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MERRILLVILLE CONSERVANCY DISTRICT
COMMUNITY UTILITIES SERVICE AREA
SANITARY SEWER REHABILITATION PROJECT

SANITARY SEWER COLLECTION SYSTEM
SMOKE TESTING MAP

JOB NO. 20016401	DRAWN	SCALE: 1"=60'
DATE AUG., 2004	DESIGNED	APPROVED

AIRPORTS • ARCHITECTURE
R.W. ARMSTRONG
EST. 1961
ENVIRONMENTAL • TRANSPORTATION

UNION STATION - 300 S. MERIDIAN ST.
INDIANAPOLIS, INDIANA 46225 (317) 786-0461

SHEET 10 OF 14

MERRILLVILLE CONSERVANCY DISTRICT
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SHEET 11 OF 14

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MERRILLVILLE CONSERVANCY DISTRICT
COMMUNITY UTILITIES SERVICE AREA
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SANITARY SEWER COLLECTION SYSTEM
SMOKE TESTING MAP

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JOB NO. 20016401	DRAWN	SCALE: 1"=60'	SHEET 12 OF 14
DATE AUG., 2004	DESIGNED	APPROVED	

MERRILLVILLE CONSERVANCY DISTRICT
COMMUNITY UTILITIES SERVICE AREA
SANITARY SEWER REHABILITATION PROJECT

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JOB NO. 20016401	DRAWN	SCALE: 1" = 60'	
DATE AUG., 2004	DESIGNED	APPROVED	SHEET 13 OF 14

AIRPORTS · ARCHITECTURE · R.W. ARMSTRONG · ENVIRONMENTAL · TRANSPORTATION · EST. 1961
UNION STATION - 300 S. MERIDIAN ST.
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MERRILLVILLE CONSERVANCY DISTRICT
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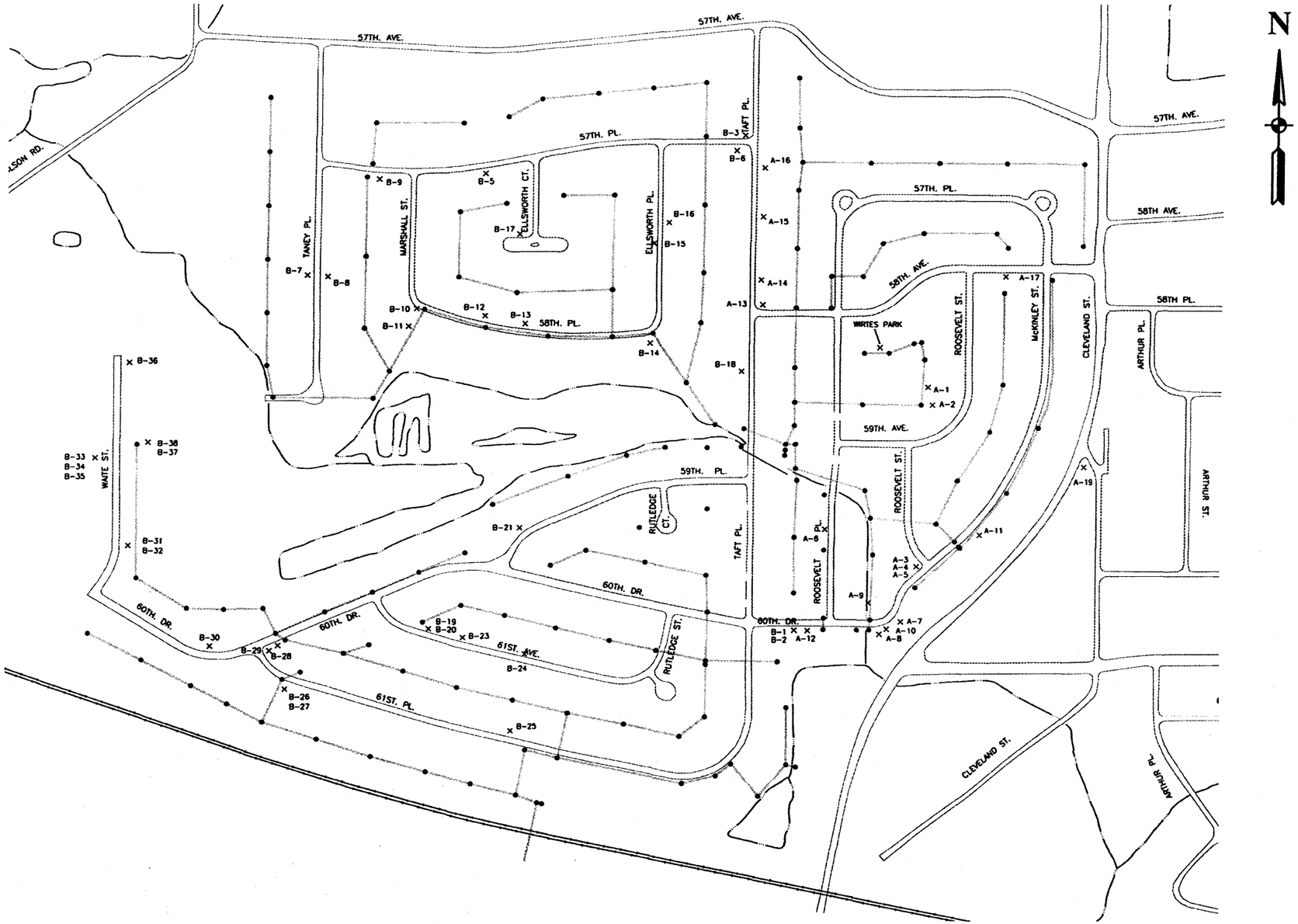
ENVIRONMENTAL · TRANSPORTATION

