by the Director to be necessary to evaluate the data furnished by the user. Section 1Ø42.32

3. ACCIDENTAL DISCHARGES

A notice prepared by the user shall be prominently and permanently posted at appropriate locations at each commercial and industrial user facility advising its employees of whom to call in case of an accidental discharge in violation of any provision of this chapter. In addition, instruction shall be given to appropriate employees of the user and the same certified to the City on an annual basis. Section 1Ø42.39

Any accidental discharge of a slug or a prohibited substance directly or indirectly into a public sewer shall be immediately reported to the wastewater treatment plant by the person responsible for such discharge or by the owner or occupant of the property from which the discharge was made, to enable counter measures to be taken by the City to minimize damage to the City sewers, treatment facilities, treatment processes and receiving waters. Section 1Ø42.4Ø(a)

Such notification shall be followed, with seven days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent further occurrence. Such notification shall not relieve users of liability for any expense, loss or damage to the sewerage system, treatment plant or treatment process or for any fines imposed on the City on account thereof by any regulatory agency. Section 1Ø42.4Ø (b)

Accidental discharges will be reported to the Industrial Surveillance personnel or the on-duty Foreman at the Wastewater Treatment Plant. The 24-hour phone number is (616) 966-3513.

4. BASELINE MONITORING REPORTS

All industrial users subject to Categorical Pretreatment Standards (See Part III) must submit a Baseline Monitoring Report (BMR) to the Control Authority. The purpose of the BMR is to provide information to the Control Authority to document the industrial user's current compliance status with a Categorical Pretreatment Standard.

5. GENERAL NONCOMPLIANCE REPORT

If self-monitoring reveals violation of any discharge limitations specified herein, the industrial user shall notify the City within 24 hours of becoming aware of the violation. The industrial user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City within 3Ø days after becoming aware of the violation.

6. SUBMISSION OF REPORTS

All reports shall be submitted to the following address:

City of Battle Creek
ATTN: Industrial Surveillance
2ØØØ West River Road
Battle Creek, Michigan 49Ø15-1181

PART IV - STANDARD CONDITIONS

1. SEWER USE ORDINANCE

The Industrial User shall comply with all general standards in Section 1Ø42 of the Codified Ordinances of the City of Battle Creek.

2. RIGHT OF ENTRY

Persons or occupants of premises where wastewater is created or discharged shall allow the City or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection, observation, measurements, sampling and testing in the performance of any of their duties. The City shall have the right to set up on a user's property, in locations that will not interfere with the user's operations and where the user's products will not become damaged or contaminated, such devices as are necessary to conduct sampling or metering operations, and to inquire into any industrial process to the extent necessary to establish the source, quantity, composition and concentration of the wastewater. When necessary, the user shall make arrangements with its security force, using procedures as might be reasonable, to allow for entry without delay by the City representatives for the purpose of performing their specific responsibilities. Section 1Ø42.34

3. CONFIDENTIAL INFORMATION

Information and data on a user obtained from reports, questionnaires, permit applications, permits, monitoring programs and inspections shall be available to the public or other governmental agencies in accordance with appropriate State and Federal laws and regulations. When requested by

the person furnishing information, portions of that information which disclose trade secrets or secret processes shall not be made available for governmental agencies which require it for making studies only after conforming to the requirements for disclosure of confidential information contained in 4Ø CFR, Part 2, Subpart B, Confidentially of Business Information. Requirements listed therein shall be considered the minimum requirement for local agencies. Section 1Ø42.33

4. CONTROL MANHOLES

The Director of Public Works may require the user to construct, at his own expense, monitoring facilities, including a control manhole, if necessary, to allow observation, inspection, sampling and measurement of the quantity, composition and concentration of waste to the building sewer or internal drainage systems and may also require sampling or metering equipment to be provided, installed and operated at the user's expense. The monitoring facility shall be situated on the user's premises, with accommodations to allow access by City representatives. There shall be ample room in or near the sampling point to allow accurate sampling and compositing for analysis. All equipment and appurtenances thereto shall be maintained at all times in a safe and proper operating condition at the expense of the user. Section 1Ø42.37

5. DISPOSAL OF PRETREATMENT SLUDGES AND SPENT CHEMICALS

The disposal of sludges and spent chemicals generated shall be done in accordance with Section 4Ø5 of the Clean Water Act and Subtitles C and D of the Resource Conversation and Recovery Act.

6. SIGNATORY REQUIREMENTS

All reports required in this discharge authorization shall be signed by a principal executive officer of the User, or his designee.

7. TERMINATION OF SERVICE

In addition to statutes, rules or regulations authorizing termination of service for delinquency in payment, the City may terminate or cause to be terminated wastewater service to users for:

(a) Submitting to the Director of Public Works, the City or a State or Federal government unit false statements, representations, records, reports, plans or other documents;

(b) Tampering with or rendering inaccurate any monitoring device, public or private meter or equipment installed or operated pursuant to this chapter;

(c) Failure to report significant changes in operations or wastewater constituents or characteristics;

(d) Discharging or causing to be discharged prohibited substances or substances requiring special discharge authorization without having obtained such authorization or with such authorization having been denied or revoked;

(e) Obtaining special discharge authorization under Section 1Ø42.29 on the basis of false or misleading information;

(f) Refusal to allow the Director or City representative reasonable access to the user's premises for the purpose of inspection and/or monitoring; or

(g) Nonpayment of fees, surcharges or charges. Section 1Ø42.47

8. OUT-OF-CITY USER

Those nondomestic users located outside the Battle Creek city limits, who contribute to the City of Battle Creek's wastewater collection system, must comply with the conditions established by this Discharge Authorization and the Codified Ordinance of the City of Battle Creek Section 1Ø42. If applicable, a completed Out-Of-City User Consent Form has been attached.

9. PUBLIC NOTIFICATION

The POTW is required, on an annual basis, to publish in the local newspaper all significant violators over the past twelve months (4Ø CFR 4Ø3.8 (f) (2) (vii)). A significant violation is one which remains uncorrected 45 days after notification of noncompliance; which is part of the pattern of noncompliance; which involves a failure to accurately report noncompliance; or which resulted in the municipality exercising its emergency authority.

1Ø. SELF-MONITORING/REPORTING PENALTIES

Commencing September 1, 1989, those industries which do not submit the required self-monitoring reports in accordance with the specified deadlines, will be assessed as a minimum, fines and penalties amounting to $5ØØ per delinquent report. Continued violation may cause additional penalties up to and including ultimate termination of service. (letter dated July 26, 1989)

11. DISCHARGE AUTHORIZATION MODIFICATION

This authorization may be modified for good causes including, but not limited to, the following:

(a) To incorporate any new or revised Federal, State, or local pretreatment standards or requirements.

(b) Material or substantial alterations or additions to the user's operation processes, or discharge volume or character which were not considered in drafting the effective authorization.

(c) A change in any condition in either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge.

(d) Information indicating that the permitted discharge poses a threat to the Control Authority's collection and treatment systems, POTW personnel or the receiving waters.

(e) Violation of any terms or conditions of the authorization.

(f) Misrepresentation or failure to disclose fully all relevant facts in the authorization application or in any required reporting.

(g) Revision of or a grant of variance from such categorical standards pursuant to 40 CFR 403.13; or

(h) To correct typographical or other errors in the authorization

(i) Upon request of the user, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

12. Transferability of Discharge Authorization

This discharge authorization is not transferable. A new owner or operator must apply at least thirty (30) days in advance, for a new authorization to be issued. This authorization is considered site and owner or operator specific.

ATTACHMENT A

SPECIAL DISCHARGE AUTHORIZATION NO.173-S
(COMPATIBLE - CONTRACT)

In accordance with Section 1Ø42.29 of the Battle Creek Utilities Code (Chapter 1Ø42, Sewers)

COMPANY NAME: Waldorf Paper Corporation

FACILITY ADDRESS: 1ØØ Grand Trunk Ave.

Battle Creek, Michigan 49Ø17-2226

is hereby authorized to discharge industrial wastewater from the above identified facility into the City of Battle Creek sewer system in accordance with the following effluent limitations.

PARAMETER	ONE DAY MAXIMUM (LBS)	MAXIMUM MONTHLY AVERAGE (LBS)
SUSPENDED SOLIDS	1Ø,ØØØ	5,ØØØ
BOD 5-DAY	6,5ØØ	3,25Ø

In addition, the discharge shall comply with all other applicable regulations or standards as established in the Battle Creek Utilities Code. If found in violation of any of these regulations, the company shall be subject to enforcement action as defined by Federal, State, or City law.

This authorization shall become effective on March 1, 1991 and shall expire at midnight on February 28, 1992.

A letter of application must be filed a minimum of ninety (9Ø) days prior to the expiration date in order for reissuance of this authorization to occur. At this time a review will be performed to determine if any changes are required in the discharge limits before a new authorization is issued.

By: Control Authority Signature

Issued this 28TH day of February, 1991.

CITY OF BATTLE CREEK, MICHIGAN

PUBLIC WORKS DEPARTMENT

Wastewater Division

AUTHORIZATION NO. 173

INDUSTRIAL USER DISCHARGE AUTHORIZATION

In accordance with the provisions of the Codified Ordinances of the City of Battle Creek, Michigan, Part Ten - Streets, Utilities, and Public Services Code, Chapter 1042, Sewers

Waldorf Paper Corporation
100 Grand Trunk Ave.
Battle Creek, MI 49017-2226

is hereby authorized to discharge industrial wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the effluent limitations, monitoring requirements, and other conditions set forth in this Discharge Authorization.

All discharges authorized herein shall be consistent with the terms and conditions of this Discharge Authorization. The discharge of any pollutant identified in this Discharge Authorization more frequently than or at a level in excess of that authorized shall constitute a violation.

This Authorization shall become effective on July 1, 1993, and shall expire at midnight on June 30, 1996.

If the User wishes to continue to discharge after this expiration date, an application must be filed for reissuance of this Authorization, a minimum of 90 days prior to the expiration date. At that time, a review will be performed to determine if any changes are necessary in the requirements of this Authorization.

By: Walter K Thompson
Control Authority Signature

Issued this 23rd day of June, 1993.

2000 West River Road, Battle Creek, MI 49015-1181 (616) 966-3513

PART I - SELF-MONITORING REQUIREMENTS (The user is required to comply with all the following conditions.)

1. DISCHARGE TESTING **(1042.36)**

The Director of Public Works may require a user to test, at the user's expense and on a regular basis, the quantity, composition and concentration of its discharge, to sample and analyze the same in accordance with the latest edition of **Standard Methods for the Examination of Water and Wastewater** and to report the test results to the Director. If a user which has been so required by the Director fails to test and report to the satisfaction of the Director, then the Director may determine the quantity, composition and concentration of such discharge either by estimates on the basis of data available to the Director or by samplings, measurements and analyses performed by the Director at the expense of the user.

2. SELF-MONITORING/REPORTING SCHEDULE

PARAMETER	FREQUENCY OF SAMPLING	REPORTING SCHEDULE
Zinc	Monthly	Quarterly
2-chlorophenol[1]	Quarterly	Quarterly
2-4-dichlorophenol[1]	Quarterly	Quarterly
2-4-6-trichlorophenol[1]	Quarterly	Quarterly
Pentachlorophenol[1]	Quarterly	Quarterly
Phenols, total	Monthly	Quarterly

[1] Federal Pretreatment Regulations may be waived by certification from industry that phenolic compounds are not used in process

3. SAMPLE TYPES

All sampling will be conducted according to the requirements for that specific parameter. Unless otherwise specified, all samples will be time composited samples representing a twenty-four (24) hour period or one working day (i.e. 8 hours) which ever is applicable. Samples shall be taken while your facility is in production.

4. REPORTING FREQUENCY

Quarterly reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months January, April, July and October of the current year.

Semi-annual reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months of January and July of the current year.

5. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this authorization, the user shall record the following data:

(a) The Exact Place, Date and Time of Sampling
(b) The Dates the Analyses were Performed
(c) The Person(s) Who Performed the Analyses
(d) The Analytical Techniques or Methods Used
(e) The Results of All Required Analyses

PART II - DISCHARGE LIMITATIONS (The user is required to comply with all the following conditions.)

POINT SOURCE CATEGORY * Pulp, Paper & Paperboard

40 CFR PART 430-431 SUBCATEGORY Paperboard from Wastepaper

POLLUTANT	ONE DAY MAXIMUM mg/l	MAXIMUM MONTHLY AVERAGE mg/l
Flow - MGD	----	---
Zinc	2.5	2.5
2-chlorophenol	4.2[1]	4.2[1]
2-4-dichlorophenol	7.1[1]	7.1[1]
2-4-6-trichlorophenol	0.7[1]	0.7[1]
Pentachlorophenol	2.35[2]	2.35[2]
BOD - 5 Day	See Attachment A	See Attachment A
Suspended Solids	See Attachment A	See Attachment A
Phenols, total	3.0	3.0

[1]Discharge limit based on certification that facility does not use phenolic compounds

[2]Production based equivalency

*If applicable, refer to Part III (2) (k)

PART III - REPORTING REQUIREMENTS (The user is required to comply with all the following conditions.)

1. DISCHARGE REPORTS **(1042.31)**

The Director of Public Works may require that any person discharging wastewater into a City sewer file a periodic discharge report. The discharge report may include, but need not be limited to, the general nature of the process, volume, rates of flow, mass emission rate, production quantities, hours of operation, normal number and classification of employees or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge. Such reports may also require the chemical constituents and quantity of liquid or gaseous material stored on site even though they may not normally be discharged.

2. INFORMATIONAL REPORTS **(1042.32)**

All current and proposed industrial users may be required by the Director of Public Works to file informational reports for the benefit of Local, State and Federal governmental units. The user shall comply with the Director's request for data by submitting as may be necessary, in units and terms appropriate for evaluation, information such as:

(a) The name, address and SIC number of the industrial user;

(b) The volume of wastewater to be discharged;

(c) The wastewater constituents and characteristics, including, but not limited to, those mentioned in Section 1042.29, as determined by a laboratory approved by the Director;

(d) The time and duration of discharge;

(e) The average and fifteen-minute peak instant wastewater flow rates, including daily, monthly and seasonal variations, if any;

(f) Site plans, floor plans, mechanical and plumbing plans and details to show all sewers and appurtenances by size, location and elevation;

(g) A description of activities, facilities and plant processes on the premises, including all materials, processes and types of material which are or could be discharged;

(h) Each product produced, by type, amount and rate of production.

(i) The number and type of employees and hours of work;

(j) A hazardous materials survey; and

(k) Informational reports from categorical industries within 180 days after the effective date of the categorical pretreatment standards, which reports shall include a statement as to whether pretreatment standards are being met on a consistent basis and, if not, whether additional operations and maintenance and/or additional pretreatment is required to meet the pretreatment standards and requirements;

(l) Any other information relative to wastewater conveyance, characteristics, quantities or pretreatment, as may be determined by the Director to be necessary to evaluate the data furnished by the user, including reports of monitoring of any pollutants more frequently than required by POTW;

(m) The results of sampling and analysis identifying the nature and concentration of any pollutants in the discharge which are limited by any national categorical pretreatment standards or which are described in Section 1042.29. Both daily maximum and average concentration shall be reported. The sample shall be representative of daily operations. Sample should be taken immediately downstream of pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with wastewater regulated by a national categorical pretreatment standard prior to pretreatment, the User should measure the flows and concentrations necessary to allow use of the combined wastestream formula in 40 CFR 403.6(e) in order to evaluate compliance with pretreatment standards;

(n) The shortest schedule by which the User will provide additional pretreatment or operation and maintenance if required to meet pretreatment standards. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. In no case shall the increments of progress in the schedule exceed nine months;

(o) A listing of any toxic pollutant which the applicant uses or manufactures as an intermediate or final product or by-product;

(p) Signature of an authorized representative of the user and certified to by a qualified professional indicating whether pretreatment standards are being met on a consistent basis and if not whether additional operation and maintenance and additional pretreatment is required and the Certification Statement required by 40 CFR 403.6(a) (2) (ii).

(q) Any user subject to a national categorical pretreatment standard shall:

(1) Submit to the Director of Public Works a baseline monitoring report 90 days prior to first discharge, a 90-day report and semi-annual reports that meet Federal pretreatment requirements at 40 CFR 403.12 or any revision thereto indicating the nature and concentration of pollutants in the discharge.

(2) A minimum of four (4) grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organics. For all other pollutants, 24-hour composite samples must be obtained through flow-proportional composite sampling techniques where feasible. The Control Authority may waive flow-proportional composite sampling for any industrial user that demonstrates that flow-proportional composite sampling is infeasible. In such cases samples may be obtained through time-proportional composite sampling techniques or through a minimum of four (4) grab samples where the user demonstrates that this will provide a representative sample of the effluent being discharged.

(3) The user shall take a minimum of one representative sample to compile that data necessary to comply with the requirements of this paragraph.

(r) Any significant industrial user or other user required to have a permit shall submit to the Director of Public Works semiannual reports indicating the nature and concentration of pollutants in the discharge. The specific standards or the POTW itself may require this report to be filed more frequently. In addition, this report shall include a report of all daily flows, which during the reporting period exceeded the average daily flow in the permit.

(s) All industrial users shall promptly notify the City in advance of any substantial change in the volume or character or pollutants in their discharge, including the listed or characteristic hazardous wastes for which the industrial user has submitted initial notification under Section 1042.?? of this ordinance.

(t) Hazardous Waste Notification

(1) Any industrial user, except as specified in subpart (5) below, which discharges to the public sewer any substance which, if otherwise disposed of, would be a listed or characteristic hazardous waste under 40 CFR part 261, shall notify the City in writing of such discharge.

(2) All hazardous waste notifications shall include:

(A) The name of the hazardous waste as set forth in 40 CFR part 261;

(B) The EPA hazardous waste number;

(C) The type of discharge (continuous, batch, or other); and

(D) A certification that the user has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

(3) In addition to the information submitted in Section 1042.32(S)(2), industrial users discharging more than 100 kilograms of hazardous waste per calendar month to the public sewer shall contain to the extent such information is known and readily available to the industrial user:

(A) An identification of the hazardous constituents contained in the waste;

(B) An estimation of the mass and concentration of such constituents in the wastestream discharged during that calendar month, and

(C) An estimation of the mass of constituents in the wastestream expected to be discharged during the following twelve months.

(4) Hazardous waste notifications shall be submitted no later than February 19, 1991, except that industrial users commencing the discharge of listed or characteristic hazardous waste after August 23, 1990, shall provide the notification no later than 180 days from the discharge of the wastes. Any notification under this section need be submitted only once for each hazardous waste discharged, although notifications of changed discharges must be submitted under section 1042.32(r) of this ordinance.

(5) Industrial users are exempt from the hazardous waste notification requirement during a calendar month in which they discharge fifteen kilograms or less of non-acute hazardous waste. Discharge of any quantity of acute hazardous waste as specified in 40 CFR part 261.30 (d) and 261.33 (e) requires a one-time notification.

(u) An Industrial User Discharge Authorization shall contain, at a minimum:

(1) Statement of duration, in no case more than five years;

(2) A statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator;

(3) Effluent limits based on applicable general pretreatment standards, categorical pretreatment standards, local limits, and State and local law;

(4) Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency, and same type, based on the applicable general pretreatment standards, categorical pretreatment standards, local limits, and State and local law;

(5) State of applicable civil and criminal penalties for violation of pretreatment standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable Federal deadlines.

3. ACCIDENTAL DISCHARGES

1. NOTICES AND INSTRUCTIONS FOR ACCIDENTAL DISCHARGES **(1042.39)**

A notice prepared by the user shall be prominently and permanently posted at appropriate locations at each commercial and industrial user facility advising its employees of whom to call in case of an accidental discharge in violation of any provision of this chapter. In addition, instruction shall be given to appropriate employees of the user and the same certified to the City on an annual basis.

2. ACCIDENTAL DISCHARGES: REPORTS AND STATEMENTS **(1042.40)**

(a) Any accidental discharge of a slug, or a prohibited substance, or any substance which could cause a problem, directly or indirectly into a public sewer shall be immediately reported to the wastewater treatment plant or the Director of Public Works by the person responsible for such discharge or by the owner or occupant of the property from which the discharge was made, to enable counter-measures to be taken by the City to minimize damage to the City sewers, treatment facilities, treatment processes and receiving waters.

(b) Such notification shall be followed, with seven days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent further occurrence. Such notification shall not relieve users of liability for any expense, loss or damage to the sewerage system, treatment plant or treatment process or for any fines imposed on the City on account thereof by any regulatory agency.

3. Accidental discharges will be reported to the Industrial Surveillance personnel or the on-duty Foreman at the Wastewater Treatment Plant. **The 24-hour phone number is (616) 966-3513.**

PART IV - STANDARD CONDITIONS

1. SEWER USE ORDINANCE

The Industrial User shall comply with all general standards in Section 1042 of the Codified Ordinances of the City of Battle Creek.

2. RIGHT OF ENTRY **(1042.34)**

Persons or occupants of premises where wastewater is created or discharged shall allow the City or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection, observation, measurements, sampling and testing in the performance of any of their duties. The City shall have the right to set up on a user's property, in locations that will not interfere with the user's operations and where the user's products will not become damaged or contaminated, such devices as are necessary to conduct sampling or metering operations, and to inquire into any industrial process to the extent necessary to establish the source, quantity, composition and concentration of the wastewater. When necessary, the user shall make arrangements with its security force, using procedures as might be reasonable, to allow for entry without delay by the City representatives for the purpose of performing their specific responsibilities.

3. CONFIDENTIAL INFORMATION **(1042.33)**

Information and data on a user obtained from reports, questionnaires, permit applications, permits, monitoring programs and inspections shall be available to the public or other governmental agencies in accordance with appropriate State and Federal laws and regulations. When requested by the person furnishing information, portions of that information which disclose trade secrets or secret processes shall not be made available for governmental agencies which require it for making studies only after conforming to the requirements for disclosure of confidential information contained in 40 CFR, Part 2, Subpart B, Confidentially of Business Information. Requirements listed therein shall be considered the minimum requirement for local agencies.

4. CONTROL MANHOLES **(1042.37)**

The Director of Public Works may require the user to construct, at his own expense, monitoring facilities, including a control manhole, if necessary, to allow observation, inspection, sampling and measurement of the quantity, composition and concentration of waste to the building sewer or internal drainage systems and may also require sampling or metering equipment to be provided, installed and operated at the user's expense. The monitoring facility shall be situated on the user's premises, with accommodations to allow access by City representatives. There shall be ample room in or near the sampling point to allow accurate sampling and compositing for analysis. All equipment and appurtenances thereto shall be maintained at all times in a safe and proper operating condition at the expense of the user. If self-monitoring reveals violation of any discharge limitations specified herein, the industrial user shall notify the City within 24 hours of becoming aware of the violation. The industrial user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City within 30 days after becoming aware of the violation.

5. DISPOSAL OF PRETREATMENT SLUDGES AND SPENT CHEMICALS

The disposal of sludges and spent chemicals generated shall be done in accordance with Section 405 of the Clean Water Act and Subtitles C and D of the Resource Conversation and Recovery Act.

6. SUBMISSION OF REPORTS

All reports shall be submitted to the following address:

Industrial Surveillance
City of Battle Creek
2000 West River Road
Battle Creek, Michigan 49015-1181

7. TERMINATION OF SERVICE **(1042.47)**

In addition to statutes, rules or regulations authorizing termination of service for delinquency in payment, the City may terminate or cause to be terminated wastewater service to users for:

(a) Submitting to the Director of Public Works, the City or a State or Federal government unit false statements, representations, records, reports, plans or other documents;

(b) Tampering with or rendering inaccurate any monitoring device, public or private meter or equipment installed or operated pursuant to this chapter;

(c) Failure to report significant changes in operations or wastewater constituents or characteristics;

(d) Discharging or causing to be discharged prohibited substances or substances requiring special discharge authorization without having obtained such authorization or with such authorization having been denied or revoked;

(e) Obtaining special discharge authorization under Section 1042.29 on the basis of false or misleading information;

(f) Refusal to allow the Director or City representative reasonable access to the user's premises for the purpose of inspection and/or monitoring; or

(g) Nonpayment of fees, surcharges or charges.

8. OUT-OF-CITY USER

Those nondomestic users located outside the Battle Creek city limits, who contribute to the City of Battle Creek's wastewater collection system, must comply with the conditions established by this Discharge Authorization and the Codified Ordinance of the City of Battle Creek Section 1042. If applicable, a completed Out-Of-City User Consent Form has been attached.

9. PUBLIC NOTIFICATION

The POTW is required, on an annual basis, to publish in the local newspaper all significant violators over the past twelve months (40 CFR 403.8 (f) (2) (vii)). A significant violation is one which remains uncorrected 45 days after notification of noncompliance; which is part of the pattern of noncompliance; which involves a failure to accurately report noncompliance; or which resulted in the municipality exercising its emergency authority.

10. SELF-MONITORING/REPORTING PENALTIES

Commencing September 1, 1989, those industries which do not submit the required self-monitoring reports in accordance with the specified deadlines, will be assessed as a minimum, fines and penalties amounting to $500 per delinquent report. Continued violation may cause additional penalties up to and including ultimate termination of service. (letter dated July 26, 1989)

11. DISCHARGE AUTHORIZATION MODIFICATION

This authorization may be modified for good causes including, but not limited to, the following:

(a) To incorporate any new or revised Federal, State, or local pretreatment standards or requirements.

(b) Material or substantial alterations or additions to the user's operation processes, or discharge volume or character which were not considered in drafting the effective authorization.

(c) A change in any condition in either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge.

(d) Information indicating that the permitted discharge poses a threat to the Control Authority's collection and treatment systems, POTW personnel or the receiving waters.

(e) Violation of any terms or conditions of the authorization.

(f) Misrepresentation or failure to disclose fully all relevant facts in the authorization application or in any required reporting.

(g) Revision of or a grant of variance from such categorical standards pursuant to 40 CFR 403.13; or

(h) To correct typographical or other errors in the authorization

(i) Upon request of the user, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations.

12. Transferability of Discharge Authorization

This discharge authorization is not transferable. A new owner or operator must apply at least thirty (30) days in advance, for a new authorization to be issued. This authorization is considered site and owner or operator specific.

ATTACHMENT A

SPECIAL DISCHARGE AUTHORIZATION NO.173-S
(COMPATIBLE - CONTRACT)

In accordance with the Codified Ordinances of the City of Battle Creek, Michigan, Part Ten - Streets, Utilities, and Public Services Code, Chapter 1042, Sewers, Section 1042.29

COMPANY NAME: **Waldorf Paper Corporation**

FACILITY ADDRESS: **100 Grand Trunk Ave.**

Battle Creek, MI 49017-2226

is hereby authorized to discharge industrial wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the following effluent limitations.

PARAMETER	ONE DAY MAXIMUM (LBS)	MAXIMUM MONTHLY AVERAGE (LBS)
SUSPENDED SOLIDS	10,000	5,000
BOD 5-DAY	6,500	3,250

In addition, the discharge shall comply with all other applicable regulations or standards as established in the Codified Ordinances of the City of Battle Creek. If found in violation of any of these regulations, the Company shall be subject to enforcement action as defined by Federal, State, or City law.

This Authorization shall become effective on July 1, 1993 and shall expire at midnight on June 30, 1994.

A letter of application must be filed a minimum of ninety (90) days prior to the expiration date in order for reissuance of this Authorization to occur. At that time, a review will be performed to determine if any changes are necessary in the discharge limits before a new Authorization is issued.

By: Walter K Thompson
Control Authority Signature

Issued this 23rd day of June, 1993.

CITY OF BATTLE CREEK, MICHIGAN

PUBLIC WORKS DEPARTMENT
Wastewater Division

AUTHORIZATION NO. 173

INDUSTRIAL USER DISCHARGE AUTHORIZATION

In accordance with the provisions of the Codified Ordinances of the City of Battle Creek, Michigan, Chapter 1040 Water and Sewer.

Rock-Tenn Company
177 Angell Street
Battle Creek, MI 49017-2226

is hereby authorized to discharge industrial wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the effluent limitations, monitoring requirements, and any other conditions set forth in this Discharge Authorization.

All discharges authorized herein shall be consistent with the terms and conditions of this Discharge Authorization. The discharge of any pollutant identified in this Discharge Authorization more frequently than or at a level in excess of that authorized shall constitute a violation.

This Authorization shall become effective on July 1, 2002, and shall expire at midnight on June 30, 2005.

If the User wishes to continue to discharge after this expiration date, an application must be filed for reissuance of this Authorization, a minimum of 90 days prior to the expiration date. At that time, a review will be performed to determine if any changes are necessary in the requirements of this Authorization.

By: Lawrence DeBoy
Control Authority Signature

Issued on July 1, 2002

2000 West River Road, Battle Creek, Michigan 49015-1181
Phone (616) 966-3597
Fax (616)965-3290

PART I - SELF-MONITORING REQUIREMENTS (The user is required to comply with all the following conditions.)

A. DISCHARGE TESTING (1040.58)

(a) The Director of Public Works may require a user to test, at the user's expense and on a regular basis, the quantity, composition and concentration of its discharge, to sample and analyze the same in accordance with the latest edition of **Standard Methods for the Examination of Water and Wastewater** and to report the test results to the Director. If a user which has been so required by the Director fails to test and report to the satisfaction of the Director, then the Director may determine the quantity, composition and concentration of such discharge either by estimates on the basis of data available to the Director or by samplings, measurements and analyses performed by the Director at the expense of the user.

(b) Any person who violates any provision of this Section shall be subject to the penalty provided at Section 1040.89(a).

B. SELF-MONITORING/REPORTING SCHEDULE

Attachment A outlines the self-monitoring and reporting requirements that have been established for your facility. These parameters were developed through Federal, State and City guidelines for your type of facility.

C. SAMPLING MANHOLE

Attached is copy of either a drawing or aerial photo for your facility. The location of the manhole that should be utilized for all wastewater discharge monitoring has been highlighted. This manhole should be used to collect all wastewater effluent samples from your location. This manhole will also be utilized by the City of Battle Creek

D. SAMPLE TYPES

All sampling will be conducted according to the requirements for that specific parameter. Unless other- wise specified, all samples will be time composited samples representing a twenty-four (24) hour period or one working day (i.e. 8 hours) which ever is applicable. Samples shall be taken while your facility is in production.

E. REPORTING FREQUENCY

Quarterly reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months of January, April, July and October of the current year.

Semi-annual reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months of January and July of the current year.

F. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this authorization, the user shall record the following data:

(1) The Exact Place, Date and Time of Sampling
(2) The Dates the Analyses were performed
(3) The Person(s) Who Performed the Analyses
(4) The Analytical Techniques or Methods Used
(5) The Results of All Required Analyses

All above-mentioned data will be recorded on the Sampling input forms which were provided by the City. Any Industrial user subject to the reporting requirements established in this section shall be required to retain for a minimum of 3 years any records of monitoring activities and results and shall make such records available for inspection and copying by the Director or the City's representative. This period of detention shall be extended during the course of any unresolved litigation regarding the Industrial user.

PART II - REPORTING REQUIREMENTS (The user is required to comply with all the following conditions)

A. DISCHARGE REPORTS (1040.53)

(a) The Director of Public Works may require that any person discharging wastewater into a City sewer file a periodic discharge report. The discharge report may include, but need not be limited to, the general nature of the process, volume, rates of flow, mass emission rate, production quantities, hours of operation, normal number and classification of employees or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge. Such reports may also require the chemical constituents and quantity of liquid or gaseous material stored on site even though they may not normally be discharged.

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a).

B. INFORMATIONAL REPORTS (1040.54)

(a) All current and proposed industrial users shall be required by the Director to file informational reports for the benefit of Local, State, and Federal governmental units. The user shall comply with the Director's request for data by submitting, as may be necessary, in units and terms appropriate for evaluation;

(1) The name, address and SIC number of the industrial user;

(2) The volume of wastewater to be discharged;

(3) The wastewater constituents and characteristics, including, but not limited to, those mentioned in Section 1040.49, as determined by a laboratory approved by the Director;

(4) The time and duration of discharge;

(5) The average and fifteen-minute peak instant wastewater flow rates, including daily, monthly and seasonal variations, if any;

(6) Site plans, floor plans, mechanical and plumbing plans and details to show all transfers and appurtenances by size, location and elevation;

(7) A description of activities, facilities and plant processes on the premises, including all materials, processes and types of material which are or could be discharged;

(8) Each product produced, by type, amount and rate of production;

(9) The number and type of employees and hours of work;

(10) A hazardous materials survey;

(11) Informational reports from categorical industries within 180 days after the effective date of the categorical pretreatment standards, which reports shall include a statement as to whether pretreatment standards are being met on a consistent basis and, if not, whether additional operations and maintenance and/or additional pretreatment is required to meet the pretreatment standards and requirements;

(12) Any other information relative to wastewater conveyance, characteristics, quantities or pretreatment, as may be determined by the Director to be necessary to evaluate the data furnished by the user, including reports of monitoring of any pollutants more frequently than required by POTW;

(13) The results of sampling and analysis identifying the nature and concentration of any pollutants in the discharge which are limited by any national categorical pretreatment standards or which are described in Section 1040.49. Both daily maximum and average concentration shall be reported. The sample shall be representative of daily operations. Sample should be taken immediately downstream of pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with wastewater regulated by a national categorical pretreatment standard prior to pretreatment, the User should measure the flows and concentrations necessary to allow use of the combined waste stream formula in 40 CFR, 403.6(e) in order to evaluate compliance with pretreatment standards;

(14) The shortest schedule by which the User will provide additional pretreatment or operation and maintenance if required to meet pretreatment standards. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. All of the following conditions shall apply to compliance schedules:

A. The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the non-domestic user to meet the applicable categorical pretreatment standards. Such event may include but are not limited to any of the following:
   1. The hiring of an engineer,
   2. Completing preliminary plans,
   3. Completing final plans,
   4. Executing contracts for major components,
   5. Commencing construction,
   6. Completing construction,
   7. Other similar major events.

B. An increment referred to in this Section shall not be more than nine months.

C. No later than 14 days following each date in the schedule and the final date for compliance, the non-domestic user shall submit a progress report to the City which shall include at a minimum, whether or not the user complied with the increment of progress to be met on a particular date and, if not, the date on which the user expects to comply with the increment of progress, the reason for the delay, and the steps being taken by the non-domestic user to return the construction to the schedule established. Not more than nine months shall elapse between progress reports to the City.

(15) A listing of any toxic pollutant which the applicant uses or manufactures as an intermediate or final product or by-product;

(16) The Signature of an authorized representative of the user certified by a qualified professional indicating whether pretreatment standards are being met on a consistent basis and, if not, whether additional operation and maintenance and additional pretreatment is required and the Certification Statement required by 40 CFR Section 403.6(a) (2) (ii).

(17) Evidence of the following by user subject to a national categorical pretreatment standard shall:

(A) A baseline monitoring report submitted to the Director ninety days prior to first discharge, a ninety-day report and semiannual reports that meet Federal pretreatment requirements at 40 CFR, Section 403.12 or any revision thereto indicating the nature and concentration of pollutants in the discharge.

(B) Use of a minimum of four (4) grab samples for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organics. For all other pollutants, twenty-four-hour composite samples must be obtained through flow-proportional composite sampling techniques where feasible. The Control Authority may waive flow-proportional composite sampling for any industrial user that demonstrates that flow-proportional composite sampling is infeasible. In such cases samples may be obtained through time-proportional composite sampling techniques or through a minimum of four grab samples where the user demonstrates that this will provide a representative sample of the effluent being discharged.

(C) A minimum of one representative sample taken to compile that data necessary to comply with the requirements of this paragraph.

(18) Semiannual reports to the Director from any significant industrial user or other User required to have a permit, indicating the nature and concentration of pollutants in the discharge. The specific standards or the POTW itself may require this report to be filed more frequently. In addition, this report shall include a report of all daily flows which, during the reporting period, exceeded the average daily flow in the permit.

(19) Notification to the City in advance of any substantial change in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous wastes for which the industrial user has submitted initial notification under subsection (t) hereof.

(20) Hazardous waste notification, as follows:

A. Any industrial user, except as specified in paragraph (a)(20)E. hereof, which discharges to the public sewer any substance which, if otherwise disposed of,

would be a listed or characteristic hazardous waste under 40 CFR, Part 261, shall notify the City in writing of such discharge.

B. All hazardous waste notifications shall include:

1. The name of the hazardous waste as set forth in 40 CFR, Part 261;
2. The EPA hazardous waste number:
3. The type of discharge (continuous, batch or other); and
4. A certification that the user has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

C. In addition to the information submitted under paragraph (t)(2) hereof, industrial users discharging more than 100 kilograms of hazardous waste per calendar month to the public sewer shall provide, to the extent such information is known and readily available to the industrial user:

1. An identification of the hazardous constituents contained in the waste;

2. An estimation of the mass and concentration of such constituents in the waste stream discharged during that calendar month; and

2. An estimation of the mass of constituents in the waste stream expected to be discharged during the following twelve months.

C. Hazardous waste notifications shall be submitted no later than February 19, 1991, except that industrial users commencing the discharge of listed or characteristic hazardous waste after August 23, 1990, shall provide the notification no later than 180 days from the discharge of the wastes. Any notification under this section need be submitted only once for each hazardous waste discharged, although notifications of changed discharges must be submitted under subsection (s) hereof.

D. Industrial users are exempt from the hazardous waste notification requirement during a calendar month in which they discharge fifteen kilograms or less of non-acute hazardous wastes. Discharge of any quantity of acute hazardous waste, as specified in 40 CFR, Sections 261.30(d) and 261.33(e), requires a one-time notification.

(21) An industrial user discharge authorization containing, at a minimum:

A. A statement of duration, in no case more than five years;

B. A statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator.

C. Effluent limits based on applicable general pretreatment standards, categorical pretreatment standards, local limits and State and Local law;

D. Self-monitoring, sampling, reporting, notification and record keeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency and same type, based on the applicable general pretreatment standards, categorical pretreatment standards, local limits and State and local law;

E. A statement of applicable civil and criminal penalties for a violation of pretreatment standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable Federal deadlines.

C. ACCIDENTAL DISCHARGES

1. NOTICES AND INSTRUCTIONS FOR ACCIDENTAL DISCHARGE (1040.61)

(a) A notice prepared by the user shall be prominently and permanently posted at appropriate locations at each commercial and industrial user facility advising its employees of whom to call in case of an accidental discharge in violation of any provision of this chapter. In addition, instruction shall be given to appropriate employees of the user and the same certified to the City on an annual basis.

(c) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a)

2. ACCIDENTAL DISCHARGES: REPORTS AND STATEMENTS (1040.62)

(a) Any accidental discharge of a slug, or a prohibited substance, or any substance which could cause a problem, directly or indirectly into a public sewer shall be immediately reported to the wastewater treatment plant or the Director of Public Works by the person responsible for such discharge or by the owner or occupant of the property from which the discharge was made, to enable counter-measures to be taken by the City to minimize damage to the City sewers, treatment facilities, treatment processes and receiving waters.

(b) Such notification shall be followed, within seven days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent further occurrence. Such notification shall not relieve users of liability for any expense, loss or damage to the sewerage system, treatment plant or treatment process or for any fines imposed on the City on account thereof by any regulatory agency.

(c) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a)

3. Accidental discharges will be reported to the Industrial Surveillance personnel or the on-duty Foreman at the Wastewater Treatment Plant. **The 24-Hour phone number is (616) 966-3513.**

Part III - STANDARD CONDITIONS

A. SEWER USER ORDINANCE

The Industrial User shall comply with all general standards in Section 1042 of the Codified Ordinances of the City of Battle Creek.

B. RIGHT OF ENTRY (1040.56)

(a) Persons or occupants of premises where wastewater is created or discharged shall allow the City or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection, observation, measurements, sampling and testing in the performance of any of their duties. The City shall have the right to set up on a user's property, in locations that will not interfere with the user's operations and where the user's products will not become damaged or contaminated, such devices as are necessary to conduct sampling or metering operations, and to inquire into any industrial process to the extent necessary to establish the source, quantity, composition and concentration of the wastewater. When necessary, the user shall make arrangements with its security force, using procedures as might be reasonable, to allow for entry without delay by the City representatives for the purpose of performing their specific responsibilities.

C. PUBLIC INSPECTION OF RECORDS; CONFIDENTIAL INFORMATION (1040.55)

(a) Information and data on a user obtained from reports, questionnaires, permit applications, permits, monitoring programs and inspections shall be available to the public or other governmental agencies in accordance with appropriate State and Federal laws and regulations. When requested by the person furnishing information, portions of that information which disclose trade secrets or secret processes shall not be made available for governmental agencies which require it for making studies only after conforming to the requirements for disclosure of confidential information contained in 40 CFR, Part 2, Subpart B, Confidentially of Business Information. Requirements listed therein shall be considered the minimum requirement for local agencies.

(c) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a)

D. MONITORING BUILDING SEWERS AND DRAINS (1040.59)

(a) The Director of Public Works may require the user to construct, at his own expense, monitoring facilities, including a control manhole, if necessary, to allow observation, inspection, sampling and measurement of the quantity, composition and concentration of waste to the building sewer or internal drainage systems and may also require sampling or metering equipment to be provided, installed and operated at the user's expense. The monitoring facility shall be situated on the user's premises, with accommodations to allow access by City representatives. There shall be ample room in or near the sampling point to allow accurate sampling and composting for analysis. All equipment and appurtenances thereto shall be maintained at all times in a safe and proper operating condition at the expense of the user. If self-monitoring reveals violation of any discharge limitations specified herein, the industrial user shall notify the City within 24 hours of becoming aware of the violation. The industrial user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City within 30 days after becoming aware of the violation.

E. DISPOSAL OF PRETREATMENT SLUDGES AND SPENT CHEMICALS

The disposal of sludges and spent chemicals generated shall be done in accordance with Section 405 of the Clean Water Act and Subtitles C and D of the Resource Conservation and Recovery Act.

F. SUBMISSION OF REPORTS

All reports shall be submitted to the following address:

Industrial Surveillance
City of Battle Creek
2000 West River Road
Battle Creek, MI 49015-1181

G. TERMINATION OF SERVICE (1040.69)

In addition to statutes, rules or regulations authorizing termination of service for delinquency in payment, the City may terminate or cause to be terminated wastewater service to users for:

(a) Submitting to the Director of Public Works, the City or a State or Federal government unit false statements, representations, records, reports, plans or other documents;

(b) Tampering with or rendering inaccurate any monitoring device, public or private meter or equipment installed or operated pursuant to this chapter;

(c) Failure to report significant changes in operations or wastewater constituents or characteristics;

(d) Discharging or causing to be discharged prohibited substances or substances requiring special discharge authorization without having obtained such authorization or with such authorization having been denied or revoked;

(e) Obtaining special discharge authorization under Section 1040.49 on the basis of false or misleading information;

(f) Refusal to allow the Director or City representative reasonable access to the user's premises for the purpose of inspection and/or monitoring; or

(g) Nonpayment of fees, surcharges or charges; or

(h) In cases where a user is causing or about to cause an imminent endangerment to the public health. The City may issue an order requiring the user to immediately cease and desist from discharging such endangerment. If the user fails to comply with such order, the City may take such steps as may be necessary to prevent further discharge, including physical blocking or severance of the user's connection to the City's system to stop such endangerment.

H. OUT-OF-CITY USERS

Those non-domestic users located outside the Battle Creek city limits, who contribute to the City of Battle Creek's wastewater collection system, must comply with the conditions established by this Discharge Authorization and the Codified Ordinance of the City of Battle Creek Section 1040. If applicable, a completed Out-Of-City User Consent Form has been attached.

I. PUBLICATION OF LIST OF VIOLATORS (1040.87)

The City shall publish annually, in the largest daily newspaper published in the City, or in the largest daily newspaper published in the County if the City does not have a daily newspaper, a list of the industrial users who, during the previous twelve months, were significantly violating applicable pretreatment standards or other pretreatment requirements.

J. SELF-MONITORING/REPORTING PENALTIES

Commencing September 1, 1989, those industries that do not submit the required self-monitoring reports in accordance with the specified deadlines, will be assessed as a minimum, fines and penalties amounting to $500.00 per delinquent report. Continued violation may cause additional penalties up to and including termination of service.

K. DISCHARGE AUTHORIZATION MODIFICATION

This authorization may be modified for good causes including, but not limited to, the following:

1. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;

2. Material or substantial alterations or additions to the user's operation processes, or discharge volume or character which were not considered in drafting the effective authorization;

3. A change in any condition in either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;

4. Information indicating that the permitted discharge poses a threat to the Control Authority's collection and treatment systems, POTW personnel or the receiving waters;

5. Violation of any terms or conditions of the authorization;

6. Misrepresentation or failure to disclose fully all-relevant facts in the authorization application or in any required reporting;

7. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR 403.13;

8. To correct typographical or other errors in the authorization;

9. Upon request of the user, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations;

L. TRANSFERABILITY OF DISCHARGE AUTHORIZATION

This Discharge Authorization is not transferable. A new owner or operator must apply at least thirty days in advance, for a new authorization to be issued. This authorization is considered site and owner or operator specific.

M. PENALTY (1040.89)

(a) Civil Penalty Whoever intentionally or negligently violates any provision of this chapter or any provision of any permit issued pursuant to this chapter, or intentionally or negligently discharges waste or wastewater which causes pollution, or intentionally or negligently violates any cease and desist order, prohibition, effluent limitation, national

standard of performance or national pretreatment or toxicity standard, shall be civilly liable to the City in a sum not to exceed ten thousand dollars ($10,000) for each day on which such violation occurs. The City may petition the appropriate court of jurisdiction to impose, assess and collect such sums pursuant to this chapter, or to seek injunctions or restraining orders to enforce provisions of this chapter.

N. BYPASSES (1040.52)

(a) Permitted. An industrial user may allow any bypass to occur which does not violate pretreatment standards or requirements, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to subsection (b) and (c) hereof.

(b) Notice.
  (1) If an industrial user knows in advance of the need for a bypass, it shall submit prior notice to the POTW, if possible at least ten days before the date of the bypass.
  (2) An industrial user shall orally notify the POTW of an unanticipated bypass that exceeds applicable pretreatment standards or requirements within twenty-four hours of becoming aware of the bypass. A written submission shall also be provided within five days of becoming aware of the bypass. The written submission shall contain a description of the bypass, including exact times and dates and, if the bypass has not been corrected, and steps taken or planned to reduce, eliminate and prevent recurrence of the bypass.

(c) Prohibited.
  (1) A bypass is prohibited and the POTW may take enforcement action against an industrial user for a bypass, unless:
    A. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage;
    B. There were no feasible alternatives to bypass, such as use of auxiliary treatment facilities, retention of wastes or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed to prevent bypass which occurred during normal periods of downtime or preventative maintenance; and
    C. The industrial user submitted notices as required by subsection (b) hereof.

  (2) The POYW may approve an anticipated bypass, after considering its adverse effects; if the POTW determines that it will meet the three conditions listed in paragraph (c) (1) of this Section.

(d) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a).

SELF-MONITORING AND REPORTING REQUIREMENTS

Industrial User #: 173
Company Name: **Rock-Tenn Company**
Point Source Category:* **Pulp, Paper, Paperboard** **40 CFR Part 430-431, Subcategory Groundwood - Thermochemical**

Parameter	One Day Maximum	Monthly Maximum	Units	Sampling Frequency	Reporting Frequency
Flow	----	----	gals		
BOD-5 Day	10,000	5,000	lbs		
Suspended Solids	14,000	7,000	lbs		
pH	9.5 - 6.0	9.5 - 6.0	S.U.		
2-chlorophenol[1]	4.2	4.2	mg/l	Semi-Annual	Semi-Annual
2-4-dichlorphenol[1]	7.1	7.1	mg/l	Semi-Annual	Semi-Annual
2-4-6-trichlorphenol[1]	0.7	0.7	mg/l	Semi-Annual	Semi-Annual
Pentachlorophenol[1]	0.1	0.1	mg/l	Semi-Annual	Semi-Annual

Attachment A

[1] Established by Federal Pretreatment Standards and may be waived upon certification that these parameters do not exist in your process or products.

The City of Battle Creek performs daily sampling for suspended solids, BOD 5-Day, and flow.

* If applicable, refer to Part III, Section B, (13)

ATTACHMENT B

SPECIAL DISCHARGE AUTHORIZATION NO. 173 -S
(COMPATIBLE - CONTRACT)

In accordance with the Codified Ordinances of the City of Battle Creek, Michigan, Chapter 1040, Water and Sewers, Section 1040.49.

COMPANY NAME: **Rock-Tenn Company**

FACILITY ADDRESS: **177 Angell Street**

Battle Creek, MI 49017-2226

is hereby authorized to discharge wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the following effluent limitations.

PARAMETER	ONE DAY MAXIMUM (LBS)	MAXIMUM MONTHLY AVERAGE (LBS)
Suspended Solids	14,000	7,000
BOD 5-Day	10,000	5,000

The discharge of wastewater exceeding the limitations established in the Codified Ordinances of the City of Battle Creek (Chapter 1040, Water and Sewers) will constitute extra-strength waste, and the Company will be billed according to charges as established by Resolution of the City Commission. The City of Battle Creek will conduct periodic monitoring of the Company's effluent to determine the quantity of extra-strength waste being discharged by the Company. If, at any point, the City of Battle Creek determines this extra-strength discharge is detrimental to human life, the collection system, or the wastewater treatment plant processes this Special Discharge Authorization will be immediately suspended.

In addition, the discharge shall comply with al other applicable regulations or standards as established in the Codified Ordinances of the City of Battle Creek. If found in violation of any of these regulations, the Company shall be subject to enforcement action as defined by Federal, State, or City law.

This Authorization shall become effective on July 1, 2002 and shall expire at midnight on June 30, 2005.

By: Lawrence DeLong
Control Authority Signature

Issued on July 1, 2002

CITY OF BATTLE CREEK, MICHIGAN

PUBLIC WORKS DEPARTMENT
Wastewater Division

AUTHORIZATION NO. 159

INDUSTRIAL USER DISCHARGE AUTHORIZATION

In accordance with the provisions of the Codified Ordinances of the City of Battle Creek, Michigan, Chapter 1040 Water and Sewer.

Michigan Carton and Paperboard Company
79 E. Fountain Street
Battle Creek, MI 49017-4198

is hereby authorized to discharge industrial wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the effluent limitations, monitoring requirements, and any other conditions set forth in this Discharge Authorization.

All discharges authorized herein shall be consistent with the terms and conditions of this Discharge Authorization. The discharge of any pollutant identified in this Discharge Authorization more frequently than or at a level in excess of that authorized shall constitute a violation.

This Authorization shall become effective on July 1, 2002, and shall expire at midnight on June 30, 2005.

If the User wishes to continue to discharge after this expiration date, an application must be filed for reissuance of this Authorization, a minimum of 90 days prior to the expiration date. At that time, a review will be performed to determine if any changes are necessary in the requirements of this Authorization.

By: Lawrence DeBoy
Control Authority Signature

Issued on July 1, 2002

2000 West River Road, Battle Creek, Michigan 49015-1181
Phone (616) 966-3597
Fax (616)965-3290

PART I - SELF-MONITORING REQUIREMENTS (The user is required to comply with all the following conditions.)

A. DISCHARGE TESTING (1040.58)

(a) The Director of Public Works may require a user to test, at the user's expense and on a regular basis, the quantity, composition and concentration of its discharge, to sample and analyze the same in accordance with the latest edition of **Standard Methods for the Examination of Water and Wastewater** and to report the test results to the Director. If a user which has been so required by the Director fails to test and report to the satisfaction of the Director, then the Director may determine the quantity, composition and concentration of such discharge either by estimates on the basis of data available to the Director or by samplings, measurements and analyses performed by the Director at the expense of the user.

(b) Any person who violates any provision of this Section shall be subject to the penalty provided at Section 1040.89(a).

B. SELF-MONITORING/REPORTING SCHEDULE

Attachment A outlines the self-monitoring and reporting requirements that have been established for your facility. These parameters were developed through Federal, State and City guidelines for your type of facility.

C. SAMPLING MANHOLE

Attached is copy of either a drawing or aerial photo for your facility. The location of the manhole that should be utilized for all wastewater discharge monitoring has been highlighted. This manhole should be used to collect all wastewater effluent samples from your location. This manhole will also be utilized by the City of Battle Creek

D. SAMPLE TYPES

All sampling will be conducted according to the requirements for that specific parameter. Unless other- wise specified, all samples will be time composited samples representing a twenty-four (24) hour period or one working day (i.e. 8 hours) which ever is applicable. Samples shall be taken while your facility is in production.

E. REPORTING FREQUENCY

Quarterly reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months of January, April, July and October of the current year.

Semi-annual reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months of January and July of the current year.

F. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this authorization, the user shall record the following data:

(1) The Exact Place, Date and Time of Sampling
(2) The Dates the Analyses were performed
(3) The Person(s) Who Performed the Analyses
(4) The Analytical Techniques or Methods Used
(5) The Results of All Required Analyses

All above-mentioned data will be recorded on the Sampling input forms which were provided by the City. Any Industrial user subject to the reporting requirements established in this section shall be required to retain for a minimum of 3 years any records of monitoring activities and results and shall make such records available for inspection and copying by the Director or the City's representative. This period of detention shall be extended during the course of any unresolved litigation regarding the Industrial user.

PART II - REPORTING REQUIREMENTS (The user is required to comply with all the following conditions)

A. DISCHARGE REPORTS (1040.53)

(a) The Director of Public Works may require that any person discharging wastewater into a City sewer file a periodic discharge report. The discharge report may include, but need not be limited to, the general nature of the process, volume, rates of flow, mass emission rate, production quantities, hours of operation, normal number and classification of employees or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge. Such reports may also require the chemical constituents and quantity of liquid or gaseous material stored on site even though they may not normally be discharged.

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a).

B. INFORMATIONAL REPORTS (1040.54)

(a) All current and proposed industrial users shall be required by the Director to file informational reports for the benefit of Local, State, and Federal governmental units. The user shall comply with the Director's request for data by submitting, as may be necessary, in units and terms appropriate for evaluation;

(1) The name, address and SIC number of the industrial user;

(2) The volume of wastewater to be discharged;

(3) The wastewater constituents and characteristics, including, but not limited to, those mentioned in Section 1040.49, as determined by a laboratory approved by the Director;

(4) The time and duration of discharge;

(5) The average and fifteen-minute peak instant wastewater flow rates, including daily, monthly and seasonal variations, if any;

(6) Site plans, floor plans, mechanical and plumbing plans and details to show all transfers and appurtenances by size, location and elevation;

(7) A description of activities, facilities and plant processes on the premises, including all materials, processes and types of material which are or could be discharged;

(8) Each product produced, by type, amount and rate of production;

(9) The number and type of employees and hours of work;

(10) A hazardous materials survey;

(11) Informational reports from categorical industries within 180 days after the effective date of the categorical pretreatment standards, which reports shall include a statement as to whether pretreatment standards are being met on a consistent basis and, if not, whether additional operations and maintenance and/or additional pretreatment is required to meet the pretreatment standards and requirements;

(12) Any other information relative to wastewater conveyance, characteristics, quantities or pretreatment, as may be determined by the Director to be necessary to evaluate the data furnished by the user, including reports of monitoring of any pollutants more frequently than required by POTW;

(13) The results of sampling and analysis identifying the nature and concentration of any pollutants in the discharge which are limited by any national categorical pretreatment standards or which are described in Section 1040.49. Both daily maximum and average concentration shall be reported. The sample shall be representative of daily operations. Sample should be taken immediately downstream of pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with wastewater regulated by a national categorical pretreatment standard prior to pretreatment, the User should measure the flows and concentrations necessary to allow use of the combined waste stream formula in 40 CFR, 403.6(e) in order to evaluate compliance with pretreatment standards;

(14) The shortest schedule by which the User will provide additional pretreatment or operation and maintenance if required to meet pretreatment standards. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. All of the following conditions shall apply to compliance schedules:

A. The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the non-domestic user to meet the applicable categorical pretreatment standards. Such event may include but are not limited to any of the following:
   1. The hiring of an engineer,
   2. Completing preliminary plans,
   3. Completing final plans,
   4. Executing contracts for major components,
   5. Commencing construction,
   6. Completing construction,
   7. Other similar major events.

B. An increment referred to in this Section shall not be more than nine months.

C. No later than 14 days following each date in the schedule and the final date for compliance, the non-domestic user shall submit a progress report to the City which shall include at a minimum, whether or not the user complied with the increment of progress to be met on a particular date and, if not, the date on which the user expects to comply with the increment of progress, the reason for the delay, and the steps being taken by the non-domestic user to return the construction to the schedule established. Not more than nine months shall elapse between progress reports to the City.

(15) A listing of any toxic pollutant which the applicant uses or manufactures as an intermediate or final product or by-product;

(16) The Signature of an authorized representative of the user certified by a qualified professional indicating whether pretreatment standards are being met on a consistent basis and, if not, whether additional operation and maintenance and additional pretreatment is required and the Certification Statement required by 40 CFR Section 403.6(a) (2) (ii).

(17) Evidence of the following by user subject to a national categorical pretreatment standard shall:

(A) A baseline monitoring report submitted to the Director ninety days prior to first discharge, a ninety-day report and semiannual reports that meet Federal pretreatment requirements at 40 CFR, Section 403.12 or any revision thereto indicating the nature and concentration of pollutants in the discharge.

(B) Use of a minimum of four (4) grab samples for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organics. For all other pollutants, twenty-four-hour composite samples must be obtained through flow-proportional composite sampling techniques where feasible. The Control Authority may waive flow-proportional composite sampling for any industrial user that demonstrates that flow-proportional composite sampling is infeasible. In such cases samples may be obtained through time-proportional composite sampling techniques or through a minimum of four grab samples where the user demonstrates that this will provide a representative sample of the effluent being discharged.

(C) A minimum of one representative sample taken to compile that data necessary to comply with the requirements of this paragraph.

(18) Semiannual reports to the Director from any significant industrial user or other User required to have a permit, indicating the nature and concentration of pollutants in the discharge. The specific standards or the POTW itself may require this report to be filed more frequently. In addition, this report shall include a report of all daily flows which, during the reporting period, exceeded the average daily flow in the permit.

(19) Notification to the City in advance of any substantial change in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous wastes for which the industrial user has submitted initial notification under subsection (t) hereof.

(20) Hazardous waste notification, as follows:

A. Any industrial user, except as specified in paragraph (a)(20)E. hereof, which discharges to the public sewer any substance which, if otherwise disposed of,

would be a listed or characteristic hazardous waste under 40 CFR, Part 261, shall notify the City in writing of such discharge.

B. All hazardous waste notifications shall include:

1. The name of the hazardous waste as set forth in 40 CFR, Part 261;
2. The EPA hazardous waste number:
3. The type of discharge (continuous, batch or other); and
4. A certification that the user has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

C. In addition to the information submitted under paragraph (t)(2) hereof, industrial users discharging more than 100 kilograms of hazardous waste per calendar month to the public sewer shall provide, to the extent such information is known and readily available to the industrial user:

1. An identification of the hazardous constituents contained in the waste;

2. An estimation of the mass and concentration of such constituents in the waste stream discharged during that calendar month; and

2. An estimation of the mass of constituents in the waste stream expected to be discharged during the following twelve months.

C. Hazardous waste notifications shall be submitted no later than February 19, 1991, except that industrial users commencing the discharge of listed or characteristic hazardous waste after August 23, 1990, shall provide the notification no later than 180 days from the discharge of the wastes. Any notification under this section need be submitted only once for each hazardous waste discharged, although notifications of changed discharges must be submitted under subsection (s) hereof.

D. Industrial users are exempt from the hazardous waste notification requirement during a calendar month in which they discharge fifteen kilograms or less of non-acute hazardous wastes. Discharge of any quantity of acute hazardous waste, as specified in 40 CFR, Sections 261.30(d) and 261.33(e), requires a one-time notification.

(21) An industrial user discharge authorization containing, at a minimum:

A. A statement of duration, in no case more than five years;

B. A statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator.

C. Effluent limits based on applicable general pretreatment standards, categorical pretreatment standards, local limits and State and Local law;

D. Self-monitoring, sampling, reporting, notification and record keeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency and same type, based on the applicable general pretreatment standards, categorical pretreatment standards, local limits and State and local law;

E. A statement of applicable civil and criminal penalties for a violation of pretreatment standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable Federal deadlines.

C. ACCIDENTAL DISCHARGES

1. NOTICES AND INSTRUCTIONS FOR ACCIDENTAL DISCHARGE (1040.61)

(a) A notice prepared by the user shall be prominently and permanently posted at appropriate locations at each commercial and industrial user facility advising its employees of whom to call in case of an accidental discharge in violation of any provision of this chapter. In addition, instruction shall be given to appropriate employees of the user and the same certified to the City on an annual basis.

(c) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a)

2. ACCIDENTAL DISCHARGES: REPORTS AND STATEMENTS (1040.62)

(a) Any accidental discharge of a slug, or a prohibited substance, or any substance which could cause a problem, directly or indirectly into a public sewer shall be immediately reported to the wastewater treatment plant or the Director of Public Works by the person responsible for such discharge or by the owner or occupant of the property from which the discharge was made, to enable counter-measures to be taken by the City to minimize damage to the City sewers, treatment facilities, treatment processes and receiving waters.

(b) Such notification shall be followed, within seven days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent further occurrence. Such notification shall not relieve users of liability for any expense, loss or damage to the sewerage system, treatment plant or treatment process or for any fines imposed on the City on account thereof by any regulatory agency.

(c) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a)

3. Accidental discharges will be reported to the Industrial Surveillance personnel or the on-duty Foreman at the Wastewater Treatment Plant. **The 24-Hour phone number is (616) 966-3513.**

Part III - STANDARD CONDITIONS

A. SEWER USER ORDINANCE

The Industrial User shall comply with all general standards in Section 1042 of the Codified Ordinances of the City of Battle Creek.

B. RIGHT OF ENTRY (1040.56)

(a) Persons or occupants of premises where wastewater is created or discharged shall allow the City or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection, observation, measurements, sampling and testing in the performance of any of their duties. The City shall have the right to set up on a user's property, in locations that will not interfere with the user's operations and where the user's products will not become damaged or contaminated, such devices as are necessary to conduct sampling or metering operations, and to inquire into any industrial process to the extent necessary to establish the source, quantity, composition and concentration of the wastewater. When necessary, the user shall make arrangements with its security force, using procedures as might be reasonable, to allow for entry without delay by the City representatives for the purpose of performing their specific responsibilities.

C. PUBLIC INSPECTION OF RECORDS; CONFIDENTIAL INFORMATION (1040.55)

(a) Information and data on a user obtained from reports, questionnaires, permit applications, permits, monitoring programs and inspections shall be available to the public or other governmental agencies in accordance with appropriate State and Federal laws and regulations. When requested by the person furnishing information, portions of that information which disclose trade secrets or secret processes shall not be made available for governmental agencies which require it for making studies only after conforming to the requirements for disclosure of confidential information contained in 40 CFR, Part 2, Subpart B, Confidentially of Business Information. Requirements listed therein shall be considered the minimum requirement for local agencies.

(c) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a)

D. MONITORING BUILDING SEWERS AND DRAINS (1040.59)

(a) The Director of Public Works may require the user to construct, at his own expense, monitoring facilities, including a control manhole, if necessary, to allow observation, inspection, sampling and measurement of the quantity, composition and concentration of waste to the building sewer or internal drainage systems and may also require sampling or metering equipment to be provided, installed and operated at the user's expense. The monitoring facility shall be situated on the user's premises, with accommodations to allow access by City representatives. There shall be ample room in or near the sampling point to allow accurate sampling and composting for analysis. All equipment and appurtenances thereto shall be maintained at all times in a safe and proper operating condition at the expense of the user. If self-monitoring reveals violation of any discharge limitations specified herein, the industrial user shall notify the City within 24 hours of becoming aware of the violation. The industrial user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City within 30 days after becoming aware of the violation.

E. DISPOSAL OF PRETREATMENT SLUDGES AND SPENT CHEMICALS

The disposal of sludges and spent chemicals generated shall be done in accordance with Section 405 of the Clean Water Act and Subtitles C and D of the Resource Conservation and Recovery Act.

F. SUBMISSION OF REPORTS

All reports shall be submitted to the following address:

Industrial Surveillance
City of Battle Creek
2000 West River Road
Battle Creek, MI 49015-1181

G. TERMINATION OF SERVICE (1040.69)

In addition to statutes, rules or regulations authorizing termination of service for delinquency in payment, the City may terminate or cause to be terminated wastewater service to users for:

(a) Submitting to the Director of Public Works, the City or a State or Federal government unit false statements, representations, records, reports, plans or other documents;

(b) Tampering with or rendering inaccurate any monitoring device, public or private meter or equipment installed or operated pursuant to this chapter;

(c) Failure to report significant changes in operations or wastewater constituents or characteristics;

(d) Discharging or causing to be discharged prohibited substances or substances requiring special discharge authorization without having obtained such authorization or with such authorization having been denied or revoked;

(e) Obtaining special discharge authorization under Section 1040.49 on the basis of false or misleading information;

(f) Refusal to allow the Director or City representative reasonable access to the user's premises for the purpose of inspection and/or monitoring; or

(g) Nonpayment of fees, surcharges or charges; or

(h) In cases where a user is causing or about to cause an imminent endangerment to the public health. The City may issue an order requiring the user to immediately cease and desist from discharging such endangerment. If the user fails to comply with such order, the City may take such steps as may be necessary to prevent further discharge, including physical blocking or severance of the user's connection to the City's system to stop such endangerment.

H. OUT-OF-CITY USERS

Those non-domestic users located outside the Battle Creek city limits, who contribute to the City of Battle Creek's wastewater collection system, must comply with the conditions established by this Discharge Authorization and the Codified Ordinance of the City of Battle Creek Section 1040. If applicable, a completed Out-Of-City User Consent Form has been attached.

I. PUBLICATION OF LIST OF VIOLATORS (1040.87)

The City shall publish annually, in the largest daily newspaper published in the City, or in the largest daily newspaper published in the County if the City does not have a daily newspaper, a list of the industrial users who, during the previous twelve months, were significantly violating applicable pretreatment standards or other pretreatment requirements.

J. SELF-MONITORING/REPORTING PENALTIES

Commencing September 1, 1989, those industries that do not submit the required self-monitoring reports in accordance with the specified deadlines, will be assessed as a minimum, fines and penalties amounting to $500.00 per delinquent report. Continued violation may cause additional penalties up to and including termination of service.

