PDRSF
11.3.245.1V55

400 SW Sixth Avenue
Suite 802
Portland, OR 97204
503-274-8772
Fax: 503-274-1412

February 6, 2007

Michael Morales
Oregon Division of State Lands
775 Summer St. NE, #100
Salem, OR 97301-1279

Regarding: DSL Permit No.'s 30895-RP Renewal and 30897-RP Renewal

Dear Mr. Morales,

This letter is written in response to the permit renewals dated January 23, 2007. On behalf of our Client Schnitzer Steel Industries, Inc. we are requesting the following changes to the permit language:

30895-RP
Attachment A, Condition No. 10: Please include "dredging is conducted" at the end of the first sentence.

30897-RP
Attachment A, Condition No. 10: Please include "dredging is conducted" at the end of the first sentence.
Attachment A, Condition No. 11: Please use the same language as was provided in Condition No. 11 of permit 30895-RP which is consistent with the original water quality condition specified by the U.S. Army Corps of Engineers, Oregon DEQ and Oregon Department of State Lands in the original permits as well as the latest renewal version of 30895-RP.

Please let me know if you have any questions or would like to discuss these requested modifications.

Sincerely,

Jerald D. Ramsden
PB Ports & Marine
Parsons Brinckerhoff Quade & Douglas, Inc.

Cc: Jim Jakubiak, Schnitzer Steel Industries, Inc.

Over a Century of Engineering Excellence

USEPA SF
1336466

SCHN00239510

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Portland, OR 97204
503-274-8772
Fax: 503-274-1412

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Cc: Jim Jakubiak, Schnitzer Steel Industries, Inc.

Over a Century of Engineering Excellence

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
☎ 503-378-3805

Permit No.:	**30895-RP Renewal**
Permit Type:	**Removal**
Waterway:	**Willamette River**
County:	**Multnomah**
Expiration Date:	**January 23, 2008**
Corps No.:	**1992-00812**

NOTICE
This Permit
Must Be On
Work Site

SCHNITZER STEEL INDUSTRIES, INC.

IS AUTHORIZED IN ACCORDANCE WITH ORS 196.800 TO 196.990 TO PERFORM THE OPERATIONS DESCRIBED IN THE ATTACHED COPY OF THE APPLICATION, SUBJECT TO THE SPECIAL CONDITIONS LISTED ON ATTACHMENT A AND TO THE FOLLOWING GENERAL CONDITIONS:

1. This permit does not authorize trespass on the lands of others. The permit holder shall obtain all necessary access permits or rights-of-way before entering lands owned by another.
2. This permit does not authorize any work that is not in compliance with local zoning or other local, state, or federal regulation pertaining to the operations authorized by this permit. The permit holder is responsible for obtaining the necessary approvals and permits before proceeding under this permit.
3. All work done under this permit must comply with Oregon Administrative Rules, Chapter 340; Standards of Quality for Public Waters of Oregon. Specific water quality provisions for this project are set forth on Attachment A.
4. Violations of the terms and conditions of this permit are subject to administrative and/or legal action which may result in revocation of the permit or damages. The permit holder is responsible for the activities of all contractors or other operators involved in work done at the site or under this permit.
5. A copy of the permit shall be available at the work site whenever operations authorized by the permit are being conducted.
6. Employees of the Department of State Lands and all duly authorized representatives of the Director shall be permitted access to the project area at all reasonable times for the purpose of inspecting work performed under this permit.
7. Any permit holder who objects to the conditions of this permit may request a hearing from the Director, in writing, within twenty-one (21) calendar days of the date this permit was issued.
8. In issuing this permit, the Department of State Lands makes no representation regarding the quality or adequacy of the permitted project design, materials, construction, or maintenance, except to approve the project's design and materials, as set forth in the permit application, as satisfying the resource protection, scenic, safety, recreation, and public access requirements of ORS Chapters 196, 390 and related administrative rules.
9. Permittee shall defend and hold harmless the State of Oregon, and its officers, agents, and employees from any claim, suit, or action for property damage or personal injury or death arising out of the design, material, construction, or maintenance of the permitted improvements.

SIGNATORS COPY

NOTICE: If removal is from state-owned submerged and submersible land, the applicant must comply with leasing and royalty provisions of ORS 274.530. If the project involves creation of new lands by filling on state-owned submerged or submersible lands, you must comply with ORS 274.905 - 274.940. This permit does not relieve the permittee of an obligation to secure appropriate leases from the Department of State Lands, to conduct activities on state-owned submerged or submersible lands. Failure to comply with these requirements may result in civil or criminal liability. For more information about these requirements, please contact the Department of State Lands, 503-378-3805.

Michael Morales, W Region Manager
Wetlands & Waterways Conservation Div
Oregon Department of State Lands

Authorized Signature

January 23, 2007
Date Issued

ATTACHMENT A

Special Conditions for Removal/Fill Permit No. 30895-RP. <u>PLEASE READ AND BECOME FAMILIAR WITH CONDITIONS OF YOUR PERMIT.</u> This project may be site inspected by the Department of State Lands as part of our monitoring program. The Department has the right to stop or modify the project at any time if you are not in compliance with these conditions. A copy of this permit shall be available at the work site whenever authorized operations are being conducted.

1. This permit authorizes the removal of up to 101,000 cubic yards (total project) of sand and silt at International Terminals Berths 4 and 5 located at T2N, R1W, Section 35, tax lot 500, at Willamette River, mile 3.8, Portland, Multnomah County for maintenance dredging as outlined in the attached permit application, map and drawings, dated July 9, 2003.

2. No removal activities shall commence within waters of the State without first obtaining any required authorization from the City of Portland for upland disposal. If the local permit(s) results in any modifications in this project relative to this permit, the permit holder shall contact the Department and request adjustments to this authorization.

3. Removal activities in Willamette River, mile 3.8, International Terminal Berths 4 and 5, shall be conducted between July 1 and October 31, unless otherwise coordinated with ODFW and approved in writing by ODSL. The recommended in-water work timing may be modified prior to July 1, 2007. Contact the Department prior to start of work to verify in-water work timing.

4. The dimensions and depth of the berths shall be no greater than described in Application, Sheets 2 of 3 and 3 of 3. Any alteration of the plan requires Department of State Lands approval.

5. Dredging activity shall be conducted by clamshell bucket from a floating crane and as described Application. In the closed position, the bucket shall be sealed so as to minimize sediment resuspension. The barge shall be positioned so as to avoid grounding on the river bed or banks at any time.

6. All dredge materials shall be placed in barges equipped such that no material shall discharge to waters of the State during loading, transfer and unloading activity.

7. Any return waters generated during transfer and disposal activity shall be provided adequate settling time so that return waters meet water quality requirements of the Department of Environmental Quality.

8. Dredged materials shall be disposed of in appropriately permitted, upland disposal site(s). The selected disposal facility(ies), and any changes thereafter, shall be submitted to the Department for approval prior to use.

9. Any beneficial reuse of dredged materials is subject to a license from, and royalty payments to, the Department of State Lands.

10. An annual report shall be submitted to the Department no later than 30 days after the end of the in-water work period each year. The report shall include the amount of material dredged, the final dredge material disposal site and an approximation of the new basin depth.

Water Quality Conditions

11. Dredging activity shall be conducted in strict compliance with the DEQ approved_ Water Quality Management Plan (WQMP) for the site. The approved WQMP and its contents are incorporated into and become a binding condition of this Permit. The Plan outlines: an effects-based turbidity standard; implementation of action level and stop-work level turbidity thresholds; monitoring protocols; and reporting requirements.

12. Petroleum products, chemicals, fresh cement, sandblasted material and chipped paint or other deleterious waste materials shall not be allowed to enter waters of the state. No wood treated with leach able preservatives shall be placed in the waterway. Machinery refueling is to occur off-site or in a confined designated area to prevent spillage into waters of the state. Project-related spills into water of the state or onto land with a potential to enter waters of the state shall be reported to the Oregon Emergency Response System at 800-452-0311.

Contingencies

13. If any archaeological resources and/or artifacts are uncovered during excavation, all construction activity shall immediately cease. The State Historic Preservation Office shall be contacted (phone: 503-378-4168).

14. When listed species are present, the permit holder must comply with the federal Endangered Species Act. If previously unknown listed species are encountered during the project, the permit holder shall contact the appropriate agency as soon as possible.

15. The permittee is responsible for carrying-out the terms and conditions of this permit unless the permit is transferred to another party using forms provided by the Department.

16. The Department of State Lands retains the authority to temporarily halt or modify the project in case of unforeseen damage to natural resources.

Lower Willamette River Management Plan Consistency

The proposed activity at Willamette River, mile 3.8, is located within a designated "Open Water" area of the Lower Willamette River Management Plan (Plan). Maintenance dredging is identified in the Plan as an allowable activity in designated open waters, subject to the following additional conditions.

17. Schedule project development and maintenance to avoid peak public use periods for recreation activities present in the project area.

18. Schedule project development and maintenance to assure, as much as possible, that commercial navigational uses (barge, ship, tug traffic) remain unimpeded.

19. Strictly adhere to all public health, safety, and water quality standards, building and zoning codes required by the appropriate local government agencies, the Oregon Water Resources Department, the Oregon Department of Environmental Quality, and U.S. Environmental Protection Agency. Obtain all necessary permits and comply with all permit conditions.

20. There shall be no significant adverse effect to the riparian and aquatic life and habitat by any activity within shallow water (-15 feet Columbia River datum) or Rank 1 and 2 wildlife habitat areas.

21. The area dredged shall be the minimum necessary to accomplish the intended use and comply with these standards.

22. For access dredging, normal removal shall be sufficient to provide access for a period no less than 24 months.

23. Levels of pollutants released into waters by dredging and disposal shall conform to standards approved by DEQ.

24. Sides of dredged channels and basins should be sloped to facilitate physical stabilization. Slopes shall be no steeper than 3:1.

25. Critical periods of fish and wildlife activity as determined by Oregon Department of Fish and Wildlife (ODFW) (spawning, passage, nesting, etc.) shall be avoided.

26. Dredging will not be allowed from public beach areas.

27. All dredging operations must use disposal sites acceptable to the U.S. Army Corps of Engineers, the Department of State Lands, and local land use regulations.

28. Dredging shall be timed so that equipment stays clear of recreational and commercial navigation users of the river, especially during the recreation use season (March – October).

Renewed & Modified: January 23, 2007

G:\WWC\AttachmentAwestLAS\RP Removal Permits\30895-RP 07 & Modified.doc

US Army Corps of Engineers
Portland District

JOINT PERMIT APPLICATION FORM

THIS APPLICATION WILL MEET THE REQUIREMENTS OF BOTH AGENCIES

AGENCIES WILL ASSIGN NUMBERS

Corps Action ID Number _____ Oregon Division of State Lands Number 30895-RP

RECEIVED JUL 09 2003 DIVISION OF STATE LANDS

SEND ONE SIGNED COPY OF YOUR APPLICATION TO EACH AGENCY

District Engineer	State of Oregon
ATTN: CENWP-OP-GP	Division of State Lands
P.O. Box 2946	775 Summer Street N.E.
Portland, OR 97208-2946	Salem, OR 97310
503-808-4373	503-378-3805

1. APPLICANT NAME: Schnitzer Steel Industries, Inc.
Address: PO Box 10047, Portland, OR 97296-0047, Attn: Jim Jakubiak
Business Phone #: (503) 224-9900
Home Phone #: N/A
FAX #: (503) 286-6948

[ ] Co-Applicant [x] Authorized Agent [ ] Contractor

Name: Jerald Ramsden
Address: Parsons Brinckerhoff Quade & Douglas, Inc., 400 SW 6th Ave., Suite 802, Portland, OR 97204
Business Phone #: (503) 274-8772
Home Phone #: N/A
FAX #: (503) 274-1412

Property Owner *(if different than applicant)*
Name: Schnitzer Investment Corporation
Address: PO Box 10047, Portland, OR 97296-0047
Business Phone #: (503) 224-9900
Home Phone #: N/A
FAX #: N/A

2. PROJECT LOCATION

Street, road or other descriptive location: International Terminals, 12005 N. Burgard Rd.

Legal Description			
Quarter	Section	Township	Range
SW	35	[2] North [ ] South	[ ] East [1] West

In or Near (City or Town) Portland County Multnomah Tax Map # 2N1W35 Tax Lot # 500
Waterway Willamette River River Mile 3.8 Latitude 45° 36' 30" N Longitude 122° 46' 52" W

Is consent to enter property granted to the Corps and the Division of State Lands? [x] Yes [ ] No

3. PROPOSED PROJECT INFORMATION

Activity Type: [ ] Fill [x] Excavation (removal) [ ] In-Water Structure [ ] Maintain/Repair an Existing Structure

Brief Description: Maintenance dredging to provide safe navigation access to and berthing within Berths 4 and 5 at International Terminals

Fill will involve N/A cubic yards annually and/or _____ cubic yards for the total project
_____ cubic yards in a wetland or below the ordinary high water or high tide line

Fill will be: [ ] Riprap [ ] Rock [ ] Gravel [ ] Sand [ ] Silt [ ] Clay [ ] Organics [ ] Other _____

Fill Impact Area is _____ Acres; _____ length; _____ width; _____ depth

Removal will involve 20,000 every other year on average cubic yards annually and/or 101,000 (i.e. 61,000 initially and 40,000 thereafter) cubic yards for the total project
101,000 cubic yards below the ordinary high water or high tide line

SCHN00239517

Removal will be: [ ] Riprap [ ] Rock [ ] Gravel [x] Sand [x] Silt [ ] Clay [ ] Organics [ ] Other _____

Removal Impact Area is 6.6 first year, 3.7 thereafter Acres; 1600 ft length; 120 ft typical (220 ft max.) width; Varies: max of -42 ft CRD in Berth 4 and -36 ft CRD in Berth 5 depth

Is the Disposal area: Upland? [x] Yes [ ] No Wetland/Waterway? [ ] Yes [x] No

	Yes	No
Are you aware of any Endangered Species on the project site?	x	
Are you aware of any Cultural Resources on the project site?		x
Is the project site near a Wild and Scenic River?		x

If Yes, please explain in the project description (on page 2, block 4).

4. PROPOSED PROJECT PURPOSE AND DESCRIPTION

Project Purpose and Need: Presented in attached supplemental sheets.

Project Description: Presented in attached supplemental sheets.

How many project drawing sheets are included with this application? 3

NOTE: A complete application must include drawings and a location map submitted on separate 8-1/2 x 11 sheets.

Will any material, construction debris, runoff, etc. enter a wetland or waterway? [ ] Yes [x] No

If yes, describe the type of discharge (above) and show the discharge location on the site plan.

Estimated Start Date: August 15, 2003 Estimated Completion Date: August 14, 2008

5. PROJECT IMPACTS AND ALTERNATIVES

Describe alternative sites and project designs that were considered to avoid impacts to the waterway or wetland.

Presented in attached supplemental sheets.

Describe what measures you will use (before and after construction) to minimize impacts to the waterway or wetland.

Presented in attached supplemental sheets.

NOTE: If necessary, use additional sheets.

6. ADDITIONAL INFORMATION

Adjoining Property Owners and Their Addresses and Phone Numbers.

Port of Portland
121 NW Everett
Portland, OR 97209
(503) 944-7000

Northwest Terminal Company
P.O. Box 99007
Seattle, WA 98199-0007

Has the proposed activity or any related activity received the attention of the Corps of Engineers or the State of Oregon in the past, e.g., wetland delineation, violation, permit, lease request, etc.? [x] Yes [ ] No

If yes, what identification number(s) were assigned by the respective agencies?

Corps # 92-00812 State of Oregon# 3701

7. CITY/COUNTY PLANNING DEPARTMENT AFFIDAVIT (to be completed by local planning official)

☐ This project is not regulated by the local comprehensive plan and zoning ordinance.

☒ This project has been reviewed and is consistent with the local comprehensive plan and zoning ordinance.
(Not approving upland disposal site)

☐ This project has been reviewed and is **not** consistent with the local comprehensive plan and zoning ordinance.

☐ Consistency of this project with the local planning ordinance cannot be determined until the following local approval(s) are obtained:

- ☐ Conditional Use Approval
- ☐ Development Permit
- ☐ Plan Amendment
- ☐ Zone Change
- ☐ Other _____

An application ☐ has ☐ has not been made for local approvals checked above.

Signature (of local planning official)	Title	City/County	Date
[signature]	City Planner	Portland	6/27/03

8. COASTAL ZONE CERTIFICATION

If the proposed activity described in your permit application is within the Oregon coastal zone, the following certification is required before your application can be processed. A public notice will be issued with the certification statement which will be forwarded to the Oregon Department of Land Conservation and Development (DLCD) for its concurrence or objection. For additional information on the Oregon Coastal Zone Management Program, contact the department at 1175 Court Street N.E., Salem, Oregon 97310 or call 503-373-0050.

Certification Statement

I certify that, to the best of my knowledge and belief, the proposed activity described in this application complies with the approved Oregon Coastal Zone Management Program and will be completed in a manner consistent with the program.

Print/Type Name	Title
Applicant Signature	Date

9. SIGNATURE FOR JOINT APPLICATION (REQUIRED)

Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and, to the best of my knowledge and belief, this information is true, complete, and accurate. I further certify that I possess the authority including the necessary requisite property interests to undertake the proposed activities. I understand that the granting of other permits by local, county, state or federal agencies does not release me from the requirements of obtaining the permits requested before commencing the project. I understand that local permits may be required before the state removal-fill permit is issued. I understand that payment of the required state processing fee does not guarantee permit issuance.

Print/Type Name (applicant)	Title
James L. Jakubik	Environmental Administrator
Applicant Signature (applicant)	Date
[signature]	June 27, 2003

I certify that I may act as the duly authorized agent of the applicant.

Print/Type Name	Title
Jerald D. Ramsden	Lead Coastal Engineer
Authorized Agent Signature)	Date
[signature]	June 27, 2003

SCHN00239520

SUPPLEMENTAL WETLAND IMPACT INFORMATION*
(FOR WETLAND FILLS ONLY)

Site Conditions of impact area

Impact area is: [ ] Ocean [ ] Estuary [X] River [ ] Lake [ ] Stream [ ] Freshwater Wetland

Note: Estuarian Resource Replacement is required by state law for projects involving intertidal or tidal marsh alterations. A separate Wetlands Resource Compensation Plan may be appended to the application.

Has a wetland delineation been completed for this site? [ ] Yes [X] No

If yes, by whom:

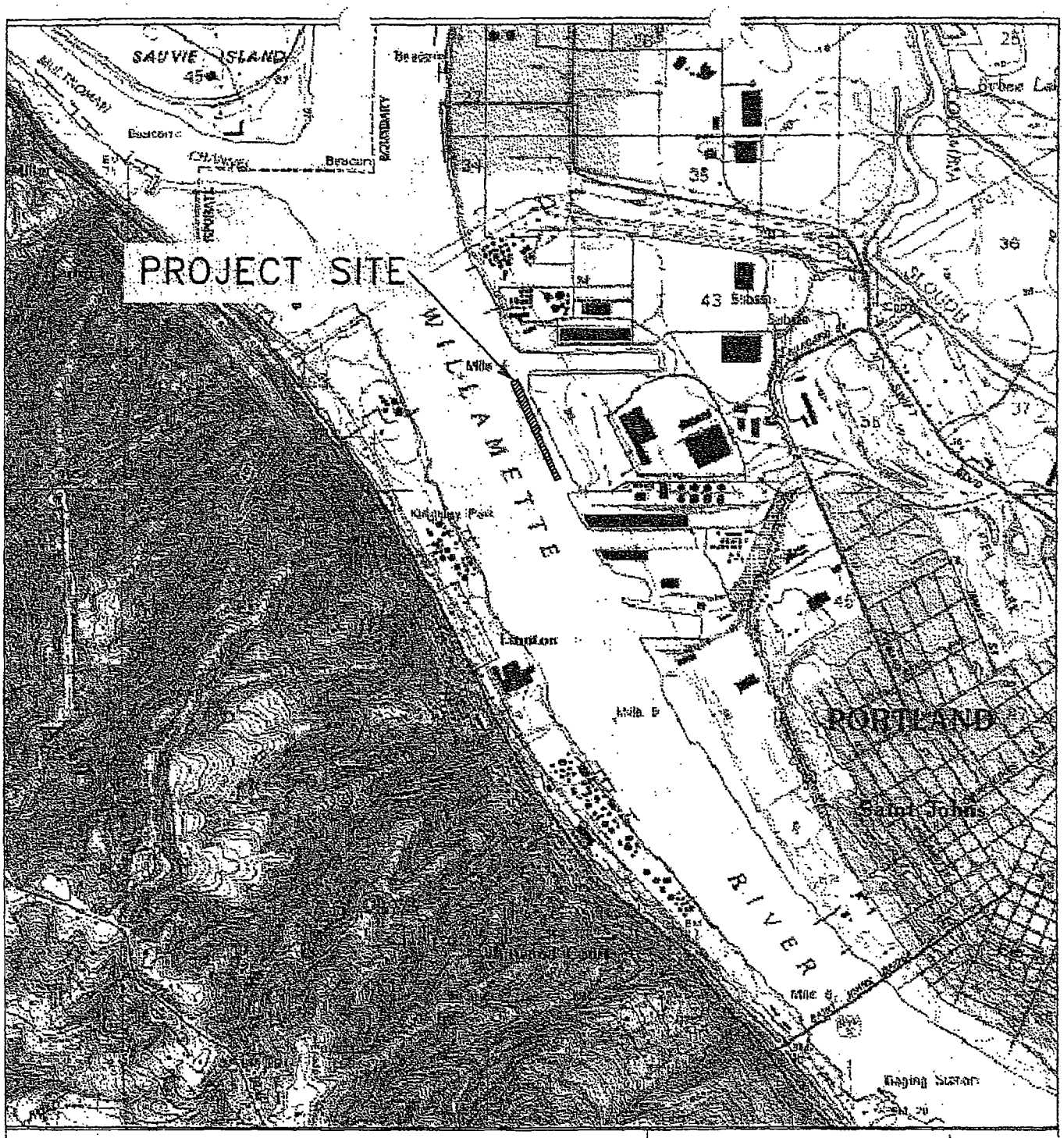
Describe the existing physical and biological character of the wetland/waterway site by area and type of resource (use separate sheets and photos, if necessary).

Presented in the attached Biological Assessment

Resource Replacement Mitigation
Describe measures to be taken to replace unavoidably impacted wetland resources.

No wetland resources are affected by the proposed work. Therefore, no mitigation is proposed.

* Because this information is not necessary for a complete application, you may submit this sheet and other environmental information after submitting your application.



NOTE 1. LOCATION MAP OBTAINED FROM US GEOLOGICAL SURVEY QUAD SHEET FOR LINNTON, OR

Scale In Feet
0 1000 2000

PURPOSE: MAINTAIN NAVIGATION ACCESS AND BERTHS FOR SHIPS AND BARGES
VERTICAL DATUM: COLUMBIA RIVER DATUM (CRD), CRD IS 1.6' ABOVE NGVD AT WILLAMETTE RIVER MILE 3.8
ADJACENT PROPERTY OWNERS:
1. NORTHWEST TERMINAL COMPANY
2. PORT OF PORTLAND

LATITUDE: 45° 36' 30" N
LONGITUDE: 122° 46' 52" W

PROPOSED MAINTENANCE DREDGING AT INTERNATIONAL TERMINALS

IN: WILLAMETTE RIVER
AT: RIVER MILE 3.8
COUNTY OF: MULTNOMAH
APPLICATION BY: SCHNITZER STEEL INDUSTRIES, INC.
SHEET 1 OF 3 DATE: 6/03/03

SCHN00239522

SUPPLEMENTAL DATA

Joint Application for Maintenance Dredging in Berths 4 and 5,
International Terminals, Portland, Oregon

4. PROPOSED PROJECT PURPOSE AND DESCRIPTION

Project Purpose and Need

The project purpose is to maintain safe navigation access and berthing for the existing facilities associated with Berths 4 and 5 at International Terminals (as shown in Sketch 1 of 3, attached) by conducting periodic maintenance dredging as needed. The two berths are existing facilities and have been maintained under previous maintenance dredging permits (U.S. Army Corps of Engineers Section 10/404 Permit #92-00812 and Oregon Division of State Lands Removal-Fill Permit No. 3701).

Berth 4 is currently used to export bulk metal products with a conveyor system. Berth 5 has a floating dock with a crane and is used for temporary moorage. The two berths combined are approximately 1600 ft long. The site was originally developed in the early 1940's for military ship construction. Over the past three decades, the site has been primarily used to support metal recycling and vessel dismantling operations.

Due to shoaling within each of the berths, there is a critical and urgent need to maintain these facilities as shown by the proposed dredge prism in sketch 3 of 3, attached.

Project Description

The project involves dredging the area to a maximum depth of –42 ft Columbia River Datum (CRD) in Berth 4 and -36 ft CRD in Berth 5 as shown in Sketches 2 and 3 of 3, attached. The proposed dredge footprint covers an area of approximately 6.6 acres with a maximum length of 1600 ft and maximum width of 220 ft. The initial dredge volume associated with the proposed dredge prism is 61,000 cy. Authorization for an additional 40,000 cy is requested for the remainder of the permit duration (i.e. 20,000 cy every other year on average in years two through five, based on a five year permit). Dredging will be by clamshell bucket with transport to approved upland facilities and/or locations by barge, truck and/or rail.

Recent sediment sampling results are attached to this application and have been utilized in development of the Biological Assessment.

5. PROJECT IMPACTS AND ALTERNATIVES

Describe alternative sites and project designs that were considered to avoid impacts to the waterway or wetland.

No alternatives were considered for maintenance dredging in the berths since they are existing, previously permitted facilities in need of maintenance. The site is designated for marine industrial use by the Lower Willamette River Management Plan, which recognizes

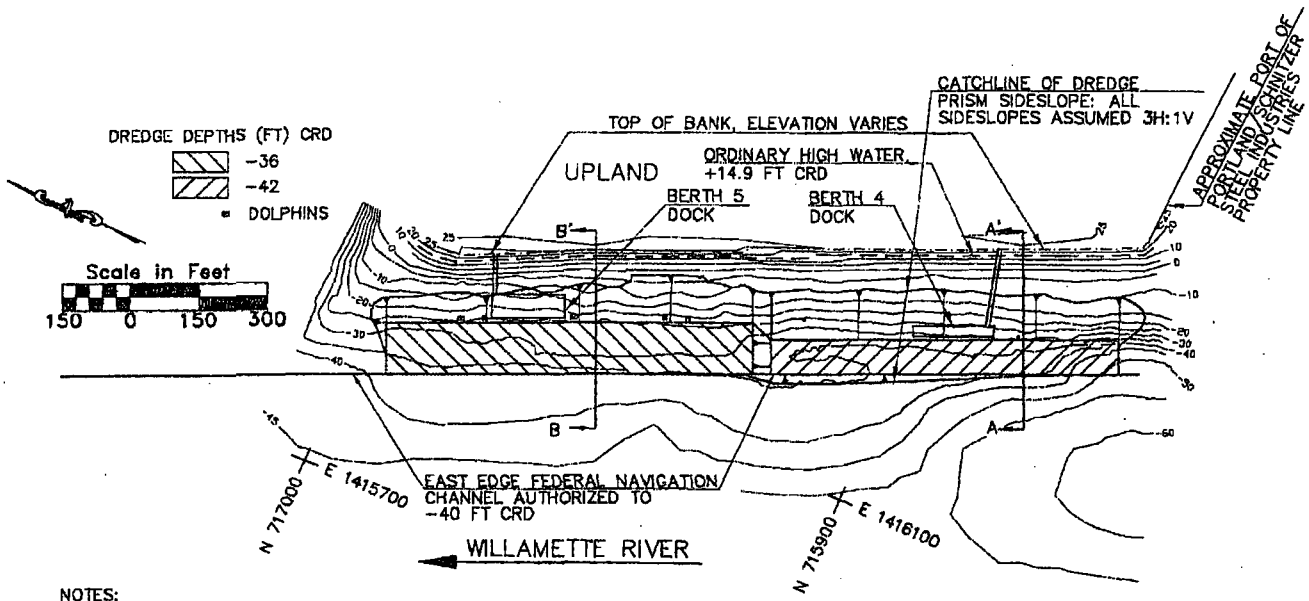
SCHN00239523

the important need to protect and fully utilize the limited areas of Portland Harbor so designated.

Describe what measures you will use (before and after construction) to minimize impacts to the waterway or wetland.

Construction will be conducted during an allowable fish-related inwater work period, although the emergency need and permitting time frame may require extension of the regularly scheduled Oct. 31 and/or Jan. 31 closure to allow completion of the project. Best management practices will be utilized during maintenance dredging as outlined in the Programmatic Biological Opinion (National Marine Fisheries Service dated June 14, 2002 that covers maintenance dredging of existing port terminals) and the Corps of Engineers Nationwide Permit (that includes maintenance dredging) to protect water quality and benthic resources. The proposed dredging will provide one foot of advanced maintenance (already accounted for in the maximum proposed dredge depths) to reduce to the extent practicable the frequency of maintenance dredging events.

SCHN00239524



NOTES:

NOTE 2. THE ORDINARY HIGH WATER ELEVATION IS 14.9 FT CRD ACCORDING TO THE U.S. ARMY CORPS OF ENGINEERS, PORTLAND DISTRICT.

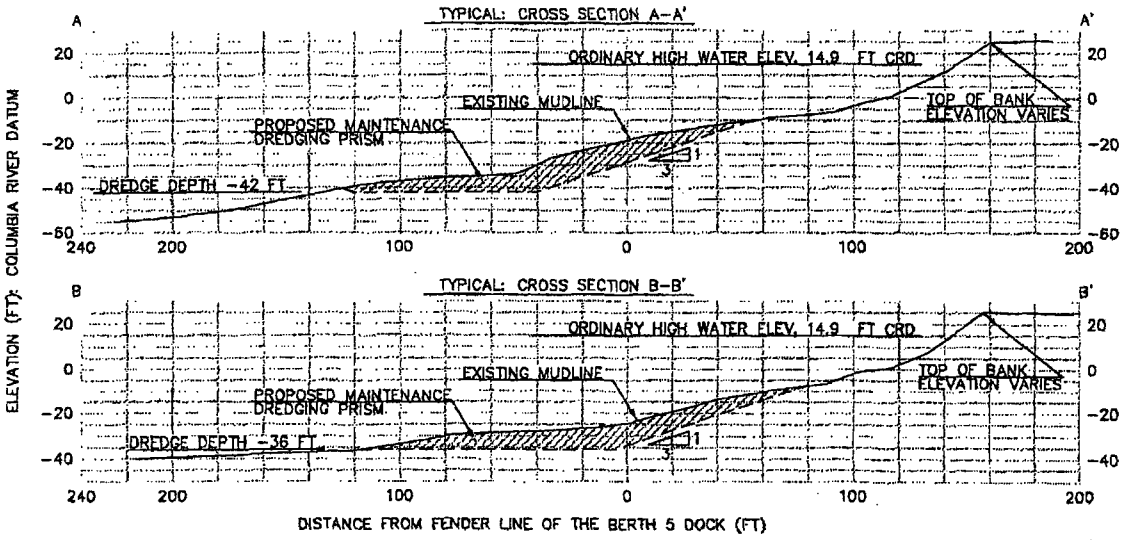
NOTE 3. DEPTH SOUNDINGS (FEET, CRD) WERE MEASURED BY MINISTER & GLAESER SURVEYING, INC. IN SEPTEMBER, 2002.

NOTE 4. SCHNITZER STEEL INDUSTRIES, INC. PROPOSES TO INITIALLY DREDGE AN ESTIMATED 61,000± CY AS SHOWN. ESTIMATED MAINTENANCE DREDGING TO REMOVE NATURALLY SHOALED MATERIALS INCLUDES UP TO 40,000 CY (I.E. 20,000± CY EVERY OTHER YEAR ON AVERAGE) IN SUBSEQUENT YEARS.

NOTE 5. DREDGING DEPTHS SHOWN ARE MAXIMUM DEPTHS AND INCLUDE ONE FOOT OF ADVANCED MAINTENANCE AND ONE FOOT OF ALLOWABLE OVERDEPTH DUE TO DREDGING INACCURACY.

NOTE 6. SCHNITZER STEEL INDUSTRIES, INC. PROPOSES TO DREDGE THE MATERIAL USING A CLAMSHELL BUCKET OPERATED FROM A FLOATING CRANE. DREDGED MATERIAL WILL BE PLACED IN APPROVED UPLAND LOCATIONS.