UNION STATION - 300 S. MERIDIAN ST.
INDIANAPOLIS, INDIANA 46225 (317) 786-0461

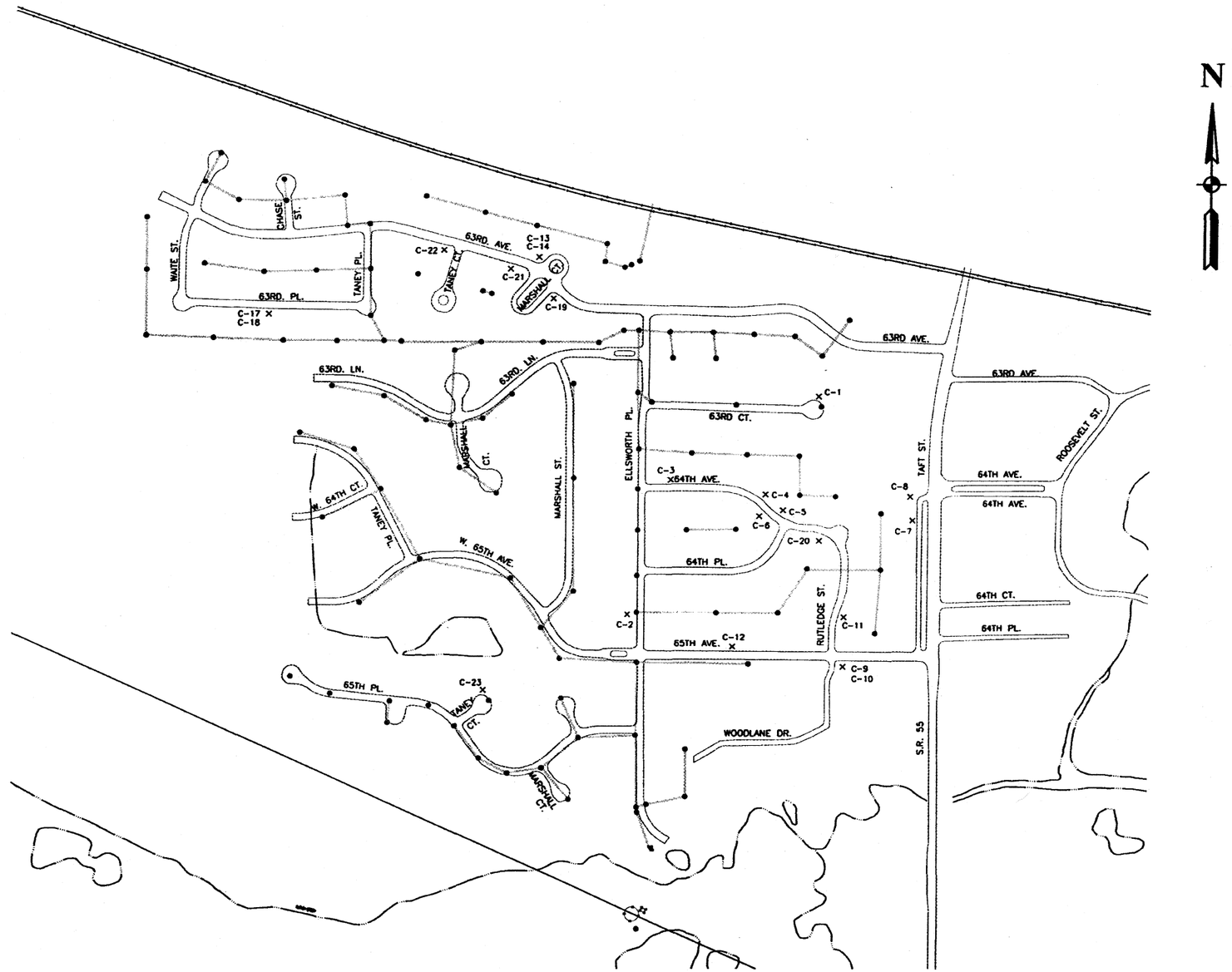
SHEET 14 OF 14



MERRILLVILLE CONSERVANCY DISTRICT LAKE COUNTY, INDIANA					
COMMUNITY UTILITIES SMOKE TESTING DEFECT LOCATION MAP					
JOB NO.	20016401	DRAWN	RWP	SCALE:	1"=500'
DATE	10-02	DESIGNED	CSM	APPROVED	RDK

R.W. ARMSTRONG
ENGINEERS • ARCHITECTS
2801 S. PENNSYLVANIA STREET
INDIANAPOLIS, INDIANA 46225 (317) 786-0461

SHEET 1 OF 2



MERRILLVILLE CONSERVANCY DISTRICT LAKE COUNTY, INDIANA					R.W. ARMSTRONG 2801 S. PENNSYLVANIA STREET INDIANAPOLIS, INDIANA 46225 (317) 786-0461
COMMUNITY UTILITIES SMOKE TESTING DEFECT LOCATION MAP					
JOB NO. 20016401	DRAWN RWP	SCALE: 1"=500'			SHEET 2 OF 2
DATE 10-02	DESIGNED CSM	APPROVED RDK			