K. DISCHARGE AUTHORIZATION MODIFICATION

This authorization may be modified for good causes including, but not limited to, the following:

1. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;

2. Material or substantial alterations or additions to the user's operation processes, or discharge volume or character which were not considered in drafting the effective authorization;

3. A change in any condition in either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;

4. Information indicating that the permitted discharge poses a threat to the Control Authority's collection and treatment systems, POTW personnel or the receiving waters;

5. Violation of any terms or conditions of the authorization;

6. Misrepresentation or failure to disclose fully all-relevant facts in the authorization application or in any required reporting;

7. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR 403.13;

8. To correct typographical or other errors in the authorization;

9. Upon request of the user, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations;

L. TRANSFERABILITY OF DISCHARGE AUTHORIZATION

This Discharge Authorization is not transferable. A new owner or operator must apply at least thirty days in advance, for a new authorization to be issued. This authorization is considered site and owner or operator specific.

M. PENALTY (1040.89)

(a) Civil Penalty Whoever intentionally or negligently violates any provision of this chapter or any provision of any permit issued pursuant to this chapter, or intentionally or negligently discharges waste or wastewater which causes pollution, or intentionally or negligently violates any cease and desist order, prohibition, effluent limitation, national

standard of performance or national pretreatment or toxicity standard, shall be civilly liable to the City in a sum not to exceed ten thousand dollars ($10,000) for each day on which such violation occurs. The City may petition the appropriate court of jurisdiction to impose, assess and collect such sums pursuant to this chapter, or to seek injunctions or restraining orders to enforce provisions of this chapter.

N. BYPASSES (1040.52)

(a) Permitted. An industrial user may allow any bypass to occur which does not violate pretreatment standards or requirements, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to subsection (b) and (c) hereof.

(b) Notice.
  (1) If an industrial user knows in advance of the need for a bypass, it shall submit prior notice to the POTW, if possible at least ten days before the date of the bypass.
  (2) An industrial user shall orally notify the POTW of an unanticipated bypass that exceeds applicable pretreatment standards or requirements within twenty-four hours of becoming aware of the bypass. A written submission shall also be provided within five days of becoming aware of the bypass. The written submission shall contain a description of the bypass, including exact times and dates and, if the bypass has not been corrected, and steps taken or planned to reduce, eliminate and prevent recurrence of the bypass.

(c) Prohibited.
  (1) A bypass is prohibited and the POTW may take enforcement action against an industrial user for a bypass, unless:
    A. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage;
    B. There were no feasible alternatives to bypass, such as use of auxiliary treatment facilities, retention of wastes or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed to prevent bypass which occurred during normal periods of downtime or preventative maintenance; and
    C. The industrial user submitted notices as required by subsection (b) hereof.

  (2) The POYW may approve an anticipated bypass, after considering its adverse effects; if the POTW determines that it will meet the three conditions listed in paragraph (c) (1) of this Section.

(d) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a).

SELF-MONITORING AND REPORTING REQUIREMENTS

Industrial User #: 159
Company Name: Michigan Paperboard Corporation
Point Source Category:* Pulp, Paper, Paperboard 40 CFR Part 430-431, Subcategory Groundwood - Thermochemical

Parameter	One Day Maximum	Monthly Maximum	Units	Sampling Frequency	Reporting Frequency
Flow	-----	-----	gals		
BOD-5 Day	20,000	10,000	lbs		
Suspended Solids	20,000	10,000	lbs		
pH	9.5 - 6.0	9.5 - 6.0	S.U.		
2-chlorophenol[1]	4.2	4.2	mg/l	Semi-Annual	Semi-Annual
2-4-dichlorphenol[1]	7.1	7.1	mg/l	Semi-Annual	Semi-Annual
2-4-6-trichlorphenol[1]	0.7	0.7	mg/l	Semi-Annual	Semi-Annual
Pentachlorophenol[1]	0.1	0.1	mg/l	Semi-Annual	Semi-Annual

Attachment A

[1] Established by Federal Pretreatment Standards and may be waived upon certification that these parameters do not exist in your process or products.

The City of Battle Creek performs daily sampling for suspended solids, BOD 5-Day, and flow.

* If applicable, refer to Part III, Section B, (13)

ATTACHMENT B

SPECIAL DISCHARGE AUTHORIZATION NO. 159 -S
(COMPATIBLE - CONTRACT)

In accordance with the Codified Ordinances of the City of Battle Creek, Michigan, Chapter 1040, Water and Sewers, Section 1040.49.

COMPANY NAME: **Michigan Paperboard Corporation**

FACILITY ADDRESS: **79 E. Fountain Street**

Battle Creek, MI 49017-4198

is hereby authorized to discharge wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the following effluent limitations.

PARAMETER	ONE DAY MAXIMUM (LBS)	MAXIMUM MONTHLY AVERAGE (LBS)
Suspended Solids	20,000	10,000
BOD 5-Day	20,000	10,000

The discharge of wastewater exceeding the limitations established in the Codified Ordinances of the City of Battle Creek (Chapter 1040, Water and Sewers) will constitute extra-strength waste, and the Company will be billed according to charges as established by Resolution of the City Commission. The City of Battle Creek will conduct periodic monitoring of the Company's effluent to determine the quantity of extra-strength waste being discharged by the Company. If, at any point, the City of Battle Creek determines this extra-strength discharge is detrimental to human life, the collection system, or the wastewater treatment plant processes this Special Discharge Authorization will be immediately suspended.

In addition, the discharge shall comply with al other applicable regulations or standards as established in the Codified Ordinances of the City of Battle Creek. If found in violation of any of these regulations, the Company shall be subject to enforcement action as defined by Federal, State, or City law.

This Authorization shall become effective on July 1, 2002 and shall expire at midnight on June 30, 2005.

By: Laurence DeBorg
Control Authority Signature

Issued on July 1, 2002

CITY OF BATTLE CREEK, MICHIGAN

PUBLIC WORKS DEPARTMENT
Wastewater Division

AUTHORIZATION NO. 101

INDUSTRIAL USER DISCHARGE AUTHORIZATION

In accordance with the provisions of the Codified Ordinances of the City of Battle Creek, Michigan, Chapter 1040 Water and Sewer.

Johnson Controls - Battle Creek
76 Armstrong Road
Battle Creek, MI 49015-1079

is hereby authorized to discharge industrial wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the effluent limitations, monitoring requirements, and any other conditions set forth in this Discharge Authorization.

All discharges authorized herein shall be consistent with the terms and conditions of this Discharge Authorization. The discharge of any pollutant identified in this Discharge Authorization more frequently than or at a level in excess of that authorized shall constitute a violation.

This Authorization shall become effective on July 1, 2002, and shall expire at midnight on June 30, 2005.

If the User wishes to continue to discharge after this expiration date, an application must be filed for reissuance of this Authorization, a minimum of 90 days prior to the expiration date. At that time, a review will be performed to determine if any changes are necessary in the requirements of this Authorization.

By: Lawrence DeBorg
Control Authority Signature

Issued on July 1, 2002

2000 West River Road, Battle Creek, Michigan 49015-1181
Phone (616) 966-3597
Fax (616)965-3290

PART I - SELF-MONITORING REQUIREMENTS (The user is required to comply with all the following conditions.)

A. DISCHARGE TESTING (1040.58)

(a) The Director of Public Works may require a user to test, at the user's expense and on a regular basis, the quantity, composition and concentration of its discharge, to sample and analyze the same in accordance with the latest edition of **Standard Methods for the Examination of Water and Wastewater** and to report the test results to the Director. If a user which has been so required by the Director fails to test and report to the satisfaction of the Director, then the Director may determine the quantity, composition and concentration of such discharge either by estimates on the basis of data available to the Director or by samplings, measurements and analyses performed by the Director at the expense of the user.

(b) Any person who violates any provision of this Section shall be subject to the penalty provided at Section 1040.89(a).

B. SELF-MONITORING/REPORTING SCHEDULE

Attachment A outlines the self-monitoring and reporting requirements that have been established for your facility. These parameters were developed through Federal, State and City guidelines for your type of facility.

C. SAMPLING MANHOLE

Attached is copy of either a drawing or aerial photo for your facility. The location of the manhole that should be utilized for all wastewater discharge monitoring has been highlighted. This manhole should be used to collect all wastewater effluent samples from your location. This manhole will also be utilized by the City of Battle Creek

D. SAMPLE TYPES

All sampling will be conducted according to the requirements for that specific parameter. Unless other- wise specified, all samples will be time composited samples representing a twenty-four (24) hour period or one working day (i.e. 8 hours) which ever is applicable. Samples shall be taken while your facility is in production.

E. REPORTING FREQUENCY

Quarterly reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months of January, April, July and October of the current year.

Semi-annual reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months of January and July of the current year.

F. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this authorization, the user shall record the following data:

(1) The Exact Place, Date and Time of Sampling
(2) The Dates the Analyses were performed
(3) The Person(s) Who Performed the Analyses
(4) The Analytical Techniques or Methods Used
(5) The Results of All Required Analyses

All above-mentioned data will be recorded on the Sampling input forms which were provided by the City. Any Industrial user subject to the reporting requirements established in this section shall be required to retain for a minimum of 3 years any records of monitoring activities and results and shall make such records available for inspection and copying by the Director or the City's representative. This period of detention shall be extended during the course of any unresolved litigation regarding the Industrial user.

PART II - REPORTING REQUIREMENTS (The user is required to comply with all the following conditions)

A. DISCHARGE REPORTS (1040.53)

(a) The Director of Public Works may require that any person discharging wastewater into a City sewer file a periodic discharge report. The discharge report may include, but need not be limited to, the general nature of the process, volume, rates of flow, mass emission rate, production quantities, hours of operation, normal number and classification of employees or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge. Such reports may also require the chemical constituents and quantity of liquid or gaseous material stored on site even though they may not normally be discharged.

(b) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a).

B. INFORMATIONAL REPORTS (1040.54)

(a) All current and proposed industrial users shall be required by the Director to file informational reports for the benefit of Local, State, and Federal governmental units. The user shall comply with the Director's request for data by submitting, as may be necessary, in units and terms appropriate for evaluation;

(1) The name, address and SIC number of the industrial user;

(2) The volume of wastewater to be discharged;

(3) The wastewater constituents and characteristics, including, but not limited to, those mentioned in Section 1040.49, as determined by a laboratory approved by the Director;

(4) The time and duration of discharge;

(5) The average and fifteen-minute peak instant wastewater flow rates, including daily, monthly and seasonal variations, if any;

(6) Site plans, floor plans, mechanical and plumbing plans and details to show all transfers and appurtenances by size, location and elevation;

(7) A description of activities, facilities and plant processes on the premises, including all materials, processes and types of material which are or could be discharged;

(8) Each product produced, by type, amount and rate of production;

(9) The number and type of employees and hours of work;

(10) A hazardous materials survey;

(11) Informational reports from categorical industries within 180 days after the effective date of the categorical pretreatment standards, which reports shall include a statement as to whether pretreatment standards are being met on a consistent basis and, if not, whether additional operations and maintenance and/or additional pretreatment is required to meet the pretreatment standards and requirements;

(12) Any other information relative to wastewater conveyance, characteristics, quantities or pretreatment, as may be determined by the Director to be necessary to evaluate the data furnished by the user, including reports of monitoring of any pollutants more frequently than required by POTW;

(13) The results of sampling and analysis identifying the nature and concentration of any pollutants in the discharge which are limited by any national categorical pretreatment standards or which are described in Section 1040.49. Both daily maximum and average concentration shall be reported. The sample shall be representative of daily operations. Sample should be taken immediately downstream of pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with wastewater regulated by a national categorical pretreatment standard prior to pretreatment, the User should measure the flows and concentrations necessary to allow use of the combined waste stream formula in 40 CFR, 403.6(e) in order to evaluate compliance with pretreatment standards;

(14) The shortest schedule by which the User will provide additional pretreatment or operation and maintenance if required to meet pretreatment standards. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. All of the following conditions shall apply to compliance schedules:

A. The schedule shall contain increments of progress in the form of dates for the commencement and completion of major events leading to the construction and operation of additional pretreatment required for the non-domestic user to meet the applicable categorical pretreatment standards. Such event may include but are not limited to any of the following:
   1. The hiring of an engineer,
   2. Completing preliminary plans,
   3. Completing final plans,
   4. Executing contracts for major components,
   5. Commencing construction,
   6. Completing construction,
   7. Other similar major events.

B. An increment referred to in this Section shall not be more than nine months.

C. No later than 14 days following each date in the schedule and the final date for compliance, the non-domestic user shall submit a progress report to the City which shall include at a minimum, whether or not the user complied with the increment of progress to be met on a particular date and, if not, the date on which the user expects to comply with the increment of progress, the reason for the delay, and the steps being taken by the non-domestic user to return the construction to the schedule established. Not more than nine months shall elapse between progress reports to the City.

(15) A listing of any toxic pollutant which the applicant uses or manufactures as an intermediate or final product or by-product;

(16) The Signature of an authorized representative of the user certified by a qualified professional indicating whether pretreatment standards are being met on a consistent basis and, if not, whether additional operation and maintenance and additional pretreatment is required and the Certification Statement required by 40 CFR Section 403.6(a) (2) (ii).

(17) Evidence of the following by user subject to a national categorical pretreatment standard shall:

(A) A baseline monitoring report submitted to the Director ninety days prior to first discharge, a ninety-day report and semiannual reports that meet Federal pretreatment requirements at 40 CFR, Section 403.12 or any revision thereto indicating the nature and concentration of pollutants in the discharge.

(B) Use of a minimum of four (4) grab samples for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organics. For all other pollutants, twenty-four-hour composite samples must be obtained through flow-proportional composite sampling techniques where feasible. The Control Authority may waive flow-proportional composite sampling for any industrial user that demonstrates that flow-proportional composite sampling is infeasible. In such cases samples may be obtained through time-proportional composite sampling techniques or through a minimum of four grab samples where the user demonstrates that this will provide a representative sample of the effluent being discharged.

(C) A minimum of one representative sample taken to compile that data necessary to comply with the requirements of this paragraph.

(18) Semiannual reports to the Director from any significant industrial user or other User required to have a permit, indicating the nature and concentration of pollutants in the discharge. The specific standards or the POTW itself may require this report to be filed more frequently. In addition, this report shall include a report of all daily flows which, during the reporting period, exceeded the average daily flow in the permit.

(19) Notification to the City in advance of any substantial change in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous wastes for which the industrial user has submitted initial notification under subsection (t) hereof.

(20) Hazardous waste notification, as follows:

A. Any industrial user, except as specified in paragraph (a)(20)E. hereof, which discharges to the public sewer any substance which, if otherwise disposed of,

would be a listed or characteristic hazardous waste under 40 CFR, Part 261, shall notify the City in writing of such discharge.

B. All hazardous waste notifications shall include:

1. The name of the hazardous waste as set forth in 40 CFR, Part 261;
2. The EPA hazardous waste number:
3. The type of discharge (continuous, batch or other); and
4. A certification that the user has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

C. In addition to the information submitted under paragraph (t)(2) hereof, industrial users discharging more than 100 kilograms of hazardous waste per calendar month to the public sewer shall provide, to the extent such information is known and readily available to the industrial user:

1. An identification of the hazardous constituents contained in the waste;

2. An estimation of the mass and concentration of such constituents in the waste stream discharged during that calendar month; and

2. An estimation of the mass of constituents in the waste stream expected to be discharged during the following twelve months.

C. Hazardous waste notifications shall be submitted no later than February 19, 1991, except that industrial users commencing the discharge of listed or characteristic hazardous waste after August 23, 1990, shall provide the notification no later than 180 days from the discharge of the wastes. Any notification under this section need be submitted only once for each hazardous waste discharged, although notifications of changed discharges must be submitted under subsection (s) hereof.

D. Industrial users are exempt from the hazardous waste notification requirement during a calendar month in which they discharge fifteen kilograms or less of non-acute hazardous wastes. Discharge of any quantity of acute hazardous waste, as specified in 40 CFR, Sections 261.30(d) and 261.33(e), requires a one-time notification.

(21) An industrial user discharge authorization containing, at a minimum:

A. A statement of duration, in no case more than five years;

B. A statement of non-transferability without, at a minimum, prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator.

C. Effluent limits based on applicable general pretreatment standards, categorical pretreatment standards, local limits and State and Local law;

D. Self-monitoring, sampling, reporting, notification and record keeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency and same type, based on the applicable general pretreatment standards, categorical pretreatment standards, local limits and State and local law;

E. A statement of applicable civil and criminal penalties for a violation of pretreatment standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable Federal deadlines.

C. ACCIDENTAL DISCHARGES

1. NOTICES AND INSTRUCTIONS FOR ACCIDENTAL DISCHARGE (1040.61)

(a) A notice prepared by the user shall be prominently and permanently posted at appropriate locations at each commercial and industrial user facility advising its employees of whom to call in case of an accidental discharge in violation of any provision of this chapter. In addition, instruction shall be given to appropriate employees of the user and the same certified to the City on an annual basis.

(c) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a)

2. ACCIDENTAL DISCHARGES: REPORTS AND STATEMENTS (1040.62)

(a) Any accidental discharge of a slug, or a prohibited substance, or any substance which could cause a problem, directly or indirectly into a public sewer shall be immediately reported to the wastewater treatment plant or the Director of Public Works by the person responsible for such discharge or by the owner or occupant of the property from which the discharge was made, to enable counter-measures to be taken by the City to minimize damage to the City sewers, treatment facilities, treatment processes and receiving waters.

(b) Such notification shall be followed, within seven days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent further occurrence. Such notification shall not relieve users of liability for any expense, loss or damage to the sewerage system, treatment plant or treatment process or for any fines imposed on the City on account thereof by any regulatory agency.

(c) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a)

3. Accidental discharges will be reported to the Industrial Surveillance personnel or the on-duty Foreman at the Wastewater Treatment Plant. **The 24-Hour phone number is (616) 966-3513.**

Part III - STANDARD CONDITIONS

A. SEWER USER ORDINANCE

The Industrial User shall comply with all general standards in Section 1042 of the Codified Ordinances of the City of Battle Creek.

B. RIGHT OF ENTRY (1040.56)

(a) Persons or occupants of premises where wastewater is created or discharged shall allow the City or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection, observation, measurements, sampling and testing in the performance of any of their duties. The City shall have the right to set up on a user's property, in locations that will not interfere with the user's operations and where the user's products will not become damaged or contaminated, such devices as are necessary to conduct sampling or metering operations, and to inquire into any industrial process to the extent necessary to establish the source, quantity, composition and concentration of the wastewater. When necessary, the user shall make arrangements with its security force, using procedures as might be reasonable, to allow for entry without delay by the City representatives for the purpose of performing their specific responsibilities.

C. PUBLIC INSPECTION OF RECORDS; CONFIDENTIAL INFORMATION (1040.55)

(a) Information and data on a user obtained from reports, questionnaires, permit applications, permits, monitoring programs and inspections shall be available to the public or other governmental agencies in accordance with appropriate State and Federal laws and regulations. When requested by the person furnishing information, portions of that information which disclose trade secrets or secret processes shall not be made available for governmental agencies which require it for making studies only after conforming to the requirements for disclosure of confidential information contained in 40 CFR, Part 2, Subpart B, Confidentially of Business Information. Requirements listed therein shall be considered the minimum requirement for local agencies.

(c) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a)

D. MONITORING BUILDING SEWERS AND DRAINS (1040.59)

(a) The Director of Public Works may require the user to construct, at his own expense, monitoring facilities, including a control manhole, if necessary, to allow observation, inspection, sampling and measurement of the quantity, composition and concentration of waste to the building sewer or internal drainage systems and may also require sampling or metering equipment to be provided, installed and operated at the user's expense. The monitoring facility shall be situated on the user's premises, with accommodations to allow access by City representatives. There shall be ample room in or near the sampling point to allow accurate sampling and composting for analysis. All equipment and appurtenances thereto shall be maintained at all times in a safe and proper operating condition at the expense of the user. If self-monitoring reveals violation of any discharge limitations specified herein, the industrial user shall notify the City within 24 hours of becoming aware of the violation. The industrial user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City within 30 days after becoming aware of the violation.

E. DISPOSAL OF PRETREATMENT SLUDGES AND SPENT CHEMICALS

The disposal of sludges and spent chemicals generated shall be done in accordance with Section 405 of the Clean Water Act and Subtitles C and D of the Resource Conservation and Recovery Act.

F. SUBMISSION OF REPORTS

All reports shall be submitted to the following address:

Industrial Surveillance
City of Battle Creek
2000 West River Road
Battle Creek, MI 49015-1181

G. TERMINATION OF SERVICE (1040.69)

In addition to statutes, rules or regulations authorizing termination of service for delinquency in payment, the City may terminate or cause to be terminated wastewater service to users for:

(a) Submitting to the Director of Public Works, the City or a State or Federal government unit false statements, representations, records, reports, plans or other documents;

(b) Tampering with or rendering inaccurate any monitoring device, public or private meter or equipment installed or operated pursuant to this chapter;

(c) Failure to report significant changes in operations or wastewater constituents or characteristics;

(d) Discharging or causing to be discharged prohibited substances or substances requiring special discharge authorization without having obtained such authorization or with such authorization having been denied or revoked;

(e) Obtaining special discharge authorization under Section 1040.49 on the basis of false or misleading information;

(f) Refusal to allow the Director or City representative reasonable access to the user's premises for the purpose of inspection and/or monitoring; or

(g) Nonpayment of fees, surcharges or charges; or

(h) In cases where a user is causing or about to cause an imminent endangerment to the public health. The City may issue an order requiring the user to immediately cease and desist from discharging such endangerment. If the user fails to comply with such order, the City may take such steps as may be necessary to prevent further discharge, including physical blocking or severance of the user's connection to the City's system to stop such endangerment.

H. OUT-OF-CITY USERS

Those non-domestic users located outside the Battle Creek city limits, who contribute to the City of Battle Creek's wastewater collection system, must comply with the conditions established by this Discharge Authorization and the Codified Ordinance of the City of Battle Creek Section 1040. If applicable, a completed Out-Of-City User Consent Form has been attached.

I. PUBLICATION OF LIST OF VIOLATORS (1040.87)

The City shall publish annually, in the largest daily newspaper published in the City, or in the largest daily newspaper published in the County if the City does not have a daily newspaper, a list of the industrial users who, during the previous twelve months, were significantly violating applicable pretreatment standards or other pretreatment requirements.

J. SELF-MONITORING/REPORTING PENALTIES

Commencing September 1, 1989, those industries that do not submit the required self-monitoring reports in accordance with the specified deadlines, will be assessed as a minimum, fines and penalties amounting to $500.00 per delinquent report. Continued violation may cause additional penalties up to and including termination of service.

K. DISCHARGE AUTHORIZATION MODIFICATION

This authorization may be modified for good causes including, but not limited to, the following:

1. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;

2. Material or substantial alterations or additions to the user's operation processes, or discharge volume or character which were not considered in drafting the effective authorization;

3. A change in any condition in either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;

4. Information indicating that the permitted discharge poses a threat to the Control Authority's collection and treatment systems, POTW personnel or the receiving waters;

5. Violation of any terms or conditions of the authorization;

6. Misrepresentation or failure to disclose fully all-relevant facts in the authorization application or in any required reporting;

7. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR 403.13;

8. To correct typographical or other errors in the authorization;

9. Upon request of the user, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations;

L. TRANSFERABILITY OF DISCHARGE AUTHORIZATION

This Discharge Authorization is not transferable. A new owner or operator must apply at least thirty days in advance, for a new authorization to be issued. This authorization is considered site and owner or operator specific.

M. PENALTY (1040.89)

(a) Civil Penalty Whoever intentionally or negligently violates any provision of this chapter or any provision of any permit issued pursuant to this chapter, or intentionally or negligently discharges waste or wastewater which causes pollution, or intentionally or negligently violates any cease and desist order, prohibition, effluent limitation, national

standard of performance or national pretreatment or toxicity standard, shall be civilly liable to the City in a sum not to exceed ten thousand dollars ($10,000) for each day on which such violation occurs. The City may petition the appropriate court of jurisdiction to impose, assess and collect such sums pursuant to this chapter, or to seek injunctions or restraining orders to enforce provisions of this chapter.

N. BYPASSES (1040.52)

(a) Permitted. An industrial user may allow any bypass to occur which does not violate pretreatment standards or requirements, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to subsection (b) and (c) hereof.

(b) Notice.
  (1) If an industrial user knows in advance of the need for a bypass, it shall submit prior notice to the POTW, if possible at least ten days before the date of the bypass.
  (2) An industrial user shall orally notify the POTW of an unanticipated bypass that exceeds applicable pretreatment standards or requirements within twenty-four hours of becoming aware of the bypass. A written submission shall also be provided within five days of becoming aware of the bypass. The written submission shall contain a description of the bypass, including exact times and dates and, if the bypass has not been corrected, and steps taken or planned to reduce, eliminate and prevent recurrence of the bypass.

(c) Prohibited.
  (1) A bypass is prohibited and the POTW may take enforcement action against an industrial user for a bypass, unless:
    A. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage;
    B. There were no feasible alternatives to bypass, such as use of auxiliary treatment facilities, retention of wastes or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed to prevent bypass which occurred during normal periods of downtime or preventative maintenance; and
    C. The industrial user submitted notices as required by subsection (b) hereof.

  (2) The POYW may approve an anticipated bypass, after considering its adverse effects; if the POTW determines that it will meet the three conditions listed in paragraph (c) (1) of this Section.

(d) A person who violates any of the provisions of this section shall be subject to the penalty provided in Section 1040.89(a).

SELF-MONITORING AND REPORTING REQUIREMENTS

Industrial User #: 101
Company Name: Johnson Controls - Battle Creek Facility
Point Source Category:* Pulp, Paper, Paperboard 40 CFR Part 430-431, Subcategory Groundwood - Thermochemical

Parameter	One Day Maximum	Monthly Maximum	Units	Sampling Frequency	Reporting Frequency
Flow	----	----	gals	Quarterly	Quarterly
BOD-5 Day	470	470	mg/l	Quarterly	Quarterly
Suspended Solids	820	820	mg/l	Quarterly	Quarterly
pH - Lab	9.5 - 6.0	9.5 - 6.0	S.U.	Quarterly	Quarterly
2-chlorophenol[1]	4.2	4.2	mg/l	Semi-Annual	Semi-Annual
2-4-dichlorphenol[1]	7.1	7.1	mg/l	Semi-Annual	Semi-Annual
2-4-6-trichlorphenol[1]	0.7	0.7	mg/l	Semi-Annual	Semi-Annual
Pentachlorophenol[1]	0.1	0.1	mg/l	Semi-Annual	Semi-Annual

Attachment A

[1] Established by Federal Pretreatment Standards and may be waived upon certification that these parameters do not exist in your process or products.

* If applicable, refer to Part III, Section B, (13)

ATTACHMENT B

SPECIAL DISCHARGE AUTHORIZATION NO. 101 -S
(COMPATIBLE - NON-CONTRACT)

In accordance with the Codified Ordinances of the City of Battle Creek, Michigan, Chapter 1040, Water and Sewer, Section 1040.49.

COMPANY NAME: **Johnson Controls – Battle Creek Facility**

FACILITY ADDRESS: **76 Armstrong Road**

Battle Creek, MI 49015-1079

is hereby authorized to discharge wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the following effluent limitations.

PARAMETER	ONE-DAY MAXIMUM (mg/l) EQUIVALENT CONCENTRATION LIMIT
Suspended Solids	820
BOD 5-Day	470

The discharge of wastewater exceeding the limitations established in the Codified Ordinances of the City of Battle Creek (Chapter 1040, Water and Sewer) will constitute extra-strength waste, and the Company will be billed according to charges as established by Resolution of the City Commission. The City of Battle Creek will conduct periodic monitoring of the Company's effluent to determine the quantity of extra-strength waste being discharged by the Company. If, at any point, the City of Battle Creek determines this extra-strength discharge is detrimental to human life, the collection system, or the wastewater treatment plant processes this Special Discharge Authorization will be immediately suspended.

In addition, the discharge shall comply with all other applicable regulations or standards as established in the Codified Ordinances of the City of Battle Creek. If found in violation of any of these regulations, the Company shall be subject to enforcement action as defined by Federal, State, or City law.

This Authorization shall become effective on July 1, 2002 and shall expire at midnight on June 30, 2005.

By: Lawrence DeBorg
Control Authority Signature

Issued on July 1, 2002

CITY OF BATTLE CREEK, MICHIGAN

PUBLIC WORKS DEPARTMENT
Wastewater Division

AUTHORIZATION NO. 101

INDUSTRIAL USER DISCHARGE AUTHORIZATION

In accordance with the provisions of the Codified Ordinances of the City of Battle Creek, Michigan, Part Ten - Streets, Utilities, and Public Services Code, Chapter 1042, Sewers.

Johnson Controls - Battle Creek Facility
76 Armstrong Road
Battle Creek, MI 49015-1079

is hereby authorized to discharge industrial wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the effluent limitations, monitoring requirements, and any other conditions set forth in this Discharge Authorization.

All discharges authorized herein shall be consistent with the terms and conditions of this Discharge Authorization. The discharge of any pollutant identified in this Discharge Authorization more frequently than or at a level in excess of that authorized shall constitute a violation.

This Authorization shall become effective on July 1, 1999, and shall expire at midnight on June 30, 2002.

If the User wishes to continue to discharge after this expiration date, an application must be filed for reissuance of this Authorization, a minimum of 90 days prior to the expiration date. At that time, a review will be performed to determine if any changes are necessary in the requirements of this Authorization.

By: Lawrence DeLong
Control Authority Signature

Issued on June 8, 1999

2000 West River Road, Battle Creek, Michigan 49015-1181
Phone (616) 966-3513
Fax (616) 965-3290

PART I - SELF-MONITORING REQUIREMENTS (The user is required to comply with all the following conditions.)

A. DISCHARGE TESTING (1042.36)

The Director of Public Works may require a user to test, at the user's expense and on a regular basis, the quantity, composition and concentration of its discharge, to sample and analyze the same in accordance with the latest edition of **Standard Methods for the Examination of Water and Wastewater** and to report the test results to the Director. If a user which has been so required by the Director fails to test and report to the satisfaction of the Director, then the Director may determine the quantity, composition and concentration of such discharge either by estimates on the basis of data available to the Director or by samplings, measurements and analyses performed by the Director at the expense of the user.

B. SELF-MONITORING/REPORTING SCHEDULE

PARAMETER	FREQUENCY OF SAMPLING	REPORTING SCHEDULE
Flow - GPD	Quarterly	Quarterly
BOD-5 Day	Quarterly	Quarterly
pH	Quarterly	Quarterly
Suspended Solids	Quarterly	Quarterly
2-chlorophenol[1]	Semi-Annual	Semi-Annual
2-4-dichlorophenol[1]	Semi-Annual	Semi-Annual
2-4-6-trichlorphenol[1]	Semi-Annual	Semi-Annual

[1] Federal Pretreatment Requirements

C. SAMPLE TYPES

All sampling will be conducted according to the requirements for that specific parameter. Unless other- wise specified, all samples will be time composited samples representing a twenty-four (24) hour period or one working day (i.e. 8 hours) which ever is applicable. Samples shall be taken while your facility is in production.

D. REPORTING FREQUENCY

Quarterly reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months of January, April, July and October of the current year.

Semi-annual reports for the preceding sample period(s) will be submitted to the City of Battle Creek on or before the 15th day of the months of January and July of the current year.

E. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this authorization, the user shall record the following data:

(1) The Exact Place, Date and Time of Sampling
(2) The Dates the Analyses were Performed
(3) The Person(s) Who Performed the Analyses
(4) The Analytical Techniques or Methods Used
(5) The Results of All Required Analyses

All above mentioned data will be recorded on the Sampling Input forms which were provided by the City. Any Industrial user subject to the reporting requirements established in this section shall be required to retain for a minimum of 3 years any records of monitoring activities and results and shall make such records available for inspection and copying by the Director or the City's representative. This period of detention shall be extended during the course of any unresolved litigation regarding the Industrial user.

PART II - DISCHARGE LIMITATIONS (The User is required to comply with all the following conditions.)

POINT SOURCE CATEGORY * Pulp, Paper & Paperboard

40 CFR PART 430-431 SUBCATEGORY Groundwood-Thermochemical

POLLUTANT	ONE DAY MAXIMUM mg/l	MAX MONTHLY AVG mg/l
Flow - GPD	----------	----------
BOD - 5 Day	See Attachment A	See Attachment A
pH	9.5 - 6.0	9.5 - 6.0
Suspended Solids	See Attachment A	See Attachment A
2-chlorophenol	4.2[2]	4.2[2]
2-4-dichlorophenol	7.1[2]	7.1[2]
2-4-6-trichlorophenol	0.7[2]	0.7[2]
Pentachlorophenol	0.1[2]	0.1[2]

[1] Established by Metal Finishing Regulations

*If applicable, refer to Part III (2) (k)

PART III - REPORTING REQUIREMENTS (The user is required to comply with all the following conditions)

A. DISCHARGE REPORTS (1042.31)

The Director of Public Works may require that any person discharging wastewater into a City sewer file a periodic discharge report. The discharge report may include, but need not be limited to, the general nature of the process, volume, rates of flow, mass emission rate, production quantities, hours of operation, normal number and classification of employees or other information which relates to the generation of waste, including wastewater constituents and characteristics in the wastewater discharge. Such reports may also require the chemical constituents and quantity of liquid or gaseous material stored on site even though they may not normally be discharged.

B. INFORMATIONAL REPORTS (1042.32)

All current and proposed industrial users shall be required by the Director of Public Works to file informational reports for the benefit of Local, State, and Federal governmental units. The user shall comply with the Director's request for data by submitting, as may be necessary, in units and terms appropriate for evaluation;

(a) The name, address and SIC number of the industrial user;

(b) The volume of wastewater to be discharged;

(c) The wastewater constituents and characteristics, including, but not limited to, those mentioned in Section 1042.29, as determined by a laboratory approved by the Director;

(d) The time and duration of discharge;

(e) The average and fifteen-minute peak instant wastewater flow rates, including daily, monthly and seasonal variations, if any;

(f) Site plans, floor plans, mechanical and plumbing plans and details to show all transfers and appurtenances by size, location and elevation;

(g) A description of activities, facilities and plant processes on the premises, including all materials, processes and types of material which are or could be discharged;

(h) Each product produced, by type, amount and rate of production;

(i) The number and type of employees and hours of work;

(j) A hazardous materials survey;

(k) Informational reports from categorical industries within 180 days after the effective date of the categorical pretreatment standards, which reports shall include a statement as to whether pretreatment standards are being met on a consistent basis and, if not, whether additional operations and maintenance and/or additional pretreatment is required to meet the pretreatment standards and requirements;

(l) Any other information relative to wastewater conveyance, characteristics, quantities or pretreatment, as may be determined by the Director to be necessary to evaluate the data furnished by the user, including reports of monitoring of any pollutants more frequently than required by POTW;

(m) The results of sampling and analysis identifying the nature and concentration of any pollutants in the discharge which are limited by any national categorical pretreatment standards or which are described in Section 1042.29. Both daily maximum and average concentration shall be reported. The sample shall be representative of daily operations. Sample should be taken immediately downstream of pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with wastewater regulated by a national categorical pretreatment standard prior to pretreatment, the User should measure the flows and concentrations necessary to allow use of the combined wastestream formula in 40 CFR, 403.6(e) in order to evaluate compliance with pretreatment standards;

(n) The shortest schedule by which the User will provide additional pretreatment or operation and maintenance if required to meet pretreatment standards. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. In no case shall the increments of progress in the schedule exceed nine months;

(o) A listing of any toxic pollutant which the applicant uses or manufactures as an intermediate or final product or by-product;

(p) The Signature of an authorized representative of the user certified by a qualified professional indicating whether pretreatment standards are being met on a consistent basis and, if not, whether additional operation and maintenance and additional pretreatment is required and the Certification Statement required by 40 CFR Section 403.6(a) (2) (ii).

(q) Evidence of the following by user subject to a national categorical pretreatment standard shall:

(1) A baseline monitoring report submitted to the Director ninety days prior to first discharge, a ninety-day report and semiannual reports that meet Federal pretreatment requirements at 40 CFR, Section 403.12 or any revision thereto indicating the nature and concentration of pollutants in the discharge.

(2) Use of a minimum of four (4) grab samples for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organics. For all other pollutants, twenty-four-hour composite samples must be obtained through flow-proportional composite sampling techniques where feasible. The Control Authority may waive flow-proportional composite sampling for any industrial user that demonstrates that flow-proportional composite sampling is infeasible. In such cases samples may be obtained through time-proportional composite sampling techniques or through a minimum of four grab samples where the user demonstrates that this will provide a representative sample of the effluent being discharged.

(3) A minimum of one representative sample taken to compile that data necessary to comply with the requirements of this paragraph.

(r) Semiannual reports to the Director from any significant industrial user or other user required to have a permit, indicating the nature and concentration of pollutants in the discharge. The specific standards or the POTW itself may require this report to be filed more frequently. In addition, this report shall include a report of all daily flows which, during the reporting period, exceeded the average daily flow in the permit.

(s) Notification to the City in advance of any substantial change in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous wastes for which the industrial user has submitted initial notification under subsection (t) hereof.

(t) Hazardous waste notification, as follows:

(1) Any industrial user, except as specified in paragraph(t)(5) hereof, which discharges to the public sewer any substance which, if otherwise disposed of, would be a listed or characteristic hazardous waste under 40 CFR, Part 261, shall notify the City in writing of such discharge.

(2) All hazardous waste notifications shall include:

A. The name of the hazardous waste as set forth in 40 CFR, Part 261;

B. The EPA hazardous waste number;

C. The type of discharge (continuous, batch or other); and

D. A certification that the user has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

(3) In addition to the information submitted under paragraph (t)(2) hereof, industrial users discharging more than 100 kilograms of hazardous waste per calendar month to the public sewer shall provide, to the extent such information is known and readily available to the industrial user:

A. An identification of the hazardous constituents contained in the waste;

B. An estimation of the mass and concentration of such constituents in the waste stream discharged during that calendar month; and

C. An estimation of the mass of constituents in the waste stream expected to be discharged during the following twelve months.

(4) Hazardous waste notifications shall be submitted no later than February 19, 1991, except that industrial users commencing the discharge of listed or characteristic hazardous waste after August 23, 1990, shall provide the notification no later than 180 days from the discharge of the wastes. Any notification under this section need be submitted only once for each hazardous waste discharged, although notifications of changed discharges must be submitted under subsection (s) hereof.

(5) Industrial users are exempt from the hazardous waste notification requirement during a calendar month in which they discharge fifteen kilograms or less of non-acute hazardous wastes. Discharge of any quantity of acute hazardous waste, as specified in 40 CFR, Sections 261.30(d) and 261.33(e), requires a one-time notification.

(u) An industrial user discharge authorization containing, at a minimum:

(1) A statement of duration, in no case more than five years;

(2) A statement of non-transferability without, at a minimum , prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator.

(3) Effluent limits based on applicable general pretreatment standards, categorical pretreatment standards, local limits and State and Local law;

(4) Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency and same type, based on the applicable general pretreatment standards, categorical pretreatment standards, local limits and State and local law;

(5) A statement of applicable civil and criminal penalties for a violation of pretreatment standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable Federal deadlines. (Ord.8-93. Passed 6-8-93.)

C. ACCIDENTAL DISCHARGES

1. NOTICES AND INSTRUCTIONS FOR ACCIDENTAL DISCHARGE (1042.39)

A notice prepared by the user shall be prominently and permanently posted at appropriate locations at each commercial and industrial user facility advising its employees of whom to call in case of an accidental discharge in violation of any provision of this chapter. In addition, instruction shall be given to appropriate employees of the user and the same certified to the City on an annual basis.

2. ACCIDENTAL DISCHARGES: REPORTS AND STATEMENTS (1042.40)

(a) Any accidental discharge of a slug, or a prohibited substance, or any substance which could cause a problem, directly or indirectly into a public sewer shall be immediately reported to the wastewater treatment plant or the Director of Public Works by the person responsible for such discharge or by the owner or occupant of the property from which the discharge was made, to enable counter-measures to be taken by the City to minimize damage to the City sewers, treatment facilities, treatment processes and receiving waters.

(b) Such notification shall be followed, within seven days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent further occurrence. Such notification shall not relieve users of liability for any expense, loss or damage to the sewerage system, treatment plant or treatment process or for any fines imposed on the City on account thereof by any regulatory agency.

3. Accidental discharges will be reported to the Industrial Surveillance personnel or the on-duty Foreman at the Wastewater Treatment Plant. The 24-Hour phone number is (616) 966-3513.

Part IV - STANDARD CONDITIONS

A. SEWER USER ORDINANCE

The Industrial User shall comply with all general standards in Section 1042 of the Codified Ordinances of the City of Battle Creek.

B. RIGHT OF ENTRY (1042.34)

Persons or occupants of premises where wastewater is created or discharged shall allow the City or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection, observation, measurements, sampling and testing in the performance of any of their duties. The City shall have the right to set up on a user's property, in locations that will not interfere with the user's operations and where the user's products will not become damaged or contaminated, such devices as are necessary to conduct sampling or metering operations, and to inquire into any industrial process to the extent necessary to establish the source, quantity, composition and concentration of the wastewater. When necessary, the user shall make arrangements with its security force, using procedures as might be reasonable, to allow for entry without delay by the City representatives for the purpose of performing their specific responsibilities.

C. CONFIDENTIAL INFORMATION (1042.33)

Information and data on a user obtained from reports, questionnaires, permit applications, permits, monitoring programs and inspections shall be available to the public or other governmental agencies in accordance with appropriate State and Federal laws and regulations. When requested by the person furnishing information, portions of that information which disclose trade secrets or secret processes shall not be made available for governmental agencies which require it for making studies only after conforming to the requirements for disclosure of confidential information contained in 40 CFR, Part 2, Subpart B, Confidentially of Business Information. Requirements listed therein shall be considered the minimum requirement for local agencies.

D. CONTROL MANHOLES (1042.37)

The Director of Public Works may require the user to construct, at his own expense, monitoring facilities, including a control manhole, if necessary, to allow observation, inspection, sampling and measurement of the quantity, composition and concentration of waste to the building sewer or internal drainage systems and may also require sampling or metering equipment to be provided, installed and operated at the user's expense. The monitoring facility shall be situated on the user's premises, with accommodations to allow access by City representatives. There shall be ample room in or near the sampling point to allow accurate sampling and compositing for analysis. All equipment and appurtenances thereto shall be maintained at all times in a safe and proper operating condition at the expense of the user. If self-monitoring reveals violation of any discharge limitations specified herein, the industrial user shall notify the City within 24 hours of becoming aware of the violation. The industrial user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City within 30 days after becoming aware of the violation.

E. DISPOSAL OF PRETREATMENT SLUDGES AND SPENT CHEMICALS

The disposal of sludges and spent chemicals generated shall be done in accordance with Section 405 of the Clean Water Act and Subtitles C and D of the Resource Conservation and Recovery Act.

F. SUBMISSION OF REPORTS

All reports shall be submitted to the following address:

Industrial Surveillance
City of Battle Creek
2000 West River Road
Battle Creek, MI 49015-1181

G. TERMINATION OF SERVICE (1042.47)

In addition to statutes, rules or regulations authorizing termination of service for delinquency in payment, the City may terminate or cause to be terminated wastewater service to users for:

(a) Submitting to the Director of Public Works, the City or a State or Federal government unit false statements, representations, records, reports, plans or other documents;

(b) Tampering with or rendering inaccurate any monitoring device, public or private meter or equipment installed or operated pursuant to this chapter;

(c) Failure to report significant changes in operations or wastewater constituents or characteristics;

(d) Discharging or causing to be discharged prohibited substances or substances requiring special discharge authorization without having obtained such authorization or with such authorization having been denied or revoked;

(e) Obtaining special discharge authorization under Section 1042.29 on the basis of false or misleading information;

(f) Refusal to allow the Director or City representative reasonable access to the user's premises for the purpose of inspection and/or monitoring; or

(g) Nonpayment of fees, surcharges or charges.

H. OUT-OF-CITY USERS

Those nondomestic users located outside the Battle Creek city limits, who contribute to the City of Battle Creek's wastewater collection system, must comply with the conditions established by this Discharge Authorization and the Codified Ordinance of the City of Battle Creek Section 1042. If applicable, a completed Out-Of-City User Consent Form has been attached.

I. PUBLICATION OF LIST OF VIOLATORS (1042.68)

The City shall publish annually, in the largest daily newspaper published in the City, or in the largest daily newspaper published in the County if the City does not have a daily newspaper, a list of the industrial users who, during the previous twelve months, were significantly violating applicable pretreatment standards or other pretreatment requirements.

J. SELF-MONITORING/REPORTING PENALTIES

Commencing September 1, 1989, those industries which do not submit the required self-monitoring reports in accordance with the specified deadlines, will be assessed as a minimum, fines and penalties amounting to $500.00 per delinquent report. Continued violation may cause additional penalties up to and including termination of service .

K. DISCHARGE AUTHORIZATION MODIFICATION

This authorization may be modified for good causes including, but not limited to, the following:

1. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;

2. Material or substantial alterations or additions to the user's operation processes, or discharge volume or character which were not considered in drafting the effective authorization;

3. A change in any condition in either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;

4. Information indicating that the permitted discharge poses a threat to the Control Authority's collection and treatment systems, POTW personnel or the receiving waters;

5. Violation of any terms or conditions of the authorization;

6. Misrepresentation or failure to disclose fully all relevant facts in the authorization application or in any required reporting;

7. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR 403.13;

8. To correct typographical or other errors in the authorization;

9. Upon request of the user, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations;

L. TRANSFERABILITY OF DISCHARGE AUTHORIZATION

This Discharge Authorization is not transferable. A new owner or operator must apply at least thirty (30) days in advance, for a new authorization to be issued. This authorization is considered site and owner or operator specific.

M. PENALTY (1042.99)

(a) Civil Penalty Whoever intentionally or negligently violates any provision of this chapter or any provision of any permit issued pursuant to this chapter, or intentionally or negligently discharges waste or waste-water which causes pollution, or intentionally or negligently violates any cease and desist order, prohibition, effluent limitation, national standard of performance or national pretreatment or toxicity standard, shall be civilly liable to the City in a sum not to exceed ten thousand dollars ($10,000) for each day on which such violation occurs. The City may petition the appropriate court of jurisdiction to impose, assess and collect such sums pursuant to this chapter, or to seek injunctions or restraining orders to enforce provisions of this chapter. (Ord. 8-93. Passed 6-8-93.)

(b) Misdemeanor. Whoever violates any provision of this chapter, for which no penalty is otherwise provided, shall be fined not more than five hundred dollars ($500.00) or imprisoned not more than ninety days, or both, for each offense. A separate offense shall be deemed committed each day such violation continues.

(c) Intentional Damage. Whoever violates Section 1042.62 shall be fined not less than one hundred dollars ($100.00) nor more than five hundred dollars ($500.00) or imprisoned not less than three days, nor more than ninety days, for each offense. Each act constitutes a separate offense.

(d) Remedies Cumulative. The remedies provided for in this chapter are cumulative, not exclusive, and shall be in addition to any and all other remedies available to the City. (Ord. 22-80. Passed 11-4-80.)

ATTACHMENT A

SPECIAL DISCHARGE AUTHORIZATION NO. 101-S
(COMPATIBLE - NON-CONTRACT)

In accordance with the Codified Ordinances of the City of Battle Creek, Michigan, Part Ten - Streets, Utilities, and Public Services Code, Chapter 1042, Sewers, Section 1042.29.

COMPANY NAME: **Johnson Controls – Battle Creek Facility**

FACILITY ADDRESS: **76 Armstrong Road**

Battle Creek, MI 49015-1079

is hereby authorized to discharge wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the following effluent limitations.

PARAMETER	ONE DAY MAXIMUM (mg/l) EQUIVALENT CONCENTRATION LIMIT
Suspended Solids	820
BOD 5-Day	470

The discharge of wastewater exceeding the limitations established in the Codified Ordinances of the City of Battle Creek (Chapter 1042, Sewers) will constitute extra-strength waste, and the Company will be billed according to charges as established by Resolution of the City Commission. The City of Battle Creek will conduct periodic monitoring of the Company's effluent to determine the quantity of extra-strength waste being discharged by the Company. If, at any point, the City of Battle Creek determines this extra-strength discharge is detrimental to human life, the collection system, or the wastewater treatment plant processes this Special Discharge Authorization will be immediately suspended.

In addition, the discharge shall comply with all other applicable regulations or standards as established in the Codified Ordinances of the City of Battle Creek. If found in violation of any of these regulations, the Company shall be subject to enforcement action as defined by Federal, State, or City law.

This Authorization shall become effective on July 1, 1999 and shall expire at midnight on June 30, 2002.

By: Laurie DeLong
Control Authority Signature

Issued on June 8, 1999

CITY OF BATTLE CREEK, MICHIGAN

PUBLIC WORKS DEPARTMENT
Wastewater Division

AUTHORIZATION NO. **101**

INDUSTRIAL USER DISCHARGE AUTHORIZATION

In accordance with the provisions of the Codified Ordinances of the City of Battle Creek, Michigan, Part Ten - Streets, Utilities, and Public Services Code, Chapter 1042, Sewers.

American Fibrit, Inc.
76 Armstrong Road
Battle Creek, MI 49015-1079

is hereby authorized to discharge industrial wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the effluent limitations, monitoring requirements, and any other conditions set forth in this Discharge Authorization.

All discharges authorized herein shall be consistent with the terms and conditions of this Discharge Authorization. The discharge of any pollutant identified in this Discharge Authorization more frequently than or at a level in excess of that authorized shall constitute a violation.

This Authorization shall become effective on July 1, 1996, and shall expire at midnight on June 30, 1999.

If the User wishes to continue to discharge after this expiration date, an application must be filed for reissuance of this Authorization, a minimum of 90 days prior to the expiration date. At that time, a review will be performed to determine if any changes are necessary in the requirements of this Authorization.

By: Walter L Compson

Control Authority Signature

Issued on July 1, 1996

2000 West River Road, Battle Creek, Michigan 49015-1181

Phone (616) 966-3513
Fax (616) 965-3290

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(2) The Dates the Analyses were Performed
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Suspended Solids	See Attachment A	See Attachment A
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[1] Established by Metal Finishing Regulations

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(a) The name, address and SIC number of the industrial user;

(b) The volume of wastewater to be discharged;

(c) The wastewater constituents and characteristics, including, but not limited to, those mentioned in Section 1042.29, as determined by a laboratory approved by the Director;

(d) The time and duration of discharge;

(e) The average and fifteen-minute peak instant wastewater flow rates, including daily, monthly and seasonal variations, if any;

(f) Site plans, floor plans, mechanical and plumbing plans and details to show all transfers and appurtenances by size, location and elevation;

(g) A description of activities, facilities and plant processes on the premises, including all materials, processes and types of material which are or could be discharged;

(h) Each product produced, by type, amount and rate of production;

(i) The number and type of employees and hours of work;

(j) A hazardous materials survey;

(k) Informational reports from categorical industries within 180 days after the effective date of the categorical pretreatment standards, which reports shall include a statement as to whether pretreatment standards are being met on a consistent basis and, if not, whether additional operations and maintenance and/or additional pretreatment is required to meet the pretreatment standards and requirements;

(l) Any other information relative to wastewater conveyance, characteristics, quantities or pretreatment, as may be determined by the Director to be necessary to evaluate the data furnished by the user, including reports of monitoring of any pollutants more frequently than required by POTW;

(m) The results of sampling and analysis identifying the nature and concentration of any pollutants in the discharge which are limited by any national categorical pretreatment standards or which are described in Section 1042.29. Both daily maximum and average concentration shall be reported. The sample shall be representative of daily operations. Sample should be taken immediately downstream of pretreatment facilities if such exist or immediately downstream from the regulated process if no pretreatment exists. If other wastewaters are mixed with wastewater regulated by a national categorical pretreatment standard prior to pretreatment, the User should measure the flows and concentrations necessary to allow use of the combined wastestream formula in 40 CFR, 403.6(e) in order to evaluate compliance with pretreatment standards;

(n) The shortest schedule by which the User will provide additional pretreatment or operation and maintenance if required to meet pretreatment standards. The completion date in this schedule shall not be later than the compliance date established for the applicable pretreatment standard. In no case shall the increments of progress in the schedule exceed nine months;

(o) A listing of any toxic pollutant which the applicant uses or manufactures as an intermediate or final product or by-product;

(p) The Signature of an authorized representative of the user certified by a qualified professional indicating whether pretreatment standards are being met on a consistent basis and, if not, whether additional operation and maintenance and additional pretreatment is required and the Certification Statement required by 40 CFR Section 403.6(a) (2) (ii).

(q) Evidence of the following by user subject to a national categorical pretreatment standard shall:

(1) A baseline monitoring report submitted to the Director ninety days prior to first discharge, a ninety-day report and semiannual reports that meet Federal pretreatment requirements at 40 CFR, Section 403.12 or any revision thereto indicating the nature and concentration of pollutants in the discharge.

(2) Use of a minimum of four (4) grab samples for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organics. For all other pollutants, twenty-four-hour composite samples must be obtained through flow-proportional composite sampling techniques where feasible. The Control Authority may waive flow-proportional composite sampling for any industrial user that demonstrates that flow-proportional composite sampling is infeasible. In such cases samples may be obtained through time-proportional composite sampling techniques or through a minimum of four grab samples where the user demonstrates that this will provide a representative sample of the effluent being discharged.

(3) A minimum of one representative sample taken to compile that data necessary to comply with the requirements of this paragraph.

(r) Semiannual reports to the Director from any significant industrial user or other user required to have a permit, indicating the nature and concentration of pollutants in the discharge. The specific standards or the POTW itself may require this report to be filed more frequently. In addition, this report shall include a report of all daily flows which, during the reporting period, exceeded the average daily flow in the permit.

(s) Notification to the City in advance of any substantial change in the volume or character of pollutants in their discharge, including the listed or characteristic hazardous wastes for which the industrial user has submitted initial notification under subsection (t) hereof.

(t) Hazardous waste notification, as follows:

(1) Any industrial user, except as specified in paragraph(t)(5) hereof, which discharges to the public sewer any substance which, if otherwise disposed of, would be a listed or characteristic hazardous waste under 40 CFR, Part 261, shall notify the City in writing of such discharge.

(2) All hazardous waste notifications shall include:

A. The name of the hazardous waste as set forth in 40 CFR, Part 261;

B. The EPA hazardous waste number;

C. The type of discharge (continuous, batch or other); and

D. A certification that the user has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

(3) In addition to the information submitted under paragraph (t)(2) hereof, industrial users discharging more than 100 kilograms of hazardous waste per calendar month to the public sewer shall provide, to the extent such information is known and readily available to the industrial user:

A. An identification of the hazardous constituents contained in the waste;

B. An estimation of the mass and concentration of such constituents in the waste stream discharged during that calendar month; and

C. An estimation of the mass of constituents in the waste stream expected to be discharged during the following twelve months.

(4) Hazardous waste notifications shall be submitted no later than February 19, 1991, except that industrial users commencing the discharge of listed or characteristic hazardous waste after August 23, 1990, shall provide the notification no later than 180 days from the discharge of the wastes. Any notification under this section need be submitted only once for each hazardous waste discharged, although notifications of changed discharges must be submitted under subsection (s) hereof.

(5) Industrial users are exempt from the hazardous waste notification requirement during a calendar month in which they discharge fifteen kilograms or less of non-acute hazardous wastes. Discharge of any quantity of acute hazardous waste, as specified in 40 CFR, Sections 261.30(d) and 261.33(e), requires a one-time notification.

(u) An industrial user discharge authorization containing, at a minimum:

(1) A statement of duration, in no case more than five years;

(2) A statement of non-transferability without, at a minimum , prior notification to the POTW and provision of a copy of the existing control mechanism to the new owner or operator.

(3) Effluent limits based on applicable general pretreatment standards, categorical pretreatment standards, local limits and State and Local law;

(4) Self-monitoring, sampling, reporting, notification and recordkeeping requirements, including an identification of the pollutants to be monitored, sampling location, sampling frequency and same type, based on the applicable general pretreatment standards, categorical pretreatment standards, local limits and State and local law;

(5) A statement of applicable civil and criminal penalties for a violation of pretreatment standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable Federal deadlines. (Ord.8-93. Passed 6-8-93.)

C. ACCIDENTAL DISCHARGES

1. NOTICES AND INSTRUCTIONS FOR ACCIDENTAL DISCHARGE (1042.39)

A notice prepared by the user shall be prominently and permanently posted at appropriate locations at each commercial and industrial user facility advising its employees of whom to call in case of an accidental discharge in violation of any provision of this chapter. In addition, instruction shall be given to appropriate employees of the user and the same certified to the City on an annual basis.

2. ACCIDENTAL DISCHARGES: REPORTS AND STATEMENTS (1042.40)

(a) Any accidental discharge of a slug, or a prohibited substance, or any substance which could cause a problem, directly or indirectly into a public sewer shall be immediately reported to the wastewater treatment plant or the Director of Public Works by the person responsible for such discharge or by the owner or occupant of the property from which the discharge was made, to enable counter-measures to be taken by the City to minimize damage to the City sewers, treatment facilities, treatment processes and receiving waters.

(b) Such notification shall be followed, within seven days of the date of occurrence, by a detailed written statement describing the causes of the accidental discharge and the measures being taken to prevent further occurrence. Such notification shall not relieve users of liability for any expense, loss or damage to the sewerage system, treatment plant or treatment process or for any fines imposed on the City on account thereof by any regulatory agency.

3. Accidental discharges will be reported to the Industrial Surveillance personnel or the on-duty Foreman at the Wastewater Treatment Plant. The 24-Hour phone number is (616) 966-3513.

Part IV - STANDARD CONDITIONS

A. SEWER USER ORDINANCE

The Industrial User shall comply with all general standards in Section 1042 of the Codified Ordinances of the City of Battle Creek.

B. RIGHT OF ENTRY (1042.34)

Persons or occupants of premises where wastewater is created or discharged shall allow the City or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection, observation, measurements, sampling and testing in the performance of any of their duties. The City shall have the right to set up on a user's property, in locations that will not interfere with the user's operations and where the user's products will not become damaged or contaminated, such devices as are necessary to conduct sampling or metering operations, and to inquire into any industrial process to the extent necessary to establish the source, quantity, composition and concentration of the wastewater. When necessary, the user shall make arrangements with its security force, using procedures as might be reasonable, to allow for entry without delay by the City representatives for the purpose of performing their specific responsibilities.

C. CONFIDENTIAL INFORMATION (1042.33)

Information and data on a user obtained from reports, questionnaires, permit applications, permits, monitoring programs and inspections shall be available to the public or other governmental agencies in accordance with appropriate State and Federal laws and regulations. When requested by the person furnishing information, portions of that information which disclose trade secrets or secret processes shall not be made available for governmental agencies which require it for making studies only after conforming to the requirements for disclosure of confidential information contained in 40 CFR, Part 2, Subpart B, Confidentially of Business Information. Requirements listed therein shall be considered the minimum requirement for local agencies.

D. CONTROL MANHOLES (1042.37)

The Director of Public Works may require the user to construct, at his own expense, monitoring facilities, including a control manhole, if necessary, to allow observation, inspection, sampling and measurement of the quantity, composition and concentration of waste to the building sewer or internal drainage systems and may also require sampling or metering equipment to be provided, installed and operated at the user's expense. The monitoring facility shall be situated on the user's premises, with accommodations to allow access by City representatives. There shall be ample room in or near the sampling point to allow accurate sampling and compositing for analysis. All equipment and appurtenances thereto shall be maintained at all times in a safe and proper operating condition at the expense of the user. If self-monitoring reveals violation of any discharge limitations specified herein, the industrial user shall notify the City within 24 hours of becoming aware of the violation. The industrial user shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City within 30 days after becoming aware of the violation.

E. DISPOSAL OF PRETREATMENT SLUDGES AND SPENT CHEMICALS

The disposal of sludges and spent chemicals generated shall be done in accordance with Section 405 of the Clean Water Act and Subtitles C and D of the Resource Conservation and Recovery Act.

F. SUBMISSION OF REPORTS

All reports shall be submitted to the following address:

Industrial Surveillance
City of Battle Creek
2000 West River Road
Battle Creek, MI 49015-1181

G. TERMINATION OF SERVICE (1042.47)

In addition to statutes, rules or regulations authorizing termination of service for delinquency in payment, the City may terminate or cause to be terminated wastewater service to users for:

(a) Submitting to the Director of Public Works, the City or a State or Federal government unit false statements, representations, records, reports, plans or other documents;

(b) Tampering with or rendering inaccurate any monitoring device, public or private meter or equipment installed or operated pursuant to this chapter;

(c) Failure to report significant changes in operations or wastewater constituents or characteristics;

(d) Discharging or causing to be discharged prohibited substances or substances requiring special discharge authorization without having obtained such authorization or with such authorization having been denied or revoked;

(e) Obtaining special discharge authorization under Section 1042.29 on the basis of false or misleading information;

(f) Refusal to allow the Director or City representative reasonable access to the user's premises for the purpose of inspection and/or monitoring; or

(g) Nonpayment of fees, surcharges or charges.

H. OUT-OF-CITY USERS

Those nondomestic users located outside the Battle Creek city limits, who contribute to the City of Battle Creek's wastewater collection system, must comply with the conditions established by this Discharge Authorization and the Codified Ordinance of the City of Battle Creek Section 1042. If applicable, a completed Out-Of-City User Consent Form has been attached.

I. PUBLICATION OF LIST OF VIOLATORS (1042.68)

The City shall publish annually, in the largest daily newspaper published in the City, or in the largest daily newspaper published in the County if the City does not have a daily newspaper, a list of the industrial users who, during the previous twelve months, were significantly violating applicable pretreatment standards or other pretreatment requirements.

J. SELF-MONITORING/REPORTING PENALTIES

Commencing September 1, 1989, those industries which do not submit the required self-monitoring reports in accordance with the specified deadlines, will be assessed as a minimum, fines and penalties amounting to $500.00 per delinquent report. Continued violation may cause additional penalties up to and including termination of service .

K. DISCHARGE AUTHORIZATION MODIFICATION

This authorization may be modified for good causes including, but not limited to, the following:

1. To incorporate any new or revised Federal, State, or local pretreatment standards or requirements;

2. Material or substantial alterations or additions to the user's operation processes, or discharge volume or character which were not considered in drafting the effective authorization;

3. A change in any condition in either the industrial user or the POTW that requires either a temporary or permanent reduction or elimination of the authorized discharge;

4. Information indicating that the permitted discharge poses a threat to the Control Authority's collection and treatment systems, POTW personnel or the receiving waters;

5. Violation of any terms or conditions of the authorization;

6. Misrepresentation or failure to disclose fully all relevant facts in the authorization application or in any required reporting;

7. Revision of or a grant of variance from such categorical standards pursuant to 40 CFR 403.13;

8. To correct typographical or other errors in the authorization;

9. Upon request of the user, provided such request does not create a violation of any applicable requirements, standards, laws, or rules and regulations;

L. TRANSFERABILITY OF DISCHARGE AUTHORIZATION

This Discharge Authorization is not transferable. A new owner or operator must apply at least thirty (30) days in advance, for a new authorization to be issued. This authorization is considered site and owner or operator specific.

M. PENALTY (1042.99)

(a) Civil Penalty Whoever intentionally or negligently violates any provision of this chapter or any provision of any permit issued pursuant to this chapter, or intentionally or negligently discharges waste or wastewater which causes pollution, or intentionally or negligently violates any cease and desist order, prohibition, effluent limitation, national standard of performance or national pretreatment or toxicity standard, shall be civilly liable to the City in a sum not to exceed ten thousand dollars ($10,000) for each day on which such violation occurs. The City may petition the appropriate court of jurisdiction to impose, assess and collect such sums pursuant to this chapter, or to seek injunctions or restraining orders to enforce provisions of this chapter. (Ord. 8-93. Passed 6-8-93.)

(b) Misdemeanor. Whoever violates any provision of this chapter, for which no penalty is otherwise provided, shall be fined not more than five hundred dollars ($500.00) or imprisoned not more than ninety days, or both, for each offense. A separate offense shall be deemed committed each day such violation continues.

(c) Intentional Damage. Whoever violates Section 1042.62 shall be fined not less than one hundred dollars ($100.00) nor more than five hundred dollars ($500.00) or imprisoned not less than three days, nor more than ninety days, for each offense. Each act constitutes a separate offense.

(d) Remedies Cumulative. The remedies provided for in this chapter are cumulative, not exclusive, and shall be in addition to any and all other remedies available to the City. (Ord. 22-80. Passed 11-4-80.)

ATTACHMENT A

SPECIAL DISCHARGE AUTHORIZATION NO. 101 -S
(COMPATIBLE - NON-CONTRACT)

In accordance with the Codified Ordinances of the City of Battle Creek, Michigan, Part Ten - Streets, Utilities, and Public Services Code, Chapter 1042, Sewers, Section 1042.29.

COMPANY NAME: American Fibrit, Inc.

FACILITY ADDRESS: 76 Armstrong Road

Battle Creek, MI 49015-1079

is hereby authorized to discharge wastewater from the above identified facility into the City of Battle Creek Sewer System in accordance with the following effluent limitations.

PARAMETER	ONE DAY MAXIMUM (mg/l) EQUIVALENT CONCENTRATION LIMIT
Suspended Solids	820
BOD 5-Day	470

The discharge of wastewater exceeding the limitations established in the Codified Ordinances of the City of Battle Creek (Chapter 1042, Sewers) will constitute extra-strength waste, and the Company will be billed according to charges as established by Resolution of the City Commission. The City of Battle Creek will conduct periodic monitoring of the Company's effluent to determine the quantity of extra-strength waste being discharged by the Company. If, at any point, the City of Battle Creek determines this extra-strength discharge is detrimental to human life, the collection system, or the wastewater treatment plant processes this Special Discharge Authorization will be immediately suspended.

In addition, the discharge shall comply with al other applicable regulations or standards as established in the Codified Ordinances of the City of Battle Creek. If found in violation of any of these regulations, the Company shall be subject to enforcement action as defined by Federal, State, or City law.

This Authorization shall become effective on July 1, 1996 and shall expire at midnight on June 30, 1999.

By: Walter L Thompson
Control Authority Signature

Issued on July 1, 1996

RECD APR 05 1996

PLEASE RETURN THE FOLLOWING COMPLETED APPLICATION TO:

City of Battle Creek
Attn: Industrial Surveillance
2000 W. River Rd.
Battle Creek, Michigan 49015

CITY OF BATTLE CREEK, MICHIGAN

WASTEWATER DIVISION

OFFICE OF THE SUPERINTENDENT

2000 W. River Road

(616) 966-3513 Battle Creek, MI 49015

INDUSTRIAL USER DISCHARGE AUTHORIZATION APPLICATION FORM

SECTION ONE - GENERAL INFORMATION

1. Facility Name: AMELICAN FIBLIT

   a. Operator Name: AMELICAN FIBLIT

   b. Is the operator identified in 1a, the owner of the facility ? yes ( ) no (X)
   If no, provide the name and address of the owner.