	PURPOSE: MAINTAIN NAVIGATION ACCESS AND BERTHS FOR SHIPS AND BARGES VERTICAL DATUM: COLUMBIA RIVER DATUM (CRD), CRD IS 1.6' ABOVE NGVD AT WILLAMETTE RIVER MILE 3.8 ADJACENT PROPERTY OWNERS: 1. NORTHWEST TERMINAL COMPANY 2. PORT OF PORTLAND	LATITUDE: 45° 36' 30" N LONGITUDE: 122° 46' 52" W HORIZONTAL DATUM: OREGON STATE PLANE COORDINATE SYSTEM, NORTH ZONE (NAD-27), U.S. SURVEY FEET	PROPOSED MAINTENANCE DREDGING AT INTERNATIONAL TERMINALS IN: WILLAMETTE RIVER AT: RIVER MILE 3.8 COUNTY OF: MULTNOMAH APPLICATION BY: SCHNITZER STEEL INDUSTRIES, INC. SHEET 2 OF 3 DATE: 8/03/03



PURPOSE: MAINTAIN NAVIGATION ACCESS AND BERTHS FOR SHIPS AND BARGES

VERTICAL DATUM: COLUMBIA RIVER DATUM (CRD), CRD IS 1.6' ABOVE NGVD AT WILLAMETTE RIVER MILE 3.8

ADJACENT PROPERTY OWNERS:
1. NORTHWEST TERMINAL COMPANY
2. PORT OF PORTLAND

LATITUDE: 45° 36' 30" N
LONGITUDE: 122° 46' 52" W

SCALE: AS SHOWN

PROPOSED MAINTENANCE DREDGING AT INTERNATIONAL TERMINALS

IN: WILLAMETTE RIVER
AT: RIVER MILE 3.8
COUNTY OF: MULTNOMAH
APPLICATION BY: SCHNITZER STEEL INDUSTRIES, INC.

SHEET 3 OF 3 DATE: 6/03/03

SCHN00239526

INTERNATIONAL TERMINALS (BERTHS 4 AND 5) MAINTENANCE DREDGING
BIOLOGICAL ASSESSMENT
Portland, Oregon

Prepared for

Parsons Brinckerhoff

400 SW Sixth Street, Suite 802
Portland, OR 97204

Prepared by

MCS Environmental, Inc.

6505 – 216th Street SW, Suite 100
Mountlake Terrace, WA 98043

July 8, 2003
34088-001

SCHN00239527

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International Terminals (Berths 4 and 5) Maintenance Dredging

1.0 INTRODUCTION

Section 7 of the Endangered Species Act (ESA) requires federal agencies to ensure that any action carried out by the agency is "not likely to jeopardize the continued existence of any [listed] species or result in the destruction or adverse modification of habitat of such species...." Issuance of a federal permit is an agency action pursuant to Section 7.

Schnitzer Steel Industries, Inc. (SSI) is applying for a permit from the US Army Corps of Engineers (Corps) to conduct maintenance dredging of Berths 4 and 5 at the International Terminals site. This requires a Section 10/404 permit from the Corps, which qualifies as an action by a federal agency for purposes of Section 7 of the ESA. Pursuant to Section 7, the Corps is required to produce a biological evaluation (BE) of the potential effect of issuing the permit on listed species or their critical habitat. To help the Corps evaluate the potential effects of the proposed project on listed species, MCS Environmental, Inc. (MCS) has prepared this Biological Assessment (BA) on the behalf of SSI.

To determine if listed species or their critical habitat are in the vicinity of the proposed project, MCS consulted the National Marine Fisheries Service (NMFS), Northwest Region <http://www.nwr.noaa.gov/esalist.htm> and sent a written request to the US Fish and Wildlife Service (USFWS). Based on information from the NMFS Website and a response from USFWS (McMaster, K., USFWS, pers. com., June 12, 2003; Appendix A), the following listed species may occur in the project area and are therefore addressed in this BA:

- Lower Columbia River chinook salmon (*Oncorhynchus tshawytscha*), listed as threatened in 1999.
- Upper Willamette River chinook salmon (*O. tshawytscha*), listed as threatened in 1999.
- Columbia River run chum salmon (*O. keta*), listed as threatened in 1999.
- Lower Columbia River steelhead trout (*O. mykiss*), listed as threatened in 1998.
- Upper Willamette River steelhead trout (*O. mykiss*), listed as threatened in 1999.
- Bald eagle (*Haliaeetus leucocephalus*), listed as threatened in 1978.
- Water howellia (*Howellia aquatilis*), listed as threatened in 1994.

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This BA also addresses southwestern Washington–Columbia River coastal cutthroat trout (*O. clarki clarki*), a species proposed for listing and Lower Columbia River–Southwest Washington coho salmon (*O. kisutch*), a candidate for listing. Should cutthroat trout or coho salmon become listed during the life of the proposed project, this BA could be used to aid the Corps during any subsequent Section 7 consultation with NMFS related to these species.

Golden paintbrush (*Castilleja levisecta*), Willamette daisy (*Erigeron decumbens* var. *decumbens*), Bradshaw's lomatium (*Lomatium bradshawii*), Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*), and Nelson's checker-mallow (*Sidalcea nelsoniana*) are species listed as threatened or endangered but are not addressed in this BA because the habitats required by these species are not within the action area (Federal Register Vol. 58, No. 28; Vol. 62, No. 112; and Vol. 65, No. 16).

2.0 PROJECT DESCRIPTION

2.1 PROJECT AND ACTION AREAS

The "project area" is defined as Berths 4 and 5 at the International Terminals site on the Willamette River at Section 35, Township 2N, Range 1W (Figure 1). Photographs of the project area are in Appendix B.

The "action area" for fish resources is defined as the area potentially impacted by maintenance dredging activities. Therefore the action area is defines as the dredging area plus an additional 500 feet riverward, 1,000 feet upstream and 1,000 feet downstream of the dredging area. The "action area" for avian species is defined as a one-mile radius around the project area.

2.2 PROPOSED ACTION DESCRIPTION

SSI proposes to conduct maintenance dredging of Berths 4 and 5 at the International Terminals site to maintain safe navigation access and berthing for the dock facilities by conducting periodic maintenance dredging as needed. The berths have been maintained under previous maintenance dredging permits (US Army Corps of Engineers Section 10/404 Permit #92-00812 and Oregon Division of State Lands Removal–Fill Permit No. 3701). The site is designated for marine industrial use by the Lower Willamette River Management Plan, which recognizes the need to protect and fully use the limited areas of Portland Harbor so designated. Over the past three decades, the site has been primarily used to support metal recycling and vessel dismantling operations, as well as temporary moorage.

The project involves dredging the area to a maximum depth of –36 to –42 feet Columbia River Datum (CRD) (Figures 2 and 3). The proposed dredge footprint covers about 6.6 acres with a length

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of about 1600 feet and a maximum width of 220 feet. The initial dredge volume associated with the proposed dredge prism is 61,000 cubic yards (cy).

SSI proposes to dredge another 40,000 cy as needed for ongoing maintenance (e.g. 20,000 cy every other year on average in years two through five, based on a five-year permit as shown in Table 1). Dredging will be by clamshell bucket, with transport to approved upland facilities or locations by barge, truck or rail. Factors such as bucket impact, penetration, withdrawal, and dewatering have been identified as contributing to the resuspension of sediment during clamshell dredge operation (e.g., Hayes et al. 1988). Most of the dewatering will occur as the clamshell excavates and transfers the individual load, which occurs with all dredging operations. The material will have high water content, and some release is expected. The rate at which suspended sediments settle back to the bottom is generally exponential with rapid declines within 200 to 400 feet (Collins 1995). Because of this rapid resettlement, it is anticipated that the area experiencing higher turbidity levels would be relatively small.

The proposed action (i.e. maintenance dredging of an existing facility using a clamshell bucket) and site conditions (see Section 3.0) are consistent with the conditions specified in the *Programmatic Biological Assessment for Categories of Activities Requiring Department of the Army Permits* (Corps 2000b) and NMFS biological opinion of the programmatic BA (NMFS 2002).

2.3 CONSERVATION MEASURES

Construction would occur during times when chinook and chum salmon and steelhead trout are least likely to be present in the action area. All in-water work is scheduled for the in-water work window for the Willamette River (from July 1 through October 1 and December 1 through January 31). However, the urgency of the initial dredge and the permitting time frame may require some work during the regularly scheduled closure to allow completion of the initial dredge. Some construction may occur during the bald-eagle wintering season (October 31 – February 31).

In addition to timing in-water work to avoid the juvenile migration period, SSI proposes to use best management practices during maintenance dredging as outlined in NMFS (2002) and the Corps Nationwide Permit for maintenance dredging to protect water quality and benthic resources. The proposed dredging will provide one foot of advanced maintenance (already accounted for in the maximum proposed dredge depths) to minimize maintenance dredging events.

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3.0 EXISTING ENVIRONMENTAL CONDITIONS AND EFFECTS OF THE ACTION

This section discusses existing environmental conditions and any temporary and permanent effects of project activities (Section 2.2), as well as the net effects of those activities (Table 2). It discusses only those environmental attributes and associated components of habitat quality that are important to the listed species addressed, and that are likely to be affected by the project in some way.

3.1 GENERAL

3.1.1 Existing Conditions

Approximately half of the Lower Willamette River flows through forested areas, one third through agricultural areas, and five percent through urban areas, such as Portland. The International Terminals site is located at river mile (RM) 3.6 in Portland. Land use surrounding the site is primarily industrial, and riverbanks have been heavily modified with riprap or bulkheads. Berths 4 and 5 are located in the Willamette River. The site was originally developed in the early 1940's for military ship construction. Berth 4 is currently used to export bulk metal products with a conveyor system. Berth 5 has a floating dock with a crane and is used for temporary moorage.

3.1.2 Effects of the Action

The proposed project will not result in increased boat traffic or associated noise.

A clamshell dredge will be used for the proposed project. Increased noise from dredging may cause salmonids, other fish species, and bald eagles to avoid the area during construction. Clamshell buckets are not expected to entrain juvenile, sub–adult, or adult salmonids, but may entrain demersal fish and epibenthic invertebrates.

Results of studies on the effects of waterborne sound on fish behavior have been ambiguous and do not allow for prediction of responses (Popper and Carlson 1998). The level at which fish can detect sound depends upon the level of background noise. Sound must be at least 10 dB more intense than background noise to avoid being masked by ambient noise at the same or nearby frequencies (Tavolga 1971). Popper and Carlson (1998) note that the effects of noise depend greatly on the flow field in which the noise occurs. The level of ambient or background noise can drastically reduce a fish's ability to detect other sounds. Wind and precipitation at the surface, water turbulence, animal sounds, human activity and many other factors create significant levels of underwater noise with or without ice cover (ICES 1994, Richardson et al. 1995, and H. Cleator, pers. com. as in Stewart 2001). Since most background noise is within the hearing range of fishes, the noise generated by

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background conditions and river flows adjacent to the project area will probably modify the reaction of fish to noise generated by the project

Above-water noise and movement of machinery at the site are much more likely to frighten away fish predators such as kingfishers, herons, grebes, and mergansers, than in–water noise is to frighten fish into areas where they might be more vulnerable to predators such as native char, cutthroat trout, and juvenile coho salmon.

Proposed maintenance dredging will allow present operations to continue, and noise generated will not differ much from existing operations at this site and many other sites along the Willamette River. Because the primary noise sources will be about 50 feet from shore, smaller juvenile salmonids moving along the shoreline would likely remain nearshore, rather than moving offshore toward the noise. Fish traveling downstream in the channel would avoid moving barges and tugs by moving away from the vessel path and diving deeper. Because of expected low densities of potential fish predators on juvenile salmonids in mid–channel, this short-term avoidance behavior is unlikely to result in increased predation losses.

3.2 WATER QUALITY AND STORMWATER

3.2.1 Existing Conditions

Urbanization has reduced water quality in the area via direct inputs of municipal and industrial discharges and indirect inputs from agricultural, silvicultural, urban, and industrial land. The Willamette River is currently on the 1998 Oregon Department of Environmental Quality (ODEQ) 303d list as impaired for temperature, bacteria, biological criteria, and toxics. However, ODEQ has been monitoring water quality in the Lower Willamette basin since 1986 with special intensive studies in the Tualatin and Lower Willamette subbasins in 1986-1990. These studies show that water quality in the Lower Willamette Basin has improved significantly (Cude 2003).

3.2.2 Effects of the Action

Because the proposed maintenance dredging will not increase impervious surfaces, stormwater runoff will not increase. The proposed maintenance dredging will not increase boat traffic, so the chance of water quality degradation from pollution from boats will not increase.

The proposed maintenance dredging will cause temporary and localized impacts on water quality in the vicinity of active dredging. Turbidity will increase slightly in a limited mixing zone downstream of active work areas. Elevated turbidity plumes that may occur in localized areas near active dredging should be dissipated relatively rapidly by tidal and river currents (e.g., FSI et al. 1999).

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In-water work will be conducted during periods when few if any juvenile anadromous fish will be present.

Juvenile salmon have been shown to avoid areas of high turbidities (e.g., Servizi 1988), although they may seek out areas of moderate turbidity (10 to 80 nephelometric turbidity units [NTU]), presumably as cover against predation (Cyrus and Blaber 1987a,b). Feeding efficiency of juveniles is also impaired by turbidities over 70 NTU, well below sub–lethal stress levels (Bisson and Bilby 1982). Reduced preference by adult salmon homing to spawning areas has been demonstrated where turbidities exceed 30 NTU (20 mg/L suspended sediments). However, chinook salmon exposed to 650 mg/L of suspended volcanic ash were still able to find their natal water (Whitman et al. 1982). Based on these data, it is unlikely that the locally elevated turbidities generated by the proposed action would directly affect juvenile or adult salmonids that may be present.

Short-term effects from increased turbidity are expected during dredging, but these effects from sediment resuspension should be only temporary. Dredging is not expected to result in any long-term adverse changes in levels of chemical contamination, temperature, or dissolved oxygen. Therefore, the net effects of dredging will be to maintain water quality in the project area.

3.3 FLOW AND CURRENT PATTERNS

3.3.1 Existing Conditions

Flows in the Willamette River are controlled by 13 impoundments on several of its larger tributaries and by the Willamette Falls at RM 26.5. Below the falls, the Willamette River is tidally influenced by the Pacific Ocean a hundred miles to the west (Corps 2000a) as well as flow conditions in the Columbia River. The width of the Willamette River at the project site is approximately 1700 feet wide during typical river flows with maximum depths of approximately –50 feet to –60 feet CRD in the vicinity of berths 4 and 5 at International Terminals.

3.3.2 Effects of the Action

The proposed maintenance dredging is not expected to alter flow or current patterns of the river since the proposed changes in the bathymetry are minor in relation to the cross sectional area of the river at this location.

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3.4 SEDIMENTS, SUBSTRATE, AND BATHEMETRY

3.4.1 Existing Conditions

Currently the depth within the existing berths ranges from –22 feet CRD to –51 feet CRD. Dredging will change these depths to –36 feet CRD in berth 5 and –42 feet CRD in berth 4. Dredging will remove 61,000 cy of sediment in the first year of the permit, followed by an additional 20,000 cy every other year on average over the remainder of the permit duration. The sediments exposed by dredging are expected to be similar to surficial sediments present throughout the project area.

MCS collected two sediment cores in the berths during March 2003 and Floyd Snider McCarthy, Inc. evaluated them using the analyte list suggested in the Dredged Material Evaluation Framework (DMEF) (Corps 1998). Data were compared to the DMEF values, probable effects concentration (PEC) values for freshwater sediment quality developed by MacDonald et al. (2000) and Ingersoll et al. (2000), and Portland Harbor Area-Wide Sediment baseline values (ODEQ 1999).

In general, there were very few DMEF screening level exceedances (5 total) and these occurred only in surface composites. Samples considered representative of the post-dredge surface were largely devoid of detections and when detects occurred, they were many times below screening levels. Although one surface composite had PEC exceedances for 3 PAHs, no exceedances occurred at the representative post-dredge depth. Additionally, all exceedances are within the Portland Harbor Area-Wide Sediment baseline values (FSMI 2003).

3.4.2 Effects of the Action

Maintenance dredging in the project area should maintain sediment quality. Dredging will not affect sedimentation sources or rates. Because most of the sediments do not contain contaminants above DMEF screening levels, resuspension of sediments is not expected to release contaminants into the water column.

Shallow water habitat (< 20 feet in water depth) provides food resources and migration routes for juvenile salmonids (Simenstad et al. 1999). Salmonid habitat may suffer a minor net decline in function due to the deepening. The proposed dredging will create steeper slopes along the edge of the dredge area and deepen the dredge area. However, 76% percent of the initial dredge prism lies below an existing mudline elevation of –20 feet CRD. In subsequent years of the permit it is expected that almost all the dredging will occur below existing mudline elevations of –20 feet CRD. Other than approximately 1.6 acres of dredging area in the first year of the permit all the remainder of the proposed dredging is expected to be at depths below –20 feet CRD (i.e. the lower limit of shallow water habitat). The contribution of epibenthic prey to salmonids from the small subtidal area to be dredged should be limited by the depths within the proposed dredge prism. The adjacent

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Willamette River channel and associated shallow-water areas are much larger than the area being dredged, so no adverse impact is anticipated on salmonids foraging on benthic invertebrates in the spring following dredging. By the spring outmigration period after dredging, the productivity of epibenthic prey for juvenile salmonids should be recovering, but may be less than the ultimate production of the area after a 1- to 2-year recolonization period. Because of the limited area of dredging in depths preferred by foraging salmonids and the rapid recolonization of benthic and epibenthic biota, the proposed dredging is not expected to have any short- or long-term direct effects on the juvenile salmonid foraging habitat.

No known spawning habitat exists within the action area, therefore any potential temporary suspension of sediments is not expected to embed spawning gravels.

3.5 SHORELINE CONDITIONS

3.5.1 Existing Conditions

Historically the Willamette Falls was an impassible fish barrier to many salmonids until fish ladders were constructed in the early 1900s. Berths 4 and 5 do not hinder fish access in the Willamette River.

Riparian vegetation has been greatly altered in the Lower Willamette River Basin. Little to no riparian vegetation exists in the action area along the eastern shore of the Willamette River or in the International Terminals site. However, riparian vegetation cover a large area along the western shore of the Willamette across from the slip at Forest Park. Black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), Oregon white ash (*Franxinus latifolia*), red alder (*Alnus rubra*), and willow (*Salix* spp.) are typical trees species along the Willamette River. Typical shrub species include Himalayan blackberry (*Rubus discolor*) and Scotch broom (*Cytisus scoparius*).

3.5.2 Effects of the Action

Temporary increases in noise or turbidity from dredging activities may prevent access and refuge for salmonids and other species in the immediate vicinity of the work areas (see Sections 3.1 and 3.2).

The proposed dredging will occur below -1 feet CRD and therefore will not affect the shoreline or riparian habitat.

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3.6 ACCESS AND REFUGIA

3.6.1 Existing Conditions

The International Terminals slip could provide refuge for salmonids during periods of high flow.

3.6.2 Effects of the Action

Temporary increases in noise or turbidity from dredging may prevent access and refuge for salmonids and other species in the immediate vicinity of the work areas during the period of dredging activity (see Sections 3.1 and 3.2).

3.7 BIOTA CONDITIONS

3.7.1 Existing Conditions

Benthic and epibenthic organisms in the Lower Willamette River basin include oligochaetes, mysid shrimp, amphipods, chironomid larvae, crayfish, and mollusks (Sanborn 1973 and FES 1995). Fish species include salmonids, largescale sucker (*Catostomus macrocheilus*), northern pikeminnow (*Ptychocheilus oregonesis*), perch (*Cymatogaster aggregate*), peamouth (*Mylocheilus caurinus*), sculpin (Cottidae), bluegill (*Lepomis macrochirus*), threespine stickleback (*Gasterosteus aculeatus*), and sturgeon (*Acipenser* spp.) (FES 1999).

3.7.2 Effects of the Action

Dredging will eliminate nonmobile benthos over approximately 6.6 acres of the bottom in the project area, temporarily reducing abundance and diversity. The newly exposed bottom should be quickly recolonized by infauna and epifauna (McCauley et al. 1977; Richardson et al. 1977; Romberg et al. 1995; Wilson and Romberg 1995). Diversity and health of the benthic assemblage recolonizing the dredged area should recover quickly and be similar to those of the subtidal benthic community now present. Areas adjacent to the project site will provide local larval sources for recolonization. Because of the prolonged period of planktonic larval development (several days to weeks) for most benthic species, currents will likely carry most larvae into the project area from plankton spawning outside of it.

By the spring outmigration period after dredging, the productivity of epibenthic prey for juvenile salmonids should be recovering, but may be less than the ultimate production of the area after a 1- to 2-year recolonization period. The contribution of epibenthic prey from the small subtidal area to be dredged is limited by the area's depth. Because the adjacent Willamette River and associated

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shallow-water areas are so much larger than the area to be dredged, dredging should not harm salmonids foraging on benthic invertebrates.

Repeated disturbance from current use of the action area reduces ecological diversity. Proposed dredging will not increase this disturbance and therefore is not expected to have short-term direct effects on ecological diversity in the project area.

Avian species that now use the action area or that fly over it during dredging may modify their use of the area, moving away from construction activity.

Proposed dredging will not have short-term direct effects on aquatic vegetation within the project area because there are no known macroalgae beds there.

Proposed dredging will not have short-term direct effects on the pelagic prey in the project area because it will not degrade water quality enough to affect pelagic assemblages.

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4.0 EVALUATION OF EFFECTS ON LISTED SPECIES

This section discusses life histories of listed species and the use of the action area. It evaluates temporary and permanent, direct and indirect effects on listed species from project activities (Section 2.2) and includes the effects determination. Detailed life histories are discussed in Corps 2000b. This section discusses only attributes of listed species that are likely to be affected by the project in some way.

An analysis of effects on Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery and Conservation Act is described in Appendix C.

4.1 LOWER COLUMBIA AND UPPER WILLAMETTE CHINOOK

4.1.1 Life History and Critical Habitat

Chinook salmon prefer to spawn and rear in the mainstem of rivers and larger streams. Although water temperatures determine the incubation period, fry typically hatch in about eight weeks. After emergence, juvenile chinook salmon migrate to saltwater during their first year (Corps 2000b).

Critical habitat is currently being reconsidered for Lower Columbia and Upper Willamette chinook. On April 30, 2002, the US District Court for the District of Columbia approved a NMFS consent decree withdrawing a February 2000 critical-habitat designation for these and 17 other evolutionary significant units (ESUs) (NMFS 2000). Critical habitat consists of the water, substrate, and adjacent riparian zone of accessible estuarine and riverine reaches.

4.1.2 Use of the Action Area

Most chinook in the project area are likely to be migrating juveniles and adults. Juvenile chinook feed on benthic and epibenthic organisms in shallow nearshore areas. Adult chinook typically feed on other fish such as whitefish, sculpin and other trout. Therefore, adult chinook in the action area would likely be feeding on fish in the deeper water of the action area rather than the benthic and epibenthic organisms that are primary prey for juveniles.

4.1.3 Effects of the Action

No direct mortality of chinook is expected from any aspect of project construction, which will occur when few, if any, juvenile salmonids are present. Adult and juvenile chinook can avoid any proposed project conditions that would result in direct impacts (e.g. entrainment in the bucket) on them. Dredging will likely increase turbidity in the immediate vicinity. This impact will be only

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temporary and the suspended sediment will dissipate quickly. Dredging will temporarily eliminate benthic organisms, an important food source for juvenile chinook. By the spring outmigration period after dredging, the productivity of epibenthic prey for juvenile salmonids should be recovering, but may be less than the ultimate production of the area after a 1- to 2-year recolonization period (McCauley et al. 1977; Richardson et al. 1977; Romberg et al. 1995; Wilson and Romberg 1995). The contribution of epibenthic prey from the small subtidal area to be dredged is limited by the area's depth. Because the adjacent Willamette River and associated shallow-water areas are so much larger than the area to be dredged, dredging should not harm salmonids foraging on benthic invertebrates. Seventy six percent of the area to be dredged in the first year of the permit is below -20 feet CRD, deeper than migrating juveniles prefer (Simenstad et al. 1999). In subsequent years of the permit all maintenance dredging is anticipated to be below -20 feet CRD.

4.1.4 Effect Determination

Because of the lack of significant water quality impacts, and the short-term, localized nature of any reductions in prey abundance, the proposed project may affect, but is not likely to adversely affect chinook.

4.2 COLUMBIA RIVER CHUM SALMON

4.2.1 Life History and Critical Habitat

Chum salmon prefer to spawn at the head of the tidewater. Although the incubation period is determined by water temperatures, fry hatch in two weeks to four months. After emerging from the gravel, fry migrate immediately to marine waters, limiting their freshwater life history to a few days. Rearing and development to adulthood occur in the marine environment (Corps 2000b).

Critical habitat is currently under development for Columbia River chum following the NMFS consent decree withdrawing critical habitat designation for this and 18 other ESUs (NMFS 2000).

4.2.2 Use of the Action Area

Like chinook salmon, the majority of chum that occur within the project area are likely to be migrating juveniles and adults. Therefore, chum in the action area may be feeding on epibenthic organisms in the action areas as well as on pelagic organisms in water deeper than the action area.

4.2.3 Effects of the Action

The effects of the proposed action on chum would be similar to those described for chinook. However, unlike juvenile chinook, juvenile chum may not feed while migrating to saltwater.

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Therefore, the impacts on epibenthic prey from construction may affect chum even less than the other listed salmonids.

4.2.4 Effect Determination

Because of the lack of significant water quality impacts, and the short-term, localized nature of any reductions in prey abundance, the proposed project may affect, but is not likely to adversely affect chum salmon.

4.3 LOWER COLUMBIA RIVER AND UPPER WILLAMETTE STEELHEAD TROUT

4.3.1 Life History and Critical Habitat

Steelhead trout spawn in tributaries of small and large rivers in late winter through spring. Juveniles migrate to the ocean after rearing in large rivers for one to four years. Steelhead spend one to three years in the ocean before returning to their natal streams to spawn. Unlike most anadromous salmonids, steelhead trout may return to their natal streams several times to spawn before they die (Corps 2000b).

Critical habitat has not been designated for steelhead trout (NMFS 2000).

4.3.2 Use of the Action Area

Juveniles, sub–adult, or adult steelhead trout may occur within the project area. Adult and sub-adult steelhead trout are typically piscivores, feeding on other fish such as whitefish, sculpin and other trout. Therefore, the adult and sub–adult steelhead trout in the action area would likely be feeding in the deeper water of the action area on fish rather than the insects that are primary prey for juveniles.

4.3.3 Effects of the Action

No direct mortality of steelhead trout is expected from any aspect of project construction, which will occur when few, if any, juvenile salmonids are present. Adult and juvenile steelhead trout can avoid any proposed project conditions that would result in direct impacts (e.g. entrainment in the bucket) on them. Dredging will likely increase turbidity temporarily in the immediate vicinity. Suspended sediment will dissipate quickly.

Dredging will eliminate benthic organisms, an important food source for juvenile steelhead trout. By the spring outmigration period after dredging, the productivity of epibenthic prey for juvenile salmonids should be recovering, but may be less than the ultimate production of the area after a 1- to 2-year recolonization period (McCauley et al. 1977; Richardson et al. 1977; Romberg et al. 1995;

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Wilson and Romberg 1995). The contribution of epibenthic prey from the small subtidal area to be dredged is limited by the area's depth. Because the adjacent Willamette River and associated shallow-water areas are so much larger than the area to be dredged, dredging should not harm salmonids foraging on benthic invertebrates. Seventy six percent of the area to be dredged is below -20 feet CRD, deeper than foraging juveniles prefer (Simenstad et al 1999). In subsequent years of the permit all maintenance dredging is anticipated to be below –20 feet CRD.

4.3.4 Effect Determination

Because of the lack of significant water quality impacts, and the short-term, localized nature of any reductions in prey abundance, the proposed project may affect, but is not likely to adversely affect steelhead trout.

4.4 BALD EAGLE

4.4.1 Life History and Critical Habitat

In Oregon, bald eagle breeding territories are mainly located in coniferous, uneven-aged stands with old-growth components. A variety of habitat characteristics influence territory size and configuration, including availability and location of perch trees for foraging, quality of foraging habitat, and distance of nests from waters supporting adequate food supplies. Bald eagles typically build nests in old-growth trees, which are generally used in successive years. Courtship and nest-building begin in January and February. Egg laying begins in March or early April, and eaglets hatch in mid-April or early May. They fledge in mid-July and often remain in the vicinity of the nest for another month (Rodrick and Milner 1991; Corps 2000b).

Eagles often depend on dead or weakened prey, and their diet may vary locally and seasonally. During the breeding season they eat anadromous and warmwater fishes, small mammals, carrion, small waterfowl, and seabirds. Various carrion, including spawned-out salmon, are important food sources during fall and winter (Rodrick and Milner 1991).

Critical habitat has not been designated for bald eagles.

4.4.2 Use of the Action Area

A species list obtained from the USFWS indicates that bald eagles may occur in the vicinity of the proposed project. No bald eagle nests are located in the action area. The closest nests are more than three 3 miles north and northwest of it (G. Dorsey, pers. comm., June 5, 2003).

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The availability of suitable nest trees is often a limiting factor in the establishment of eagle territories (Carroll and Pentec 1992). Although there are no large trees in the action area for the bald eagles to roost or nest in, bald eagles occasionally fly over the area and may rest or perch on nearby pilings or cottonwood trees.

4.4.3 Effects of the Action

Construction could occur during the nesting season. However, since it would be more than 3 miles from the closest bald eagle nests, construction would not directly disrupt eagle nesting and rearing of young. No communal night roosts or perch trees are near the site, so wintering bald eagles would not be affected by construction that may occur during the wintering season. Foraging bald eagles may be displaced by the noise of heavy equipment, but the availability of prey would not be significantly disrupted by the proposed maintenance work. Given the surrounding urbanization and industrialization, eagles using the area are likely accustomed to high levels of human activity in the action area.

4.4.4 Effect Determination

Dredging will not affect nesting or wintering habitat or behaviors, and only minor disruptions to foraging may occur, so the proposed project may affect, but is not likely to adversely affect the bald eagle.

4.5 WATER HOWELLIA

4.5.1 Life History and Critical Habitat

Water howellia has historically occurred over a large area of the Pacific Northwest. Water howellia occurs in vernal ponds and shallow water edges of larger ponds, oxboughs, sloughs, or other slow-moving water bodies with fine sediment.

Critical habitat has not been designated for water howellia (Corps 2000b).

4.5.2 Use of the Action Area

There are no records of water howellia occurring in the action area and there is no habitat capable of supporting it there. Shallow–water areas in the action area are covered with riprap and do not contain the fine sediment preferred by water howellia. Additionally, boat traffic is likely to create sufficient wave action in the area to prevent establishment of water howellia, even if suitable substrate existed between riprap boulders.

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4.5.3 Effects of the Action

Because water howellia is not known to exist in the action area and the action area does not contain habitat suitable for water howellia, dredging activities will not affect water howellia.

4.5.4 Effect Determination

Dredging activities will not affect potential water howellia habitat, as dredging will occur in water deeper than water howellia can tolerate. In addition, there is no suitable water howellia habitat in the action area. Thus the proposed project will have no effect on water howellia.

4.6 COASTAL CUTTHROAT TROUT

4.6.1 Life History and Critical Habitat

Coastal cutthroat trout spawn in small tributaries of small and large rivers in late winter through spring. Juveniles migrate downstream between March and June and may make several freshwater migrations before migrating to the ocean. Most coastal cutthroat trout are 2 to 3 years old before migrating to the ocean. Coastal cutthroat trout spend less than one year in the ocean before migrating back to their natal streams to spawn. Unlike most anadromous salmonids, coastal cutthroat trout do not die after spawning (Corps 2000b).

Critical habitat has not been designated for coastal cutthroat trout (NMFS 2000).

4.6.2 Use of the Action Area

Most coastal cutthroat trout in the project area are likely to be adults and sub–adults from nearby basins. Adult and sub–adult coastal cutthroat trout typically feed on other fish such as whitefish, sculpin, and other trout. Therefore, the adult and sub–adult coastal cutthroat trout in the action area would likely be feeding in the deeper water of the action area on fish rather than the organisms that serve as primary prey for juveniles.

4.6.3 Effects of the Action

No direct effect on coastal cutthroat trout is expected to result from any aspect of project construction, which will occur when few, if any, juvenile salmonids are present. Adult salmonids can avoid any conditions that would result in direct impacts (e.g. entrainment in the bucket) on them. Dredging will likely increase turbidity temporarily in the immediate vicinity. Suspended sediment will dissipate quickly.

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Dredging will eliminate benthic organisms, an important food source for juvenile coastal cutthroat trout. By the spring outmigration period after dredging, the productivity of epibenthic prey for juvenile salmonids should be recovering, but may be less than the ultimate production of the area after a 1- to 2-year recolonization period (McCauley et al. 1977; Richardson et al. 1977; Romberg et al. 1995; Wilson and Romberg 1995). The contribution of epibenthic prey from the small subtidal area to be dredged is limited by the area's depth. Because the adjacent Willamette River and associated shallow-water areas are so much larger than the area to be dredged, dredging should not harm salmonids foraging on benthic invertebrates. Additionally, seventy six percent of the area to be dredged is below –20 feet CRD, deeper than foraging juveniles prefer (Simenstad et al. 1999). In subsequent years of the permit all maintenance dredging is anticipated to be below –20 feet CRD.

4.6.4 Effect Determination

Because of the lack of significant water quality impacts, and the short-term, localized nature of any reductions in prey abundance, the proposed project will not jeopardize coastal cutthroat trout. Should coastal cutthroat trout become listed the proposed project may affect, but is not likely to adversely affect, cutthroat trout or their habitat.

4.7 LOWER COLUMBIA RIVER COHO SALMON

4.7.1 Life History and Critical Habitat

Coho spawn in small tributaries of small or large rivers in late winter through spring. Juveniles migrate downstream between April and August. Juvenile coho may spend anywhere from a few weeks to two years in freshwater before migrating to the ocean. Coho spend one to two years in the ocean before migrating back to their natal streams to spawn (Corps 2000b).