Summary of Smoke Testing Results and Recommendation

Picture #	Address	Defect	Recommendation
A-01	[redacted]	DCO	Repair cleanout
A-02	[redacted]	DMH	Repair manhole
A-03	[redacted]	MISC	Further dye testing required
A-04	[redacted]	MISC	Further dye testing required
A-05	[redacted]	MISC	Further dye testing required
A-06	[redacted]	SP	Remove sump connection
A-07	[redacted]	MISC	Further dye testing required
A-08	[redacted]	DCO	Repair cleanout
A-09	[redacted]	MISC	Further dye testing required
A-10	[redacted]	MISC	Further dye testing required
A-11	[redacted]	MISC	Further dye testing required
A-12	[redacted]	DMH	Repair manhole
A-13	[redacted]	SP	Remove sump connection
A-14	[redacted]	SP	Remove sump connection
A-15	[redacted]	DCO	Repair cleanout
A-16	[redacted]	DCO	Repair cleanout
A-17	[redacted]	MISC	Further dye testing required
A-18	[redacted]	MISC	Further dye testing required
A-19	[redacted]	DMH	Repair manhole
B-01	[redacted]	DCO	Repair cleanout
B-02	[redacted]	RD	Remove connection point
B-03	[redacted]	SP	Remove sump connection
B-04	[redacted]	DCO	Repair cleanout
B-05	[redacted]	RD	Remove connection point
B-06	[redacted]	DML	Repair main line
B-07	[redacted]	MISC	Further dye testing required
B-08	[redacted]	DML	Repair main line
B-09	[redacted]	SP	Remove sump connection
B-10	[redacted]	MISC	Minor smoke, unlikely to be direct connection. Confirm with dye testing.
B-11	[redacted]	MISC	Further dye testing required
B-12	[redacted]	DML	Repair main line
B-13	[redacted]	RD	Remove connection point
B-14	[redacted]	MISC	Further dye testing required
B-15	[redacted]	SP	Remove sump connection
B-16	[redacted]	MISC	Further dye testing required
B-17	[redacted]	DCO	Repair cleanout
B-18	[redacted]	MISC	Further dye testing required

Summary of Smoke Testing Results and Recommendation

B-19	[redacted]	FD	Further dye testing required
B-20	[redacted]	SP	Remove sump connection
B-21	[redacted]	FD	Further dye testing required
B-22	[redacted]	DML	Repair main line
B-23	[redacted]	MISC	Further dye testing required
B-24	[redacted]	FD	Remove connection point
B-25	[redacted]	FD	Remove connection point
B-26	[redacted]	MISC	Further dye testing required
B-27	[redacted]	MISC	Further dye testing required
B-28	[redacted]	MISC	Further dye testing required
B-29	[redacted]	DCO	Repair cleanout
B-30	[redacted]	DML	Repair main line
B-31	[redacted]	DML	Repair main line
B-32	[redacted]	MISC	Further dye testing required
B-33	[redacted]	MISC	Further dye testing required
B-34	[redacted]	RD	Remove connection point
B-35	[redacted]	SP	Remove sump connection
B-36	[redacted]	DMH	Repair manhole
B-37	[redacted]	DMH	Repair manhole
B-38	[redacted]	DMH	Repair manhole
C-01	[redacted]	DMH	Repair manhole
C-02	[redacted]	DMH	Repair manhole
C-03	[redacted]	MISC	Further dye testing required
C-04	[redacted]	MISC	Further dye testing required
C-05	[redacted]	DMH	Repair manhole
C-06	[redacted]	FD	Remove connection point
C-07	[redacted]	DCO	Repair cleanout
C-08	[redacted]	MISC	Further dye testing required
C-09	[redacted]	DCO	Repair cleanout
C-10	[redacted]	DCO	Repair cleanout
C-11	[redacted]	FD	Remove connection point
C-12	[redacted]	DCO	Repair cleanout
C-13	[redacted]	DCO	Repair cleanout
C-14	[redacted]	MISC	Further dye testing required
C-16	[redacted]	DMH	Repair manhole
C-17	[redacted]	MISC	Further dye testing required
C-18	[redacted]	MISC	Further dye testing required
C-19	[redacted]	MISC	Further dye testing required

Summary of Smoke Testing Results and Recommendation

C-20	[redacted]	DCO	Repair cleanout
C-21		DMH	Repair manhole
C-22		RD	Remove connection point
C-23		MISC	Further dye testing required
Wirtes Park	58th Avenue and Roosevelt Place, Wirtes Park	DMH	Repair manhole

Legend

Abbreviation	Definition
DML	Defective Main Line
DCO	Defective Clean out
RD	Roof Drain Connection
DMH	Defective Manhole
FD	Foundation Drain
SP	Sump Pump Connection
MISC	Miscellaneous
Total	