   BECKEL GLOUP INC
   6600 E. 15 MILE ROAD
   STELLING HEIGHTS, MI 48312

2. Facility Address:

   Street: 76 ALMSTLONG ROAD

   City: BATTLE CLEEK State: MI

   Zip: 49015

3. Business Mailing Address:

   Street: SAME

   City: _____ State: _____

   Zip: _____

4. Designated signatory authority of the facility:
   (Attach similar information for each authorized representative)

   Name: DAN SCHOENBECK

   Title: PLANT MANAGEL

   Address: SAME

   City: _____ State: _____

   Zip: _____

5: Designated facility contact:

Name: ALFRED CINI

Title: PLANT ENGINEERING MANAGER

Phone #: (616)968-3000 ext. 441

SECTION TWO - BUSINESS ACTIVITY

1. If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply).

( ) Aluminum Forming
( ) Asbestos Manufacturing
( ) Battery Manufacturing
( ) Can Making
( ) Carbon Black
( ) Coal Mining
( ) Coil Coating
( ) Copper Forming
( ) Electric and Electronic Components Manufacturing
( ) Electroplating
( ) Feedlots
( ) Fertilizer Manufacturing
( ) Foundries (Metal Molding and Casting)
( ) Glass Manufacturing
( ) Grain Mills
( ) Inorganic Chemicals
( ) Iron and Steel
( ) Leather Tanning and Finishing
( ) Metal Finishing
( ) Nonferrous Metals Forming
( ) Organic Chemicals Manufacturing
( ) Paint and Ink Formulating
( ) Paving and Roofing Manufacturing
( ) Pesticides Manufacturing
( ) Petroleum Refining
( ) Pharmaceutical
( ) Plastic and Synthetic Materials Manufacturing
(X) Plastics Processing Manufacturing
( ) Porcelain Enamel
(X) Pulp, Paper, and Fiberboard Manufacturing
( ) Rubber
( ) Soap and Detergent Manufacturing
( ) Steam Electric
( ) Sugar Processing
( ) Textile Mills
( ) Timber Products

A facility with processes inclusive in these business areas may be covered by Environmental Protection Agency's categorical pretreatment standards. These facilities are termed "categorical users".

2. Give a brief description of all operations at this facility including primary products or services.

WOOD FIBEL, AUTOMOTIVE INTELIOL SUBSTLATES. PAPEL STOCK FLOM WOOD CHIPS. FOLM PAPEL STOCK TO MEDIUM DENSITY PLODUCT PANEL. FINISH BOALD (PAINT, COUEL WITH VINYL) ASSEMBLE COMPONENTS

3. Indicate applicable Standard Industrial Classification (SIC) for all processes

a: 2498 d: _____

b: 3714 e: _____

c: _____ f: _____

4. Product Volume:

Product Name:	Production Amounts per day Average	Maximum	Daily Unit
VW INSTRUMENT PANEL	800	1000	EA.

SECTION THREE - WATER SUPPLY

1. Water Sources: (Check as many as are applicable)

( ) Private Well
( ) Surface Water
(X) Municipal Water (specify city) BATTLE CREEK
( ) Other (specify) _____

2. Name on the water bill:

Name: AMELICAN FIBLIT

Street: 76 ARMSTRONG ROAD

City: BATTLE CREEK State: MI Zip: 49015

3. Water service account number: 40-01-0 480-0

4. List average water usage on premises:
(New facilities may estimate)

	average (gpd)
a. Contact cooling water	0
b. Non-contact cooling water*	NOT METERED
c. Boiler Feed	230 (INTERMITTENT
d. Process	26000 (INTERMITTENT
e. Sanitary	NOT METERED
f. Air Pollution Control	0
g. Contained in product	0
h. Irrigation and lawn watering	NOT METERED
i. Other	
j. Total of a-i	71564 (PREVIOUS YEAR)

* NPDES Permit Number, if applicable: N/A

SECTION FOUR - SEWER INFORMATION

1. a. For an existing business:

Is the building presently connected to the public sanitary sewer system ?

(XX) Yes: Sanitary Sewer account no. 101
( ) No: Have you applied for a sanitary sewer hookup ? ( ) yes ( ) no

b. For a new business:

Will you be occupying an existing vacant building (such as an industrial park) ? ( ) yes ( ) no

Have you applied for a building permit if a new facility will be constructed ? ( ) yes ( ) no

Will you be connected to the public sanitary sewer system ? ( ) yes ( ) no

2. List size, descriptive location, and flow of each facility sewer which connects to the City's sewer system. (If more than three, attach additional information on another sheet.)

Sewer Size	Descriptive Location	GPD Avg. Flow
1	SOUTHWEST COLNEL BLG.	NOT METERED
2	SOUTH CENTER BLG.	NOT METERED
3	SOUTH EAST COLNEL BLG.	NOT METERED

SECTION FIVE - WASTEWATER DISCHARGE INFORMATION

1. Does (or will) this facility discharge any wastewater other than from restrooms to the City sewer ?

(X) Yes If the answer to this question is "yes", complete the remainder of the application.

( ) No If the answer to this question is "no", skip to Section Nine.

2. Provide the following information on wastewater flow rate. (New facilities may estimate)

a. Hours/Day discharged (e.g. 8 hours/day)

M 24 T 24 W 24 TH 24 F 24 SAT 24 SUN 24

b. Hours of Discharge (e.g. 9 a.m. to 5 p.m.)

M	0000-2400	F	0000-2400
T	0000-2400	SAT	0000-2400
W	0000-2400	SUN	0000-2400
TH	0000-2400		

c. Peak hourly flow rate (GPD) UNKNOWN

d. Maximum daily flow rate (GPD) 132000

e. Annual daily average (GPD) 71564

3. If batch discharge occurs or will occur, indicate: (New facilities may estimate)

a. Number of batch discharges NOT RECORDED per day

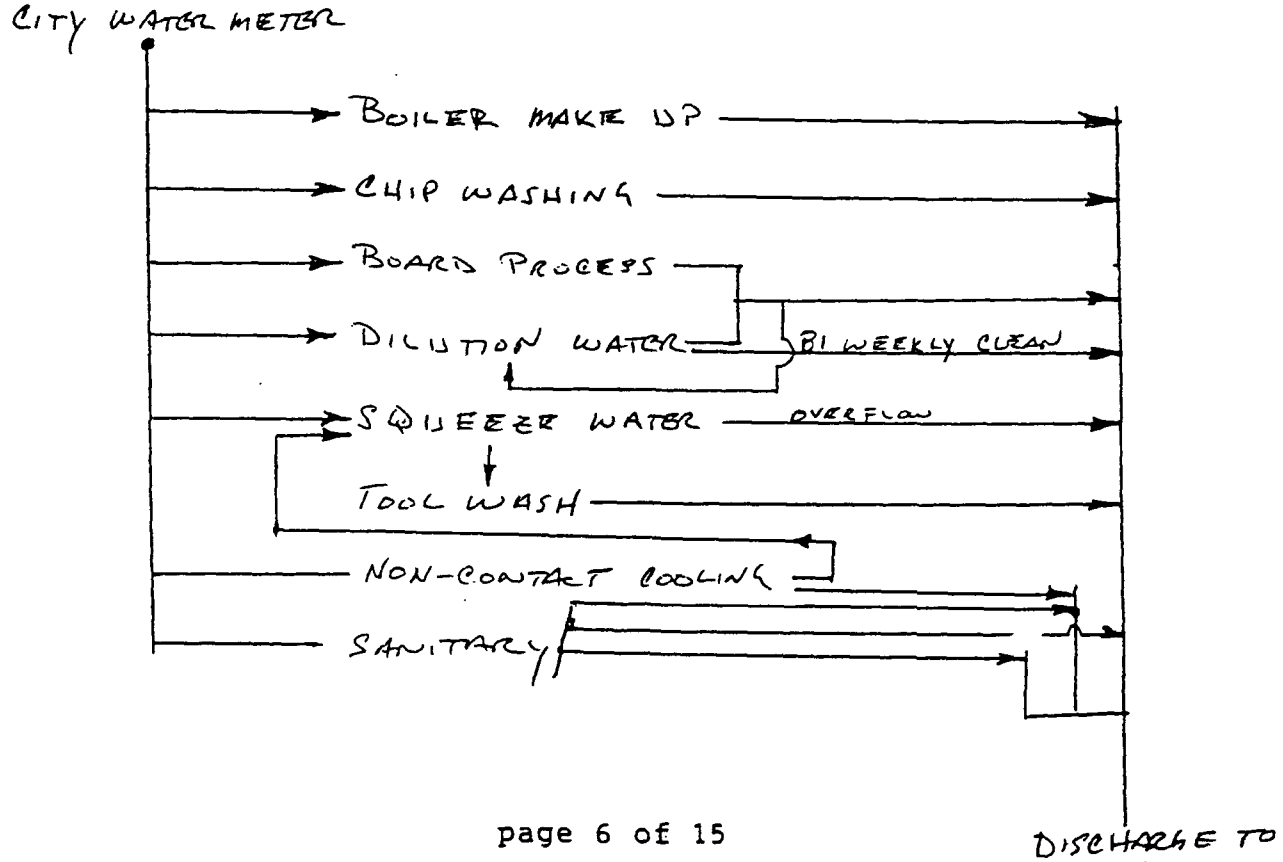
b. Average discharge per batch UNKNOWN (GPD)

c. Time of batch discharges RANDOM (days of week) at (hrs of day)

d. Flow Rate UNKNOWN gallons/minute

e. Percent of total discharge UNKNOWN

4. Schematic Flow Diagram -



Facilities that checked activities in question 1 of Section Two are considered Categorical Industrial Users and should skip to question 6.

5. For Non-Categorical Users Only: List average wastewater discharge, maximum discharge, and type of discharge (batch, continuous, or both), for each plant process. (New facilities should provide estimates for each discharge).

Process Description	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)
PLASTICS PROCESSING	1000	1000	CONTINUOUS
PULP, PAPEL, FIBELBOARD	UNKNOWN	UNKNOWN	CONTINUOUS / BATCH

ANSWER QUESTIONS 6 & 7 ONLY IF YOU ARE SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

6. For Categorical Users: Provide the wastewater discharge flows for each of your processes or proposed processes. (New facilities should provide estimates for each discharge).

Regulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch,continuous)
PLASTICS PROCESSING	1000	1000	CONTINUOUS
PULP, PAPEL, FIBELBOARD	UNKNOWN	UNKNOWN	CONTINUOUS / BATCH

Unregulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch,continuous)
SANITARY	NOT METERED		CONTINUOUS

Dilution	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch,continuous)

7. For Categorical Users subject to Total Toxic Organic (TTO) requirements

Provide the following (TTO) information.

a. Does (or will) this facility use any of the toxic organics that are listed under the TTO standard of the applicable categorical pretreatment standards published by the EPA ?

(X) yes ( ) no

b. Has a baseline monitoring report (BMR) been submitted which contains TTO information ?

(X) yes ( ) no

c. Has a toxic organics management plan (TOMP) been developed ? If yes, please attach a copy.

(X) yes ( ) no

8. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility ?

Current:	Flow Metering	( ) yes	(X) no	( ) n/a
	Sampling Equipment	( ) yes	(X) no	( ) n/a
Planned:	Flow Metering	( ) yes	(X) no	( ) n/a
	Sampling Equipment	( ) yes	(X) no	( ) n/a

If so, please indicate the present or future location of this equipment on the sewer schematic.

9. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics ? Consider production processes as well as air or water pollution treatment processes that may affect the discharge.

(X) yes ( ) no, (skip question 10)

10. Briefly describe these changes and their effects on the wastewater volume and characteristics: (Attach additional sheets if needed.)

ADDS 75 EMPLOYEES GENERAL MOTORS POOL PANELS > 1,000,000/YEAR - START SEPT 96
ADDS 25 EMPLOYEES MERCEDES BENZ POOL PANELS > 200,000/YEAR - START FEB 97

* NOTE - THESE CONTRACTS WILL INCREASE WATER AND SEWAGE USAGE SUBSTANTIALLY.

11. Are any materials or water reclamation systems in use or planned ?

(X) yes ( ) no, (skip question 12)

12. Briefly describe recovery process, substance recovered, percent recovered, and the concentration in the spent solution. Submit a flow diagram for each process: (Attach additional sheets if needed.)

SEE DIAGRAM PAGE 6 OF 15

SECTION SIX - CHARACTERISTICS OF DISCHARGE

Current Users:

If your facility is currently providing self-monitoring data to the City, skip to Section Seven. (If additional data or monitoring is being implemented, which has not been submitted to the City, it must be attached.)

New Users:

New dischargers should attach any data which is pertinent or available from facilities with similar processes.

SECTION SEVEN - TREATMENT

1. Is any form of wastewater treatment (see list below) practiced at this facility ?

( ) yes (XX) no

2. Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years ?

( ) yes, Describe _____
(XX) no

3. Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate).

( ) Air flotation
( ) Centrifuge
( ) Chemical precipitation
( ) Chlorination
( ) Cyclone
( ) Filtration
( ) Flow equalization
( ) Grease or oil separation, type:_____
( ) Grease trap
( ) Grinding filter
( ) Grit removal
( ) Ion exchange
( ) Neutralization, pH correction
( ) Ozonation
( ) Reverse osmosis
( ) Screen
( ) Sedimentation
( ) Septic tank
( ) Solvent separation
(X) Spill protection
( ) Sump
( ) Biological treatment, type:_____
(X) Rainwater diversion or storage
( ) Other chemical treatment, type:_____
( ) Other physical treatment, type:_____
( ) Other, type:_____

4. Description

Describe the pollutant loading, flow rates, design capacity, physical size, and operating procedures of each treatment facility checked above.

N/A

5. Attach a process flow diagram for each existing treatment system. Include process equipment, by-products, by-product disposal method, waste and by-product volumes, and design and operating conditions. N/A

6. Describe any changes in treatment or disposal methods planned or under construction for the wastewater discharge to the sanitary sewer. Include estimated completion dates.

NONE

7. Do you have a treatment operator ? ( ) yes ( ) no

(if yes,) Name: N/A
Title: _____
Phone: _____

8. Do you have a manual on the correct operation of your treatment equipment ? N/A

( ) yes ( ) no

9. Do you have a written maintenance schedule for your treatment equipment ? N/A

( ) yes ( ) no

SECTION EIGHT - FACILITY OPERATIONS

1. Shift Information

Work Days		(X) Mon	(X) Tues	(X) Wed	(X) Thur	(X) Fri	(X) Sat	( ) Sun
Shifts per work day:		3	3	3	3	3	3	3
Empl's per shift:	1st	28	28	28	28	28	28	28
	2nd	24	24	24	24	24	24	24
	3rd	7	7	7	7	7	7	7

1st shift starts at: 7:00 AM ends at 3:30 PM
2nd shift starts at: 3:30 A.M ends at 12:00 A.M
3rd shift starts at: 11:00 P.M ends at 7:00 AM

2. Indicate whether the facility discharge is:

(X) Continuous, during work hours
( ) Batch or intermittent

3. List types and amounts (mass or volume per day) of raw materials used or planned for use (attach list if needed)

WOOD FIBEL (PAPEL PULP)
RESINS (PAPEL STOCK)
PLASTIC RESINS
CATALYSTS

4. List each substance from Appendix A which is contained in any materials used or stored and could be present in your facilities wastewater discharge. (List by the number from Appendix A rather than by name.)

1	167				

5. List each substance from Appendix A which is contained in any materials used or stored. (List by the number from Appendix A rather than by name.)

1 167	139	156	162	164	166

6. Building Layout - Draw the location of each building on the premises. Show map orientation and location of all water meters, storm sewers, and each facility sewer line connected to the public sewers. Show unit processes in respect to drains and overflows. Specify sampling locations situated outside the building.

SECTION NINE - SPILL PREVENTION

1. Do you have chemical storage containers, bins, or ponds at your facility ? (xx) yes ( ) no solvents, adhesives, resins 1 basf, paramel, hercon, bussan, konus, maintenance lubricants
If yes, please give a description of their location, contents, size, type and frequency and method of cleaning. Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain.

2. Do you have floor drains in your manufacturing or chemical storage area(s) ? (xx) yes ( ) no
If yes; where do they discharge to ?
primary sanitary sewer, sanitary sewer (1) storm

3. If you have chemical storage containers, bins, or ponds in a manufacturing area, could an accidental spill lead to a discharge to: (check all that apply.)

( ) an onsite disposal system
(xx) public sanitary sewer system (e.g. floor drain)
(xx) storm drain
(xx) to ground
( ) other, specify _____
( ) not applicable, no possible discharge to any of the above routes.

4. Do you have an accidental spill prevention plan (ASPP) to prevent spills of chemicals or slug discharges from entering the City's collection system ?

(xx) yes - Enclose a copy with this application
( ) no
( ) not applicable since there are no floor drains and/or the facility discharges only domestic waste

SECTION TEN - NON-DISCHARGED WASTES

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system ?

(xx) yes, please describe below
( ) no, skip the remainder of Section Ten.

Waste Generated	Quantity (per year)	Disposal Method
solvents		off site incineration
oils		off site recycling

Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of on-site.

SECTION 9 ATTACHMENT

Section 9- QUESTION 1.

A. WEST HAZARDOUS MATERIAL STORAGE BUILDING WITH CONTAINMENT - CURRENTLY AND INTO FUTURE BEING USED FOR NON-HAZARDOUS STORAGE.

B. EAST HAZARDOUS MATERIAL STORAGE BUILDING WITH SPILL CONTAINMENT. PRIMARY STORAGE FOR SOLVENT BASED PRODUCTS UP TO 55 GALLON STEEL DRUMS.

C. HAZARDOUS WASTE / EMPTY DRUM STORAGE BUILDING W/ SPILL CONTAINMENT.

D. SOLVENT ADHESIVE USAGE AREAS - CEMENT FLOORING, GREATER THAN 100' TO OPEN DRAINS. PRODUCTS IN 55 GAL STEEL DRUMS.

E. POLYURETHANE (POLYOL + MDI) FOAMING OPERATIONS PRODUCTS IN 300 GALLON STEEL TOTES.

F. PARAMEL + HERCON STORAGE, 5000 GAL FIBERGLASS TANKS (3) IN CONTAINMENT PIT PUMPED TO SANITARY

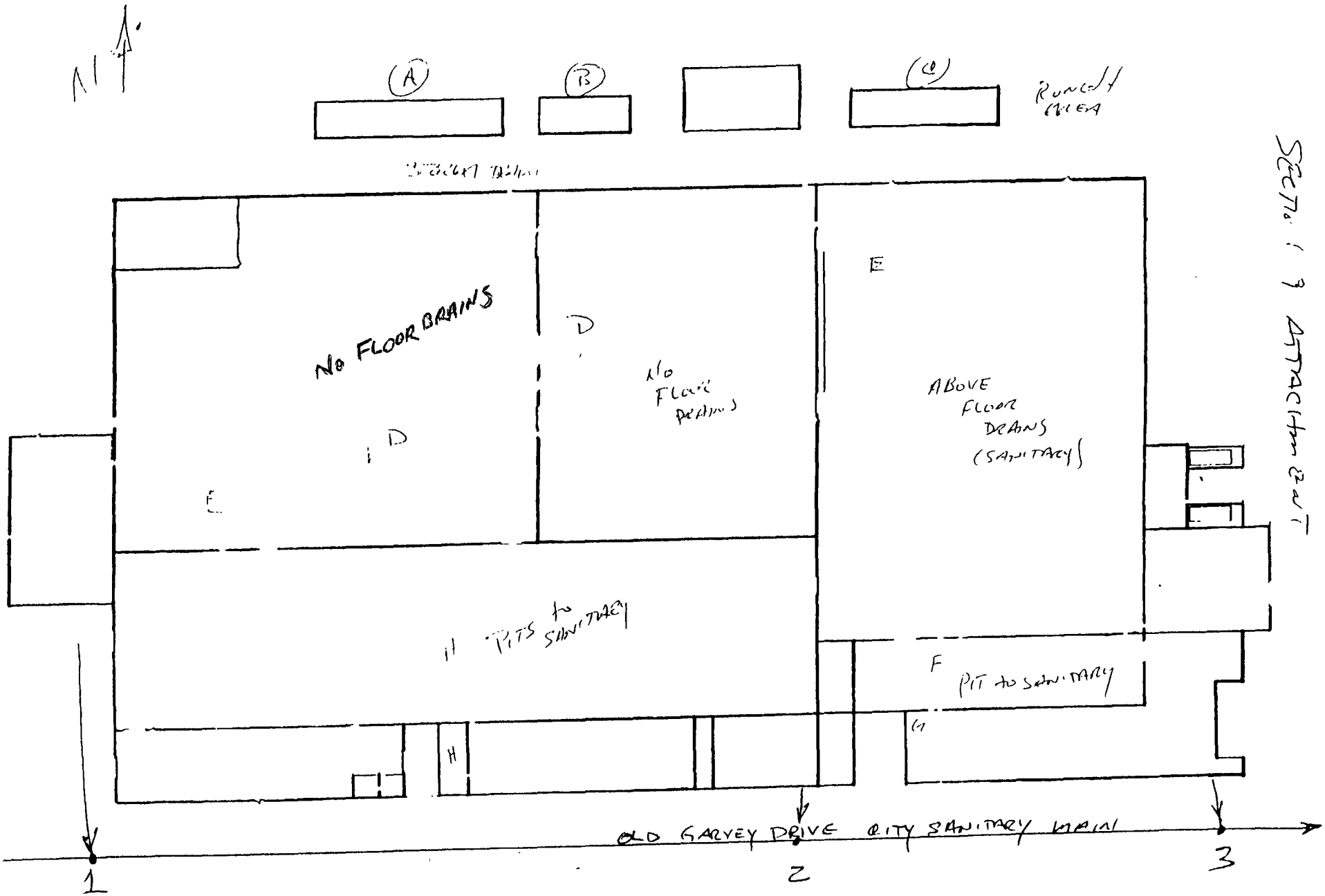
SECTION 9 ATTACHMENT

G. BUSSAN - BIOCIDE - 30 gal PLASTIC DISPENSED W/ CONTAINMENT.

H. KONUS (THERMINAL 59 - MONSANTO) HEAT TRANSFER FLUID.

I VARIOUS MAINTENANCE OILS & GREASES THROUGHOUT FACILITY.

ALL MSDS AVAILABLE FROM PLANT ENGINEER PAUL LESTER.


N
A
B
C
RUNOFF AREA
No FLOOR DRAINS
D
D
No FLOOR DRAINS
E
E
ABOVE FLOOR DRAINS (SANITARY)
PITS to SANITARY
F
PIT to SANITARY
H
OLD GARVEY DRIVE CITY SANITARY MAIN
1
2
3

2. If an outside firm removes any of the above checked wastes, state the name(s) and address(es) of all waste haulers:

a. DETLEX
312 ELLSWORTH S.W.
GRAND RAPIDS, MI 49503

Permit No. MID-091605972

b. MICHIGAN PUMPING
605 HALLISON
TLENTON MI 48183

Permit No. MID 085895407

SECTION ELEVEN - AUTHORIZED SIGNATURES

Compliance certification:

1. Are all applicable Federal, State, or City pretreatment standards and requirements being met on a consistent basis ?

(XX) yes ( ) no ( ) Not yet discharging

2. If No:

a. What additional operations and maintenance procedures are being considered to bring the facility into compliance ? Also, list additional treatment practices being considered in order to bring the facility into compliance.

b. Provide a schedule for bringing the facility into compliance. Specify major events planned along with reasonable completion dates. (These dates are subject to approval by the City of Battle Creek)

Event or Activity	Completion Date

Authorized Representative Statement:

The information contained in this application is familiar to me and to the best of my knowledge and belief, such information is true, accurate and complete.

x DANIEL W. SCHOENBECK	PLANT MANAGER	
Name (please print)	Title	
x Daniel W. Schoenbeck	April 3, 1996	616 968 3000
Signature	Date	Phone No.

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
3ØA	1,1,1-trichloroethane
3ØD	1,1,2,2-tetrachloroethane
143	1,1,2-trichloroethane
3ØB	1,1-dichloroethane
54A	1,1-dichloroethylene
93	1,2(methylenedioxy)-4-propenyl benzene
27B	1,2,4-trichlorobenzene
27C	1,2-dichlorobenzene
53	1,2-dichloroethane
55B	1,2-dichloropropane
54B	1,2-trans-dichloroethylene
56	1,2:3,4-diepoxybutane
27D	1,3-dichlorobenzene
55A	1,3-dichloropropylene; (1,3-dichloropropene)
129	1,3-propane Sultone
27E	1,4-dichlorobenzene
66	1,4-dioxane
98	1,5-naphthalenediamine
39	1-(4-chlorophenyl)-3, 3-dimethyl triazene
14	1-amino-2-methylanthraquin
33	1-chloro-2,3-epoxypropane
95	1-methylnaphthalene
99	1-naphthylamine
184	2(p-tert-butylphenoxy)-isopropyl-2-chloroethyl sulfite
67	2,3-epoxy-1-propanal
146	2,4,5-trimethylaniline
45	2,4-diaminoanisole sulfate
47	2,4-diaminotoluene
32C	2,4-dichlorophenol
6Ø	2,4-dimethylphenol
62	2,4-dinitrophenol
63	2,4-dinitrotoluene
64A	2,6-dinitrotoluene
76	2-(2-formylhydrazino)-4-(5-nitro-2-furthiazole)
4	2-acetylaminofluorene
9	2-aminoanthraquinone
34A	2-chloroethyl Vinyl Ether (mixed)
31A	2-chloronaphthalene
32A	2-chlorophenol
96	2-methyl-1-nitroanthraquinone
1ØØ	2-naphthylamine
1Ø6	2-nitrophenol
52	3,3-dichlorobensidine salts
51	3,3-dichlorobenzidine
128A	3,4-benzofluoranthene
38	3-(chloromethyl)pyridine hydrochloride
13	3-amino-9-ethylcarbazole
225B	4,4'-DDD; (p,p'-TDE)
225A	4,4'-DDE; (p,p'-DDE)
137	4,4'-thiodianiline
46	4,4-diaminodiphenyl ether
91	4,4-methylenebis(2-methylaniline)

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
92	4,4-methylenebis(N,N-dimethylaniline)
61	4,6-dinitor-o-cresol
12	4-aminobiphenyl
175	4-aminopyridine
77B	4-bromophenyl Phenyl Ether
4Ø	4-chloro-m-phenylenediamine
41	4-chloro-o-pheylenediamine
77A	4-chlorophenyl Phenyl Ether
58	4-dimethylaminoazobenzene
1Ø4	4-nitrobiphenyl
1Ø7	4-nitrophenol
43	5-chloro-o-toluidine
1Ø2	5-nitro-o-anisidine
1Ø1	5-nitroacenaphthene
131	5-propyl-1,3-benzodioxole
222A	A-BHC-Alpha
2	Acenaphthene
128D	Acenaphthylene
3	Acetone Cyanohydrin
167	Acids, inorganic
1	Acids, organic
5	Acrolein
6	Acrylic Acid
7	Acrylonitrile
173	Aldicarb
174	Aldrin
8	Allyl Chloride
1Ø	Aminoazobenzene
15	Aminotriazole (amitrole)
176	Anilazine
16	Aniline
17	Aniline Hydrochloride
128E	Anthracene
15Ø	Antimony
177	Antimycin A
151	Arsenic
172	Asbestos (fibrous)
178	Azinphos-ethyl
179	Azinphos-methyl
222B	B-BHC-Beta
13Ø	B-proplolactone
18Ø	Barban
181	Bendiocarb
182	Benomyl
128B	Benxo(k) fluoranthane; (11,12-benzofluoranthene)
2Ø	Benz(a)anthracene
21	Benzene
22	Benzidine
23	Benzidine Salts
24	Benzo(a)pyrene
128F	Benzo(ghi)perylene; (1,12-benzoperylene)
152	Beryllium

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
77C	Bis(2-chloroethoxy)methane
35	Bis(2-chloroethyl)ether
37	Bis(2-chloromethyl)ether
73	Bis(2-ethylhexyl)phthalate
78D	Bromoform; (tribromomethane)
183	Bromoxynil
25	Brucine
124A	Butyl Benzyl Phthalate
153	Cadmium
185	Captafol
186	Captan
187	Carbaryl
188	Carbofuran
26	Carbon Tetrachloride
189	Carbophenothion
168	Chloramines
19Ø	Chlordane
191	Chlordecone
192	Chlorfenvinphos
27	Chlorinated Benzenes
28	Chlorinated Dibenzofurans
29	Chlorinated Dioxins
3Ø	Chlorinated Ethanes
31	Chlorinated Phenols
32	Chlorinated Phenols
169	Chlorine
34	Chloroalkyl Ethers
27A	Chlorobenzene
193	Chlorobenzilate
78H	Chlorodibromomethane
3ØC	Chloroethane
36	Chloroform
42	Chloroprene
194	Chlorpyrifos
154	Chromium
128C	Chrysene
195	Clonitralid
155	Cobalt
156	Copper
196	Coumaphos
197	Crotoxyphos
157	Cyanides
198	Cycloheximide
199	DDT
2ØØ	Demeton
5Ø	Di-n-butyl phthalate
65	Di-n-octyl phthalate
2Ø1	Diallate
2Ø2	Diazinon
48	Dibenz(a,h)anthracene
2Ø3	Dibromochloropropane (DBCP)
2Ø4	Dichlone

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
78E	Dichlorobromomethane
78G	Dichlorodifluoromethane
54	Dichloroethylenes
55	Dichloropropane and Dichloropropene
2Ø5	Dichlorvos
2Ø6	Dichrotophos
2Ø7	Dieldrin
124B	Diethyl Phthalate
57	Diethyl Sulfate
2Ø8	Dimethoate
124C	Dimethyl Phthalate
59	Dimethylhydrazines
2Ø9	Dinocap
21Ø	Dinoseb
64	Dintrotoluene
211	Dioxathion
212	Disulfoton
215	EPN
213	Endosulfan
226A	Endosulfan Sulfate
214	Endrin
227A	Endrin Aldehyde
216	Ethion
68	Ethylbenzene
69	Ethylene Dibromide
71	Ethylene Oxide
72	Ethylene Thiourea
7Ø	Ethyleneimine
74	Ethylmethanesulfonate
217	Fensulfothion
218	Fenthion
219	Fluchloralin
75	Fluoranthene
128G	Fluorene
222C	G-BHC-Delta
77	Haloethers
78	Halomethanes
22Ø	Heptachlor
221	Heptachlor Epoxide
228A	Heptachlor Epoxide
79	Hexachlorobenzene (HCB)
8Ø	Hexachlorobutadiene
81	Hexachlorocyclohexane
82	Hexachlorocyclopentadiene
83	Hexachloroethane
17Ø	Hydrazine
84	Hydrazobenzene
171	Hydrogen Sulfide
85	Hydroquinone
158	Hypochlorite
128I	Indeno(1,2,3-cd)pyrene; (2,3-O-phenylenepyrene)
222	Isomers of hexachlorocyclohexane

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
87	Isophorone
88	Lactonitrite
159	Lead
223	Leptophos
16Ø	Lithium
89	Malachite Green
224	Malathion
161	Mercury
225	Metabolites of DDT
226	Metabolites of Endosulfan
227	Metabolites of Endrin
228	Metabolites of Heptachlor
229	Methomyl
23Ø	Methoxychlor
78C	Methyl Bromide; (bromomethane)
78B	Methyl Chloride; (chloromethane)
94	Methyl Hydrazine
231	Methyl Mercaptan
232	Methyl Parathion
78A	Methylene Chloride; (dichloromethane)
9Ø	Methylenebis(2-chloroaniline)
233	Mevinphos
234	Mexacarbate
235	Mirex
236	Monocrotophos
97	Mustard Gas
86	N-(2-hydroxyethyl)ethyleneimine
1Ø8B	N-nitrosadi-n-propylamine
113	N-nitroso-N-ethylurea
114	N-nitroso-N-methylurea
115	N-nitroso-N-methylurethane
118	N-nitroso-N-phenylhydroxyl-amine, ammonium salt
1Ø9	N-nitroso-n-butyl-N-(4-hydroxybutyl) amine
11Ø	N-nitrosodiethylamine
111	N-nitrosodimethylamine
1Ø8A	N-nitrosodiphenylamine
116	N-nitrosomethylvinylamine
117	N-nitrosomorpholine
119	N-nitrososarcosine
237	Naled
128K	Naphthalene
162	Nickel
238	Nicotine
1Ø3	Nitrobenzene
239	Nitrofen
1Ø5	Nitrogen Mustard
1Ø8	Nitrosamines
11	O-aminoazotoluene
18	O-anisidine
19	O-anisidine hydrochloride
14Ø	O-toluidine
141	O-toluidine Hydrochloride

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
24Ø	Oxydemeton-methyl
44	P-cresidine
112	P-nitrosodiphenylamine
32B	Parachlorometa-cresol
241	Paraquat
242	Parathion
12Ø	Pentachloronitrobenzene
121	Pentachlorophenol
122	Peroxyacetic Acid
128H	Phenathrene
123	Phenol
243	Phorate
244	Phosazetim
245	Phosmet
246	Phosphamidon
124	Phthalate Esters
125	Piperonyl Sulfoxide
126	Polybrominated Biphenyls (PBB)
127	Polychlorinated Biphenyls (PCB)
128	Polynuclear Aromatic Hydrocarbons
132	Propyleneimine
128J	Pyrene
247	Rotenone
163	Selenium
133	Semicarbazide
164	Silver
248	Silvex, Propylene Glycolbutyl Ether Ester
249	Sodium Fluoracetate
25Ø	Strychnine
134	Styrene
251	Sulfallate
252	Sulfotepp
253	TDE
254	TEPP
255	Terbufos
135	Tetrachloroethylene; (perchloroethylene)
256	Tetrachlorvinphos
165	Thallium
136	Thioacetamide
138	Thiourea
257	Thiram
139	Toluene
258	Toxaphene
142	Triaryl Phosphate Esters
259	Trichlorfon
144	Trichloroethylene
78F	Trichlorofluoromethane
145	Trichlorophenols
26Ø	Trichlorophenoxyacetic Acid (2,4,5-T)
261	Triflualin
147	Trimethylphosphate
49	Tris(dibromopropyl)phosphate

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
148	Vinylchloride
149	Xylene
166	Zinc
262	Ziram

SPILL CONTROL

The possibility of a hazardous chemical spill is very high when using as much as we use. Great care shall be taken to minimize spills.

If a Chemical or Oil spill occurs the Emergency Coordinator must be notified. IMMEDIATELY CONTAIN THE SPILL using spill kits. See section - Spill Kits. Emergency Coordinator will contact the Emergency Personnel.

Spill Site Duties:

1. Emergency Coordinator:

   Call for Battle Creek Hazardous Material Team. They are to assist in:

   a. Evaluating the hazardous area paged over P.A. system.
   b. Controlling access to the site.
   c. Evaluating employees
   d. Cleaning up small spills (5 gallons or less) PIG Clean Up Kits.
   e. Documenting the spill incident.

2. MAINTENANCE:

   a. Assist in evaluating the hazard.
   b. Control electrical, steam and air system if required.
   c. Shut off sprinklers at request of fire department.
   d. Assist in small clean up (5 gallons or less).

3. AREA SUPERVISORS:

   They should be with the employees that were working in the area taking care of their medical needs.

ALARM / PAGE

CODE "GREEN"

Supervisors must get their employees together and go to the employee parking lot.

AS SOON AS POSSIBLE

This code would be used any time the plant has to be evacuated. To protect the safety of our employees.

"ALL CLEAR"

This command will be given when it is safe to enter the plant.

PLANT EMERGENCY ORGANIZATION

Refer to P&P's F(A) 510.10, 512.00, 513.00.
Retain this form in F.C. as a permanent record of site's Emergency Organization status. It should be updated each inspection.

Factory Mutual System

INSURED	DISTRICT OFFICE	INDEX NUMBER
American Fibrit		

I. ADMINISTRATION

	YES	NO
1. Is MANAGEMENT INTERESTED in a general conservation program in basic loss prevention, maintaining suitable fire protection, emergency organization, weekly inspection, prompt clearing of impairments, etc?	☒	☐
2. Are plant emergency organization DUTIES IN WRITING and available for reference by P.E.O. personnel?	☒	☐
3. Does management recognize the need for and make adequate PERIODIC CHECKS of personnel for re-education?	☒	☐
(a) How often are checks made? _____		
4. At mixed tenanted properties, is there a CLEAR UNDERSTANDING regarding plant emergency organization duties of building owner and tenant?	☒	☐

II. PERSONNEL

PERSON IN CHARGE HAVING OVER ALL RESPONSIBILITY FOR PLANT EMERGENCY ORGANIZATION

NAME: Stephen Mills — TITLE: Manager Loss Prevention

		1st SHIFT	2nd SHIFT	3rd SHIFT	4th SHIFT
A. NAME OF PERSON IN DIRECT CHARGE OF SHIFT •	REGULAR	General Foreman	General Foreman	Shift Supervisor	
	ALTERNATE	Production Mgr.	Shift Supervisor	Plant Protection	
B. NAME OF SPRINKLER-CONTROL PERSON*	REGULAR	Maintenance	Maintenance	Maintenance	
	ALTERNATE	Plant Protection	Plant Protection	Plant Protection	
C. NAME OF EMPLOYEE RESPONSIBLE FOR CALLING PUBLIC FIRE DEPARTMENT.*	REGULAR	Operator	Plant Protection	Plant Protection	
	ALTERNATE	Plant Protection	Shift Supervisor	Shift Supervisor	
D. NAME OF FIRE PUMP OPERATOR.*	REGULAR	N/A	N/A	N/A	
	ALTERNATE	N/A	N/A	N/A	

* RATHER THAN A "NAME" THIS MAY BE BY "JOB" e.g. SHIFT SUPERVISOR

III. FUNCTIONS

A. DOES PERSON IN CHARGE FOR EACH SHIFT UNDERSTAND THE FOLLOWING:

	YES	NO
1. Importance of making sure SPRINKLER VALVES ARE WIDE OPEN.	☒	☐
2. Value of SPRINKLER PROTECTION for controlling fire.	☒	☐
3. To SHUT OFF SPRINKLERS only when fire is fully under control.	☒	☐
4. Importance of RESTORING FULL PROTECTION promptly.	☒	☐

5. How OFTEN does person in charge of Plant Emergency Organization report to management? Weekly
Review performance of valve-person? Monthly Of alarm sounder? Weekly Of pump operator? N/A

B. DOES SPRINKLER-CONTROL PERSON FOR EACH SHIFT UNDERSTAND THE FOLLOWING:

	YES	NO
1. To TRY SPRINKLER CONTROL VALVE(S) for the affected system to make sure it is fully open when the alarm is sounded.	☒	☐
2. Importance of STANDING BY SPRINKLER CONTROL VALVE(S) to make sure it remains open until instructed to close it, by person in charge or fire chief, per advance plan.	☒	☐
3. To stand by the closed valve ready to REOPEN IT PROMPTLY if need develops.	☒	☐
4. Need for CHECKING VALVE FOR FULLY OPEN POSITION, locking, and making full flow drain test when protection is restored.	☒	☐

C. FIRE ALARM TRANSMITTAL

	YES	NO
1. Are definite employees designated on each shift to SOUND THE ALARM?	☒	☐
2. Is there an adequate METHOD of sounding an alarm to notify the Plant Emergency Organization and the public fire department?	☐	☒
3. Do these employees understand the importance of PROMPTLY CALLING THE PLANT EMERGENCY ORGANIZATION and the public fire dept., and directing them to the fire?	☒	☐

D. DOES PUMP OPERATOR ON EACH SHIFT UNDERSTAND THE FOLLOWING:

	YES	NO
1. To start manually operated pumps or CHECK AUTOMATIC STARTING PUMPS PROMPTLY	☐	☐

IV. FIRE FIGHTING

	YES	NO
1. Is there an ADEQUATE NUMBER of trained employees on each shift for fighting fires?	☒	☐
2. Does Plant Emergency Organization have TRAINING and drilling simulating problems of controlling fires in various parts of plant? (a) How often are the training periods? Monthly	☐	☒
3. Do public fire department and Plant Emergency Organization meet for JOINT OPERATIONS? (a) How often? Yearly	☒	☐
4. Does public fire department VISIT PLANT PERIODICALLY to become familiar with hazards, equipment, etc? (a) How often? 6 months	☒	☐
5. Would the FIRE DEPARTMENT PUMPER CONNECTION to the sprinkler systems be used if available?	☒	☐

V. SALVAGE

	YES	NO
1. Is a salvage squad ORGANIZED and instructed in methods of reducing loss? (a) How OFTEN are instructions reviewed by person in charge?	☐	☒

VI. WATCH SERVICE

	YES	NO
1. Are WATCHMEN under same supervision as those charged with the plant emergency organization duties for proper coordination and instruction?	☒	☐
2. Do watchmen have a LIST OF TELEPHONE NUMBERS of plant officials to call in emergency?	☒	☐
3. Do watchmen understand the following:		
a. To CALL THE PUBLIC FIRE DEPARTMENT promptly upon discovering fire and direct fire fighters to the fire.	☒	☐
b. Importance of LEAVING SPRINKLERS OPERATING until fire is completely extinguished.	☒	☐
c. Importance of STARTING MANUAL FIRE PUMPS or checking automatic fire pumps promptly.	☒	☐
4. How OFTEN does Plant Emergency Organization person in charge review performance and training of watchmen? Daily	☒	☐

VII. RATING

	SATISFACTORY	UNSATISFACTORY
1. Plant Emergency Organization Rating - All Shifts	☒	☐

III.

DATE	INSPECTED BY	IMPORTANT - COMMENTS (Incl. a brief description of how the above info. was obtained & person conferred with)

4. EMERGENCY PROCEDURES:

FIRE DEPARTMENT B.C.F.D. - 911

The fire department Haz-Mat Team is responsible for site control on outside emergency agencies. The site emergency coordinator is in charge of all internal systems on employees.

Evacuation shall be completed as soon as possible by production staff when paged.

A. FIRE:

If a fire is in a location where hazardous materials are used or stored, EXTREME CAUTION must be taken to protect the employees in the plant. Following are the steps that should be taken:

1. EVACUATE: Paged over P.A. System -
   All employees should report to the South edge of the employee parking lot. If the wind condition is from the North, go to the East side of the wood chip pile. Supervision will make sure all employees are out.

2. NOTIFIED / ALARM: "Notification" -
   During the daytime, 8:00 a.m. to 5:00 p.m. M-F, call the operator at 448 and she will call 911 for the fire department. During other hours, notify the emergency coordinator and they will call 911 for the fire department. See call up list #1.

3. ASSISTANCE:
   When the fire department arrives, production supervisors and emergency coordinator will give the fire department the information about the hazardous material that is possibly on fire. The M.S.D.S. book will assist in this matter. The fire Department Chief is in control.

4. EMPLOYEE PROTECTION:
   If the smoke or fire is possibly going to affect the employees, the employees should be sent to Plant #2 or home by their supervisors if required.

5. PUBLICITY:
   No employee is to represent the company to the media. Refer reporters to the Vice President of Human Resources/ Administration.

EXPLOSION:

See the section on Fire and add the following:

MEDICAL RESCUE:

During an explosion, the possibility of employee injuries is high. The need for additional medical help should be told to the fire department as soon as known.

B. SPILLS:

All spills must be contained so that no hazardous material is a hazard to human health or the environment.

Spill kits are located near all locations that use hazardous material.

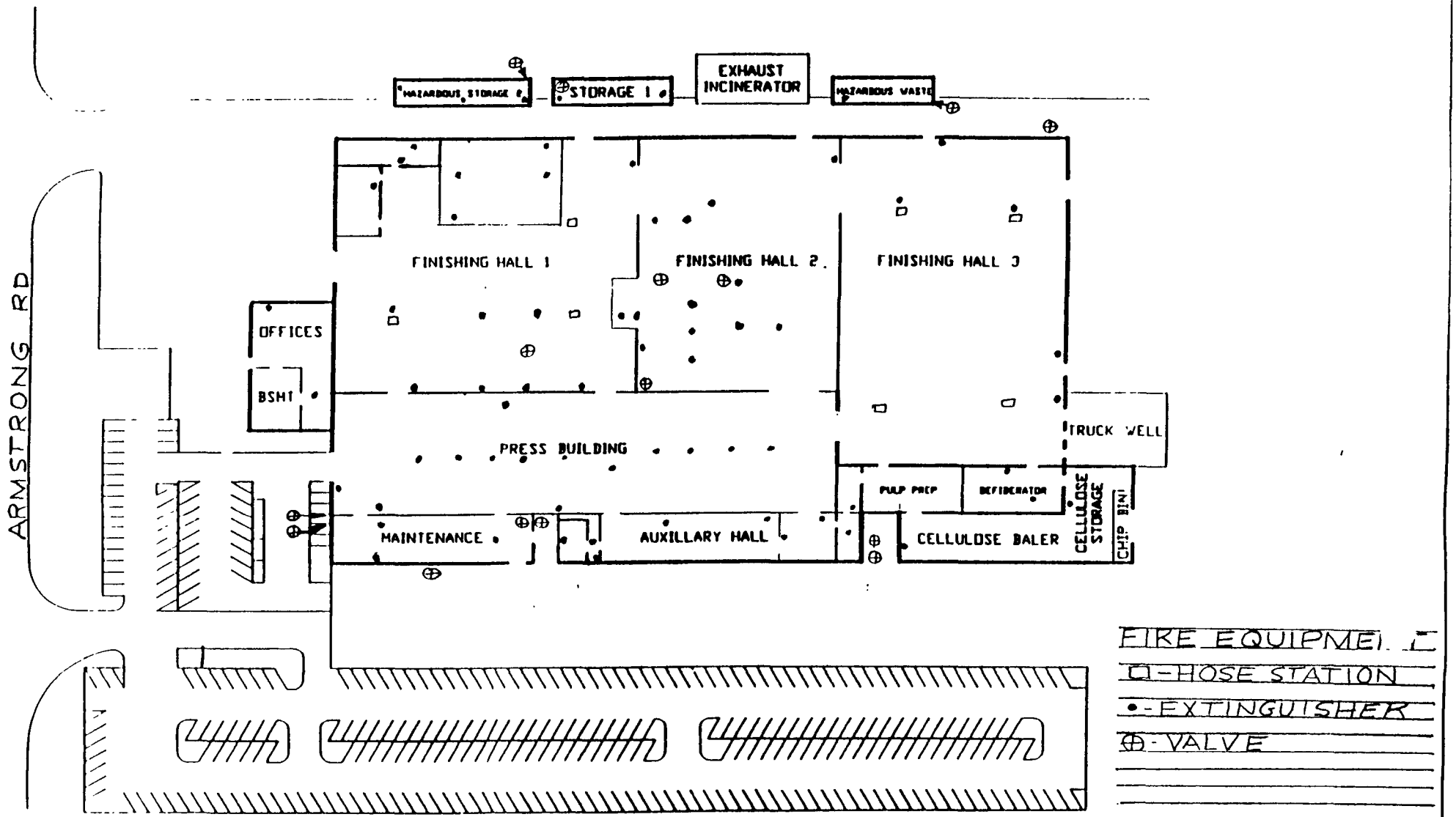
See section on clean up for Spill Kit Instructions.

Contact B.C.F.D. - 911 or Environmental Waste Control for all large spills greater than 50 gallons.

C. ACCIDENTS:

All accidents must be reported to the Emergency Coordinator - SEE CALL LIST.

A report must be written.



FIRE EQUIPMENT

□-HOSE STATION

•-EXTINGUISHER

⊕-VALVE

AMERICAN FIBRIT

PLANT NO. 1

5. HANDLING:

All hazardous material shall be stored in the special building at the North side of the property marked "HAZ-MAT 1" and "HAZ-MAT 2". Glues will be stored in #1. Hardeners can be stored in #1 and #2. These two buildings are temperature controlled. Barrels of hazardous material shall be handled ONE at a time with EXTREME CARE. Read the label on the container before you start to handle any product. If the material is not known to you, check the M.S.D.S. book for proper safety procedures for handling.

All products must be stored as per manufacturing specifications. All safety procedures are listed in the M.S.D.S. book.

A. LABELING:

All hazardous material is labeled according to N.F.P.A. #704 Hazard Classification Guide.

B. M.S.D.S.:

The M.S.D.S. Reference book gives the complete information on the products used at American Fibrit. This book is located in the Engineering Area, past the double doors, on the top of the filing cabinets.

Attached is all the major products used throughout the plant.

See List of Chemicals.

6. DISPOSAL:

All hazardous material must be disposed of in an approved manner. Following are the proper methods for each waste product:

1. WASTE LIQUID GLUES:
   Bostik and Tivoli - These scrap glues shall be placed in a D.O.T. 3-ring barrel with an open top. When full of only liquid scrap glue, The top shall be secured to the barrel. The barrel shall be labeled with the proper label. All plugs must be secure.

2. SCRAP, BOSICOUR CANS:
   When the one can is empty, crush can by stepping on it and place in D.O.T. 3-ring barrel with open top. When full of only scrap crushed cans, secure the top in place, and place the proper labels on the outside of the barrel.

3. SCRAP ACETONE:
   After using acetone to clean spraying equipment and it is ready to be scrapped, place in a D.O.T. 3-ring barrel. The top must be kept on at all times, except when filling the barrel.

4. WASTE OIL:
   When you dispose of old waste oil, it must be placed in D.O.T. barrels and must be kept closed at all times except when filling. When full, secure top and all plugs. Label with proper labels.

5. EMPTY BARRELS:
   All barrels that are empty of any products must be labeled in a proper manner.

7. CLEAN-UP:

The clean-up after an accident is to be coordinated with the D.N.R. City of Battle Creek, and American Fibrit. Outside assistance may be obtained from Environmental Waste Control or any approved company.

Battle Creek Hazardous Material Team
Contain the Spill and control complete operation of clean-up.

A. SPILL KIT INSTRUCTIONS:

Next four pages.

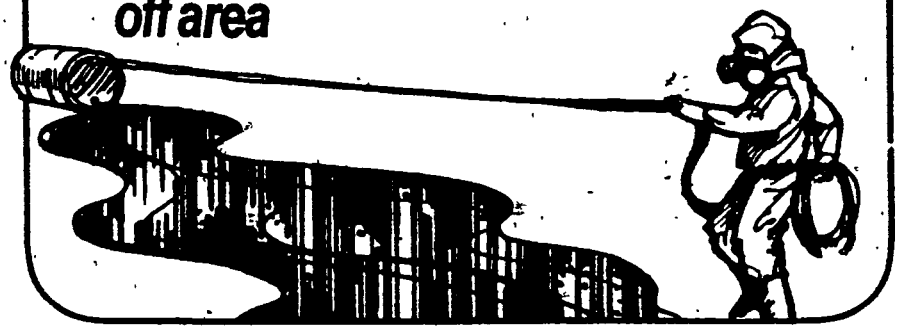
How to use

haz mat pig™
PATENT PENDING

Your first line of defense against hazardous spill control

IMPORTANT: Hazardous spills should be reported immediately to proper authorities. Only trained and properly equipped **HAZ-MAT** personnel should attempt hazardous spill clean up.

- **Clear personnel and cordon off area**



- **Determine nature of spill**

  If spill cannot be identified, **always treat it as highly toxic and hazardous.** Take all necessary cleanup precautions.

- **Eliminate source of spark or open flame**

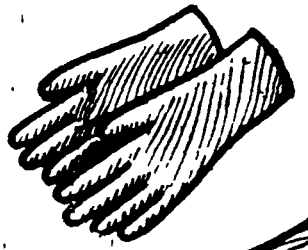
- **Ventilate area**

  USE EXTREME CAUTION TO PREVENT EXPLOSIONS: With flammable liquids and gases, ventillation should **only** be performed by **TRAINED HAZ-MAT PERSONNEL** using Explosion Meter and Detection Device.

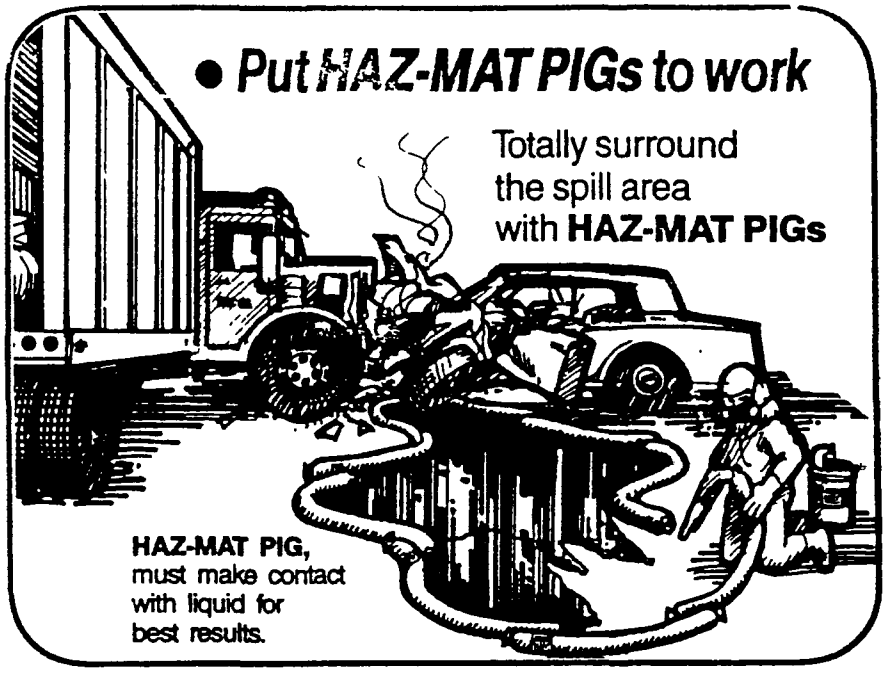
- **Call Fire Department or HAZ-MAT Team**

- **Wear protective clothing**

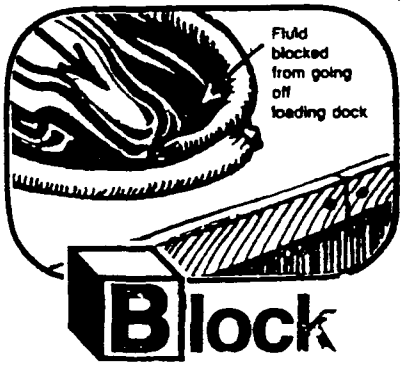
  Treat every spill as the most hazardous type. PREPARE FOR THE WORST.

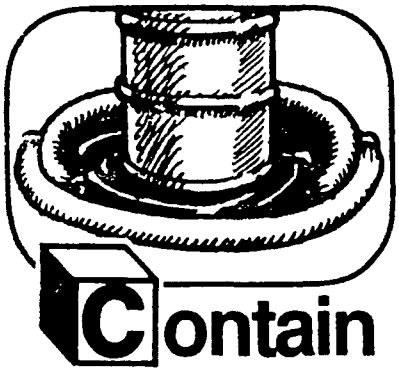


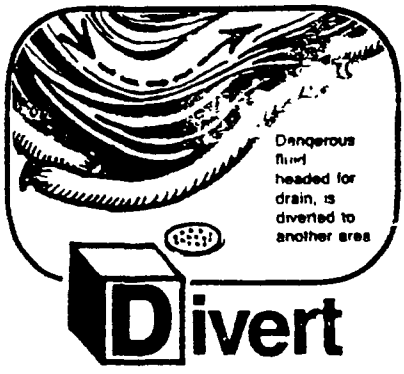
- **Utilize self-contained breathing apparatus**



The versatile HAZ-MAT PIG will:

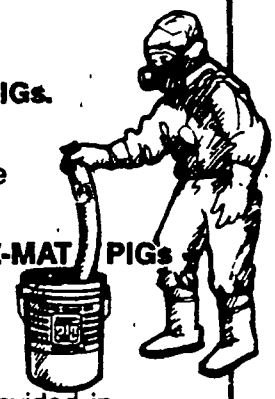






the HAZ-MAT PIG EMERGENCY RESPONSE PACK

Fast, easy response to hazardous spills.
A complete unit.
Always ready to go!



- **CONTAINS:** 6 Absorbent **HAZ-MAT PIGs.** (Absorbs 5 gallons of dangerous liquids.)
- **WORKS FAST.** **HAZ-MAT PIG** will be fully saturated in less than 5 minutes.
- **WHEN SATURATED,** just drop **HAZ-MAT PIGs** back into polyethelene bucket and seal lid. They are now safely contained until you can neutralize or properly dispose of them.
- **TWO WARNING LABELS** are provided in bucket. Please fill out with an indelible pen.

*PLACE ON OUTSIDE OF BUCKET after the used **HAZ-MAT PIGs** are secured inside.*

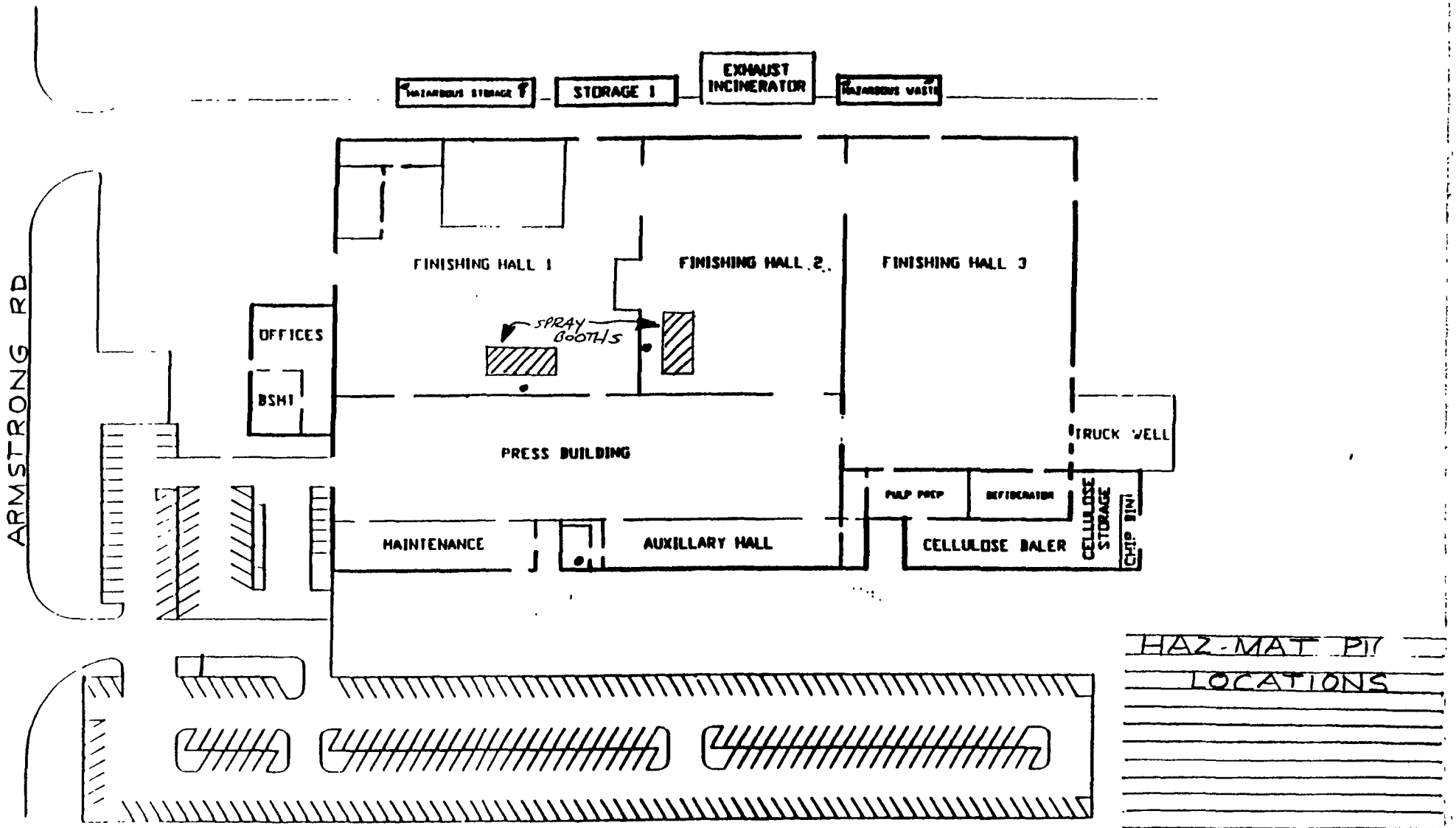
NOTE: All disposal procedures must meet or exceed all local, state or federal laws

FOR ANY INFORMATION OR QUESTIONS . . . CALL TOLL FREE:

1-800-HOT-HOGS (468-4647)
IN PENNSYLVANIA 1-800-HOT-4PIG (468-4744)

Or Write: NEW PIG CORPORATION 2614 18th Street • Altoona, PA 16601

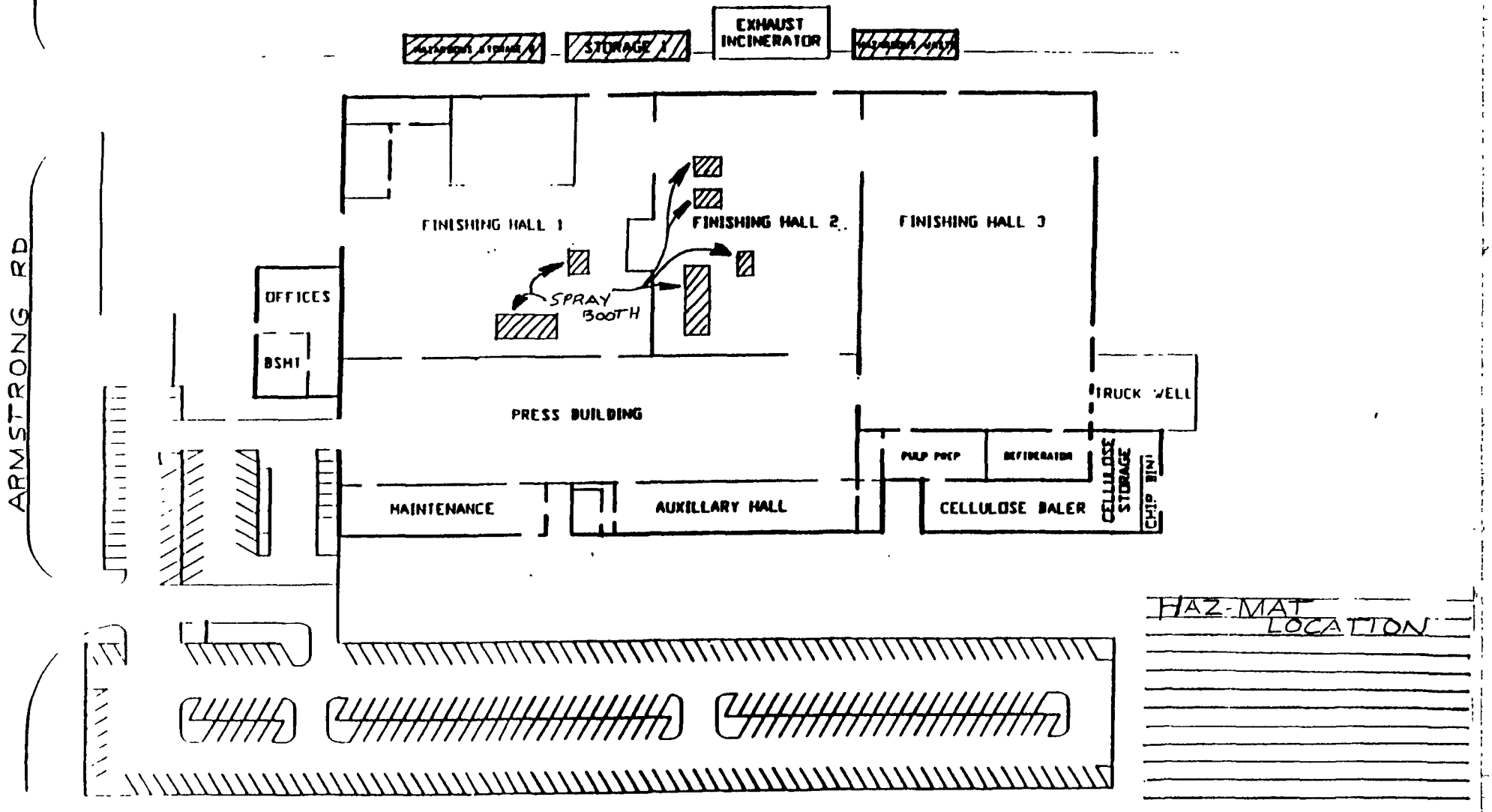
NEW PIG CORPORATION ©1986



HAZ-MAT PIT LOCATIONS

AMERICAN FIBRIT

PLANT NO. 1



AMERICAN FIBRIT

PLANT NO. 1

7. PREVENTION:

All hazardous materials are stored in a controlled warehouse designed for these materials.

These materials have control number labels. So all may be followed throughout our plant.

Only a one day supply of hazardous material is to be placed in the plant at any one time. Hazardous material areas are periodically checked for unsafe conditions that may cause fire/explosion or spills. Any unsafe condition is to be reported to the emergency coordinator and a report is to be written.

The hazardous waste material is stored in controlled building that is limited to only authorized personnel.

All materials are logged in and records are kept. The building is patrolled regularly to check for fire/explosion or spill hazards.

Spill kits are available to control small spills. The emergency plan is to be used for large spills.

Monitoring equipment is available to assist in preventing spills or pollution incidents.

SIGNED_____DATE_____
Program Coordinator

APPROVED_____DATE_____
Manager

_____DATE_____
President

Dear Customer:

I am writing to update you on two recent changes in the regulatory management of Therminol® 59 heat transfer fluid and to provide you with an updated Material Safety Data Sheet reflecting those changes.

First, USEPA has published a final rule announcing that release of "Polycyclic Organic Matter" (POM) no longer requires reporting to the National Response Center. This rule (60FR30925) confirmed Monsanto's interpretation in our September 15, 1992 letter that releases of greater than one pound of such chemicals were reportable. Effective July 12, 1995, any such releases of POM constituents of Therminol® 59 heat transfer fluid are no longer reportable.

Second, it has recently been determined that this product meets the criteria for a synthetic used oil under USEPA's Standards for the Management of Used Oil (40CFR279). Those standards govern disposal in lieu of Federal hazardous waste disposal programs in states where these regulations have been adopted. The adoption of these standards will provide you more options for efficient recycle or disposal of used Therminol® 59 heat transfer fluid. You are urged to consult your attorney or appropriate regulatory official to be sure these standards have been adopted in your state prior to initiating a used oil management program. Monsanto will also expand our return program for certain used heat transfer fluids as a result of these new regulations. Contact your Monsanto Sales Representative for details.