Critical habitat has not been designated for Lower Columbia River coho salmon.

4.7.2 Use of the Action Area

Most coho in the project area are likely to be adults and sub–adults from nearby basins. Adult and sub–adult coho typically feed on other fish such as whitefish, sculpin, and other trout. By the time adult coho reach the Willamette River, they probably are not feeding. Sub–adult coho in the action area would likely be feeding in the deeper water of the action area on fish rather than the benthic and epibenthic organisms that serve as primary prey for juveniles.

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4.7.3 Effects of the Action

The effects of the proposed action on coho would be similar to those described for chinook. Impacts on epibenthic prey from construction could have less impact on coho than other salmonid species because coho found in the action area are likely to be less dependant on epibehtic prey than chinook.

4.7.4 Effect Determination

Because of the lack of significant water quality impacts, and the short-term, localized nature of any reductions in prey abundance, the proposed project will not jeopardize coho salmon. If coho are listed, the proposed project may affect, but is not likely to adversely affect, coho salmon or their habitat.

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5.0 INTERRELATED, INTERDEPENDENT, AND CUMULATIVE EFFECTS

Cumulative effects are those effects of future state or private activities, not involving activities of other federal agencies that are reasonably certain to occur within the area of the federal action subject to consultation (50 CFR 402.02 Definitions). Future federal actions unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the ESA. Interdependent effects are defined as actions with no independent utility apart from the proposed action. Interrelated effects include those that are part of a larger action and depend on the larger action for justification.

No interdependent or cumulative effects are known to occur that may adversely affect a listed, proposed, or candidate species within the action area. An interrelated action of the proposed action may be the occasional disturbance of the substrate from prop wash of tugs as they bring in barges or during the hauling out of barges or other vessels. Prop wash could result in small, temporary increases in turbidity. The periodic disturbance of the substrate caused by the prop wash could reduce the suitability of the substrate for colonization by benthic macroinvertebrates utilized as food by juvenile salmonids. However, these effects of prop wash being localized and temporary would have little affect on the growth or survival of juvenile salmonids.

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6.0 SUMMARY

Construction activities would temporarily increase noise and turbidity, possibly causing listed species to avoid the immediate work area. Best management practices would be used to reduce these impacts. Thus, the proposed action:

- **may affect, but is not likely to adversely affect** chinook salmon,
- **may affect, but is not likely to adversely affect** chum salmon,
- **may affect, but is not likely to adversely affect** steelhead trout,
- **may affect, but is not likely to adversely affect** bald eagles, and
- will have **no effect** on water howellia.

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DEPARTMENT
ENVIRONMEI
QUALITY

WATER QUALITY 401 CERTIFICATION
Public Notice

WHO IS THE APPLICANT: See the attached Department of State Lands (DSL) and or Corps of Engineers (COE) permit application.

WHAT IS PROPOSED: See the attached DSL and or COE permit application on the proposed project.

DESCRIPTION OF DISCHARGES: See the attached DSL and or COE permit for details.

NEED FOR CERTIFICATION: Under Section 401 of the Clean Water Act, any activity that requires a federal permit or license requires certification from the State that any discharge will meet the requirements of the Clean Water Act and State water quality standards. . .

PUBLIC PARTICIPATION: Written comments must be received by 5 p.m. no later than thirty days from the notice issued date at the Oregon Department of Environmental Quality, Water Quality Division, 811 S.W. 6th Ave., Portland, Oregon 97204 to be included in the official record. Public comments should specifically include new data addressing how the project would affect requirements of the Clean Water Act and Oregon water quality standards.

The applicant, any affected state, or any interested agency, person or group of persons, may request a publi hearing with respect to this certification application. If the Director determines new data would be producec a public hearing will be held prior to the director's final determination. There shall be notification of such a hearing.

HOW TO GET ADDITIONAL INFORMATION: The application and related documents are available for inspection during the public comment period, Monday through Friday, between 9:00 am to noon and 1:00 pm to 4:00 pm at DEQ's Portland office. Please call in advance for an appointment 229-5279.

People wishing to receive a copy of the DSL/COE application can call DEQ at (503) 229-5279 or toll free in Oregon at 1-800-452-4011. Public Records Act charges may apply. Persons with a hearing impairment ca receive help by calling DEQ's TDD number at (503) 229-6993.

WHAT HAPPENS NEXT: After the conclusion of the public participation period, the permit will be issued a: proposed, issued with modifications, or denied, depending on comments received during the public participation process. Interested parties can request to be notified of the final determination by writing or calling the Department at the above address.

ACCESSIBILITY INFORMATION: This publication is available in alternate format (e.g. large print, braille) upon request. Please contact Ed Sale in DEQ Public Affairs at 229-5766 to request an alternate format.

811 SW Sixth
Portland, OR S
(503) 229-5696
TDD (503) 229

DEQ-1

SCHN00239555

Department of State Lands
775 Summer Street NE, Suite 100
Salem, OR 97301-1279
☎ 503-378-3805

Permit No.:	**30897-RP Renewal**
Permit Type:	**Removal**
Waterway:	**Willamette River**
County:	**Multnomah**
Expiration Date:	**January 14, 2008**
Corps No.:	**1991-00099**

NOTICE
This Permit
Must Be On
Work Site

SCHNITZER STEEL INDUSTRIES, INC.

IS AUTHORIZED IN ACCORDANCE WITH ORS 196.800 TO 196.990 TO PERFORM THE OPERATIONS DESCRIBED IN THE ATTACHED COPY OF THE APPLICATION, SUBJECT TO THE SPECIAL CONDITIONS LISTED ON ATTACHMENT A AND TO THE FOLLOWING GENERAL CONDITIONS:

1. This permit does not authorize trespass on the lands of others. The permit holder shall obtain all necessary access permits or rights-of-way before entering lands owned by another.
2. This permit does not authorize any work that is not in compliance with local zoning or other local, state, or federal regulation pertaining to the operations authorized by this permit. The permit holder is responsible for obtaining the necessary approvals and permits before proceeding under this permit.
3. All work done under this permit must comply with Oregon Administrative Rules, Chapter 340; Standards of Quality for Public Waters of Oregon. Specific water quality provisions for this project are set forth on Attachment A.
4. Violations of the terms and conditions of this permit are subject to administrative and/or legal action which may result in revocation of the permit or damages. The permit holder is responsible for the activities of all contractors or other operators involved in work done at the site or under this permit.
5. A copy of the permit shall be available at the work site whenever operations authorized by the permit are being conducted.
6. Employees of the Department of State Lands and all duly authorized representatives of the Director shall be permitted access to the project area at all reasonable times for the purpose of inspecting work performed under this permit.
7. Any permit holder who objects to the conditions of this permit may request a hearing from the Director, in writing, within twenty-one (21) calendar days of the date this permit was issued.
8. In issuing this permit, the Department of State Lands makes no representation regarding the quality or adequacy of the permitted project design, materials, construction, or maintenance, except to approve the project's design and materials, as set forth in the permit application, as satisfying the resource protection, scenic, safety, recreation, and public access requirements of ORS Chapters 196, 390 and related administrative rules.
9. Permittee shall defend and hold harmless the State of Oregon, and its officers, agents, and employees from any claim, suit, or action for property damage or personal injury or death arising out of the design, material, construction, or maintenance of the permitted improvements.

OPERATORS COPY

NOTICE: If removal is from state-owned submerged and submersible land, the applicant must comply with leasing and royalty provisions of ORS 274.530. If the project involves creation of new lands by filling on state-owned submerged or submersible lands, you must comply with ORS 274.905 - 274.940. This permit does not relieve the permittee of an obligation to secure appropriate leases from the Department of State Lands, to conduct activities on state-owned submerged or submersible lands. Failure to comply with these requirements may result in civil or criminal liability. For more information about these requirements, please contact the Department of State Lands, 503-378-3805.

Michael Morales, W Region Manager
Wetlands & Waterways Conservation Div
Oregon Department of State Lands

Michael Morales — January 23, 2007
Authorized Signature — **Date Issued**

SCHN00239556

ATTACHMENT A

Permittee: Schnitzer Steel Industries, Inc.

Special Conditions for Removal/Fill Permit No. 30897-RP. <u>PLEASE READ AND BECOME FAMILIAR WITH CONDITIONS OF YOUR PERMIT.</u> This project may be site inspected by the Department of State Lands as part of our monitoring program. The Department has the right to stop or modify the project at any time if you are not in compliance with these conditions. A copy of this permit shall be available at the work site whenever authorized operations are being conducted.

1. This permit authorizes the removal of up to 127,000 cubic yards (total project) of sand and silt at International Terminals, Berths 1, 2 and 3 located at T2N, R1W, Section 35, tax lot 500, at Willamette River, mile 3.8, Portland, Multnomah County for maintenance dredging as outlined in the attached permit application, map and drawings, dated July 9, 2003.

2. No removal activities shall commence within waters of the State without first obtaining any required authorization from the City of Portland for upland disposal. If the local permit(s) results in any modifications in this project relative to this permit, the permit holder shall contact the Department and request adjustments to this authorization.

3. Removal activities in Willamette River, mile 3.8, International Terminal Berths 1, 2 and 3, shall be conducted between July 1 and October 31 unless otherwise coordinated with ODFW and approved in writing by ODSL. The recommended in-water work timing may be modified prior to July 1, 2007. Contact the Department prior to starting work to verify in-water work timing.

4. The dimensions and depth of the berths shall be no greater than described in Application, Sheets 2 of 3 and 3 of 3. Any alteration of the plan requires Department of State Lands approval.

5. Dredging activity shall be conducted by clamshell bucket from a floating crane and as described in Application. In the closed position, the bucket shall be sealed so as to minimize sediment re-suspension. The barge shall be positioned so as to avoid grounding on the riverbed or banks at any time.

6. All dredge materials shall be placed in barges equipped such that no material shall discharge to waters of the State during loading, transfer and unloading activity.

7. Any return waters generated during transfer and disposal activity shall be provided adequate settling time so that return waters meet water quality requirements of the Department of Environmental Quality.

8. Dredged materials shall be disposed of in appropriately permitted, upland disposal site(s). The selected disposal facility(ies), and any changes thereafter, shall be submitted to the Department for approval prior to use.

9. Any beneficial reuse of dredged materials is subject to a license from, and royalty payments to, the Department of State Lands.

10. An annual report shall be submitted to the Department no later than 30 days after the end of the in-water work period each year. The report shall include the amount of material dredged, the final dredge material disposal site and an approximation of the new basin depth.

Water Quality Conditions

11. TURBIDITY/EROSION CONTROLS. The authorized work shall not cause turbidity of affected waters to exceed 10% over natural background turbidity 100 feet downstream of the fill point. For projects proposed in areas with no discernible gradient break (gradient of 2% or less), monitoring shall take place at 4 hour intervals and the turbidity standard may be exceeded for a maximum of one monitoring interval per 24 hour work period provided all practicable control measures have been implemented. This turbidity standard exceedance interval applies only to coastal lowlands and floodplains, valley bottoms and other low-lying and/or relatively flat land.

    For projects in all other areas, the turbidity standard can be exceeded for a maximum of 2 hours (limited duration) provided all practicable erosion control measures have been implemented. These projects may also be subject to additional reporting requirements.

    Turbidity shall be monitored during active in-water work periods. Monitoring points shall be at an undisturbed site (representative background) 100 feet upstream from the turbidity causing activity (i.e., fill or discharge point), 100 feet downstream from the fill point, and at the point of fill. A turbidimeter is recommended, however, visual gauging is acceptable. Turbidity that is visible over background is considered an exceedance of the standard.

    The following erosion control measures (and others as appropriate) shall be observed:

    a. Filter bags, sediment fences, sediment traps or catch basins, leave strips or berms, or other measures shall be used sufficient to prevent movement of soil from uplands into waterways or wetlands.

b. To prevent erosion, use of compost berms, impervious materials or other equally effective methods, shall be used to protect soil stockpiled during rain events or when the stockpile site is not moved or reshaped for more than 48 hours.
c. Erosion control measures shall be inspected and maintained daily, or more frequently as necessary, to ensure their continued effectiveness and shall remain in place until all exposed soil is stabilized.
d. Unless part of the authorized permanent fill, all construction access points through, and staging areas in, riparian or wetland areas shall use removable pads or mats to prevent soil compaction. However, in some wetland areas under dry summer conditions, this requirement may be waived upon approval by DSL. At project completion, disturbed areas with soil exposed by construction activities shall be stabilized by mulching and native vegetative plantings/seeding. Sterile grass may be used instead of native vegetation for temporary sediment control. If soils are to remain exposed more than seven days after completion of the permitted work, they shall be covered with erosion control pads, mats or similar erosion control devices until vegetative stabilization is installed.
e. Where vegetative erosion control is being done on cut slopes steeper than 1H:2V, a tackified seed mulch shall be used so the seed does not wash away before germination and rooting.
f. Dredged or other excavated material shall be placed on upland areas having stable slopes and shall be prevented from eroding back into waterways or wetlands

Erosion control measures shall be maintained as necessary to ensure their continued effectiveness, until soils become stabilized. All erosion control structures shall be removed when project is complete and soils are stabilized and vegetated.

12. Petroleum products, chemicals, fresh cement, sandblasted material and chipped paint or other deleterious waste materials shall not be allowed to enter waters of the state. No wood treated with leachable preservatives shall be placed in the waterway. Machinery refueling is to occur off-site or in a confined designated area to prevent spillage into waters of the state. Project-related spills into water of the state or onto land with a potential to enter waters of the state shall be reported to the Oregon Emergency Response System at 800-452-0311.

Contingencies

13. If any archaeological resources and/or artifacts are uncovered during excavation, all construction activity shall immediately cease. The State Historic Preservation Office shall be contacted (phone: 503-378-4168).

14. When listed species are present, the permit holder must comply with the federal Endangered Species Act. If previously unknown listed species are encountered during the project, the permit holder shall contact the appropriate agency as soon as possible.

15. The permittee is responsible for carrying-out the terms and conditions of this permit unless the permit is transferred to another party using forms provided by the Department.

16. The Department of State Lands retains the authority to temporarily halt or modify the project in case of unforeseen damage to natural resources.

Lower Willamette River Management Plan Consistency

The proposed activity at Willamette River, mile 3.8, is located within a designated "Open Water" area of the Lower Willamette River Management Plan (Plan). Maintenance dredging is identified in the Plan as an allowable activity in designated open waters, subject to the following additional conditions.

17. Schedule project development and maintenance to avoid peak public use periods for recreation activities present in the project area.

18. Schedule project development and maintenance to assure, as much as possible, that commercial navigational uses (barge, ship, tug traffic) remain unimpeded.

19. Strictly adhere to all public health, safety, and water quality standards, building and zoning codes required by the appropriate local government agencies, the Oregon Water Resources Department, the Oregon Department of Environmental Quality, and U.S. Environmental Protection Agency. Obtain all necessary permits and comply with all permit conditions.

20. There shall be no significant adverse effect to the riparian and aquatic life and habitat by any activity within shallow water (-15 feet Columbia River datum) or Rank 1 and 2 wildlife habitat areas.

21. The area dredged shall be the minimum necessary to accomplish the intended use and comply with these standards.

22. For access dredging, normal removal shall be sufficient to provide access for a period no less than 24 months.

23. Levels of pollutants released into waters by dredging and disposal shall conform to standards approved by DEQ.

24. Sides of dredged channels and basins should be sloped to facilitate physical stabilization. Slopes shall be no steeper than 3:1.

25. Critical periods of fish and wildlife activity as determined by Oregon Department of Fish and Wildlife (ODFW) (spawning, passage, nesting, etc.) shall be avoided.

26. Dredging will not be allowed from public beach areas.

27. All dredging operations must use disposal sites acceptable to the U.S. Army Corps of Engineers, the Department of State Lands, and local land use regulations.

28. Dredging shall be timed so that equipment stays clear of recreational and commercial navigation users of the river, especially during the recreation use season (March – October).

Renewed & Modified: January 23, 2007

G:\WWC\AttachmentAwestLAS\RP Removal Permits\30897-RP 07.doc

US Army Corps of Engineers
Portland District

JOINT PERMIT APPLICATION FORM

THIS APPLICATION WILL MEET THE REQUIREMENTS OF BOTH AGENCIES

AGENCIES WILL ASSIGN NUMBERS

Corps Action ID Number _____ Oregon Division of State Lands Number 30897-RP

RECEIVED
JUL 09 2003
DIVISION OF STATE LANDS

SEND ONE SIGNED COPY OF YOUR APPLICATION TO EACH AGENCY

District Engineer	State of Oregon
ATTN: CENWP-OP-GP	Division of State Lands
P.O. Box 2946	775 Summer Street N.E.
Portland, OR 97208-2946	Salem, OR 97310
503-808-4373	503-378-3805

1. APPLICANT NAME: Schnitzer Steel Industries, Inc.
Address: PO Box 10047
Portland, OR 97296-0047
Attn: Jim Jakubiak

Business Phone #: (503) 224-9900
Home Phone #: N/A
FAX #: (503) 286-6948

[ ] Co-Applicant [x] Authorized Agent [ ] Contractor

Name: Jerald Ramsden
Address: Parsons Brinckerhoff Quade & Douglas, Inc.
400 SW 6th Ave., Suite 802
Portland, OR 97204

Business Phone #: (503) 274-8772
Home Phone #: N/A
FAX #: (503) 274-1412

Property Owner *(if different than applicant)*
Name: Schnitzer Investment Corporation
Address: P.O. Box 10047
Portland, OR 97296-0047

Business Phone #: (503) 224-9900
Home Phone #: N/A
FAX #: N/A

2. PROJECT LOCATION

Street, road or other descriptive location
International Terminals
12005 N. Burgard Rd.

Legal Description

Quarter	Section	Township	Range
SW	35	[2] North [ ] South	[ ] East [1] West

In or Near (City or Town) Portland County Multnomah Tax Map # 2N1W35 Tax Lot # 500
Waterway Willamette River River Mile 3.6 Latitude 45° 36' 41" N Longitude 122° 45' 42" W

Is consent to enter property granted to the Corps and the Division of State Lands? [x] Yes [ ] No

3. PROPOSED PROJECT INFORMATION

Activity Type: [ ] Fill [x] Excavation (removal) [ ] In-Water Structure [ ] Maintain/Repair an Existing Structure

Brief Description: Maintenance dredging to provide safe navigation access to and berthing within the International Terminals slip (Berths 1, 2 and 3)

Fill will involve N/A cubic yards annually and/or _____ cubic yards for the total project
_____ cubic yards in a wetland or below the ordinary high water or high tide line

Fill will be: [ ] Riprap [ ] Rock [ ] Gravel [ ] Sand [ ] Silt [ ] Clay [ ] Organics [ ] Other _____

Fill Impact Area is _____ Acres; _____ length; _____ width; _____ depth

Removal will involve 25,000 every other year on average cubic yards annually and/or 127,000 (i.e. 77,000 initially and 50,000 thereafter) cubic yards for the total project
127,000 cubic yards below the ordinary high water or high tide line

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Removal will be: [ ] Riprap [ ] Rock [ ] Gravel [x] Sand [x] Silt [ ] Clay [ ] Organics [ ] Other _____

Removal Impact Area is 9.6 first year, 6.0 thereafter Acres; 2250 ft length; 120 ft typical (270 ft max.) width; Varies: max between -42 ft CRD and -24 ft CRD depth

Is the Disposal area: Upland? [x] Yes [ ] No Wetland/Waterway? [ ] Yes [x] No

	Yes	No
Are you aware of any Endangered Species on the project site?	x	
Are you aware of any Cultural Resources on the project site?		x
Is the project site near a Wild and Scenic River?		x

If Yes, please explain in the project description (on page 2, block 4).

4. PROPOSED PROJECT PURPOSE AND DESCRIPTION

Project Purpose and Need: Presented in attached supplemental sheets.

Project Description: Presented in attached supplemental sheets.

How many project drawing sheets are included with this application? 3

NOTE: A complete application must include drawings and a location map submitted on separate 8-1/2 x 11 sheets.

Will any material, construction debris, runoff, etc. enter a wetland or waterway? [ ] Yes [x] No

If yes, describe the type of discharge (above) and show the discharge location on the site plan.

Estimated Start Date August 15, 2003 Estimated Completion Date August 14, 2008

5. PROJECT IMPACTS AND ALTERNATIVES

Describe alternative sites and project designs that were considered to avoid impacts to the waterway or wetland.

Presented in attached supplemental sheets.

Describe what measures you will use (before and after construction) to minimize impacts to the waterway or wetland.

Presented in attached supplemental sheets.

NOTE: If necessary, use additional sheets.

6. ADDITIONAL INFORMATION

Adjoining Property Owners and Their Addresses and Phone Numbers.

Port of Portland
121 NW Everett
Portland, OR 97209
(503) 944-7000

Northwest Terminal Company
P.O. Box 99007
Seattle, WA 98199-0007

Has the proposed activity or any related activity received the attention of the Corps of Engineers or the State of Oregon in the past, e.g., wetland delineation, violation, permit, lease request, etc.? [x] Yes [ ] No

If yes, what identification number(s) were assigned by the respective agencies?

Corps # 199100099 State of Oregon# 1055

7. **CITY/COUNTY PLANNING DEPARTMENT AFFIDAVIT** (to be completed by local planning official)

☐ This project is not regulated by the local comprehensive plan and zoning ordinance.

☒ This project has been reviewed and is consistent with the local comprehensive plan and zoning ordinance.
(Not approving upland disposal site)

☐ This project has been reviewed and is **not** consistent with the local comprehensive plan and zoning ordinance.

☐ Consistency of this project with the local planning ordinance cannot be determined until the following local approval(s) are obtained:

- ☐ Conditional Use Approval
- ☐ Development Permit
- ☐ Plan Amendment
- ☐ Zone Change
- ☐ Other _____

An application ☐ has ☐ has not been made for local approvals checked above.

Signature (of local planning official)	Title	City/County	Date
[signature]	City Planner	Portland	6/27/03

8. **COASTAL ZONE CERTIFICATION**

If the proposed activity described in your permit application is within the Oregon coastal zone, the following certification is required before your application can be processed. A public notice will be issued with the certification statement which will be forwarded to the Oregon Department of Land Conservation and Development (DLCD) for its concurrence or objection. For additional information on the Oregon Coastal Zone Management Program, contact the department at 1175 Court Street N.E., Salem, Oregon 97310 or call 503-373-0050.

Certification Statement

I certify that, to the best of my knowledge and belief, the proposed activity described in this application complies with the approved Oregon Coastal Zone Management Program and will be completed in a manner consistent with the program.

Print/Type Name	Title
Applicant Signature	Date

9. **SIGNATURE FOR JOINT APPLICATION (REQUIRED)**

Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and, to the best of my knowledge and belief, this information is true, complete, and accurate. I further certify that I possess the authority including the necessary requisite property interests to undertake the proposed activities. I understand that the granting of other permits by local, county, state or federal agencies does not release me from the requirements of obtaining the permits requested before commencing the project. I understand that local permits may be required before the state removal-fill permit is issued. I understand that payment of the required state processing fee does not guarantee permit issuance.

Print/Type Name (applicant)	Title
James L. Jakubiak	Environmental Administrator
Applicant Signature (applicant)	Date
[signature]	June 27, 2003

I certify that I may act as the duly authorized agent of the applicant.

Print/Type Name	Title
Jerald D. Ramsden	Lead Coastal Engineer
Authorized Agent Signature)	Date
[signature]	June 27, 2003

SCHN00239565

SUPPLEMENTAL WETLAND IMPACT INFORMATION*
(FOR WETLAND FILLS ONLY)

Site Conditions of Impact area

Impact area is: [ ] Ocean [ ] Estuary [X] River [ ] Lake [ ] Stream [ ] Freshwater Wetland

Note: Estuarian Resource Replacement is required by state law for projects involving intertidal or tidal marsh alterations. A separate Wetlands Resource Compensation Plan may be appended to the application.

Has a wetland delineation been completed for this site? [ ] Yes [X] No

If yes, by whom:

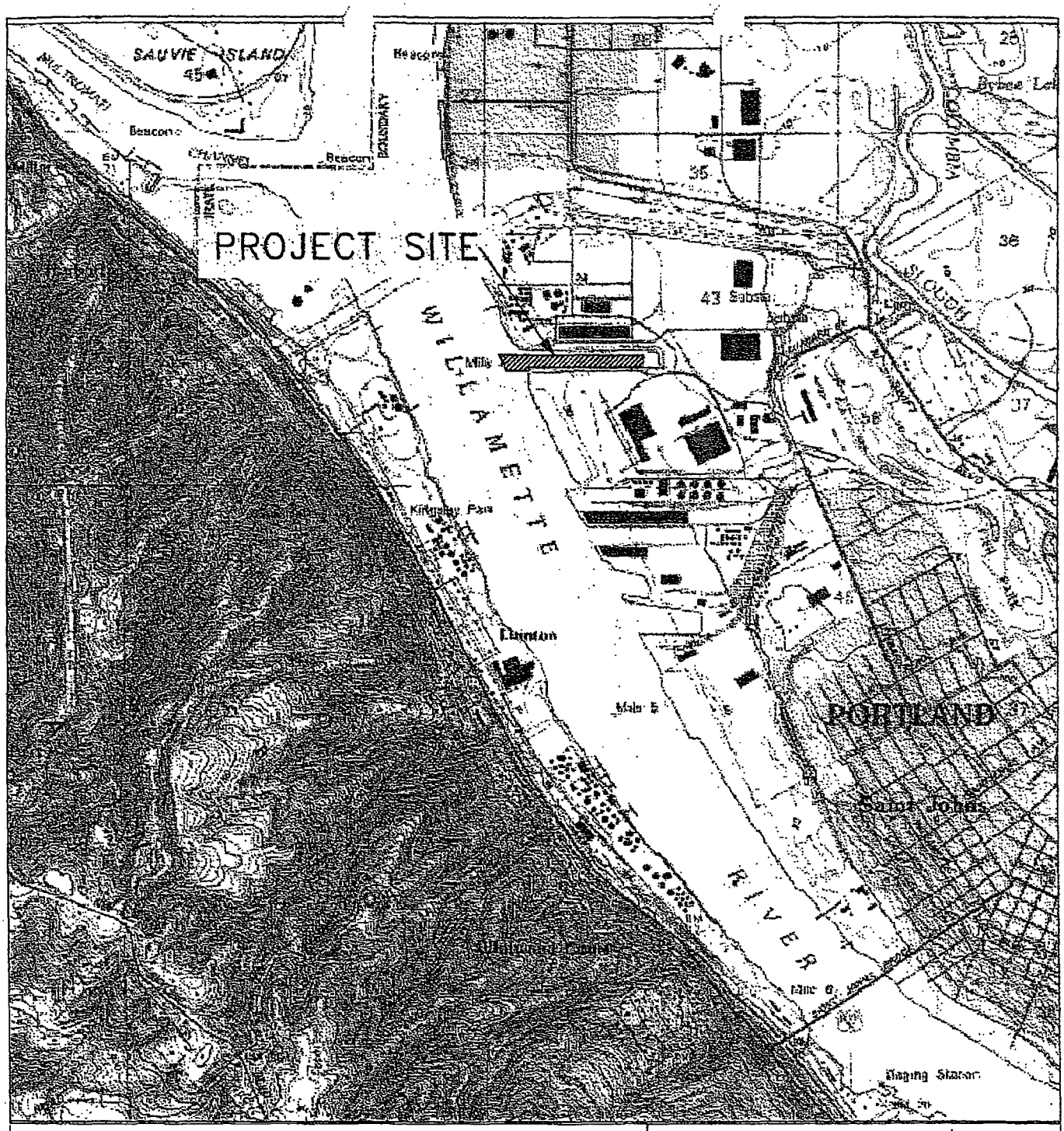
Describe the existing physical and biological character of the wetland/waterway site by area and type of resource (use separate sheets and photos, if necessary).

Presented in the attached Biological Assessment

Resource Replacement Mitigation
Describe measures to be taken to replace unavoidably impacted wetland resources.

No wetland resources are affected by the proposed work. Therefore, no mitigation is proposed.

* Because this information is not necessary for a complete application, you may submit this sheet and other environmental information after submitting your application.



NOTE 1. LOCATION MAP OBTAINED FROM US GEOLOGICAL SURVEY QUAD SHEET FOR LINNTON, OR

Scale In Feet
0 1000 2000

PURPOSE: MAINTAIN NAVIGATION ACCESS AND BERTHS FOR SHIPS AND BARGES
VERTICAL DATUM: COLUMBIA RIVER DATUM (CRD), CRD IS 1.6' ABOVE NGVD AT WILLAMETTE RIVER MILE 3.6
ADJACENT PROPERTY OWNERS:
1. NORTHWEST TERMINAL COMPANY
2. PORT OF PORTLAND

LATITUDE: 45° 36' 41" N
LONGITUDE: 122° 46' 42" W

PROPOSED MAINTENANCE DREDGING AT INTERNATIONAL TERMINALS

IN: WILLAMETTE RIVER
AT: RIVER MILE 3.6
COUNTY OF: MULTNOMAH
APPLICATION BY: SCHNITZER STEEL INDUSTRIES, INC.
SHEET 1 OF 3 DATE: 5/29/03

SCHN00239567

SUPPLEMENTAL DATA

Joint Application for Maintenance Dredging
International Terminals Slip (Berths 1, 2 and 3), Portland, Oregon

4. PROPOSED PROJECT PURPOSE AND DESCRIPTION

Project Purpose and Need

The project purpose is to maintain safe navigation access and berthing for the dock facilities at the International Terminals slip (as shown in Sketch 1 of 3, attached) by conducting periodic maintenance dredging as needed. The slip and associated berths are an existing facility and have been maintained under previous maintenance dredging permits (U.S. Army Corps of Engineers Section 10/404 Permit #199100099 and Oregon Division of State Lands Removal-Fill Permit No. 1055).

The docks and berths at the International Terminals slip currently support metal recycling operations as well as barge and ship dismantling operations. The facility is also used to import bulk cargo such as manganese, pig iron, steel coils and steel slabs. The slip contains three berths and 1,680 feet of docking facilities. The site was originally developed in the early 1940's for military ship construction. Over the past three decades, the site has been primarily used to support metal recycling and vessel dismantling operations.

Due to shoaling at the mouth of the slip and within the berths, there is a critical and urgent need to maintain these facilities. In the fall of 2002 an incoming ship was required to dock and offload several thousand tons of cargo prior to arrival at the International Terminals slip. Subsequent to that event, a meeting was held with the Columbia River Pilots (Pilots) to determine the minimum acceptable conditions needed for safe navigation access and berthing in the slip given the draft, length and width of vessels that will use this facility over the next five years. A letter summarizing the Pilots' suggestions from these meetings is attached to this application. The proposed dredge prism shown in the attached sketches was developed based on the suggestions from the Pilots in addition to other engineering considerations such as slope stability.

Project Description

The project involves dredging the area to a maximum depth of –42 ft Columbia River Datum (CRD), -38 ft CRD or –24 ft CRD depending on location within the slip as shown in Sketches 2 and 3 of 3, attached. The proposed dredge footprint covers an area of approximately 9.6 acres with a maximum length of 2250 ft and maximum width of 270 ft. The proposed dredge footprint lies entirely within the previously permitted dredge area shown in Sketch 2 of 3 by the dashed-dot line. The initial dredge volume associated with the proposed dredge prism is 77,000 cy. Authorization for an additional 50,000 cy is requested for the remainder of the permit duration (i.e. 25,000 cy every other year on average in years two through five, based on a five year permit). Dredging will be by clamshell bucket with transport to approved upland facilities and/or locations by barge, truck and/or rail.

SCHN00239568

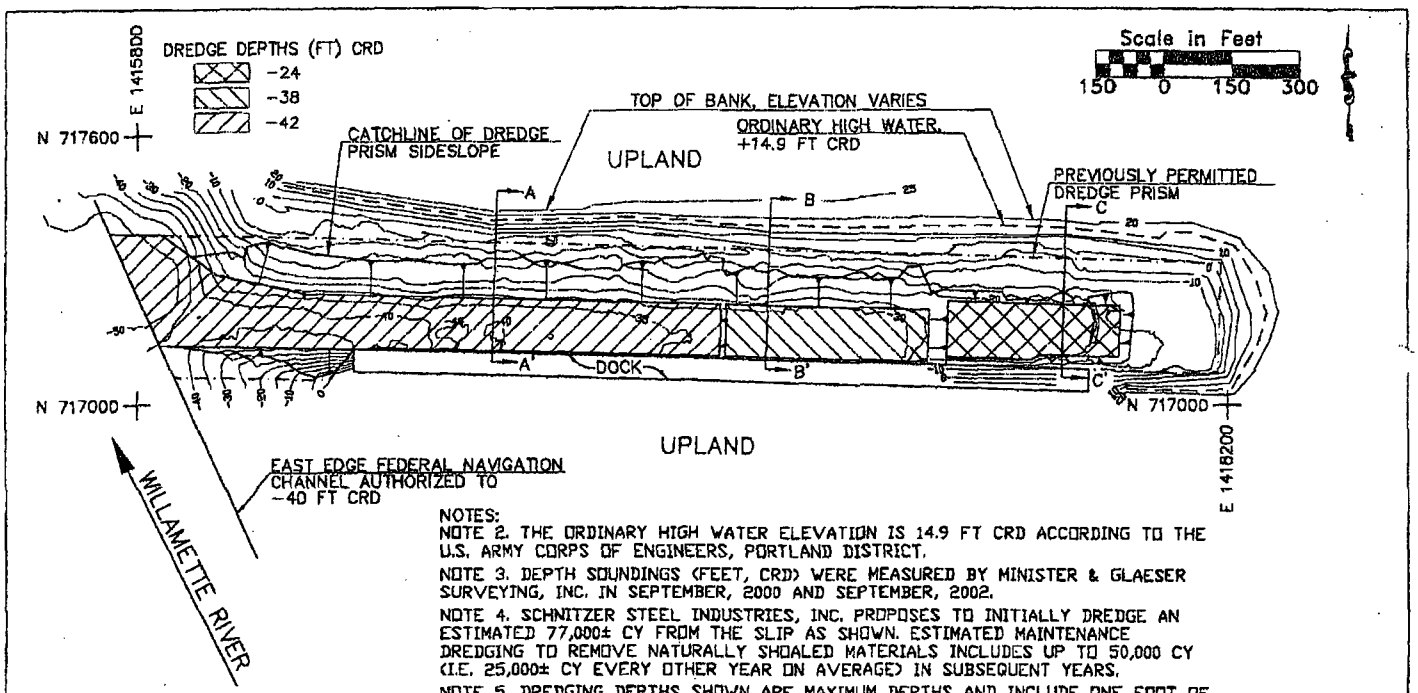
Recent sediment sampling results are attached to this application and have been utilized in development of the Biological Assessment.