APPENDIX K

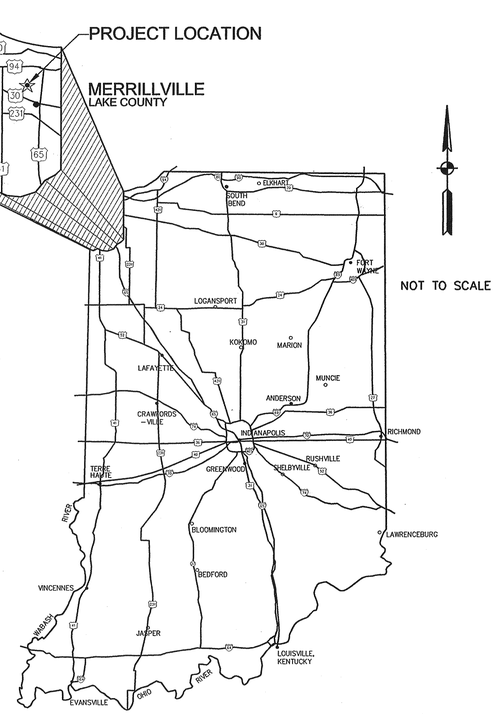
MCD'S SANITARY SEWER OVERFLOW RELIEF PROJECT CONTRACT PLANS

MERRILLVILLE CONSERVANCY DISTRICT

COMMUNITY UTILITIES SERVICE AREA
SANITARY SEWER OVERFLOW RELIEF PROJECT

COMMUNITY UTILITIES - OVERFLOW RELIEF SEWER - RECORD DRAWINGS (COMPLETED 8/05)

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SCOPE OF WORK, GENERAL NOTES, ABBREVIATIONS AND SYMBOLS
3	PLAN AND PROFILE – LINE "A" STATION 10+00 TO 23+50
4	PLAN AND PROFILE – LINE "A" STATION 23+50 TO 27+80 △1
5	PLAN AND PROFILE – LINE "B" STATION 10+00 TO 23+50
6	PLAN AND PROFILE – LINE "B" STATION 23+50 TO 28+90 △1
7	MISCELLANEOUS DETAILS
8	MISCELLANEOUS DETAILS



LOCATION MAP

APPROVED BY : MERRILLVILLE CONSERVANCY DISTRICT BOARD OF DIRECTORS

PAUL L. VOLK	CHAIRMAN OF THE BOARD	DATE
MILAN DAKICH	VICE–CHAIRMAN	DATE
JOSEPH T. SANOK	SECRETARY/TREASURER	DATE
EDWARD J. WESTBURY	BOARD MEMBER	DATE
THOMAS P. KEILMAN	BOARD MEMBER	DATE
CHRISTINE V. SAVARESE	DISTRICT COORDINATOR	DATE

RECORD DRAWING
DRAWN BY: RWP
DATE: 8–24–05

CERTIFIED BY:

PHILLIP E. GRALIK, P.E. 10001134 DATE

PHILLIP E. GRALIK REGISTERED No. PE10001134 STATE OF INDIANA PROFESSIONAL ENGINEER

AIRPORTS • ARCHITECTURE
R.W. ARMSTRONG
EST. 1961
ENVIRONMENTAL • TRANSPORTATION

2801 S. PENNSYLVANIA STREET
INDIANAPOLIS, INDIANA 46225
(317) 786–0461

8300 BROADWAY, SUITE E–1
MERRILLVILLE, INDIANA 46410
(219) 738–2258

GENERAL NOTES

1. A NEW OVERFLOW STRUCTURE IS A MANHOLE TYPE 2 WITH A WEIR TROUGH AS DETAILED ON SHEET 7.

2. CONTRACTOR SHALL VERIFY THE CONTOUR ELEVATIONS WHERE NECESSARY AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES WHICH CAUSE PROBLEMS WITH THE INTENT OF THIS DESIGN.