This Material Safety Data Sheet has also been updated in format to conform with the new voluntary ANSI Standard Z400.1.

Please feel free to call either James E. Downes, of Monsanto Business Services Environmental, Safety, and Health at 314-694-2918 or me at 205-231-8406 if you have any questions.

Sincerely,

Jerry L. Brown

Jerry L. Brown
Product Steward

THERMINOL® is a registered trademark of Monsanto Company

Responsible Care®
A Public Commitment

Monsanto
Material Safety Data

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: THERMINOL® 59 HEAT TRANSFER FLUID

MSDS Number: S00010832 Date: 7/6/95

Chemical Family: alkyldiarylethanes
Chemical Name: mixture of alkyldiarylethanes

MONSANTO COMPANY, 800 N. LINDBERGH BLVD., ST. LOUIS, MO 63167

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT
Call CHEMTREC - Day or Night - 1-800-424-9300 Toll free in the continental U.S., Hawaii, Puerto Rico, Canada, Alaska, or Virgin Islands. For calls originating elsewhere: 202-483-7616 (collect calls accepted)

For additional non-emergency information, call: 314-694-6661

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.
dipehnyl ethane *	38888-98-1
ethyl diphenyl ethane *	64800-83-5
diethyl dipehenyl ethane *	68398-19-6

* Hazardous chemical(s) under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance and Odor: light yellow liquid with faint aromatic hydrocarbon odor

WARNING!
CAUSES SKIN IRRITATION
CAUSES EYE AND RESPIRATORY TRACT IRRITATION AT ELEVATED PROCESS TEMPERATURE

POTENTIAL HEALTH EFFECTS

Likely Routes of Exposure: skin contact and inhalation

Skin contact with this product has produced temporary irritation and reddening of the skin. Exposure to vapors and mists which may be produced during use at elevated temperatures has produced eye and upper respiratory tract irritation and light-headedness. In general, overexposure to high atmospheric concentrations of alkyl-substituted aromatics may produce central nervous system depression, with possible effects such as headache, dizziness, incoordination, nausea and loss of appetite, and loss of consciousness.

Refer to Section 11 for toxicological information.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: This product releases irritating vapors/mists when heated. Wear chemical splash goggles where there is significant potential for exposure to irritating vapors of heated fluid.

Skin Protection: Wear appropriate protective gloves that provide a barrier and protective clothing to prevent skin contact. Consult glove manufacturer to determine appropriate type glove for given application. Wear a face shield and an apron that provides a barrier when splashing is likely. Wash contaminated skin promptly. Launder contaminated clothing and clean protective equipment before reuse. Wash thoroughly after handling.

Respiratory Protection: Avoid breathing vapor or mist. Use NIOSH/MSHA approved respiratory protection equipment when airborne exposure is excessive. If used, full facepiece replaces need for chemical goggles or face shield. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer. Respiratory protection programs must comply with 29 CFR 1910.134.

Ventilation: Provide ventilation to minimize exposure. Use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Airborne Exposure Limits:

Product: Therminol 59 heat transfer fluid

OSHA PEL:	None Established
ACGIH TLV:	None Established

Monsanto has adopted an internal exposure guideline of 2 mg/m^3 8 hour time weighted average for this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	light yellow liquid
Odor:	faint aromatic hydrocarbon
Vapor Pressure:	2X 10-3 torr @ 25°C
Viscosity:	1.64 @ 100°C (centistokes) 0.35 @ 300°C (centistokes)
Solubility in Water:	0.55 ppm at room temperature
Pour Point:	-93°F (-69°C)
Density:	0.964 g/ml at 77°F
Henry's Law Constant:	1.2X 10-3 m3 atm/mole

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

Stability: Product is stable under normal conditions of storage and handling.

Materials to Avoid: None known

Hazardous Decomposition Products: No uniquely hazardous decomposition products are expected. If the product is burned, complete combustion produces carbon dioxide and water; partial combustion produces carbon monoxide, smoke, soot, and low molecular weight hydrocarbons.

Hazardous Polymerization: Will not occur

4. FIRST AID MEASURES

IN CASE OF CONTACT, immediately flush area with plenty of water. Remove contaminated clothing. Wash clothing before reuse. Get medical attention.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

5. FIRE FIGHTING MEASURES

Flash Point:	295°F (146°C)	Method:	Cleveland Open Cup
Autoignition Temperature:	760°F (404°C)	Method:	ASTM D-2155
Fire Point:	310°F (154°C)	Method:	Cleveland Open Cup

Extinguishing Media: In case of fire, use water spray (fog), foam, dry chemical, or CO_2.

Unusual Fire and Explosion Hazards: None known

Fire Fighting Equipment: Fire fighters and others exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

This product is not classified as a fire-resistant heat transfer fluid. Precautions should be taken to avoid exposure to ignition sources in case of spills or leaks of hot liquid. The use of protective devices may be required to minimize fire risk. Consult carrier of fire insurance.

6. ACCIDENTAL RELEASE MEASURES

Contain large spills with dikes and transfer the material to appropriate containers for reclamation or disposal. Absorb remaining material or small spills with an inert material and then place in a chemical waste container.

Refer to Section 13 for disposal information and Section 15 for reportable quantity information.

7. HANDLING AND STORAGE

Avoid contact with eyes, skin, and clothing
Wash thoroughly after handling.
Avoid breathing vapor or mist.
Keep container closed.
Use with adequate ventilation.

Precautions against ignitions and fire should be taken with this product.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned, or destroyed. DO NOT CUT OR WELD ON OR NEAR THIS CONTAINER.

Heat transfer fluids are intended only for INDIRECT heating purposes. Under no circumstances should this product contact or in any way contaminate food, animal feed, food products, food chemicals, food packaging materials, pharmaceuticals or any items which may directly or indirectly be ultimately ingested by humans. Any contact may contaminate these items to the extent that their destruction may be required.

Storage: Product is stable under normal conditions of storage and handling.

11. TOXICOLOGICAL INFORMATION

Data from laboratory studies conducted by Monsanto are summarized below:

Oral -Practically Nontoxic, (Rat LD50 > 5,000 mg/kg)
Dermal -Practically Nontoxic, (Rat LD50 > 5,000 mg/kg)
Eye Irritation -Slightly Irritating Slight transient irritation. Animals were free of eye irritation within 7 days., (Rabbit, 24-hr)
Skin Irritation -Severely Irritating - Moderate to severe erythema (redness) with slight edema (swelling). All animals were free of skin irritation within 10 to 14 days., (Rabbit, 24-hr)
Skin Irritation -Moderately Irritating - Slight erythema with slight edema. All animals were free of skin irritation within 7 to 14 days,(Rabbit, 4-hr)

Exposure of rats to Therminol 59 heat transfer fluid at atmospheric concentrations of 0, 20, 100 and 400 mg/m^3 air for 3 months resulted in signs of sensory irritation, primarily at the high-dose level, and effects on weight gain, changes in hematological and clinical chemistry parameters and increases in liver and kidney weights at the mid and/or high exposure level. A slight increase in liver weight was noted in low level males. No treatment-related ophthalmic or histopathologic effects were observed. The increase in liver weight may be considered a physiological adaptive response for additional metabolism of this compound rather than a toxicological effect.

In a teratology study, rats were exposed to 0, 19, 110 and 410 mg/m^3 Therminol 59 for 6 hours/day during days 6 to 15 of pregnancy. Toxic effects were noted in mid and high exposure group dams. Malformations (primarily bent ribs) were noted at the high exposure level.

Therminol 59 heat transfer fluid was evaluated for mutagenic or genotoxic potential in the following systems: microbial assays with four Salmonella strains; in vitro Chinese hamster ovary (CHO) cell point mutation assay; in vitro rat hepatocyte primary culture/DNA repair assay; and in vitro CHO cell chromosome aberration assay. No evidence of mutagenicity was observed in any of the assays.

12. ECOLOGICAL INFORMATION

The following data have been classified using the criteria adopted by the European Economic Community (EEC) for aquatic organism toxicity. A legend summarizing the classification scheme appears below.

48-hr EC50 Daphnia magna:	0.77 mg/L; Very Toxic
96-hr LC50 Fathead minnow:	>16 mg/L; Harmful
96-hr LC50 Rainbow trout:	>0.97 mg/L; Toxic
96-hr EC50 Algae (chlorophyll):	0.67 mg/L; Very Toxic

Legend for Aquatic Organism Toxicity (Journal of the European Communities, Annex VII A, Section 5.2.1)

Values	Classifications
LC_{50} or $EC_{50} \leq 1.0$ mg/L	Very Toxic
LC_{50} or $EC_{50} > 1.0$ mg/L and ≤ 10 mg/L	Toxic
LC_{50} or $EC_{50} > 10$ mg/L ≤ 100 mg/L	Harmful
LC_{50} or $EC_{50} > 100$ mg/L	Practically Nontoxic

Biodegradation tests suggest that it is slow to resistant to biodegradation.

13. DISPOSAL CONSIDERATIONS

This product meets the criteria for a synthetic used oil under the U.S. EPA Standards for the Management of Used Oil (40 CFR 279). Those standards govern recycling and disposal in lieu of 40 CFR 260 -272 of the Federal hazardous waste program in states that have adopted these used oil regulations. Consult your attorney or appropriate regulatory official to be sure these standards have been adopted in your state. Recycle or burn in accordance with the applicable standards.

Monsanto operates a used fluid return program for certain fluids under these used oil standards. Contact your Sales Representative for details.

Product that must be disposed of because it cannot be recycled under used oil regulations, such as spilled liquid product, or spills absorbed on a solid medium may be classified as hazardous waste (D018) due to the presence of benzene over 0.5 mg/l. Waste should be analyzed in accordance with Method 1311 Toxicity Characteristic Leaching Procedure (TCLP) and/or compared to the criteria of 40 CFR 261.24 to insure proper disposal. Any such discarded product should be incinerated in accordance with all local, state or federal laws and regulations.

This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

This product is not hazardous under the applicable DOT, ICAO/IATA, or IMDG regulations.

15. REGULATORY INFORMATION

TSCA Inventory: All components are listed.
SARA Hazard Notification
Hazard Categories Under Title III Rules (40 CFR 370): Immediate
Section 313 Toxic Chemical(s): Not Applicable
CERCLA Reportable Quantity: Not Applicable

Refer to Section 2 for OSHA Hazardous Chemical(s) and Section 13 for RCRA classification.

16. OTHER INFORMATION

Reason for revision: Section 13 -update disposal language. Section 15 -removal of CERCLA RQ. Convert to the 16 section format. Section 12 -update ecotox data. Supersedes MSDS dated 12/6/94.

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Responsible Care ® is a registered trademark of the Chemical Manufacturers Association

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CITY OF BATTLE CREEK, MICHIGAN

WASTEWATER DIVISION

RECD APR 20 1999

OFFICE OF THE SUPERINTENDENT

2000 W. River Road

(616) 966-3513

Battle Creek, MI 49015

INDUSTRIAL USER DISCHARGE AUTHORIZATION APPLICATION FORM

SECTION ONE - GENERAL INFORMATION

1. Facility Name: JOHNSON CONTROLS - BATTLE CREEK

   a. Operator Name: SAME

   b. Is the operator identified in 1a, the owner of the facility ? yes ( ) no (X)
   If no, provide the name and address of the owner.

   JOHNSON CONTROLS - ASG

   49200 HALYARD DRIVE, P.O. BOX 8010

   PLYMOUTH MI 48170-2454

2. Facility Address:

   Street: 76 ARMSTRONG ROAD

   City: BATTLE CREEK State: MI

   Zip: 49015

3. Business Mailing Address:

   Street: SAME

   City: _____ State: _____

   Zip: _____

4. Designated signatory authority of the facility:
   (Attach similar information for each authorized representative)

   Name: WESLEY BATTS

   Title: PLANT MANAGER

   Address: SAME

   City: _____ State: _____

   Zip: _____

5: Designated facility contact:

Name: TIM EDEN

Title; LEAD MANUFACTURING ENGINEER

Phone #: (616) 968 - 3000 ext.

SECTION TWO - BUSINESS ACTIVITY

1. If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply).

( ) Aluminum Forming
( ) Asbestos Manufacturing
( ) Battery Manufacturing
( ) Can Making
( ) Carbon Black
( ) Coal Mining
( ) Coil Coating
( ) Copper Forming
( ) Electric and Electronic Components Manufacturing
( ) Electroplating
( ) Feedlots
( ) Fertilizer Manufacturing
( ) Foundries (Metal Molding and Casting)
( ) Glass Manufacturing
( ) Grain Mills
( ) Inorganic Chemicals
( ) Iron and Steel
( ) Leather Tanning and Finishing
( ) Metal Finishing
( ) Nonferrous Metals Forming
( ) Organic Chemicals Manufacturing
( ) Paint and Ink Formulating
( ) Paving and Roofing Manufacturing
( ) Pesticides Manufacturing
( ) Petroleum Refining
( ) Pharmaceutical
( ) Plastic and Synthetic Materials Manufacturing
(X) Plastics Processing Manufacturing- RIM POLYURETHANE PROCESS
( ) Porcelain Enamel
(X) Pulp, Paper, and Fiberboard Manufacturing
( ) Rubber
( ) Soap and Detergent Manufacturing
( ) Steam Electric
( ) Sugar Processing
( ) Textile Mills
( ) Timber Products

A facility with processes inclusive in these business areas may be covered by Environmental Protection Agency's categorical pretreatment standards. These facilities are termed "categorical users".

2. Give a brief description of all operations at this facility including primary products or services.

WOOD CHIPS ARE PROCESSED INTO PULP. PULP IS FORMED INTO A "WET MAT" USING WATER. "WET MAT" IS THERMOFORMED INTO A WOOD SUBSTRATE. WHICH IS COVERED WITH VINYL OR PAINTED AND FINISHED BY ASSEMBLY WITH ADDITIONAL COMPONENTS. THE PVC VAC-FORMED SKIN IS INJECTED WITH POLYURETHANE.

3. Indicate applicable Standard Industrial Classification (SIC) for all processes

a: 2498 d: _____

b: 3714 e: _____

c: _____ f: _____

4. Product Volume:

Product Name:	Production Amounts per day Average	Maximum	Daily Unit
MERCEDES DOOR PANEL	1800	2200	EA
GM P-90 DOOR PANEL	1100	1500	EA
SATURN INSTRUMENT PANEL	500	1400	EA
VW AIR BAG	350	400	EA

SECTION THREE - WATER SUPPLY

1. Water Sources: (Check as many as are applicable)

( ) Private Well
( ) Surface Water
(X) Municipal Water (specify city) BATTLE CREEK
( ) Other (specify) _____

2. Name on the water bill:

Name: AMERICAN FIBRIT

Street: 76 ARMSTRONG ROAD

City: BATTLE CREEK State: MI Zip: 49015

3. Water service account number: 40-01-0480-0

4. List average water usage on premises:
(New facilities may estimate)

	average (gpd)
a. Contact cooling water	0
b. Non-contact cooling water/ SQUEEZE WATER	74,573
c. Boiler Feed	4,000
d. Process	140,000
e. Sanitary	5,000
f. Air Pollution Control	0
g. Contained in product	0
h. Irrigation and lawn watering	0
i. Other	0
j. Total of a-i	223,573

* NPDES Permit Number, if applicable: _____

SECTION FOUR - SEWER INFORMATION

1. a. For an existing business:

Is the building presently connected to the public sanitary sewer system ?

(X) Yes: Sanitary Sewer account no. 101
( ) No: Have you applied for a sanitary sewer hookup ? ( ) yes ( ) no

b. For a new business:

Will you be occupying an existing vacant building (such as an industrial park) ? ( ) yes ( ) no

Have you applied for a building permit if a new facility will be constructed ? ( ) yes ( ) no

Will you be connected to the public sanitary sewer system ? ( ) yes ( ) no

2. List size, descriptive location, and flow of each facility sewer which connects to the City's sewer system. (If more than three, attach additional information on another sheet.)

Sewer Size	Descriptive Location	GPD Avg. Flow
6.0 INCH	SOUTHWEST CORNER (#1)	44,714 *
12.0 INCH	SOUTH CENTER (#2)	156,501 *
4.0 INCH	SOUTHEAST CORNER (#3)	22,358 *

* ESTIMATED FLOW

SECTION FIVE - WASTEWATER DISCHARGE INFORMATION

1. Does (or will) this facility discharge any wastewater other than from restrooms to the City sewer ?

(X) Yes If the answer to this question is "yes", complete the remainder of the application.

( ) No If the answer to this question is "no", skip to Section Nine.

2. Provide the following information on wastewater flow rate. (New facilities may estimate)

a. Hours/Day discharged (e.g. 8 hours/day)

M 24 T 24 W 24 TH 24 F 24 SAT 24 SUN 24

b. Hours of Discharge (e.g. 9 a.m. to 5 p.m.)

M	24 HOURS	F	24 HOURS
T	24 HOURS	SAT	24 HOURS
W	24 HOURS	SUN	24 HOURS
TH	24 HOURS		

c. Peak hourly flow rate ~~(GPD)~~ GPH 20,000

d. Maximum daily flow rate (GPD) 295,500

e. Annual daily average (GPD) 223,573

3. If batch discharge occurs or will occur, indicate: (New facilities may estimate)

a. Number of batch discharges ONE per ~~day~~ MONTH

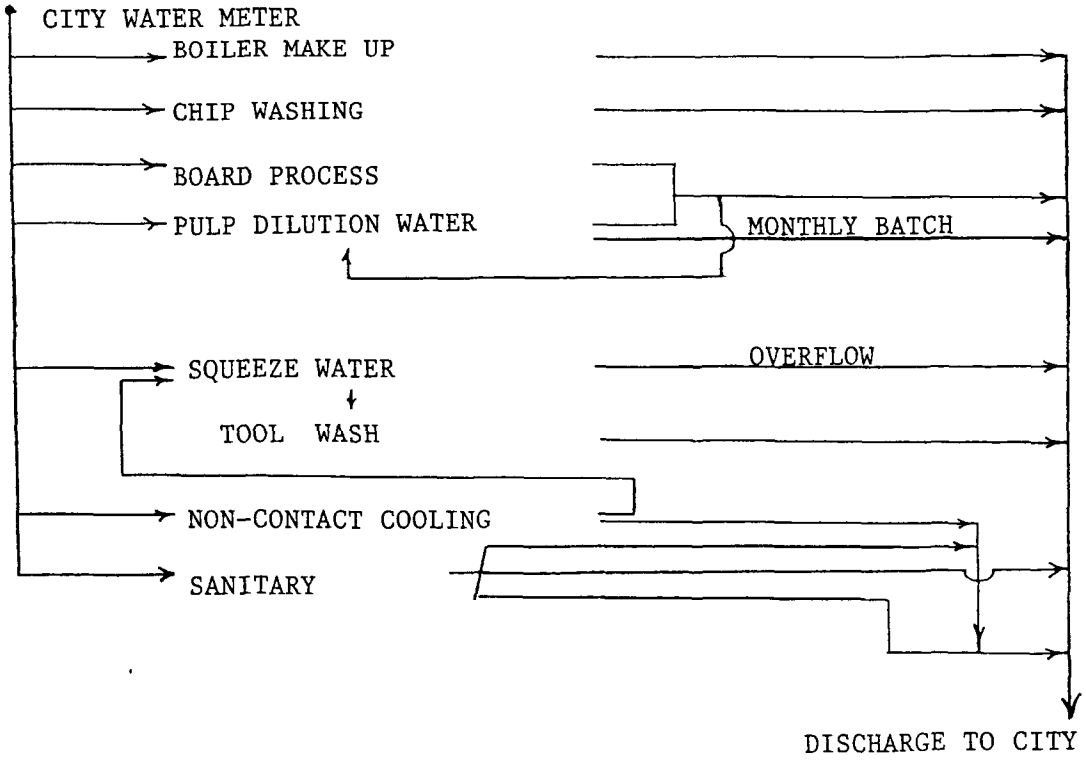
b. Average discharge per batch 25,000 GAL. ~~(GPD)~~

c. Time of batch discharges VARIABLE (days of week) at VARIABLE (hrs of day)

d. Flow Rate 833 gallons/minute

e. Percent of total discharge 0.6%

4. Schematic Flow Diagram -



Facilities that checked activities in question 1 of Section Two are considered Categorical Industrial Users and should skip to question 6.

5. For Non-Categorical Users Only: List average wastewater discharge, maximum discharge, and type of discharge (batch, continuous, or both), for each plant process. (New facilities should provide estimates for each discharge).

Process Description	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)

ANSWER QUESTIONS 6 & 7 ONLY IF YOU ARE SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

6. For Categorical Users: Provide the wastewater discharge flows for each of your processes or proposed processes. (New facilities should provide estimates for each discharge).

Regulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch,continuous)
PULP, PAPER, FIBERBOARD	218,573	290,500	BATCH & CONTINUOUS
PLASTICS PROCESSING	0	0	

Unregulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch,continuous)
SANITARY	5,000		CONTINUOUS

Dilution	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch,continuous)

7. For Categorical Users subject to Total Toxic Organic (TTO) requirements NOT APPLICABLE

Provide the following (TTO) information.

a. Does (or will) this facility use any of the toxic organics that are listed under the TTO standard of the applicable categorical pretreatment standards published by the EPA ?

( ) yes ( ) no

b. Has a baseline monitoring report (BMR) been submitted which contains TTO information ?

( ) yes ( ) no

c. Has a toxic organics management plan (TOMP) been developed ? If yes, please attach a copy.

( ) yes ( ) no

8. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility ?

Current:	Flow Metering	( ) yes	(X) no	( ) n/a
	Sampling Equipment	( ) yes	(X) no	( ) n/a
Planned:	Flow Metering	( ) yes	(X) no	( ) n/a
	Sampling Equipment	( ) yes	(X) no	( ) n/a

If so, please indicate the present or future location of this equipment on the sewer schematic.

9. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics ? Consider production processes as well as air or water pollution treatment processes that may affect the discharge.

(X) yes ( ) no, (skip question 1Ø)

1Ø. Briefly describe these changes and their effects on the wastewater volume and characteristics: (Attach additional sheets if needed.)

THE NO. OF UNITS PRODUCED ON THE GM P-90 LINE IS ANTICIPATED TO DECREASE BY SEPTEMBER 1999. THE NO. OF EMPLOYEES WILL LIKEWISE BE REDUCED RESULTING IN DECREASE IN SANITARY AND PROCESS (NON-CONTACT COOLING WATER) WATER VOLUMES.

11. Are any materials or water reclamation systems in use or planned ?

( ) yes (X) no, (skip question 12)

12. Briefly describe recovery process, substance recovered, percent recovered, and the concentration in the spent solution. Submit a flow diagram for each process: (Attach additional sheets if needed.)

SECTION SIX - CHARACTERISTICS OF DISCHARGE

X Current Users:

If your facility is currently providing self-monitoring data to the City, skip to Section Seven. (If additional data or monitoring is being implemented, which has not been submitted to the City, it must be attached.)

New Users:

New dischargers should attach any data which is pertinent or available from facilities with similar processes.

SECTION SEVEN - TREATMENT

1. Is any form of wastewater treatment (see list below) practiced at this facility ?

( ) yes (X) no

2. Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years ?

( ) yes, Describe _____
(X) no

3. Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate). NONE

( ) Air flotation
( ) Centrifuge
( ) Chemical precipitation
( ) Chlorination
( ) Cyclone
( ) Filtration
( ) Flow equalization
( ) Grease or oil separation, type:_____
( ) Grease trap
( ) Grinding filter
( ) Grit removal
( ) Ion exchange
( ) Neutralization, pH correction
( ) Ozonation
( ) Reverse osmosis
( ) Screen
( ) Sedimentation
( ) Septic tank
( ) Solvent separation
( ) Spill protection
( ) Sump
( ) Biological treatment, type:_____
( ) Rainwater diversion or storage
( ) Other chemical treatment, type:_____
( ) Other physical treatment, type:_____
( ) Other, type:_____

4. Description

Describe the pollutant loading, flow rates, design capacity, physical size, and operating procedures of each treatment facility checked above.

NOT APPLICABLE

5. Attach a process flow diagram for each existing treatment system. Include process equipment, by-products, by-product disposal method, waste and by-product volumes, and design and operating conditions.

NOT APPLICABLE

6. Describe any changes in treatment or disposal methods planned or under construction for the wastewater discharge to the sanitary sewer. Include estimated completion dates.

NONE

7. Do you have a treatment operator ? ( ) yes ( ) no

(if yes,) Name: NOT APPLICABLE
Title: _____
Phone: _____

8. Do you have a manual on the correct operation of your treatment equipment ?
NOT APPLICABLE

( ) yes ( ) no

9. Do you have a written maintenance schedule for your treatment equipment ?
NOT APPLICABLE

( ) yes ( ) no

SECTION EIGHT - FACILITY OPERATIONS

1. Shift Information

Work Days		(X) Mon	(X) Tues	(X) Wed	(X) Thur	(X) Fri	( ) Sat	( ) Sun
Shifts per work day:		3	3	3	3	3	0	0
Empl's per shift:	1st	235	235	235	235	235	0	0
	2nd	153	153	153	153	153	0	0
	3rd	114	114	114	114	114	0	0

1st shift starts at: 7:00 AM ends at 3:00 PM
2nd shift starts at: 3:00 PM ends at 11:00 PM
3rd shift starts at: 11:00 PM ends at 7:00 AM

2. Indicate whether the facility discharge is:

(X) Continuous, during work hours
(X) Batch or intermittent

3. List types and amounts (mass or volume per day) of raw materials used or planned for use (attach list if needed)

WOOD CHIPS	20,000 POUNDS/DAY
HERCON 70	170 GAL/DAY
KYMENE	150 GAL/DAY
HERCOBOND	22 GAL/DAY
POLYETHYLENE	275 POUNDS/DAY
POLYPROPYLENE	650 POUNDS/DAY
CELLULOSE	(BLEACHED KRAFT WOOD FIBER) 7,400 POUNDS/DAY

4. List each substance from Appendix A which is contained in any materials used or stored and could be present in your facilities wastewater discharge. (List by the number from Appendix A rather than by name.)

MSDS Attached

55B ✓	6 ✓				

5. List each substance from Appendix A which is contained in any materials used or stored. (List by the number from Appendix A rather than by name.)

MSDS Attached

1 ✓	6 ✓	7 ✓	30A ✓	55B ✓	68 ✓
73 ✓	85 ✓	124 ✓	128K ✓	134 ✓	139 ✓
149 ✓	166 ✓				

6. Building Layout - Draw the location of each building on the premises. Show map orientation and location of all water meters, storm sewers, and each facility sewer line connected to the public sewers. Show unit processes in respect to drains and overflows. Specify sampling locations situated outside the building.

SECTION NINE - SPILL PREVENTION

1. Do you have chemical storage containers, bins, or ponds at your facility ? (X) yes ( ) no

   If yes, please give a description of their location, contents, size, type and frequency and method of cleaning. Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain.
   STORAGE TANKS ARE NOT REGULARLY CLEANED

2. Do you have floor drains in your manufacturing or chemical storage area(s) ? (X) yes ( ) no
   If yes; where do they discharge to ?
   SANITARY SEWER

3. If you have chemical storage containers, bins, or ponds in a manufacturing area, could an accidental spill lead to a discharge to: (check all that apply.)

   ( ) an onsite disposal system
   (X) public sanitary sewer system (e.g. floor drain)
   (X) storm drain
   (X) to ground
   ( ) other, specify _____
   ( ) not applicable, no possible discharge to any of the above routes.

4. Do you have an accidental spill prevention plan (ASPP) to prevent spills of chemicals or slug discharges from entering the City's collection system ?
   (X) POLLUTION INCIDENT PREVENTION PLAN UNDER DEVELOPMENT
   ( ) yes - Enclose a copy with this application
   ( ) no
   ( ) not applicable since there are no floor drains and/or the facility discharges only domestic waste

SECTION TEN - NON-DISCHARGED WASTES

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system ?

   (X) yes, please describe below
   ( ) no, skip the remainder of Section Ten.

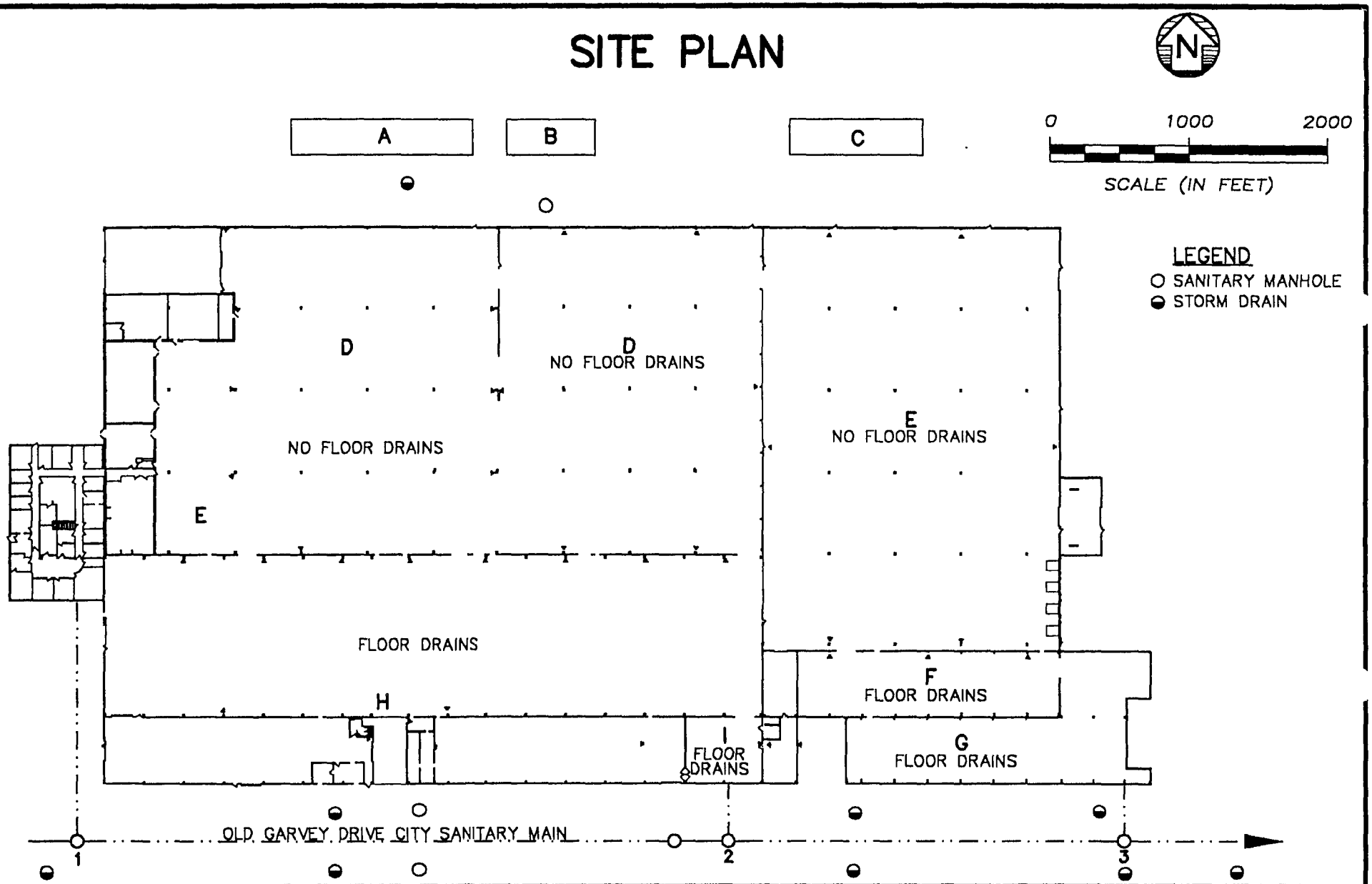
Waste Generated	Quantity (per year)	Disposal Method
THERMONEX FLUSH	14,000 GAL	OFF-SITE
OILS	2,500 GAL	OFF-SITE
ADHESIVE	3,800 GAL	OFF-SITE

Indicate which wastes identified above are disposed of at

JOHNSON CONTROLS – BATTLE CREEK
76 ARMSTRONG ROAD
BATTLE CREEK, MICHIGAN

STORAGE AREA	DESCRIPTION OF CHEMICALS
A	Non-hazardous chemical material storage building with secondary containment.
B	Chemical material storage building with secondary containment. Materials stored in containers less than or equal to 55 gallons in size.
C	Empty drum and/or waste chemical materials drum storage building with secondary containment.
D	Water-based adhesive stored in 55-gallon steel drums.
E	Foaming operations products stored in 300-gallon steel and plastic totes.
F	Kymene and Hercon storage in three (3) 5,000-gallon fiberglass tanks with secondary containment.
G	Bussan (biocide) stored in 30-gallon plastic dispensers with secondary containment.
H	Therminal 66-Monsanto (Konus heat transfer fluid) stored in a 1,500-gallon sump and a 500-gallon expansion vessel.
I	Waste oils stored in 1,000-gallon metal tank.
J	Various maintenance oils and greases stored throughout facility in containers less than or equal to 5 gallons in size.

SITE PLAN



A member of the ERM Group

ERM

JOHNSON CONTROLS INTERIOR, L.L.C. OF MICHIGAN

BATTLE CREEK FACILITY

76 ARMSTRONG ROAD — BATTLE CREEK, MICHIGAN

CHK'D CCD

K7628.19.01

Dell Engineering, Inc. Civil Engineering · Environmental Consulting
3352 128th Avenue, Holland, MI 49424-9263

FIGURE 1

K7628-01.DWG 4/13/1999 1 13 PM
REVISIONS TO BE MADE ON THE CAD2 FILE ONLY

2. If an outside firm removes any of the above checked wastes, state the name(s) and address(es) of all waste haulers:

a. MICHIGAN PUMPING
605 HARRISON STREET
TRENTON MI 48183

Permit No. MID 000260794

b. _____

Permit No. _____

SECTION ELEVEN - AUTHORIZED SIGNATURES

Compliance certification:

1. Are all applicable Federal, State, or City pretreatment standards and requirements being met on a consistent basis ?

(X) yes ( ) no ( ) Not yet discharging

2. If No:

a. What additional operations and maintenance procedures are being considered to bring the facility into compliance ? Also, list additional treatment practices being considered in order to bring the facility into compliance.

b. Provide a schedule for bringing the facility into compliance. Specify major events planned along with reasonable completion dates. (These dates are subject to approval by the City of Battle Creek)

Event or Activity	Completion Date

Authorized Representative Statement:

The information contained in this application is familiar to me and to the best of my knowledge and belief, such information is true, accurate and complete.

WESLEY BATTS	PLANT MANAGER	
Name (please print)	Title	
Signature	4/15/99 Date	(616)968-3000 Phone No.

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
3ØA	1,1,1-trichloroethane
3ØD	1,1,2,2-tetrachloroethane
143	1,1,2-trichloroethane
3ØB	1,1-dichloroethane
54A	1,1-dichloroethylene
93	1,2(methylenedioxy)-4-propenyl benzene
27B	1,2,4-trichlorobenzene
27C	1,2-dichlorobenzene
53	1,2-dichloroethane
55B	1,2-dichloropropane
54B	1,2-trans-dichloroethylene
56	1,2:3,4-diepoxybutane
27D	1,3-dichlorobenzene
55A	1,3-dichloropropylene; (1,3-dichloropropene)
129	1,3-propane Sultone
27E	1,4-dichlorobenzene
66	1,4-dioxane
98	1,5-naphthalenediamine
39	1-(4-chlorophenyl)-3, 3-dimethyl triazene
14	1-amino-2-methylanthraquin
33	1-chloro-2,3-epoxypropane
95	1-methylnaphthalene
99	1-naphthylamine
184	2(p-tert-butylphenoxy)-isopropyl-2-chloroethyl sulfite
67	2,3-epoxy-1-propanal
146	2,4,5-trimethylaniline
45	2,4-diaminoanisole sulfate
47	2,4-diaminotoluene
32C	2,4-dichlorophenol
6Ø	2,4-dimethylphenol
62	2,4-dinitrophenol
63	2,4-dinitrotoluene
64A	2,6-dinitrotoluene
76	2-(2-formylhydrazino)-4-(5-nitro-2-furthiazole)
4	2-acetylaminofluorene
9	2-aminoanthraquinone
34A	2-chloroethyl Vinyl Ether (mixed)
31A	2-chloronaphthalene
32A	2-chlorophenol
96	2-methyl-1-nitroanthraquinone
1ØØ	2-naphthylamine
1Ø6	2-nitrophenol
52	3,3-dichlorobensidine salts
51	3,3-dichlorobenzidine
128A	3,4-benzofluoranthene
38	3-(chloromethyl)pyridine hydrochloride
13	3-amino-9-ethylcarbazole
225B	4,4'-DDD; (p,p'-TDE)
225A	4,4'-DDE; (p,p'-DDE)
137	4,4'-thiodianiline
46	4,4-diaminodiphenyl ether

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
92	4,4-methylenebis(N,N-dimethylaniline)
61	4,6-dinitor-o-cresol
12	4-aminobiphenyl
175	4-aminopyridine
77B	4-bromophenyl Phenyl Ether
4Ø	4-chloro-m-phenylenediamine
41	4-chloro-o-pheylenediamine
77A	4-chlorophenyl Phenyl Ether
58	4-dimethylaminoazobenzene
1Ø4	4-nitrobiphenyl
1Ø7	4-nitrophenol
43	5-chloro-o-toluidine
1Ø2	5-nitro-o-anisidine
1Ø1	5-nitroacenaphthene
131	5-propyl-1,3-benzodioxole
222A	A-BHC-Alpha
2	Acenaphthene
128D	Acenaphthylene
3	Acetone Cyanohydrin
167	Acids, inorganic
1	Acids, organic
5	Acrolein
6	Acrylic Acid
7	Acrylonitrile
173	Aldicarb
174	Aldrin
8	Allyl Chloride
1Ø	Aminoazobenzene
15	Aminotriazole (amitrole)
176	Anilazine
16	Aniline
17	Aniline Hydrochloride
128E	Anthracene
15Ø	Antimony
177	Antimycin A
151	Arsenic
172	Asbestos (fibrous)
178	Azinphos-ethyl
179	Azinphos-methyl
222B	B-BHC-Beta
13Ø	B-proplolactone
18Ø	Barban
181	Bendiocarb
182	Benomyl
128B	Benxo(k) fluoranthane; (11,12-benzofluoranthene)
2Ø	Benz(a)anthracene
21	Benzene
22	Benzidine
23	Benzidine Salts
24	Benzo(a)pyrene
128F	Benzo(ghi)perylene; (1,12-benzoperylene)

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
77C	Bis(2-chloroethoxy)methane
35	Bis(2-chloroethyl)ether
37	Bis(2-chloromethyl)ether
73	Bis(2-ethylhexyl)phthalate
78D	Bromoform; (tribromomethane)
183	Bromoxynil
25	Brucine
124A	Butyl Benzyl Phthalate
153	Cadmium
185	Captafol
186	Captan
187	Carbaryl
188	Carbofuran
26	Carbon Tetrachloride
189	Carbophenothion
168	Chloramines
19Ø	Chlordane
191	Chlordecone
192	Chlorfenvinphos
27	Chlorinated Benzenes
28	Chlorinated Dibenzofurans
29	Chlorinated Dioxins
3Ø	Chlorinated Ethanes
31	Chlorinated Phenols
32	Chlorinated Phenols
169	Chlorine
34	Chloroalkyl Ethers
27A	Chlorobenzene
193	Chlorobenzilate
78H	Chlorodibromomethane
3ØC	Chloroethane
36	Chloroform
42	Chloroprene
194	Chlorpyrifos
154	Chromium
128C	Chrysene
195	Clonitralid
155	Cobalt
156	Copper
196	Coumaphos
197	Crotoxyphos
157	Cyanides
198	Cycloheximide
199	DDT
2ØØ	Demeton
5Ø	Di-n-butyl phthalate
65	Di-n-octyl phthalate
2Ø1	Diallate
2Ø2	Diazinon
48	Dibenz(a,h)anthracene
2Ø3	Dibromochloropropane (DBCP)

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
78E	Dichlorobromomethane
78G	Dichlorodifluoromethane
54	Dichloroethylenes
55	Dichloropropane and Dichloropropene
2Ø5	Dichlorvos
2Ø6	Dichrotophos
2Ø7	Dieldrin
124B	Diethyl Phthalate
57	Diethyl Sulfate
2Ø8	Dimethoate
124C	Dimethyl Phthalate
59	Dimethylhydrazines
2Ø9	Dinocap
21Ø	Dinoseb
64	Dintrotoluene
211	Dioxathion
212	Disulfoton
215	EPN
213	Endosulfan
226A	Endosulfan Sulfate
214	Endrin
227A	Endrin Aldehyde
216	Ethion
68	Ethylbenzene
69	Ethylene Dibromide
71	Ethylene Oxide
72	Ethylene Thiourea
7Ø	Ethyleneimine
74	Ethylmethanesulfonate
217	Fensulfothion
218	Fenthion
219	Fluchloralin
75	Fluoranthene
128G	Fluorene
222C	G-BHC-Delta
77	Haloethers
78	Halomethanes
22Ø	Heptachlor
221	Heptachlor Epoxide
228A	Heptachlor Epoxide
79	Hexachlorobenzene (HCB)
8Ø	Hexachlorobutadiene
81	Hexachlorocyclohexane
82	Hexachlorocyclopentadiene
83	Hexachloroethane
17Ø	Hydrazine
84	Hydrazobenzene
171	Hydrogen Sulfide
85	Hydroquinone
158	Hypochlorite
128I	Indeno(1,2,3-cd)pyrene; (2,3-O-phenylenepyrene)
222	Isomers of hexachlorocyclohexane

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
87	Isophorone
88	Lactonitrite
159	Lead
223	Leptophos
16Ø	Lithium
89	Malachite Green
224	Malathion
161	Mercury
225	Metabolites of DDT
226	Metabolites of Endosulfan
227	Metabolites of Endrin
228	Metabolites of Heptachlor
229	Methomyl
23Ø	Methoxychlor
78C	Methyl Bromide; (bromomethane)
78B	Methyl Chloride; (chloromethane)
94	Methyl Hydrazine
231	Methyl Mercaptan
232	Methyl Parathion
78A	Methylene Chloride; (dichloromethane)
9Ø	Methylenebis(2-chloroaniline)
233	Mevinphos
234	Mexacarbate
235	Mirex
236	Monocrotophos
97	Mustard Gas
86	N-(2-hydroxyethyl)ethyleneimine
1Ø8B	N-nitrosadi-n-propylamine
113	N-nitroso-N-ethylurea
114	N-nitroso-N-methylurea
115	N-nitroso-N-methylurethane
118	N-nitroso-N-phenylhydroxyl-amine, ammonium salt
1Ø9	N-nitroso-n-butyl-N-(4-hydroxybutyl) amine
11Ø	N-nitrosodiethylamine
111	N-nitrosodimethylamine
1Ø8A	N-nitrosodiphenylamine
116	N-nitrosomethylvinylamine
117	N-nitrosomorpholine
119	N-nitrososarcosine
237	Naled
128K	Naphthalene
162	Nickel
238	Nicotine
1Ø3	Nitrobenzene
239	Nitrofen
1Ø5	Nitrogen Mustard
1Ø8	Nitrosamines
11	O-aminoazotoluene
18	O-anisidine
19	O-anisidine hydrochloride
14Ø	O-toluidine
141	O-toluidine Hydrochloride

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
24Ø	Oxydemeton-methyl
44	P-cresidine
112	P-nitrosodiphenylamine
32B	Parachlorometa-cresol
241	Paraquat
242	Parathion
12Ø	Pentachloronitrobenzene
121	Pentachlorophenol
122	Peroxyacetic Acid
128H	Phenathrene
123	Phenol
243	Phorate
244	Phosazetim
245	Phosmet
246	Phosphamidon
124	Phthalate Esters
125	Piperonyl Sulfoxide
126	Polybrominated Biphenyls (PBB)
127	Polychlorinated Biphenyls (PCB)
128	Polynuclear Aromatic Hydrocarbons
132	Propyleneimine
128J	Pyrene
247	Rotenone
163	Selenium
133	Semicarbazide
164	Silver
248	Silvex, Propylene Glycolbutyl Ether Ester
249	Sodium Fluoracetate
25Ø	Strychnine
134	Styrene
251	Sulfallate
252	Sulfotepp
253	TDE
254	TEPP
255	Terbufos
135	Tetrachloroethylene; (perchloroethylene)
256	Tetrachlorvinphos
165	Thallium
136	Thioacetamide
138	Thiourea
257	Thiram
139	Toluene
258	Toxaphene
142	Triaryl Phosphate Esters
259	Trichlorfon
144	Trichloroethylene
78F	Trichlorofluoromethane
145	Trichlorophenols
26Ø	Trichlorophenoxyacetic Acid (2,4,5-T)
261	Triflualin
147	Trimethylphosphate
49	Tris(dibromopropyl)phosphate

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
148	Vinylchloride
149	Xylene
166	Zinc
262	Ziram

INDUSTRIAL USER DISCHARGE AUTHORIZATION
APPLICATION FORM

SECTION ONE – GENERAL INFORMATION

1. Facility Name: Johnson Controls - Battle Creek

   a. Operator Name: SAME

   b. Is the operator identified in 1a, the owner of the facility? Yes ( ) No (X)
   If no, provide the name and address of the owner.

   Johnson Controls - Asg
   49200 Halyard Drive, P.O. Box 8010
   Plymouth, Mi. 48170-2454

2. Facility Address:

   Street: 76 Armstrong Rd

   City: Battle Creek State: Mi.

   Zip: 49015

3. Business Mailing Address:

   Street: SAME

   City: _____ State: _____

   Zip: _____

4. Designated signatory authority of the facility:
   (Attach similar information for each authorized representative)

   Name: Shelly Maciejewski

   Title: Plant Manager

   Address: Same

   City: _____ State: _____

   Zip: _____

5 Designated Facility Contact

Name Greg Ingram

Title Health & Safety Coordinator

Phone # (616) 966 - 6445 ext —

SECTION TWO – BUSINESS ACTIVITY

1 If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply)

( ) Aluminum Forming
( ) Asbestos Manufacturing
( ) Battery Manufacturing
( ) Can Making
( ) Carbon Black
( ) Coal Mining
( ) Coil Coating
( ) Copper Forming
( ) Electric and Electrical Components Manufacturing
( ) Electroplating
( ) Feedlots
( ) Fertilizer Manufacturing
( ) Foundries (Metal Molding and Casting)
( ) Glass Manufacturing
( ) Grain Mills
( ) Inorganic Chemicals
( ) Iron and Steel
( ) Leather Tanning and Finishing
( ) Metal Finishing
( ) Nonferrous Metals Forming
( ) Organic Chemicals Manufacturing
( ) Paint and Ink Formulating
( ) Paving and Roofing Manufacturing
( ) Pesticides Manufacturing
( ) Petroleum Refining
( ) Pharmaceutical
( ) Plastic and Synthetic Materials Manufacturing
( ) Plastics Processing Manufacturing
( ) Porcelain Enamel
(X) Pulp, Paper, and Fiberboard Manufacturing
( ) Rubber
( ) Soap and Detergent Manufacturing
( ) Steam Electric
( ) Sugar Processing
( ) Textile Mills
( ) Timber Products

A facility with processes inclusive in these business areas may be covered by Environmental Protection Agency's categorical pretreatment standards. These facilities are termed " Categorical Users".

2. Give a brief description of all operations at this facility including primary products or services.

Wood Pulp is Formed into A "Wet-MAT" using Water. The "Wet MAT" is Thermoformed into A Wood substrate, which is Covered with Vinyl or Painted and Finished By Assembly with Additional Components.

3. Indicate applicable Standard Industrial Classification (SIC) for all Processes.

a: 3714 d: _____

b: _____ e: _____

c: _____ f: _____

4. Product Volume:

Product Name:	Production Amounts per Day Average	Maximum	Daily Unit
Mercedes Door Panel	1800	1916	EA
Saturn Instrument Panel	504	518	EA
GM P-90 Door Panel - "Service"	6	18	EA
Mercedes '99 Service	8	24	EA

SECTION THREE – WATER SUPPLY

1 Water Sources (Check as many as are applicable)

( ) Private Well
( ) Surface Water
(✗) Municipal Water (specify city) Battle Creek
( ) Other (specify) _____

2. Name on the water bill:

Name. Johnson Controls

Street. 76 Armstrong Rd

City: Battle Creek State Mi Zip: 49015

3. Water service account number 00043063

4. List average water usage on premises:
(New facilities may estimate)

	Average (gpd)
a. Contact cooling water	0
b. ~~Non-contact cooling water~~ squeeze water	405320
c Boiler feed	1000,0
d. Process	81000
e Sanitary	4000
f. Air pollution control	0
g. Contained in product	0
h. Irrigation and lawn watering	0
i. Other	0
j. Total of a – j	126532,0

NPDES Permit Number, if applicable: NA

SECTION FOUR – SEWER INFORMATION

1 a For an existing business

Is the building presently connected to the public sanitary sewer system?

(X) Yes Sanitary sewer account number 6606 utilities / water
( ) No. Have you applied for a sanitary sewer hookup? ( ) Yes ( ) No

b For a new business

Will you be occupying an existing vacant building (such as an industrial park)?
( ) Yes ( ) No

Have you applied for a building permit if a new facility will be constructed?
( ) Yes ( ) No

Will you be connected to the public sanitary sewer system?
( ) Yes ( ) No

2. List size, descriptive location, and flow of each facility sewer which connects to the City's sewer system. (If more than three, attach additional information on another sheet)

Sewer Size	Descriptive Location	(GPD) Average Flow
6.0 inch	Southwest Corner #1	25307
12.0 inch	South Center #2	88576
4.0 inch	South East Corner #3	12654

SECTION FIVE – WASTEWATER DISCHARGE INFORMATION

1 Does (or will) this facility discharge any wastewater other than from restrooms to the City sewer?

(X) Yes If the answer to this question is "yes" complete the remainder of the application

( ) No If the answer to this question is "no", skip to Section Nine

2. Provide the following information on wastewater flow rate (New facilities may estimate)

a Hours/Day discharged (e g 8 hours /day)

M 24 T 24 W 24 Th 24 F 24 Sat 24 Sun 24

b. Hours of Discharge (e.g. 9a.m. to 5p m.)

M 24 Hrs F 24 Hrs

T 24 Hrs Sat 24 Hrs

W 24 Hrs Sun 24 Hrs

Th 24 Hrs

c. Peak hourly flow rate ~~(GPD)~~ GPH 20 000

d. Maximum daily flow rate (GPD) 153340.0

e. Annual daily average (GPD) 126537.0

3. If batch discharge occurs or will occur, indicate:
(New facilities may estimate)

a. Number of batch discharges 1 per day

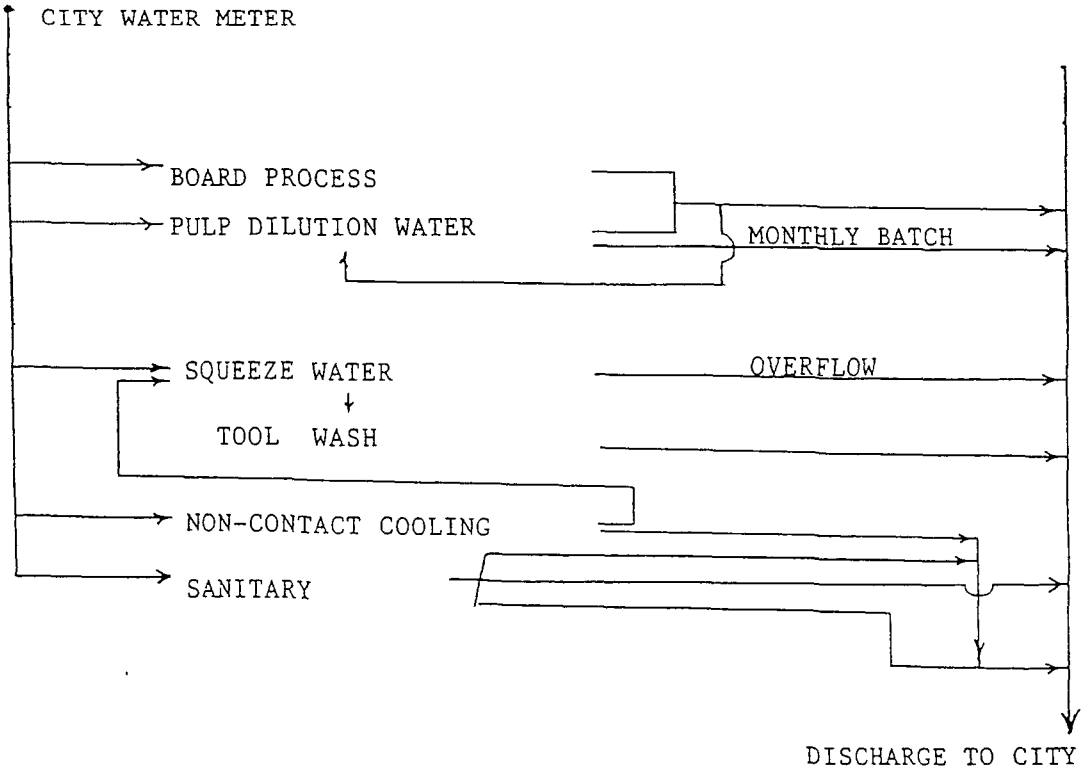
b. Average discharge per batch 25000 (GPB)

c. Time of batch discharges VARIABLE (days of week) at VARIABLE (hours of day)

d. Flow rate 833 gallons/minute

e. Percent of total discharge 20%

4. Schematic Flow Diagram –



Facilities that checked activities in question 1 Section Two are considered Categorical Industrial Users and should skip to question 6.

5. For Non-categorical Users Only. List average wastewater discharge, maximum discharge, And type of discharge (batch, continuous, or both), for each plant process (New facilities should provide estimates for each discharge)

Process Description	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)

ANSWER QUESTIONS 6 & 7 ONLY IF YOU ARE SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

6. For Categorical Users: Provide the wastewater discharge flows for each of your processes or proposed processes. (New facilities should provide estimates for each discharge).

Regulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)
Pulp, Paper, FIBERBOARD	122537	149340	Batch & Continuous

Unregulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)
SANITARY	4000		

Dilution	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)

7 For Categorical Users subject to Total Toxic Organic (TTO) requirements

Provide the following (TTO) information NOT APPLICABLE

a Does (or will) this facility use any of the toxic organics that are listed under the TTO standard of the applicable categorical pretreatment standards published by the EPA?

( ) Yes ( ) No

b Has a baseline monitoring report (BMR) been submitted which contains TTO information?

( ) Yes ( ) No

c Has a toxic organics management plan (TOMP) been developed? If yes, please attach a copy

( ) Yes ( ) No

8 Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current: Flow Metering	( ) Yes	(X) No	( ) N/A
Sampling Equipment	( ) Yes	(X) No	( ) N/A
Planned Flow Metering	( ) Yes	(X) No	( ) N/A
Sampling Equipment	( ) Yes	(X) No	( ) N/A

If so, please indicate the present or future location of this equipment on the sewer schematic

9 Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics? Consider production processes as well as air or water pollution treatment processes that may affect the discharge

(X) Yes ( ) No, (skip question 10)

10 Briefly describe these changes and their effects on the wastewater volume and characteristics (Attach additional sheets if needed)

Both the Mercedes & SATURN lines Are To Be Phased out By 2004, late Calendar months - oct/Nov

11 Are any materials or water reclamation systems in use or planned?
( ) Yes (X) No, (skip question 12)

12 Briefly describe recovery process, substance recovered, percent recovered, and the concentration in the spent solution Submit a flow diagram for each process (Attach additional sheets if needed)

SECTION SIX – CHARACTERISTICS OF DISCHARGE

Current Users

If your facility is currently providing self-monitoring data to the City, skip to Section Seven (If additional data or monitoring is being implemented, which has not been submitted to the City, it must be attached)

New Users

New dischargers should attach any data that is pertinent or available from facilities with similar processes

SECTION SEVEN – TREATMENT

1 Is any form of wastewater treatment (see list below) practiced at this facility?

( ) Yes (X) No

2 Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years?

( ) Yes, Describe _____
( ) No

3 Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate)

( ) Air flotation
( ) Centrifuge
( ) Chemical precipitation
( ) Chlorination
( ) Cyclone
( ) Filtration
( ) Flow equalization
( ) Grease or oil separation, type: _____
( ) Grease trap
( ) Grinding filter
( ) Grit removal
( ) Ion exchange
( ) Neutralization, pH correction
( ) Ozonation
( ) Reverse osmosis
( ) Screen
( ) Sedimentation
( ) Septic tank
( ) Solvent protection
( ) Sump
( ) Biological treatment, type: _____
( ) Rainwater diversion or storage
( ) Other chemical treatment, type: _____
( ) Other physical treatment, type: _____
( ) Other, type: _____

4. Description

Describe the pollutant loading, flow rates, design capacity, physical size, and operating procedures of each treatment facility checked above.

Not Applicable

5. Attach a process flow diagram for each existing treatment system Include process equipment, by-products, by-product disposal method, waste and by-product volumes, and design and operating conditions. Not Applicable

6. Describe any changes in treatment or disposal methods planned or under construction for the wastewater discharge to the sanitary sewer. Include estimated completion dates.

None

7. Do you have a treatment operator? ( ) Yes ( ) No

(if Yes,) Name: Not Applicable
Title: _____
Phone: _____

8. Do you have a manual on the correct operation of your treatment equipment?

( ) Yes ( ) No Not Applicable

9. Do you have a written maintenance schedule for your treatment equipment?

( ) Yes ( ) No Not Applicable

SECTION EIGHT – FACILITY OPERATIONS

1. Shift Information

Work Days	(X) Mon	(X) Tues	(X) Wed	(X) Thur	(X) Fri	( ) Sat	( ) Sun
Shifts Per work Day:	3	3	3	3	3	___	___
Empl's Per Shift: 1st	140	140	140	140	140	___	___
2nd	13	13	13	13	13	___	___
3rd	91	91	91	91	91	___	___

1st shift starts at: 6:45 Am ends at 3:15pm
2nd shift starts at: 2:45 pm ends at 11:15 pm
3rd shift starts at: 10:45pm ends at 7:15 Am

2. Indicate whether the facility discharge is:

(X) Continuous, during work hours
(X) Batch or intermittent

3. List types and amounts (mass or volume per day) of raw materials used or planned for use (attach list if needed).

Wood Fiber	7806.53	Pounds/Day
HERCON 70	86.0	GAL/DAY
KYMENE	83.22	GAL/DAY
HerCoBond	11.10	GAL/DAY
POLYETHYLENE	188.66	Pounds/Day
Polypropylene	398.41	Pounds/DAY
Cellulose (Bleached KRAFT wood Fiber	3323.3	pounds/Day

4 List each substance from Appendix A is contained in any materials used or stored and could be present in your facilities wastewater discharge (List by the number from Appendix A rather than by name)

6					

5 List each substance from Appendix A which is contained in any materials used or stored (List by the number from Appendix A rather than by name)

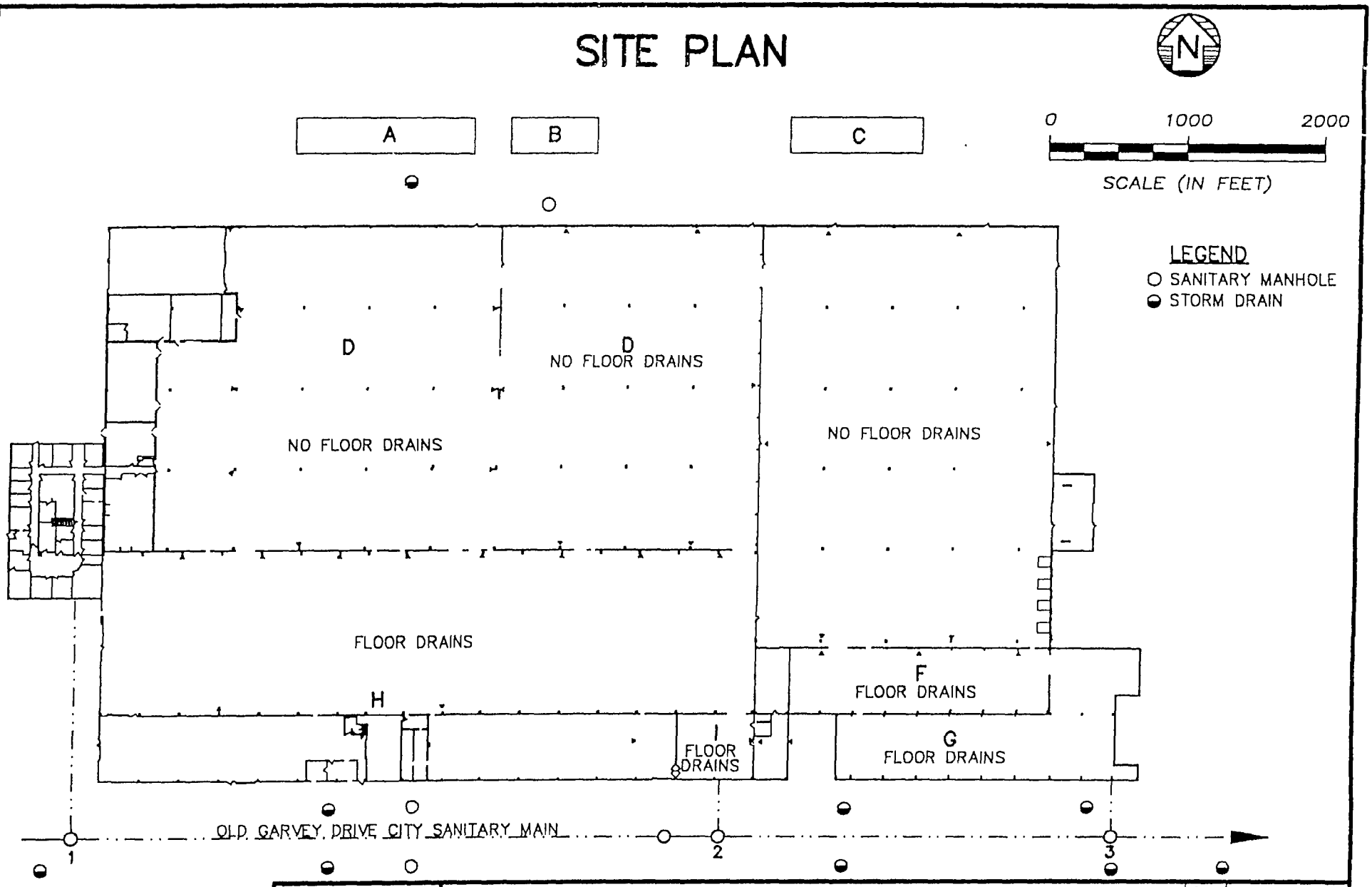
30A	1	6	65	85	166

6 Building Layout – Draw the location of each building on the premises Show map orientation and location of all water meters, storm sewers, and each facility sewer line connected to the public sewers Show unit processes in respect to drains and overflows Specify sampling locations situated outside the building

JOHNSON CONTROLS - BATTLE CREEK
76 ARMSTRONG ROAD
BATTLE CREEK, MICHIGAN

STORAGE AREA	DESCRIPTION OF CHEMICALS
A	Non-Hazardous chemical material storage building with secondary containment.
B	Chemical material storage building with secondary containment. Materials stored in containers less than or equal to 55 gallons in size.
C	Empty drum and/or chemicals materials drum storage building with secondary containment
D	Water-based addhesive stored in 55-gallon steel drums.
F	Kymene and Hercon storage in three (3) 5,000-gallon fiberglass tanks with secondary containment.
G	Bussan (biocide) stored in 30-gallon plastic dispensers with secondary containment.
H	Therminal 66-Monsanto (Konus heat transfer fluid) stored in a 1500-gallon sump and a 500-gallon expansion vessel.
I	Waste oil stored in 1000-gallon metal tank.
J	Various maintenance oils and greases stored throughout the facility in containers less than or equal to 5 gallons in size.

SITE PLAN



JOHNSON CONTROLS INTERIOR, L.L.C. OF MICHIGAN
BATTLE CREEK FACILITY
76 ARMSTRONG ROAD – BATTLE CREEK, MICHIGAN

CHK'D CCD

K7628.19.01

FIGURE 1

A member of the ERM Group
ERM

Dell Engineering, Inc. Civil Engineering · Environmental Consulting
3352 128th Avenue, Holland, MI 49424-9263

K7628 01.DWG 4/13/1999 1:13 PM
REVISIONS TO BE MADE ON THE CADD FILE ONLY

SECTION NINE – SPILL PREVENTION

1. Do you have chemical storage containers, bins, or ponds at your facility?
(X) Yes ( ) No

   If yes, please give a description of their location, contents, size, type and frequency and method of cleaning Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain.

2. Do you have floor drains in your manufacturing or chemical storage area(s)?
(X) Yes ( ) No

   If yes; where do they discharge to? SANITARY SEWER

3. If you have chemical storage containers, bins, or ponds in a manufacturing area, could an accidental spill lead to a discharge to: (check all that apply)

   ( ) an onsite disposal system
   (X) public sanitary sewer system (e g. floor drain)
   (X) storm drain
   (X) to ground
   ( ) other, specify _____
   ( ) not applicable, no possible discharge to any of the above routes

4. Do you have an accidental spill prevention plan (ASPP) to prevent spills of chemicals or slug discharges from entering the City's collection system?

   (X) Yes – Enclose a copy with this application Copy on File
   ( ) No
   ( ) not applicable since there are no floor drains and/or the facility discharges only domestic waste

SECTION TEN – NON-DISCHARGE WASTES

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system?

   (X) Yes, please describe below.
   ( ) No, skip the remainder of Section Ten.

Waste Generated	Quantity (per year)	Disposal Method
Thermonex Flush	9900 gal	Off-site
Oils/Waters	67850 gal	Off-site

Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of on-site.