5. PROJECT IMPACTS AND ALTERNATIVES

Describe alternative sites and project designs that were considered to avoid impacts to the waterway or wetland.
No alternatives were considered for maintenance dredging in the existing entrance channel and berths since this slip is an existing and previously permitted facility. As outlined in the attached letter from the Pilots, the proposed dredge prism is the minimum needed to provide safe navigation access and berthing. The proposed dredge prism covers less area than authorized in previous permits. The site is designated for marine industrial use by the Lower Willamette River Management Plan, which recognizes the important need to protect and fully utilize the limited areas of Portland Harbor so designated.

Describe what measures you will use (before and after construction) to minimize impacts to the waterway or wetland.
Construction will be conducted during an allowable fish-related inwater work period, although the emergency need and permitting time frame may require extension of the regularly scheduled Oct. 31 and/or Jan. 31 closure to allow completion of the project. Best management practices will be utilized during maintenance dredging as outlined in the Programmatic Biological Opinion (National Marine Fisheries Service dated June 14, 2002 that covers maintenance dredging of existing port terminals) and the Corps of Engineers Nationwide Permit (that includes maintenance dredging) to protect water quality and benthic resources. The proposed dredging will provide one foot of advanced maintenance (already accounted for in the maximum proposed dredge depths) to reduce to the extent practicable the frequency of maintenance dredging events.

SCHN00239569



NOTES:

NOTE 2. THE ORDINARY HIGH WATER ELEVATION IS 14.9 FT CRD ACCORDING TO THE U.S. ARMY CORPS OF ENGINEERS, PORTLAND DISTRICT.

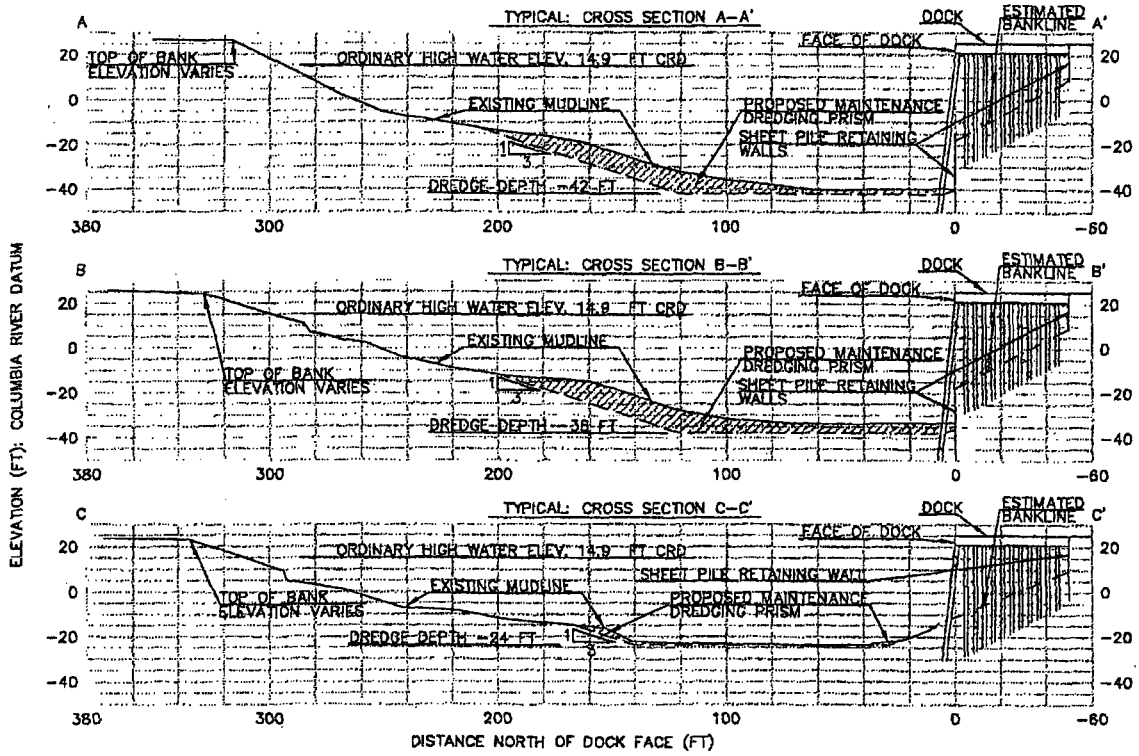
NOTE 3. DEPTH SOUNDINGS (FEET, CRD) WERE MEASURED BY MINISTER & GLAESER SURVEYING, INC. IN SEPTEMBER, 2000 AND SEPTEMBER, 2002.

NOTE 4. SCHNITZER STEEL INDUSTRIES, INC. PROPOSES TO INITIALLY DREDGE AN ESTIMATED 77,000± CY FROM THE SLIP AS SHOWN. ESTIMATED MAINTENANCE DREDGING TO REMOVE NATURALLY SHOALED MATERIALS INCLUDES UP TO 50,000 CY (I.E. 25,000± CY EVERY OTHER YEAR ON AVERAGE) IN SUBSEQUENT YEARS.

NOTE 5. DREDGING DEPTHS SHOWN ARE MAXIMUM DEPTHS AND INCLUDE ONE FOOT OF ADVANCED MAINTENANCE AND ONE FOOT OF ALLOWABLE OVERDEPTH DUE TO DREDGING INACCURACY.

NOTE 6. SCHNITZER STEEL INDUSTRIES, INC. PROPOSES TO DREDGE THE MATERIAL USING A CLAMSHELL BUCKET OPERATED FROM A FLOATING CRANE. DREDGED MATERIAL WILL BE PLACED IN APPROVED UPLAND LOCATIONS.

	PURPOSE: MAINTAIN NAVIGATION ACCESS AND BERTHS FOR SHIPS AND BARGES VERTICAL DATUM: COLUMBIA RIVER DATUM (CRD), CRD IS 1.6' ABOVE NGVD AT WILLAMETTE RIVER MILE 3.6 ADJACENT PROPERTY OWNERS: 1. NORTHWEST TERMINAL COMPANY 2. PORT OF PORTLAND	LATITUDE: 45° 36' 41" N LONGITUDE: 122° 46' 42" W HORIZONTAL DATUM: OREGON STATE PLANE COORDINATE SYSTEM, NORTH ZONE (NAD-27), U.S. SURVEY FEET	PROPOSED MAINTENANCE DREDGING AT INTERNATIONAL TERMINALS IN: WILLAMETTE RIVER AT: RIVER MILE 3.6 COUNTY OF: MULTNOMAH APPLICATION BY: SCHNITZER STEEL INDUSTRIES, INC. SHEET 2 OF 3 DATE: 5/29/03



PURPOSE: MAINTAIN NAVIGATION ACCESS AND BERTHS FOR SHIPS AND BARGES

VERTICAL DATUM: COLUMBIA RIVER DATUM (CRD), CRD IS 1.6' ABOVE NGVD AT WILLAMETTE RIVER MILE 3.6

ADJACENT PROPERTY OWNERS:
1. NORTHWEST TERMINAL COMPANY
2. PORT OF PORTLAND

LATITUDE: 45° 36' 41" N
LONGITUDE: 122° 46' 42" W

SCALE: AS SHOWN

PROPOSED MAINTENANCE DREDGING AT INTERNATIONAL TERMINALS

IN: WILLAMETTE RIVER
AT: RIVER MILE 3.6
COUNTY OF: MULTNOMAH
APPLICATION BY: SCHNITZER STEEL INDUSTRIES, INC.

SHEET 3 OF 3 DATE: 5/29/03

SCHN00239571

COLUMBIA RIVER PILOTS
18285 N. LOMBARD
PORTLAND, OREGON 97203
503-289-9922
FAX 503-289-9955

PARSONS BRINCKERHOFF

MAR 06 2003

5582

January 8, 2003

Jerald D. Ramsden
PB Ports & Marine
400 SW 6th Ave., Suite 802
Portland OR 97204

Dear Jerry,

A few weeks ago we met to discuss navigation safety for vessel operations as it relates to maintenance dredging at the International Terminals slip. To recap our thoughts on the subject:

> The berth should be maintained to a minimum depth of forty (40) feet (at zero gauge) for a distance of eight hundred (800) feet long and one hundred twenty to one hundred forty (140) feet wide.
>
> There are some pilings in the Willamette River just off the upstream corner of the slip. We suggest the project owner consider removal of these piling which would make it possible for tugs to maneuver in this area when assisting a ship into or out of the berth.
>
> Ideally a ship entering the dock from downstream should be able to approach the dock from an oblique angle, cutting across the downstream entrance to the slip. The entrance to the berth (the area between the start of the berth and the Willamette River) should be dredged to allow this. A vessel attempting to enter the berth should not have to position itself perpendicular to the river and in a straight line with the berth in order to enter the berth.

If you have any questions do not hesitate to call me at 503-289-9924.

Very truly yours,

Lonny Rodgers

Capt. Lonny Rodgers
Treasurer

\\Server3\Manager\COLRIP\PILOTING\Tdock_1.doc

SCHN00239572

INTERNATIONAL TERMINALS (BERTHS 1, 2, AND 3)
MAINTENANCE DREDGING
BIOLOGICAL ASSESSMENT
Portland, Oregon

Prepared for

Parsons Brinckerhoff

400 SW Sixth Street, Suite 802
Portland, OR 97204

Prepared by

MCS Environmental, Inc.

6505 – 216th Street SW, Suite 100
Mountlake Terrace, WA 98043

July 8, 2003
34088-001

SCHN00239573

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International Terminals (Berths 1, 2, and 3) Maintenance Dredging

1.0 INTRODUCTION

Section 7 of the Endangered Species Act (ESA) requires that actions of federal agencies to ensure that any action carried out by the agency is "not likely to jeopardize the continued existence of any [listed] species or result in the destruction or adverse modification of habitat of such species...." Issuance of a federal permit is an agency action pursuant to Section 7. falls under this requirement.

Schnitzer Steel Industries, Inc. (SSI) is applying for a permit from the US Army Corps of Engineers (Corps) to conduct maintenance dredging of Berths 1, 2, and 3 of the International Terminals slip. This requires a Section 10/404 permit from the Corps, which qualifies as an action by a federal agency for purposes of and therefore must comply with Section 7 of the ESA. Pursuant to Section 7, the Corps is required to produce a biological evaluation (BE) of the potential effect of issuing the permit on listed species or their critical habitat. To help the Corps evaluate the potential effects of the proposed project on listed species, MCS Environmental, Inc. (MCS) has prepared this Biological Assessment (BA) on the behalf of SSI.

To determine if listed species or their critical habitat are in the vicinity of the proposed project, MCS consulted the National Marine Fisheries Service (NMFS), Northwest Region <http://www.nwr.noaa.gov/esalist.htm> and sent a written request to the US Fish and Wildlife Service (USFWS). Based on information from the NMFS Website and a response from USFWS (McMaster, K., USFWS, pers. com., June 12, 2003; Appendix A), the following listed species may occur in the project area and are therefore addressed in this BE:

- Lower Columbia River chinook salmon (*Oncorhynchus tshawytscha*), listed as threatened in 1999.
- Upper Willamette River chinook salmon (*O. tshawytscha*), listed as threatened in 1999.
- Columbia River run chum salmon (*O. keta*), listed as threatened in 1999.
- Lower Columbia River steelhead trout (*O. mykiss*), listed as threatened in 1998.
- Upper Willamette River steelhead trout (*O. mykiss*), listed as threatened in 1999.
- Bald eagle (*Haliaeetus leucocephalus*), listed as threatened in 1978.
- Water howellia (*Howellia aquatilis*), listed as threatened in 1994.

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This BA also addresses southwestern Washington–Columbia River coastal cutthroat trout (*O. clarki clarki*), a species proposed for listing and Lower Columbia River–Southwest Washington coho salmon (*O. kisutch*), a candidate for listing. Should cutthroat trout or coho salmon become listed during the life of the proposed project, this BA could be used to aid the Corps during any subsequent Section 7 consultation with NMFS related to these species.

Golden paintbrush (*Castilleja levisecta*), Willamette daisy (*Erigeron decumbens* var. *decumbens*), Bradshaw's lomatium (*Lomatium bradshawii*), Kincaid's lupine (*Lupinus sulphureus* var. *kincaidii*), and Nelson's checker-mallow (*Sidalcea nelsoniana*) are species listed as threatened or endangered but are not addressed in this BA because the habitats required by these species are not within the action area (Federal Register Vol. 58, No. 28; Vol. 62, No. 112; and Vol. 65, No. 16).

2.0 PROJECT DESCRIPTION

2.1 PROJECT AND ACTION AREAS

The "project area" is defined as Berths 1, 2, and 3 of International Terminals slip on the Willamette River at Section 35, Township 2N, Range 1W (Figure 1). Photographs of the project area are in Appendix B.

The "action area" for fish resources is defined as the International Terminals slip, from the head of the slip to its mouth. The "action area" for avian species is defined as a one-mile radius around the project area.

2.2 PROPOSED ACTION DESCRIPTION

SSI proposes to conduct maintenance dredging of Berths 1, 2, and 3 at the International Terminals slip to maintain safe navigation access and berthing for the dock facilities by conducting periodic maintenance dredging as needed. The slip and associated berths have been maintained under previous maintenance dredging permits (US Army Corps of Engineers Section 10/404 Permit #199100099 and Oregon Division of State Lands Removal–Fill Permit No. 1055). The site is designated for marine industrial use by the Lower Willamette River Management Plan, which recognizes the need to protect and fully use the limited areas of Portland Harbor so designated. Over the past three decades, the site has been primarily used to support metal recycling and vessel dismantling operations.

Shoaling at the mouth of the slip and within the berths has created a critical and urgent need to maintain these facilities. In the fall of 2002 an incoming ship was required to dock and offload several thousand tons of cargo before docking at the International Terminals slip. Afterwards, a meeting was held with the Columbia River Pilots (Pilots) to determine the minimum acceptable

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conditions needed for safe navigation access and berthing in the slip, given the draft, length and width of vessels that will use this facility over the next five years. The proposed dredge prism is based on suggestions from the Pilots (Appendix C) and engineering considerations such as slope stability (Figures 2 and 3).

The project involves dredging the area to a maximum depth of –42 feet Columbia River Datum (CRD), -38 feet CRD, or –24 feet CRD depending on location within the slip (Figures 2 and 3). The proposed dredge footprint covers about 9.6 acres with a maximum length of 2,250 feet and maximum width of 270 feet. The proposed dredge footprint lies entirely within the previously permitted dredge area and covers less area than authorized in previous permits. The initial dredge volume associated with the proposed dredge prism is 77,000 cubic yards (cy). Over the remainder of the permit duration SSI proposes to dredge another 50,000 cy as needed for ongoing maintenance (e.g. 25,000 cy every other year on average in years two through five as shown in Table 1). Dredging will be by clamshell bucket, with transport to approved upland facilities or locations by barge, truck or rail. Factors such as bucket impact, penetration, withdrawal, and dewatering have been identified as contributing to the resuspension of sediment during clamshell dredge operation (e.g., Hayes et al. 1988). Most of the dewatering will occur as the clamshell excavates and transfers the individual load, which occurs with all dredging operations. The material will have high water content, and some release is expected. The rate at which suspended sediments settle back to the bottom is generally exponential with rapid declines within 200 to 400 feet (Collins 1995). Because of this rapid resettlement, it is anticipated that the area experiencing higher turbidity levels would be relatively small.

The proposed action (i.e. maintenance dredging of an existing facility using a clamshell bucket) and site conditions (see Section 3.0) are consistent with the conditions specified in the *Programmatic Biological Assessment for Categories of Activities Requiring Department of the Army Permits* (Corps 2000b) and NMFS biological opinion of the programmatic BA (NMFS 2002).

2.3 CONSERVATION MEASURES

Construction would occur during times when chinook and chum salmon and steelhead trout are least likely to be present in the action area. All in-water work is scheduled for the in-water work window for the Willamette River (from July 1 through October 1 and December 1 through January 31). However, the urgency of the initial dredge and the permitting time frame may require some work during the regularly scheduled closure to allow completion of the initial dredge. Some construction may occur during the bald-eagle wintering season (October 31 – February 31).

In addition to timing in-water work to avoid the juvenile migration period, SSI proposes to use best management practices during maintenance dredging as outlined in NMFS (2002) and the Corps Nationwide Permit for maintenance dredging to protect water quality and benthic resources. The

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proposed dredging will provide one foot of advanced maintenance (already accounted for in the maximum proposed dredge depths) to minimize maintenance dredging events.

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3.0 EXISTING ENVIRONMENTAL CONDITIONS AND EFFECTS OF THE ACTION

This section discusses existing environmental conditions and any temporary and permanent effects of project activities (Section 2.2), as well as the net effects of those activities (Table 2). It discusses only those environmental attributes and associated components of habitat quality that are important to the listed species addressed, and that are likely to be affected by the project in some way.

3.1 GENERAL

3.1.1 Existing Conditions

Approximately half of the Lower Willamette River flows through forested areas, one third through agricultural areas, and five percent through urban areas, such as Portland. The International Terminals slip is located at river mile (RM) 3.5 in Portland. Land use surrounding the site is primarily industrial, and riverbanks have been heavily modified with riprap or bulkheads. Berths 1 through 3 are located in the International Terminals slip adjacent to the Burgard Yard. The docks and berths at the slip currently support metal recycling and barge and ship dismantling. The site was originally developed in the early 1940's for military ship construction. These berths are also used to import bulk cargo such as manganese, pig iron, steel coils, and steel slabs. The slip contains three berths and 1,680 feet of docks.

3.1.2 Effects of the Action

The proposed project will not result in increased boat traffic or associated noise.

A clamshell dredge will be used for the proposed project. Increased noise from dredging may cause salmonids, other fish species, and bald eagles to avoid the area during construction. Clamshell buckets are not expected to entrain juvenile, sub–adult, or adult salmonids, but may entrain demersal fish and epibenthic invertebrates.

Results of studies on the effects of waterborne sound on fish behavior have been ambiguous and do not allow for prediction of responses (Popper and Carlson 1998). The level at which fish can detect sound depends upon the level of background noise. Sound must be at least 10 dB more intense than background noise to avoid being masked by ambient noise at the same or nearby frequencies (Tavolga 1971). Popper and Carlson (1998) note that the effects of noise depend greatly on the flow field in which the noise occurs. The level of ambient or background noise can drastically reduce a fish's ability to detect other sounds. Wind and precipitation at the surface, water turbulence, animal sounds, human activity and many other factors create significant levels of underwater noise (ICES 1994, Richardson et al. 1995, and H. Cleator, pers. com. as cited in Stewart 2001). Since most

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background noise is within the hearing range of fishes, the noise generated by background conditions and river flows adjacent to the project area will probably modify the reaction of fish to noise generated by the project

Above-water noise and movement of machinery at the site are much more likely to frighten away fish predators such as kingfishers, herons, grebes, and mergansers, than in–water noise is to frighten fish into areas where they might be more vulnerable to predators such as native char, cutthroat trout, and juvenile coho salmon.

The proposed maintenance dredging will allow present operations to continue, and noise generated will not differ much from existing operations at this site and many other sites along the Willamette River. Because the primary noise sources will be about 50 feet from shore, smaller juvenile salmonids moving along the shoreline would likely remain nearshore, rather than moving offshore toward the noise. Fish traveling downstream in the channel would avoid moving barges and tugs by moving away from the vessel path and diving deeper. Because of expected low densities of potential fish predators on juvenile salmonids in mid–channel, this short-term avoidance behavior is unlikely to result in increased predation losses.

3.2 WATER QUALITY AND STORMWATER

3.2.1 Existing Conditions

Urbanization has reduced water quality in the area via direct inputs of municipal and industrial discharges and indirect inputs from agricultural, silvicultural, urban, and industrial land. The Willamette River is currently on the 1998 Oregon Department of Environmental Quality (ODEQ) 303d list as impaired for temperature, bacteria, biological criteria, and toxics. However, ODEQ has been monitoring water quality in the Lower Willamette basin since 1986 with special intensive studies in the Tualatin and Lower Willamette subbasins in 1986-1990. These studies show that water quality in the Lower Willamette Basin has improved significantly (Cude 2003).

3.2.2 Effects of the Action

Because the proposed maintenance dredging will not increase impervious surfaces, stormwater runoff will not increase. The proposed maintenance dredging will not increase boat traffic, so the chance of water quality degradation from pollution from boats will not increase.

The proposed maintenance dredging will cause temporary and localized impacts on water quality in the vicinity of active dredging. Turbidity will increase slightly in a limited mixing zone downstream of active work areas. Elevated turbidity plumes that may occur in localized areas near active dredging should be dissipated relatively rapidly by tidal and river currents (e.g., FSI et al. 1999). In–

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water work will be conducted during periods when few if any juvenile anadromous fish will be present.

Juvenile salmon have been shown to avoid areas of high turbidities (e.g., Servizi 1988), although they may seek out areas of moderate turbidity (10 to 80 nephelometric turbidity units [NTU]), presumably as cover against predation (Cyrus and Blaber 1987a, 1987b). Feeding efficiency of juveniles is also impaired by turbidities over 70 NTU, well below sub-lethal stress levels (Bisson and Bilby 1982). Reduced preference by adult salmon homing to spawning areas has been demonstrated where turbidities exceed 30 NTU (20 mg/L suspended sediments). However, chinook salmon exposed to 650 mg/L of suspended volcanic ash were still able to find their natal water (Whitman et al. 1982). Based on these data, it is unlikely that the locally elevated turbidities generated by the proposed action would directly affect juvenile or adult salmonids that may be present.

Short-term effects from increased turbidity are expected during dredging, but these effects from sediment resuspension should be only temporary. Dredging is not expected to result in any long-term adverse changes in levels of chemical contamination, temperature, or dissolved oxygen. Therefore, the net effects of dredging will be to maintain water quality in the project area.

3.3 FLOW AND CURRENT PATTERNS

3.3.1 Existing Conditions

Flows in the Willamette River are controlled by 13 impoundments on several of its larger tributaries and by the Willamette Falls at RM 26.5. Below the falls, the Willamette River is tidally influenced by the Pacific Ocean a hundred miles to the west as well as flow conditions in the Columbia River (Corps 2000a). The width of the Willamette River at the project site is approximately 1,700 feet wide during typical river flows with maximum depths of approximately −50 feet CRD in the vicinity of the International Terminals slip.

3.3.2 Effects of the Action

The proposed maintenance dredging is not expected to alter flow or current patterns of the river since most of the dredging is located within the slip and proposed changes in the bathymetry near the slip mouth are minor in relation to the cross sectional area of the river at this location.

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3.4 SEDIMENTS, SUBSTRATE, AND BATHEMETRY

3.4.1 Existing Conditions

Currently the depth of the project area ranges from –10 to –40 feet CRD. Dredging will remove 77,000 cy of sediment in the first year of the permit, followed by an additional 25,000 cy every other year on average during the remainder of the permit duration. The sediments exposed by dredging are expected to be similar to surficial sediments present throughout the project area.

MCS collected five sediment cores in the slip during March 2003 and Floyd Snider McCarthy, Inc. evaluated them using the analyte list suggested in the Dredged Material Evaluation Framework (DMEF) (Corps 1998). Data were compared to the DMEF values, probable effects concentration (PEC) values for freshwater sediment quality developed by MacDonald et al. (2000) and Ingersoll et al. (2000), and Portland Harbor Area-Wide Sediment baseline values (ODEQ 1999).

Only one surface sample exceeded DMEF screening levels. Samples considered representative of the post-dredge surface contained few detectable chemical constuents. When detectable concentrations of chemicals occurred, they were substantially less than screening levels. No samples exceed the PEC values, and all exceedances are within the Portland Harbor Area-Wide Sediment baseline values (FSMI 2003).

3.4.2 Effects of the Action

Maintenance dredging in the project area should maintain sediment quality. Dredging will not affect sedimentation sources or rates. Because most of the sediments in the slip do not contain contaminants above DMEF screening levels, as shown by the recent sampling, resuspension of sediments is not expected to release contaminants into the water column.

Shallow water habitat (< 20 feet in water depth) provides food resources and migration routes for juvenile salmonids (Simenstad et al. 1999). Salmonid habitat may suffer a minor net decline in function due to the deepening. The proposed dredging will create steeper slopes along the edge of the dredge area and deepen the dredge area. However, 79% percent of the initial dredge prism lies below an existing mudline elevation of –20 feet CRD. In subsequent years of the permit it is expected that almost all the dredging will occur below existing mudline elevations of –20 feet CRD. Other than approximately 2.0 acres of dredging area in the first year of the permit all the remainder of the proposed dredging is expected to be at depths below –20 feet CRD (i.e. the lower limit of shallow water habitat). The contribution of epibenthic prey to salmonids from the area to be dredged should be limited by the depths within the proposed dredge prism. The adjacent Willamette River channel and associated shallow-water areas are much larger than the area being dredged, so no adverse impact is anticipated on salmonids foraging on benthic invertebrates in the spring following

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dredging. By the spring outmigration period after dredging, the productivity of epibenthic prey for juvenile salmonids should be recovering, but may be less than the ultimate production of the area after a 1- to 2-year recolonization period. Because of the limited area of dredging in depths preferred by foraging salmonids and the rapid recolonization of benthic and epibenthic biota, the proposed dredging is not expected to have any short- or long-term direct effects on the juvenile salmonid foraging habitat.

No known spawning habitat exists within the action area, therefore any potential temporary suspension of sediments is not expected to embed spawning gravels.

3.5 SHORELINE CONDITIONS

3.5.1 Existing Conditions

Historically the Willamette Falls was an impassible fish barrier to many salmonids until fish ladders were constructed in the early 1900s. The International Terminals slip does not hinder fish access in the Willamette River. Few refuge areas, such as off-channel areas, backwater areas, or sloughs, remain in the Willamette River. The International Terminals slip functions somewhat like a slough and could provide refuge for salmonids during periods of high flow in the river, although no studies have documented this.

Riparian vegetation has been greatly altered in the Lower Willamette River Basin. Little to no riparian vegetation exists in the action area along the eastern shore of the Willamette River or in the International Terminals slip. However, riparian vegetation covers a large area along the western shore of the Willamette across from the slip at Forest Park. Black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), Oregon white ash (*Franxinus latifolia*), red alder (*Alnus rubra*), and willow (*Salix* spp.) are typical trees species along the Willamette River. Typical shrub species include Himalayan blackberry (*Rubus discolor*) and Scotch broom (*Cytisus scoparius*).

3.5.2 Effects of the Action

Temporary increases in noise or turbidity from dredging activities may prevent access and refuge for salmonids and other species in the immediate vicinity of the work areas (see Sections 3.1 and 3.2).

The proposed dredging in the first year will occur below –5 feet CRD and therefore will not affect the shoreline or riparian habitat.

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3.6 ACCESS AND REFUGIA

3.6.1 Existing Conditions

The International Terminals slip could provide refuge for salmonids during periods of high flow.

3.6.2 Effects of the Action

Temporary increases in noise or turbidity from dredging may prevent access and refuge for salmonids and other species in the immediate vicinity of the work areas during the period of dredging activity (see Sections 3.1 and 3.2).

3.7 BIOTA CONDITIONS

3.7.1 Existing Conditions

Benthic and epibenthic organisms in the Lower Willamette River basin include oligochaetes, mysid shrimp, amphipods, chironomid larvae, crayfish, and mollusks (Sanborn 1973 and FES 1995). Fish species include salmonids, largescale sucker (*Catostomus macrocheilus*), northern pikeminnow (*Ptychocheilus oregonesis*), perch (*Cymatogaster aggregate*), peamouth (*Mylocheilus caurinus*), sculpin (Cottidae), bluegill (*Lepomis macrochirus*), threespine stickleback (*Gasterosteus aculeatus*), and sturgeon (*Acipenser* spp.) (FES 1999).

3.7.2 Effects of the Action

Dredging will eliminate nonmobile benthos over approximately 9.6 acres of the bottom in the project area, temporarily reducing abundance and diversity. The newly exposed bottom should be quickly recolonized by infauna and epifauna (McCauley et al. 1977; Richardson et al. 1977; Romberg et al. 1995; Wilson and Romberg 1995). Diversity and health of the benthic assemblage recolonizing the dredged area should recover quickly and be similar to those of the subtidal benthic community now present. Areas adjacent to the project site will provide local larval sources for recolonization. Because of the prolonged period of planktonic larval development (several days to weeks) for most benthic species, currents will likely carry most larvae into the project area from plankton spawning outside of it.

By the spring outmigration period after dredging, the productivity of epibenthic prey for juvenile salmonids should be recovering, but may be less than the ultimate production of the area after a 1- to 2-year recolonization period. The contribution of epibenthic prey from the small subtidal area to be dredged is limited by the area's depth. Because the adjacent Willamette River and associated

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shallow-water areas are so much larger than the area to be dredged, dredging should not harm salmonids foraging on benthic invertebrates.

Repeated disturbance from current use of the action area reduces ecological diversity. Proposed dredging will not increase this disturbance and therefore is not expected to have short-term direct effects on ecological diversity in the project area.

Avian species that now use the action area or that fly over it during dredging may modify their use of the area, moving away from construction activity.

Proposed dredging will not have short-term direct effects on aquatic vegetation within the project area because there are no known macroalgae beds there.

Proposed dredging will not have short-term direct effects on the pelagic prey in the project area because it will not degrade water quality enough to affect pelagic assemblages.

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4.0 EVALUATION OF EFFECTS ON LISTED SPECIES

This section discusses life histories of listed species and the use of the action area. It evaluates temporary and permanent, direct and indirect effects on listed species from project activities (Section 2.2) and includes the effects determination. Detailed life histories are discussed in Corps 2000b. This section discusses only attributes of listed species that are likely to be affected by the project in some way.

An analysis of effects on Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery and Conservation Act is described in Appendix D.

4.1 LOWER COLUMBIA AND UPPER WILLAMETTE CHINOOK

4.1.1 Life History and Critical Habitat

Chinook salmon prefer to spawn and rear in the mainstem of rivers and larger streams. Although water temperatures determine the incubation period, fry typically hatch in about eight weeks. After emergence, juvenile chinook salmon migrate to saltwater during their first year (Corps 2000b).

Critical habitat is currently being reconsidered for Lower Columbia and Upper Willamette chinook. On April 30, 2002, the US District Court for the District of Columbia approved a NMFS consent decree withdrawing a February 2000 critical-habitat designation for these and 17 other evolutionary significant units (ESUs) (NMFS 2000). Critical habitat consists of the water, substrate, and adjacent riparian zone of accessible estuarine and riverine reaches.

4.1.2 Use of the Action Area

Most chinook in the project area are likely to be migrating juveniles and adults. Juvenile chinook feed on benthic and epibenthic organisms in shallow nearshore areas. Adult chinook typically feed on other fish such as whitefish, sculpin and other trout. Therefore, adult chinook in the action area would likely be feeding on fish in the deeper water of the action area rather than the benthic and epibenthic organisms that are primary prey for juveniles.

4.1.3 Effects of the Action

No direct mortality of chinook is expected from any aspect of project construction, which will occur when few, if any, juvenile salmonids are present. Adult and juvenile chinook can avoid any proposed project conditions that would result in direct impacts (e.g. entrainment in the bucket) on them. Dredging will likely increase turbidity in the immediate vicinity. This impact will be only

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temporary and the suspended sediment will dissipate quickly. Dredging will temporarily eliminate benthic organisms, an important food source for juvenile chinook. By the spring outmigration period after dredging, the productivity of epibenthic prey for juvenile salmonids should be recovering, but may be less than the ultimate production of the area after a 1- to 2-year recolonization period (McCauley et al. 1977; Richardson et al. 1977; Romberg et al. 1995; Wilson and Romberg 1995). The contribution of epibenthic prey from the small subtidal area to be dredged is limited by the area's depth. Because the adjacent Willamette River and associated shallow-water areas are so much larger than the area to be dredged, dredging should not harm salmonids foraging on benthic invertebrates. Seventy nine percent of the area to be dredged in the first year of the permit is below -20 feet CRD, deeper than migrating juveniles prefer (Simenstad et al. 1999). In subsequent years of the permit all maintenance dredging is anticipated to be below -20 feet CRD.