3. PRIOR TO BEGINNING ANY CONSTRUCTION WORK THE CONTRACTOR SHALL VERIFY ALL BENCH MARK ELEVATIONS AS WELL AS ELEVATION OF EXISTING UTILITIES THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES FOUND BETWEEN HIS MEASURED ELEVATIONS AND THOSE SHOWN ON THE PLANS.

4. THE CONTRACTOR SHALL TAKE PARTICULAR NOTE OF THE REQUIREMENTS INCLUDED IN SPECIFICATIONS SECTION 02221, PARAGRAPHS 1.04, 1.05 AND 3.08

5. NOT ALL UTILITY SERVICES LINES ARE INDICATED ON THE PLANS. ALL SERVICES LINES CUT OR DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO A CONDITION EQUAL TO OR BETTER THAN THE CONDITION OF THE ORIGINAL LINES, OR BE REPLACED WITH A NEW LINE OF THE SAME MATERIAL AND SIZE.

6. THE CONTRACTOR SHALL ROTATE THE ECCENTRIC CONE OF MANHOLES OR TAKE OTHER POSSIBLE ACTION TO LOCATE MANHOLE COVERS OUTSIDE OF THE WHEEL PATH OF VEHICLES WHERE MANHOLES ARE INSTALLED UNDER PAVEMENT.

7. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL HAVE ALL SECTION CORNERS WITHIN THE PROJECT LIMITS WITNESSED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN INDIANA. IF ANY SECTION CORNERS ARE DISTURBED DURING CONSTRUCTION, THE MONUMENT(S) SHALL BE REESTABLISHED BY A PROFESSIONAL LAND SURVEYOR TO THE REQUIREMENTS OF THE LAKE COUNTY SURVEYOR.

8. THE CONTRACTOR SHALL INSTALL A SECURE WATERTIGHT BULKHEAD OR PLUG IN THE NEW SANITARY SEWER TO PREVENT FLOODING OF THE NEW FACILITIES OR ADJACENT CONNECTING FACILITIES. THE BULKHEADS OR PLUGS SHALL BE INSTALLED AT LEAST IN THE FOLLOWING LOCATIONS:

   A. AT EACH NEW OVERFLOW STRUCTURE

   THE CONTRACTOR SHALL ONLY REMOVE THE BULKHEADS OR PLUGS OR OPEN THE VALVE AFTER SATISFACTORY COMPLETION OF TESTING AND ANY REQUIRED CORRECTIVE WORK IN THE VARIOUS PORTIONS OF THE NEW WORK AND UPON APPROVAL OF THE OWNER.

9. THE CONTRACTOR MAY CLOSE LOCAL ROADWAYS ONLY WITH THE APPROVAL OF THE APPROPRIATE HIGHWAY/STREET AUTHORITY AND AFTER DEVELOPING AND IMPLEMENTING A PLAN TO MAINTAIN LOCAL TRAFFIC AND EMERGENCY VEHICLE TRAFFIC AT ALL TIMES. THE CONTRACTOR SHALL PROVIDE LOCAL DETOUR AND OTHER SIGNAGE AND BARRICADES IN ACCORDANCE WITH INDOT SPECIFICATIONS.

10. THE FORCE MAIN AND GRAVITY SEWERS ARE SHOWN PARTIALLY LOCATED WITHIN EASEMENTS. OWNER WILL ACQUIRE ALL EASEMENTS AND PROVIDE THE CONTRACTOR WITH COPIES OF SUCH EASEMENTS. CONTRACTOR SHALL NOT PERFORM ANY WORK OUTSIDE OF EASEMENTS WITHOUT OBTAINING EXPRESS WRITTEN PERMISSION FROM THE PROPERTY OWNER AND PROVIDING ACCEPTABLE DOCUMENTATION TO THE PROPERTY OWNER AND ENGINEER.

11. THE NEW FORCE MAIN SHALL HAVE ALL ITS JOINTS RESTRAINED AND HAVE A MINIMUM COVER OF 48 INCHES. △1

12. CONTRACTOR SHALL COORDINATE HIS WORK WITH THE GAS COMPANY WHENEVER EXCAVATION WILL BE WITHIN 5' OF THE EXISTING GAS MAIN SHOWN IN THE PLANS.