2. If an outside firm removes any of the above checked wastes, state the name(s) and address(es) of all waste haulers:

a. Crystal Flash Env. Service
1862 Alpine N. W.
Grand Rapids mi 49504

Permit No. MIR000037457

b. KTD Industrial Services, Inc
1323 W. M-89
Plainwell MI 49080

Permit No. MID 072 290 710

SECTION ELEVEN – AUTHORIZED SIGNATURES

Compliance certification:

1. Are all applicable Federal, State or City pretreatment standards and requirements being met on a consistent basis?

(X) Yes ( ) No ( ) Not yet discharging

2. If No:

a. What additional operations and maintenance procedures are being considered to bring the facility into compliance? Also, list additional treatment practices being considered in order to bring the facility into compliance.

b. Provide a schedule for bringing the facility into compliance. Specify major events planned along with reasonable completion dates. (These dates are subject to approval by the City of Battle Creek)

Event or Activity	Completion Date

Authorized Representative Statement:

The information contained in this application is familiar to me and to the best of my knowledge and belief, such information is true, accurate and complete

Rochelle Maciejewski
Name (please print)

Plant Manager
Title

Rochelle Maciejewski
Signature

4.30.02
Date

616-966-6436
Phone Number

PHL 10FEB93 Bladder mold Release

92

MATERIAL SAFETY DATA SHEET

—SECTION I—

SPRAYON PRODUCTS
DIVISION OF THE SHERWIN-WILLIAMS CO.
6830 COCHRAN ROAD
SOLON, OH 44139

EMERGENCY TELEPHONE NO.
(216) 292-7400
INFORMATION TELEPHONE NO.
(800) 777-2966

DATE OF PREPARATION
1 - FEB - 92

Mold Release Agents & Mold Maintenance - 2

MOLD/ISD2

—SECTION II— CAS No.	HAZARDOUS INGREDIENT (percent by weight)	ACGIH TLV <STEL>	OSHA PEL <STEL>	Units	Vapor Pressure (mm Hg)	00501 Economy M.R.	00502 General Purpose	00503 Food Grade Silicone	00505 H.D. Silicone	00507 H.D. Paintable	00511 Dry Film Vydax	00512 Dry Powder Zinc	00514 Paintable Lecithin	00515 Urethane Styrene	00517 Dry Film Vydax	00529 Paintable M.R.
115-10-6	Methyl Ether	1000	1000	PPM	760.0	31	31	31	32	31	30	31	31	31	23	31
110-54-3	Hexane	50	50	PPM	127.0	10	9	9	5	10	10	10	10	9		10
76-13-1 §	Trichlorotrifluoroethane	1000 <1250>	1000 <1250>	PPM	100.0						4				4	
71-55-6 §	1,1,1-Trichlorethane	350 <450>	350 <450>	PPM	760.0										29	
116-14-3	Tetrafluoroethylene	Not Established			16.0						1				2	
75-45-6	Chlorodifluoromethane	1000	1000	PPM	760.0	58	58	57	59	57	55	57	57	58	43	58
	VOC as a percent by weight excluding federally exempt solvents					41	40	40	37	41	40	41	41	40	23	41
	HMIS® Ratings (Health - Flammability - Reactivity)					2-3-0	2-3-0	2-3-0	2-3-0	2-3-0	2-3-0	2-3-0	2-3-0	2-3-0	2-3-0	2-3-0

§ No ingredients are subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.65 C

BLADDER MOLD RELEASE
11-15-94
MWL

RECD: 10 FEB 93
AUDIT: 11 FEB 93
CC

Section III — PHYSICAL DATA

PRODUCT WEIGHT	– N.A.	*EVAPORATION RATE*	– Faster than Ether
SPECIFIC GRAVITY	– N.A.	*VAPOR DENSITY*	– Heavier than Air
BOILING RANGE	– <0-289 °F	*MELTING POINT*	– N.A.
VOLATILE VOLUME	– >25 %	*SOLUBILITY IN WATER*	– N.A.

Section IV — FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION *FLASH POINT* <0 °F TCC *LEL* 1.0 *UEL* 12.8
RED LABEL – Flammable, Flash below 100 °F
EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Foam
UNUSUAL FIRE AND EXPLOSION HAZARDS
Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.
SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section V — HEALTH HAZARD DATA

ROUTES OF EXPOSURE
Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.
ACUTE Health Hazards
EFFECTS OF OVEREXPOSURE
Irritation of eyes, skin and respiratory system. May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.
SIGNS AND SYMPTOMS OF OVEREXPOSURE
Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.
EMERGENCY AND FIRST AID PROCEDURES
If INHALED: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
If on SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
If in EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
If SWALLOWED: Never give anything by mouth to an unconscious person. DO NOT INDUCE VOMITING. Give several glasses of water. Seek medical attention.
CHRONIC Health Hazards
No ingredients in these products are IARC, NTP or OSHA listed carcinogens.
Prolonged and repeated exposure to Hexane may cause damage to nerve tissue of the arms and legs (peripheral neuropathy), resulting in muscular weakness and loss of sensation. This effect may be increased by the presence of Methyl Ethyl Ketone.
Tetrafluoroethylene overexposure may cause flu-like symptoms which may include fever, chills, backache, and numbness or tingling of the extremities. Inhalation of smoke or fumes of tetrafluoroethylene may cause polymer fume fever, a flu-like condition which occurs several hours after exposure and subsides within 24 hours. Polymer fume fever does not cause permanent injury and the effects are not cumulative
Prolonged overexposure to solvent ingredients in Section II may cause adverse effects to the liver and urinary systems.
Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Section VI — REACTIVITY DATA

STABILITY – Stable
INCOMPATIBILITY
None known.
HAZARDOUS DECOMPOSITION PRODUCTS
By fire: Carbon Dioxide, Carbon Monoxide
HAZARDOUS POLYMERIZATION – Will Not Occur

Section VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate and remove with inert absorbent.
WASTE DISPOSAL METHOD
Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

Section VIII — PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE
Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.
This coating may contain materials classified as nuisance particulates (listed "as Dust" in Section II) which may be present at hazardous levels only during sanding or shreding of the dried film. If no specific dusts are listed in Section II, the applicable limits for nuisance dusts are ACGIH TLV 10 mg./m3 (total dust), OSHA PEL 15 mg./m3 (total dust), 5 mg./m3 (respirable fraction).
VENTILATION
Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.
RESPIRATORY PROTECTION
If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II.
When sanding or abrading the dried film, wear a dust/mist respirator approved by NIOSH/MSHA for dust which may be generated from this product, underlying paint, or the abrasive.
PROTECTIVE GLOVES
Wear gloves which are recommended by glove supplier for protection against materials in Section II.
EYE PROTECTION
Wear safety spectacles with unperforated sideshields.

Section IX — PRECAUTIONS

DOL STORAGE CATEGORY – 1B
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Contents are FLAMMABLE. Keep away from heat, sparks, and open flame.
Vapors will accumulate readily and may ignite explosively.
During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.
Consult NFPA Code. Use approved Bonding and Grounding procedures.
Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120 °F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.
OTHER PRECAUTIONS
Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

This Material Safety Data Sheet conforms to the Hazard Communication standard, 29 CFR 1910.1200(g)(6), for similar complex mixtures.
The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

U.S Department of Labor

MATERIAL SAFETY DATA SHEET

Manufacturer's Name: CHEMENCE INC
Address: 6425 INDUSTRIAL WAY, 9 MCFARLAND INDUSTRIAL PARK, ALPHARETTA, GA 30201-3382
Chemical name and synonyms: ETHYL
Chemical family: CYANOACRYLATE ESTER
Emergency Telephone Number: (770) 664-6624
Trade name and synonyms: RiteLok PR 1500
Formula: N/A
Flammability: MEDIUM Health: MEDIUM Reactivity: MEDIUM Specific Hazard: SKIN BONDING & BURNING

SECTION II-HAZARDOUS INGREDIENTS

Hazardous Mixtures of Other Liquids, Solids, or Gases

	CAS NO.	%	CARCINOGEN NTP	IARC	OSHA
ETHYL CYANOACRYLATE	7085-85-0	95-100	NO	NO	NO
HYDROQUINONE	123-31-9	0.1-0.5	NO	N/A	NO
POLY (Methyl Methacrylate)	9011-14-7	3-5	NO	N/A	NO

SECTION III-PHYSICAL DATA

Boiling point: More than 300-F
Vapor Pressure: Less than 0.2mm @ 75-F
Vapor Density: Approximately 3
Solubility in Water: Polymerized by water
Appearance: Clear liquid
Specific Gravity: 1.06
Percent Volatile, by volume: 98.8%
Evaporation Rate: N/A
Odor: Sharp, irritating

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

Flash Point: 185 F (method used-T.C.C.) Flammable Limits: LEL: N/A UEL: N/A
Extinguishing Media: CARBON DIOXIDE, DRY CHEMICAL, FOAM.
Special Fire Fighting Procedures: SELF CONTAINED BREATHING APPARATUS.
Unusual Fire and Explosion Hazards: POSSIBLE EXOTHERMIC REACTION LEADING TO SUBSTRATE IGNITION AND FUME GENERATION.

SECTION V-HEALTH HAZARD DATA

Threshold Limit Value: NO CRITERIA FOR MEASUREMENT. NOT YET ESTABLISHED. ESTIMATED 2PPM
Effects of Overexposure: VAPOR IS IRRITATING TO EYES AND MUCOUS MEMBRANES ABOVE TLV. PROLONGED AND REPEATED OVEREXPOSURE TO VAPORS MAY PRODUCE ALLERGIC REACTIONS WITH ASTHMA-LIKE SYMPTOMS IN SENSITIVE INDIVIDUALS.
Emergency and First Aid Procedures: SKIN: IMMERSE BONDED SURFACE IN WARM SOAPY WATER. PEEL OR ROLL SURFACE APART WITH AID OF BLUNT EDGE. DO NOT PULL APART WITH DIRECT OPPOSING ACTION. EYE: FLUSH WITH WARM WATER AND APPLY CAUSE PATCH. EYE WILL OPEN WITHIN 1-4 DAYS. MOUTH: APPLY WARM WATER TO MOUTH. PEEL OR ROLL LIPS APART. BURNS: SHOULD BE TREATED NORMALLY AFTER THE LUMP OF CYANOACRYLATE IS RELEASED FROM THE TISSUE. INHALATION: REMOVE TO FRESH AIR.

SECTION VI-REACTIVITY DATA

Stability: STABLE (UNDER NORMAL CONDITIONS)
Conditions to avoid: AMINES, BASE MATERIALS
Hazardous Decomposition Products: NONE
Hazardous Polymerization: MAY OCCUR (EXOTHERMIC)
Incompatibility (Materials to avoid): POLYMERIZED BY CONTACT WITH WATER, ALCOHOLS, AMINES, ALKALIES.

SECTION VII-SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled: FLOOD WITH WATER TO POLYMERIZE. SOAK UP WITH AN INERT ABSORBENT.
Waste disposal method: POLYMERIZE AS ABOVE. INCINERATE IN ACCORDANCE WITH EPA AND LOCAL REGULATIONS.

SECTION VIII-SPECIAL PROTECTION INFORMATION

Respiratory protection (type): NONE NEEDED FOR NORMAL USE.
Ventilation: POSITIVE DOWN-DRAFT EXHAUST VENTILATION SHOULD BE PROVIDED TO MAINTAIN VAPOR CONCENTRATION BELOW TLV.
Protective Gloves: POLYETHYLENE GLOVES, DO NOT USE COTTON GLOVES.
Eye Protection: SAFETY GLASSES OR GOGGLES.
Other protective equipment: POLYETHYLENE/POLYPROPYLENE COATS OR APRONS (NOT RUBBER OR COTTON).

SECTION IX-SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: STORE AT OR BELOW 75-F TO MAXIMIZE SHELF LIFE.
Other precautions: AVOID CONTACT WITH SKIN AND EYES. AVOID BREATHING VAPOR.

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing herein is to be constructed as recommending any practice or any product in violation of any patent or in violation of any law or regulation. It is the user's responsibility to determine for himself the suitability if any material for a specific purpose and adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and, since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.

REVISED 09/04/95
MSDSPR1500

TECHNICAL INFORMATION

PR 1500 INSTANT SUPERGLUE

Plastic & Rubber CA

DESCRIPTION

RiteLok Instant Superglue Alkyl Cyanoacrylate is a medium to high viscosity superglue for bonding where large gap fill is important, or where the materials are absorbent. Instant Superglue is versatile and will bond most plastics, rubbers, and metals. Because of its viscosity Instant Superglue allows additional bonding time prior to cure.

APPLICATIONS

Typical applications are ferrite cores, magnets, loud speakers cones, leather trim, metal badges, electronic components; however, Instant Superglue is versatile and will bond many other substrates.

USEFUL HINTS/NOTES

Only apply adhesive to one side. Apply pressure firmly for a few seconds until the bond forms. Allow to cure before putting into use.

PROPERTIES

Medium to High Viscosity

Speed:	Metal/Metal	<35seconds
	Plastic/Plastic	< 6seconds
	Rubber/Rubber	<6 seconds

INSTRUCTIONS FOR USE

Ensure parts are clean, dry and free from oil and grease.

PROCEDURE FOR APPLICATION

Product is normally hand applied from the bottle. Apply sparingly to one side and hold parts until handling strength is achieved.

COMPATIBLE ACCELERATORS/PRIMER

Activators can be used for fillet cure or for priming absorbent surfaces.

TECHNICAL FEATURES

Resin:	Alkyl Cyanoacrylate
Color:	Clear
Cure Speed with Activator:	< 5 seconds
Cure Speed without Activator: ...	25-60 seconds
Viscosity	1100-1600cps
Gap Fill:	.008"
Flash Point:	>185F
Shelf Life:	12 months @ 40F
Specific Gravity:	1.08
Max. Operating Temperature: ...	-65 F to + 180 F

CURED PERFORMANCE

Full Cure Time:	24 hours @ 68F
Tensile Shear Strength:	2500-3830 psi

STORAGE

Store between 40F to 77F out of direct sunlight. Refrigeration to 40 F gives optimum storage stability.

PRESENTATION

Bottles: ..... 1oz & 1lb

HEALTH & SAFETY IN USE

DANGER: Superglue bonds skin and eyes in seconds. If accidental skin bonding happens, wash with warm soapy water and prise skin apart using a blunt instrument (such as a teaspoon handle). In case of eye contact, bath immediately with water and seek immediate medical attention.

REVISED 09/10/95
TDSPR1500

The information contained herein is produced in good faith and is believed to be reliable but is for guidance only. Chemence Inc and its agents cannot assume liability or responsibility for results obtained in the use of its product by persons whose methods are outside or beyond our control. It is the users responsibility to determine the suitability of any of the products and methods of use or preparation prior to use mentioned in our literature and furthermore the users responsibility to observe and adopt such precautions may be advisable for the protection of personnel property in the handling and use of any of our products.

MAGNAFLUX

13877 3
KIT

MAGNAFLUX® MATERIAL SAFETY DATA SHEET

PRODUCT: SKC-NF CLEANER/REMOVER
(Formerly SKC-NF/ZC-7B)

NO: 1506

1. IDENTIFICATION

ADDRESS:	7300 West Lawrence Avenue, Chicago, Illinois 60656
TELEPHONE:	(708) 867-8000. (24 Hour Emergency Number - CHEMTREC - 1-800-424-9300).
PACKAGES:	1 gallon can, 5 gallon pail, 20 and 55 gallon drums, 12 oz aerosol
CHEMICAL FAMILY:	Chlorinated Alkane
HMIS RATING:	Health 2, flammability 0, Reactivity 1

2. HAZARDOUS INGREDIENTS

1,1,1-Trichloroethane (Methyl chloroform), CAS #71-55-6, OSHA PEL: 350 ppm, Conc. 96% Bulk, 95% Aer
Carbon dioxide (aerosol only), CAS #124-38-9, OSHA PEL: 5000 ppm, Conc. 5%
Methylal, CAS #109-87-5, OSHA PEL 1000 ppm, about 1%
2-Methyl, 2-propanol, CAS #75-65-0, OSHA PEL 100 ppm, about 1%
1,1,1 - Trichloroethane is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Contains no other ingredient suspected of being hazardous according to information sources given in 29 CFR 1910.1200, OSHA Hazard Communication Rule.

3. HEALTH HAZARD

THRESHOLD LIMIT VALUE: 350 ppm

ROUTES OF ENTRY, EFFECTS OF OVEREXPOSURE

Inhalation:	Dizziness, drowsiness, nausea. Unconsciousness at high exposure
Skin Contact:	Irritates by dissolving skin oils. Not absorbed through skin in significant amounts
Eye Contact:	Irritating due to strong solvent action
Ingestion:	Low single dose toxicity in test animals
CARCINOGENICITY:	Contains no known carcinogens listed with OSHA, the IARC (International Agenc for Research on Cancer Monographs or the NTP (National Toxicology Program) Annual Report on Carcinogens.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED BY EXPOSURE TO PRODUCT: None

4. FIRST AID

INHALATION:	Remove to fresh air. If not breathing, call emergency vehicle immediately. Give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen.
SKIN CONTACT:	Wash off in flowing water or shower. Remove contaminated clothes and wash before re-use. Use soothing lotion.
EYE CONTACT:	Lift upper eyelid, depress lower eyelid, and flush eye with a steady, gentle flow of water. Roll eyeball in all directions while flushing.
INGESTION:	Do not induce vomiting; if vomit is inhaled, it may cause asphyxiation. Contac physician immediately.
IMPORTANT:	POISON CONTROL CENTER NUMBER In all severe cases, contact physician immediately. Local telephone operators are able to furnish number of Regional Poison Control Center to assist physician.

NO: 1506

5. FIRE HAZARD

PRIMARY HAZARD: Can be a major contributing factor to a fire in progress, see stability b

SPECIAL FIRE FIGHTING PROCEDURE: Keep containers cool with water spray.

FLASH POINT: None

FLAMMABLE LIMITS IN AIR: 10 - 15%, using intense ignition sources.

EXTINGUISHING MEDIA: None

UNUSUAL FIRE HAZARDS: Aerosol cans may burst at temperatures over 130°F. Vapors partially decompose to toxic gases when exposed to flame, arcs, or red hot surfaces

6. REACTIVITY HAZARDS

STABILITY: Partially decomposes in flame, arcs, near red hot surfaces.

INCOMPATIBILITY: Powdered zinc and aluminum

HAZARDOUS DECOMPOSITION PRODUCTS: Phosgene, hydrochloric acid. Phosgene CAS #75-44-5 is extreme toxic, TLV 0.1 ppm and cannot be reliably detected by odor. Hydrochoric acid CAS #7647-01-0 is almost as toxic, TLV 5 ppm, and is detectable and even irritating at this concentration.

7. SAFE HANDLING PROCEDURES

GENERAL: Do not breathe vapors. Exposures above the TLV can result in clumsiness and poor jud ment, with resulting danger to the victim and those around him. Much like ingesting much alcohol. If victim is unconscious, death is possible, due to either suffocatio (lack of oxygen), or cardiac arrest. For avoidance see next two sections.

Avoid frequent or prolonged exposure to skin as the solvent can irritate skin. Do not use around flame, arcs, red hot surfaces or lighted smoking materials, so as avoid exposure to phosgene and hydrochloric acid.

Do not heat aerosol cans above 130°F to eliminate the possibility of their bursting releasing unwanted vapors.

Store away from heat sources to minimize the danger from exposure to fires. Store pallets of aerosol cartons as Level 1 Aerosol (NFPA 30B).

PERSONAL PROTECTIVE EQUIPMENT:

In poorly ventilated areas such as small rooms with no windows, or in sumps or other areas (SKC-NF vapors are dense and sink to low spots) the user should wear a respira with chemical cartridge

In confined, unventilated spaces, such as the inside of tanks or small compartments Inspector should wear a full mask with separate air supply

If hand exposure to SKC-NF is unavoidable, wear nitrile rubber gloves, to avoid ski contact.

Wear full goggles if the application of SKC-NF includes splashing or the possibilit spraying into the eyes. Be sure the goggles are clean and not apt to degrade the inspection procedure.

CONTROLS: SKC-NF vapors cannot be allowed to collect. It is preferred to use SKC-NF either i spray booth or next to an exhaust vent. Remember that the vapors tend to settle to floor.

General ventilation must be sufficient to keep the concentration below 350 ppm. A all of the SKC-NF that is used will evaporate into the surrounding air. Base vent tion rate on consumption.

MAGNAFLUX

1387 T3
Kit
NO: 1506

8. DISPOSAL

SPILLS AND LEAKS: Less than 1 Quart - Wipe up, following guidelines above in "Safe Handling Proce

One quart or more - EVACUATE AREA. Ensure that clean up crew wears all persona safety wear as presented in "Safe Handling Procedure". The nose is NOT a relia gauge of air contamination.

WASTE DISPOSAL: Dispose of as EPA hazardous waste #F002.
May be sent to solvent reclaimer. Ensure that aerosol cans are empty and depre ized before discarding, unless a waste treatment facility is approved to accep as is.

9. PHYSICAL PROPERTIES

BOILING POINT:	162°F	VAPOR PRESSURE:	230 mm at 100°F
PERCENT VOLATILE:	100%	VAPOR DENSITY:	4
DENSITY:	1.3	EVAPORATION RATE:	3 times faster than ethyl alcohol
WATER SOLUBILITY:	Negligible	APPEARANCE:	Clear, colorless, mobile liquid
pH:	Neutral		

WARNING PROPERTIES: Odor can be detected at 100 ppm, but is not strong enough to cause discomfort at 1000 ppm.

10. DOT SHIPPING

SHIPPING NAME: For Bulk - Methyl Chloroform
For Aerosol - Consumer commodity.

MARKING: For Bulk - None
For Aerosol - None.

HAZARD CLASS: For Bulk - ORM-A
For Aerosol - ORM-D.

IDENTIFICATION: For Bulk - UN2831
For Aerosol - None.

11. CERTIFIED

SKC-NF is composed entirely of materials listed in the TOSCA Inventory of Chemical Substances.

DATE: January 1, 1991.
Supercedes MSDS dated May 1, 1990.

SIGNED: Bruce C. Graham

Bruce C. Graham, Chief Chemist
MAGNAFLUX®

12. SPECIAL NOTE: SKC-NF should not be used in a vapor degreaser.

Solutia Inc.

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: THERMINOL® 59 Heat transfer fluid

Reference Number: 000000000197 Date: 11/07/2000

Company Information:

United States:
Solutia Inc.
575 Maryville Center Drive, P.O. Box 66760
St. Louis, MO 63166-6760
Emergency telephone: Chemtrec: 1-800-424-9300
Non-Emergency telephone: 1-314-674-6661

Canada:
Solutia Canada Inc.
6800 St. Patrick Street
LaSalle, PQ H8N 2H3
Emergency telephone: CANUTEC: 1-613-996-6666
Non-Emergency telephone: 1-314-674-6661

Mexico:
Solutia MEXICO, S. DE R.L. DE C.V.
Blvd. Manuel Avila Camacho No. 40 Piso 12 Colonia Lomas de Chapultepec
Edificio Torre Esmeralda
11000 Mexico, D.F.
Emergency telephone: SETIQ: (in Mexico) 01-800-002-1400
Non-Emergency telephone: (in Mexico) 525-202-5600

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No.	Average concentration	Concentration range	Units
ethyl diphenyl ethane	64800-83-5		>=30.0 - <=60.0	%
diphenyl ethane	38888-98-1		>=10.0 - <=30.0	%
diethyl diphenyl ethane	68398-19-6		>=10.0 - <=30.0	%
ethylbenzene polymer	27536-89-6		>=7.0 - <=13.0	%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Form:	liquid
Colour:	pale yellow
Odour:	aromatic, hydrocarbon

WARNING STATEMENTS

WARNING!
Causes skin irritation
Elevated processing temperatures may cause release of vapours which are irritating to eyes and upper respiratory tract

POTENTIAL HEALTH EFFECTS

Likely routes of exposure:	eye and skin contact inhalation
Eye contact:	No more than slightly irritating to eyes. Elevated processing temperatures may cause release of vapours which are irritating.
Skin contact:	Highly irritating to skin. No more than slightly toxic if absorbed. Prolonged or repeated skin contact may result in irritant dermatitis.
Inhalation:	Elevated processing temperatures may cause release of vapours which are irritating if inhaled. No more than slightly toxic if inhaled. Significant adverse health effects are not expected to develop under normal conditions of exposure.
Ingestion:	No more than slightly toxic if swallowed. Significant adverse health effects are not expected to develop if only small amounts (less than a mouthful) are swallowed.
Signs and symptoms of overexposure:	headache dizziness/incoordination nausea/vomiting loss of consciousness vertigo confusion anxiety laboured breathing drowsiness

Refer to Section 11 for toxicological information.

4. FIRST AID MEASURES

If in eyes:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove any contact lenses. Get medical attention. Remove material from skin and clothing.
If on skin:	Immediately flush the area with plenty of water. Remove contaminated clothing.

	Get medical attention. Wash clothing before reuse.
If inhaled:	Remove patient to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Remove material from eyes, skin and clothing.
If swallowed:	Immediate first aid is not likely to be required. A physician or Poison Control Center can be contacted for advice. Wash heavily contaminated clothing before reuse.

5. FIRE FIGHTING MEASURES

Flash point:	138 C	Cleveland Open Cup
Fire point:	163 C	Cleveland Open Cup
Autoignition temperature:	404 C	ASTM D-2155
Hazardous products of combustion:	carbon monoxide (CO); carbon dioxide; soot; smoke	
Extinguishing media:	Water spray, foam, dry chemical, or carbon dioxide	
Unusual fire and explosion hazards:	None known	
Fire fighting equipment:	Firefighters, and others exposed, wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.	
Miscellaneous advice:	This product is not classified as a fire-resistant heat transfer fluid. Precautions to avoid sources of ignitions should be taken.	

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Use personal protection recommended in section 8.
Environmental precautions:	Keep out of drains and water courses.
Methods for cleaning up:	Contain large spills with dikes and transfer the material to appropriate containers for reclamation or disposal. Absorb remaining material or small spills with an inert material and then place in a chemical waste container. Flush spill area with water.

Refer to Section 13 for disposal information and Sections 14 and 15 for reportable quantity information.

7. HANDLING AND STORAGE

Handling
Avoid contact with eyes, skin and clothing.
Avoid breathing vapour or mist.
Keep container closed.
Use with adequate ventilation.

Wash thoroughly after handling.
Precautions against ignitions and fire should be taken with this product.
Heat transfer fluids are intended for INDIRECT heating purposes ONLY.
This product has not been approved for food grade use.

Emptied containers retain vapour and product residue. Observe all recommended safety precautions until container is cleaned, reconditioned or destroyed. Do not cut, drill, grind or weld on or near this container. The reuse of this material's container for non industrial purposes is prohibited and any reuse must be in consideration of the data provided in this material safety data sheet.

Storage

General:	Stable under normal conditions of handling and storage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection:	Wear chemical goggles. Have eye flushing equipment available.
Hand protection:	Wear chemical resistant gloves. Consult the glove/clothing manufacturer to determine the appropriate type glove/clothing for a given application. See Solutia Glove Facts for permeation data.
Body protection:	Wear suitable protective clothing. Wear full protective clothing if exposed to splashes. Consult the glove/clothing manufacturer to determine the appropriate type glove/clothing for a given application. Wash contaminated skin promptly. Launder contaminated clothing and clean protective equipment before reuse. Have safety shower available at locations where skin contact can occur. Wash thoroughly after handling.
Respiratory protection:	Avoid breathing vapour or mist. Use approved respiratory protection equipment (full facepiece recommended) when airborne exposure limits are exceeded. If used, full facepiece replaces the need for face shield and/or chemical goggles. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.
Ventilation:	Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits. If practical, use local mechanical exhaust ventilation at sources of air contamination such as processing equipment.
Airborne exposure limits:	(ml/m3 = ppm)
THERMINOL® 59	Solutia: 2.0 mg/m3 ; ; 8-hr TWA Solutia established exposure guideline.

Components referred to herein may be regulated by specific Canadian provincial legislation. Please refer to exposure limits legislated for the province in which the substance will be used.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	0.971 @ 25 C
Boiling point :	289 C
Melting point :	-61 C
Vapour pressure:	0.003 hPa @ 25 C
Water solubility:	0.00055 g/l @ 20 C

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

Conditions to avoid:	All sources of ignition.
Materials to avoid -	None known
Hazardous reactions:	Hazardous polymerization does not occur.
Hazardous decomposition products:	None known;

11. TOXICOLOGICAL INFORMATION

Human experience:	Prolonged or repeated skin contact may result in irritant dermatitis. Elevated processing temperatures may cause release of vapours which are irritating to eyes and upper respiratory tract

This product has been tested for toxicity. Results from Solutia sponsored studies or from the available public literature are described below.

Acute animal toxicity data

Oral:	LD50 , rat, > 5,000 mg/kg , Practically nontoxic following oral administration.
Dermal:	LD50 , rabbit, > 5,000 mg/kg , Practically nontoxic after skin application in animal studies.
Eye irritation:	rabbit , Slightly irritating to eyes (rabbit)., 24 h
Skin irritation:	rabbit , Severely irritating, 24 h rabbit , Moderately irritating to skin., 4 h
Repeat dose toxicity:	rat, inhalation, 13 weeks, Produced effects on body weight, serum enzymes and/or organ weights in repeat dose studies.
Repeat dose toxicity:	rat, inhalation, 28 days,

Produced effects on body weight, serum enzymes and/or organ weights in repeat dose studies.

Developmental toxicity: rat, inhalation, , Effects on offspring only observed with maternal toxicity. Effects only observed at very high dose levels.

Mutagenicity: No genetic effects were observed in standard tests using bacterial and animal cells.

12. ECOLOGICAL INFORMATION

Environmental Toxicity:

Invertebrates: 48 h, EC50 Water flea (Daphnia magna) 0.77 mg/l
EC50/LC50 greater than water solubility.

Fish: 96 h, LC50 Rainbow trout (Oncorhynchus mykiss) > 0.97 mg/l
EC50/LC50 greater than water solubility.
96 h, LC50 Fathead minnow (Pimephales promelas) > 16 mg/l
EC50/LC50 greater than water solubility.

Algae: 96 h, EC50 Algae (Selenastrum capricornutum) 0.67 mg/l
EC50/LC50 greater than water solubility.

Environmental fate

Biodegradation

Resistant to biodegradation.

13. DISPOSAL CONSIDERATIONS

US EPA RCRA Status: This material when discarded may be a hazardous waste as that term is defined by the Resource Conservation and Recovery Act (RCRA), 40 CFR 261.24, due to its toxicity characteristic. This material should be analyzed in accordance with Method 1311 for the compound(s) below.

US EPA RCRA hazardous waste number: D018 Compound/Characteristic: Benzene

Disposal considerations: Consult 40 CFR 268.40 or appropriate local regulations for concentration based standards.

Miscellaneous advice: This product meets the criteria for a synthetic used oil under the U.S. EPA Standards for the Management of Used Oil (40 CFR 279). Those standards govern recycling and disposal in lieu of 40 CFR 260 -272 of the Federal hazardous waste program in states that have adopted these used oil regulations. Consult your attorney or appropriate regulatory official to be sure these standards have been adopted in your state. Recycle or burn in accordance with the applicable standards.
Solutia operates a used fluid return program for certain fluids under these used oil standards. Contact your Sales Representative for details.

This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

US DOT
Other: Not regulated for transport.

Canadian TDG
Other: Not regulated for transport.

15. REGULATORY INFORMATION

All components are on the following inventories: U.S. TSCA, EU EINECS, Canadian DSL, Korean

Other chemical inventory information: The polymer contained within this product is exempt from listing in the European Inventory. The monomers used to manufacture this polymer are listed as required, as are all other components of this product.

Canadian WHMIS classification: D2(B) - Materials Causing Other Toxic Effects

SARA Hazard Notification:

Hazard Categories Under Title III Rules (40 CFR 370): Immediate

Section 302 Extremely Hazardous Substances:

Section 313 Toxic Chemical(s):

CERCLA Reportable Quantity:

Not applicable

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation and the MSDS contains all the information required by the Canadian Controlled Products Regulation.

Refer to Section 11 for OSHA/HPA Hazardous Chemical(s) and Section 13 for RCRA classification.

16. OTHER INFORMATION

Product use: Heat transferring agents

Reason for revision: New software implementation.

Health	Fire	Reactivity	Additional Information

Suggested NFPA Rating	1	1	0	
Suggested HMIS Rating:	1	1	0	G

Prepared by the Solutia Hazard Communication Group. Please consult Solutia if further information is needed.

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CITY OF BATTLE CREEK, MICHIGAN

WASTEWATER DIVISION

OFFICE OF THE SUPERINTENDENT

2000 W. River Road

(616) 966-3513

Battle Creek, MI 49015

INDUSTRIAL USER DISCHARGE AUTHORIZATION APPLICATION FORM

SECTION ONE - GENERAL INFORMATION

1. Facility Name: Michigan Carton and Paperboard Company

   a. Operator Name: Field Container Corp. L.P.

   b. Is the operator identified in 1a, the owner of the facility ? yes (X) no ( )
   If no, provide the name and address of the owner.

   _____

   _____

   _____

2. Facility Address:

   Street: 79 East Fountain Street

   City: Battle Creek State: Michigan

   Zip: 49017

3. Business Mailing Address:

   Street: 79 East Fountain Street

   City: Battle Creek State: Michigan

   Zip: 49017

4. Designated signatory authority of the facility:
   (Attach similar information for each authorized representative)

   Name: Mark Reed

   Title: General Manager

   Address: 79 East Fountain Street

   City: Battle Creek State: Michigan

   Zip: 49017

5: Designated facility contact:

Name: James Hosking / Barbara Russell

Title: Asst. Tech Supt. / Tech. Supt.

Phone #: (616) 963-4004 ext. 277

SECTION TWO - BUSINESS ACTIVITY

1. If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply).

( ) Aluminum Forming
( ) Asbestos Manufacturing
( ) Battery Manufacturing
( ) Can Making
( ) Carbon Black
( ) Coal Mining
( ) Coil Coating
( ) Copper Forming
( ) Electric and Electronic Components Manufacturing
( ) Electroplating
( ) Feedlots
( ) Fertilizer Manufacturing
( ) Foundries (Metal Molding and Casting)
( ) Glass Manufacturing
( ) Grain Mills
( ) Inorganic Chemicals
( ) Iron and Steel
( ) Leather Tanning and Finishing
( ) Metal Finishing
( ) Nonferrous Metals Forming
( ) Organic Chemicals Manufacturing
( ) Paint and Ink Formulating
( ) Paving and Roofing Manufacturing
( ) Pesticides Manufacturing
( ) Petroleum Refining
( ) Pharmaceutical
( ) Plastic and Synthetic Materials Manufacturing
( ) Plastics Processing Manufacturing
( ) Porcelain Enamel
(X) Pulp, Paper, and Fiberboard Manufacturing
( ) Rubber
( ) Soap and Detergent Manufacturing
( ) Steam Electric
( ) Sugar Processing
( ) Textile Mills
( ) Timber Products

A facility with processes inclusive in these business areas may be covered by Environmental Protection Agency's categorical pretreatment standards. These facilities are termed "categorical users".

2. Give a brief description of all operations at this facility including primary products or services.

Manufacture coated paperboard from recycled waste paper

3. Indicate applicable Standard Industrial Classification (SIC) for all processes

a: 2631 d:

b: e:

c: f:

4. Product Volume:

Product Name:	Production Amounts per day Average	Maximum	Daily Unit
Paperboard	400	490	tons

SECTION THREE - WATER SUPPLY

1. Water Sources: (Check as many as are applicable)

(X) Private Well
(X) Surface Water
(X) Municipal Water (specify city) Battle Creek
( ) Other (specify)_____

2. Name on the water bill:

Name: Michigan Paperboard Company
Street: 79 East Fountain Street
City: Battle Creek State: MI Zip: 49017

3. Water service account number: _____

4. List average water usage on premises:
(New facilities may estimate)

	average (gpd)
a. Contact cooling water	
b. Non-contact cooling water*	2,300,000
c. Boiler Feed	120,000
d. Process	1,100,000
e. Sanitary	
f. Air Pollution Control	
g. Contained in product	
h. Irrigation and lawn watering	
i. Other	
j. Total of a-i	3,520,000

* NPDES Permit Number, if applicable: MI 0001341

SECTION FOUR - SEWER INFORMATION

1. a. For an existing business:

Is the building presently connected to the public sanitary sewer system ?

(X) Yes: Sanitary Sewer account no. 030141525685
( ) No: Have you applied for a sanitary sewer hookup ? ( ) yes ( ) no

b. For a new business:

Will you be occupying an existing vacant building (such as an industrial park) ? ( ) yes ( ) no

Have you applied for a building permit if a new facility will be constructed ? ( ) yes ( ) no

Will you be connected to the public sanitary sewer system ? ( ) yes ( ) no

2. List size, descriptive location, and flow of each facility sewer which connects to the City's sewer system. (If more than three, attach additional information on another sheet.)

Sewer Size	Descriptive Location	GPD Avg. Flow
24"	Parshall Flume	1,100,000
4" - 4"	Sanitary	-
1" - 8"	Sanitary	-

SECTION FIVE - WASTEWATER DISCHARGE INFORMATION

1. Does (or will) this facility discharge any wastewater other than from restrooms to the City sewer ?

(X) Yes If the answer to this question is "yes", complete the remainder of the application.

( ) No If the answer to this question is "no", skip to Section Nine.

2. Provide the following information on wastewater flow rate. (New facilities may estimate)

a. Hours/Day discharged (e.g. 8 hours/day)

M 24 T 24 W 24 TH 24 F 24 SAT 24 SUN 24

b. Hours of Discharge (e.g. 9 a.m. to 5 p.m.)

M 7:00 am - 7:00 am

T 7.00 am - 7:00 am

W 7:00 am - 7:00 am

TH 7:00 am - 7.00 am

F 7:00 am - 7:00 am

SAT 7:00 am - 7.00 am

SUN 7:00 am - 7:00 am

c. Peak hourly flow rate (GPD) 2,500,000

d. Maximum daily flow rate (GPD) 2,000,000

e. Annual daily average (GPD) 1,100,000

3. If batch discharge occurs or will occur, indicate: (New facilities may estimate)

a. Number of batch discharges None per day

b. Average discharge per batch _____ (GPD)

c. Time of batch discharges _____ at _____
(days of week) (hrs of day)

d. Flow Rate _____ gallons/minute

e. Percent of total discharge _____

4. Schematic Flow Diagram -

Facilities that checked activities in question 1 of Section Two are considered Categorical Industrial Users and should skip to question 6.

5. For Non-Categorical Users Only: List average wastewater discharge, maximum discharge, and type of discharge (batch, continuous, or both), for each plant process. (New facilities should provide estimates for each discharge).

Process Description	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)

ANSWER QUESTIONS 6 & 7 ONLY IF YOU ARE SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

6. For Categorical Users: Provide the wastewater discharge flows for each of your processes or proposed processes. (New facilities should provide estimates for each discharge).

Regulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)
Paper Manufacture	1,100,000	2,000,000	Continuous

Unregulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)

Dilution	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)

7. For Categorical Users subject to Total Toxic Organic (TTO) requirements

   Provide the following (TTO) information.

   a. Does (or will) this facility use any of the toxic organics that are listed under the TTO standard of the applicable categorical pretreatment standards published by the EPA ?

      ( ) yes (X) no

   b. Has a baseline monitoring report (BMR) been submitted which contains TTO information ?

      ( ) yes (X) no

   c. Has a toxic organics management plan (TOMP) been developed ? If yes, please attach a copy.

      ( ) yes (X) no

8. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility ?

Current:	Flow Metering	(X) yes	( ) no	( ) n/a
	Sampling Equipment	(X) yes	( ) no	( ) n/a
Planned:	Flow Metering	( ) yes	( ) no	( ) n/a
	Sampling Equipment	( ) yes	( ) no	( ) n/a

   If so, please indicate the present or future location of this equipment on the sewer schematic.

9. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics ? Consider production processes as well as air or water pollution treatment processes that may affect the discharge.

   ( ) yes (X) no, (skip question 10)

10. Briefly describe these changes and their effects on the wastewater volume and characteristics: (Attach additional sheets if needed.)

_____

_____

_____

_____

_____

_____

_____

11. Are any materials or water reclamation systems in use or planned ?

(X) yes ( ) no, (skip question 12)

12. Briefly describe recovery process, substance recovered, percent recovered, and the concentration in the spent solution. Submit a flow diagram for each process: (Attach additional sheets if needed.)

Dorr Olivier Disc Filter. Reclaim paper fibers and water for reuse in the manufacturing process. TSS discharge approx. 800 mg/L feed to Dorr Olivier disc filter is approx 10,000 mg/L.

SECTION SIX - CHARACTERISTICS OF DISCHARGE

Current Users:

If your facility is currently providing self-monitoring data to the City, skip to Section Seven. (If additional data or monitoring is being implemented, which has not been submitted to the City, it must be attached.)

New Users:

New dischargers should attach any data which is pertinent or available from facilities with similar processes.

SECTION SEVEN - TREATMENT

1. Is any form of wastewater treatment (see list below) practiced at this facility ?

(X) yes ( ) no

2. Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years ?

( ) yes, Describe _____
(X) no

3. Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate).

( ) Air flotation
( ) Centrifuge
( ) Chemical precipitation
( ) Chlorination
( ) Cyclone
(X) Filtration
( ) Flow equalization
( ) Grease or oil separation, type:_____
( ) Grease trap
( ) Grinding filter
( ) Grit removal
( ) Ion exchange
( ) Neutralization, pH correction
( ) Ozonation
( ) Reverse osmosis
( ) Screen
( ) Sedimentation
( ) Septic tank
( ) Solvent separation
(X) Spill protection
( ) Sump
( ) Biological treatment, type:_____
( ) Rainwater diversion or storage
( ) Other chemical treatment, type:_____
( ) Other physical treatment, type:_____
( ) Other, type:_____

4. Description

Describe the pollutant loading, flow rates, design capacity, physical size, and operating procedures of each treatment facility checked above.

_____
_____
_____
_____

5. Attach a process flow diagram for each existing treatment system. Include process equipment, by-products, by-product disposal method, waste and by-product volumes, and design and operating conditions.

6. Describe any changes in treatment or disposal methods planned or under construction for the wastewater discharge to the sanitary sewer. Include estimated completion dates.

_____
_____
_____
_____

7. Do you have a treatment operator ? (X) yes ( ) no

(if yes,) Name: James Hosking
Title: Asst. Tech. Supt.
Phone: 616-963-4004

8. Do you have a manual on the correct operation of your treatment equipment ?

(X) yes ( ) no

9. Do you have a written maintenance schedule for your treatment equipment ?

( ) yes (X) no

SECTION EIGHT - FACILITY OPERATIONS

1. Shift Information

Work Days		(X) Mon	(X) Tues	(X) Wed	(X) Thur	(X) Fri	(X) Sat	(X) Sun
Shifts per work day:		3	3	3	3	3	3	3
Empl's per shift:	1st	85	85	85	85	85	85	85
	2nd	50	50	50	50	50	50	50
	3rd	50	50	50	50	50	50	50

1st shift starts at: 7 am ends at 3 pm
2nd shift starts at: 3 pm ends at 11 pm
3rd shift starts at: 11 pm ends at 7 am

2. Indicate whether the facility discharge is:

(X) Continuous, during work hours
( ) Batch or intermittent

3. List types and amounts (mass or volume per day) of raw materials used or planned for use (attach list if needed)

400 ton paper
8,000 # Starch
11,232 dry # Latex
53,544 dry # Kaolin clay
3,720 - 4,200 dry # Titanium Dioxide
1,100 WET # polymer (130 gals)

4. List each substance from Appendix A which is contained in any materials used or stored and could be present in your facilities wastewater discharge. (List by the number from Appendix A rather than by name.)

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

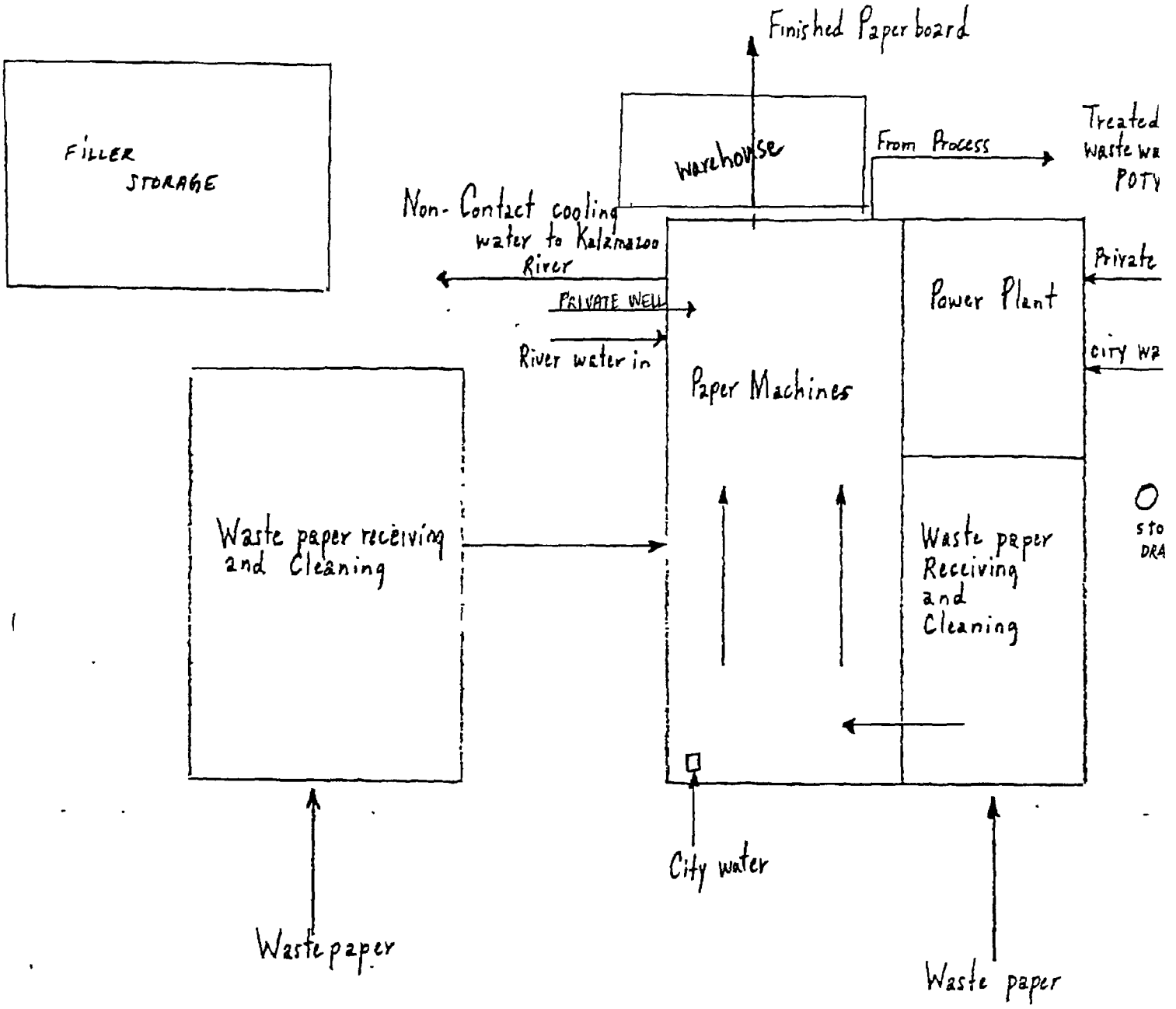
5. List each substance from Appendix A which is contained in any materials used or stored. (List by the number from Appendix A rather than by name.)

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

6. Building Layout - Draw the location of each building on the premises. Show map orientation and location of all water meters, storm sewers, and each facility sewer line connected to the public sewers. Show unit processes in respect to drains and overflows. Specify sampling locations situated outside the building.

Attachment next page

SECTION 8
page 12 — question 6



SECTION NINE - SPILL PREVENTION

1. Do you have chemical storage containers, bins, or ponds at your facility ? (X) yes ( ) no

   If yes, please give a description of their location, contents, size, type and frequency and method of cleaning. Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain. Refer to PIPP

2. Do you have floor drains in your manufacturing or chemical storage area(s) ? (X) yes ( ) no
   If yes; where do they discharge to ?
   Internal process sewer

3. If you have chemical storage containers, bins, or ponds in a manufacturing area, could an accidental spill lead to a discharge to: (check all that apply.)

   ( ) an onsite disposal system
   ( ) public sanitary sewer system (e.g. floor drain)
   (X) storm drain
   (X) to ground
   (X) other, specify Internal process sewer
   ( ) not applicable, no possible discharge to any of the above routes.

4. Do you have an accidental spill prevention plan (ASPP) to prevent spills of chemicals or slug discharges from entering the City's collection system ?

   (X) yes - Enclose a copy with this application
   ( ) no
   ( ) not applicable since there are no floor drains and/or the facility discharges only domestic waste

SECTION TEN - NON-DISCHARGED WASTES

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system ?

   (X) yes, please describe below
   ( ) no, skip the remainder of Section Ten.

Waste Generated	Quantity (per year)	Disposal Method
Dewatered paper fiber from screens & cleaners	12,000-15,000 cu yds	Landfill

Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of on-site

2. If an outside firm removes any of the above checked wastes, state the name(s) and address(es) of all waste haulers:

a. BFI / MDS Waste Systems
100 East North Street
KALAMAZOO, MI 49007

b. _____

Permit No. _____ Permit No. _____

SECTION ELEVEN - AUTHORIZED SIGNATURES

Compliance certification:

1. Are all applicable Federal, State, or City pretreatment standards and requirements being met on a consistent basis ?

(X) yes ( ) no ( ) Not yet discharging

2. If No:

a. What additional operations and maintenance procedures are being considered to bring the facility into compliance ? Also, list additional treatment practices being considered in order to bring the facility into compliance.

b. Provide a schedule for bringing the facility into compliance. Specify major events planned along with reasonable completion dates. (These dates are subject to approval by the City of Battle Creek)

Event or Activity	Completion Date

Authorized Representative Statement:

The information contained in this application is familiar to me and to the best of my knowledge and belief, such information is true, accurate and complete.

MARK T. REED	General Manager	
Name (please print)	Title	
Mark T. Reed	4/14/99	(616) 963-4004 ext 201
Signature	Date	Phone No.

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
3ØA	1,1,1-trichloroethane
3ØD	1,1,2,2-tetrachloroethane
143	1,1,2-trichloroethane
3ØB	1,1-dichloroethane
54A	1,1-dichloroethylene
93	1,2(methylenedioxy)-4-propenyl benzene
27B	1,2,4-trichlorobenzene
27C	1,2-dichlorobenzene
53	1,2-dichloroethane
55B	1,2-dichloropropane
54B	1,2-trans-dichloroethylene
56	1,2:3,4-diepoxybutane
27D	1,3-dichlorobenzene
55A	1,3-dichloropropylene; (1,3-dichloropropene)
129	1,3-propane Sultone
27E	1,4-dichlorobenzene
66	1,4-dioxane
98	1,5-naphthalenediamine
39	1-(4-chlorophenyl)-3, 3-dimethyl triazene
14	1-amino-2-methylanthraquin
33	1-chloro-2,3-epoxypropane
95	1-methylnaphthalene
99	1-naphthylamine
184	2(p-tert-butylphenoxy)-isopropyl-2-chloroethyl sulfite
67	2,3-epoxy-1-propanal
146	2,4,5-trimethylaniline
45	2,4-diaminoanisole sulfate
47	2,4-diaminotoluene
32C	2,4-dichlorophenol
6Ø	2,4-dimethylphenol
62	2,4-dinitrophenol
63	2,4-dinitrotoluene
64A	2,6-dinitrotoluene
76	2-(2-formylhydrazino)-4-(5-nitro-2-furthiazole)
4	2-acetylaminofluorene
9	2-aminoanthraquinone
34A	2-chloroethyl Vinyl Ether (mixed)
31A	2-chloronaphthalene
32A	2-chlorophenol
96	2-methyl-1-nitroanthraquinone
1ØØ	2-naphthylamine
1Ø6	2-nitrophenol
52	3,3-dichlorobensidine salts
51	3,3-dichlorobenzidine
128A	3,4-benzofluoranthene
38	3-(chloromethyl)pyridine hydrochloride
13	3-amino-9-ethylcarbazole
225B	4,4'-DDD; (p,p'-TDE)
225A	4,4'-DDE; (p,p'-DDE)
137	4,4'-thiodianiline
46	4,4-diaminodiphenyl ether
91	4,4-methylenebis(2-methylaniline)

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
92	4,4-methylenebis(N,N-dimethylaniline)
61	4,6-dinitor-o-cresol
12	4-aminobiphenyl
175	4-aminopyridine
77B	4-bromophenyl Phenyl Ether
4Ø	4-chloro-m-phenylenediamine
41	4-chloro-o-pheylenediamine
77A	4-chlorophenyl Phenyl Ether
58	4-dimethylaminoazobenzene
1Ø4	4-nitrobiphenyl
1Ø7	4-nitrophenol
43	5-chloro-o-toluidine
1Ø2	5-nitro-o-anisidine
1Ø1	5-nitroacenaphthene
131	5-propyl-1,3-benzodioxole
222A	A-BHC-Alpha
2	Acenaphthene
128D	Acenaphthylene
3	Acetone Cyanohydrin
167	Acids, inorganic
1	Acids, organic
5	Acrolein
6	Acrylic Acid
7	Acrylonitrile
173	Aldicarb
174	Aldrin
8	Allyl Chloride
1Ø	Aminoazobenzene
15	Aminotriazole (amitrole)
176	Anilazine
16	Aniline
17	Aniline Hydrochloride
128E	Anthracene
15Ø	Antimony
177	Antimycin A
151	Arsenic
172	Asbestos (fibrous)
178	Azinphos-ethyl
179	Azinphos-methyl
222B	B-BHC-Beta
13Ø	B-proplolactone
18Ø	Barban
181	Bendiocarb
182	Benomyl
128B	Benxo(k) fluoranthane; (11,12-benzofluoranthene)
2Ø	Benz(a)anthracene
21	Benzene
22	Benzidine
23	Benzidine Salts
24	Benzo(a)pyrene
128F	Benzo(ghi)perylene; (1,12-benzoperylene)
152	Beryllium

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
77C	Bis(2-chloroethoxy)methane
35	Bis(2-chloroethyl)ether
37	Bis(2-chloromethyl)ether
73	Bis(2-ethylhexyl)phthalate
78D	Bromoform; (tribromomethane)
183	Bromoxynil
25	Brucine
124A	Butyl Benzyl Phthalate
153	Cadmium
185	Captafol
186	Captan
187	Carbaryl
188	Carbofuran
26	Carbon Tetrachloride
189	Carbophenothion
168	Chloramines
19Ø	Chlordane
191	Chlordecone
192	Chlorfenvinphos
27	Chlorinated Benzenes
28	Chlorinated Dibenzofurans
29	Chlorinated Dioxins
3Ø	Chlorinated Ethanes
31	Chlorinated Phenols
32	Chlorinated Phenols
169	Chlorine
34	Chloroalkyl Ethers
27A	Chlorobenzene
193	Chlorobenzilate
78H	Chlorodibromomethane
3ØC	Chloroethane
36	Chloroform
42	Chloroprene
194	Chlorpyrifos
154	Chromium
128C	Chrysene
195	Clonitralid
155	Cobalt
156	Copper
196	Coumaphos
197	Crotoxyphos
157	Cyanides
198	Cycloheximide
199	DDT
2ØØ	Demeton
5Ø	Di-n-butyl phthalate
65	Di-n-octyl phthalate
2Ø1	Diallate
2Ø2	Diazinon
48	Dibenz(a,h)anthracene
2Ø3	Dibromochloropropane (DBCP)
2Ø4	Dichlone

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
78E	Dichlorobromomethane
78G	Dichlorodifluoromethane
54	Dichloroethylenes
55	Dichloropropane and Dichloropropene
2Ø5	Dichlorvos
2Ø6	Dichrotophos
2Ø7	Dieldrin
124B	Diethyl Phthalate
57	Diethyl Sulfate
2Ø8	Dimethoate
124C	Dimethyl Phthalate
59	Dimethylhydrazines
2Ø9	Dinocap
21Ø	Dinoseb
64	Dintrotoluene
211	Dioxathion
212	Disulfoton
215	EPN
213	Endosulfan
226A	Endosulfan Sulfate
214	Endrin
227A	Endrin Aldehyde
216	Ethion
68	Ethylbenzene
69	Ethylene Dibromide
71	Ethylene Oxide
72	Ethylene Thiourea
7Ø	Ethyleneimine
74	Ethylmethanesulfonate
217	Fensulfothion
218	Fenthion
219	Fluchloralin
75	Fluoranthene
128G	Fluorene
222C	G-BHC-Delta
77	Haloethers
78	Halomethanes
22Ø	Heptachlor
221	Heptachlor Epoxide
228A	Heptachlor Epoxide
79	Hexachlorobenzene (HCB)
8Ø	Hexachlorobutadiene
81	Hexachlorocyclohexane
82	Hexachlorocyclopentadiene
83	Hexachloroethane
17Ø	Hydrazine
84	Hydrazobenzene
171	Hydrogen Sulfide
85	Hydroquinone
158	Hypochlorite
128I	Indeno(1,2,3-cd)pyrene; (2,3-O-phenylenepyrene)
222	Isomers of hexachlorocyclohexane

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
87	Isophorone
88	Lactonitrite
159	Lead
223	Leptophos
16Ø	Lithium
89	Malachite Green
224	Malathion
161	Mercury
225	Metabolites of DDT
226	Metabolites of Endosulfan
227	Metabolites of Endrin
228	Metabolites of Heptachlor
229	Methomyl
23Ø	Methoxychlor
78C	Methyl Bromide; (bromomethane)
78B	Methyl Chloride; (chloromethane)
94	Methyl Hydrazine
231	Methyl Mercaptan
232	Methyl Parathion
78A	Methylene Chloride; (dichloromethane)
9Ø	Methylenebis(2-chloroaniline)
233	Mevinphos
234	Mexacarbate
235	Mirex
236	Monocrotophos
97	Mustard Gas
86	N-(2-hydroxyethyl)ethyleneimine
1Ø8B	N-nitrosadi-n-propylamine
113	N-nitroso-N-ethylurea
114	N-nitroso-N-methylurea
115	N-nitroso-N-methylurethane
118	N-nitroso-N-phenylhydroxyl-amine, ammonium salt
1Ø9	N-nitroso-n-butyl-N-(4-hydroxybutyl) amine
11Ø	N-nitrosodiethylamine
111	N-nitrosodimethylamine
1Ø8A	N-nitrosodiphenylamine
116	N-nitrosomethylvinylamine
117	N-nitrosomorpholine
119	N-nitrososarcosine
237	Naled
128K	Naphthalene
162	Nickel
238	Nicotine
1Ø3	Nitrobenzene
239	Nitrofen
1Ø5	Nitrogen Mustard
1Ø8	Nitrosamines
11	O-aminoazotoluene
18	O-anisidine
19	O-anisidine hydrochloride
14Ø	O-toluidine
141	O-toluidine Hydrochloride

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
24Ø	Oxydemeton-methyl
44	P-cresidine
112	P-nitrosodiphenylamine
32B	Parachlorometa-cresol
241	Paraquat
242	Parathion
12Ø	Pentachloronitrobenzene
121	Pentachlorophenol
122	Peroxyacetic Acid
128H	Phenathrene
123	Phenol
243	Phorate
244	Phosazetim
245	Phosmet
246	Phosphamidon
124	Phthalate Esters
125	Piperonyl Sulfoxide
126	Polybrominated Biphenyls (PBB)
127	Polychlorinated Biphenyls (PCB)
128	Polynuclear Aromatic Hydrocarbons
132	Propyleneimine
128J	Pyrene
247	Rotenone
163	Selenium
133	Semicarbazide
164	Silver
248	Silvex, Propylene Glycolbutyl Ether Ester
249	Sodium Fluoracetate
25Ø	Strychnine
134	Styrene
251	Sulfallate
252	Sulfotepp
253	TDE
254	TEPP
255	Terbufos
135	Tetrachloroethylene; (perchloroethylene)
256	Tetrachlorvinphos
165	Thallium
136	Thioacetamide
138	Thiourea
257	Thiram
139	Toluene
258	Toxaphene
142	Triaryl Phosphate Esters
259	Trichlorfon
144	Trichloroethylene
78F	Trichlorofluoromethane
145	Trichlorophenols
26Ø	Trichlorophenoxyacetic Acid (2,4,5-T)
261	Triflualin
147	Trimethylphosphate
49	Tris(dibromopropyl)phosphate

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
148	Vinylchloride
149	Xylene
166	Zinc
262	Ziram

RECD APR 05 1996

PLEASE RETURN THE FOLLOWING COMPLETED APPLICATION TO:

City of Battle Creek
Attn: Industrial Surveillance
2000 W. River Rd.
Battle Creek, Michigan 49015

CITY OF BATTLE CREEK, MICHIGAN

WASTEWATER DIVISION

OFFICE OF THE SUPERINTENDENT

2000 W. River Road

(616) 966-3513 Battle Creek, MI 49015

INDUSTRIAL USER DISCHARGE AUTHORIZATION APPLICATION FORM

SECTION ONE - GENERAL INFORMATION

1. Facility Name: Michigan Carton and Paperboard Company

   a. Operator Name: Field Container Corp. L.P.

   b. Is the operator identified in 1a, the owner of the facility ? yes (X) no ( )
   If no, provide the name and address of the owner.

   _____

   _____

   _____

2. Facility Address:

   Street: 79 East Fountain Street

   City: Battle Creek State: Michigan

   Zip: 49017

3. Business Mailing Address:

   Street: 79 East Fountain Street

   City: Battle Creek State: Michigan

   Zip: 49017

4. Designated signatory authority of the facility:
   (Attach similar information for each authorized representative)

   Name: John T. Goll

   Title: President

   Address: 79 East Fountain Street

   City: Battle Creek State: Michigan

   Zip: 49017

5: Designated facility contact:

Name: James Hosking / John Hall

Title: Asst. Tech. Supt. / President

Phone #: (616) 963 - 4004 ext. 277

SECTION TWO - BUSINESS ACTIVITY

1. If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply).

( ) Aluminum Forming
( ) Asbestos Manufacturing
( ) Battery Manufacturing
( ) Can Making
( ) Carbon Black
( ) Coal Mining
( ) Coil Coating
( ) Copper Forming
( ) Electric and Electronic Components Manufacturing
( ) Electroplating
( ) Feedlots
( ) Fertilizer Manufacturing
( ) Foundries (Metal Molding and Casting)
( ) Glass Manufacturing
( ) Grain Mills
( ) Inorganic Chemicals
( ) Iron and Steel
( ) Leather Tanning and Finishing
( ) Metal Finishing
( ) Nonferrous Metals Forming
( ) Organic Chemicals Manufacturing
( ) Paint and Ink Formulating
( ) Paving and Roofing Manufacturing
( ) Pesticides Manufacturing
( ) Petroleum Refining
( ) Pharmaceutical
( ) Plastic and Synthetic Materials Manufacturing
( ) Plastics Processing Manufacturing
( ) Porcelain Enamel
(X) Pulp, Paper, and Fiberboard Manufacturing
( ) Rubber
( ) Soap and Detergent Manufacturing
( ) Steam Electric
( ) Sugar Processing
( ) Textile Mills
( ) Timber Products

A facility with processes inclusive in these business areas may be covered by Environmental Protection Agency's categorical pretreatment standards. These facilities are termed "categorical users".

2. Give a brief description of all operations at this facility including primary products or services.

Manufacture coated paperboard from recycled waste paper.

3. Indicate applicable Standard Industrial Classification (SIC) for all processes

a: 2631 d: _____

b: _____ e: _____

c: _____ f: _____

4. Product Volume:

Product Name:	Production Amounts per day Average	Maximum	Daily Unit
Paperboard	385	420	Tons

SECTION THREE - WATER SUPPLY

1. Water Sources: (Check as many as are applicable)

(X) Private Well
(X) Surface Water
(X) Municipal Water (specify city) Battle Creek
( ) Other (specify)_____

2. Name on the water bill:

Name: Michigan Paperboard Company

Street: 79 East Fountain Street

City: Battle Creek State: MI. Zip: 49017

3. Water service account number: 5633329

4. List average water usage on premises:
(New facilities may estimate)

	average (gpd)
a. Contact cooling water	
b. Non-contact cooling water*	2,000,000
c. Boiler Feed	86,400
d. Process	670,000
e. Sanitary	
f. Air Pollution Control	
g. Contained in product	
h. Irrigation and lawn watering	
i. Other	
j. Total of a-i	

* NPDES Permit Number, if applicable: MI 0001341

SECTION FOUR - SEWER INFORMATION

1. a. For an existing business:

Is the building presently connected to the public sanitary sewer system ?

(X) Yes: Sanitary Sewer account no. 030141525684
( ) No: Have you applied for a sanitary sewer hookup ? ( ) yes ( ) no

b. For a new business:

Will you be occupying an existing vacant building (such as an industrial park) ? ( ) yes ( ) no

Have you applied for a building permit if a new facility will be constructed ? ( ) yes ( ) no

Will you be connected to the public sanitary sewer system ? ( ) yes ( ) no

2. List size, descriptive location, and flow of each facility sewer which connects to the City's sewer system. (If more than three, attach additional information on another sheet.)

Sewer Size	Descriptive Location	GPD Avg. Flow
24"	Parshall Fume	680,000
4" - 4"	Sanitary	
1" - 8"	sanitary	

SECTION FIVE - WASTEWATER DISCHARGE INFORMATION

1. Does (or will) this facility discharge any wastewater other than from restrooms to the City sewer ?

(X) Yes If the answer to this question is "yes", complete the remainder of the application.

( ) No If the answer to this question is "no", skip to Section Nine.

2. Provide the following information on wastewater flow rate. (New facilities may estimate)

a. Hours/Day discharged (e.g. 8 hours/day)

M 24 T 24 W 24 TH 24 F 24 SAT 24 SUN 24

b. Hours of Discharge (e.g. 9 a.m. to 5 p.m.)

M	7:00am - 7:00pm	F	7:00am - 7:00 pm
T	" "	SAT	" "
W	" "	SUN	" "
TH	" "		

c. Peak hourly flow rate (GPD) 2,500,000

d. Maximum daily flow rate (GPD) 1,500,000

e. Annual daily average (GPD) 680,000

3. If batch discharge occurs or will occur, indicate: (New facilities may estimate)

a. Number of batch discharges NONE per day

b. Average discharge per batch _____ (GPD)

c. Time of batch discharges _____ at _____
(days of week) (hrs of day)

d. Flow Rate _____ gallons/minute

e. Percent of total discharge _____

4. Schematic Flow Diagram -

Facilities that checked activities in question 1 of Section Two are considered Categorical Industrial Users and should skip to question 6.

5. For Non-Categorical Users Only: List average wastewater discharge, maximum discharge, and type of discharge (batch, continuous, or both), for each plant process. (New facilities should provide estimates for each discharge).

Process Description	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)

ANSWER QUESTIONS 6 & 7 ONLY IF YOU ARE SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

6. For Categorical Users: Provide the wastewater discharge flows for each of your processes or proposed processes. (New facilities should provide estimates for each discharge).

Regulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch,continuous)
Paper Manufacture	680,000	1,500,000	Continuous

Unregulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch,continuous)

Dilution	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch,continuous)

7. For Categorical Users subject to Total Toxic Organic (TTO) requirements

Provide the following (TTO) information.

a. Does (or will) this facility use any of the toxic organics that are listed under the TTO standard of the applicable categorical pretreatment standards published by the EPA ?

( ) yes (X) no

b. Has a baseline monitoring report (BMR) been submitted which contains TTO information ?

( ) yes (X) no

c. Has a toxic organics management plan (TOMP) been developed ? If yes, please attach a copy.

( ) yes (X) no

8. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility ?

Current:	Flow Metering	(X) yes	( ) no	( ) n/a
	Sampling Equipment	(X) yes	( ) no	( ) n/a
Planned:	Flow Metering	( ) yes	( ) no	( ) n/a
	Sampling Equipment	( ) yes	( ) no	( ) n/a

If so, please indicate the present or future location of this equipment on the sewer schematic.

9. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics ? Consider production processes as well as air or water pollution treatment processes that may affect the discharge.

(X) yes ( ) no, (skip question 1Ø)

1Ø. Briefly describe these changes and their effects on the wastewater volume and characteristics: (Attach additional sheets if needed.)

- May 1997 #1 Paperboard machine rebuild. Increased production could result in additional discharge volume of 10% of current amounts

- May 1998 #2 Paperboard machine rebuild. Increased production could result in another additional discharge volume increase of 10%.

11. Are any materials or water reclamation systems in use or planned ?

(X) yes ( ) no, (skip question 12)

12. Briefly describe recovery process, substance recovered, percent recovered, and the concentration in the spent solution. Submit a flow diagram for each process: (Attach additional sheets if needed.)

Reclaim paper fibers and water for reuse in the manufacturing process. Tss discharge approx. 800 mg/L feed to Dorr Oliver discfilter is approx 10,000 mg/L.

SECTION SIX - CHARACTERISTICS OF DISCHARGE

Current Users:

If your facility is currently providing self-monitoring data to the City, skip to Section Seven. (If additional data or monitoring is being implemented, which has not been submitted to the City, it must be attached.)

New Users:

New dischargers should attach any data which is pertinent or available from facilities with similar processes.

SECTION SEVEN - TREATMENT

1. Is any form of wastewater treatment (see list below) practiced at this facility ?

(X) yes ( ) no

2. Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years ?

( ) yes, Describe _____
(X) no

3. Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate).

( ) Air flotation
( ) Centrifuge
( ) Chemical precipitation
( ) Chlorination
( ) Cyclone
(X) Filtration
( ) Flow equalization
( ) Grease or oil separation, type:_____
( ) Grease trap
( ) Grinding filter
( ) Grit removal
( ) Ion exchange
( ) Neutralization, pH correction
( ) Ozonation
( ) Reverse osmosis
( ) Screen
( ) Sedimentation
( ) Septic tank
( ) Solvent separation
(X) Spill protection
( ) Sump
( ) Biological treatment, type:_____
( ) Rainwater diversion or storage
( ) Other chemical treatment, type:_____
( ) Other physical treatment, type:_____
( ) Other, type:_____

4. Description

Describe the pollutant loading, flow rates, design capacity, physical size, and operating procedures of each treatment facility checked above.

_____
_____
_____
_____

5. Attach a process flow diagram for each existing treatment system. Include process equipment, by-products, by-product disposal method, waste and by-product volumes, and design and operating conditions.

6. Describe any changes in treatment or disposal methods planned or under construction for the wastewater discharge to the sanitary sewer. Include estimated completion dates.

_____
_____
_____
_____

7. Do you have a treatment operator ? (X) yes ( ) no

(if yes,) Name: James Hosking
Title: Asst. Tech. Supt.
Phone: 616-963-4004

8. Do you have a manual on the correct operation of your treatment equipment ?

(X) yes ( ) no

9. Do you have a written maintenance schedule for your treatment equipment ?

( ) yes (X) no

SECTION EIGHT - FACILITY OPERATIONS

1. Shift Information

Work Days		(X) Mon	(X) Tues	(X) Wed	(X) Thur	(X) Fri	(X) Sat	(X) Sun
Shifts per work day:		3	3	3	3	3	3	3
Empl's per shift:	1st	85	85	85	85	85	85	85
	2nd	50	50	50	50	50	50	50
	3rd	50	50	50	50	50	50	50

1st shift starts at: 7am ends at 3pm
2nd shift starts at: 3pm ends at 11pm
3rd shift starts at: 11pm ends at 7am

2. Indicate whether the facility discharge is:

(✓) Continuous, during work hours
( ) Batch or intermittent

3. List types and amounts (mass or volume per day) of raw materials used or planned for use (attach list if needed)

400 Tons of Waste paper
8,000 lbs. Starch
11,232 dry lbs Latex
53,544 dry lbs. Kaolin clay
3,720 dry lbs Titanium Dioxide

4. List each substance from Appendix A which is contained in any materials used or stored and could be present in your facilities wastewater discharge. (List by the number from Appendix A rather than by name.)

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

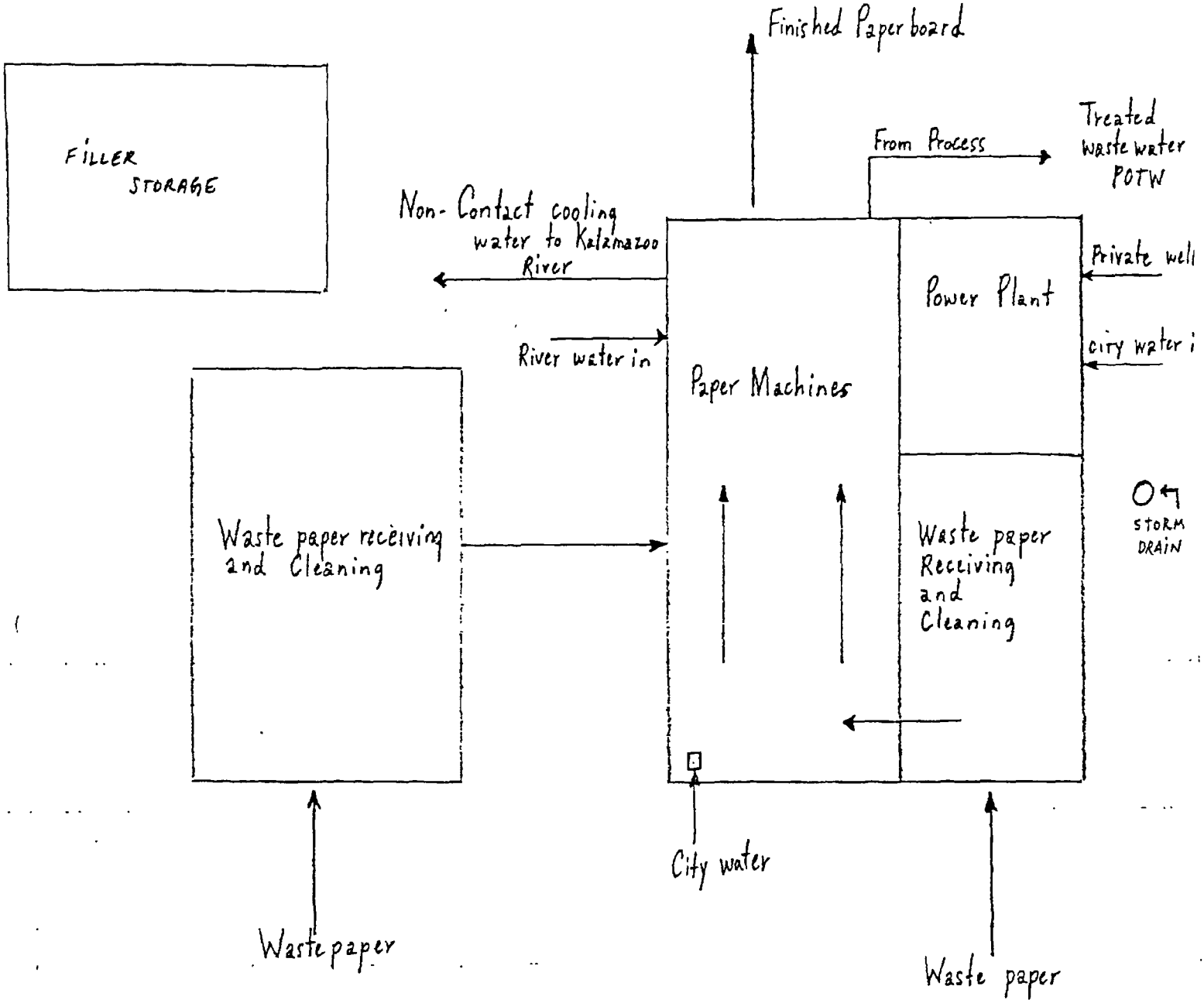
5. List each substance from Appendix A which is contained in any materials used or stored. (List by the number from Appendix A rather than by name.)

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

6. Building Layout - Draw the location of each building on the premises. Show map orientation and location of all water meters, storm sewers, and each facility sewer line connected to the public sewers. Show unit processes in respect to drains and overflows. Specify sampling locations situated outside the building.

See Attached Copy.

SECTION 8
page 12 - question 6



SECTION NINE - SPILL PREVENTION

1. Do you have chemical storage containers, bins, or ponds at your facility ? (X) yes ( ) no

   If yes, please give a description of their location, contents, size, type and frequency and method of cleaning. Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain. Refer to SPP

2. Do you have floor drains in your manufacturing or chemical storage area(s) ? (X) yes ( ) no
   If yes; where do they discharge to ? Internal process sewer

3. If you have chemical storage containers, bins, or ponds in a manufacturing area, could an accidental spill lead to a discharge to: (check all that apply.)

   ( ) an onsite disposal system
   ( ) public sanitary sewer system (e.g. floor drain)
   (X) storm drain
   (X) to ground
   (X) other, specify to internal process
   ( ) not applicable, no possible discharge to any of the above routes.

4. Do you have an accidental spill prevention plan (ASPP) to prevent spills of chemicals or slug discharges from entering the City's collection system ?

   (X) yes - Enclose a copy with this application
   ( ) no
   ( ) not applicable since there are no floor drains and/or the facility discharges only domestic waste

SECTION TEN - NON-DISCHARGED WASTES

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system ?

   (X) yes, please describe below
   ( ) no, skip the remainder of Section Ten.

Waste Generated	Quantity (per year)	Disposal Method
Dewatered paper fiber from screens & cleaners.	12,000 cu. yds.	Landfill

Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of

2. If an outside firm removes any of the above checked wastes, state the name(s) and address(es) of all waste haulers:

a. BFI/MDS Waste Systems
100 East North Street
Kalamazoo, MI 49007

b. _____

Permit No. _____ Permit No. _____

SECTION ELEVEN - AUTHORIZED SIGNATURES

Compliance certification:

1. Are all applicable Federal, State, or City pretreatment standards and requirements being met on a consistent basis ?

(X) yes ( ) no ( ) Not yet discharging

2. If No:

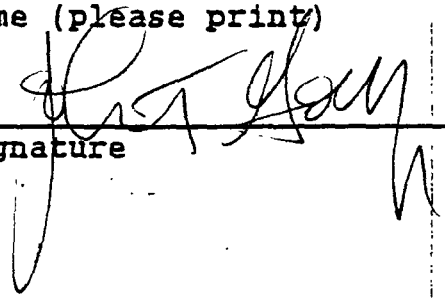
a. What additional operations and maintenance procedures are being considered to bring the facility into compliance ? Also, list additional treatment practices being considered in order to bring the facility into compliance.

b. Provide a schedule for bringing the facility into compliance. Specify major events planned along with reasonable completion dates. (These dates are subject to approval by the City of Battle Creek)

Event or Activity	Completion Date

Authorized Representative Statement:

The information contained in this application is familiar to me and to the best of my knowledge and belief, such information is true, accurate and complete.

John T. Gall Jr	President		
Name (please print)	Title		
	4/3/96	616-963-4004	
Signature	Date	Phone No.	

INDUSTRIAL USER DISCHARGE AUTHORIZATION
APPLICATION FORM

SECTION ONE – GENERAL INFORMATION

1. Facility Name: Michigan Carton and Paperboard Company

   a. Operator Name: Field Container Corp. L.P.

   b. Is the operator identified in 1a, the owner of the facility? Yes (X) No ( )
   If no, provide the name and address of the owner.

   _____

   _____

   _____

2. Facility Address:

   Street: 79 East Fountain Street

   City: Battle Creek State: Michigan

   Zip: 49017

3. Business Mailing Address:

   Street: 79 East Fountain Street

   City: Battle Creek State: Michigan

   Zip: 49017

4. Designated signatory authority of the facility:
   (Attach similar information for each authorized representative)

   Name: Mark Reed

   Title: General Manager

   Address: 79 East Fountain Street

   City: Battle Creek State: Michigan

   Zip: 49017

5. Designated Facility Contact:

Name: James Hosking / Chad Longcore

Title: Asst. Tech. Supt. / Technical Supt.

Phone #: (616) 963 - 4004 ext. 277

SECTION TWO – BUSINESS ACTIVITY

1. If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply).

( ) Aluminum Forming
( ) Asbestos Manufacturing
( ) Battery Manufacturing
( ) Can Making
( ) Carbon Black
( ) Coal Mining
( ) Coil Coating
( ) Copper Forming
( ) Electric and Electrical Components Manufacturing
( ) Electroplating
( ) Feedlots
( ) Fertilizer Manufacturing
( ) Foundries (Metal Molding and Casting)
( ) Glass Manufacturing
( ) Grain Mills
( ) Inorganic Chemicals
( ) Iron and Steel
( ) Leather Tanning and Finishing
( ) Metal Finishing
( ) Nonferrous Metals Forming
( ) Organic Chemicals Manufacturing
( ) Paint and Ink Formulating
( ) Paving and Roofing Manufacturing
( ) Pesticides Manufacturing
( ) Petroleum Refining
( ) Pharmaceutical
( ) Plastic and Synthetic Materials Manufacturing
( ) Plastics Processing Manufacturing
( ) Porcelain Enamel
(X) Pulp, Paper, and Fiberboard Manufacturing
( ) Rubber
( ) Soap and Detergent Manufacturing
( ) Steam Electric
( ) Sugar Processing
( ) Textile Mills
( ) Timber Products

A facility with processes inclusive in these business areas may be covered by Environmental Protection Agency's categorical pretreatment standards. These facilities are termed " Categorical Users".

2. Give a brief description of all operations at this facility including primary products or services.

Manufacture coated paperboard from recycled waste paper

3. Indicate applicable Standard Industrial Classification (SIC) for all Processes.

a: 2631 d:_____

b:_____ e:_____

c:_____ f:_____

4. Product Volume:

Product Name:	Production Amounts per Day Average	Maximum	Daily Unit
Paper board	450	500	tons

SECTION THREE – WATER SUPPLY

1. Water Sources: (Check as many as are applicable)

   (X) Private Well
   (X) Surface Water
   (X) Municipal Water (specify city) Battle Creek
   ( ) Other (specify) _____

2. Name on the water bill:

   Name: Michigan Paperboard Company

   Street: 79 East Fountain Street

   City: Battle Creek State Michigan Zip: 49017

3. Water service account number: 030109955553o5

4. List average water usage on premises:
   (New facilities may estimate)

	Average (gpd)
a. Contact cooling water	
b. Non-contact cooling water	2,300,000
c. Boiler feed	120,000
d. Process	850,000
e. Sanitary	
f. Air pollution control	
g. Contained in product	
h. Irrigation and lawn watering	
i. Other	
j. Total of a – j	3,270,000

NPDES Permit Number, if applicable: MI 0001341

SECTION FOUR – SEWER INFORMATION

1. a. For an existing business:

Is the building presently connected to the public sanitary sewer system?

( ) Yes· Sanitary sewer account number 0301099555 53c5
( ) No: Have you applied for a sanitary sewer hookup? ( ) Yes ( ) No

b. For a new business:

Will you be occupying an existing vacant building (such as an industrial park)?
( ) Yes ( ) No

Have you applied for a building permit if a new facility will be constructed?
( ) Yes ( ) No

Will you be connected to the public sanitary sewer system?
( ) Yes ( ) No

2. List size, descriptive location, and flow of each facility sewer which connects to the City's sewer system. (If more than three, attach additional information on another sheet.)

Sewer Size	Descriptive Location	(GPD) Average Flow
24"	Parshall Flume	850,000
4"-4"	Sanitary	
1"-8"	Sanitary	

SECTION FIVE – WASTEWATER DISCHARGE INFORMATION

1. Does (or will) this facility discharge any wastewater other than from restrooms to the City sewer?

(X) Yes If the answer to this question is "yes" complete the remainder of the application.

( ) No If the answer to this question is "no", skip to Section Nine.

2. Provide the following information on wastewater flow rate (New facilities may estimate)

a. Hours/Day discharged (e g. 8 hours /day)

M 24 T 24 W 24 Th 24 F 24 Sat 24 Sun 24

b. Hours of Discharge (e.g. 9a.m. to 5p.m.)

M 7am - 7am F 7am - 7am

T 7am - 7am Sat 7am - 7am

W 7am - 7am Sun 7am - 7am

Th 7am - 7am

c. Peak hourly flow rate (GPD) _____

d. Maximum daily flow rate (GPD) 2,500,000

e. Annual daily average (GPD) 850,000

3. If batch discharge occurs or will occur, indicate:
(New facilities may estimate)

a. Number of batch discharges None per day

b. Average discharge per batch _____ (GPD)

c. Time of batch discharges _____ (days of week) at _____ (hours of day)

d. Flow rate _____ gallons/minute

e. Percent of total discharge _____

4. Schematic Flow Diagram –

Facilities that checked activities in question 1 Section Two are considered Categorical Industrial Users and should skip to question 6.

5. For Non-categorical Users Only: List average wastewater discharge, maximum discharge, And type of discharge (batch, continuous, or both), for each plant process (New facilities should provide estimates for each discharge)

Process Description	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)

ANSWER QUESTIONS 6 & 7 ONLY IF YOU ARE SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

6. For Categorical Users: Provide the wastewater discharge flows for each of your processes or proposed processes. (New facilities should provide estimates for each discharge).

Regulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)
Paper Manufacture	850,000	2,500,000	Continuous

Unregulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)

Dilution	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)

7. For Categorical Users subject to Total Toxic Organic (TTO) requirements

Provide the following (TTO) information

a Does (or will) this facility use any of the toxic organics that are listed under the TTO standard of the applicable categorical pretreatment standards published by the EPA?

( ) Yes (X) No

b Has a baseline monitoring report (BMR) been submitted which contains TTO information?

( ) Yes (X) No

c Has a toxic organics management plan (TOMP) been developed? If yes, please attach a copy

( ) Yes (X) No

8. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current: Flow Metering	(X) Yes	( ) No	( ) N/A	
Sampling Equipment	(X) Yes	( ) No	( ) N/A	
Planned: Flow Metering	( ) Yes	( ) No	( ) N/A	
Sampling Equipment	( ) Yes	( ) No	( ) N/A	

If so, please indicate the present or future location of this equipment on the sewer schematic.

9. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics? Consider production processes as well as air or water pollution treatment processes that may affect the discharge

( ) Yes (X) No, (skip question 10)

10. Briefly describe these changes and their effects on the wastewater volume and characteristics: (Attach additional sheets if needed)

11. Are any materials or water reclamation systems in use or planned?
(X) Yes ( ) No, (skip question 12)

12. Briefly describe recovery process, substance recovered, percent recovered, and the concentration in the spent solution. Submit a flow diagram for each process: (Attach additional sheets if needed.)

Dorr Olivier Disc. Filter. Reclaim paper fibers and water for reuse in the manufacturing process. TSS discharge approx. 900 mg/L feed to Dorr Olivier disc filter is approx. 10,000 mg/L

SECTION SIX – CHARACTERISTICS OF DISCHARGE

Current Users:

If your facility is currently providing self-monitoring data to the City, skip to Section Seven. (If additional data or monitoring is being implemented, which has not been submitted to the City, it must be attached.)

New Users:

New dischargers should attach any data that is pertinent or available from facilities with similar processes.

SECTION SEVEN – TREATMENT

1. Is any form of wastewater treatment (see list below) practiced at this facility?

(X) Yes ( ) No

2. Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years?

( ) Yes, Describe _____
(X) No

3. Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate).

( ) Air flotation
( ) Centrifuge
( ) Chemical precipitation
( ) Chlorination
( ) Cyclone
(X) Filtration
( ) Flow equalization
( ) Grease or oil separation, type: _____
( ) Grease trap
( ) Grinding filter
( ) Grit removal
( ) Ion exchange
( ) Neutralization, pH correction
( ) Ozonation
( ) Reverse osmosis
( ) Screen
( ) Sedimentation
( ) Septic tank
( ) Solvent protection
( ) Sump
( ) Biological treatment, type: _____
( ) Rainwater diversion or storage
( ) Other chemical treatment, type: _____
( ) Other physical treatment, type: _____
(X) Other, type: Spill prevention

4. Description

Describe the pollutant loading, flow rates, design capacity, physical size, and operating procedures of each treatment facility checked above.

_____
_____
_____
_____

5. Attach a process flow diagram for each existing treatment system. Include process equipment, by-products, by-product disposal method, waste and by-product volumes, and design and operating conditions.

6. Describe any changes in treatment or disposal methods planned or under construction for the wastewater discharge to the sanitary sewer. Include estimated completion dates.

_____
_____
_____
_____

7. Do you have a treatment operator? (X) Yes ( ) No

(if Yes,) Name: James Hosking
Title: Asst Tech. Supt.
Phone: 616 - 963 - 4004

8. Do you have a manual on the correct operation of your treatment equipment?

(X) Yes ( ) No

9. Do you have a written maintenance schedule for your treatment equipment?

( ) Yes (X) No

SECTION EIGHT – FACILITY OPERATIONS

1. Shift Information

Work Days	(X) Mon	(X) Tues	(X) Wed	(X) Thur	(X) Fri	(X) Sat	(X) Sun
Shifts Per work Day:	3	3	3	3	3	3	3
Empl's Per Shift: 1st	131	131	131	131	131	90	90
2nd	55	55	55	55	55	55	55
3rd	55	55	55	55	55	55	55

1st shift starts at: 7 am ends at 3 pm
2nd shift starts at: 3 pm ends at 11 pm
3rd shift starts at: 11 pm ends at 7 am

2. Indicate whether the facility discharge is:

( ) Continuous, during work hours
( ) Batch or intermittent

3. List types and amounts (mass or volume per day) of raw materials used or planned for use (attach list if needed).

450 tons paper, 8000# starch, 53,040 dry lbs Kaolin clay, 11,000 dry # Latex, 3,500 dry lbs Titanium Dioxide, 400 lbs defoamer

4. List each substance from Appendix A is contained in any materials used or stored and could be present in your facilities wastewater discharge. (List by the number from Appendix A rather than by name.)

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

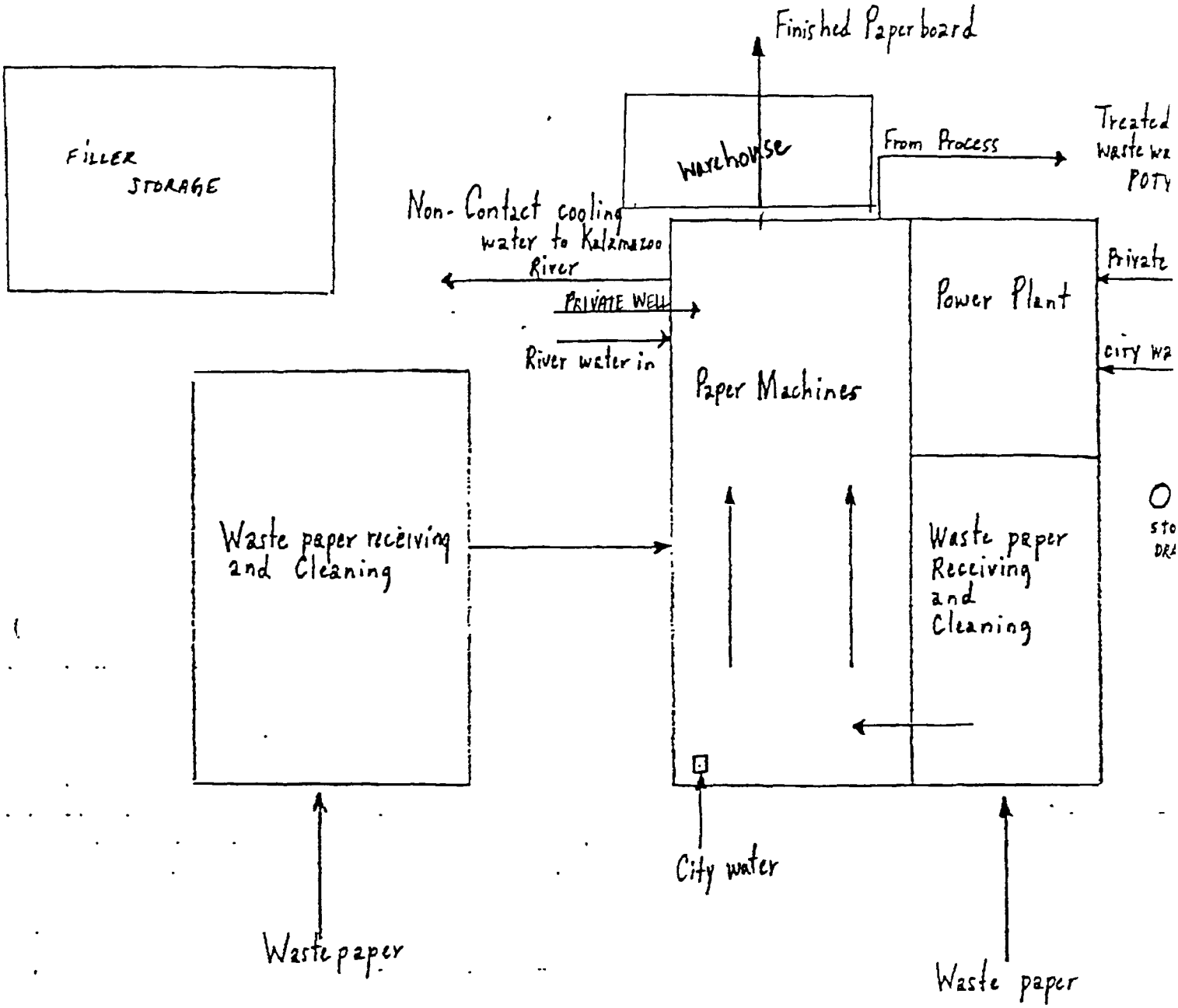
5. List each substance from Appendix A which is contained in any materials used or stored. (List by the number from Appendix A rather than by name.)

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

6. Building Layout – Draw the location of each building on the premises. Show map orientation and location of all water meters, storm sewers, and each facility sewer line connected to the public sewers. Show unit processes in respect to drains and overflows. Specify sampling locations situated outside the building.

attachment next page.

SECTION 8
page 13 – question 6



SECTION NINE – SPILL PREVENTION

1 Do you have chemical storage containers, bins, or ponds at your facility?
(X) Yes ( ) No

If yes, please give a description of their location, contents, size, type and frequency and method of cleaning Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain. Refer to PIPP

2. Do you have floor drains in your manufacturing or chemical storage area(s)?
(X) Yes ( ) No

If yes; where do they discharge to? Internal process sewer

3. If you have chemical storage containers, bins, or ponds in a manufacturing area, could an accidental spill lead to a discharge to: (check all that apply.)

( ) an onsite disposal system
( ) public sanitary sewer system (e.g. floor drain)
(X) storm drain
(X) to ground
(X) other, specify Internal process sewer
( ) not applicable, no possible discharge to any of the above routes

4. Do you have an accidental spill prevention plan (ASPP) to prevent spills of chemicals or slug discharges from entering the City's collection system?

( ) Yes – Enclose a copy with this application
( ) No
( ) not applicable since there are no floor drains and/or the facility discharges only domestic waste

SECTION TEN – NON-DISCHARGE WASTES

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system?

(X) Yes, please describe below.
( ) No, skip the remainder of Section Ten.

Waste Generated	Quantity (per year)	Disposal Method
Dewatered paper fiber from screens and cleaners	15,000 - 18,000 cu yds	Landfill

Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of on-site.

2. If an outside firm removes any of the above checked wastes, state the name(s) and address(es) of all waste haulers·

a Stoddard & Sons
3456 12th Street
Wayland, Michigan 49348

Permit No. ?

b _____

Permit No. _____

SECTION ELEVEN – AUTHORIZED SIGNATURES

Compliance certification:

1. Are all applicable Federal, State or City pretreatment standards and requirements being met on a consistent basis?

(X) Yes ( ) No ( ) Not yet discharging

2. If No·

a. What additional operations and maintenance procedures are being considered to bring the facility into compliance? Also, list additional treatment practices being considered in order to bring the facility into compliance.

b Provide a schedule for bringing the facility into compliance. Specify major events planned along with reasonable completion dates (These dates are subject to approval by the City of Battle Creek)

Event or Activity	Completion Date

Authorized Representative Statement:

The information contained in this application is familiar to me and to the best of my knowledge and belief, such information is true, accurate and complete.

Mark Reed	General Manager
Name (please print)	Title
Mark A. Reed	5/8/02
Signature	Date

616/963-4004
Phone Number

RESPONSES TO:

#19 Industrial User Applications & Listing

Industrial User Listing

Industrial User:	**101 : Johnson Controls - Battle Creek**		
Municipality:	Battle Creek	**Significant User?**	Y
Sort Group:	CAT	**Categorical User?**	Y
Address:	76 Armstrong Rd.	**SIC Codes:**	2498 3714
		Authorized Rep.:	Shelly Maciejewski
	Battle Creek , MI 49015-1079	**Rep.'s Title:**	Plant Manager
Contact Name 1:	Mr. Greg Ingram	**Contact Name 2:**	
Contact's Title:	Environmental Point Person	**Contact's Title:**	
Phone 1:	(616)-966-6445	**Phone 2:**	( )- -
Fax 1:	(616)-968-0198	**Fax 2:**	( )- -
Pager 1:	616-665-6306	**Pager 2:**	
Process Description:	Automotive Trim Panels		
Comments:			

Site:	**1 : Southwest corner of building**	**Production Based?**	
Industrial Category:	430 PULP, PAPER, AND PAPERBOARD	**Annual Flow:**	Manhole is
Federal Codes:	Y Gal CC		
Compliance Codes :	Qtr 1: Cu Qtr 2: Qtr 3: N	Qtr 4:	
Sampling Notes:	Y		
Comments:	2498		
Annual Memo:	3714		

Site:	**S : Self-Monitoring Results**	**Production Based?**	
Industrial Category:	400 No Category	**Annual Flow:**	
Federal Codes:	N Gal		
Compliance Codes :	Qtr 1: Qtr 2: Qtr 3: N	Qtr 4:	
Sampling Notes:	Y		
Comments:			
Annual Memo:			

Number of records printed 2

Industrial User Listing

Industrial User:	**159 : Michigan Carton and Paperboard Company**		
Municipality:	Battle Creek	**Significant User?**	Y
Sort Group:	CAT	**Categorical User?**	Y
Address:	79 E. Fountain St.	**SIC Codes:**	2631
		Authorized Rep.:	Mr. Mark Reed
	Battle Creek , MI 49017-4198	**Rep.'s Title:**	General Manager
Contact Name 1:	Mr. Jim Hosking	**Contact Name 2:**	
Contact's Title:	Asst. Technical Director	**Contact's Title:**	
Phone 1:	(616)-963-4004	**Phone 2:**	( )- -
Fax 1:	(616)-963-1306	**Fax 2:**	( )- -
Pager 1:		**Pager 2:**	
Process Description:	Food grade paperboard from recyled paper		
Comments:			

Site:	**1 : Loading dock sample station.**	**Production Based?**	
Industrial Category:	430 PULP, PAPER, AND PAPERBOARD	**Annual Flow:**	Sample mon
Federal Codes:	Y Gal		
Compliance Codes :	Qtr 1: Cu Qtr 2: Qtr 3: N Qtr 4:		
Sampling Notes:	Y		
Comments:	2631		
Annual Memo:			

Site:	**S : Self-Monitoring Results**	**Production Based?**	
Industrial Category:	430 PULP, PAPER, AND PAPERBOARD	**Annual Flow:**	
Federal Codes:	Y Gal		
Compliance Codes :	Qtr 1: Qtr 2: Qtr 3: N Qtr 4:		
Sampling Notes:	Y		
Comments:			
Annual Memo:			

Number of records printed 4

Industrial User Listing

Industrial User:	**173 : Rock-Tenn Company**		
Municipality:	Battle Creek	**Significant User?**	Y
Sort Group:	CAT	**Categorical User?**	Y
Address:	177 Angell Street	**SIC Codes:**	2631
		Authorized Rep.:	Mr. Bud Kurtz
	Battle Creek , MI 49017-2226	**Rep.'s Title:**	Vice President - General Manager
Contact Name 1:	Mr. Lowell L. Knapp	**Contact Name 2:**	Leo
Contact's Title:	Process Engineer	**Contact's Title:**	
Phone 1:	(616)-969-7218	**Phone 2:**	(616)-969-7158
Fax 1:	(616)-969-7191	**Fax 2:**	( )- -
Pager 1:		**Pager 2:**	
Process Description:	Food-grade paperboard from recyled paper		
Comments:			

Site:	**1 : Sample station behind building**			**Production Based?**	
Industrial Category:	430 PULP, PAPER, AND PAPERBOARD			**Annual Flow:**	Sample mon
Federal Codes:	Y	Gal			
Compliance Codes :	Qtr 1: Cu	Qtr 2:	Qtr 3: N	Qtr 4:	
Sampling Notes:	Y				
Comments:	2631				
Annual Memo:					

Site:	**S : Self-Monitoring Results.**			**Production Based?**	
Industrial Category:	430 PULP, PAPER, AND PAPERBOARD			**Annual Flow:**	
Federal Codes:	Y	Gal			
Compliance Codes :	Qtr 1:	Qtr 2:	Qtr 3: N	Qtr 4:	
Sampling Notes:	Y				
Comments:					
Annual Memo:					

Number of records printed 8

CITY OF BATTLE CREEK, MICHIGAN

WASTEWATER DIVISION

OFFICE OF THE SUPERINTENDENT

2000 W. River Road

(616) 966-3513

Battle Creek, MI 49015

INDUSTRIAL USER DISCHARGE AUTHORIZATION APPLICATION FORM

SECTION ONE - GENERAL INFORMATION

1. Facility Name: WALDORF CORP.

   a. Operator Name: SAME

   b. Is the operator identified in 1a, the owner of the facility ? yes (X) no ( )
   If no, provide the name and address of the owner.

   _____

   _____

   _____

2. Facility Address:

   Street: 177 Angell St

   City: Battle Creek State: MI

   Zip: 49015-1958

3. Business Mailing Address:

   Street: SAME

   City: _____ State: _____

   Zip: _____

4. Designated signatory authority of the facility:
   (Attach similar information for each authorized representative)

   Name: Tom Lawson

   Title: VICE PRESIDENT - GENERAL MANAGER

   Address: SAME

   City: _____ State: _____

   Zip: _____

5: Designated facility contact:

Name: Beth A. Appelt

Title: MGR Technical Services

Phone #: (616) 969-7186 ext. ———

SECTION TWO - BUSINESS ACTIVITY

1. If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply).

( ) Aluminum Forming
( ) Asbestos Manufacturing
( ) Battery Manufacturing
( ) Can Making
( ) Carbon Black
( ) Coal Mining
( ) Coil Coating
( ) Copper Forming
( ) Electric and Electronic Components Manufacturing
( ) Electroplating
( ) Feedlots
( ) Fertilizer Manufacturing
( ) Foundries (Metal Molding and Casting)
( ) Glass Manufacturing
( ) Grain Mills
( ) Inorganic Chemicals
( ) Iron and Steel
( ) Leather Tanning and Finishing
( ) Metal Finishing
( ) Nonferrous Metals Forming
( ) Organic Chemicals Manufacturing
( ) Paint and Ink Formulating
( ) Paving and Roofing Manufacturing
( ) Pesticides Manufacturing
( ) Petroleum Refining
( ) Pharmaceutical
( ) Plastic and Synthetic Materials Manufacturing
( ) Plastics Processing Manufacturing
( ) Porcelain Enamel
(X) Pulp, Paper, and Fiberboard Manufacturing
( ) Rubber
( ) Soap and Detergent Manufacturing
( ) Steam Electric
( ) Sugar Processing
( ) Textile Mills
( ) Timber Products

A facility with processes inclusive in these business areas may be covered by Environmental Protection Agency's categorical pretreatment standards. These facilities are termed "categorical users".

2. Give a brief description of all operations at this facility including primary products or services.

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3. Indicate applicable Standard Industrial Classification (SIC) for all processes

a: 2631 d: _____

b: _____ e: _____

c: _____ f: _____

4. Product Volume:

Product Name:	Production Amounts per day Average	Maximum	Daily Unit
Recycled Paperboard	350	450	Tons/Day

SECTION THREE - WATER SUPPLY

1. Water Sources: (Check as many as are applicable)

( ) Private Well
(X) Surface Water
(X) Municipal Water (specify city) Battle Creek
( ) Other (specify) _____

2. Name on the water bill:

Name: Waldorf Corp.

Street: Same

City: _____ State: _____ Zip: _____

3. Water service account number: 300101600 – 300102100, 300102300, 300102900, 700101800, 700100200, 7001081

4. List average water usage on premises:
(New facilities may estimate)

	average (gpd)
a. Contact cooling water	NA
b. Non-contact cooling water*	200,000
c. Boiler Feed	20,000
d. Process	800,000
e. Sanitary	NA
f. Air Pollution Control	NA
g. Contained in product	50,000
h. Irrigation and lawn watering	NA
i. Other	NA
j. Total of a-i	970,000

* NPDES Permit Number, if applicable: MI0029386

SECTION FOUR - SEWER INFORMATION

1. a. For an existing business:

Is the building presently connected to the public sanitary sewer system ?

(✓) Yes: Sanitary Sewer account no. N/A
( ) No: Have you applied for a sanitary sewer hookup ? ( ) yes ( ) no

b. For a new business:

Will you be occupying an existing vacant building (such as an industrial park) ? ( ) yes ( ) no

Have you applied for a building permit if a new facility will be constructed ? ( ) yes ( ) no

Will you be connected to the public sanitary sewer system ? ( ) yes ( ) no

2. List size, descriptive location, and flow of each facility sewer which connects to the City's sewer system. (If more than three, attach additional information on another sheet.)

Sewer Size	Descriptive Location	GPD Avg. Flow
Flume	Middle North End of Property	800,000

SECTION FIVE - WASTEWATER DISCHARGE INFORMATION

1. Does (or will) this facility discharge any wastewater other than from restrooms to the City sewer ?

(✓) Yes If the answer to this question is "yes", complete the remainder of the application.

( ) No If the answer to this question is "no", skip to Section Nine.

2. Provide the following information on wastewater flow rate. (New facilities may estimate)

a. Hours/Day discharged (e.g. 8 hours/day)

M 24 T 24 W 24 TH 24 F 24 SAT 24 SUN 24

b. Hours of Discharge (e.g. 9 a.m. to 5 p.m.)

M	24 HPD	F	11
T	11	SAT	11
W	11	SUN	11
TH	11		

c. Peak hourly flow rate (GPD) 2.5 million

d. Maximum daily flow rate (GPD) 2.5 million

e. Annual daily average (GPD) 800,000

3. If batch discharge occurs or will occur, indicate: (New facilities may estimate)

a. Number of batch discharges NA per day

b. Average discharge per batch _____ (GPD)

c. Time of batch discharges _____ (days of week) at _____ (hrs of day)

d. Flow Rate _____ gallons/minute

e. Percent of total discharge _____

4. Schematic Flow Diagram - NA

Facilities that checked activities in question 1 of Section Two are considered Categorical Industrial Users and should skip to question 6.

5. For Non-Categorical Users Only: List average wastewater discharge, maximum discharge, and type of discharge (batch, continuous, or both), for each plant process. (New facilities should provide estimates for each discharge).

Process Description	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)

ANSWER QUESTIONS 6 & 7 ONLY IF YOU ARE SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

6. For Categorical Users: Provide the wastewater discharge flows for each of your processes or proposed processes. (New facilities should provide estimates for each discharge).

Regulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)
Paperboard Manufacturing	600,000	2.5 million	Continuous

Unregulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)
NA			

Dilution	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)
NA			

7. For Categorical Users subject to Total Toxic Organic (TTO) requirements

Provide the following (TTO) information.

a. Does (or will) this facility use any of the toxic organics that are listed under the TTO standard of the applicable categorical pretreatment standards published by the EPA ?

(✓) yes ( ) no

b. Has a baseline monitoring report (BMR) been submitted which contains TTO information ?

( ) yes (✓) no

c. Has a toxic organics management plan (TOMP) been developed ? If yes, please attach a copy.

( ) yes (✓) no

8. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility ?

Current:	Flow Metering	(✓)	yes	( )	no	( ) n/a
	Sampling Equipment	(✓)	yes	( )	no	( ) n/a
Planned:	Flow Metering	( )	yes	( )	no	( ) n/a
	Sampling Equipment	( )	yes	( )	no	( ) n/a

If so, please indicate the present or future location of this equipment on the sewer schematic.

9. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics ? Consider production processes as well as air or water pollution treatment processes that may affect the discharge.

( ) yes (✓) no, (skip question 1Ø)

1Ø. Briefly describe these changes and their effects on the wastewater volume and characteristics: (Attach additional sheets if needed.)

_____

_____

_____

_____

_____

_____

_____

11. Are any materials or water reclamation systems in use or planned ?

(✓) yes ( ) no, (skip question 12)

12. Briefly describe recovery process, substance recovered, percent recovered, and the concentration in the spent solution. Submit a flow diagram for each process: (Attach additional sheets if needed.)

New Equipment for Fiber reclaimation + plastic removal is planned.

Flow Diagram not available.

SECTION SIX - CHARACTERISTICS OF DISCHARGE

Current Users:

If your facility is currently providing self-monitoring data to the City, skip to Section Seven. (If additional data or monitoring is being implemented, which has not been submitted to the City, it must be attached.)

New Users:

New dischargers should attach any data which is pertinent or available from facilities with similar processes.

SECTION SEVEN - TREATMENT

1. Is any form of wastewater treatment (see list below) practiced at this facility ?

(✓ yes ( ) no

2. Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years ?

(✓) yes, Describe New equipment to remove fiber + plastic
( ) no

3. Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate).

(✓) Air flotation
( ) Centrifuge
( ) Chemical precipitation
( ) Chlorination
( ) Cyclone
( ) Filtration
( ) Flow equalization
( ) Grease or oil separation, type:_____
( ) Grease trap
( ) Grinding filter
( ) Grit removal
( ) Ion exchange
( ) Neutralization, pH correction
( ) Ozonation
( ) Reverse osmosis
(✓) Screen
( ) Sedimentation
( ) Septic tank
( ) Solvent separation
( ) Spill protection
( ) Sump
( ) Biological treatment, type:_____
( ) Rainwater diversion or storage
( ) Other chemical treatment, type:_____
( ) Other physical treatment, type:_____
( ) Other, type:_____

4. Description

Describe the pollutant loading, flow rates, design capacity, physical size, and operating procedures of each treatment facility checked above.

NA

5. Attach a process flow diagram for each existing treatment system. Include process equipment, by-products, by-product disposal method, waste and by-product volumes, and design and operating conditions.

NA

6. Describe any changes in treatment or disposal methods planned or under construction for the wastewater discharge to the sanitary sewer. Include estimated completion dates.

NA

7. Do you have a treatment operator ? ( ) yes (✓) no

(if yes,) Name:_____
Title:_____
Phone:_____

8. Do you have a manual on the correct operation of your treatment equipment ?

(✓) yes ( ) no

9. Do you have a written maintenance schedule for your treatment equipment ?

(✓) yes ( ) no

SECTION EIGHT - FACILITY OPERATIONS

1. Shift Information

Work Days		(✓) Mon	(✓) Tues	(✓) Wed	(✓) Thur	(✓) Fri	(✓) Sat	(✓) Sun
Shifts per work day:		3	3	3	3	3	3	3
Empl's per shift:	1st	140	140	140	140	140	140	140
	2nd	30	30	30	30	30	30	30
	3rd	30	30	30	30	30	20	30

1st shift starts at: 7am ends at 3pm
2nd shift starts at: 3pm ends at 11pm
3rd shift starts at: 11pm ends at 7am

2. Indicate whether the facility discharge is:

(✓) Continuous, during work hours
( ) Batch or intermittent

3. List types and amounts (mass or volume per day) of raw materials used or planned for use (attach list if needed)

120,000 TONS/YEAR WASTE PAPER
Chemicals list in Attachment A usage is proprietary

4. List each substance from Appendix A which is contained in any materials used or stored and could be present in your facilities wastewater discharge. (List by the number from Appendix A rather than by name.)

1					

5. List each substance from Appendix A which is contained in any materials used or stored. (List by the number from Appendix A rather than by name.)

1	149	128K			
107	169	6			
139	158	134			

6. Building Layout - Draw the location of each building on the premises. Show map orientation and location of all water meters, storm sewers, and each facility sewer line connected to the public sewers. Show unit processes in respect to drains and overflows. Specify sampling locations situated outside the building.

See Attachments B1, B2

DWGS SITPLRRB, M916

SECTION NINE - SPILL PREVENTION

1. Do you have chemical storage containers, bins, or ponds at your facility ? (✓ yes ( ) no

   If yes, please give a description of their location, contents, size, type and frequency and method of cleaning. Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain. Chemicals may be stored anywhere in mills. Most are in totes. None are near storm drains but may be near sewer drains. Cleaned infrequently. See chemical list Attachment.

2. Do you have floor drains in your manufacturing or chemical storage area(s) ? (✓) yes ( ) no
   If yes; where do they discharge to ?
   Battle Creek City Wastewater

3. If you have chemical storage containers, bins, or ponds in a manufacturing area, could an accidental spill lead to a discharge to: (check all that apply.)

   ( ) an onsite disposal system
   (✓) public sanitary sewer system (e.g. floor drain)
   ( ) storm drain
   ( ) to ground
   ( ) other, specify _____
   ( ) not applicable, no possible discharge to any of the above routes.

4. Do you have an accidental spill prevention plan (ASPP) to prevent spills of chemicals or slug discharges from entering the City's collection system ?

   (✓) yes - Enclose a copy with this application Attachment C
   ( ) no
   ( ) not applicable since there are no floor drains and/or the facility discharges only domestic waste

SECTION TEN - NON-DISCHARGED WASTES

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system ?

   (✓) yes, please describe below
   ( ) no, skip the remainder of Section Ten.

Waste Generated	Quantity (per year)	Disposal Method
Waste Paper	N/A	Landfill offsite
Waste Paper Containments	N/A	Landfill offsite

Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of

2. If an outside firm removes any of the above checked wastes, state the name(s) and address(es) of all waste haulers:

a. BFI _____ b. _____

Permit No. N/A Permit No. _____

SECTION ELEVEN - AUTHORIZED SIGNATURES

Compliance certification:

1. Are all applicable Federal, State, or City pretreatment standards and requirements being met on a consistent basis ?

( ) yes (✓) no ( ) Not yet discharging

2. If No:

a. What additional operations and maintenance procedures are being considered to bring the facility into compliance ? Also, list additional treatment practices being considered in order to bring the facility into compliance. New Equipment is being evaluated

b. Provide a schedule for bringing the facility into compliance. Specify major events planned along with reasonable completion dates. (These dates are subject to approval by the City of Battle Creek)

Event or Activity	Completion Date
New Equipment Installed	9/1/96

Authorized Representative Statement:

The information contained in this application is familiar to me and to the best of my knowledge and belief, such information is true, accurate and complete.

Beth A. Appelt	Manager Technical Services	
Name (please print)	Title	
Beth A. Appelt	3/22/96	616-969-7186
Signature	Date	Phone No.

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
3ØA	1,1,1-trichloroethane
3ØD	1,1,2,2-tetrachloroethane
143	1,1,2-trichloroethane
3ØB	1,1-dichloroethane
54A	1,1-dichloroethylene
93	1,2(methylenedioxy)-4-propenyl benzene
27B	1,2,4-trichlorobenzene
27C	1,2-dichlorobenzene
53	1,2-dichloroethane
55B	1,2-dichloropropane
54B	1,2-trans-dichloroethylene
56	1,2:3,4-diepoxybutane
27D	1,3-dichlorobenzene
55A	1,3-dichloropropylene; (1,3-dichloropropene)
129	1,3-propane Sultone
27E	1,4-dichlorobenzene
66	1,4-dioxane
98	1,5-naphthalenediamine
39	1-(4-chlorophenyl)-3, 3-dimethyl triazene
14	1-amino-2-methylanthraquin
33	1-chloro-2,3-epoxypropane
95	1-methylnaphthalene
99	1-naphthylamine
184	2(p-tert-butylphenoxy)-isopropyl-2-chloroethyl sulfite
67	2,3-epoxy-1-propanal
146	2,4,5-trimethylaniline
45	2,4-diaminoanisole sulfate
47	2,4-diaminotoluene
32C	2,4-dichlorophenol
6Ø	2,4-dimethylphenol
62	2,4-dinitrophenol
63	2,4-dinitrotoluene
64A	2,6-dinitrotoluene
76	2-(2-formylhydrazino)-4-(5-nitro-2-furthiazole)
4	2-acetylaminofluorene
9	2-aminoanthraquinone
34A	2-chloroethyl Vinyl Ether (mixed)
31A	2-chloronaphthalene
32A	2-chlorophenol
96	2-methyl-1-nitroanthraquinone
1ØØ	2-naphthylamine
1Ø6	2-nitrophenol
52	3,3-dichlorobensidine salts
51	3,3-dichlorobenzidine
128A	3,4-benzofluoranthene
38	3-(chloromethyl)pyridine hydrochloride
13	3-amino-9-ethylcarbazole
225B	4,4'-DDD; (p,p'-TDE)
225A	4,4'-DDE; (p,p'-DDE)
137	4,4'-thiodianiline
46	4,4-diaminodiphenyl ether

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
92	4,4-methylenebis(N,N-dimethylaniline)
61	4,6-dinitor-o-cresol
12	4-aminobiphenyl
175	4-aminopyridine
77B	4-bromophenyl Phenyl Ether
4Ø	4-chloro-m-phenylenediamine
41	4-chloro-o-pheylenediamine
77A	4-chlorophenyl Phenyl Ether
58	4-dimethylaminoazobenzene
1Ø4	4-nitrobiphenyl
1Ø7	4-nitrophenol
43	5-chloro-o-toluidine
1Ø2	5-nitro-o-anisidine
1Ø1	5-nitroacenaphthene
131	5-propyl-1,3-benzodioxole
222A	A-BHC-Alpha
2	Acenaphthene
128D	Acenaphthylene
3	Acetone Cyanohydrin
167	Acids, inorganic
1	Acids, organic
5	Acrolein
6	Acrylic Acid
7	Acrylonitrile
173	Aldicarb
174	Aldrin
8	Allyl Chloride
1Ø	Aminoazobenzene
15	Aminotriazole (amitrole)
176	Anilazine
16	Aniline
17	Aniline Hydrochloride
128E	Anthracene
15Ø	Antimony
177	Antimycin A
151	Arsenic
172	Asbestos (fibrous)
178	Azinphos-ethyl
179	Azinphos-methyl
222B	B-BHC-Beta
13Ø	B-proplolactone
18Ø	Barban
181	Bendiocarb
182	Benomyl
128B	Benxo(k) fluoranthane; (11,12-benzofluoranthene)
2Ø	Benz(a)anthracene
21	Benzene
22	Benzidine
23	Benzidine Salts
24	Benzo(a)pyrene
128F	Benzo(ghi)perylene; (1,12-benzoperylene)
152	Beryllium

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
77C	Bis(2-chloroethoxy)methane
35	Bis(2-chloroethyl)ether
37	Bis(2-chloromethyl)ether
73	Bis(2-ethylhexyl)phthalate
78D	Bromoform; (tribromomethane)
183	Bromoxynil
25	Brucine
124A	Butyl Benzyl Phthalate
153	Cadmium
185	Captafol
186	Captan
187	Carbaryl
188	Carbofuran
26	Carbon Tetrachloride
189	Carbophenothion
168	Chloramines
19Ø	Chlordane
191	Chlordecone
192	Chlorfenvinphos
27	Chlorinated Benzenes
28	Chlorinated Dibenzofurans
29	Chlorinated Dioxins
3Ø	Chlorinated Ethanes
31	Chlorinated Phenols
32	Chlorinated Phenols
169	Chlorine
34	Chloroalkyl Ethers
27A	Chlorobenzene
193	Chlorobenzilate
78H	Chlorodibromomethane
3ØC	Chloroethane
36	Chloroform
42	Chloroprene
194	Chlorpyrifos
154	Chromium
128C	Chrysene
195	Clonitralid
155	Cobalt
156	Copper
196	Coumaphos
197	Crotoxyphos
157	Cyanides
198	Cycloheximide
199	DDT
2ØØ	Demeton
5Ø	Di-n-butyl phthalate
65	Di-n-octyl phthalate
2Ø1	Diallate
2Ø2	Diazinon
48	Dibenz(a,h)anthracene
2Ø3	Dibromochloropropane (DBCP)

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
78E	Dichlorobromomethane
78G	Dichlorodifluoromethane
54	Dichloroethylenes
55	Dichloropropane and Dichloropropene
2Ø5	Dichlorvos
2Ø6	Dichrotophos
2Ø7	Dieldrin
124B	Diethyl Phthalate
57	Diethyl Sulfate
2Ø8	Dimethoate
124C	Dimethyl Phthalate
59	Dimethylhydrazines
2Ø9	Dinocap
21Ø	Dinoseb
64	Dintrotoluene
211	Dioxathion
212	Disulfoton
215	EPN
213	Endosulfan
226A	Endosulfan Sulfate
214	Endrin
227A	Endrin Aldehyde
216	Ethion
68	Ethylbenzene
69	Ethylene Dibromide
71	Ethylene Oxide
72	Ethylene Thiourea
7Ø	Ethyleneimine
74	Ethylmethanesulfonate
217	Fensulfothion
218	Fenthion
219	Fluchloralin
75	Fluoranthene
128G	Fluorene
222C	G-BHC-Delta
77	Haloethers
78	Halomethanes
22Ø	Heptachlor
221	Heptachlor Epoxide
228A	Heptachlor Epoxide
79	Hexachlorobenzene (HCB)
8Ø	Hexachlorobutadiene
81	Hexachlorocyclohexane
82	Hexachlorocyclopentadiene
83	Hexachloroethane
17Ø	Hydrazine
84	Hydrazobenzene
171	Hydrogen Sulfide
85	Hydroquinone
158	Hypochlorite
128I	Indeno(1,2,3-cd)pyrene; (2,3-O-phenylenepyrene)

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
87	Isophorone
88	Lactonitrite
159	Lead
223	Leptophos
16Ø	Lithium
89	Malachite Green
224	Malathion
161	Mercury
225	Metabolites of DDT
226	Metabolites of Endosulfan
227	Metabolites of Endrin
228	Metabolites of Heptachlor
229	Methomyl
23Ø	Methoxychlor
78C	Methyl Bromide; (bromomethane)
78B	Methyl Chloride; (chloromethane)
94	Methyl Hydrazine
231	Methyl Mercaptan
232	Methyl Parathion
78A	Methylene Chloride; (dichloromethane)
9Ø	Methylenebis(2-chloroaniline)
233	Mevinphos
234	Mexacarbate
235	Mirex
236	Monocrotophos
97	Mustard Gas
86	N-(2-hydroxyethyl)ethyleneimine
1Ø8B	N-nitrosadi-n-propylamine
113	N-nitroso-N-ethylurea
114	N-nitroso-N-methylurea
115	N-nitroso-N-methylurethane
118	N-nitroso-N-phenylhydroxyl-amine, ammonium salt
1Ø9	N-nitroso-n-butyl-N-(4-hydroxybutyl) amine
11Ø	N-nitrosodiethylamine
111	N-nitrosodimethylamine
1Ø8A	N-nitrosodiphenylamine
116	N-nitrosomethylvinylamine
117	N-nitrosomorpholine
119	N-nitrososarcosine
237	Naled
128K	Naphthalene
162	Nickel
238	Nicotine
1Ø3	Nitrobenzene
239	Nitrofen
1Ø5	Nitrogen Mustard
1Ø8	Nitrosamines
11	O-aminoazotoluene
18	O-anisidine
19	O-anisidine hydrochloride
14Ø	O-toluidine
141	O-toluidine Hydrochloride

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
24Ø	Oxydemeton-methyl
44	P-cresidine
112	P-nitrosodiphenylamine
32B	Parachlorometa-cresol
241	Paraquat
242	Parathion
12Ø	Pentachloronitrobenzene
121	Pentachlorophenol
122	Peroxyacetic Acid
128H	Phenathrene
123	Phenol
243	Phorate
244	Phosazetim
245	Phosmet
246	Phosphamidon
124	Phthalate Esters
125	Piperonyl Sulfoxide
126	Polybrominated Biphenyls (PBB)
127	Polychlorinated Biphenyls (PCB)
128	Polynuclear Aromatic Hydrocarbons
132	Propyleneimine
128J	Pyrene
247	Rotenone
163	Selenium
133	Semicarbazide
164	Silver
248	Silvex, Propylene Glycolbutyl Ether Ester
249	Sodium Fluoracetate
25Ø	Strychnine
134	Styrene
251	Sulfallate
252	Sulfotepp
253	TDE
254	TEPP
255	Terbufos
135	Tetrachloroethylene; (perchloroethylene)
256	Tetrachlorvinphos
165	Thallium
136	Thioacetamide
138	Thiourea
257	Thiram
139	Toluene
258	Toxaphene
142	Triaryl Phosphate Esters
259	Trichlorfon
144	Trichloroethylene
78F	Trichlorofluoromethane
145	Trichlorophenols
26Ø	Trichlorophenoxyacetic Acid (2,4,5-T)
261	Triflualin
147	Trimethylphosphate
49	Tris(dibromopropyl)phosphate

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
148	Vinylchloride
149	Xylene
166	Zinc
262	Ziram

ATTACHMENT 11

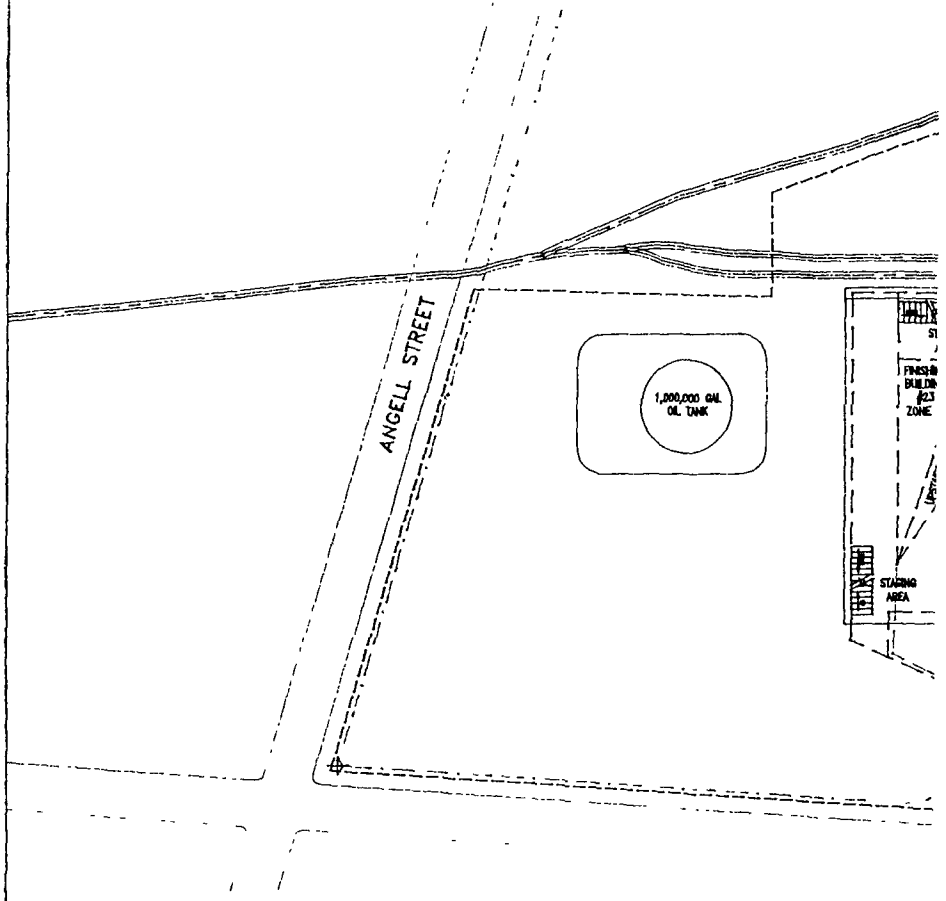
WALDORF CORPORATION
FACILITY: BC94DATA.XL
CHEMICAL USAGE SUMMARY

FACILITY: WALDORF - Battle Creek
CHEMICAL/PRODUCT USAGE SUMMARY

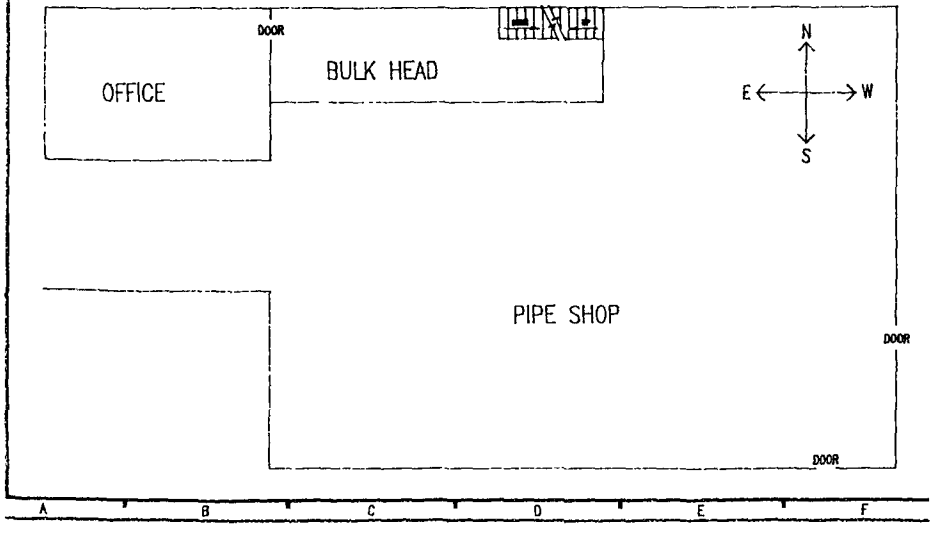
MSDS/PRODUCT NAME:	MSDS DATE	SUPPLIER	HAZARDOUS CHEMICALS	Container Size	Loca tion
Coating Chemicals					
AQUA AMMONIA		CARRIER STEPHENS	AMMONIA(15%)	55 GAL DRUM	BASEME
ALCOGUM L-37		ALCO	voc(0.03%),ethyl acrylate(0.03%), solids(30%)	55 GAL DRUM	COATIN
BUSAN 1078		BUCKMAN LAB.	voc(0%),solids(4.62%)	TOTE	BASEME
LATEX PB 6620 NA	1990	DOW	voc(?%), butadiene & Styrene monomers(?%),solids()	21000 GAL	CLAY SIL
TI - PURE RUTILE RPDZWO1		DUPONT	voc(0%),solids(80%)	5500 GAL	COATIN
FOAMMASTER DF-122-NS	1989	HENKEL CORP	voc(29.9%),solids(?%)	50GAL DRUM	BASEMEN
BACOTE 20	1985	MAGNESIUM ELEKTRON	voc(0%),AMMONIA(8%),solids(?%)	TOTE	BASEMEN
PRO Cote 200		Protein Tech/Ralston	voc(0%), solids(100%)	50# BAGS	COATIN
THIELE KAOLIN CLAY slurry	1991	THIELE KAOLIN	voc(0%),solids()	44,000 GAL	Sheeter
Process Chemicals					
BASAZOL* C BROWN PR988L	1988	BASF	VOC(30%), ACETIC ACID(22%),PROPYLENE GLYCOL(8%),	TOTE	Baseme
SLIMETROL RX52A	1991	BETZ PAPERCHEM	voc(32.56%),1,2,4 TMB(14.1%),naphthalene(1.94%),glycol ethers(	TOTE	"
Bismark Brown R Liquid	1988	Keystone	VOC(55%), ACETIC ACID(55%),PROPYLENE GLYCOL(8%),	TOTE	"
NALCO 7569 ANTIFOAM	1990	NALCO	voc(0%)	TOTE	"
POLYPLUS 695	1991	BETZ PAPERCHEM	voc(30%),solids(70%)	TOTE	"
Betz RF507	1991	BETZ PAPERCHEM	None. No VOCs.	TOTE	"
DISCOFLOC 780-P		CALLAWAY	voc(0%),epichlorohydrin(0.0001%),solids(50%)	TOTE	"
CALLAWAY 4330P	1991	CALLAWAY	voc(23.5%),IPA(0.1%),xylene(0.12%),acrylamide(0.03%),Acrylic ac	TOTE	"
CAUSTIC SODA	1985	CARRIER STEPHENS	voc(0%),solids(0%)	TOTE	"
Polynal DRS		CARRIER STEPHENS		TOTE	"
HERCON UBK II	1989	HERCULES	voc(?0%), solids(?0%)	7000 GAL	Conveyor
NALCO 7627 PITCH DISPERSANT	1990	NALCO	voc(0%),acrylate polymer	TOTE	Baseme
CHLORINE		Rowell/OCCIDENTAL	CHLORINE(99.5%)	TOTE	"
AKTA KLOR 25%(Sodium Chlorite) Solution		Rio Linda	Chlorine dioxide(0.3%)	TOTE	"
				TOTE	"
ELVANOL 71-30 PVA		DUPONT	voc(1.4%), methanol(1.4%),Dry material.	50# BAG	BASEME
HERCON 70	1987	HERCULES	voc(0%),solids(12%)	55GAL DRUM	BASEME
PEN FORD GUM	?	PENICK & FORD	voc(0%), solids(90%)	100# BAG	BASEME
Alluminum Sulfate, Liquid		cytec	voc(0%),solids()	TOTE	BASEME

WALDORF CORPORATION
FACILITY BC94DATA XL
CHEMICAL USAGE SUMMARY

FACILITY: WALDORF - Battle Creek CHEMICAL/PRODUCT USAGE SUMMARY	MSDS DATE	SUPPLIER	HAZARDOUS CHEMICALS	Container Size	Location
POWER PLANT					
SALT(Top Flow 252)		CARGILL	NONE	50# BAGS	SILO FEED
Acid, Sulfamic Cryst Pettibone		*Haviland*		50# BAGS	BASEMENT
Balance Polymer 6364		*Betz Water managemei*	*voc(0%),solids(7 83%),no haps*	TOTE	"
Betz AFS		*Betz Water managemei*	*voc(0%) solid(30%)*	TOTE	"
Polymer 1125L		*Betz Water managemei*	*voc(24%), solid(54%)*	TOTE	"
Betz 35A		*Betz Water managemei*	*voc(0%), solids(60 5%)*	TOTE	"
Corrogen		*Betz Water managemei*	*voc(0%), solids(100%)*	TOTE	"
Opti-meen 80675		*Betz Water managemei*	*voc(38%), solids(0 5%)*	TOTE	"
MAINTENANCE AND OTHERS				VARIOUS	VARIOUS
All Lubircation Oils		NEDERHOID	NONE		



THE FOLLOWING AREAS WILL EVACUATE TO THE PIPE SHOP IN CASE OF A TORNADO. RECEIVING/STORES, RECEIVING SCRAP, PAINT SHOP, ELECTRIC SHOP, MAINTENANCE OFFICE AND THE CONVEYOR ROOM.