4.1.4 Effect Determination

Because of the lack of significant water quality impacts, and the short-term, localized nature of any reductions in prey abundance, the proposed project may affect, but is not likely to adversely affect chinook.

4.2 COLUMBIA RIVER CHUM SALMON

4.2.1 Life History and Critical Habitat

Chum salmon prefer to spawn at the head of the tidewater. Although the incubation period is determined by water temperatures, fry hatch in two weeks to four months. After emerging from the gravel, fry migrate immediately to marine waters, limiting their freshwater life history to a few days. Rearing and development to adulthood occur in the marine environment (Corps 2000b).

Critical habitat is currently under development for Columbia River chum following the NMFS consent decree withdrawing critical habitat designation for this and 18 other ESUs (NMFS 2000).

4.2.2 Use of the Action Area

Like chinook salmon, the majority of chum that occur within the project area are likely to be migrating juveniles and adults. Therefore, chum in the action area may be feeding on epibenthic organisms in the action areas as well as on organisms in water deeper than the action area.

4.2.3 Effects of the Action

The effects of the proposed action on chum would be similar to those described for chinook. However, unlike juvenile chinook, juvenile chum may not feed while migrating to saltwater.

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Therefore, the impacts on epibenthic prey from construction may affect chum even less than the other listed salmonids.

4.2.4 Effect Determination

Because of the lack of significant water quality impacts, and the short-term, localized nature of any reductions in prey abundance, the proposed project may affect, but is not likely to adversely affect chum salmon.

4.3 LOWER COLUMBIA RIVER AND UPPER WILLAMETTE STEELHEAD TROUT

4.3.1 Life History and Critical Habitat

Steelhead trout spawn in tributaries of small and large rivers in late winter through spring. Juveniles migrate to the ocean after rearing in large rivers for one to four years. Steelhead spend one to three years in the ocean before returning to their natal streams to spawn. Unlike most anadromous salmonids, steelhead trout may return to their natal streams several times to spawn before they die (Corps 2000b).

Critical habitat has not been designated for coastal cutthroat steelhead trout (NMFS 2000).

4.3.2 Use of the Action Area

Juveniles, sub–adult, or adult steelhead trout may occur within the project area. Adult and sub-adult steelhead trout are typically piscivores, feeding on other fish such as whitefish, sculpin and other trout. Therefore, the adult and sub–adult steelhead trout in the action area would likely be feeding in the deeper water of the action area on fish rather than the insects that are primary prey for juveniles.

4.3.3 Effects of the Action

No direct mortality of steelhead trout is expected from any aspect of project construction, which will occur when few, if any, juvenile salmonids are present. Adult and juvenile steelhead trout can avoid any proposed project conditions that would result in direct impacts (e.g. entrainment in the bucket) on them. Dredging will likely increase turbidity temporarily in the immediate vicinity. Suspended sediment will dissipate quickly.

Dredging will eliminate benthic organisms, an important food source for juvenile steelhead trout. By the spring outmigration period after dredging, the productivity of epibenthic prey for juvenile salmonids should be recovering, but may be less than the ultimate production of the area after a 1- to 2-year recolonization period (McCauley et al. 1977; Richardson et al. 1977; Romberg et al. 1995;

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Wilson and Romberg 1995). The contribution of epibenthic prey from the small subtidal area to be dredged is limited by the area's depth. Because the adjacent Willamette River and associated shallow-water areas are so much larger than the area to be dredged, dredging should not harm salmonids foraging on benthic invertebrates. Seventy nine percent of the area to be dredged is below -20 feet CRD, deeper than foraging juveniles prefer (Simenstad et al 1999). In subsequent years of the permit all maintenance dredging is anticipated to be below –20 feet CRD.

4.3.4 Effect Determination

Because of the lack of significant water quality impacts, and the short-term, localized nature of any reductions in prey abundance, the proposed project may affect, but is not likely to adversely affect steelhead trout.

4.4 BALD EAGLE

4.4.1 Life History and Critical Habitat

In Oregon, bald eagle breeding territories are mainly located in coniferous, uneven-aged stands with old-growth components. A variety of habitat characteristics influence territory size and configuration, including availability and location of perch trees for foraging, quality of foraging habitat, and distance of nests from waters supporting adequate food supplies. Bald eagles typically build nests in old-growth trees, which are generally used in successive years. Courtship and nest-building begin in January and February. Egg laying begins in March or early April, and eaglets hatch in mid-April or early May. They fledge in mid-July and often remain in the vicinity of the nest for another month (Rodrick and Milner 1991; Corps 2000b).

Eagles often depend on dead or weakened prey, and their diet may vary locally and seasonally. During the breeding season they eat anadromous and warmwater fishes, small mammals, carrion, small waterfowl, and seabirds. Various carrion, including spawned-out salmon, are important food sources during fall and winter (Rodrick and Milner 1991).

Critical habitat has not been designated for bald eagles.

4.4.2 Use of the Action Area

A species list obtained from the USFWS indicates that bald eagles may occur in the vicinity of the proposed project. No bald eagle nests are located in the action area. The closest nests are more than three 3 miles north and northwest of it (Dorsey, G., pers. comm., June 5, 2003).

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The availability of suitable nest trees is often a limiting factor in the establishment of eagle territories (Carroll and Pentec 1992). Although there are no large trees in the action area for the bald eagles to roost or nest in, bald eagles occasionally fly over the area and may rest or perch on nearby pilings or cottonwood trees.

4.4.3 Effects of the Action

Construction could occur during the nesting season. However, since it would be more than 3 miles from the closest bald eagle nests, construction would not directly disrupt eagle nesting and rearing of young. No communal night roosts or perch trees are near the site, so wintering bald eagles would not be affected by construction that may occur during the wintering season. Foraging bald eagles may be displaced by the noise of heavy equipment, but the availability of prey would not be significantly disrupted by the proposed maintenance work. Given the surrounding urbanization and industrialization, eagles using the area are likely accustomed to high levels of human activity in the action area.

4.4.4 Effect Determination

Dredging will not affect nesting or wintering habitat or behaviors, and only minor disruptions to foraging may occur, so the proposed project may affect, but is not likely to adversely affect the bald eagle.

4.5 WATER HOWELLIA

4.5.1 Life History and Critical Habitat

Water howellia has historically occurred over a large area of the Pacific Northwest. Water howellia occurs in vernal ponds and shallow water edges of larger ponds, oxboughs, sloughs, or other slow-moving water bodies with fine sediment.

Critical habitat has not been designated for water howellia (Corps 2000b).

4.5.2 Use of the Action Area

There are no records of water howellia occurring in the action area and there is no habitat capable of supporting it there. Shallow-water areas in the action area are covered with riprap and do not contain the fine sediment preferred by water howellia. Additionally, boat traffic is likely to create sufficient wave action in the area to prevent establishment of water howellia, even if suitable substrate existed between riprap boulders.

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4.5.3 Effects of the Action

Because water howellia is not known to exist in the action area and the action area does not contain habitat suitable for water howellia, dredging activities will not affect water howellia.

4.5.4 Effect Determination

Dredging activities will not affect potential water howellia habitat, as dredging will occur in water deeper than water howellia can tolerate. In addition, there is no suitable water howellia habitat in the action area. Thus the proposed project will have no effect on water howellia

4.6 COASTAL CUTTHROAT TROUT

4.6.1 Life History and Critical Habitat

Coastal cutthroat trout spawn in small tributaries of small and large rivers in late winter through spring. Juveniles migrate downstream between March and June and may make several freshwater migrations before migrating to the ocean. Most coastal cutthroat trout are 2 to 3 years old before migrating to the ocean. Coastal cutthroat trout spend less than one year in the ocean before migrating back to their natal streams to spawn. Unlike most anadromous salmonids, coastal cutthroat trout do not die after spawning (Corps 2000b).

Critical habitat has not been designated for coastal cutthroat trout (NMFS 2000).

4.6.2 Use of the Action Area

Most coastal cutthroat trout in the project area are likely to be adults and sub–adults from nearby basins. Adult and sub–adult coastal cutthroat trout typically feed on other fish such as whitefish, sculpin, and other trout. Therefore, the adult and sub–adult coastal cutthroat trout in the action area would likely be feeding in the deeper water of the action area on fish rather than the organisms that serve as primary prey for juveniles.

4.6.3 Effects of the Action

No direct effect on coastal cutthroat trout is expected to result from any aspect of project construction, which will occur when few, if any, juvenile salmonids are present. Adult salmonids can avoid any conditions that would result in direct impacts (e.g. entrainment in the bucket) on them. Dredging will likely increase turbidity temporarily in the immediate vicinity. Suspended sediment will dissipate quickly.

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Dredging will eliminate benthic organisms, an important food source for juvenile coastal cutthroat trout. By the spring outmigration period after dredging, the productivity of epibenthic prey for juvenile salmonids should be recovering, but may be less than the ultimate production of the area after a 1- to 2-year recolonization period (McCauley et al. 1977; Richardson et al. 1977; Romberg et al. 1995; Wilson and Romberg 1995). The contribution of epibenthic prey from the small subtidal area to be dredged is limited by the area's depth. Because the adjacent Willamette River and associated shallow-water areas are so much larger than the area to be dredged, dredging should not harm salmonids foraging on benthic invertebrates. Additionally, seventy nine percent of the area to be dredged is below -20 feet CRD, which is deeper than foraging juveniles prefer (Simenstad et al. 1999). In subsequent years of the permit all maintenance dredging is anticipated to be below -20 feet CRD.

4.6.4 Effect Determination

Because of the lack of significant water quality impacts, and the short-term, localized nature of any reductions in prey abundance, the proposed project will not jeopardize coastal cutthroat trout. Should coastal cutthroat trout become listed the proposed project may affect, but is not likely to adversely affect, cutthroat trout or their habitat.

4.7 LOWER COLUMBIA RIVER COHO SALMON

4.7.1 Life History and Critical Habitat

Coho spawn in small tributaries of small or large rivers in late winter through spring. Juveniles migrate downstream between April and August. Juvenile coho may spend anywhere from a few weeks to two years in freshwater before migrating to the ocean. Coho spend one to two years in the ocean before migrating back to their natal streams to spawn (Corps 2000b).

Critical habitat has not been designated for Lower Columbia River coho salmon.

4.7.2 Use of the Action Area

Most coho in the project area are likely to be adults and sub–adults from nearby basins. Adult and sub–adult coho typically feed on other fish such as whitefish, sculpin, and other trout. By the time adult coho reach the Willamette River, they probably are not feeding. Sub–adult coho in the action area would likely be feeding in the deeper water of the action area on fish rather than the benthic and epibenthic organisms that serve as primary prey for juveniles.

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4.7.3 Effects of the Action

The effects of the proposed action on coho would be similar to those described for chinook. Impacts on epibenthic prey from construction could have less impact on coho than other salmonid species because coho found in the action area are likely to be less dependant on epibenthic prey than chinook.

4.7.4 Effect Determination

Because of the lack of significant water quality impacts, and the short-term, localized nature of any reductions in prey abundance, the proposed project will not jeopardize coho salmon. If coho are listed, the proposed project may affect, but is not likely to adversely affect, coho salmon or their habitat.

SCHN00239595

5.0 INTERRELATED, INTERDEPENDENT, AND CUMULATIVE EFFECTS

Cumulative effects are those effects of future state or private activities, not involving activities of other federal agencies that are reasonably certain to occur within the area of the federal action subject to consultation (50 CFR 402.02 Definitions). Future federal actions unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the ESA. Interdependent effects are defined as actions with no independent utility apart from the proposed action. Interrelated effects include those that are part of a larger action and depend on the larger action for justification.

No interdependent or cumulative effects are known to occur that may adversely affect a listed, proposed, or candidate species within the action area. An interrelated action of the proposed action may be the occasional disturbance of the substrate from prop wash of tugs as they bring in barges or during the hauling out of barges or other vessels. Prop wash could result in small, temporary increases in turbidity. The periodic disturbance of the substrate caused by the prop wash could reduce the suitability of the substrate for colonization by benthic macroinvertebrates utilized as food by juvenile salmonids. However, these effects of prop wash being localized and temporary would have little affect on the growth or survival of juvenile salmonids.

SCHN00239596

6.0 SUMMARY

Construction activities would temporarily increase noise and turbidity, possibly causing listed species to avoid the immediate work area. Best management practices would be used to reduce these impacts. Thus, the proposed action:

- **may affect, but is not likely to adversely affect** chinook salmon,
- **may affect, but is not likely to adversely affect** chum salmon,
- **may affect, but is not likely to adversely affect** steelhead trout,
- **may affect, but is not likely to adversely affect** bald eagles, and
- will have **no effect** on water howellia.

SCHN00239597

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SCHN00239601

Oregon

DEPARTMENT
ENVIRONMENT
QUALITY

WATER QUALITY 401 CERTIFICATION
Public Notice

WHO IS THE APPLICANT: See the attached Department of State Lands (DSL) and or Corps of Engineers (COE) permit application.

WHAT IS PROPOSED: See the attached DSL and or COE permit application on the proposed project.

DESCRIPTION OF DISCHARGES: See the attached DSL and or COE permit for details.

NEED FOR CERTIFICATION: Under Section 401 of the Clean Water Act, any activity that requires a federal permit or license requires certification from the State that any discharge will meet the requirements of the Clean Water Act and State water quality standards. . .

PUBLIC PARTICIPATION: Written comments must be received by 5 p.m. no later than thirty days from the notice issued date at the Oregon Department of Environmental Quality, Water Quality Division, 811 S.W. 6th Ave., Portland, Oregon 97204 to be included in the official record. Public comments should specifically include new data addressing how the project would affect requirements of the Clean Water Act and Oregon water quality standards.

The applicant, any affected state, or any interested agency, person or group of persons, may request a publi hearing with respect to this certification application. If the Director determines new data would be produce a public hearing will be held prior to the director's final determination. There shall be notification of such a hearing.

HOW TO GET ADDITIONAL INFORMATION: The application and related documents are available for inspection during the public comment period, Monday through Friday, between 9:00 am to noon and 1:00 pm to 4:00 pm at DEQ's Portland office. Please call in advance for an appointment 229-5279.

People wishing to receive a copy of the DSL/COE application can call DEQ at (503) 229-5279 or toll free in Oregon at 1-800-452-4011. Public Records Act charges may apply. Persons with a hearing impairment ca receive help by calling DEQ's TDD number at (503) 229-6993.

WHAT HAPPENS NEXT: After the conclusion of the public participation period, the permit will be issued a proposed, issued with modifications, or denied, depending on comments received during the public participation process. Interested parties can request to be notified of the final determination by writing or calling the Department at the above address.

ACCESSIBILITY INFORMATION: This publication is available in alternate format (e.g. large print, braille) upon request. Please contact Ed Sale in DEQ Public Affairs at 229-5766 to request an alternate format.

811 SW Sixth
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DEQ-1

SCHN00239602

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CIVIL & STRUCTURAL ENGINEERS MATERIAL HANDLING

March 14, 2007

Mr. Steven Meyerowitz, Assistant General Manager
Schnitzer Steel Products Co.
PO Box 10047
Portland, OR 97296-0047

RE: Dredging of Berth 2
International Terminals
12005 N. Burgard Road
Portland, OR 97203

Steven,

In response to your request, Smith & Monroe, & Gray Engineers Inc. is submitting this letter report regarding the structural aspects for the deepening of Berth 2 as a supplement to the letter report to Schnitzer Steel Industries, dated May 18, 2005. Per that letter report, SMG understands that Schnitzer Steel would like to deepen Berth 2 to minus 38 feet CRD, but Berth 2 was not addressed due the results of the review for deepening Berth 1. As noted in the original letter report, the average existing bathemetry along the face of Berth 2 is minus 33 feet CRD.

Analysis of the cantilevered sheet pile bulkhead along Berth 2 with a nominal average height of 20 feet, for the loading recommended by GRI, indicates that the PZ27 sheet pile sections are overstressed. Analysis of the cantilevered sheet pile bulkhead along Berth 2 with the nominal average mudline elevation behind the bulkhead of minus 13.0 feet CRD, for the loading recommended by GRI, indicates that the PZ27 sheet pile sections are capable of supporting a 18.0-foot cantilevered height. Assuming a nominal average mudline elevation of minus 13.0 feet CRD behind the lower bulkhead, the allowable mudline elevation on the slip side of the bulkhead is minus 31.0 feet CRD.

Based on the structural analysis and the GRI reports, it is not feasible to deepen Berth 2 to the desired depth without strengthening or replacing the existing cantilevered sheet pile bulkhead. The existing mudline depths can be extended to the north bank of the slip similar to that shown in Sketch 03-113Q-1 of the original letter report.

Attached is a copy of the original letter report submitted to Schnitzer Steel Industries, dated May 18, 2005

Smith& Monroe & Gray appreciates the opportunity to work with Schnitzer Steel on this project. Please contact us if you any questions or require further information.

Respectfully,

Smith & Monroe & Gray Engineers Inc.

Robert F. Scherzinger, PE, SE
Senior Structural Engineer

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
10,545
OREGON
JULY 13, 1973
ROBERT F. SCHERZINGER JR.
3-14
EXPIRATION DATE: 6-30-08

SMITH & MONROE & GRAY ENGINEERS, INC.

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CIVIL & STRUCTURAL ENGINEERS

MATERIAL HANDLING

May 18, 2005

Mr. Jamie Wilson, Project Manager
Schnitzer Steel Industries Inc.
PO Box 10047
Portland, OR 97296-0047

RE: Dredging of Berths 1 and 2
International Terminals
12005 N. Burgard Road
Portland, OR 97203

Jamie,

In response to your request, Smith & Monroe & Gray Engineers Inc. is submitting this letter report regarding the structural aspects for the deepening of Berths 1 and 2 at the above referenced facility. These recommendations are based in part on: the hydrographic surveys made by Minister-Glaeser Surveying Inc., dated December 21, 2004 and February 18, 2005; the original construction drawings (1 to 5) prepared by Zarosinski - Tatone Engineers Inc., dated January 17, 1974 and February 28, 1974 (3B); lead-line surveys performed by PB Ports and Marine, dated April 21 and 26, 2004; and reports prepared by GRI, dated June 10, 2003 and March 10, 2005.

The International Terminals is located at mile 3.6 on the Willamette River at the east side. The berths are located on the south bank of the east-west oriented slip at the north side of the facility. Refer to the attached topographic map.

Birth 1 is the river or west end 650 feet, Berth 2 is the center 550 feet, and Berth 3 is the east end of the marginal wharf, located along the south bank of the slip. Existing bathemetry along the face of Berth 1 varies from minus 41 feet to minus 38 feet, nominally minus 38 feet CRD at MLW, extending out approximately 85 feet at the west/river end and approximately 60 feet at its east end from the face of pier. Existing bathemetry along the face of Berth 2 varies from minus 33 feet to minus 32 feet, nominally minus 33 feet CRD at MLW, extending out approximately 80 feet at its west end and approximately 60 feet at its east end from face of pier. Refer to the attached Minister-Glaeser Surveying Inc. hydrographic surveys.

A cantilevered sheet pile bulkhead is present along the toe of the bank at the waterside of the wharf along Berths 1 and 2. We understand this bulkhead is critical to the global stability of the bank. Refer to the attached GRI reports (GRI 2003 and GRI 2005) for evaluation of the underwater slopes associated with these berths.

We understand that Schnitzer Steel Industries Inc. would like to deepen Berth 1 to minus 42 feet CRD and Berth 2 to minus 38 feet CRD.

Smith & Monroe & Gray Engineers Inc. has reviewed the structural aspects of the cantilevered sheet pile bulkhead along the toe of the bank at Berths 1 and 2. The review is based on the following criteria: the original structural drawings prepared by Zarosinski - Tatone Engineers Inc. indicated the use of 60-foot lengths of an undefined sheet pile section with a top of wall elevation at minus 15 feet CRD, a bottom of embed at minus 75 feet CRD, and a mudline elevation of minus 33.0 feet for a design bulkhead height of 18.0 feet; the PB Ports and Marine report (PB 2004) indicated that the sheet pile section was a PZ27 of Grade 40 steel, that the mudline behind the bulkhead at Berth 1 varies from minus 16.72 feet CRD at the west/river end to minus 19.45 feet CRD at its east end for an average of minus 18.86 feet CRD and an average bulkhead height of 19.18 feet, and that the mudline behind the bulkhead at Berth 2 varies from minus 19.45 feet CRD at its west end to minus 13.38 feet CRD at its east end for an average of minus 12.98 feet CRD and an average bulkhead height of 20.01 feet. Per the GRI reports, the factor of safety for the passive resistance at the slip side of the bulkhead is 2.0.

Analysis of the cantilevered sheet pile bulkhead along the toe of the bank at Berths 1 and 2 is dependent upon the construction of the pier including behind the upper solder pile bulkhead along the uplands side of the wharf. The proposed retrofit modifications to Berth 1 include steel pipe piles to support the new deck structure with pile tip elevations at minus 112 to 114 feet NGVD (minus 110.7 to 112.7 feet CRD) and a new pile supported relieving platform on the uplands side of the upper bulkhead, both of which relieve the pier related surcharge loading on the lower cantilevered sheet pile bulkhead. Berth 2 consists of shallower timber pile support (tip elevations unknown) along the uplands side of the existing pier and pavement on the uplands side of the upper bulkhead, both of which cause surcharge loading of the lower cantilevered sheet pile bulkhead. Refer to the attached GRI report (GRI 2005).

Analysis of the cantilevered sheet pile bulkhead along Berth 1 with the nominal average bulkhead height of 19.17 feet, for the loading recommended by GRI, indicates that the PZ27 sheet pile sections are overstressed to 136% of allowable. Analysis of the cantilevered sheet pile bulkhead along Berth 1 with the nominal average mudline elevation behind the bulkhead of minus 18.83, for the loading recommended by GRI, indicates that the PZ27 sheet pile sections are capable of supporting a 17.17-foot cantilevered height. Assuming a nominal average mudline elevation of minus 18.83 feet CRD behind the lower bulkhead, the allowable mudline elevation on the slip side of the bulkhead is minus 36.0 feet (minus 34.3 NGVD).

The cantilevered sheet pile bulkhead along Berth 2 was not formally analyzed due to the increased loading from the surcharge loading and the result of the Berth 1 analysis which indicated that a minus 38-foot CRD mudline elevation was not feasible at the face of the bulkhead.

Based on the structural analysis and the GRI reports, it is not feasible to deepen the berths to the proposed depths without strengthening or replacing the existing cantilevered sheet pile bulkhead. The existing mudline depths can be extended towards the north bank of the slip.

Refer to attached GRI report (GRI 2005) and Sketch 03-113Q-1 for a dredging profile for Berth 1.

The purpose of this letter report is to assist Schnitzer Steel in making certain decisions regarding the deepening of Berths 1 and 2 at the above referenced facility. Our discussions and conclusions are based on limited documentation and field observations, and the experience and judgement of our design staff.

Smith & Monroe & Gray Engineers Inc. appreciates the opportunity to work with Schnitzer Steel on this project, and is prepared to pursue any further efforts when requested. Please contact us if you have any questions or require further information.

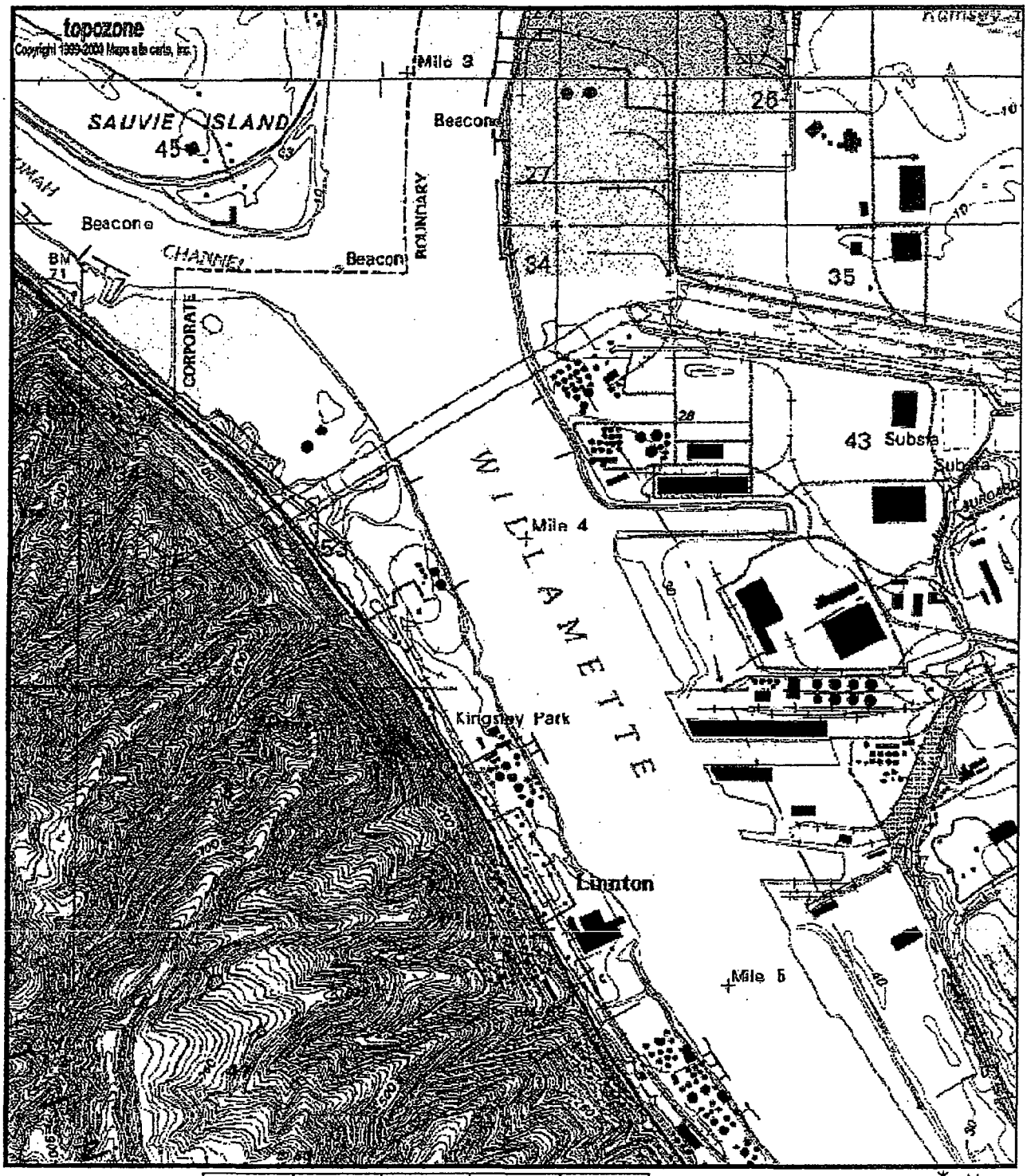
Respectfully,

Smith & Monroe & Gray Engineers, Inc.

Robert F. Scherzinger, PE, SE
Senior Structural Engineer

Attachments

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 10,545 OREGON JULY 13, 1979 ROBERT F. SCHERZINGER JR.
5-18
EXPIRATION DATE: 6-30-06



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Linnton quadrangle
Projection is UTM Zone 10 NAD83 Datum

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SCHN00239609

GRI REPORTS
2005 & 2003

SCHNITZER STEEL INDUSTRIES INC.
PORTLAND, OR

GRI
Geotechnical & Environmental Consultants
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MEMORANDUM

To: Bob Scherzinger, PE, SE / Smith & Monroe & Gray Engineers

Date: March 10, 2005

GRI Project No.: 4213

From: Stan Kelsay, PE, and Jennifer Crump

cc: Jamie Wilson / Schnitzer Steel Industries, Inc.

Re: Evaluation of Underwater Slopes
Schnitzer Steel International Terminal
Portland, Oregon

At your request, GRI has evaluated the underwater slopes at the slip at Schnitzer International Terminal on the east bank of the Willamette River. We understand Schnitzer would like to deepen and widen the existing dredge line at Berths 1 and 2 in the slip. Our evaluation included review of the following background information developed by GRI:

> "Geotechnical Guidelines for Riverbank Slope Protection, International Terminals, Portland, Oregon," dated January 16, 1996.
>
> "Underwater Slope Evaluation, Dredging at Schnitzer International Terminal, Portland, Oregon," dated June 10, 2003.

Our review of these previous reports by GRI provides the majority of our current understanding of the history of the facility and subsurface conditions at the site. In this regard, the primary concerns associated with dredging at Berths 1 and 2 are slope stability considerations associated with the northern bank of the slip and the stress levels in the submerged cantilever wall at the face of the dock at Berths 1 and 2. Our evaluation consisted of slope stability studies for the north bank of the slip and development of lateral earth pressure criteria to assist Smith & Monroe & Gray Engineers, Inc. (SMG) in evaluating the impact of proposed dredging on the lower submerged cantilever retaining wall at the face of the dock at Berths 1 and 2. This memo summarizes the work accomplished and provides our conclusions and recommendations concerning the proposed dredging.

Site Conditions

The current mudline in the Berth 1 area of the slip is typically about elevation -38 ft (CRD). The existing mudline at Berth 2 is typically about elevation -33 ft. These mudline elevations extend about 80 ft out from the face of the dock, where the mudline slopes upward to the top of the north bank of the slip, which is at about elevation +26 ft. Most of the underwater slopes range from about 3H:1V to 4H:1V, with locally flatter areas.

A paved parking lot/roadway is located at the top of the easterly portion of the north riverbank slip area. The westerly portion is unpaved and used for laydown and storage. Due to erosion and slope instability concerns in 1996, about 500 lineal ft of the riverbank slope across from Berth 1 was protected with a riprap blanket keyed into the slope with a toe trench. The depth of the riprap toe trench varies along the riverbank; however, it is generally located at an elevation of about 0 ft (CRD). The remaining portions of the riverbank materials consist mostly of dredged sand fill with varying amounts of debris, such as concrete and asphaltic-concrete (AC) pieces. In addition, some vegetation, including brush and small trees, are present on the areas of the northern portion of the slip that have not been covered with riprap.

The available subsurface information indicates the site is capped with about 20 to 25 ft of sand fill that is underlain by alluvial floodplain deposits. The alluvial soils consist of fine-grained sand with varying amounts of silt and are typically underlain by gravel of the Troutdale Formation below about elevation –150 ft. We understand that primarily silt sediments have been removed during maintenance dredging of the slip.

Geotechnical Engineering Guidelines

We understand Schnitzer would like to dredge the area in front of Berths 1 and 2 to about elevation -38 ft (CRD) and widen the dredged area of the slip as much as possible. Our recommendations regarding the geotechnical engineering considerations associated with the dredging work are summarized below.

1) Our previous slope stability studies and additional slope stability analysis performed for this study indicate the final submerged slopes along the north bank of the slip below about elevation 0 ft (CRD) should be no steeper than 3H:1V. In addition, to limit the risk of undermining the existing riprap toe trench and triggering slope failures in the other areas along the north bank of the slip, the top of the 3H:1V slope should extend no closer than 20 ft from elevation 0 ft (CRD), as shown on the attached Figure 1.

2) To minimize the risk of the dredging causing localized slope failures, the dredging should be accomplished in two phases starting from the top of the slope about 20 ft from elevation 0 ft (CRD) and extending to about elevation -20 ft, or about half the total height of the 3H:1V slope. Once this has been accomplished, the second phase of dredging can be accomplished to the desired dredge line.

The slope stability analysis performed for the underwater slope evaluation studies (GRI, 2003) indicated the area in front of the sheetpile wall at Berths 1 and 2 could be dredged to elevation -42 ft and maintain an acceptable factor of safety against a global slope failure. However, this analysis did not evaluate the forces and deflections in the sheetpile wall. Furthermore, we recommended evaluating the sheetpile wall using the lateral earth pressure diagram shown on Figure 2. In our opinion, this loading diagram would be appropriate to evaluate the effect of dredging in front of the sheetpile wall in the area of Berth 2 that will not be modified for the new crane that is part of the planned improvements at Berth 1.

As discussed in our report (GRI, 2003), the surcharge loading from the dock provides a substantial lateral earth pressure behind the wall that is difficult to quantify. As shown on Figure 2, the load is represented as a uniform surcharge about 20 ft below the existing riverbank surface behind the sheetpile wall, which, in our opinion, is a reasonable depth. However, we acknowledge there is some uncertainty in the actual

location and magnitude of this load. Therefore, we recommend varying the location of the dock surcharge (i.e., the distance Hs) to evaluate the sensitivity of the stresses in the sheetpile wall due the location of the dock surcharge. In addition, if Schnitzer would limit the amount of surcharge placed on the dock and the area about 25 ft behind the dock, it would significantly reduce the stresses on the lower sheetpile wall.

For the area of Berth 1 where the dock will be modified and supported on the new 24-in.-diameter steel pipe piles and a relieving platform will be constructed behind the existing upper bulkhead, we recommend using the lateral earth pressure diagram on Figure 3 to evaluate the effect of dredging in front of the lower sheetpile wall. As noted on Figure 3, the widely spaced pipe piles and the effect of removing a portion of the soil behind the existing upper bulkhead and supporting the surcharge loading in this area with the relieving platform substantially reduces the lateral load on the lower sheetpile wall.