13. CONTRACTOR SHALL COMPLY WITH MINIMUM HORIZONTAL AND VERTICAL SEPARATION REQUIREMENTS BETWEEN WATER AND SANITARY SEWER LINES PER 327 IAC 3-6-9, AND SHALL KEEP A MINIMUM OF 6" VERTICAL SEPARATION WITH OTHER EXISTING UTILITIES.

14. THE FLOW METERING STRUCTURE IS A PREFABRICATED FIBERGLASS STRUCTURE WITH A 9" THROAT WIDTH PARSHALL FLUME ABLE OF MEASURING A 5 MGD FLOWRATE AS FABRICATED BY PLASTI-FAB. TRACOM, OR EQUAL. THIS STRUCTURE MUST HAVE A HATCH OPENING AT THE TOP. THE STRUCTURE WILL ALSO HAVE AN ULTRASONIC FLOW METER, CONNECTED TO A CHART RECORDER INSIDE THE PUMP STATION. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE POWER AND DO ALL NECESSARY INSTALLATIONS AND CONNECTIONS BETWEEN THE DIFFERENT ELEMENTS OF THIS STRUCTURE, THE CONTROL PANEL AND THE PUMP STATION.

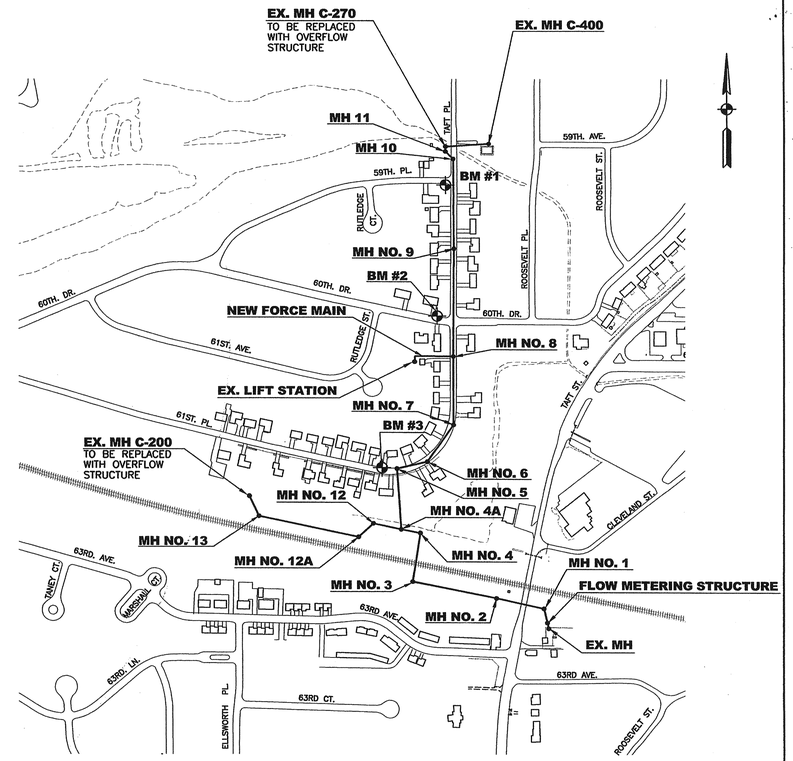
15. ANY TEMPORARY BYPASS PUMPING REQUIRED AS A RESULT OF THIS PROJECT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. A COPY OF THE TEMPORARY BYPASS PUMPING PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.