SPILL PREVENTION PROGRAM

POLLUTION INCIDENT PREVENTION PLAN
FOR WALDORF CORPORATION
177 ANGELL STREET, BATTLE CREEK, MI

DAY PHONE (616) 963-5511

NIGHTS (POWER PLANT) (616) 969-7154

PARENT CORPORATION: WALDORF CORPORATION
WABASH AVENUE
ST. PAUL, MN
(612) 641-4938

Persons at the facility responsible for PIPP plan are:

Beth Appelt, Manager Technical Services
Home Phone: 616-629-3146
Pager: 616-338-6526

John Decker, Safety and Security Manager
Home Phone: 616-342-6932
Pager: 616-388-2440

Tom Lawson, V.P. Operations
Home Phone: 616-665-4965
Pager: 616-412-0120

The facility at 177 Angell Street is a primary manufacturer of recycled, clay coated box board. The facility brings in waste paper, pulps the waste paper with water, cleans it, reforms it on a fourdrinier paper machine, dries with steam, coated with a water based clay coating, and delivers the finished product for the production of boxes.

The facility uses the following licensed contractors for primary spill recovery:

Kalamazoo Valley Industrial Cleaning
(616) 657-2275
Pager 1-800-512-4600
Pager 1-800-512-6182
Pager 1-800-512-5373
Pager 1-800-512-5372

K and D Industries
(616) 343-0088

TERRA Environment
(616) 375-9595
1-800-632-4176

POLLUTION INCIDENT PREVENTION PROGRAM
IN REGARDS TO ANY OIL SPILLS

The following is a procedure to contain and make safe any major oil leak or spill.

1. Notify engineer on duty in power plant and tour foreman.

2. Engineer will determine severity of spill and follow with appropriate action.

3. Call Kal-Valley Industrial Cleaning 24 hr. line for proper clean up.

4. Engineer will call appropriate person on call to assist in any other action that may be needed to secure the spill.

5. All names and numbers are listed in the power plant.

ALL POWER PLANT PERSONNEL

Additional responsibilities must be added to our daily check-up rounds to comply with new Federal and State regulations. We must establish an inspection of our (2) forty thousand gallon supply tanks. We must include all oil and chemicals stored in barrels and containers.

The Second Engineers will perform these inspections on their daily rounds.

There will be signs made on all chemicals of what their content is and how to deal with each.

Tank levels will be recorded from gauge readings as well as visual inspection.

There will be instructions posted in the Power Plant office as to what the procedure will be in case of any spills or emergencies. To insure quick response to any situation, an additional radio will be purchased for better communication with engineer on duty.

As most of this work is presently being done, there will be very little effort in following-up with documentation and implementing this program.

THE FOLLOWING EMERGENCY NUMBERS ARE LISTED:

Michigan Department of Natural Resources Pollution
Emergency Alerting System

Phone: 1-800-292-4706
or: 517-373-7660

Calhoun County Health Department
Steven Noble

Phone: 616-966-1241

Office of Hazardous Waste Management

Phone: 517-373-2730

Office of Toxic Materials

Phone: 517-374-9640

United States Environmental Protection Agency
Grosse Ile Office

Phone: 313-676-6500

Battle Creek Wastewater Treatment Plant

Phone: 616-966-3513

Kalamazoo Valley Industrial Cleaning

Phone: 616-657-2275
Pager 1-800-512-4600
Pager 1-800-512-6182
Pager 1-800-512-5373
Pager 1-800-512-5372

K and D Industries
Phone: 616-343-0088

TERRA Environmental

Phone: 616-375-9595
1-800-632-4176

Angel Street

The following are plans for pollution controls:

1. Our one million gallon #6 fuel oil tank with our six foot dyke surrounding it. If the tank were to burst the dyke would contain it. Cleaning up of such a spill would be done by an industrial waste hauling service. Fig. 1

2. The unloading area for fuel oil trucks is now on a level dirt drive, we suggest that this area be sloped, to keep the spillage in a contained area. Cleaning of such a spill would be done by an industrial waste hauling service. Fig. 2

3. Lubricating oils near machine oil tank. Install small dyke around the lubricating oil barrels. Fig. 3

4. Dryer bearing oil - Relocate drainage ditch, and provide a dyked area to surround tanks. Fig. 4

5. Paper additive chemicals to be stored in the west end of the conveyor room. Fig. 5

6. Save alls - water clarification and recycling system. Fig. 6

7. Clay slurry storage. Area fully dyked clean up would be by waste hauler or to city system.

8. Bulk polymer storage. Leakage from a mishap on the polymer would be collected in the polymer room and sent to the city treatment plant, via the sewer system.

FORM 2119

ST REGIS PAPER COMPANY
LED FIBER DIVISION

ENGINEERING CALCULATIONS

SHEET No.

DATE

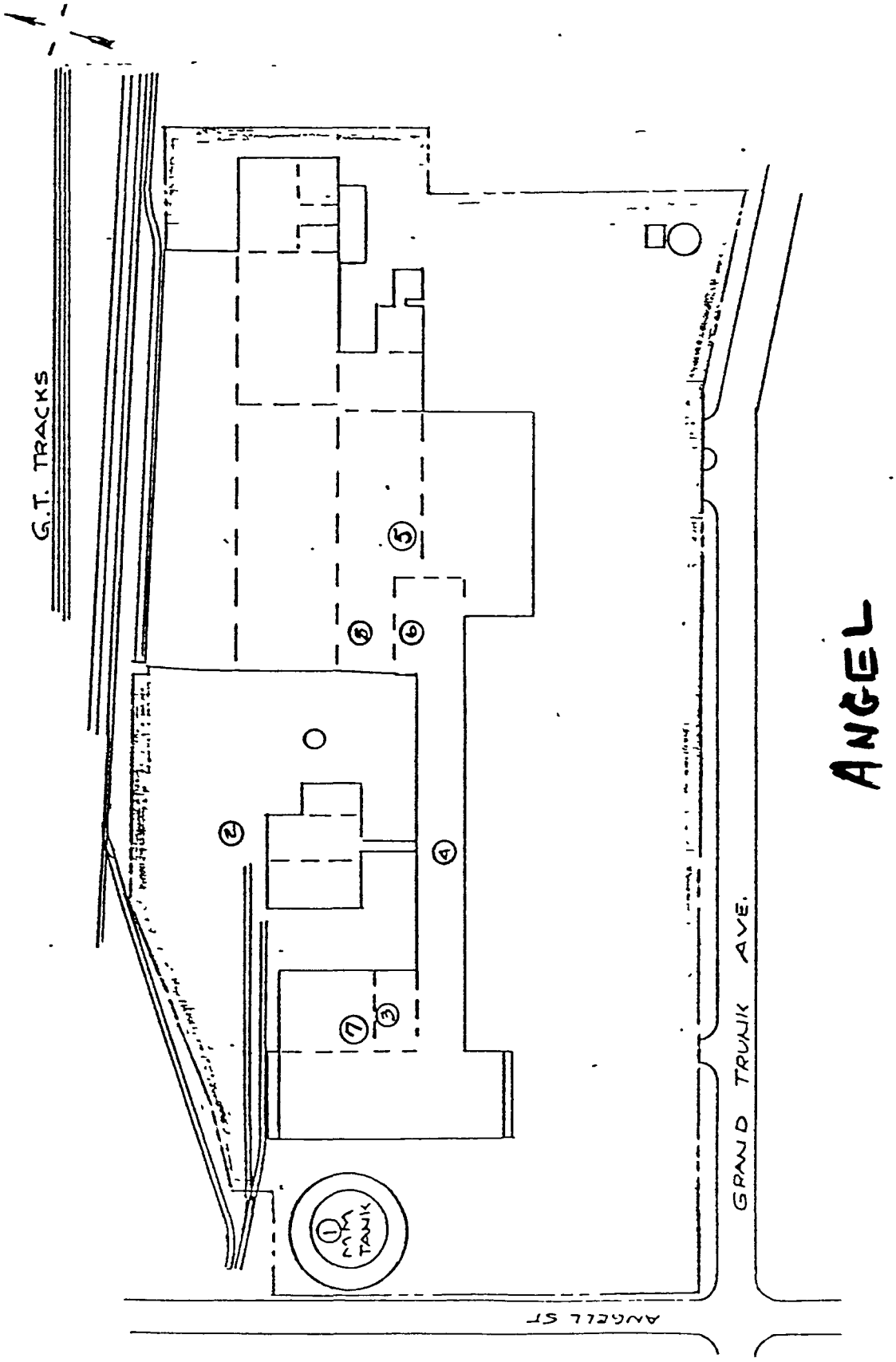
PLANT

OF

DESCRIPTION OF JOB	DEPARTMENT	JOB ORDER No.

SUBJECT

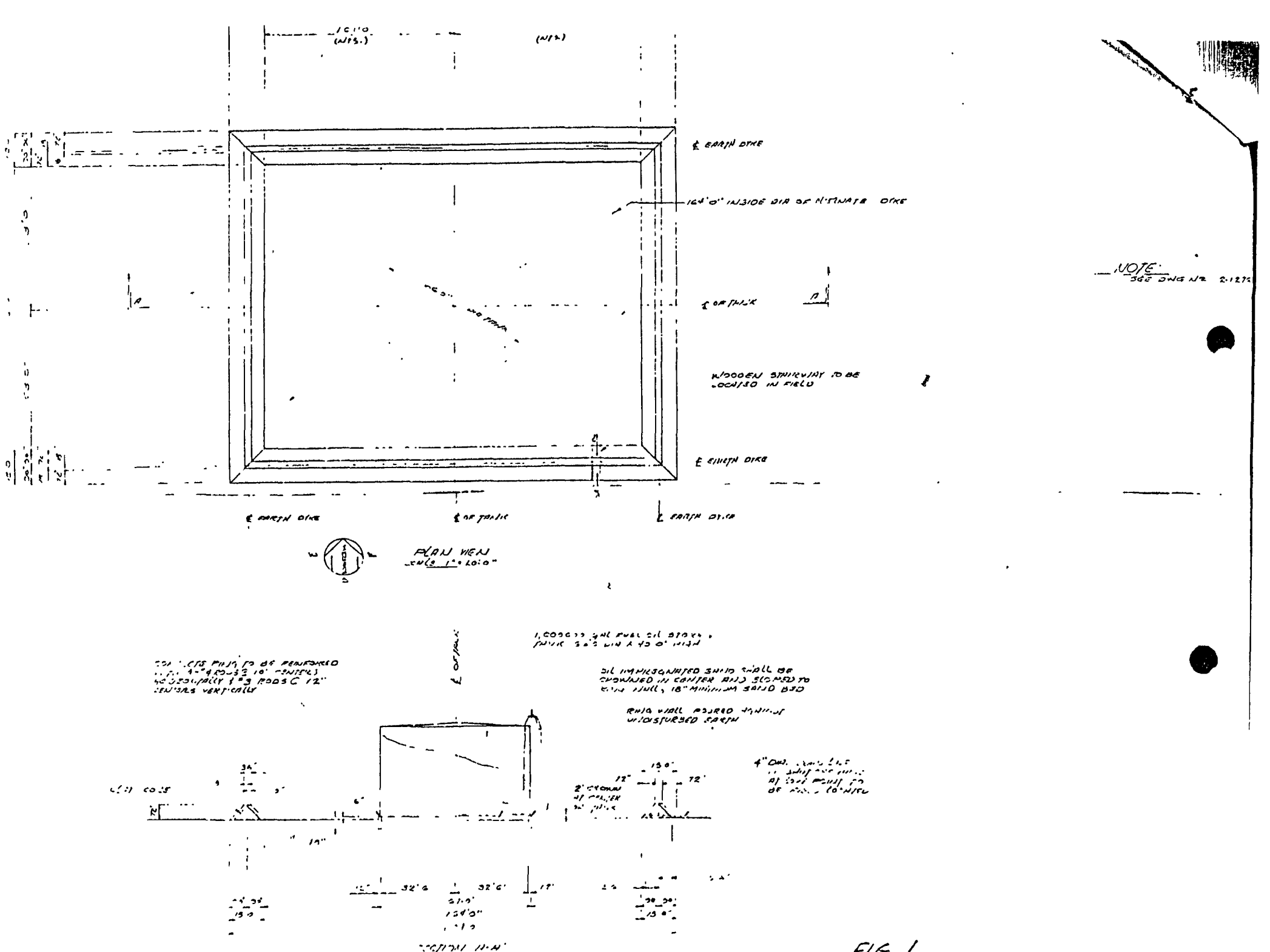
CALCULATIONS BY



#6 Fuel Oil

In compliance with your P.I.P.P. check list the following information is given under section III:

A. Million gallon
B. Supplied on drawing
C. Steel
D. None
E. Relief valves at pump unloading station
F. Shell man hole, roof man hole, vent
G. Rust resistant exterior paint
H. Fuel oil pumped from tank cars at 110 GPM to tank
I. Sealed steel tank
J. Level earth footing, dyked area



℄ EARTH DYKE
164'0" INSIDE DIA OF ALTERNATE DYKE
℄ OF TANK
WOODEN STAIRWAY TO BE LOCATED IN FIELD
℄ EARTH DYKE
℄ EARTH DYKE
℄ OF TANK
℄ EARTH DYKE
PLAN VIEW
NOTE:
SEE DWG NO 2-1272
℄ OF TANK
OIL IMPREGNATED SAND SHALL BE CHOWNED IN CENTER AND SLOPED TO RING WALL, 18" MINIMUM SAND BED
RING WALL POURED AGAINST UNDISTURBED EARTH
32'6"
32'6"
164'0"
SECTION A-A'

FIG. 1

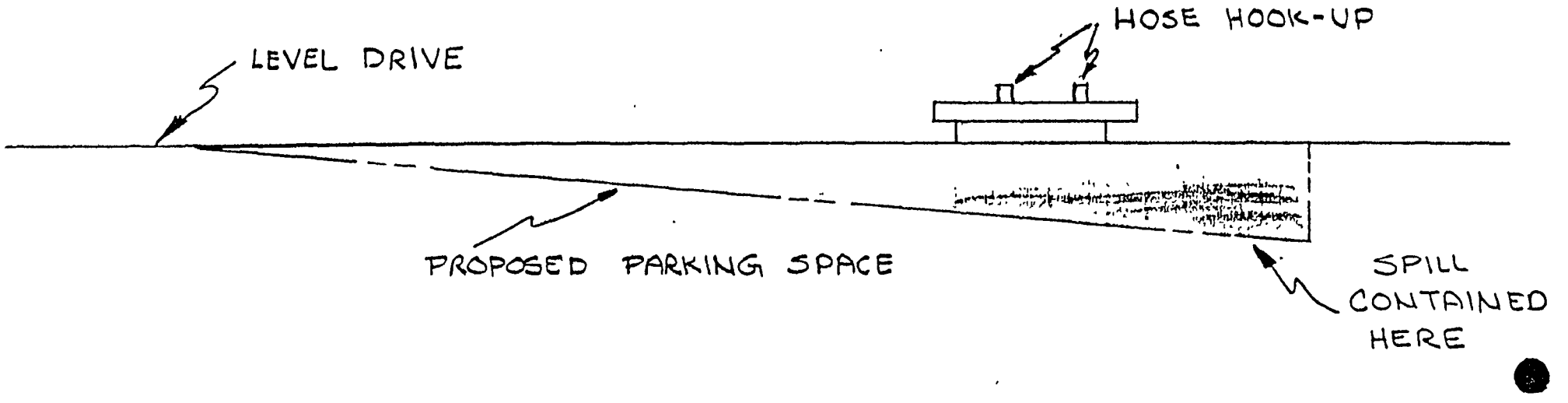

HOSE HOOK-UP
LEVEL DRIVE
PROPOSED PARKING SPACE
SPILL CONTAINED HERE

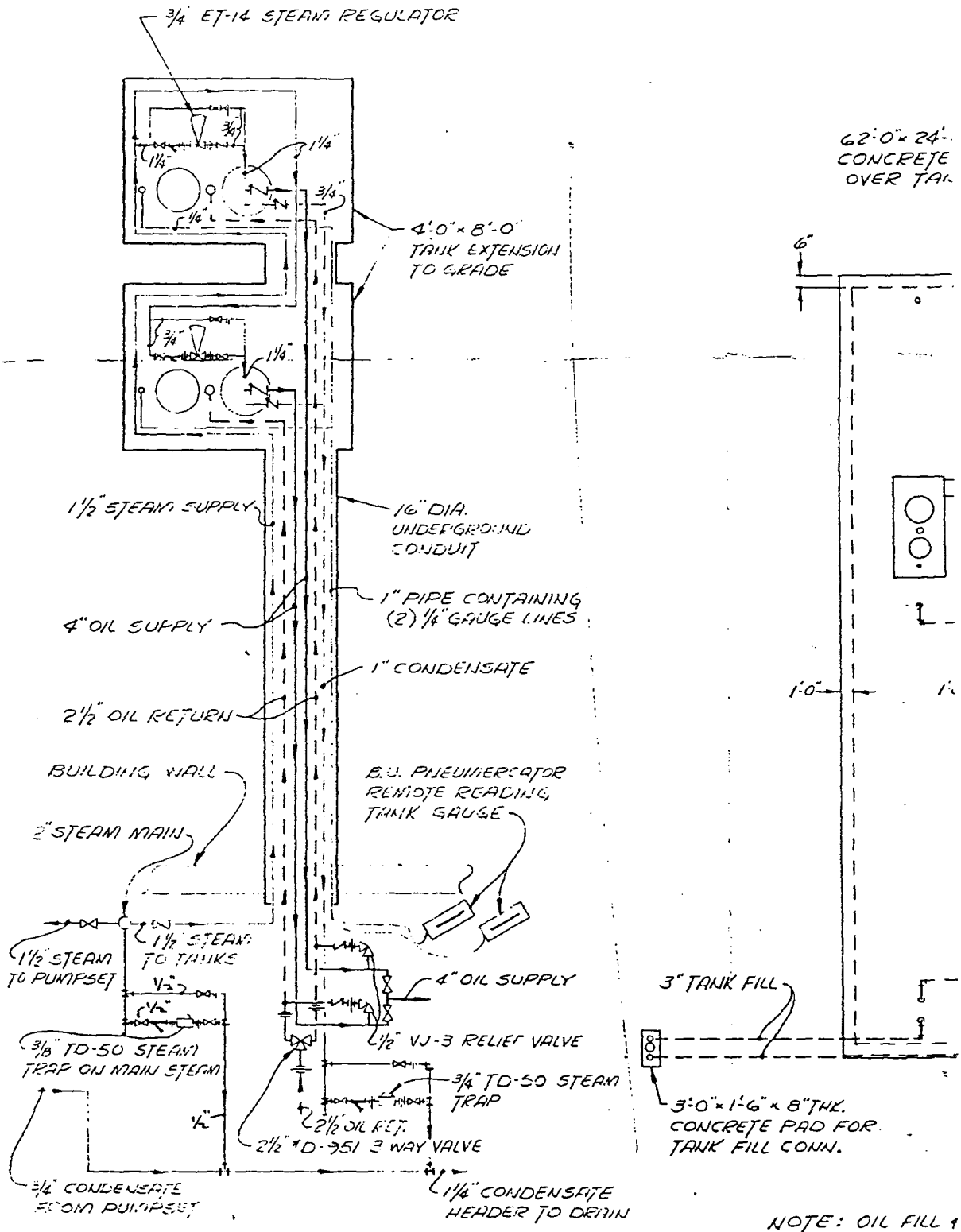
FIG. 2

#6 Fuel Oil Storage

A. Two 40 Thousand Gallon Underground #6 Fuel Oil Tanks
B. Drawing attached
C. Steel
D. Employee required to stand by during filling
E. Over flow pipe - see drawings
F. Top, pump to Power Plant on to million gallon tank
G. Tar coating
H. From tanker, employee must stand by
   Drain off to boiler semi-automatic
I. See drawing
J. See drawings

11'-6"

ELEVATION
SCALE 1/4"=1'-0"

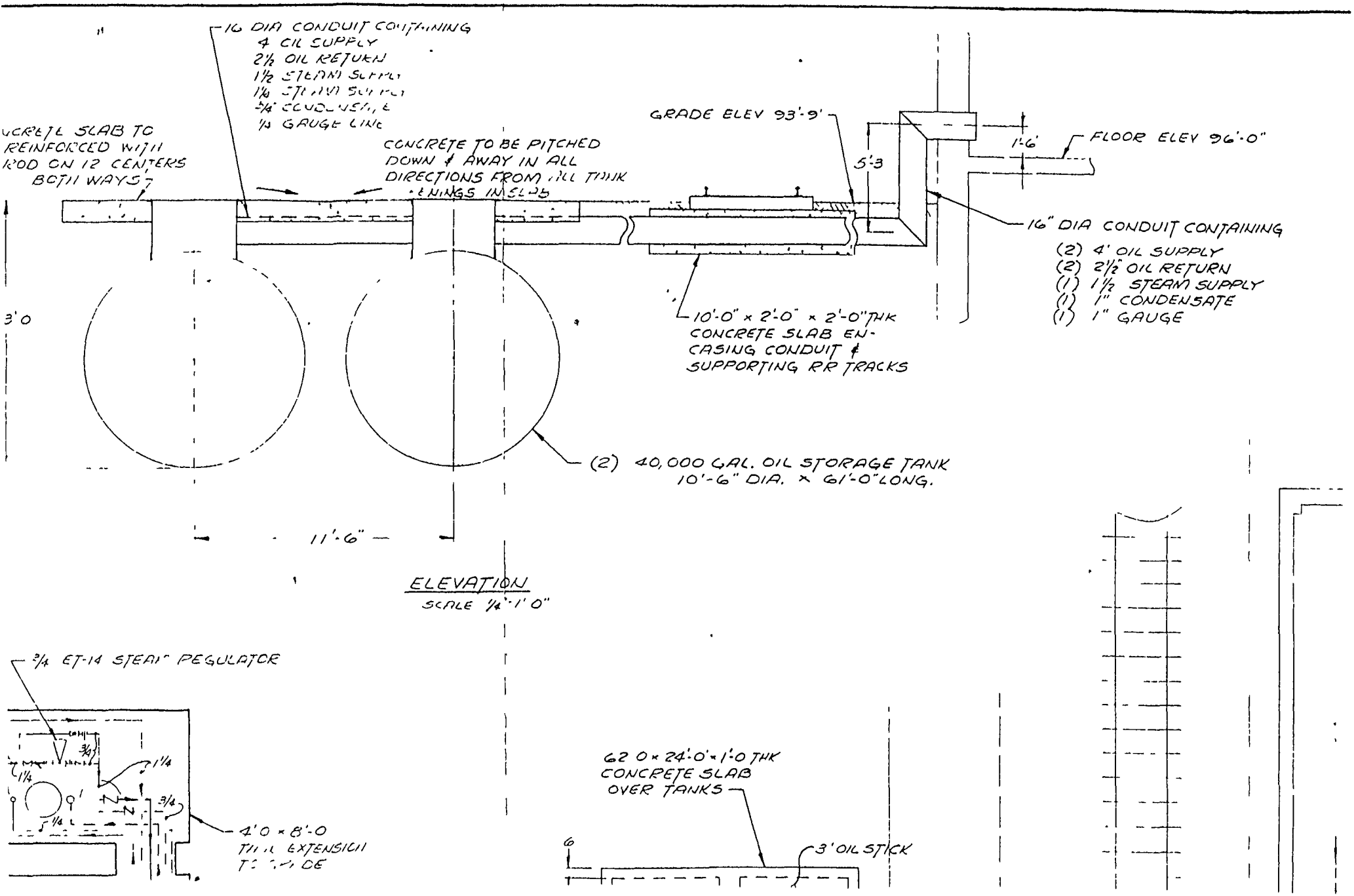


NOTE: OIL FILL
PIPING TO
BLACK SEA
WITH ONE C
BITUMAST

SCHEMATIC PIPING DIAGRAM
FROM BUILDING TO OIL TANKS

MIDWESCO ENTERPRISE INC.

ARCHITECT
ENGINEER



ELEVATION

SCALE 1/4"-1'0"

Latex Storage

A. Two latex tanks 5,600 gallon and 4,000 gallon tanks
B. See drawing
C. Steel
D. None, employee present during filling and unloading
E. Over flow pipes
F. Man holes
G. Coated
H. See drawings
I. Steel
J. Above grade

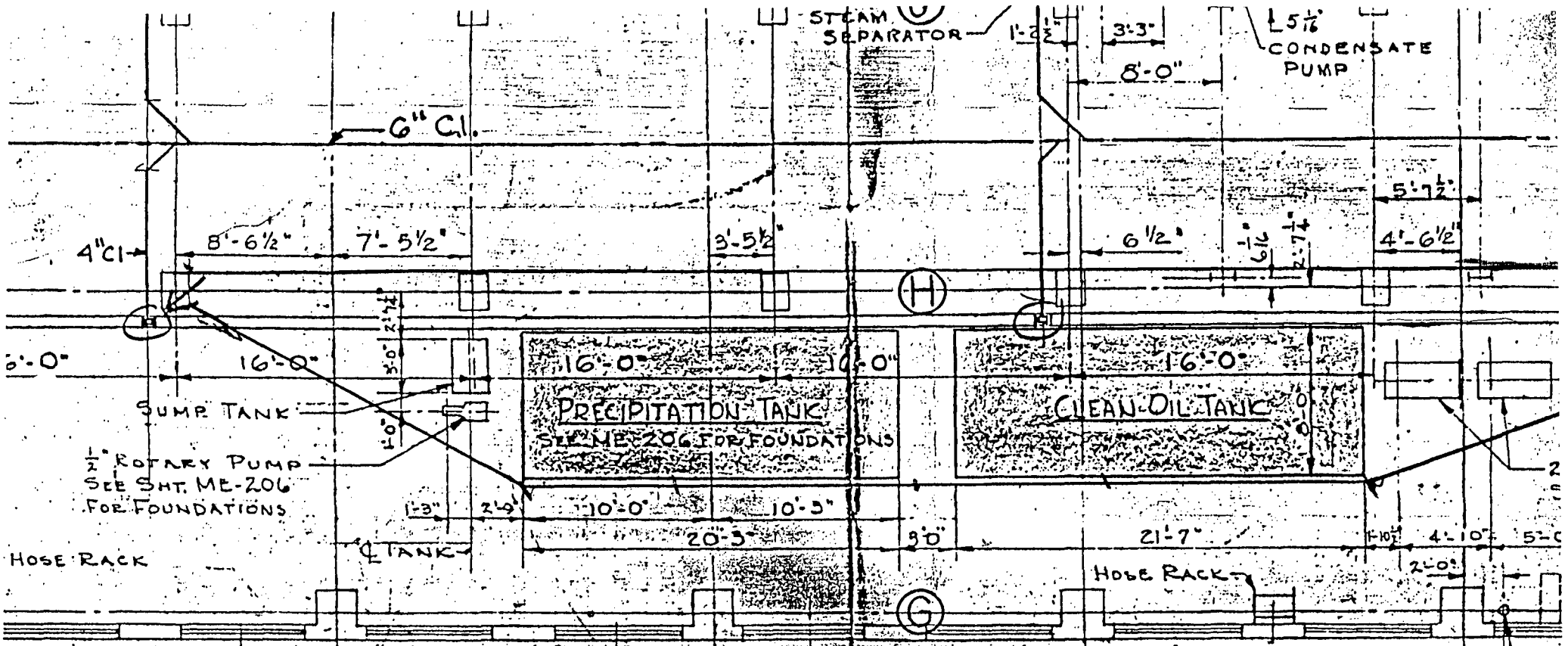
PLAN VIEW

Fig. 4

Dryer Bearing Oils

In compliance with your P.I.P.P. check list the following information is given under section III:

A. 8x19x6 and 8x17x6, volume of approximately 10,000 gallons
B. Supplied in drawing
C. Steel
D. High and low level alarms
E. None
F. Maintenance lids on top of tanks
G. Rust resistant exterior paint
H. Oil hand pumped into and out of tanks
I. Steel
J. Level ground floor



NEW C-WALL
NEW STEEL

MILL

FIG. IV

PLAN

PROPOSED NE
FOR CONTAI

EXISTING
AND PI

BEARING O

PLUGGED D

15°

4"

(CURB DETAIL)

Fig. 6

Save Alls
Waste Treatment

In compliance with your P.I.P.P. check list the following information is given under section III:

A. Supplied in drawing
B. Supplied in drawing
C. Tile-plated concrete
D. None
E. None
F. Drain location on drawing
G. None
H. Filling-water pumped from machine filler pit.
Draw off-running save alls, white water pumped out and reused, reclaimed stock pumped back into system, clarified water pumped to sewer.
I. None
J. Level ground floor

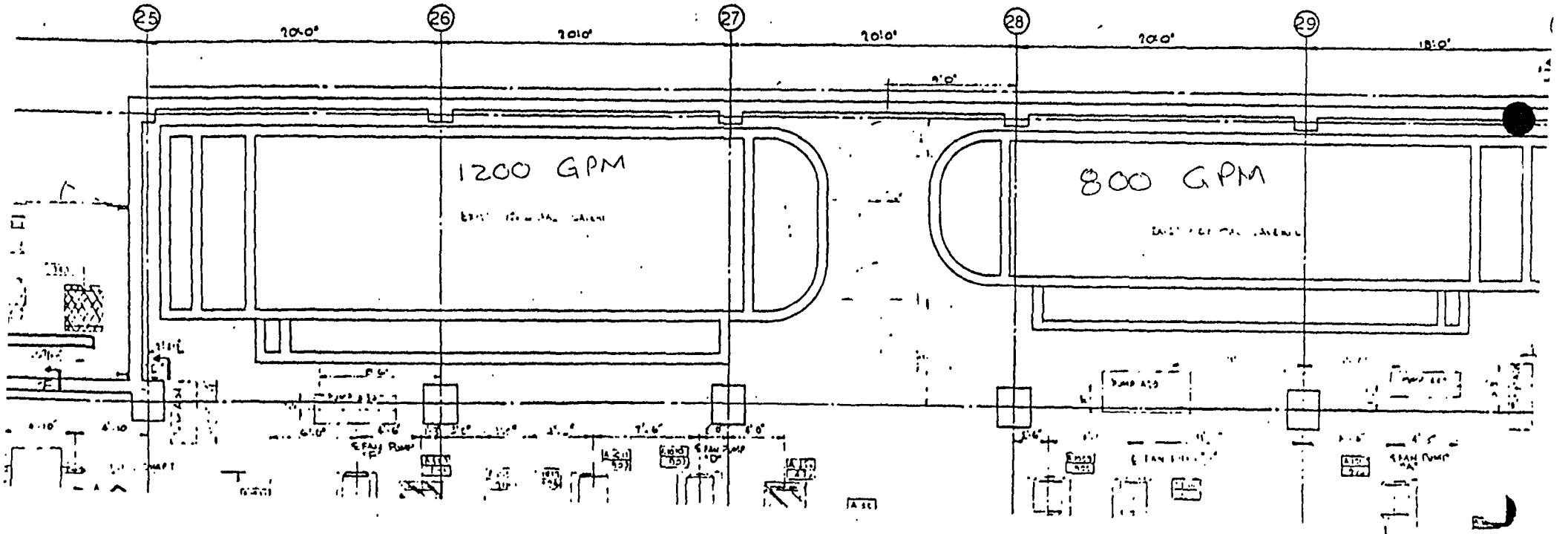


FIG 5

Fig. 5

General Storage

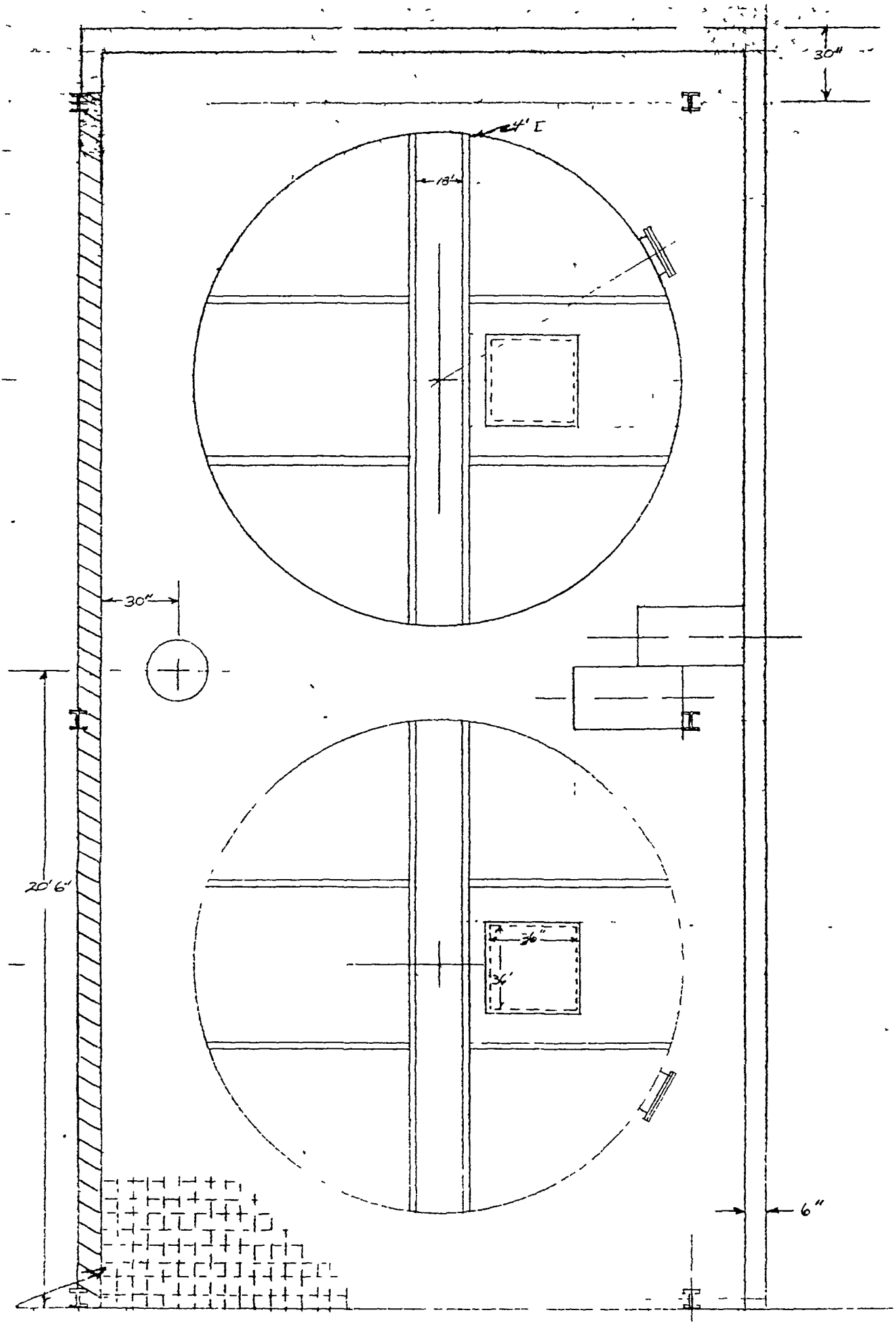
A. Storage of paper chemicals in bag and 55 gallon drum
B. Site - this is an area that material used in the process are stored. The area was chosen for several reasons, one of which is that it has no drain.
Clean up is manual.
C. Steel, fiber, and pallized material
D. Visual employee in area at all times
E. None
F. No drains in area
G. High turn over
H. Does not apply
I. Open to building roof
J. Ground elevation

Clay Slurry

Fig. 7

7A. Storage of water base clay slurry. Two tank 36,000 gallon total
B. See drawing attached
C. Stainless steel
D. None
E. Total dyked, relief on top
F. Bottom outlet and man hole
G. None
H. Employee manually controls unloading
I. Stainless steel
J. On grade

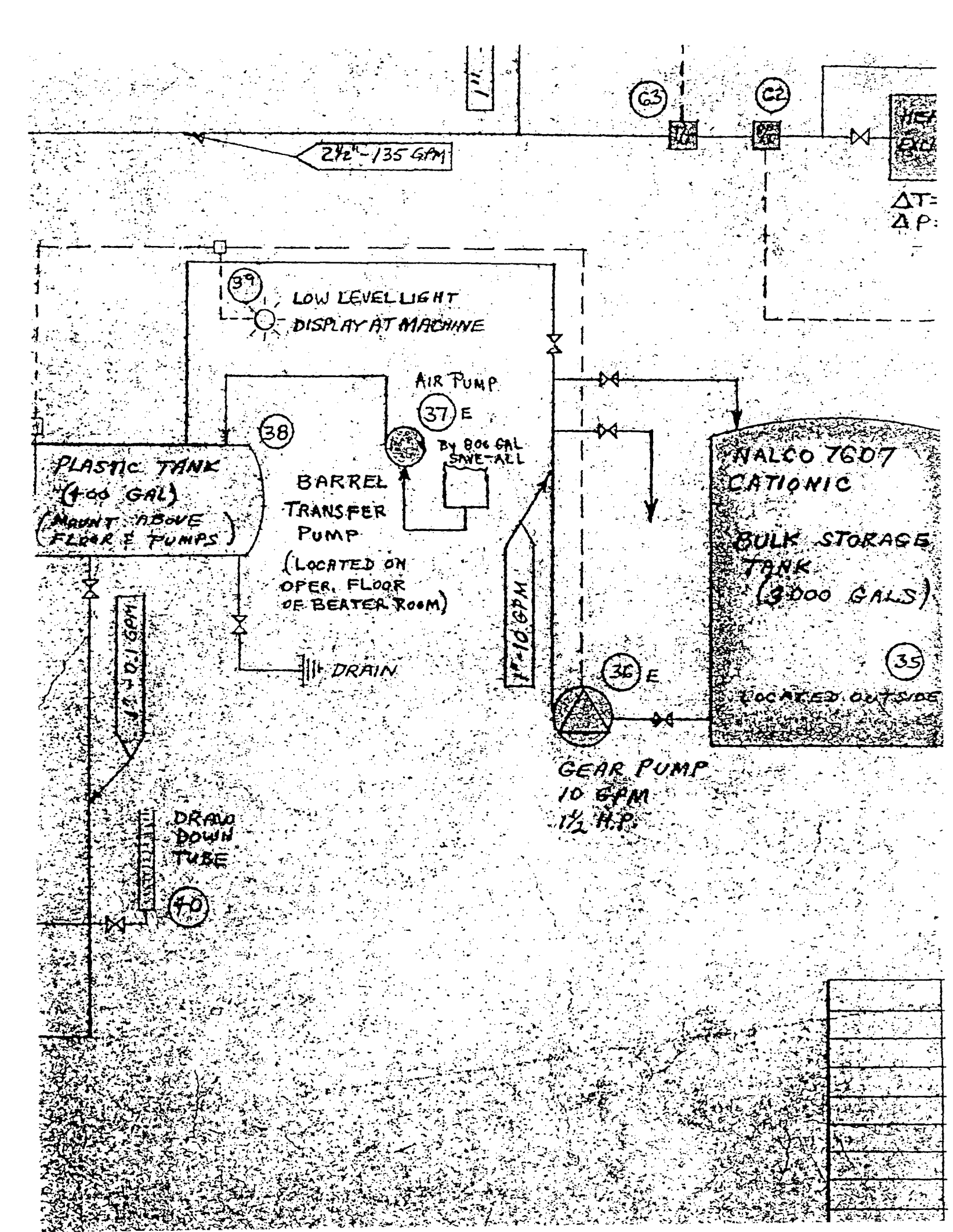
4"
18" M.H.
A-A
SCALE 1/2" = 1'
SUMP WILL TAKE A 55 GAL DRUM
20'6"
41'1/2"
11"

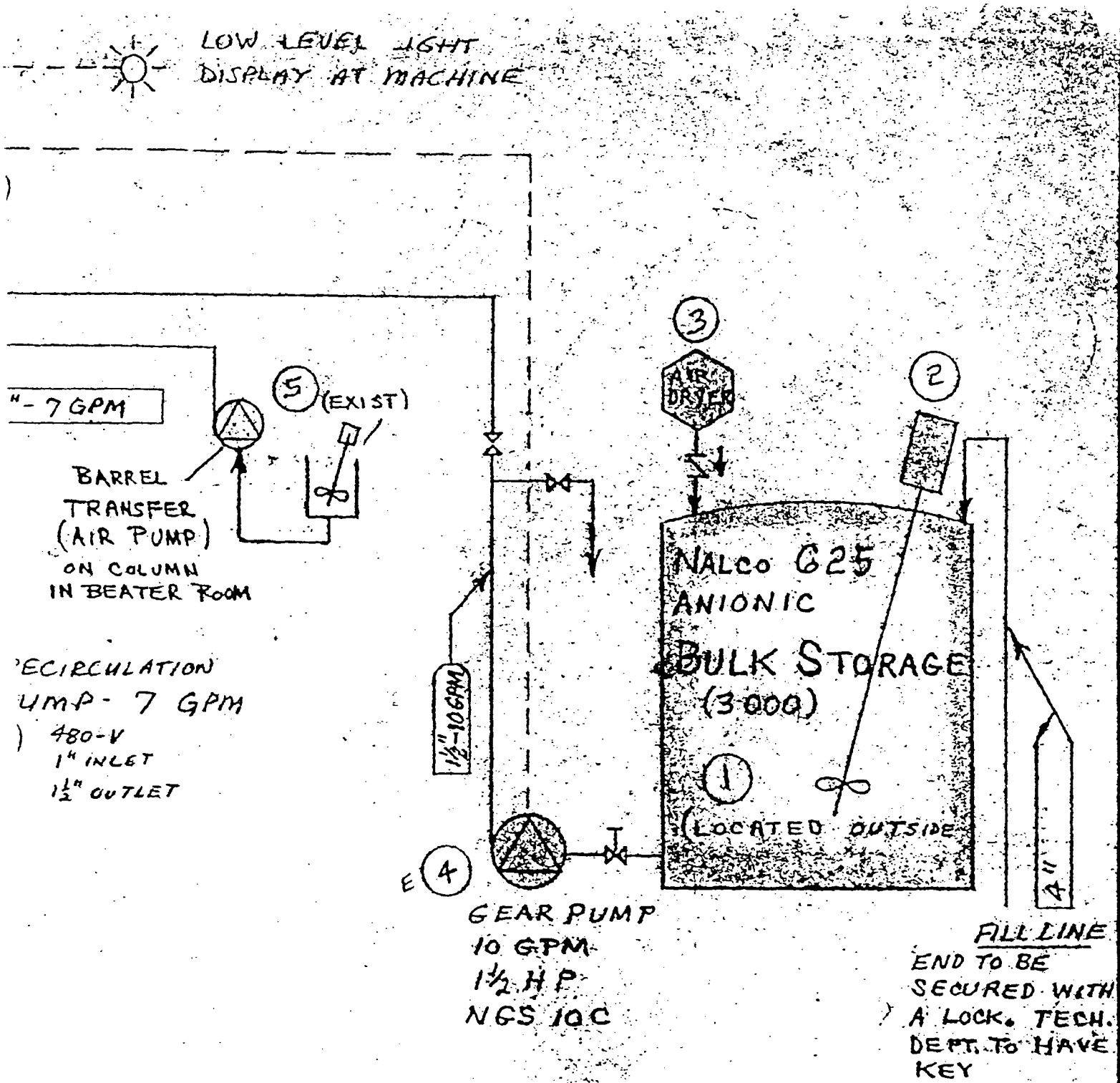

30"
4' I
18"
30"
20'6"
36"
36"
6"

Bulk Polymer Storage

Fig. 8

A. Two tanks, 6,000 gallon total
B. See drawings
C. FRP
D. Electrical alarm
E. City sewer system to remove
F. Bottom outlet, and man hole
G. FRP
H. Assist machine tender at location during filling, during drain off, system semi-automatic, lights at machine tender both indicate action
I. FRP
J. On grade


1"
G3
C2
2½" - 135 GPM
ΔT=
ΔP:
39
LOW LEVEL LIGHT
DISPLAY AT MACHINE
AIR PUMP
37 E
38
BY 800 GAL SAVE-ALL
PLASTIC TANK
(400 GAL)
(MOUNT ABOVE FLOOR & PUMPS)
BARREL TRANSFER PUMP
(LOCATED ON OPER. FLOOR OF BEATER ROOM)
NALCO 7607 CATIONIC
BULK STORAGE TANK
(3000 GALS)
1" - 10 GPM
DRAIN
36 E
35
LOCATED OUTSIDE
GEAR PUMP
10 GPM
1½ H.P.
1" O.D. - 10 GPM
DRAW DOWN TUBE
40


LOW LEVEL LIGHT
DISPLAY AT MACHINE
"- 7 GPM
5
(EXIST)
BARREL
TRANSFER
(AIR PUMP)
ON COLUMN
IN BEATER ROOM
ECIRCULATION
UMP - 7 GPM
480-V
1" INLET
1½" OUTLET
3
AIR DRYER
2
NALCO G25
ANIONIC
BULK STORAGE
(3000)
1
(LOCATED OUTSIDE
1½"-10 GPM
E
4
GEAR PUMP
10 GPM
1½ HP
NGS 10C
4"
FILL LINE
END TO BE
SECURED WITH
A LOCK. TECH.
DEPT. TO HAVE
KEY

Angel Street Mill: Please refer to Fig. 8 (attached)

A. Substation #1 contains the following transformer:

General Electric 750 KVA
Serial Number 8113528
Containing 380 gallons of Pyranol
The transformer is contained in a curbed area.

B. Substation #2 contains the following transformers:

1. Westinghouse 1000 KVA
Serial Number 7026594
Containing 240 gallons of Interteen

2. General Electric 1000 KVA
Serial Number 8113530
Containing 434 gallons of Pyranol

3. General Electric 300 KVA
Serial Number 8037218
Containing 209 gallons of Pyranol

4. General Electric 1000 KVA
Serial Number 8113527
Containing 434 gallons of Pyranol

The area surrounding these transformers is caged and curbed.

ST REGIS PAPER COMPANY — FIBER DIVISION

ENGINEERING CALCULATIONS

SHEET No.

DATE | PLANT | OF

DESCRIPTION OF JOB	DEPARTMENT	JOB ORDER No.

SUBJECT	CALCULATIONS BY

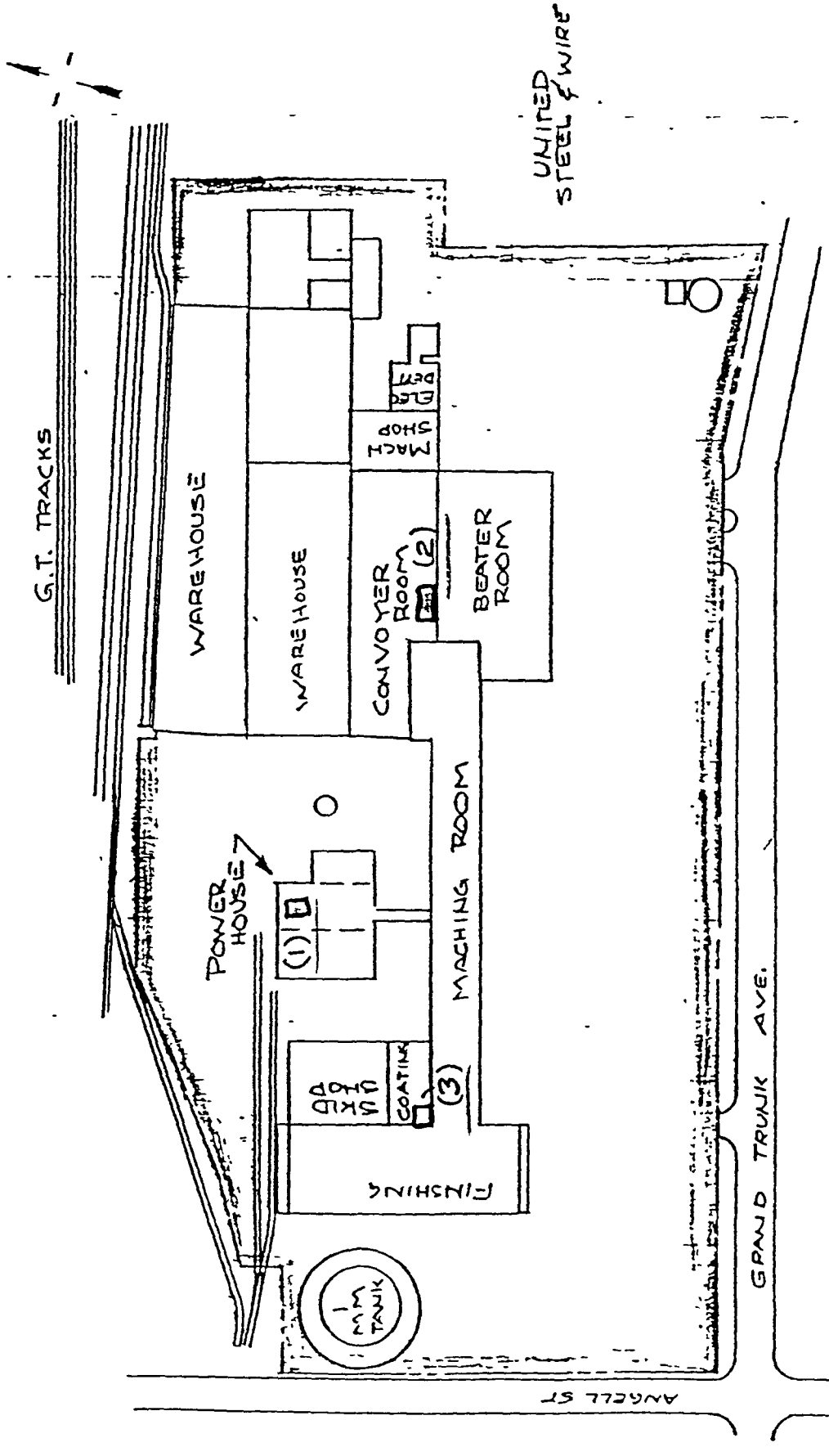


FIG. VII PLAN VIEW OF PCB SUBSTATION LOCATIONS ANGEL MILL

C. On the floor directly above substation #2 is a series of approximately twelve high voltage disconnects. They contain between five and ten gallons of transformer oil each. The area is curbed.

D. Substation #3 contains the following transformers:

1. General Electric 750 KVA
   Serial Number 8113529
   Containing 380 gallons of Pyranol

2. General Electric 200 KVA
   Serial Number 8037219
   Containing 115 gallons of Pyranol

   The substation is caged and curbed.

E. A copy of the PCB label used on the above equipment is included along with the procedure for PCB clean-up.

For disposal contact:

U.S. EPA Office of Toxic Substances
Phone: 1-800-424-9065

or:

Michigan DNR Office of Hazardous Waste Management
Phone: 517-373-2730

F. The following sites are available for PCB disposal:

Rollins
Deer Park, Texas
Open March 4, 1981 for liquid PCB incineration
Phone: 713-479-60001

or:

Ensco
Eldorado, Arkansas
Open March, 1981 for liquid and solid disposal
Phone: 501-863-7173

Security

Plant manned from 7 p.m. to 7 a.m. Their charge is to make routine rounds of perimeter to insure unauthorized personnel are not on the grounds. To detect fire, water, or other incidents such as spills that could cause a loss to the location.

CITY OF BATTLE CREEK, MICHIGAN

WASTEWATER DIVISION

OFFICE OF THE SUPERINTENDENT

2000 W. River Road

(616) 966-3513

Battle Creek, MI 49015

INDUSTRIAL USER DISCHARGE AUTHORIZATION APPLICATION FORM

SECTION ONE - GENERAL INFORMATION

1. Facility Name: Rock-Tenn Company

   a. Operator Name: SAME

   b. Is the operator identified in 1a, the owner of the facility ? yes [X] no ( )
   If no, provide the name and address of the owner.

   _____

   _____

   _____

2. Facility Address:

   Street: 177 Angell Street

   City: Battle Creek State: MI

   Zip: 49015-1958

3. Business Mailing Address:

   Street: SAME

   City: _____ State: _____

   Zip: _____

4. Designated signatory authority of the facility:
   (Attach similar information for each authorized representative)

   Name: Bud Kurtz

   Title: Sr. V.P. & General Manager

   Address: SAME

   City: _____ State: _____

   Zip: _____

5: Designated facility contact:

Name: Robert J. Pavlovic

Title: Sr. Process Engineer

Phone #: (616) 969-7215 ext. _____

SECTION TWO - BUSINESS ACTIVITY

1. If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply).

( ) Aluminum Forming
( ) Asbestos Manufacturing
( ) Battery Manufacturing
( ) Can Making
( ) Carbon Black
( ) Coal Mining
( ) Coil Coating
( ) Copper Forming
( ) Electric and Electronic Components Manufacturing
( ) Electroplating
( ) Feedlots
( ) Fertilizer Manufacturing
( ) Foundries (Metal Molding and Casting)
( ) Glass Manufacturing
( ) Grain Mills
( ) Inorganic Chemicals
( ) Iron and Steel
( ) Leather Tanning and Finishing
( ) Metal Finishing
( ) Nonferrous Metals Forming
( ) Organic Chemicals Manufacturing
( ) Paint and Ink Formulating
( ) Paving and Roofing Manufacturing
( ) Pesticides Manufacturing
( ) Petroleum Refining
( ) Pharmaceutical
( ) Plastic and Synthetic Materials Manufacturing
( ) Plastics Processing Manufacturing
( ) Porcelain Enamel
(✓) Pulp, Paper, and Fiberboard Manufacturing
( ) Rubber
( ) Soap and Detergent Manufacturing
( ) Steam Electric
( ) Sugar Processing
( ) Textile Mills
( ) Timber Products

A facility with processes inclusive in these business areas may be covered by Environmental Protection Agency's categorical pretreatment standards. These facilities are termed "categorical users".

2. Give a brief description of all operations at this facility including primary products or services.

Manufacture of 100% Recycled Paperboard.

3. Indicate applicable Standard Industrial Classification (SIC) for all processes

a: 2631 d: _____

b: _____ e: _____

c: _____ f: _____

4. Product Volume:

Product Name:	Production Amounts per day Average	Maximum	Daily Unit
Recycled Paperboard	350	450	Tons/day

SECTION THREE - WATER SUPPLY

1. Water Sources: (Check as many as are applicable)

( ) Private Well
(✓) Surface Water
(✓) Municipal Water (specify city) Battle Creek
( ) Other (specify) _____

2. Name on the water bill:

Name: Rock-Tenn Company

Street: Same

City: _____ State: _____ Zip: _____

3. Water service account number: See Attachment C

4. List average water usage on premises:
(New facilities may estimate)

	average (gpd)
a. Contact cooling water	NA
b. Non-contact cooling water*	200,000
c. Boiler Feed	20,000
d. Process	350,000
e. Sanitary	NA
f. Air Pollution Control	NA
g. Contained in product	50,000
h. Irrigation and lawn watering	NA
i. Other	
j. Total of a-i	620,000

* NPDES Permit Number, if applicable: MI0029386

SECTION FOUR - SEWER INFORMATION

1. a. For an existing business:

Is the building presently connected to the public sanitary sewer system ?

(✓) Yes: Sanitary Sewer account no. NA
( ) No: Have you applied for a sanitary sewer hookup ? ( ) yes ( ) no

b. For a new business:

Will you be occupying an existing vacant building (such as an industrial park) ? ( ) yes ( ) no

Have you applied for a building permit if a new facility will be constructed ? ( ) yes ( ) no

Will you be connected to the public sanitary sewer system ? ( ) yes ( ) no

2. List size, descriptive location, and flow of each facility sewer which connects to the City's sewer system. (If more than three, attach additional information on another sheet.)

Sewer Size	Descriptive Location	GPD Avg. Flow
_____	Middle North End of Property	350,000
_____	_____	_____
_____	_____	_____

SECTION FIVE - WASTEWATER DISCHARGE INFORMATION

1. Does (or will) this facility discharge any wastewater other than from restrooms to the City sewer ?

(✓) Yes If the answer to this question is "yes", complete the remainder of the application.

( ) No If the answer to this question is "no", skip to Section Nine.

2. Provide the following information on wastewater flow rate. (New facilities may estimate)

a. Hours/Day discharged (e.g. 8 hours/day)

M 24 T 24 W 24 TH 24 F 24 SAT 24 SUN 24

b. Hours of Discharge (e.g. 9 a.m. to 5 p.m.)

M See Part A F _____

T _____ SAT _____

W _____ SUN _____

TH _____

c. Peak hourly flow rate (GPD) 2500

d. Maximum daily flow rate (GPD) 2500

e. Annual daily average (GPD) 350,000

3. If batch discharge occurs or will occur, indicate: (New facilities may estimate)

a. Number of batch discharges NA per day

b. Average discharge per batch _____ (GPD)

c. Time of batch discharges _____ at _____
(days of week) (hrs of day)

d. Flow Rate _____ gallons/minute

e. Percent of total discharge _____

4. Schematic Flow Diagram - NA

Facilities that checked activities in question 1 of Section Two are considered Categorical Industrial Users and should skip to question 6.

5. For Non-Categorical Users Only: List average wastewater discharge, maximum discharge, and type of discharge (batch, continuous, or both), for each plant process. (New facilities should provide estimates for each discharge).

Process Description	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)

ANSWER QUESTIONS 6 & 7 ONLY IF YOU ARE SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

6. For Categorical Users: Provide the wastewater discharge flows for each of your processes or proposed processes. (New facilities should provide estimates for each discharge).

Regulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)
Paperboard Manufacturer	500	2500	Continuous

Unregulated Process	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)
NA			

Dilution	Average Flow gpd	Maximum Flow gpd	Type of Discharge (batch, continuous)
NA			

7. For Categorical Users subject to Total Toxic Organic (TTO) requirements

Provide the following (TTO) information.

a. Does (or will) this facility use any of the toxic organics that are listed under the TTO standard of the applicable categorical pretreatment standards published by the EPA ?

(✓) yes ( ) no

b. Has a baseline monitoring report (BMR) been submitted which contains TTO information ?

( ) yes (✓) no

c. Has a toxic organics management plan (TOMP) been developed ? If yes, please attach a copy.

( ) yes (✓) no

8. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility ?

Current:	Flow Metering	(✓)	yes	( )	no	( ) n/a
	Sampling Equipment	(✓)	yes	( )	no	( ) n/a
Planned:	Flow Metering	( )	yes	( )	no	( ) n/a
	Sampling Equipment	( )	yes	( )	no	( ) n/a

If so, please indicate the present or future location of this equipment on the sewer schematic.

9. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics ? Consider production processes as well as air or water pollution treatment processes that may affect the discharge.

( ) yes (✓) no, (skip question 1Ø)

1Ø. Briefly describe these changes and their effects on the wastewater volume and characteristics: (Attach additional sheets if needed.)

_____

_____

_____

_____

_____

_____

_____

11. Are any materials or water reclamation systems in use or planned ?

(✓) yes ( ) no, (skip question 12)

12. Briefly describe recovery process, substance recovered, percent recovered, and the concentration in the spent solution. Submit a flow diagram for each process: (Attach additional sheets if needed.)

Wastewater will be passed through a screening device before discharge to recover suspended solids.

Flow diagram is not available at this time.

SECTION SIX - CHARACTERISTICS OF DISCHARGE

Current Users:

If your facility is currently providing self-monitoring data to the City, skip to Section Seven. (If additional data or monitoring is being implemented, which has not been submitted to the City, it must be attached.)

New Users:

New dischargers should attach any data which is pertinent or available from facilities with similar processes.

SECTION SEVEN - TREATMENT

1. Is any form of wastewater treatment (see list below) practiced at this facility ?

(✓) yes ( ) no

2. Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years ?

(✓) yes, Describe Additional screening & Possible Reuse of water
( ) no

3. Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate).

(✓) Air flotation
( ) Centrifuge
( ) Chemical precipitation
( ) Chlorination
( ) Cyclone
( ) Filtration
( ) Flow equalization
( ) Grease or oil separation, type:_____
( ) Grease trap
( ) Grinding filter
( ) Grit removal
( ) Ion exchange
( ) Neutralization, pH correction
( ) Ozonation
(✓) Reverse osmosis
(✓) Screen
( ) Sedimentation
( ) Septic tank
( ) Solvent separation
( ) Spill protection
( ) Sump
( ) Biological treatment, type:_____
( ) Rainwater diversion or storage
( ) Other chemical treatment, type:_____
( ) Other physical treatment, type:_____
( ) Other, type:_____

4. Description

Describe the pollutant loading, flow rates, design capacity, physical size, and operating procedures of each treatment facility checked above.

N/A

5. Attach a process flow diagram for each existing treatment system. Include process equipment, by-products, by-product disposal method, waste and by-product volumes, and design and operating conditions.

N/A

6. Describe any changes in treatment or disposal methods planned or under construction for the wastewater discharge to the sanitary sewer. Include estimated completion dates.

N/A

7. Do you have a treatment operator ? ( ) yes (✓) no

(if yes,) Name:_____
Title:_____
Phone:_____

8. Do you have a manual on the correct operation of your treatment equipment ?

(✓) yes ( ) no

9. Do you have a written maintenance schedule for your treatment equipment ?

(✓) yes ( ) no

SECTION EIGHT - FACILITY OPERATIONS

1. Shift Information

Work Days	(✓) Mon	(✓) Tues	(✓) Wed	(✓) Thur	(✓) Fri	(✓) Sat	(✓) Sun
Shifts per work day:	3	3	3	3	3	3	3
Empl's per shift: 1st	118						
2nd	30						
3rd	30						

1st shift starts at: 7 AM ends at 3 pm
2nd shift starts at: 3 pm ends at 11 pm
3rd shift starts at: 11 pm ends at 7 AM

2. Indicate whether the facility discharge is:

(✓) Continuous, during work hours
( ) Batch or intermittent

3. List types and amounts (mass or volume per day) of raw materials used or planned for use (attach list if needed)

See Attachment "A" for Chemicals

Waste Paper - 130,000 tons/year

Usage is Proprietary

4. List each substance from Appendix A which is contained in any materials used or stored and could be present in your facilities wastewater discharge. (List by the number from Appendix A rather than by name.)

5. List each substance from Appendix A which is contained in any materials used or stored. (List by the number from Appendix A rather than by name.)

139					
149					

6. Building Layout - Draw the location of each building on the premises. Show map orientation and location of all water meters, storm sewers, and each facility sewer line connected to the public sewers. Show unit processes in respect to drains and overflows. Specify sampling locations situated outside the building.

SEE ATTACHMENT B

SECTION NINE - SPILL PREVENTION

1. Do you have chemical storage containers, bins, or ponds at your facility ? (✓) yes ( ) no

   If yes, please give a description of their location, contents, size, type and frequency and method of cleaning. Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain.
   See ATTACHMENT A

2. Do you have floor drains in your manufacturing or chemical storage area(s) ? (✓) yes ( ) no
   If yes; where do they discharge to ?
   B.C. City WASTEWATER & Some Reused in System

3. If you have chemical storage containers, bins, or ponds in a manufacturing area, could an accidental spill lead to a discharge to: (check all that apply.)

   ( ) an onsite disposal system
   (✓) public sanitary sewer system (e.g. floor drain)
   ( ) storm drain
   ( ) to ground
   ( ) other, specify _____
   ( ) not applicable, no possible discharge to any of the above routes.

4. Do you have an accidental spill prevention plan (ASPP) to prevent spills of chemicals or slug discharges from entering the City's collection system ?

   (✓) yes - Enclose a copy with this application
   ( ) no
   ( ) not applicable since there are no floor drains and/or the facility discharges only domestic waste

SECTION TEN - NON-DISCHARGED WASTES

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system ?

   (✓) yes, please describe below
   ( ) no, skip the remainder of Section Ten.

Waste Generated	Quantity (per year)	Disposal Method
WASTEPAPER/WASTEWATER SCREEN Rejects	NA	Landfill off Site

Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of on-site.

2. If an outside firm removes any of the above checked wastes, state the name(s) and address(es) of all waste haulers:

a. WASTE MANAGEMENT

Permit No. NA

b. _____

Permit No. _____

SECTION ELEVEN - AUTHORIZED SIGNATURES

Compliance certification:

1. Are all applicable Federal, State, or City pretreatment standards and requirements being met on a consistent basis ?

( ) yes (✓) no ( ) Not yet discharging

2. If No:

a. What additional operations and maintenance procedures are being considered to bring the facility into compliance ? Also, list additional treatment practices being considered in order to bring the facility into compliance. Recycling WASTE WATER STREAM

b. Provide a schedule for bringing the facility into compliance. Specify major events planned along with reasonable completion dates. (These dates are subject to approval by the City of Battle Creek)

Event or Activity	Completion Date
• 1997 - Closed up System (Recycled water)	• Reduced Flow to City Significantly Documented Earlier in this permit.
• 1998/1999	• Implement New Brine Storage/water Storage tanks - 200,000 gal Tank - 250,000 gal Brine Tank

Authorized Representative Statement:

The information contained in this application is familiar to me and to the best of my knowledge and belief, such information is true, accurate and complete.

Robert J. Pavlovic	Sr. Process Engineer	
Name (please print)	Title	
Robert J Pavlovic	4-12-99	(616) 969-7715
Signature	Date	Phone No.

ROCK-TENN COMPANY
BATTLE CREEK MILL

Attachment A

The following 3 pages list chemicals which could be stored in any part of the mill, excluding those which are in tanks. Non are in proximity to storm drains but many can be in proximity to sewer drains.