Based on previous studies, deepening the dredge line in front of the existing lower sheetpile wall may result in levels of stress in the steel sheetpiles that are unacceptable. Therefore, it may be beneficial to limit the amount of dredging in front of the sheetpile wall and slope the dredge line downward where the deeper dredge depth will not affect the sheetpile wall. To review the benefits of this approach, we recommend you assume the dredge line remains horizontal at a depth equal to 2.5 times the embedded depth of the sheetpiles below the dredge line. For example if the dredge depth is elevation -35 ft, this would result in about 40 ft of sheetpile embedment, which, in turn, would require a horizontal distance of 100 ft prior to sloping the dredge line downward. After this distance, the dredge line could be sloped at 3H:1V to the deeper dredge depth.

Other Considerations

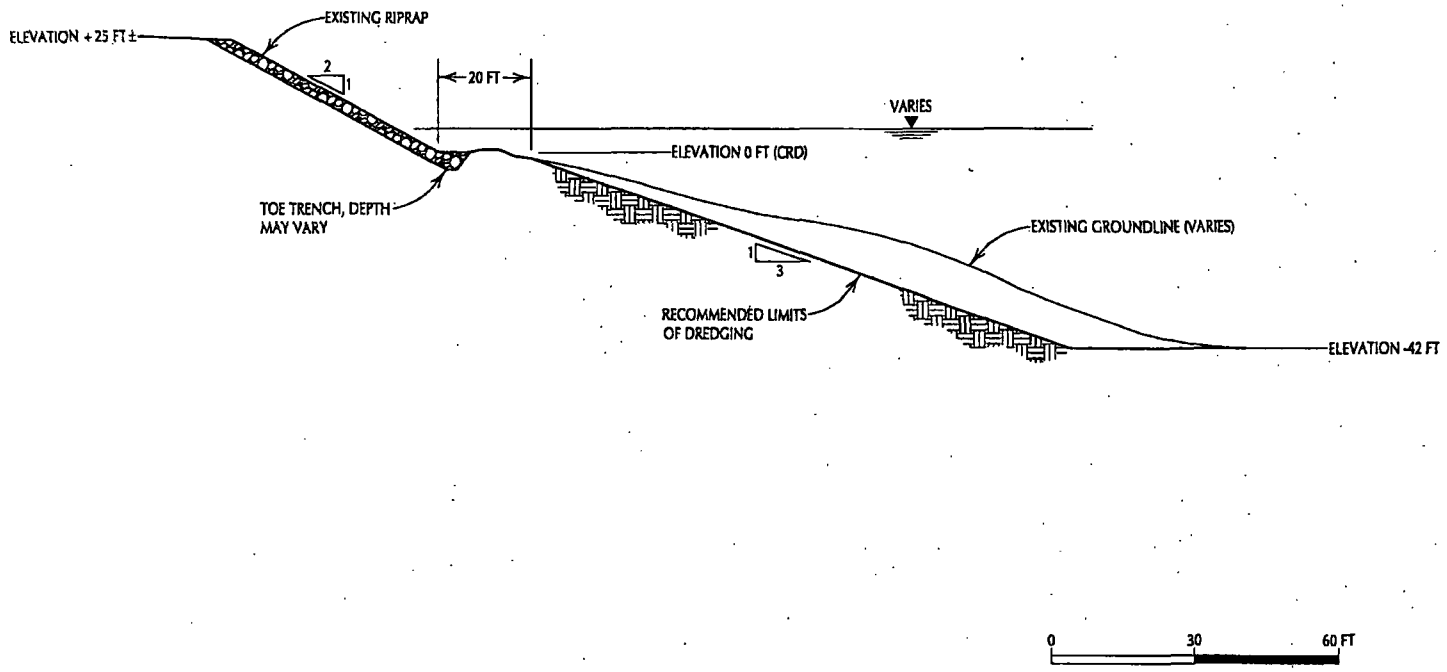
As discussed in our June 10, 2003, report, the underlying alluvial soils are considered to be relatively loose, and we anticipate that liquefaction of these soils would likely result from a strong local seismic event. In addition, we anticipate that seismically induced liquefaction at this site may produce lateral spreading of the slopes along the slip and riverfront and settlement of the ground surface of the steelyard. Our analyses and conclusions do not account for any seismic loading. Substantial deformations of the existing upper bulkhead, lower sheetpile wall, and dock structure in the slip should be expected based on the relatively low factor of safety for the existing slope and the likely relatively large magnitude of lateral spreading anticipated as a result of a strong seismic event.

Limitations

This memorandum has been prepared to aid SMG and Schnitzer in the evaluation of the proposed dredging at the slip. The scope is limited to the specific project and location described herein, and our description of the project represents our understanding of the existing slopes, structures, and soil conditions at the site. In the event that any changes in the dredging plan or the project elements as outlined in this memorandum are planned, we should be given the opportunity to review the changes and modify or reaffirm the conclusions and recommendations of this report in writing.

The conclusions and recommendations submitted in this report are based on our understanding of the existing conditions at this site based on review of the available information discussed in this report. This report does not reflect any variations in subsurface conditions that may be different from those described in the available information. The nature and extent of variation may not become evident until construction. If, during dredging, subsurface conditions different from those described in this report are observed or

encountered, we should be advised at once so that we can observe and review these conditions and reconsider our recommendations where necessary.

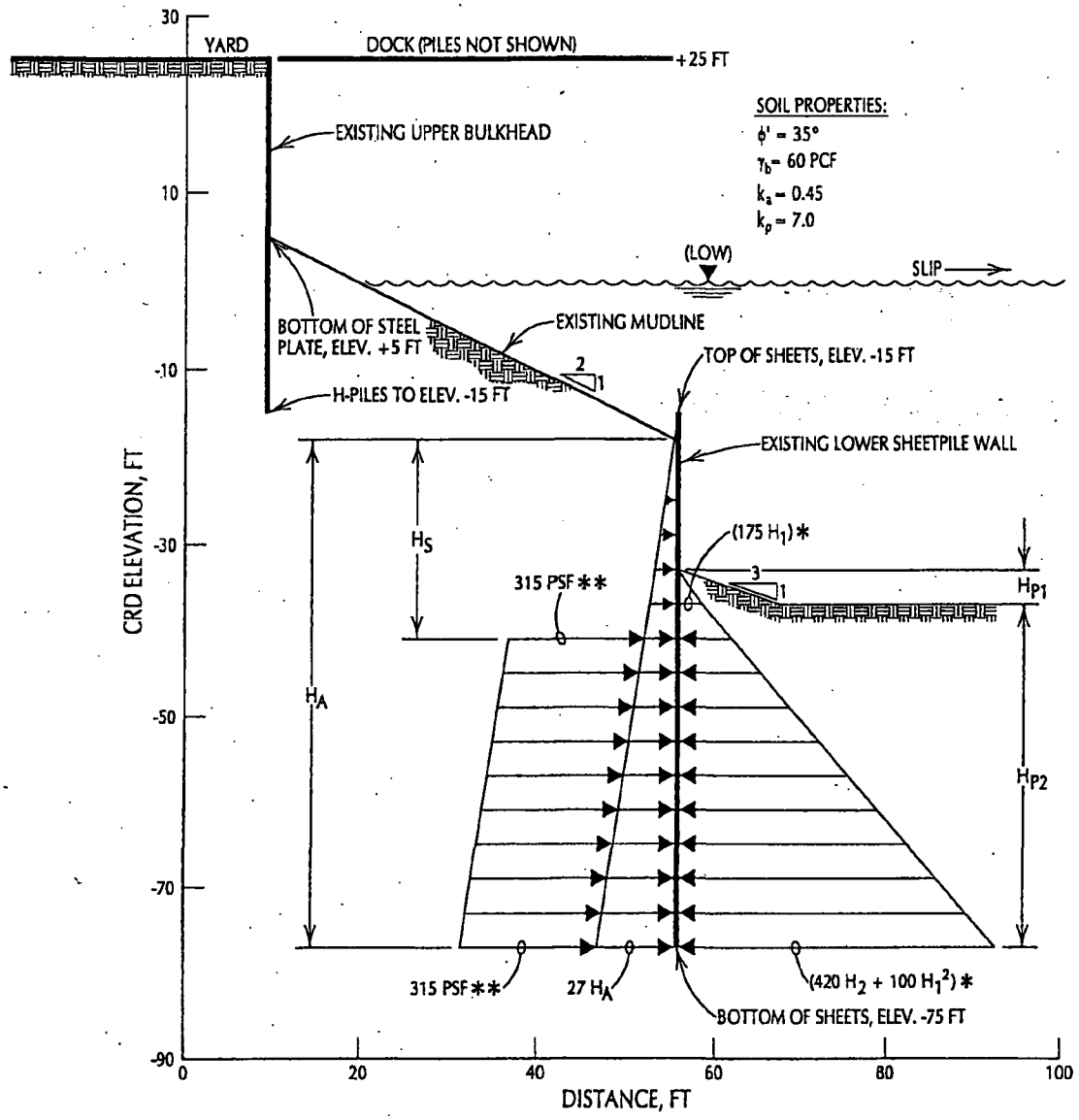


GRI SMITH & MONROE & GRAY ENGINEERS
SCHNITZER INTERNATIONAL TERMINAL

NORTH BANK SLIP DREDGING GUIDELINES

MAR. 2005 JOB NO. 4213 FIG. 1

SCHN00239615



FOR EXISTING DOCK / BERTH 2

NOTES:

* ULTIMATE PASSIVE RESISTANCE (I.E. FACTOR OF SAFETY = 1.0); WILL REQUIRE APPROXIMATELY 2 TO 3 IN. OF MOVEMENT AT TOP OF SHEETS TO MOBILIZE

** LATERAL EARTH PRESSURE RESULTING FROM DOCK SURCHARGE OF 700 PSF

H_A DEPTH TO BOTTOM OF SHEETS BELOW EXISTING MUDLINE

H_{P1} DREDGE DEPTH

H_{P2} DEPTH TO BOTTOM OF SHEETS BELOW DREDGE LINE

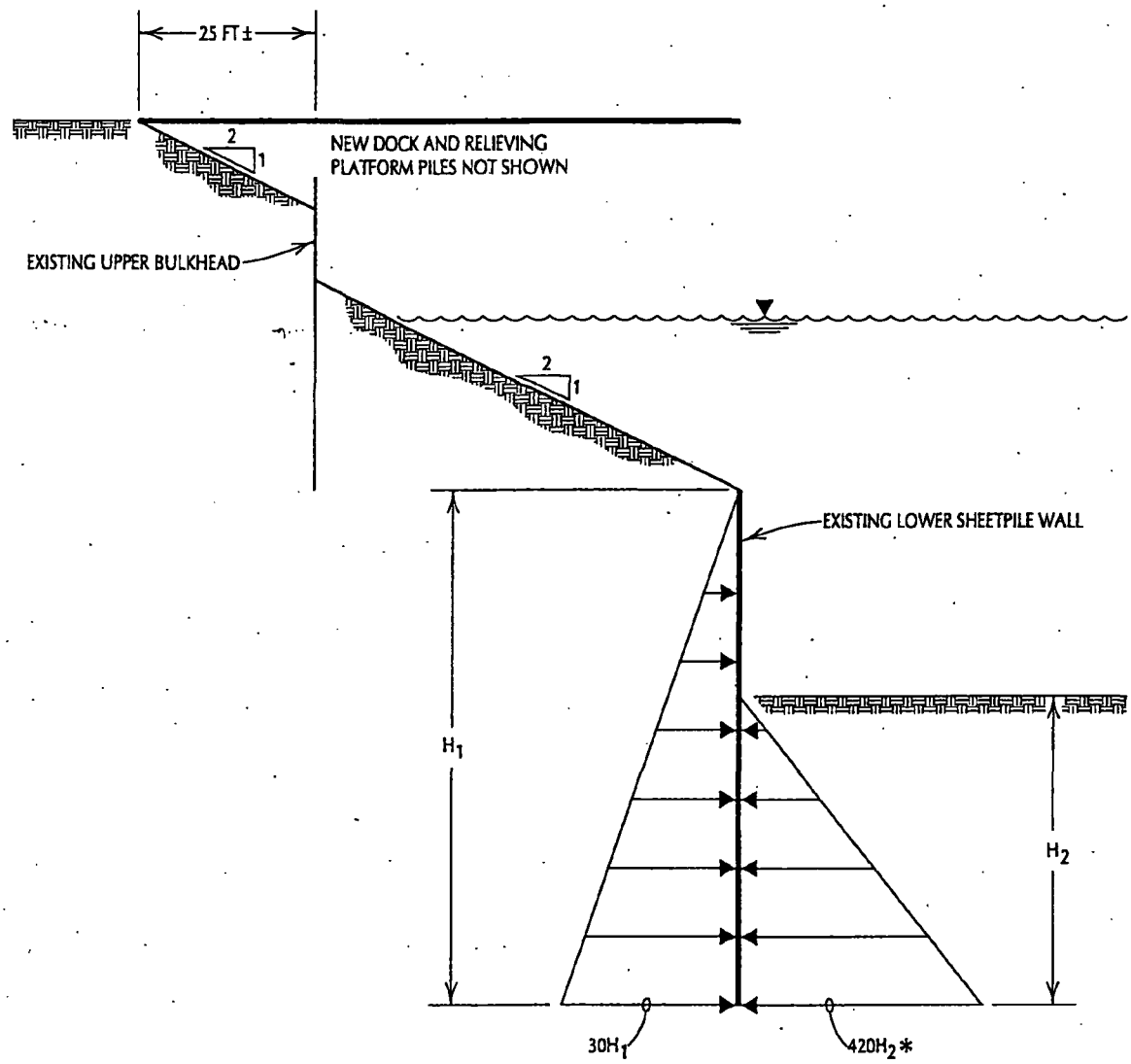
H_S LOCATION OF DOCK SURCHARGE, DEPTH BELOW EXISTING MUDLINE, (VARIES ± 20 FT)

GRI SMITH & MONROE & GRAY ENGINEERS
SCHNITZER INTERNATIONAL TERMINAL

LATERAL EARTH PRESSURE DIAGRAM

MAR. 2005 JOB NO. 4213 FIG. 2

SCHN00239616



DOCK MODIFICATIONS / FOR BERTH 1

* THIS IS THE ULTIMATE PASSIVE RESISTANCE. FOR DESIGN THIS VALUE IS COMMONLY REDUCED ~ 50% (FS = 2)

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LATERAL EARTH PRESSURE DIAGRAM

MAR. 2005 JOB NO. 4213 FIG. 3

SCHN00239617

GRI Geotechnical & Environmental Consultants
9725 SW Beaverton Hillsdale Hwy, Ste 140
Portland, Oregon 97005-3364
PHONE 503/641/3478 FAX 503/644/8034

June 10, 2003

3776 GEOTECHNICAL RPT

Parsons Brinckerhoff Quade & Douglas, Inc.
400 SW Sixth Avenue, Suite 802
Portland, OR 97204

Attention: Jerald Ramsden

SUBJECT: **Underwater Slope Evaluation**
Dredging at Schnitzer International Terminal
Portland, Oregon

At your request, GRI has evaluated the underwater slopes at the slip and along the Willamette River at Schnitzer International Terminal. The Vicinity Map, Figure 1, shows the general location of the facility, which is located between river mile 3.6 and 4.1 on the east bank of the Willamette River. We understand there is a present need to deepen the berths along the river and deepen and widen the berths in the slip. Our evaluation has consisted of the review of available geotechnical information for the site, development of slope stability models, and engineering studies and analyses. This report describes the work accomplished, summarizes our conclusions regarding slope stability, and provides our recommendations for the proposed dredging and measures to mitigate the effects of the dredging on stability of the slopes and the existing pile-supported structures. All elevations in this report are based on Columbia River datum (CRD).

PROJECT DESCRIPTION

The Site Plans, Figures 2 and 3, show the configuration of the slip and riverbank as well as the topography of the above- and below-water slopes. We understand the proposed work in the slip area will include deepening the mudline to about elevation –42 to –36 ft in the area of the existing dock. In addition, the channel in the slip may be widened to establish a berth width of about 115 ft or wider. On the riverside of the facility, the proposed dredging would include deepening the mudline from a current elevation of about –35 ft to about elevation –42 ft along a 1,500 lineal ft section of river. Based on the topographic information and a visit to the site, the above-water slopes along the river are typically in the range of 1H:1V to 2H:1V, with locally steeper and flatter areas.

BACKGROUND INFORMATION

Background information regarding the design and construction of the existing dock, cantilever sheetpile wall, anchored bulkhead, and subsurface and underwater conditions at the site is documented in the following reports:

"Schnitzer Investment Corp., International Terminal, Foundation Investigation," by Foundation Sciences, Inc., dated December 1973.

"Geotechnical Investigation, Modifications to Schnitzer Steel Facility Dock, Portland, Oregon" by GRI, dated October 16, 2002.

www.gri.com

Our recent experience with the Schnitzer facility dock (GRI, 2002) and review of the report by FSI (1973) provide the majority of our current understanding regarding subsurface conditions at the site and the history of the original design and construction of the docks.

SITE DESCRIPTION

Existing Conditions

An existing dock with a deck elevation of +25 ft is present along the south side of the slip and extends from the river eastward to within about 250 ft of the end of the slip. At berth 1 (Station 0+00 to 6+00, Figure 1), the south (inner) half of the dock is currently supported by timber piles, and the north (outer) portion of the dock is supported on 26-in.-diameter steel pipe piles. As you know, modifications to berth 1 are currently under construction and include the installation of 24-in.-diameter steel pipe piles to support a new container crane. At berths 2 (Station 6+00 to 13+0, Figure 1) and 3 (Station 13+80 to 16+80, Figure 1), the dock is supported entirely on timber piles. The lengths of the existing timber and steel piles are not known as neither driving records nor as-built plans are available. An anchored tied-back soldier pile bulkhead is located along the south side of the dock and supports the edge of the steel yard. The steel yard is at elevation +25 ft. The soldier piles for the bulkhead consist of 40-ft-long steel H-piles on 10-ft centers. The bulkhead is a wide-flange/plate assembly about 10 to 12 in. thick, with wide flange stiffener members between steel plates that extend to about elevation +5 ft. We further understand the anchor is located about 6 ft below the top of each H-pile and consists of a 1¾-in.-diameter steel rod connected to a deadman anchor placed in the backfill an unknown distance behind the wall. The mudline in front of the tied-back bulkhead is at about elevation +10 ft and slopes downward to the north under the dock at a slope of about 2H:1V to the top of a submerged cantilever sheetpile wall at about elevation -15 ft. The cantilever sheetpile wall extends to a tip elevation of about -75 ft. The bulkhead and cantilever sheetpile wall are separated by a horizontal distance of about 50 ft. The mudline elevation in front of the cantilever sheetpile varies along the length of the wall; however, we understand it is typically on the order of elevation –40 and –39 ft at the west and east end of berth 1; respectively; elevation –39 and –23 ft at the west and east end of berth 2; respectively, and elevation –23 and –15 ft at the west and east end of berth 3; respectively.

Geology and Groundwater

The existing ground surface along the riverbank in the area of the proposed dredging is relatively flat and was created by placing dredged sand fill over alluvial floodplain deposits. The subsurface information for the site developed by FSI and GRI indicates the thickness of the fill varies; however, it is generally on the order of 25 ft thick along the river and thins inland to about 10 ft at the east end of the dock in the slip. The floodplain deposits that underlie the fill typically consist of fine-grained sand with varying amounts of silt near the river and transition inland to silt and clayey silt with lenticular interbeds of sand silt, silty sand, and locally thicker layers of fine-grained sand. The alluvial soils are generally underlain by gravel of the Troutdale Formation at depths below about elevation –150 ft.

Groundwater levels across this portion of the floodplain are expected to fluctuate in response to river level and, to a lesser extent, precipitation. We understand the 100-year flood level at the site is about elevation +26.1 ft, and the ordinary high and low water levels are about elevation +15.2 and +3.0 ft, respectively. We anticipate perched groundwater conditions may periodically develop locally above the less-permeable floodplain deposits and within the dredged sand cap that mantles the site.

Subsurface Conditions

According to the information provided in the above-referenced reports and our visits to the site, the riverbank on the south side of the slip is retained by an anchored bulkhead and underwater cantilever sheetpile wall. A dock is present between the bulkhead and cantilever sheetpile wall. The bulkhead retains the edge of the steel yard, which is at elevation +25 ft. The surface of the steel yard is paved with asphaltic concrete and Portland cement concrete. The pavement is underlain by dredged sand fill that varies from about 10 and 25 ft thick. The sand fill is generally medium dense, fine to medium grained, and contains up to a trace of silt. Alluvial deposits of silt and sand underlie the sand fill. Near the river, the alluvial deposits typically consist of medium dense, fine to medium grained sand that contains varying amounts of silt. Farther inland, the alluvial sand become siltier and transition to medium stiff to stiff silt with varying amounts of fine-grained sand and clay. The silt is underlain by medium dense to dense, fine-grained sand at depths of more than 90 to 100 ft (elevation –65 to –75 ft). Logs of the subsurface explorations for the above-referenced reports are provided in Appendix A.

FSI Stability Model

As referenced above, Foundation Sciences, Inc. (FSI) performed a subsurface investigation and stability analysis for the slopes beneath the dock in 1973. The purpose of the work by FSI was to evaluate the length and embedment of a sheetpile wall necessary to stabilize the slope beneath the dock, assuming a mudline elevation of –33 ft. The model developed by FSI assumes the bulkhead and sheetpile walls are individually stable, and the critical surface passes under the bulkhead and sheetpile wall, i.e., the FSI model assumed global stability controls. The FSI analysis was performed under static conditions, with the critical water surface located at elevation –5 ft. A uniform live load of 500 psf surcharge was applied in the area behind the tied-back bulkhead. The report concluded that a sheetpile wall 55 ft deep was necessary for stability at a minimum water level with a channel bottom of elevation –33 ft. The report does not indicate what embedment is necessary with a mudline at elevation –33 ft; however, the report recommended the sheetpile wall be embedded at least 22 ft below the channel bottom where the mudline was other than elevation –33 ft. Neither stability calculations nor factor of safety values are presented in the FSI report. Based on the available information, we understand the sheetpiles were installed to a final tip elevation of –73 ft. The slip has subsequently been dredged to a mudline elevation of about –40 ft in berth 1.

CONCLUSIONS AND RECOMMENDATIONS

General

As currently envisioned, the slip and river berths will be dredged to accommodate deeper and wider draft vessels. Berths 1, 2, and 3 in the slip will be dredged to about elevations –42, –38, and –36 ft; respectively, requiring 2 to 20 ft of deepening based on the current mudline elevation. In addition, the channel in the slip may be widened to establish a berth width of at least 115 ft. Berths 4 and 5 in the river will be dredged to about elevation –42 ft from a current mudline elevation of about –35 ft.

Based on the available subsurface information, the soils on the bottom of the slip in the area of the proposed dredging likely consist of medium dense sand on the west half and transition to medium stiff silt on the east half. It is also likely the river bottom consists of medium dense sand. We anticipate a thickness of loose, soft sediments has likely been deposited on the bottom of the slip since it was last dredged. The

thickness of sediments will likely vary by location in the slip and could be several feet thick. Due to river currents, the thickness of these sediments on the river bottom is likely less than in the slip.

Groundwater levels across this portion of the floodplain fluctuate in response to river levels and, to a lesser extent, precipitation. Changes in the groundwater level lag behind changes in river level. This periodically results in unbalanced conditions that are typically most critical for the overall stability of the riverbank. The largest unbalanced condition occurs when river levels quickly recede after flood events or prolonged periods of high water. For more usual conditions, when groundwater levels closely follow river levels, a low river level generally represents the worst-case condition for the stability of slopes along the waterfront.

Using the information discussed above, we have developed slope stability models to evaluate the effects of the proposed dredging on stability of the slip and riverbank slopes. The following sections of this report discuss the models developed, summarize our conclusions regarding the stability of the slopes, and provide recommendations for measures to mitigate the effects the proposed dredging will have on the overall stability of the slopes and the existing pile-supported dock, bulkhead, and sheetpile wall.

Stability Models

General. Computer-aided slope stability models were developed for the slopes at the berths to analyze the existing conditions and a deepened dredge depth. Modeling for local stability and global stability were performed. The models are two-dimensional and were developed using the Slope/W program, a software package developed by GEO-SLOPE International, Ltd., of Calgary, Alberta, Canada. Factors of safety against sliding were computed using Spencer's Method of Slices, which satisfies both force and moment equilibrium while assuming the resultant of interslice forces are of constant orientation throughout the sliding mass. The computed factor of safety is defined as the ratio of the forces (or moments) tending to resist sliding to the forces (or moments) tending to cause sliding within the slope. Computed factors of safety less than 1.0 represent potentially unstable conditions.

The program allows for defining potential failure surfaces within the slope as being either circular or a series of piece-wise linear segments. Automatic search routines can be used with circular surfaces to begin identifying the region within the slope near the critical surface. The critical surface is the potential failure surface with the lowest calculated factor of safety against sliding within the slope. Recognizing that a sliding surface is not always necessarily best approximated as a circular surface, piece-wise linear surfaces can then be manually input to further investigate or refine the shape of the critical surface. Because of the significantly different slope geometries between the slip and the river, the results of our stability studies are discussed separately in the following sections.

Properties of the materials comprising the slopes are based on our current understanding of subsurface conditions at the site. A total unit weight of 120 pcf and an angle of internal friction of 35° were used for the sand fill that mantles the upland portions of the site. A total unit weight of 110 to 115 pcf and an angle of internal friction of 34 to 35° were used for the alluvial silt layers present at the east portion of the site. A total unit weight of 120 pcf and an angle of internal friction of 35° were used for the alluvial deposits of sand that underlie the fill and silt at the site. A uniform live load of 1,000 psf was applied over the area behind the dock in the slip. An undrained shear strength in the range of 600 to 800 psf was also input into the model to analyze the undrained condition possible during dredging. All of our models assume a river

and groundwater level at elevation 0 ft and static conditions (no earthquake). The models in the slip assume the tied-back bulkhead and sheetpile walls are structurally stable.

In our analyses, we have not assumed any stabilizing effect that the existing dock piles may have on the overall stability of the slope in the slip. In general, the dock piles will tend to increase the actual factor of safety against sliding to some extent, and some pile contribution to the overall stability could be assumed if the critical surface passes through the pile zone. Methods exist to accomplish this by applying an increased strength factor to the soil that is proportional to the bending strength of the piles averaged over the area between piles. However, based on our experience with these methods, we expect the piles will provide only a relatively small increase in the factor of safety, since the spacing between the piles is relatively wide compared with the soil's ability to arch across the distance between the piles. This further assumes the piles would begin to carry a substantial amount of horizontal load from the slope in bending that could lead to undesirable deformations or other adverse impacts to the dock structure.

Slip. Several models and failure modes were analyzed as part of this stability investigation. As previously discussed, the configuration of the slopes in the slip at the location of the dock vary from west to east. In berths 1 and 2, an anchored bulkhead is located on the landside of the dock, and a cantilever sheetpile wall is present on the outboard side of the dock. In berth 3, only the anchored bulkhead is present, and the mudline under the dock slopes downward to the bottom of the channel at about 2H:1V.

Berth 1 and 2. As part of our analysis, we evaluated the global stability of the slopes in berths 1 and 2. Our representative model is based on the cross section at station 6+00 and assumes a mudline varying from elevation -30 to -42 ft; which represents the range of elevations under existing and final dredged conditions. A user-defined circular failure surface passing under the sheetpiles at an elevation of -75 ft was assumed as representative global failure surface. An illustration of our stability model for this condition is provided on Figure 4. Our model indicates a computed factor of safety of about 2.0 and 2.5 for a mudline of elevation -30 and -42 ft; respectively. In our opinion, the computed factor of safety value indicates an acceptably stable slope against a global failure with the mudline between elevation -30 and -42 ft. In our opinion, the area in front of the sheetpile wall could be dredged to elevation -42 ft in berths 1 and 2 while maintaining an acceptable factor of safety against a global failure.

The conclusion above assumes that forces and deflections in the sheetpile wall are within allowable limits. In this regard, the structural integrity of the sheetpile wall should be analyzed by a qualified structural engineer prior to dredging. A lateral earth pressure diagram to assist in evaluating the existing cantilever sheetpile wall is shown on Figure 5. The diagram allows for varying dredging depths (H_1) assuming a 3H:1V slope is maintained from the face of the sheetpile wall. In our opinion, the loading from the dock provides a substantial lateral earth pressure behind the wall and is difficult to quantify. As shown on Figure 5, the load is represented as a uniform surcharge about 20 ft below the existing riverbank surface behind the sheetpile wall, which in our opinion, is a reasonable depth. However, we acknowledge that there is some uncertainty in the actual location and magnitude of this load; therefore, we recommend varying the location of the dock surcharge (i.e., the distance Hs) to evaluate the sensitivity of the stresses in the sheetpile wall due the location of the dock surcharge.

Also, it should be noted that the passive resistance values shown on Figure 5 are ultimate values (i.e., factor of safety equals 1.0). The wall will likely be required to move on the order of 2 to 3 in. horizontally

outward into the slip to mobilize this amount of passive resistance. In this regard, a factor of safety of about 1.5 to 2.0 is typically applied to the passive resistance values to limit movement to smaller amounts.

Although not related to the effects of dredging, it should be noted that our recent modeling indicates the global failure discussed above does not represent the critical surface within the slope. The stability surrounding the upland bulkhead was also analyzed. As shown on Figure 4, a user-defined failure surface was placed passing below the wide-flange/plate assembly of the bulkhead and through the zone of soil supporting the H-piles. In our opinion, the H-Piles will provide a negligible amount of soil reinforcement due to there relatively wide spacing. Our model indicates a computed factor of safety of about 0.95 with a uniform live load of 1,000 psf. The analysis indicates a factor of safety of 1.10 without the surcharge. Based on the results of our analysis, the stability of the anchored bulkhead has a lower factor of safety than is commonly considered acceptable. Therefore, we recommend this condition be reviewed with Schnitzer and they consider limiting the amount of surcharge in the area behind the existing anchored bulkhead.

Berth 3. The configuration of the slopes at berth 3 is somewhat different than at berths 1 and 2. The significant difference is that the cantilever sheetpile wall is not present, and the mudline beneath the dock slopes downward from the bulkhead to the bottom of the channel at about a 2H:1V. However, the dock at this location is similar to berth 2 in that it is supported entirely on timber piles.

As part of our analysis of berth 3, we first calculated the critical surface within the slope under existing conditions with a representative model based on the cross section at station 15+55. An illustration of this stability model is provided on Figure 6. Our model indicates a factor of safety of slightly less than 1.0 with a 1,000 psf uniform surcharge. Without a surcharge the factor of safety increases slightly to 1.05. In addition, a critical surface exists beneath the bulkhead, as shown previously on Figure 4, and has a similar factor of safety. Based on the results of our analysis, the stability of the bulkhead at this location has a lower factor of safety than is commonly considered acceptable. Therefore, we recommend that this condition be reviewed with Schnitzer and they consider limiting the amount of surcharge in the area behind the existing anchored bulkhead, similar to what was recommended above for berths 1 and 2. In addition to the global stability of the bulkhead, the local stability of the existing 2H:1V mudline beneath the dock was also analyzed. Our analyses indicate a minimum factor of safety of about 1.4 against a local failure for the existing slope beneath the dock.

Our model was then used to predict the likely effect that deepening by dredging would have on the stability of the slope assuming an unsupported, vertical cut from elevation -25 ft to -36 ft at the face of the dock. The model identified circular surfaces with factors of safety less than 1.0 that begin at the toe of the cut and propagate upward through the lower portion of the slope as illustrated on Figure 7. These initially small failures can progressively lead to a larger failure once the top of these surfaces intersects the lower portion of the critical surface previously identified for the existing conditions. In this scenario, the material at the toe of the slope has progressively failed into the slip, resulting in less support for the remaining upslope material. This will tend to further reduce an already low computed factor of safety for the larger surface. On this basis, we conclude that making an unsupported cut at the toe of the slope to deepen the dredge depth at the face of the dock could begin a progressive failure that may ultimately propagate upslope to the area behind the dock. In order maintain the existing stability of the slopes after dredging, the mudline in front of the dock would have to be maintained at the current slope angle which is on the order of 2H:1V.

North Shore of Slip. The effects of dredging on the slopes on north side of the slip were also analyzed using the hydrographic data shown on Figures 2. The elevation and thickness of each distinct soil layer, as well as the water level, was assumed as the same as for berths 3 directly across the slip. Soil properties for the north shore of the slip consisted of the values discussed previously. The automatic search routine was used to identify circular surfaces to begin identifying the region within the slope near the critical surface. In addition, piece-wise linear surfaces were then manually input to further investigate and refine the shape of the critical surfaces. Our analyses indicate minimum factor of safety values of about 2.0 to 3.0 prior to and after dredging. Based on our analysis, and review of the hydrographic data, the proposed dredging will not adversely effect the stability of the slopes along the north side of the slip assuming the dredged slopes are not steeper than about 3H:1V, and the overall slope above the dredged line is no steeper than about 2H:1V.