SYMBOLS

	EX. POWER POLE
	EX. STREET LIGHT
	EX. SIGN
	EX. SANITARY SEWER MANHOLE
	EX. STORM INLET OR MANHOLE
	EX. STORM CURB INLET
	EX. VALVE
	EX. FIRE HYDRANT
—OHU—	EX. OVERHEAUM UTILITY
—W—	EX. WATER LINE
—G—	EX. GAS LINE
—UT—	EX. BURIED TELEPHONE
—OHT—	EX. OVERHEAD TELEPHONE
—PET—	EX. PETROLEUM PIPELINE
—ST—	EX. STORM SEWER
	EX. SANITARY SEWER OR FORCE MAIN
—X—	EX. FENCE
	EX. TREE
	EX. HEDGE
	EX. TREE LINE
	EX. BUSH
	EX. PROPERTY LINE
—R/W—	EX. RIGHT-OF-WAY
	EX. EASEMENT
●	NEW SANITARY SEWER MANHOLE
	NEW FORCE MAIN
	NEW EASEMENT
	BENCHMARK
W	WELL
SB#1	SOIL BORING LOCATION

ABBREVIATIONS

CMP	CORRUGATED METAL PIPE
CONST.	CONSTRUCTION
ø OR DIA.	DIAMETER
D.I.	DUCTILE IRON
ESMT	EASEMENT
EL.	ELEVATION
F.O.	FIBER OPTIC CABLE
F.M.	FORCE MAIN
GALV.	GALVANIZED
I.D.	INSIDE DIAMETER
INV. EL.	INVERT ELEVATION
LF	LINEAR FEET
MH	MANHOLE
MAX.	MAXIMUM
MIN.	MINIMUM
P.E.	PERMANENT EASEMENT
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
APP. R/W	APPARENT RIGHT-OF-WAY
STA.	STATION
T.E.	TEMPORARY EASEMENT
TYP.	TYPICAL
WS&UE	PLATTED WATER, SEWER AND UTILITY EASEMENT



SCOPE OF WORK
N.T.S.

BENCHMARKS

BM ID #	DESCRIPTION	ELEVATION
1	TOP OF CHISELED CROSS ON FLANGE BOLT ON S.E. CORNER OF FIRE HYDRANT AT S.W. CORNER OF 59TH PLACE AND TAFT PLACE.	626.88
2	TOP OF CHISELED CROSS ON FLANGE BOLT ON S.E. CORNER OF FIRE HYDRANT AT N.W. CORNER OF 60TH DRIVE AND TAFT PLACE.	625.40
3	TOP OF "MAG" NAIL SET IN FACE OF WOODEN POLE AT WEST EDGE OF CONCRETE DRIVEWAY FOR RESIDENCE 2394 60TH PLACE.	623.20

HOLEY MOLEY SAYS
DON'T DIG BLIND"

"IT'S THE LAW"
CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-382-5544
CALL TOLL FREE
PER INDIANA STATE LAW IC-69-1991, IT IS AGAINST THE LAW TO EXCAVATE WITHOUT NOTIFYING THE UNDERGROUND LOCATION SERVICE TWO (2) WORKING DAYS BEFORE COMMENCING WORK.

RECORD DRAWING
DRAWN BY: RWP
DATE: 8-24-05

NO.	DATE	REVISIONS	BY	APPR.
4				
3				
2	~~11-21-03~~	~~REVISED PER IDEM COMMENTS~~	~~CLM~~	~~PC~~
1				

PHILLIP E. GRALIA
REGISTERED
No. PE10001134
STATE OF INDIANA
PROFESSIONAL ENGINEER

MERRILLVILLE CONSERVANCY DISTRICT
COMMUNITY UTILITIES SERVICE AREA
SANITARY SEWER OVERFLOW RELIEF PROJECT
SCOPE OF WORK, GENERAL NOTES, ABBREVIATIONS AND SYMBOLS

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AUDITS • ARCHITECTURE • ENVIRONMENTAL • TRANSPORTATION
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INDIANAPOLIS, INDIANA 46225 (317) 786-0461

JOB NO.	20016400.10	DRAWN	RWP	SCALE:	1"=300'		
DATE	4/03	DESIGNED	AJS	APPROVED	RDK	SHEET 2	OF 8