177 ANGELL STREET • BATTLE CREEK, MI 49015-1958 • 616 963-5511 • FAX 616 969-7166

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PRODUCT	
Name	**Units**
Latex	bulk
TiO2	bulk
TiO2	55# bags
Starch 270P	2000# bags
Starch 270P	50# bags
Procote 300	50# bags
Rhoplex TT935	*semi-bulk*
AZCote 5800M	semi-bulk
Foamaster DF122	semi-bulk
Ammonia Hydroxide	semi-bulk
Elvanol	50# bags
Hercon 70	semi-bulk
Hercon 79	semi-bulk
Clay Car	bulk
South Clay Tank	bulk
North Clay Tank	bulk
MBS	semi-bulk
Bleach	bulk
Foamaster VFS	semi-bulk
Alkasolv BP	semi-bulk
Procote 550	44# bags

PRODUCT	
Name	**Units**
PerForm PA8230	1300# bags
PerForm PA8230	50# bags
PerForm PE8951	bulk(951996)
PerForm PC8695	semi-bulk
Protocol CB2000	semi-bulk
Protocol WB8000	semi-bulk
Spectrum RX3600	semi-bulk
Spectrum RX6800	semi-bulk
Spectrum RX6800	POF(952389)
Spectrum RX4700	semi-bulk
Presstige FB8520	semi-bulk
Presstige FB9050	semi-bulk
Daraspray FP5500	semi-bulk
Renew SC7160	semi-bulk
AR-696	semi-bulk
Presstige FB9090	pails

PRODUCT	
Name	**Units**
Callaway 4330ULV	bulk
Callaway 4015	bulk
Discotech P5003	semi-bulk
Discotech P5164	semi-bulk
Biocide BX-10	semi-bulk
Callaway 4823LS	semi-bulk
Callaway P5188	semi-bulk
Callaway FC P5144	semi-bulk
Callaway BC P5192	semi-bulk
Callaway P5233	semi-bulk
Callaway P5228	semi-bulk
Discotech P5246	semi-bulk
Callaway 4015	semi-bulk
Callaway 911	semi-bulk

CITY OF BATTLE CREEK/WATER DIVISION					
ACCT#	SERV	FROM	TO	$	
300101600		2/18/99	3/19/99	$24.45	
300101700	WATER	2/18/99	3/19/99	$6.25	
300101700	SEWER	2/18/99	3/19/99	$2.00	
300101800		2/18/99	3/19/99	$220.80	
300101900	WATER	2/18/99	3/19/99	$413.28	
300101900	SEWER	2/18/99	3/19/99	$940.60	
300102000		2/18/99	3/19/99	$6.41	
300102100	WATER	2/18/99	3/19/99	$664.90	
	SEWER	2/18/99	3/19/99	$1,438.30	
300102300	7/5/88	NOT OUR METER			
300102900		2/18/99	2/18/99	$201.15	
700101800		2/15/99	3/15/99	$12.00	
700100200		2/15/99	3/15/99	$22.00	
700108100		2/15/99	3/15/99	$12.00	
				$3,964.14	
PLEASE MAIL STUBS WITH CHECK					
VENDOR#	INV#	DATE	ACCT#	TOTAL $	
383603	MarWater99	2/15/99	7410	$3,964.14	

Our Copies

OK to Pay
Steve Wens

RECEIVED APR 9 1999

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
3ØA	1,1,1-trichloroethane
3ØD	1,1,2,2-tetrachloroethane
143	1,1,2-trichloroethane
3ØB	1,1-dichloroethane
54A	1,1-dichloroethylene
93	1,2(methylenedioxy)-4-propenyl benzene
27B	1,2,4-trichlorobenzene
27C	1,2-dichlorobenzene
53	1,2-dichloroethane
55B	1,2-dichloropropane
54B	1,2-trans-dichloroethylene
56	1,2:3,4-diepoxybutane
27D	1,3-dichlorobenzene
55A	1,3-dichloropropylene; (1,3-dichloropropene)
129	1,3-propane Sultone
27E	1,4-dichlorobenzene
66	1,4-dioxane
98	1,5-naphthalenediamine
39	1-(4-chlorophenyl)-3, 3-dimethyl triazene
14	1-amino-2-methylanthraquin
33	1-chloro-2,3-epoxypropane
95	1-methylnaphthalene
99	1-naphthylamine
184	2(p-tert-butylphenoxy)-isopropyl-2-chloroethyl sulfite
67	2,3-epoxy-1-propanal
146	2,4,5-trimethylaniline
45	2,4-diaminoanisole sulfate
47	2,4-diaminotoluene
32C	2,4-dichlorophenol
6Ø	2,4-dimethylphenol
62	2,4-dinitrophenol
63	2,4-dinitrotoluene
64A	2,6-dinitrotoluene
76	2-(2-formylhydrazino)-4-(5-nitro-2-furthiazole)
4	2-acetylaminofluorene
9	2-aminoanthraquinone
34A	2-chloroethyl Vinyl Ether (mixed)
31A	2-chloronaphthalene
32A	2-chlorophenol
96	2-methyl-1-nitroanthraquinone
1ØØ	2-naphthylamine
1Ø6	2-nitrophenol
52	3,3-dichlorobensidine salts
51	3,3-dichlorobenzidine
128A	3,4-benzofluoranthene
38	3-(chloromethyl)pyridine hydrochloride
13	3-amino-9-ethylcarbazole
225B	4,4'-DDD; (p,p'-TDE)
225A	4,4'-DDE; (p,p'-DDE)
137	4,4'-thiodianiline
46	4,4-diaminodiphenyl ether
91	4,4-methylenebis(2-methylaniline)

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
92	4,4-methylenebis(N,N-dimethylaniline)
61	4,6-dinitor-o-cresol
12	4-aminobiphenyl
175	4-aminopyridine
77B	4-bromophenyl Phenyl Ether
4Ø	4-chloro-m-phenylenediamine
41	4-chloro-o-pheylenediamine
77A	4-chlorophenyl Phenyl Ether
58	4-dimethylaminoazobenzene
1Ø4	4-nitrobiphenyl
1Ø7	4-nitrophenol
43	5-chloro-o-toluidine
1Ø2	5-nitro-o-anisidine
1Ø1	5-nitroacenaphthene
131	5-propyl-1,3-benzodioxole
222A	A-BHC-Alpha
2	Acenaphthene
128D	Acenaphthylene
3	Acetone Cyanohydrin
167	Acids, inorganic
1	Acids, organic
5	Acrolein
6	Acrylic Acid
7	Acrylonitrile
173	Aldicarb
174	Aldrin
8	Allyl Chloride
1Ø	Aminoazobenzene
15	Aminotriazole (amitrole)
176	Anilazine
16	Aniline
17	Aniline Hydrochloride
128E	Anthracene
15Ø	Antimony
177	Antimycin A
151	Arsenic
172	Asbestos (fibrous)
178	Azinphos-ethyl
179	Azinphos-methyl
222B	B-BHC-Beta
13Ø	B-proplolactone
18Ø	Barban
181	Bendiocarb
182	Benomyl
128B	Benxo(k) fluoranthane; (11,12-benzofluoranthene)
2Ø	Benz(a)anthracene
21	Benzene
22	Benzidine
23	Benzidine Salts
24	Benzo(a)pyrene
128F	Benzo(ghi)perylene; (1,12-benzoperylene)
152	Beryllium

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
77C	Bis(2-chloroethoxy)methane
35	Bis(2-chloroethyl)ether
37	Bis(2-chloromethyl)ether
73	Bis(2-ethylhexyl)phthalate
78D	Bromoform; (tribromomethane)
183	Bromoxynil
25	Brucine
124A	Butyl Benzyl Phthalate
153	Cadmium
185	Captafol
186	Captan
187	Carbaryl
188	Carbofuran
26	Carbon Tetrachloride
189	Carbophenothion
168	Chloramines
19Ø	Chlordane
191	Chlordecone
192	Chlorfenvinphos
27	Chlorinated Benzenes
28	Chlorinated Dibenzofurans
29	Chlorinated Dioxins
3Ø	Chlorinated Ethanes
31	Chlorinated Phenols
32	Chlorinated Phenols
169	Chlorine
34	Chloroalkyl Ethers
27A	Chlorobenzene
193	Chlorobenzilate
78H	Chlorodibromomethane
3ØC	Chloroethane
36	Chloroform
42	Chloroprene
194	Chlorpyrifos
154	Chromium
128C	Chrysene
195	Clonitralid
155	Cobalt
156	Copper
196	Coumaphos
197	Crotoxyphos
157	Cyanides
198	Cycloheximide
199	DDT
2ØØ	Demeton
5Ø	Di-n-butyl phthalate
65	Di-n-octyl phthalate
2Ø1	Diallate
2Ø2	Diazinon
48	Dibenz(a,h)anthracene
2Ø3	Dibromochloropropane (DBCP)
2Ø4	Dichlone

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
78E	Dichlorobromomethane
78G	Dichlorodifluoromethane
54	Dichloroethylenes
55	Dichloropropane and Dichloropropene
2Ø5	Dichlorvos
2Ø6	Dichrotophos
2Ø7	Dieldrin
124B	Diethyl Phthalate
57	Diethyl Sulfate
2Ø8	Dimethoate
124C	Dimethyl Phthalate
59	Dimethylhydrazines
2Ø9	Dinocap
21Ø	Dinoseb
64	Dintrotoluene
211	Dioxathion
212	Disulfoton
215	EPN
213	Endosulfan
226A	Endosulfan Sulfate
214	Endrin
227A	Endrin Aldehyde
216	Ethion
68	Ethylbenzene
69	Ethylene Dibromide
71	Ethylene Oxide
72	Ethylene Thiourea
7Ø	Ethyleneimine
74	Ethylmethanesulfonate
217	Fensulfothion
218	Fenthion
219	Fluchloralin
75	Fluoranthene
128G	Fluorene
222C	G-BHC-Delta
77	Haloethers
78	Halomethanes
22Ø	Heptachlor
221	Heptachlor Epoxide
228A	Heptachlor Epoxide
79	Hexachlorobenzene (HCB)
8Ø	Hexachlorobutadiene
81	Hexachlorocyclohexane
82	Hexachlorocyclopentadiene
83	Hexachloroethane
17Ø	Hydrazine
84	Hydrazobenzene
171	Hydrogen Sulfide
85	Hydroquinone
158	Hypochlorite
128I	Indeno(1,2,3-cd)pyrene; (2,3-O-phenylenepyrene)
222	Isomers of hexachlorocyclohexane

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
87	Isophorone
88	Lactonitrite
159	Lead
223	Leptophos
16Ø	Lithium
89	Malachite Green
224	Malathion
161	Mercury
225	Metabolites of DDT
226	Metabolites of Endosulfan
227	Metabolites of Endrin
228	Metabolites of Heptachlor
229	Methomyl
23Ø	Methoxychlor
78C	Methyl Bromide; (bromomethane)
78B	Methyl Chloride; (chloromethane)
94	Methyl Hydrazine
231	Methyl Mercaptan
232	Methyl Parathion
78A	Methylene Chloride; (dichloromethane)
9Ø	Methylenebis(2-chloroaniline)
233	Mevinphos
234	Mexacarbate
235	Mirex
236	Monocrotophos
97	Mustard Gas
86	N-(2-hydroxyethyl)ethyleneimine
1Ø8B	N-nitrosadi-n-propylamine
113	N-nitroso-N-ethylurea
114	N-nitroso-N-methylurea
115	N-nitroso-N-methylurethane
118	N-nitroso-N-phenylhydroxyl-amine, ammonium salt
1Ø9	N-nitroso-n-butyl-N-(4-hydroxybutyl) amine
11Ø	N-nitrosodiethylamine
111	N-nitrosodimethylamine
1Ø8A	N-nitrosodiphenylamine
116	N-nitrosomethylvinylamine
117	N-nitrosomorpholine
119	N-nitrososarcosine
237	Naled
128K	Naphthalene
162	Nickel
238	Nicotine
1Ø3	Nitrobenzene
239	Nitrofen
1Ø5	Nitrogen Mustard
1Ø8	Nitrosamines
11	O-aminoazotoluene
18	O-anisidine
19	O-anisidine hydrochloride
14Ø	O-toluidine
141	O-toluidine Hydrochloride

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
24Ø	Oxydemeton-methyl
44	P-cresidine
112	P-nitrosodiphenylamine
32B	Parachlorometa-cresol
241	Paraquat
242	Parathion
12Ø	Pentachloronitrobenzene
121	Pentachlorophenol
122	Peroxyacetic Acid
128H	Phenathrene
123	Phenol
243	Phorate
244	Phosazetim
245	Phosmet
246	Phosphamidon
124	Phthalate Esters
125	Piperonyl Sulfoxide
126	Polybrominated Biphenyls (PBB)
127	Polychlorinated Biphenyls (PCB)
128	Polynuclear Aromatic Hydrocarbons
132	Propyleneimine
128J	Pyrene
247	Rotenone
163	Selenium
133	Semicarbazide
164	Silver
248	Silvex, Propylene Glycolbutyl Ether Ester
249	Sodium Fluoracetate
25Ø	Strychnine
134	Styrene
251	Sulfallate
252	Sulfotepp
253	TDE
254	TEPP
255	Terbufos
135	Tetrachloroethylene; (perchloroethylene)
256	Tetrachlorvinphos
165	Thallium
136	Thioacetamide
138	Thiourea
257	Thiram
139	Toluene
258	Toxaphene
142	Triaryl Phosphate Esters
259	Trichlorfon
144	Trichloroethylene
78F	Trichlorofluoromethane
145	Trichlorophenols
26Ø	Trichlorophenoxyacetic Acid (2,4,5-T)
261	Triflualin
147	Trimethylphosphate
49	Tris(dibromopropyl)phosphate

EPA Priority Pollutant Master List

Item Code #	Pollutant Name:
148	Vinylchloride
149	Xylene
166	Zinc
262	Ziram

INDUSTRIAL USER DISCHARGE AUTHORIZATION
APPLICATION FORM

SECTION ONE – GENERAL INFORMATION

1. Facility Name: Rock-Tenn Company

   a. Operator Name: Same

   b. Is the operator identified in 1a, the owner of the facility? Yes (X) No ( )
   If no, provide the name and address of the owner.

   _____

   _____

   _____

2. Facility Address:

   Street: 177 Angell Street

   City: Battle Creek State: MI

   Zip: 49015-1958

3. Business Mailing Address:

   Street: Same

   City: _____ State: _____

   Zip: _____

4. Designated signatory authority of the facility:
   (Attach similar information for each authorized representative)

   Name: Bud Kurtz

   Title: SR VP & General Manager

   Address: Same

   City: _____ State: _____

   Zip: _____

5. Designated Facility Contact:

Name: Lowell L. Knapp

Title: Sr. Process Engineer/Environmental Coord.

Phone #: (616) 969-7218 ext. _____

SECTION TWO – BUSINESS ACTIVITY

1. If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply).

( ) Aluminum Forming
( ) Asbestos Manufacturing
( ) Battery Manufacturing
( ) Can Making
( ) Carbon Black
( ) Coal Mining
( ) Coil Coating
( ) Copper Forming
( ) Electric and Electrical Components Manufacturing
( ) Electroplating
( ) Feedlots
( ) Fertilizer Manufacturing
( ) Foundries (Metal Molding and Casting)
( ) Glass Manufacturing
( ) Grain Mills
( ) Inorganic Chemicals
( ) Iron and Steel
( ) Leather Tanning and Finishing
( ) Metal Finishing
( ) Nonferrous Metals Forming
( ) Organic Chemicals Manufacturing
( ) Paint and Ink Formulating
( ) Paving and Roofing Manufacturing
( ) Pesticides Manufacturing
( ) Petroleum Refining
( ) Pharmaceutical
( ) Plastic and Synthetic Materials Manufacturing
( ) Plastics Processing Manufacturing
( ) Porcelain Enamel
(X) Pulp, Paper, and Fiberboard Manufacturing
( ) Rubber
( ) Soap and Detergent Manufacturing
( ) Steam Electric
( ) Sugar Processing
( ) Textile Mills
( ) Timber Products

A facility with processes inclusive in these business areas may be covered by Environmental Protection Agency's categorical pretreatment standards. These facilities are termed " Categorical Users".

2. Give a brief description of all operations at this facility including primary products or services.

Manufacture of 100% Recycled Paperboard

3. Indicate applicable Standard Industrial Classification (SIC) for all Processes.

a: 2631 d:_____

b:_____ e:_____

c:_____ f:_____

4. Product Volume:

Product Name:	Production Amounts per Day Average	Maximum	Daily Unit
Recycled Paperboard	350	500	Tons/Day

SECTION THREE – WATER SUPPLY

1. Water Sources: (Check as many as are applicable)

( ) Private Well
(X) Surface Water
(X) Municipal Water (specify city) Battle Creek
( ) Other (specify) _____

2. Name on the water bill:

Name: Rock-Tenn Company

Street: 177 Angell Street

City: Battle Creek State MI Zip: 49015-1958

3. Water service account number: See Attachment "A"

4. List average water usage on premises:
(New facilities may estimate)

	Average (gpd)
a. Contact cooling water	N/A
b. Non-contact cooling water	400,000
c. Boiler feed	20,000
d. Process	350,000
e. Sanitary	N/A
f. Air pollution control	N/A
g. Contained in product	6,500
h. Irrigation and lawn watering	N/A
i. Other (Evaporation)	100,000
j. Total of a – j	876,500

NPDES Permit Number, if applicable: MI0029386

SECTION FOUR – SEWER INFORMATION

1. a. For an existing business:

Is the building presently connected to the public sanitary sewer system?

(X) Yes: Sanitary sewer account number See Attachment "A"
( ) No: Have you applied for a sanitary sewer hookup? ( ) Yes ( ) No

b. For a new business:

Will you be occupying an existing vacant building (such as an industrial park)?
( ) Yes ( ) No

Have you applied for a building permit if a new facility will be constructed?
( ) Yes ( ) No

Will you be connected to the public sanitary sewer system?
( ) Yes ( ) No

2. List size, descriptive location, and flow of each facility sewer which connects to the City's sewer system. (If more than three, attach additional information on another sheet.)

Sewer Size	Descriptive Location	Average Flow (GPD)
_____	Middle North End of Property	350,000
_____	_____	_____
_____	_____	_____

SECTION FIVE – WASTEWATER DISCHARGE INFORMATION

1. Does (or will) this facility discharge any wastewater other than from restrooms to the City sewer?

(X) Yes If the answer to this question is "yes" complete the remainder of the application.

( ) No If the answer to this question is "no", skip to Section Nine.

2. Provide the following information on wastewater flow rate. (New facilities may estimate)

a. Hours/Day discharged (e.g. 8 hours /day)

M 24 T 24 W 24 Th 24 F 24 Sat 24 Sun 24

b. Hours of Discharge (e.g. 9a.m. to 5p.m.)

M See Part A F _____

T _____ Sat _____

W _____ Sun _____

Th _____

c. Peak hourly flow rate (GPD) 2,500,000

d. Maximum daily flow rate (GPD) 2,500,000

e. Annual daily average (GPD) 350,000

3. If batch discharge occurs or will occur, indicate:
(New facilities may estimate)

a. Number of batch discharges NA per day

b. Average discharge per batch _____ (GPD)

c. Time of batch discharges _____ at _____
(days of week) (hours of day)

d. Flow rate _____ gallons/minute

e. Percent of total discharge _____

4. Schematic Flow Diagram – N/A

Facilities that checked activities in question 1 Section Two are considered Categorical Industrial Users and should skip to question 6.

5. For Non-categorical Users Only: List average wastewater discharge, maximum discharge, And type of discharge (batch, continuous, or both), for each plant process. (New facilities should provide estimates for each discharge).

Process Description	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)

ANSWER QUESTIONS 6 & 7 ONLY IF YOU ARE SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

6. For Categorical Users: Provide the wastewater discharge flows for each of your processes or proposed processes. (New facilities should provide estimates for each discharge).

Regulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)
Paperboard Manufacture	350,000	2,500,000	Continuous

Unregulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)
N/A			

Dilution	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)
N/A			

7. For Categorical Users subject to Total Toxic Organic (TTO) requirements:

Provide the following (TTO) information.

a. Does (or will) this facility use any of the toxic organics that are listed under the TTO standard of the applicable categorical pretreatment standards published by the EPA?

(X) Yes ( ) No

b. Has a baseline monitoring report (BMR) been submitted which contains TTO information?

( ) Yes (X) No

c. Has a toxic organics management plan (TOMP) been developed? If yes, please attach a copy.

( ) Yes (X) No

8. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current: Flow Metering	(X) Yes	( ) No	( ) N/A
Sampling Equipment	(X) Yes	( ) No	( ) N/A
Planned: Flow Metering	( ) Yes	( ) No	( ) N/A
Sampling Equipment	( ) Yes	( ) No	( ) N/A

If so, please indicate the present or future location of this equipment on the sewer schematic.

9. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics? Consider production processes as well as air or water pollution treatment processes that may affect the discharge.

( ) Yes (X) No, (skip question 10)

10. Briefly describe these changes and their effects on the wastewater volume and characteristics: (Attach additional sheets if needed.)

11 Are any materials or water reclamation systems in use or planned?
(X) Yes ( ) No, (skip question 12)

12 Briefly describe recovery process, substance recovered, percent recovered, and the concentration in the spent solution. Submit a flow diagram for each process (Attach additional sheets if needed)

Wastewater is passed through a screening device before discharge to recover suspended solids.

Flow diagram is not available at this time.

We recycle as much wastewater and recover/reuse as much fiber as possible before discharge to POTW.

SECTION SIX – CHARACTERISTICS OF DISCHARGE

Current Users:

If your facility is currently providing self-monitoring data to the City, skip to Section Seven. (If additional data or monitoring is being implemented, which has not been submitted to the City, it must be attached)

New Users:

New dischargers should attach any data that is pertinent or available from facilities with similar processes.

SECTION SEVEN – TREATMENT

1. Is any form of wastewater treatment (see list below) practiced at this facility?

(X) Yes ( ) No

2. Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years?

( ) Yes, Describe _____
(X) No

3. Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate).

(X) Air flotation
( ) Centrifuge
( ) Chemical precipitation
( ) Chlorination
( ) Cyclone
( ) Filtration
( ) Flow equalization
( ) Grease or oil separation, type: _____
( ) Grease trap
( ) Grinding filter
( ) Grit removal
( ) Ion exchange
( ) Neutralization, pH correction
( ) Ozonation
( ) Reverse osmosis
(X) Screen
( ) Sedimentation
( ) Septic tank
( ) Solvent protection
( ) Sump
( ) Biological treatment, type:_____
( ) Rainwater diversion or storage
( ) Other chemical treatment, type: _____
( ) Other physical treatment, type: _____
( ) Other, type: _____

4. Description

Describe the pollutant loading, flow rates, design capacity, physical size, and operating procedures of each treatment facility checked above.

NA

5. Attach a process flow diagram for each existing treatment system. Include process equipment, by-products, by-product disposal method, waste and by-product volumes, and design and operating conditions. NA

6. Describe any changes in treatment or disposal methods planned or under construction for the wastewater discharge to the sanitary sewer. Include estimated completion dates.

NA

7. Do you have a treatment operator? ( ) Yes (X) No

(if Yes,) Name: _____
Title: _____
Phone: _____

8. Do you have a manual on the correct operation of your treatment equipment?

(X) Yes ( ) No

9. Do you have a written maintenance schedule for your treatment equipment?

(X) Yes ( ) No

SECTION EIGHT – FACILITY OPERATIONS

1. Shift Information

Work Days	(X) Mon	(X) Tues	(X) Wed	(X) Thur	(X) Fri	(X) Sat	(X) Sun
Shifts Per work Day:	3	3	3	3	3	3	3
Empl's Per Shift: 1st	80	80	80	80	80	80	80
2nd	29	29	29	29	29	29	29
3rd	29	29	29	29	29	29	29

1st shift starts at: 7 AM ends at 3 PM
2nd shift starts at: 3 PM ends at 11 PM
3rd shift starts at: 11 PM ends at 7 AM

2. Indicate whether the facility discharge is:

(X) Continuous, during work hours
( ) Batch or intermittent

3. List types and amounts (mass or volume per day) of raw materials used or planned for use (attach list if needed).

See Attachment "B" for Chemicals
Wastepaper (Recycled Fiber) - 130,000 Tons/Year
Usage is Proprietary

4. List each substance from Appendix A is contained in any materials used or stored and could be present in your facilities wastewater discharge. (List by the number from Appendix A rather than by name.)

5. List each substance from Appendix A which is contained in any materials used or stored. (List by the number from Appendix A rather than by name.)

27E	156	71	128K	135	149
66	78G	85	162	139	166
154	68	78A	134	78F	

6. Building Layout – Draw the location of each building on the premises. Show map orientation and location of all water meters, storm sewers, and each facility sewer line connected to the public sewers. Show unit processes in respect to drains and overflows. Specify sampling locations situated outside the building.

City already has this information on file.

SECTION NINE – SPILL PREVENTION

1. Do you have chemical storage containers, bins, or ponds at your facility?
(X) Yes ( ) No

If yes, please give a description of their location, contents, size, type and frequency and method of cleaning. Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain.

2. Do you have floor drains in your manufacturing or chemical storage area(s)?
(X) Yes ( ) No

If yes; where do they discharge to? _____
_____

3. If you have chemical storage containers, bins, or ponds in a manufacturing area, could an accidental spill lead to a discharge to: (check all that apply.)

( ) an onsite disposal system
(X) public sanitary sewer system (e.g. floor drain)
( ) storm drain
( ) to ground
( ) other, specify _____
( ) not applicable, no possible discharge to any of the above routes.

4. Do you have an accidental spill prevention plan ~~(ASPP)~~ SPCC to prevent spills of chemicals or slug discharges from entering the City's collection system?

(X) Yes – Enclose a copy with this application
( ) No
( ) not applicable since there are no floor drains and/or the facility discharges only domestic waste

SECTION TEN – NON-DISCHARGE WASTES

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system?

(X) Yes, please describe below.
( ) No, skip the remainder of Section Ten.

Waste Generated	Quantity (per year)	Disposal Method
Wastepaper & Wastewater Screen rejects	10,000 Tons/Year	Landfill off Site

Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of on-site.

2. If an outside firm removes any of the above checked wastes, state the name(s) and address(es) of all waste haulers:

a. Waste Management Inc. b. _____

Permit No. NA Permit No. _____

SECTION ELEVEN – AUTHORIZED SIGNATURES

Compliance certification:

1. Are all applicable Federal, State or City pretreatment standards and requirements being met on a consistent basis?

(X) Yes ( ) No ( ) Not yet discharging

2. If No:

a. What additional operations and maintenance procedures are being considered to bring the facility into compliance? Also, list additional treatment practices being considered in order to bring the facility into compliance.

b. Provide a schedule for bringing the facility into compliance. Specify major events planned along with reasonable completion dates. (These dates are subject to approval by the City of Battle Creek)

Event or Activity	Completion Date

Authorized Representative Statement:

The information contained in this application is familiar to me and to the best of my knowledge and belief, such information is true, accurate and complete.

Lowell L. Knapp	Sr. Proc. Engr. / Envir. Coord.
Name (please print)	Title
Lowell L. Knapp	5-1-02
Signature	Date

616-969-7218
Phone Number

Attachment A

CITY OF BATTLE CREEK/WATER DIVISION

ACCT429	ACCT#	SERV	FROM	TO
Meter 1	300101600			
Meter 2	300101700	SEWER		
Meter 2	300101700	WATER		
Meter 3	300101800			
Meter 4	300101900	SEWER		
Meter 4	300101900	WATER		
Meter 5	300102000			
Meter 6	300102100	SEWER		
Meter 6	300102100	WATER		
Meter 7	700101800			
Acct43001				
Meter 1	300102900			
Acct43183				
Meter 1	700100200			
Acct43186				
Meter 1	700108100			

Attachment B

The chemicals listed below could be stored in any part of the mill, excluding those which are in bulk tanks. None are in proximity to storm drains, but many can be in proximity to sewer drains.

PRODUCT	
Name	Units
WET END	
TiO2	55# bags
Hercon 79	semi-bulk
Kaofill Clay	50# bags
MBS 7330	semi-bulk
Sodium Hypochlorite	bulk
Polymin SKA	semi-bulk
Callaway 4015	bulk
Callaway 4330LV	bulk
Biocide BX-10	semi-bulk
Stickies Passivator A141	semi-bulk
Callaway A153	semi-bulk
Callaway 4330	semi-bulk
Callaway 4823LV5	semi-bulk
Callaway BC P5192	semi-bulk
Callaway P5181	semi-bulk
Callaway P5188	semi-bulk
Callaway P5228	semi-bulk
Discotech P5243	semi-bulk
Discotech P5246	semi-bulk
ChemTreat CT-709	semi-bulk
HERCULES	
Presstige FB9090	pails
POWERHOUSE	
Alum Sulfate Liq, Acid	bulk
ChemTreat B-120	drums
ChemTreat BL-197	drums
ChemTreat BL-1544	bulk
ChemTreat BL-1102	bulk
ChemTreat CT-708	semi-bulk
ChemTreat CL-16	drums
Caustic	drums
Salt	bulk
ChemTreat P-813	drums
#2 Fuel Oil	bulk
COATING	
Latex-Dow PB6620	bulk
TiO2	bulk
Starch PG-270P	2000# bags
Starch PG-270P	50# bags
Rhoplex TT-935	semi-bulk
AZCote 5800M	semi-bulk
Foamaster DF122	semi-bulk
Ammonium Hydroxide	semi-bulk
Hercon 70	semi-bulk
Kaoprint Clay (tons)	bulk
Lopaque Clay (tons)	bulk
Alkasolv BP	semi-bulk
Procote 550	44# bags
Elvanol	50# bags
Callaway BX-20	semi-bulk
Callaway BX-150	bulk
Discotech P5179L	semi-bulk
ChemTreat CL-2150	semi-bulk

PROFESSIONAL ENGINEER CERTIFICATION

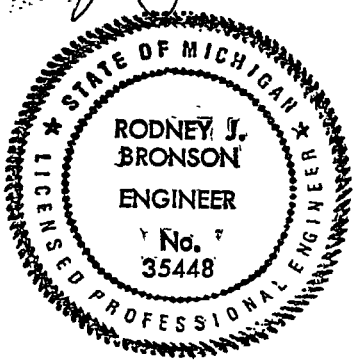
SPCC PLAN
ROCK-TENN COMPANY
Battle Creek Mill

I have reviewed the SPCC Plan for the Rock-Tenn Company's Battle Creek Mill site and after examining the facility, I attest that this document has been prepared in accordance with good engineering practices and that it appears to comply with the requirements of the Clean Water Act (CWA) in accordance with 40 CFR 112.

This certification does not relieve the Rock-Tenn Company of their responsibility to fully implement the plan in accordance with the guidelines of section 112.7

Signed: Rodney J. Bronson Date: 9-18-01

Rodney J. Bronson, P.E.



SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN

For

Rock-Tenn Company
177 Angell Street
Battle Creek, Michigan 49015-1958

Revised 8-31-01

This plan has been reviewed and updated to meet the requirements of the Clean Water Act (CWA) in accordance with 40 CFR 112.

Introduction:

This plan provides a description and location of the facility's oil related materials, and other materials stored on site which have the potential to cause pollution to surface waters if they are inadvertently released.

Following each description are the precautions and procedures taken to prevent spills. The pollution prevention measures and source controls outlined in this plan are presented as Structural and Non-Structural Best Management Plans as required by the Storm Water Pollution Prevention Plan.

General Spill and Emergency Prevention Measures:

The facility is manned 24 hours a day by a security staff. Their charge is to make routine rounds of the perimeter to insure unauthorized personnel are not on the grounds and to detect incidents such as spills or fires that could cause a pollution incident. The facility is fully fenced.

Although not secure, the locations of all material storage areas are considered confidential to minimize tampering and vandalism.

Material Safety Data Sheets (MSDS) for all chemicals are available on-site and a Hazard Communication Program is in place according to OSHA regulations.

Rock-Tenn Company personnel periodically inspect the condition of all tanks, drums, totebins, and other containers with oil related materials and chemicals. All containers are clearly labeled with signs describing their contents, the proper personal protective equipment required for handling, and hazard identification (HMIS).

The Battle Creek, Michigan, mill of Rock-Tenn Company is a PCB free facility.

All spills will be immediately reported to the SERC as required. Within 10 days a formal written report outlining its cause, discovery, response, and clean-up will be submitted.

Rock-Tenn's Emergency Response Coordinator information is listed in the facility's Emergency Response Plan.

Inspection Procedures:

Once a month the buildings, grounds, storage tanks, totebins, drums, other containers, and related process equipment (lines, fittings, & valves) will be visually inspected for leaks, spills, corrosion, damage, and proper labeling, etc. Where visual inspections reveal a potential tank integrity problem, additional analysis and non-destructive testing will be performed. Spill kits will also be inspected for completeness. The Environmental Coordinator will maintain the log sheets of the monthly inspections (see attachment 1).

Locations, Descriptions, and Best Management Practices for Materials

1. Description:

One 38,000-gallon aboveground storage tank for #2 or #6 fuel oil is located on the north side of the mill near the powerhouse.

Best Management Practice:

Structural:

A. The unloading hose connections are designed with a containment system to collect incidental spillage.
B. The tank is located on a concrete surface inside a concrete containment dike with a containment volume of 43,750 gallons providing a freeboard of 4 inches for precipitation.
C. The containment dike is equipped with a rainwater collection system, which keeps any oil from reaching the storm system. An oil detection device shuts down the collection system in the event of a spill or leak.
D. All tank construction materials are compatible with fuel oil.

Non-Structural:

A. All transfers will be monitored by both the hauler and Rock-Tenn personnel.
B. Rock-Tenn personnel will continuously monitor the fuel oil transfer equipment when in use.
C. Appropriate Rock-Tenn personnel will be trained in the prevention, identification, and response of oil spills.
D. Emergency spill equipment is located in the powerhouse.
E. In case of an uncontained spill at the transfer point, all near-by storm drains will be sealed to prevent pollution of any surface water.
F. Response to or cleaning up of any spill would be done by an industrial waste cleaning/hauling service identified in the Emergency Response Plan or the local Fire Department – Hazardous Material Response Unit.
G. Rock-Tenn personnel will make periodic inspections of the lines, fittings, valves, etc.
H. The facility Emergency Response Plan serves as an Oil Spill Contingency Plan.

2. Description:

Two aboveground tanks connected by an overflow pipe – one holding 7,750 gallons and the other holding 7,270 gallons of dryer bearing oil, one aboveground 560 gallon tank holding heavy oil, one aboveground 260 gallon tank holding medium oil, and one aboveground 300 gallon tank (not in use at this time). These tanks are located inside the building in the paper machine basement (ground level) below the dryer section.

Best Management Practice:

Structural:

A. Tanks are located on a concrete surface inside a concrete containment dike with a volume of 13,300 gallons. Worst-case spill would be 12,900 gallons. No precipitation freeboard required due to interior location.
B. A drip pan is used under the unloading hose connections to collect spillage.
C. All tank construction materials are compatible with oil.

Non-Structural:

A. All transfers will be monitored by both the hauler and Rock-Tenn personnel.
B. Rock-Tenn personnel will monitor the use of this material in the process.
C. Appropriate Rock-Tenn personnel will be trained in the prevention, identification, and response of oil spills.
D. Emergency spill equipment is located near the containment dike.
E. In case of a spill, all material would be contained in the diked area.
F. Response to or cleaning up of any spill would be done by an industrial cleaning/waste hauling service identified in the Emergency Response Plan or the local Fire Department – Hazardous Material Response Unit.

3. Description:

Drums of lubricating oils stored inside the building near the dryer bearing oil tanks (item #2).

Best Management Practice:

Structural:

A. Drums are located inside on a concrete surface.
B. Floor slopes away from outside doors.
C. There is a secondary containment platform for the used oil drum.

Non-Structural:

A. Rock-Tenn personnel will monitor the use of this material in the process.
B. Appropriate Rock-Tenn personnel will be trained in the prevention, identification, and response of oil spills.
C. Emergency spill equipment is located near the drums.
D. In case of a spill, all material would be contained with absorbent mats or pigs. The worst-case scenario, highly unlikely however, would be that spilled material could flow into the process sewer and be sent to the POTW.
E. Response to or cleaning up of any spill would be done by an industrial cleaning/waste hauling service identified in the Emergency Response Plan or the local Fire Department – Hazardous Material Response Unit.

4. Description:

One 300-gallon aboveground gasoline storage tank is located outside near the receiving area on the East side of the mill next to the fence on the property line.

Best Management Practice:

Structural:

A. The tank is located on a concrete surface inside a concrete containment dike with a containment volume of 940 gallons, providing 16 inches of freeboard for precipitation.
B. All tank construction materials are compatible with gasoline.

Non-Structural:

A. All tank filling will be monitored by both the fuel hauler and Rock-Tenn personnel.
B. Rock-Tenn personnel will monitor all equipment fueling operations.
C. Appropriate Rock-Tenn personnel will be trained in the prevention, identification, and response of oil spills.
D. Emergency spill equipment is available if required. Specifically, magnetic covers for storm drains in the area are available at the receiving dock.
E. Storm water collected in the containment system will be inspected for contamination prior to discharge. Discharge will be either by pump or siphon.
F. Response to or cleaning up of any spill would be done by an industrial cleaning/waste hauling service identified in the Emergency Response Plan or the local Fire Department – Hazardous Material Response Unit.

5. Description:

One 500-gallon aboveground diesel fuel storage tank located outside on the Southeast side of the powerhouse (back side of mill).

Best Management Practice:

Structural:

A. The storage tank sits inside a metal secondary containment tank with a containment volume of 680 gallons, providing 4 inches of freeboard for precipitation.

Non-Structural:

A. All tank filling will be monitored by both the fuel hauler and Rock-Tenn personnel.
B. Rock-Tenn personnel will monitor equipment fueling.
C. Appropriate Rock-Tenn personnel will be trained in the prevention, identification, and response of oil spills.
D. Emergency spill equipment is located in the powerhouse and magnetic covers for catch basins and storm drains are located on the man doors going into the conveyor room and the paper machine basement near the diesel storage tank.
E. In case of a spill, all near-by catch basins and storm drains will be sealed to prevent pollution of any surface water.

F. Storm water collected in the secondary containment tank is checked for high level after storms and inspected for contamination prior to discharge. Discharge is by pump or siphon.
G. Response to or cleaning up of any spill would be done by industrial cleaning/waste hauling service identified in the Emergency Response Plan or the local Fire Department – Hazardous Material Response Unit.

6. Description:

One 500-gallon aboveground used oil storage tank located outside, next to the paper machine building on the South side of the mill.

Best Management Practice:

Structural:

A. The used oil tank sits inside a metal secondary containment tank with a containment volume of 680 gallons, providing 4 inches of freeboard for precipitation.

Non-Structural:

A. All tank emptying will be monitored by both the waste oil hauler and Rock-Tenn personnel.
B. Rock-Tenn personnel will monitor the storing of used oil in the tank.
C. Appropriate Rock-Tenn personnel will be trained in the prevention, identification, and response of oil spills.
D. Emergency spill equipment is located inside the building next to the drums of lubricating oils.
E. In case of a spill, all near-by storm drains will be sealed to prevent pollution of any surface water.
F. Storm water collected in the secondary containment tank is checked for high level after storms and inspected for contamination prior to discharge. Discharge is by pump or siphon.
G. Response to or cleaning up of any spill would be done by an industrial cleaning/waste hauling service or the local Fire Department – Hazardous Material Response Unit.

7. Description:

One 2,000-gallon aluminum sulfate/sulfuric acid storage tank located inside the powerhouse (ground level) on the West side of building.

Best Management Practice:

Structural:

A. Tank is located on a concrete surface inside a concrete containment dike with a containment volume of 2250 gallons. No freeboard is required due to interior location.
B. Floor drains in the area go to the process sewer.

Non-Structural:

A. Both the chemical hauler and Rock-Tenn personnel will monitor all tank fillings.
B. Rock-Tenn personnel will monitor the use of this chemical in the process.
C. Appropriate Rock-Tenn personnel will be trained in the prevention, identification, and response of chemical spills.
D. Emergency spill equipment is located in the powerhouse.
E. Response to or cleaning up of chemical spills would be done by an industrial cleaning/waste hauling service or the local Fire Department – Hazardous Material Response Unit.

8. Description:

One 6,000-gallon bulk bleach (Sodium Hypochlorite) storage tank is located inside next to the polymer room on the North side of the paper machine building.

Best Management Practice:

Structural:

A. The tank is on a concrete floor inside a concrete containment dike with a containment volume of 6200 gallons. No freeboard is required due to the interior location.

Non-Structural:

A. All transfers of bleach will be monitored by both the hauler and Rock-Tenn personnel.
B. Rock-Tenn personnel will monitor the use of bleach in the process.
C. Appropriate Rock-Tenn personnel will be trained in the prevention, identification, and response of spills.
D. Emergency spill equipment is located in the paper machine basement (ground floor) by the dryer bearing oil and in the powerhouse. Magnetic covers, for the catch basins and storm drains, which are near the building, can be found on the man doors to the conveyor room and the paper machine basement.
E. Response to and cleaning up of any spill would be done by and industrial cleaning/waste hauling service or the local Fire Department – Hazardous Material Response Unit.

ATTACHMENT 1

Environmental Inspection Checklist
Rock-Tenn Company – Battle Creek Mill

Name of Inspector _____ Date of Inspection _____

Area	Yes / No?	Explain	Corrective action needed	Person responsible for corrective action	Date corrective action completed
Exterior					
Is there any evidence of drips or leaks from equipment or machinery? (forklifts, stored equipment)					
Do the storm water outfalls/ditches have debris (trash and paper), stains or stressed vegetation?					
Is any debris (paper) observed on adjoining property?					
Are any visible air emissions observed from mill processes?					
Is any process odor noticed outside that is abnormally strong?					
Are outside storage areas maintained? (scrap metal, pallets, trash dumpsters)					
Are excessive automotive fluids observed in the employee parking lot?					
Are there any environmental concerns with the unloading and loading docks?					
Other					
Fuel Loading and Unloading Areas					
Is there evidence of leaks or drips on the ground?					
Are there any leaks from pipes, flanges, containment areas, or storage tanks?					
Is a spill response equipment kit available for responding to a spill?					
Are all necessary items in the spill response equipment kit? (full inventory)					
Are the fuel hoses neatly placed in the appropriate holders? (i.e. not laying on the ground)					
Are the containment areas for the storage tanks in good condition? (No cracks, staining)					
Are there visible labels on large bulk tanks?					
Precipitation in secondary containment tanks? Level? Any oil sheen or slick? Is emptying tanks necessary?					

PLEASE RETURN THE FOLLOWING COMPLETED APPLICATION TO:

City of Battle Creek
Attn: Industrial Surveillance
2000 W. River Rd.
Battle Creek, Michigan 49015

INDUSTRIAL USER DISCHARGE AUTHORIZATION APPLICATION FORM

SECTION ONE – GENERAL INFORMATION

1. Facility Name._____

   a. Operator Name:_____

   b. Is the operator identified in 1a, the owner of the facility? Yes ( ) No ( )
   If no, provide the name and address of the owner

   _____

   _____

   _____

2. Facility Address:

   Street: _____

   City: _____ State: _____

   Zip: _____

3. Business Mailing Address:

   Street: _____

   City: _____ State: _____

   Zip: _____

4. Designated signatory authority of the facility:
   (Attach similar information for each authorized representative)

   Name: _____

   Title: _____

   Address: _____

   City: _____ State: _____

   Zip: _____

5. Designated Facility Contact:

Name: _____

Title: _____

Phone #: (_____) _____ - _____ ext. _____

SECTION TWO – BUSINESS ACTIVITY

1. If your facility employs or will be employing processes in any of the industrial categories or business activities listed below (regardless of whether they generate wastewater, waste sludge, or hazardous wastes), place a check beside the category of business activity (check all that apply).

( ) Aluminum Forming
( ) Asbestos Manufacturing
( ) Battery Manufacturing
( ) Can Making
( ) Carbon Black
( ) Coal Mining
( ) Coil Coating
( ) Copper Forming
( ) Electric and Electrical Components Manufacturing
( ) Electroplating
( ) Feedlots
( ) Fertilizer Manufacturing
( ) Foundries (Metal Molding and Casting)
( ) Glass Manufacturing
( ) Grain Mills
( ) Inorganic Chemicals
( ) Iron and Steel
( ) Leather Tanning and Finishing
( ) Metal Finishing
( ) Nonferrous Metals Forming
( ) Organic Chemicals Manufacturing
( ) Paint and Ink Formulating
( ) Paving and Roofing Manufacturing
( ) Pesticides Manufacturing
( ) Petroleum Refining
( ) Pharmaceutical
( ) Plastic and Synthetic Materials Manufacturing
( ) Plastics Processing Manufacturing
( ) Porcelain Enamel
( ) Pulp, Paper, and Fiberboard Manufacturing
( ) Rubber
( ) Soap and Detergent Manufacturing
( ) Steam Electric
( ) Sugar Processing
( ) Textile Mills
( ) Timber Products

A facility with processes inclusive in these business areas may be covered by Environmental Protection Agency's categorical pretreatment standards. These facilities are termed " Categorical Users".

2. Give a brief description of all operations at this facility including primary products or services.

_____

_____

_____

_____

_____

_____

3. Indicate applicable Standard Industrial Classification (SIC) for all Processes.

a:_____ d:_____

b:_____ e:_____

c:_____ f:_____

4. Product Volume:

Product Name:	Production Amounts per Day		Daily Unit
	Average	Maximum	
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SECTION THREE – WATER SUPPLY

1. Water Sources: (Check as many as are applicable)

   ( ) Private Well
   ( ) Surface Water
   ( ) Municipal Water (specify city) _____
   ( ) Other (specify) _____

2. Name on the water bill:

   Name: _____

   Street: _____

   City: _____ State_____ Zip._____

3. Water service account number:_____

4. List average water usage on premises:
   (New facilities may estimate)

	Average (gpd)
a. Contact cooling water	_____
b. Non-contact cooling water	_____
c. Boiler feed	_____
d. Process	_____
e. Sanitary	_____
f. Air pollution control	_____
g. Contained in product	_____
h. Irrigation and lawn watering	_____
i. Other	_____
j. Total of a – j	_____

NPDES Permit Number, if applicable: _____

SECTION FOUR – SEWER INFORMATION

1. a. For an existing business:

Is the building presently connected to the public sanitary sewer system?

( ) Yes: Sanitary sewer account number_____
( ) No: Have you applied for a sanitary sewer hookup? ( ) Yes ( ) No

b. For a new business:

Will you be occupying an existing vacant building (such as an industrial park)?
( ) Yes ( ) No

Have you applied for a building permit if a new facility will be constructed?
( ) Yes ( ) No

Will you be connected to the public sanitary sewer system?
( ) Yes ( ) No

2. List size, descriptive location, and flow of each facility sewer which connects to the City's sewer system. (If more than three, attach additional information on another sheet.)

Sewer Size	Descriptive Location	Average Flow (GPD)
_____	_____	_____
_____	_____	_____
_____	_____	_____

SECTION FIVE – WASTEWATER DISCHARGE INFORMATION

1. Does (or will) this facility discharge any wastewater other than from restrooms to the City sewer?

( ) Yes If the answer to this question is "yes" complete the remainder of the application.

( ) No If the answer to this question is "no", skip to Section Nine.

2. Provide the following information on wastewater flow rate. (New facilities may estimate)

a. Hours/Day discharged (e g. 8 hours /day)

M _____ T _____ W _____ Th _____ F _____ Sat _____ Sun _____

b. Hours of Discharge (e.g. 9a.m. to 5p.m.)

M _____ F _____

T _____ Sat _____

W _____ Sun _____

Th _____

c. Peak hourly flow rate (GPD) _____

d. Maximum daily flow rate (GPD)_____

e. Annual daily average (GPD) _____

3. If batch discharge occurs or will occur, indicate:
(New facilities may estimate)

a. Number of batch discharges _____ per day

b. Average discharge per batch _____ (GPD)

c. Time of batch discharges _____ at _____
(days of week) (hours of day)

d. Flow rate _____ gallons/minute

e. Percent of total discharge _____

4. Schematic Flow Diagram –

Facilities that checked activities in question 1 Section Two are considered Categorical Industrial Users and should skip to question 6.

5. For Non-categorical Users Only: List average wastewater discharge, maximum discharge, And type of discharge (batch, continuous, or both), for each plant process. (New facilities should provide estimates for each discharge).

Process Description	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)

ANSWER QUESTIONS 6 & 7 ONLY IF YOU ARE SUBJECT TO CATEGORICAL PRETREATMENT STANDARDS

6. For Categorical Users: Provide the wastewater discharge flows for each of your processes or proposed processes. (New facilities should provide estimates for each discharge).

Regulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)

Unregulated Process	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)

Dilution	Average Flow (GPD)	Maximum Flow (GPD)	Type of Discharge (batch, continuous)

7. For Categorical Users subject to Total Toxic Organic (TTO) requirements:

Provide the following (TTO) information.

a. Does (or will) this facility use any of the toxic organics that are listed under the TTO standard of the applicable categorical pretreatment standards published by the EPA?

( ) Yes ( ) No

b. Has a baseline monitoring report (BMR) been submitted which contains TTO information?

( ) Yes ( ) No

c. Has a toxic organics management plan (TOMP) been developed? If yes, please attach a copy.

( ) Yes ( ) No

8. Do you have, or plan to have, automatic sampling equipment or continuous wastewater flow metering equipment at this facility?

Current: Flow Metering	( ) Yes	( ) No	( ) N/A
Sampling Equipment	( ) Yes	( ) No	( ) N/A
Planned: Flow Metering	( ) Yes	( ) No	( ) N/A
Sampling Equipment	( ) Yes	( ) No	( ) N/A

If so, please indicate the present or future location of this equipment on the sewer schematic.

9. Are any process changes or expansions planned during the next three years that could alter wastewater volumes or characteristics? Consider production processes as well as air or water pollution treatment processes that may affect the discharge.

( ) Yes ( ) No, (skip question 10)

10. Briefly describe these changes and their effects on the wastewater volume and characteristics: (Attach additional sheets if needed.)

11. Are any materials or water reclamation systems in use or planned?
( ) Yes ( ) No, (skip question 12)

12. Briefly describe recovery process, substance recovered, percent recovered, and the concentration in the spent solution. Submit a flow diagram for each process: (Attach additional sheets if needed.)

SECTION SIX – CHARACTERISTICS OF DISCHARGE

Current Users:

If your facility is currently providing self-monitoring data to the City, skip to Section Seven. (If additional data or monitoring is being implemented, which has not been submitted to the City, it must be attached.)

New Users:

New dischargers should attach any data that is pertinent or available from facilities with similar processes.

SECTION SEVEN – TREATMENT

1. Is any form of wastewater treatment (see list below) practiced at this facility?

( ) Yes ( ) No

2. Is any form of wastewater treatment (or changes to an existing wastewater treatment) planned for this facility within the next three years?

( ) Yes, Describe _____
( ) No

3. Treatment devices or processes used or proposed for treating wastewater or sludge (check as many as appropriate).

( ) Air flotation
( ) Centrifuge
( ) Chemical precipitation
( ) Chlorination
( ) Cyclone
( ) Filtration
( ) Flow equalization
( ) Grease or oil separation, type: _____
( ) Grease trap
( ) Grinding filter
( ) Grit removal
( ) Ion exchange
( ) Neutralization, pH correction
( ) Ozonation
( ) Reverse osmosis
( ) Screen
( ) Sedimentation
( ) Septic tank
( ) Solvent protection
( ) Sump
( ) Biological treatment, type:_____
( ) Rainwater diversion or storage
( ) Other chemical treatment, type: _____
( ) Other physical treatment, type: _____
( ) Other, type: _____

4. Description

Describe the pollutant loading, flow rates, design capacity, physical size, and operating procedures of each treatment facility checked above.

_____
_____
_____
_____

5. Attach a process flow diagram for each existing treatment system. Include process equipment, by-products, by-product disposal method, waste and by-product volumes, and design and operating conditions.

6. Describe any changes in treatment or disposal methods planned or under construction for the wastewater discharge to the sanitary sewer. Include estimated completion dates.

_____
_____
_____
_____

7. Do you have a treatment operator? ( ) Yes ( ) No

(if Yes,) Name: _____
Title: _____
Phone: _____

8. Do you have a manual on the correct operation of your treatment equipment?

( ) Yes ( ) No

9. Do you have a written maintenance schedule for your treatment equipment?

( ) Yes ( ) No

SECTION EIGHT – FACILITY OPERATIONS

1. Shift Information

Work Days	( ) Mon	( ) Tues	( ) Wed	( ) Thur	( ) Fri	( ) Sat	( ) Sun
Shifts Per work Day:	____	____	____	____	____	____	____
Empl's Per Shift: 1st	____	____	____	____	____	____	____
2nd	____	____	____	____	____	____	____
3rd	____	____	____	____	____	____	____

1st shift starts at: _____ ends at _____
2nd shift starts at: _____ ends at _____
3rd shift starts at: _____ ends at _____

2. Indicate whether the facility discharge is.

( ) Continuous, during work hours
( ) Batch or intermittent

3. List types and amounts (mass or volume per day) of raw materials used or planned for use (attach list if needed).

_____
_____
_____
_____
_____
_____

4. List each substance from Appendix A is contained in any materials used or stored and could be present in your facilities wastewater discharge. (List by the number from Appendix A rather than by name.)

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

5. List each substance from Appendix A which is contained in any materials used or stored. (List by the number from Appendix A rather than by name.)

_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

6. Building Layout – Draw the location of each building on the premises. Show map orientation and location of all water meters, storm sewers, and each facility sewer line connected to the public sewers. Show unit processes in respect to drains and overflows. Specify sampling locations situated outside the building.

SECTION NINE – SPILL PREVENTION

1. Do you have chemical storage containers, bins, or ponds at your facility?
( ) Yes ( ) No

   If yes, please give a description of their location, contents, size, type and frequency and method of cleaning. Also indicate in a diagram or comment on the proximity of these containers to a sewer or storm drain.

2. Do you have floor drains in your manufacturing or chemical storage area(s)?
( ) Yes ( ) No

   If yes; where do they discharge to? _____
   _____

3. If you have chemical storage containers, bins, or ponds in a manufacturing area, could an accidental spill lead to a discharge to: (check all that apply.)

   ( ) an onsite disposal system
   ( ) public sanitary sewer system (e.g. floor drain)
   ( ) storm drain
   ( ) to ground
   ( ) other, specify _____
   ( ) not applicable, no possible discharge to any of the above routes.

4. Do you have an accidental spill prevention plan (ASPP) to prevent spills of chemicals or slug discharges from entering the City's collection system?

   ( ) Yes – Enclose a copy with this application
   ( ) No
   ( ) not applicable since there are no floor drains and/or the facility discharges only domestic waste

SECTION TEN – NON-DISCHARGE WASTES

1. Are any waste liquids or sludges generated and not disposed of in the sanitary sewer system?

   ( ) Yes, please describe below.
   ( ) No, skip the remainder of Section Ten.

Waste Generated	Quantity (per year)	Disposal Method
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Indicate which wastes identified above are disposed of at an off-site treatment facility and which are disposed of on-site.

2. If an outside firm removes any of the above checked wastes, state the name(s) and address(es) of all waste haulers:

a. _____ b. _____

_____ _____

_____ _____

Permit No. _____ Permit No. _____

SECTION ELEVEN – AUTHORIZED SIGNATURES

Compliance certification:

1 Are all applicable Federal, State or City pretreatment standards and requirements being met on a consistent basis?

( ) Yes ( ) No ( ) Not yet discharging

2. If No:

a. What additional operations and maintenance procedures are being considered to bring the facility into compliance? Also, list additional treatment practices being considered in order to bring the facility into compliance.

b Provide a schedule for bringing the facility into compliance. Specify major events planned along with reasonable completion dates. (These dates are subject to approval by the City of Battle Creek)

Event or Activity	Completion Date

Authorized Representative Statement:

The information contained in this application is familiar to me and to the best of my knowledge and belief, such information is true, accurate and complete.

Name (please print)	Title	
Signature	Date	Phone Number

Appendix A - Priority Pollutants List

Item Code #	*Pollutant Name*
39	1 - (4 - chlorophenyl) -3, 3 - dimethyl triazene
14	1 - amino - 2 - methylanthraquin
33	1 - chloro - 2,3 - epoxypropane
95	1 - methylnaphthalene
99	1 - naphthylamine
30B	1,1 - dichloroethane
54A	1,1 - dichloroethylene
30A	1,1,1 - trichloroethane
143	1,1,2 - trichloroethane
30D	1,1,2,2 - tetrachloroethane
27C	1,2 - dichlorobenzene
53	1,2 - dichloroethane
55B	1,2 - dichloropropane
54B	1,2 - trans - dichloroethylene
93	1,2 (methylenedioxy) - 4 - propenyl benzene
56	1,2,3,4 - diepoxybutane
27B	1,2,4 - trichlorobenzene
27D	1,3 - dichlorobenzene
55A	1,3 - dichloropropylene, (1,3 - dichloropropene)
129	1,3 - propane Sultone
27E	1,4 - dichlorobenzene
66	1,4 - dioxane

Item Code #	*Pollutant Name*
98	1,5 - naphthalenediamine
76	2 - (2 - formylhydrazino) - 4 - (5 - nitro - 2 - furthiazole)
4	2 - acetylaminofluorene
9	2 - aminoanthraquinone
34A	2 - chloroethyl Vinyl Ether (mixed)
31A	2 - chloronaphthalene
32A	2 - chlorophenol
96	2 - methyl - 1 - nitroanthraquinone
100	2 - naphthylamine
106	2 - nitrophenol
184	2 (p - tert - butylphenoxy) - isopropyl - 2 - chloroethyl sulfite
67	2,3 - epoxy - 1 - propanal
45	2,4 - diaminoanisole sulfate
47	2,4 - diaminotoluene
32C	2,4 - dichlorophenol
60	2,4 - dimethylphenol
62	2,4 - dinitrophenol
63	2,4 - dinitrotoluene
146	2,4,5 - trimethylaniline
64A	2,6 - dinitrotoluene
38	3 - (chloromethyl) pyridine hydrochloride
13	3 - amino - 9 - ethylcarbazole
52	3,3 - dichlorobensidine salts
51	3,3 - dichlorobenzidine

Item Code #	*Pollutant Name*
128A	3,4 - benzofluoranthene
12	4 - aminobiphenyl
175	4 - aminopyridine
77B	4 - bromophenyl Phenyl Ether
40	4 - chloro - m - phenylenediamine
41	4 - chloro - o - phenylenediamine
77A	4 - chlorophenyl Phenyl Ether
58	4 - dimethylaminoazobenzene
104	4 - nitobiphenyl
107	4 - nitrophenol
225B	4,4' - DDD, (p,p' - TDE)
225A	4,4' - DDE, (p,p' - DDE)
46	4,4 - diaminodiphenyl ether
91	4,4 - methylenebis (2 - methylaniline)
92	4,4 - methylenebis (N,N - dimethylaniline)
137	4,4' - thiodianiline
61	4,6 - dinitror - o - cresol
43	5 - chloro - o - toluidine
102	5 - nitro - o - anisidine
101	5 - nitroacenaphthene
131	5 - propyl - 1,3 - benzodioxole
222A	A - BHC - Alpha
2	Acenaphthene
128D	Acenaphthylene

Item Code #	*Pollutant Name*
3	Acetone Cyanohydrine
167	Acids, inorganic
1	Acids, organic
5	Acrolein
6	Acrylic Acid
7	Acrylonitrile
173	Aldicarb
174	Aldrin
8	Allyl Chloride
10	Aminoazobenzene
15	Aminotriazole
176	Anilazine
16	Aniline
17	Aniline Hydorchloride
128E	Anthracene
150	Antimony
177	Antimycin A
151	Arsenic
172	Asbestos (fibrous)
178	Azinphos - ethyl
179	Azinphos - methyl
222B	B - BHC - Beta
130	B - proplolactone
180	Barban

Item Code #	*Pollutant Name*
181	Bendiocarb
182	Benomyl
128B	Benxo (k) fluoranthane; (11,12 - benzofluoranthene)
20	Benz (a) anthracene
21	Benzene
22	Benzidine
23	Benzidine Salts
24	Benzo (a) pyrene
128F	Benzo (ghi) perylene; (1,12 - benzoperylene)
152	Beryllium
77C	Bis (2 - chloroethoxy) methane
35	Bis (2 - chloroethyl) ether
37	Bis (2 - chloromethyl) ether
73	Bis (2 - ethylhexyl) phthalate
78D	Bromoform; (tribromomethane)
183	Bromoxynil
25	Brucine
124A	Butyl Benzyl Phthalate
153	Cadmium
185	Captafol
186	Captan
187	Carbaryl
188	Carbofuran
26	Carbon Tetrachloride

Item Code #	*Pollutant Name*
189	Carbophenothion
168	Chloramines
190	Chlordane
191	Chlordecone
192	Chlorfenvinphos
27	Chlorinated Benzenes
28	Chlorinated Dibenzofurans
29	Chlorinated Dioxins
30	Chlorinated Ethanes
31	Chlorinated Phenols
32	Chlorinated Phenols
169	Chlorine
34	Chloroalkyl Ethers
27A	Chlorobenzene
193	Chlorobenzilate
78H	Chlorodibromomethane
30C	Chloroethane
36	Chloroform
42	Chloroprene
194	Chlorpyrifos
154	Chromium
128C	Chrysene
195	Clonitralid
155	Cobalt

Item Code #	*Pollutant Name*
156	Copper
196	Coumaphos
197	Crotoxyphos
157	Cyanides
198	Cycloheximide
199	DDT
200	Demeton
50	Di - n - butyl phthalate
65	Di - n - octyl phthalate
201	Diallate
202	Diazinon
48	Dibenz (a,h) anthracene
203	Dibromochloropropane (DBCP)
204	Dichlone
78E	Dichlorobromomethane
78G	Dichlorodifluoromethane
54	Dichloroethylenes
55	Dichloropropane and Dichloropropene
205	Dichlorvos
206	Dichrotophos
207	Dieldrin
124B	Diethyl Phthalate
57	Diethyl Sulfate
208	Dimethoate

Item Code #	*Pollutant Name*
124C	Dimethyl Phthalate
59	Dimethylhydrazines
209	Dinocap
210	Dinoseb
64	Dintrotoluene
211	Dioxathion
212	Disulfoton
213	Endosulfan
226A	Endosulfan Sulfate
214	Endrin
227A	Endrin Aldehyde
215	EPN
216	Ethion
68	Ethylbenzene
69	Ethylene Dibromide
71	Ethylene Oxide
72	Ethylene Thiourea
70	Ethyleneimine
74	Ethylmethanesulfonate
217	Fensulfothion
218	Fenthion
219	Fluchloralin
75	Fluoranthene
128G	Fluorene

Item Code #	*Pollutant Name*
222C	G - BHC - Delta
77	Haloethers
78	Halomethanes
220	Heptachlor
221	Heptachlor Epoxide
228A	Heptachlor Epoxide
79	Hexachlorobenzene (HCB)
80	Hexachlorobutadiene
81	Hexachlorocyclohexane
82	Hexachlorocyclopentadiene
83	Hexachloroethane
170	Hydrazine
84	Hydrazobenzene
171	Hydrogen Sulfide
85	Hydroquinone
158	Hypochlorite
128I	Indeno (1,2,3 - cd) pyrene, (2,3 - o - phenylenepyrene)
222	Isomers of hexachlorocyclohexane
87	Isophorone
88	Lactonitrite
159	Lead
223	Leptophos
160	Lithium
89	Malachite Green

Item Code #	*Pollutant Name*
224	Malathion
161	Mercury
225	Metabolites of DDT
226	Metabolites of Endosulfan
227	Metabolites of Endrin
228	Metabolites of Heptachlor
229	Methomyl
230	Methoxychlor
78C	Methyl Bromide; (bromomethane)
78B	Methyl Chloride; (chloromethane)
94	Methyl Hydrazine
231	Methyl Mercaptan
232	Methyl Parathion
78A	Methylene Chloride, (dichloromethane)
90	Methylenebis (2 - chloroaniline)
233	Mevinphos
234	Mexacarbate
235	Mirex
236	Monocrotophos
97	Mustard Gas
86	N - (2 - hydroxyethyl) ethyleneimine
108B	N - nitrosadi - n - propylamine
109	N - nitroso - n - butyl - N - (4 - hydroxybutyl) amine
113	N - nitroso - N - ethylurea

Item Code #	*Pollutant Name*
114	N - nitroso - N - methylurea
115	N - nitroso - N - methylurethane
118	N - nitroso - N - phenylhydroxyl - amine, ammonium salt
110	N - nitrosodiethylamine
111	N - nitrosodimethylamine
108A	N - nitrosodiphenylamine
116	N - nitrosomethylvinylamine
117	N - nitrosomorpholine
119	N - nitrososarcosine
237	Naled
128K	Naphthalene
162	Nickel
238	Nicotine
103	Nitrobenzene
239	Nitrofen
105	Nitrogen Mustard
108	Nitrosamines
11	O - aminoazotoluene
18	O - anisidine
19	O - anisidine hydrochloride
140	O - toluidine
141	O - toluidine Hydrochloride
240	Oxydemeton - methyl
44	P - cresidine

Item Code #	*Pollutant Name*
112	P - nitrosodiphenylamine
32B	Parachlorometa - cresol
241	Paraquat
242	Parathion
120	Pentachloronitrobenzene
121	Pentachlorophenol
122	Peroxyacetic Acid
128H	Phenathrene
123	Phenol
243	Phorate
244	Phosazetim
245	Phosmet
246	Phosphamidon
124	Phthalate Esters
125	Piperonyl Sulfoxide
126	Polybrominated Biphenyls (PBB)
127	Polychlorinated Biphenyls (PCB)
128	Polynuclear Aromatic Hydrocarbons
132	Propyleneimine
128J	Pyrene
247	Rotenone
163	Selenium
133	Semicarbazide
164	Silver

Item Code #	*Pollutant Name*
248	Silvex, Propylene Glycolbutyl Ether Ester
249	Sodium Fluoracetate
250	Strychnine
134	Styrene
251	Sulfallate
252	Sulfotepp
253	TDE
254	TEPP
255	Terbufos
135	Tetrachloroethylene, (perchloroethylene)
256	Tetrachlorvinphos
165	Thallium
136	Thioacetamide
138	Thiourea
257	Thiram
139	Toluene
258	Toxaphene
142	Triaryl Phosphate Esters
259	Trichlorfon
144	Trichloroethylene
78F	Trichlorofluoromethane
145	Trichlorophenols
260	Trichlorophenoxyacetic Acid (2,4,5 -T)
261	Trifluralin

Item Code #	*Pollutant Name*
147	Trimethylphosphate
49	Tris (dibromopropyl) phosphate
148	Vinylchloride
149	Xylene
166	Zinc
262	Ziram