Berth 4 and 5. The effects of dredging in the river at berth 4 and 5 were analyzed at cross sections 2+10 and 14+30; respectively. A representative model based on the available hydrographic data is shown on Figure 8. The automatic search routine was used to identify circular surfaces to begin identifying the region within the slope near the critical surface. In addition, piece-wise linear surfaces were then manually input to further investigate and refine the shape of the critical surfaces. Our analyses indicate minimum factor of safety values of the local underwater slopes and the entire riverbank (global stability), are in the range of about 1.5 to 2.0 prior to and after dredging. Based on our analysis, and review of the hydrographic data, the proposed dredging will not adversely effect the overall stability of the slopes along river assuming the dredged slopes are not steeper than about 3H:1V. We understand that, achieving the final dredge elevation of -42 ft and maintaining a 3H:1V slope would result in an excavation that will remove part of the above water slopes and steel yard. In our opinion, the top of the dredged slope can be "day-lighted" below the water line while still maintaining a dredged slope of about 3H:1V. The dredged can be made slightly steeper then 3H:1V (i.e., 18°), on the order of 2° or 3°, without significantly reducing the stability of the riverbank.

As part of our work, we visited the site to observe the existing riverbank slopes. Based on our observations at the site, a significant portion of the riverbank slopes are as steep as 1H:1V with locally steeper areas. These slopes on the upper riverbank are steeper than is commonly considered acceptable. Therefore, we recommend that this condition be reviewed with Schnitzer and that they consider avoiding placement of heavy objects and materials on the riverbank west of the railroad tracks. However, the proposed dredging should not effect the local stability of the upper river bank slopes.

Other Considerations

To reflect the current understanding of the potential seismicity of the Pacific Northwest, the Portland area is presently assigned to seismic zone 3 in the most recent edition of the Uniform Building Code (UBC). Since some of the hydraulically placed fill that mantles the site and the underlying alluvial soils are considered to be relatively loose, we anticipate that liquefaction of these soils would likely result from a strong local seismic event. Consequently, the UBC soil profile type for the site should be considered S_F. Although a site-specific seismic hazards study is beyond the scope of this investigation, we anticipate that seismically induced liquefaction at this site may produce lateral spreading of the slopes along the slip and riverfront and settlement of the ground surface of the steelyard. Our analyses and conclusions do not account for any seismic loading. Substantial deformations of the bulkhead, sheetpile wall and dock structure in the slip should be expected based on the relatively low factor of safety for the existing slope and the likely

relatively large magnitude of lateral spreading anticipated as a result of a strong UBC zone 3 type seismic event.

LIMITATIONS

This report has been prepared to aid the owner in the design of this project. The scope is limited to the specific project and location described herein, and our description of the project represents our understanding of the existing slopes, structures and underlying soil conditions at the site. In the event that any changes in the dredging plan or the project elements as outlined in this report are planned, we should be given the opportunity to review the changes and to modify or reaffirm the conclusions and recommendations of this report in writing.

The conclusions and recommendations submitted in this report are based on our understanding of the existing conditions at this site based on review of the available historic records discussed in this report. This report does not reflect any variations in subsurface conditions that may be different from those described in the available information. The nature and extent of variation may not become evident until construction. If, during construction, subsurface conditions different from those described in this report are observed or encountered, we should be advised at once so that we can observe and review these conditions and reconsider our recommendations where necessary.

Please contact the undersigned if you have any questions regarding this report.

Submitted for GRI,

REGISTERED PROFESSIONAL ENGINEER 8045 OREGON JULY 22, 1974 H. STANLEY KELSAY

exp. 6/05

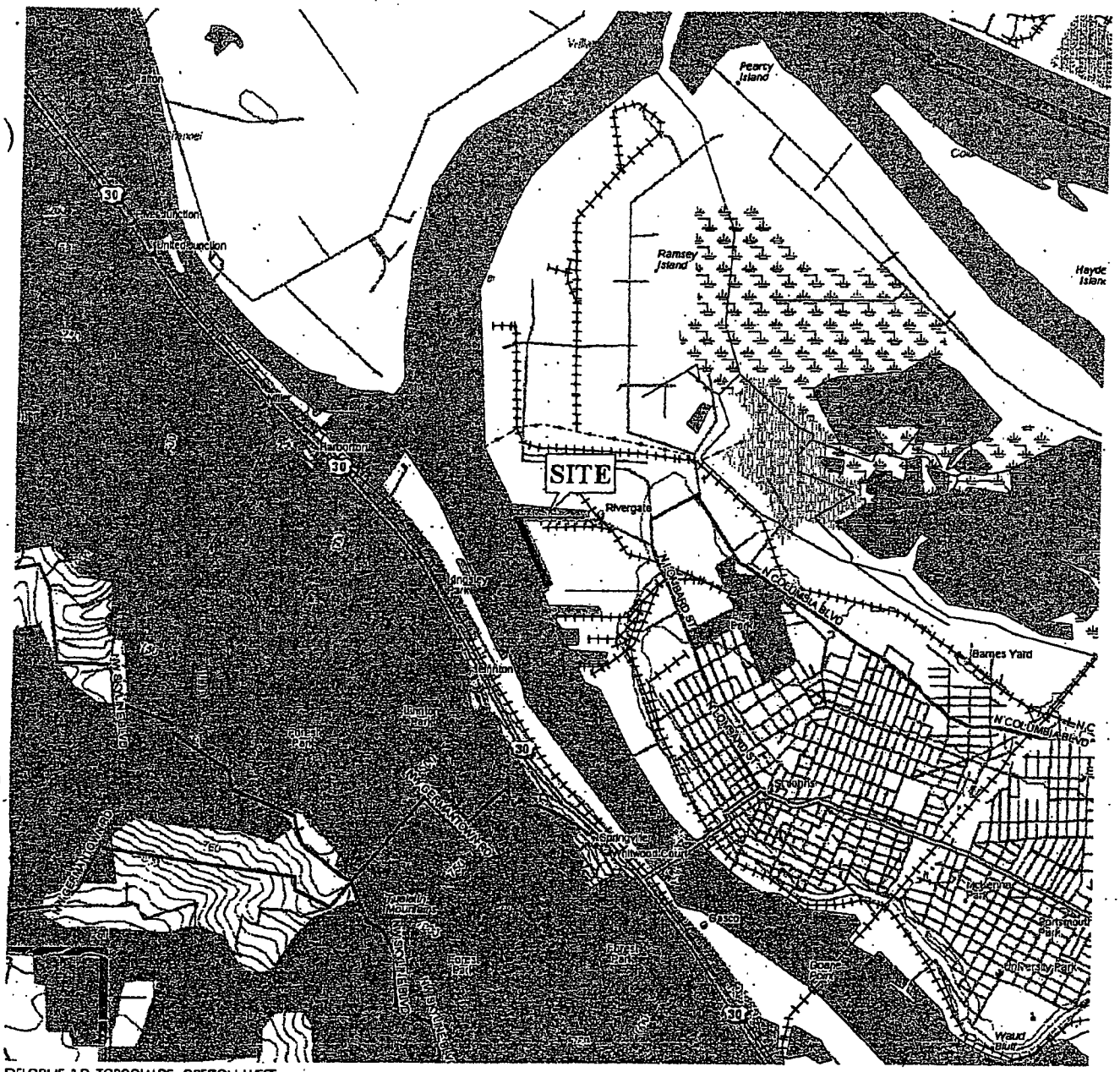
H. Stanley Kelsay, PE
Principal

REGISTERED PROFESSIONAL ENGINEER 51358PE OREGON July 9, 2001 KEITH S. MARTIN

EXPIRES: 12/04

Keith S. Martin, PE
Project Engineer

SCHN00239625



DELORME 3-D TOPOQUADS, OREGON WEST
LINNTON, OREG. (1ab) 1999

North

0 1 2 MILES

GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

VICINITY MAP

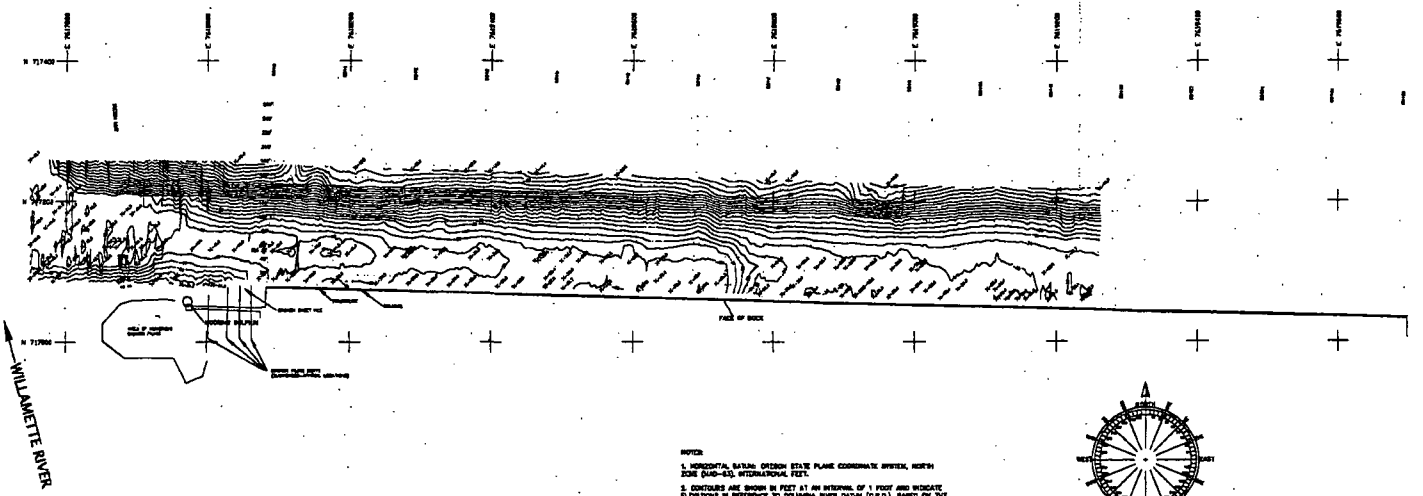
JUNE 2003 JOB NO. 3776 FIG. 1

SCHN00239626

SCHNITZER STEEL INDUSTRIES

HYDROGRAPHIC SURVEY

LOCATED ON THE WILLAMETTE RIVER AT RIVER MILE 3.7+/-
PORTLAND, OREGON
DECEMBER 21, 2004
MGS JOB# 04-582



NOTES:

1. HORIZONTAL DATUM: OREGON STATE PLANE COORDINATE SYSTEM, NORTH ZONE (NAD-83), INTERNATIONAL FEET.

2. CONTOURS ARE SHOWN IN FEET AT AN INTERVAL OF 1 FOOT AND INDICATE ELEVATIONS IN REFERENCE TO COLUMBIA RIVER DATUM (C.R.D.), BASED ON TIDE BOARD LOCATED AT PORT OF PORTLAND (BETH-61).

3. HORIZONTAL POSITIONS FOR NAVIGATION AND DATA COLLECTION WERE DETERMINED BY USING A TRIMBLE 4700 G.P.S. SYSTEM OPERATING IN DIFFERENTIAL MODE USING THE G.P.S. CONTINUOUSLY OPERATING REFERENCE STATION (CORS).

4. BATHYMETRIC DATA WAS COLLECTED USING KONGSBERG ARGN ECHOSOUNDER WITH A 4 DEGREE SINGLE BEAM TRANSDUCER, OPERATING AT 200 kHz.

5. SURVEY DATA WAS COLLECTED PARALLEL WITH THE DOCK USING A TWENTY-FIVE FOOT LINE SPACING. THE SURVEY DATA COLLECTED ALONG EACH SURVEY LINE WAS THINNED USING A "SHOAL BIAS" METHOD TO AN APPROXIMATE HORIZONTAL SPACING OF 3 FEET.

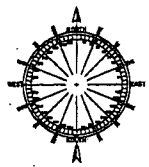
6. THERE MAY BE BOTTOM FEATURES THAT ARE NOT SHOWN ON THIS MAP. DUE TO THE LINE SPACING INTERVAL, THIS SURVEY DOES NOT INCLUDE BATHYMETRIC DATA BETWEEN THE ADJACENT SURVEY LINES.

7. THIS BATHYMETRIC SURVEY IS REPRESENTATIVE OF THE CONDITION OF THE BOTTOM AT THE TIME OF THE SURVEY, BASED ON THE LINE SPACING INTERVAL AND THINNING METHOD USED. THE CONDITION OF THE BOTTOM MAY CHANGE AT ANY TIME AFTER THE DATE OF THIS SURVEY.

8. BATHYMETRIC DATA WAS COLLECTED IN ACCORDANCE WITH THE U.S. ARMY CORPS OF ENGINEERS HYDROGRAPHIC MANUAL EM-1110-2-1003 (JANUARY 2002) FOR NAVIGATION AND DREDGING SUPPORT SURVEYS WITH THE BOTTOM CLASSIFICATION OF SOFT.

9. DOCK AND PHYSICAL FEATURES SHOWN WERE TRANSLATED AND ROTATED FROM A DIFFERENT DATUM AND SHOULD BE CONSIDERED APPROXIMATE.

10. DATA COLLECTED: DECEMBER 21, 2004.



GRAPHIC SCALE

AMERICAN CONGRESS ON SURVEYING AND MAPPING
HYDROGRAPHIC CERTIFICATION 2001
MARCH 24, 1998

REGISTERED PROFESSIONAL LAND SURVEYOR

DRAFTSMAN
JULY 11, 1994
GREGORY A. MARD
49-17-14
Expires 12-31-2005

MINISTER-GLAESER SURVEYING INC.
9300 S. EVERGREEN BLVD.
VANCOUVER, WA. 98664
(360) 694-3313

SCHN00239627

SCHNITZER STEEL INDUSTRIES

HYDROGRAPHIC SURVEY

LOCATED ON THE WILLAMETTE RIVER AT RIVER MILE 3.7+/-

PORTLAND, OREGON

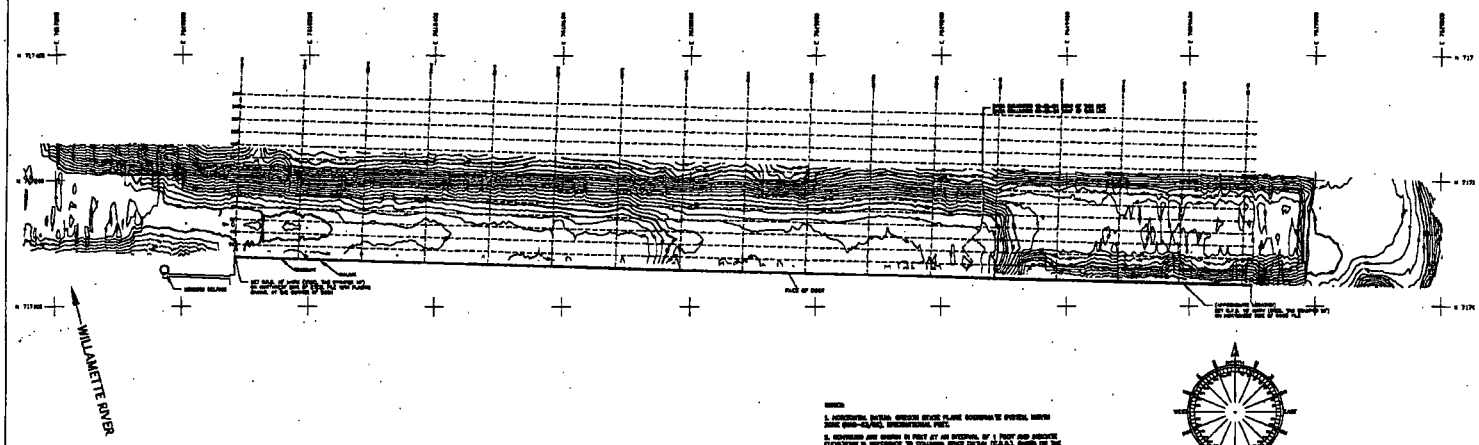
DECEMBER 31, 2004

AND

FEBRUARY 18, 2005

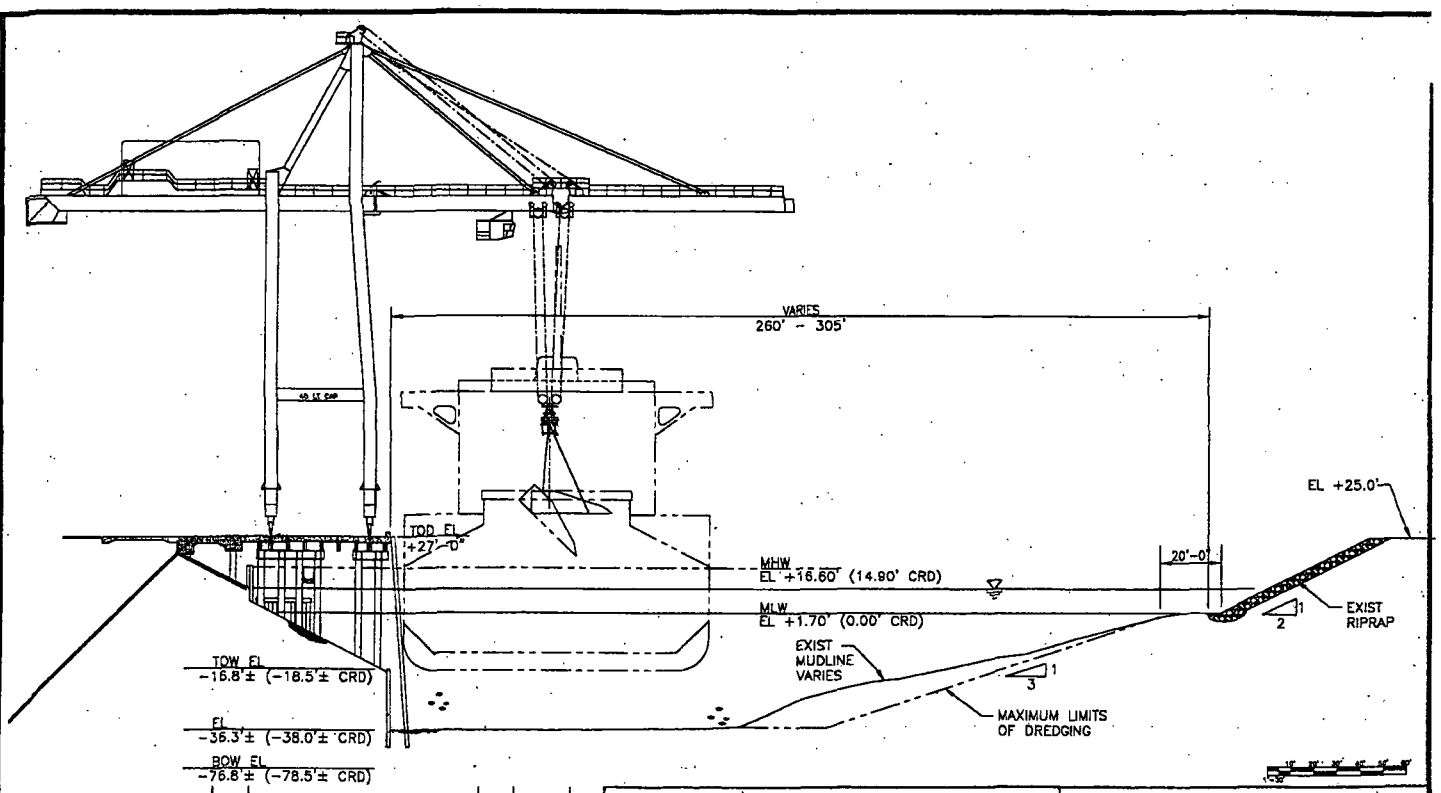
MCS JOB# 05-132

DRAWING DATE: FEBRUARY 22, 2005



MINSTER-CLAESER SURVEYING INC.

SCHN00239628



THIS DRAWING INCLUDING THE PRINCIPLES OF DESIGN IS THE PROPERTY OF SMITH & MONROE & GRAY ENGINEERS, INC. (SMG). THE DESIGN SHOWN IN THIS DRAWING IS SITE SPECIFIC AND SHALL BE USED ONLY FOR THE PROJECT SHOWN ON THE TITLE BLOCK. IF THIS DRAWING IS NOT STAMPED WITH AN ENGINEER'S SEAL, THE DRAWING MAY HAVE BEEN REPRODUCED FROM AN UNAUTHORIZED ELECTRONIC COPY. REFER TO A STAMPED AND SIGNED HARD COPY OF THIS DRAWING FOR THE AUTHORIZED DOCUMENT. THIS DRAWING IS NOT TO BE USED IN A MANNER THAT WOULD BE A DETRIMENT TO SMG. ACCEPTANCE OF THIS DRAWING IS AN AGREEMENT TO THE ABOVE.

SYM.	REVISIONS	BY	DATE	CHK'D

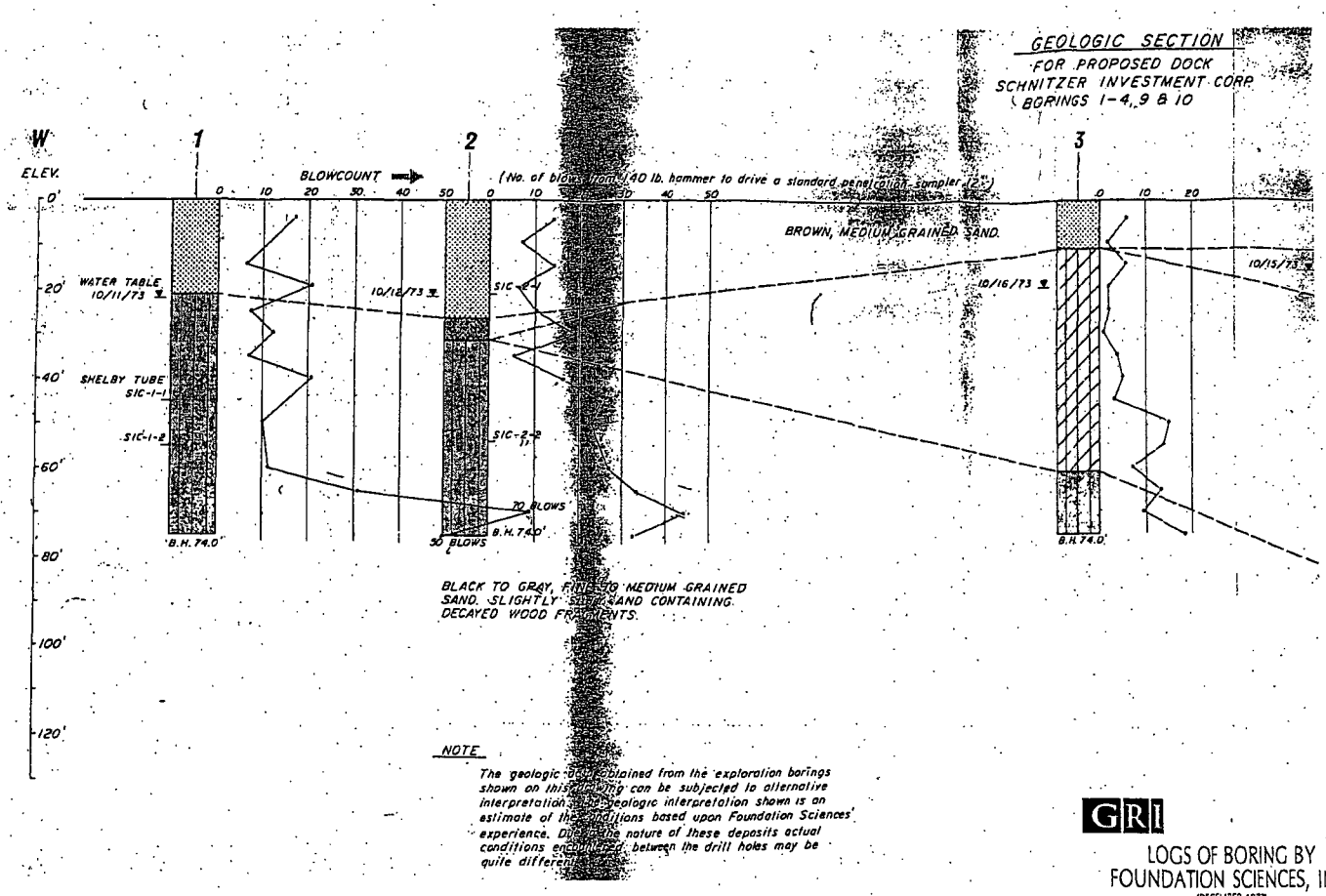
SMITH & MONROE & GRAY ENGINEERS, INC.
PARK PLAZA WEST, SUITE 210
10700 S.W. BEAVERTON HWY.
BEAVERTON, OREGON 97005
PHONE: (503) 643-5595
FAX: (503) 643-5610

SCHNITZER STEEL INDUSTRIES, INC.

BERTH 1
DREDGING PROFILE

DRAWN BY	DATE	CHKD BY	DATE	SCALE	DWG. NO.	REV.
G. Wilson	4/1/05			1"=30'	03-113Q-01	

SCHN00239629



NOTE

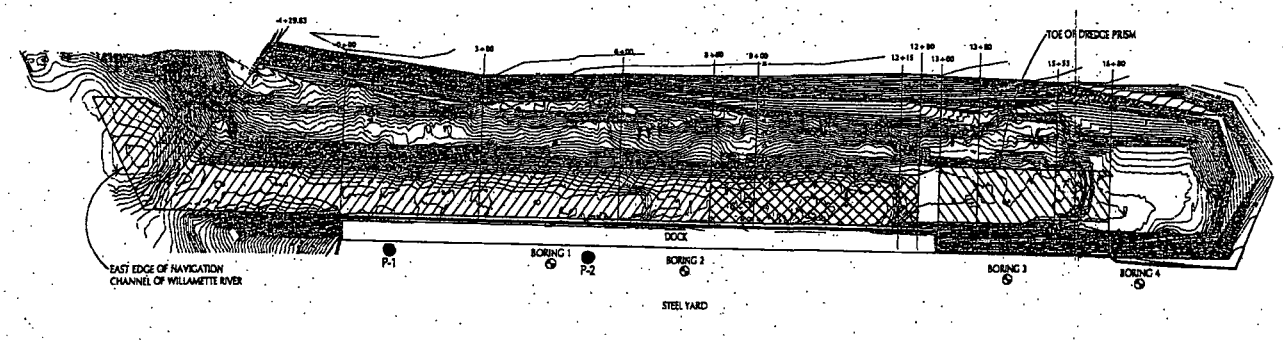
The geologic data obtained from the exploration borings shown on this drawing can be subjected to alternative interpretation. The geologic interpretation shown is an estimate of the conditions based upon Foundation Sciences' experience. Due to the nature of these deposits actual conditions encountered between the drill holes may be quite different.

GRI

LOGS OF BORING BY
FOUNDATION SCIENCES, INC.
(DECEMBER 1973)

JUNE 2003 | JOB NO. 3776 | FIG. 1A

SCHN00239630



STATIONS
BERTH 1: 0+00 TO 6+00
BERTH 2: 6+00 TO 13+80
BERTH 3: 13+80 TO 16+80

CONE PENETRATION TEST MADE BY GRI (JUNE 13, 2002)

BORING MADE BY FOUNDATION SCIENCES, INC. (LOCATION APPROXIMATE; DECEMBER 1973)

DREDGE DEPTH CRD -42 FT

DREDGE DEPTH CRD -38 FT

DREDGE DEPTH CRD -24 FT

SITE PLAN FROM FILE BY PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC. (UNDATED)

North

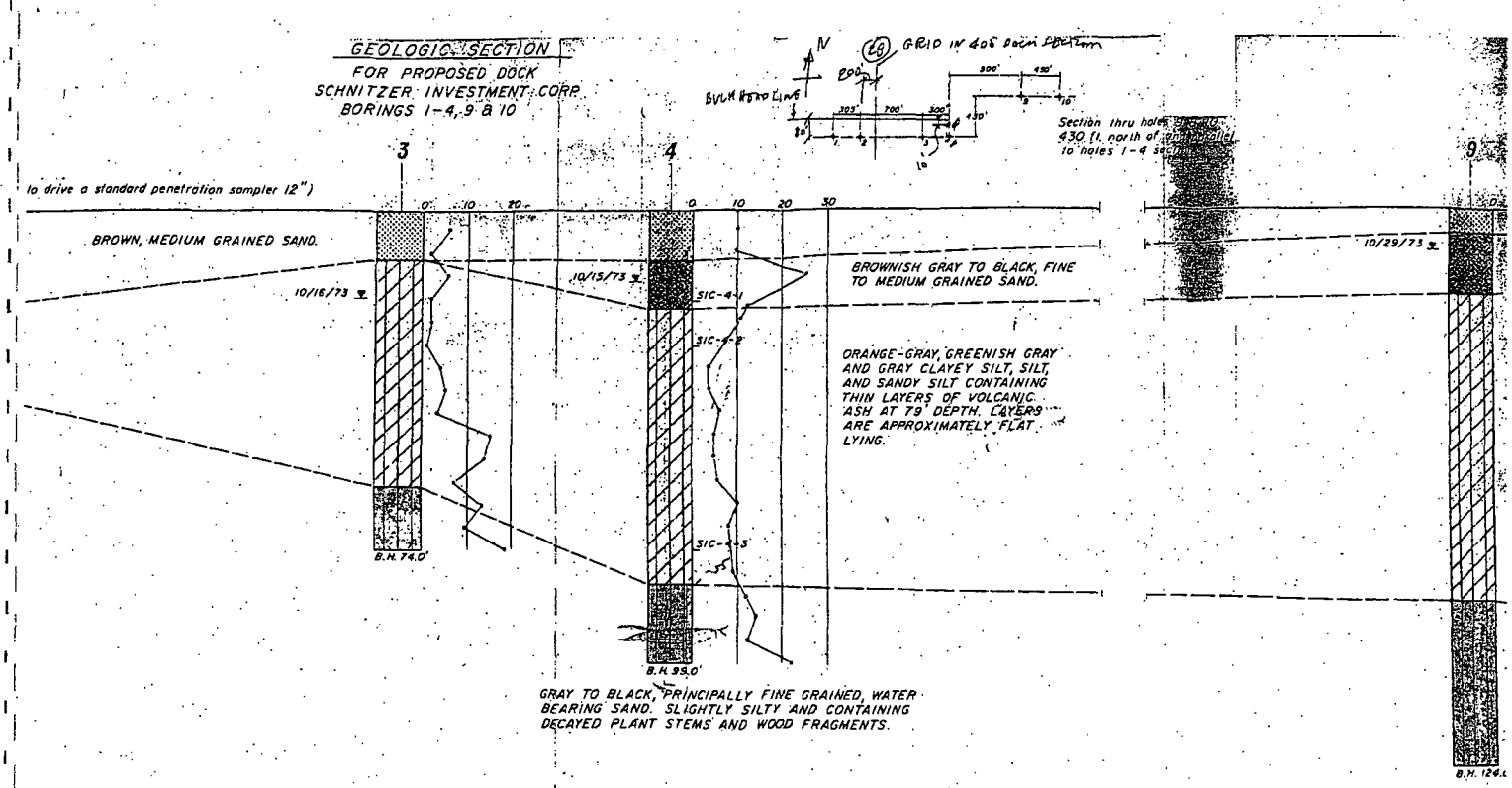
0 200 400 FT

GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

SITE PLAN
(SLIP)

JUNE 2003 | JOB NO. 3776 | FIG. 2

SCHN00239631

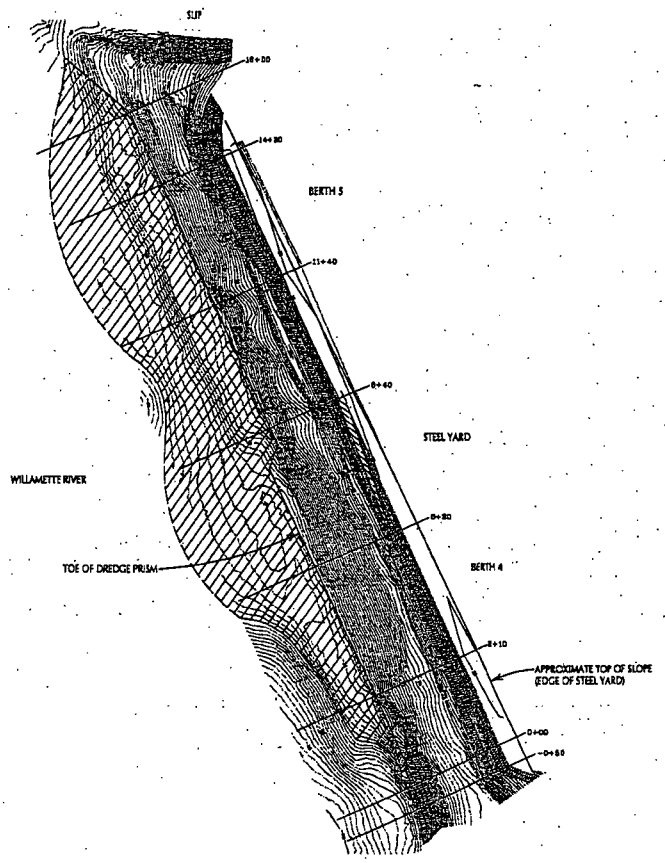


GRI

LOGS OF BORING BY
FOUNDATION SCIENCES, INC.
(DECEMBER 1973)

JUNE 2003 | JOB NO. 3776 | FIG. 2A

SCHN00239632



STATIONS
BERTH 4: 0+00 TO 8+00
BERTH 5: 8+00 TO 16+00

DREDGE DEPTH CRD -42 FT

SITE PLAN FROM FILE BY PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC. (UNDATED)

North

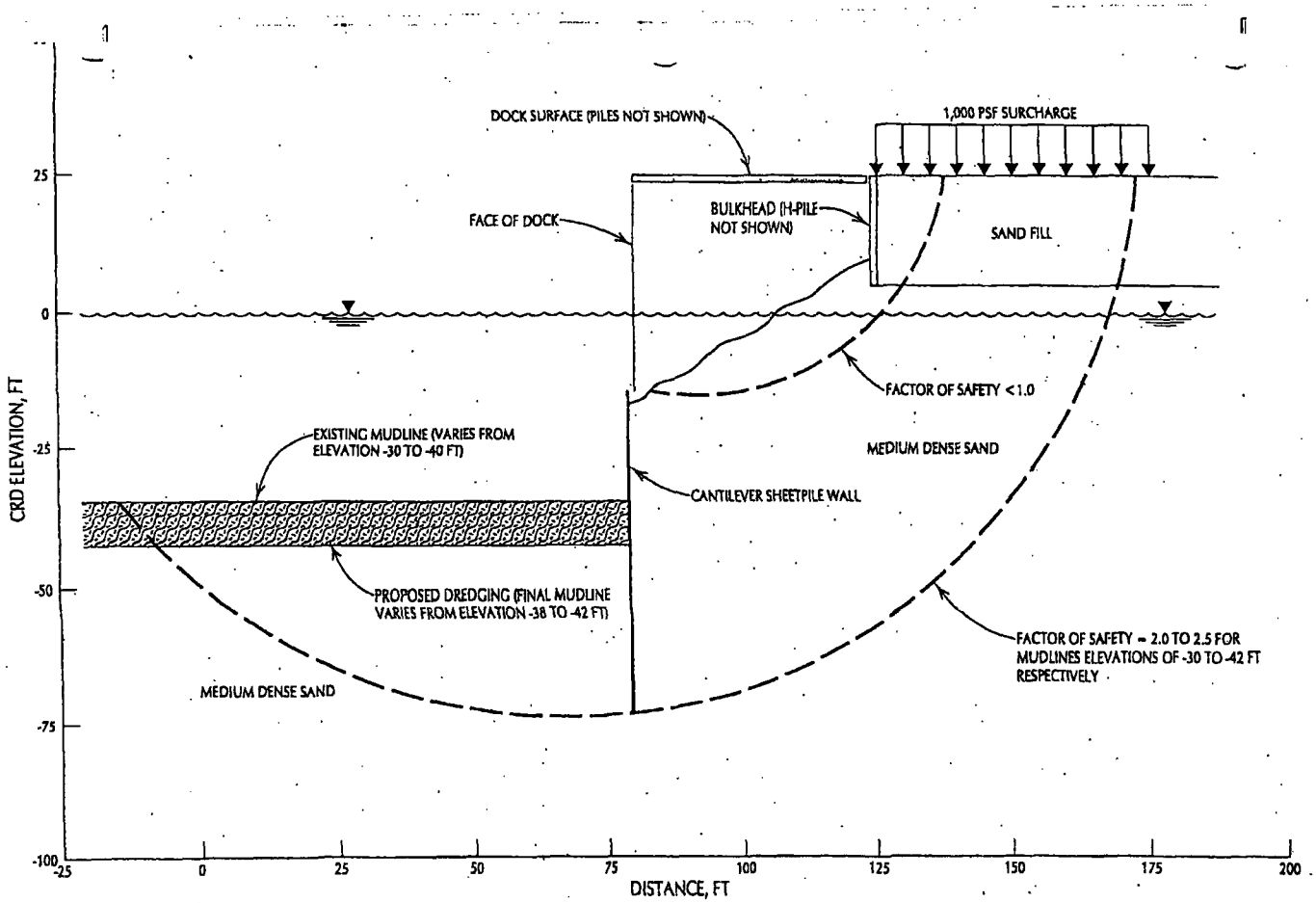
0 200 400 FT

GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

SITE PLAN
(RIVER)

JUNE 2003 JOB NO. 3776 FIG. 3

SCHN00239633



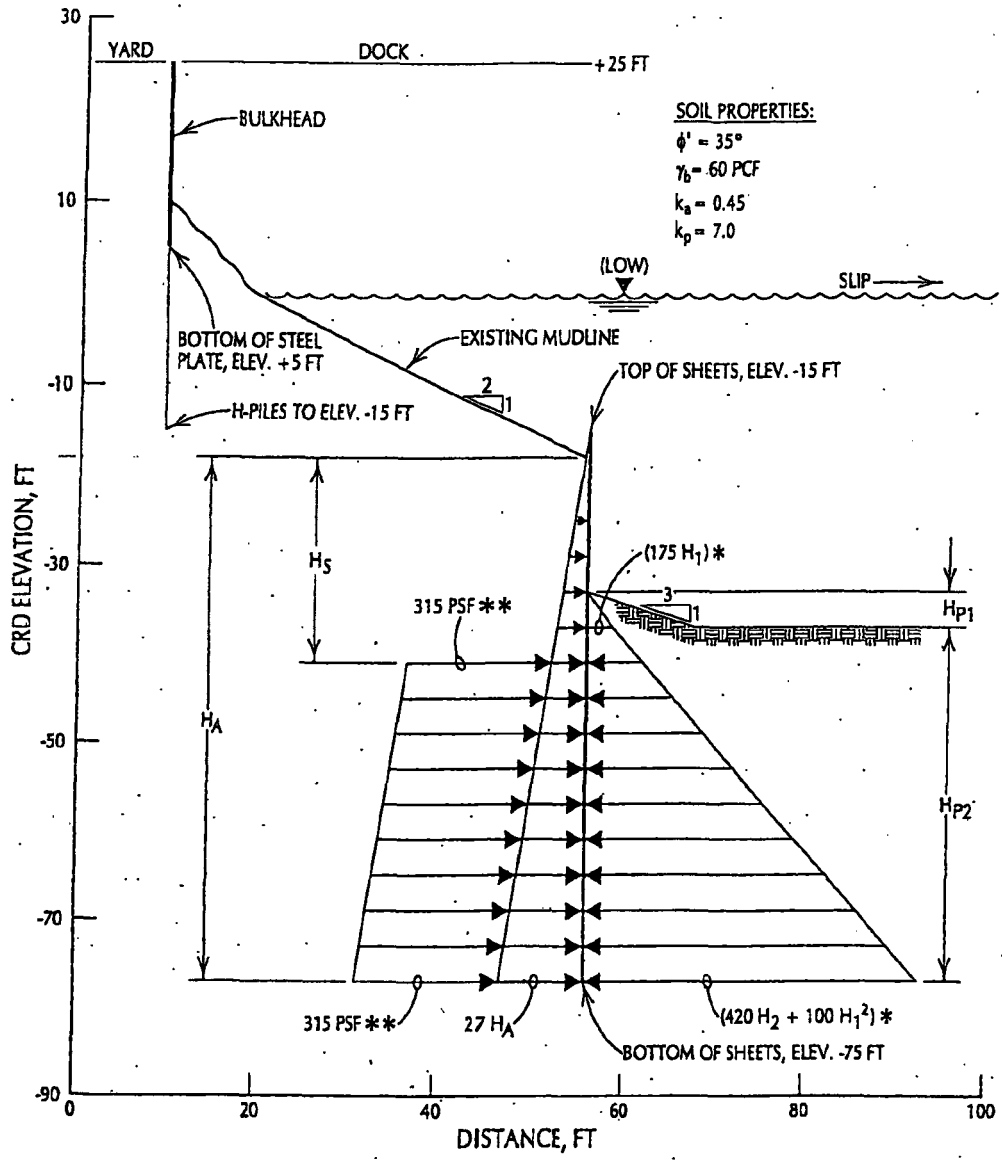
GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

STABILITY ANALYSIS

(BERTHS 1 & 2)

JUNE 2003 | JOB NO. 3776 | FIG. 4

SCHN00239634



NOTES:

* ULTIMATE PASSIVE RESISTANCE (I.E. FACTOR OF SAFETY = 1.0); WILL REQUIRE APPROXIMATELY 2 TO 3 IN. OF MOVEMENT AT TOP OF SHEETS TO MOBILIZE

** LATERAL EARTH PRESSURE RESULTING FROM DOCK SURCHARGE OF 720 PSF

H_A DEPTH TO BOTTOM OF SHEETS BELOW EXISTING MUDLINE

H_{P1} DREDGE DEPTH

H_{P2} DEPTH TO BOTTOM OF SHEETS BELOW DREDGE LINE

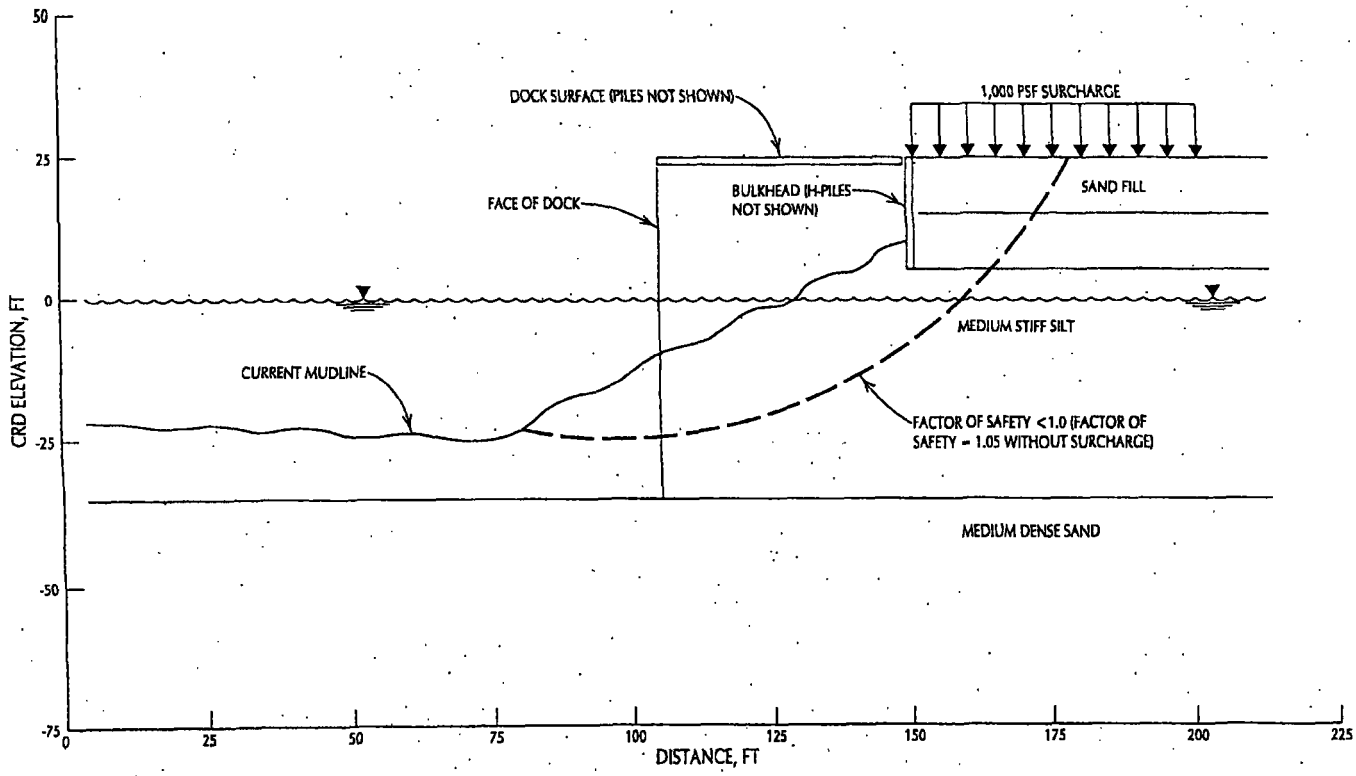
H_S LOCATION OF DOCK SURCHARGE, DEPTH BELOW EXISTING MUDLINE, (VARIES ± 20 FT)

GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

LATERAL EARTH PRESSURE DIAGRAM

JUNE 2003 JOB NO. 3776 FIG. 5

SCHN00239635

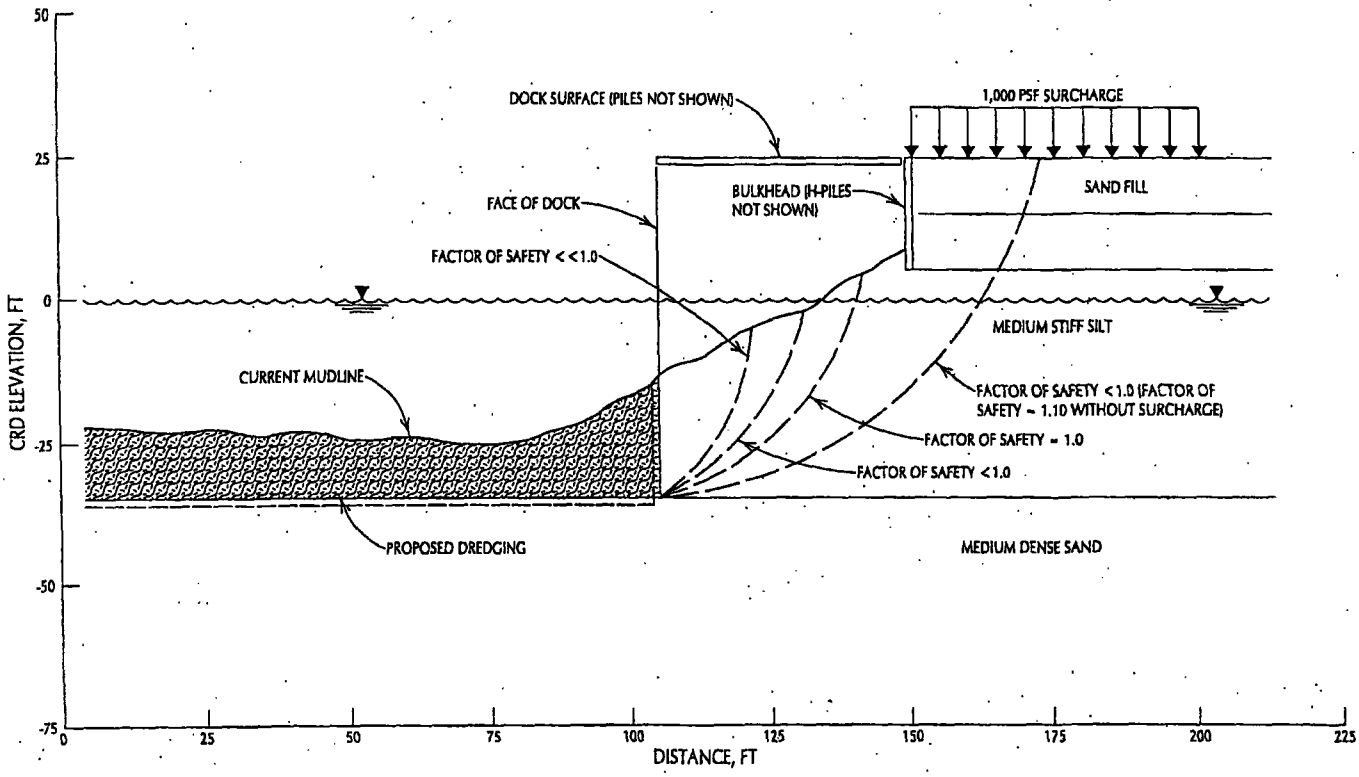


GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

STABILITY ANALYSIS
(BERTH 3 EXISTING CONDITIONS)

JUNE 2003 JOB NO. 3776 FIG. 6

SCHN00239636

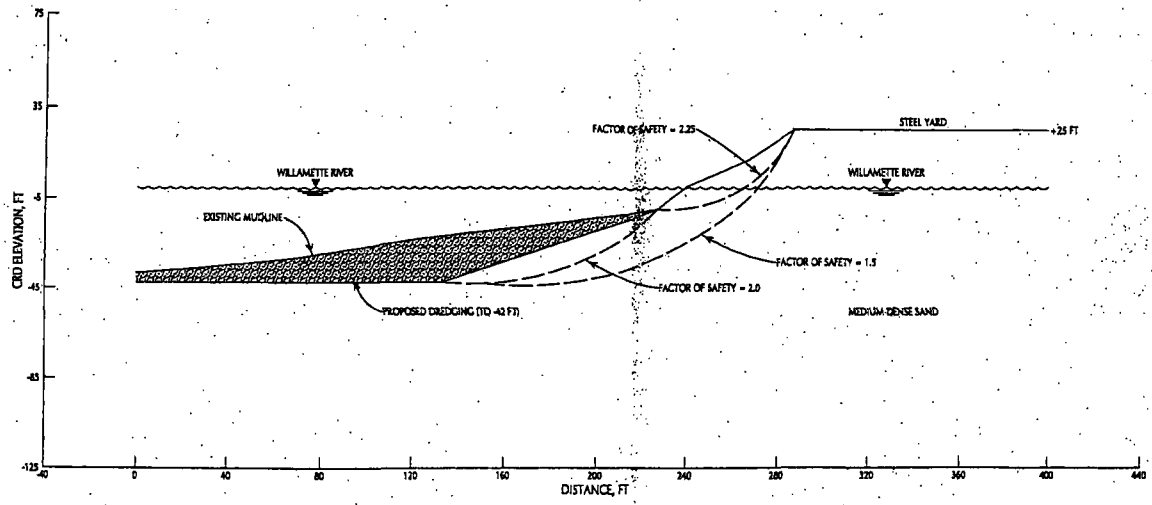


GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

STABILITY ANALYSIS
(BERTH 3 POST-DREDGE)

JUNE 2003 JOB NO. 3776 FIG. 7

SCHN00239637



GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

STABILITY ANALYSIS
(BERTHS 4 & 5 TYPICAL SECTION)

JUNE 2003 JOB NO. 3776 FIG. 8

SCHN00239638

APPENDIX A

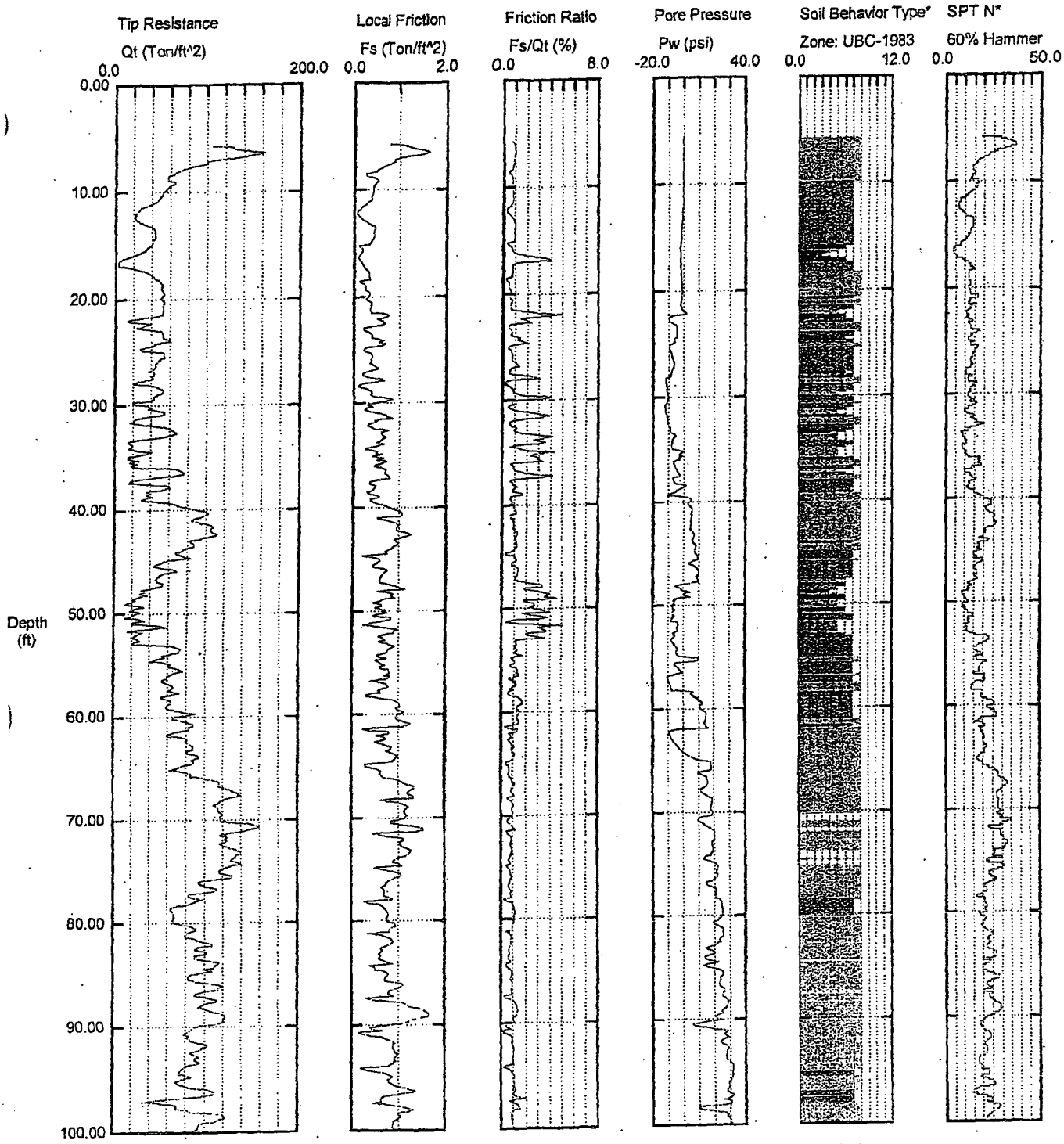
FIELD EXPLORATIONS

Subsurface Explorations

As discussed previously in this report, subsurface investigations were performed by GRI in 2002 and by FSI in 1973. As part of these investigations, subsurface explorations were performed.

The 1973 FSI investigation included six soil borings, designated Boring 1 through 4 and Borings 9 and 10. Logs of the borings are provided on Figures 1A and 2A. Borings 5 through 8 are located beyond the limits of this project and are provided in a separate FSI report. The logs provide a description of the materials encountered with depth and Standard Penetration N-values at selected depths to determine the relative density of granular soils and relative consistency of fine-grained soils.

To supplement the FSI borings, two electric cone penetration test (CPT) probes, designated P-1 and P-2, were performed in 2002 as part of the GRI investigation for the dock modifications as referenced previously in this report. Logs of the CPT probes are provided on Figures 3A and 4A. The CPT logs show the values of cone penetration resistance, sleeve friction, and friction ratio (i.e., sleeve friction divided by the cone penetration resistance) as a function of depth. The logs also provide an interpretation of the data with respect to the basic type of soil penetrated. Qualitative descriptions of relative consistency or density based on cone penetration resistance and sleeve friction are also provided on the logs.



Maximum Depth = 100.39 feet

Depth Increment = 0.16 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

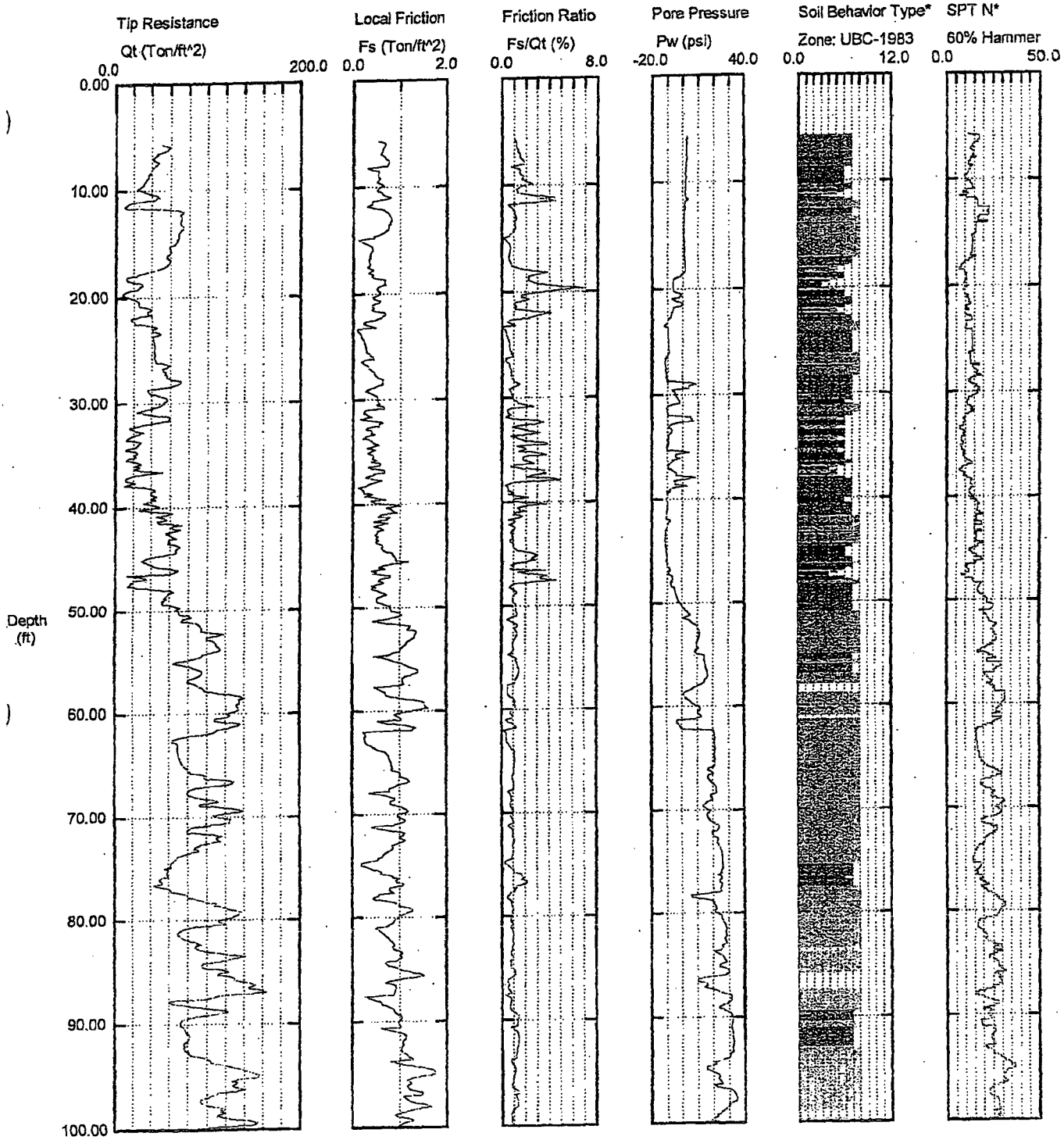
GRI

CONE PENETRATION TEST P-1

BY GRI (OCTOBER 2003)

JUNE 2003 | JOB NO. 3776 | FIG. 3A

SCHN00239640



1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

GRI

CONE PENETRATION TEST P-2

BY GRI (OCTOBER 2002)

JUNE 2003 JOB NO. 3776 FIG 4A

SCHN00239641

SMITH & MONROE & GRAY ENGINEERS, INC.

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10700 S.W. BEAVERTON HIGHWAY
BEAVERTON, OREGON 97005
PHONE 503 / 643-8595
FAX 503 / 643-8610

CIVIL & STRUCTURAL ENGINEERS MATERIAL HANDLING

March 14, 2007

Mr. Steven Meyerowitz, Assistant General Manager
Schnitzer Steel Products Co.
PO Box 10047
Portland, OR 97296-0047

RE: Dredging of Berth 2
International Terminals
12005 N. Burgard Road
Portland, OR 97203

Steven,

In response to your request, Smith & Monroe, & Gray Engineers Inc. is submitting this letter report regarding the structural aspects for the deepening of Berth 2 as a supplement to the letter report to Schnitzer Steel Industries, dated May 18, 2005. Per that letter report, SMG understands that Schnitzer Steel would like to deepen Berth 2 to minus 38 feet CRD, but Berth 2 was not addressed due the results of the review for deepening Berth 1. As noted in the original letter report, the average existing bathemetry along the face of Berth 2 is minus 33 feet CRD.

Analysis of the cantilevered sheet pile bulkhead along Berth 2 with a nominal average height of 20 feet, for the loading recommended by GRI, indicates that the PZ27 sheet pile sections are overstressed. Analysis of the cantilevered sheet pile bulkhead along Berth 2 with the nominal average mudline elevation behind the bulkhead of minus 13.0 feet CRD, for the loading recommended by GRI, indicates that the PZ27 sheet pile sections are capable of supporting a 18.0-foot cantilevered height. Assuming a nominal average mudline elevation of minus 13.0 feet CRD behind the lower bulkhead, the allowable mudline elevation on the slip side of the bulkhead is minus 31.0 feet CRD.

Based on the structural analysis and the GRI reports, it is not feasible to deepen Berth 2 to the desired depth without strengthening or replacing the existing cantilevered sheet pile bulkhead. The existing mudline depths can be extended to the north bank of the slip similar to that shown in Sketch 03-113Q-1 of the original letter report.

Attached is a copy of the original letter report submitted to Schnitzer Steel Industries, dated May 18, 2005

Smith& Monroe & Gray appreciates the opportunity to work with Schnitzer Steel on this project. Please contact us if you any questions or require further information.

Respectfully,

Smith & Monroe & Gray Engineers Inc.

Robert F. Scherzinger, PE, SE
Senior Structural Engineer

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
10545
OREGON
JULY 13, 1973
ROBERT F. SCHERZINGER
3-14
EXPIRATION DATE: 6-30-08

SMITH & MONROE & GRAY ENGINEERS, INC.

PARK PLAZA WEST • SUITE 210
10700 S.W. BEAVERTON HIGHWAY
BEAVERTON, OREGON 97005
PHONE 503 / 643-8595
FAX 503 / 643-8610

CIVIL & STRUCTURAL ENGINEERS

MATERIAL HANDLING

May 18, 2005

Mr. Jamie Wilson, Project Manager
Schnitzer Steel Industries Inc.
PO Box 10047
Portland, OR 97296-0047

RE: Dredging of Berths 1 and 2
International Terminals
12005 N. Burgard Road
Portland, OR 97203

Jamie,

In response to your request, Smith & Monroe & Gray Engineers Inc. is submitting this letter report regarding the structural aspects for the deepening of Berths 1 and 2 at the above referenced facility. These recommendations are based in part on: the hydrographic surveys made by Minister-Glaeser Surveying Inc., dated December 21, 2004 and February 18, 2005; the original construction drawings (1 to 5) prepared by Zarosinski - Tatone Engineers Inc., dated January 17, 1974 and February 28, 1974 (3B); lead-line surveys performed by PB Ports and Marine, dated April 21 and 26, 2004; and reports prepared by GRI, dated June 10, 2003 and March 10, 2005.

The International Terminals is located at mile 3.6 on the Willamette River at the east side. The berths are located on the south bank of the east-west oriented slip at the north side of the facility. Refer to the attached topographic map.

Birth 1 is the river or west end 650 feet, Berth 2 is the center 550 feet, and Berth 3 is the east end of the marginal wharf, located along the south bank of the slip. Existing bathemetry along the face of Berth 1 varies from minus 41 feet to minus 38 feet, nominally minus 38 feet CRD at MLW, extending out approximately 85 feet at the west/river end and approximately 60 feet at its east end from the face of pier. Existing bathemetry along the face of Berth 2 varies from minus 33 feet to minus 32 feet, nominally minus 33 feet CRD at MLW, extending out approximately 80 feet at its west end and approximately 60 feet at its east end from face of pier. Refer to the attached Minister-Glaeser Surveying Inc. hydrographic surveys.

A cantilevered sheet pile bulkhead is present along the toe of the bank at the waterside of the wharf along Berths 1 and 2. We understand this bulkhead is critical to the global stability of the bank. Refer to the attached GRI reports (GRI 2003 and GRI 2005) for evaluation of the underwater slopes associated with these berths.

We understand that Schnitzer Steel Industries Inc. would like to deepen Berth 1 to minus 42 feet CRD and Berth 2 to minus 38 feet CRD.

Smith & Monroe & Gray Engineers Inc. has reviewed the structural aspects of the cantilevered sheet pile bulkhead along the toe of the bank at Berths 1 and 2. The review is based on the following criteria: the original structural drawings prepared by Zarosinski - Tatone Engineers Inc. indicated the use of 60-foot lengths of an undefined sheet pile section with a top of wall elevation at minus 15 feet CRD, a bottom of embed at minus 75 feet CRD, and a mudline elevation of minus 33.0 feet for a design bulkhead height of 18.0 feet; the PB Ports and Marine report (PB 2004) indicated that the sheet pile section was a PZ27 of Grade 40 steel, that the mudline behind the bulkhead at Berth 1 varies from minus 16.72 feet CRD at the west/river end to minus 19.45 feet CRD at its east end for an average of minus 18.86 feet CRD and an average bulkhead height of 19.18 feet, and that the mudline behind the bulkhead at Berth 2 varies from minus 19.45 feet CRD at its west end to minus 13.38 feet CRD at its east end for an average of minus 12.98 feet CRD and an average bulkhead height of 20.01 feet. Per the GRI reports, the factor of safety for the passive resistance at the slip side of the bulkhead is 2.0.

Analysis of the cantilevered sheet pile bulkhead along the toe of the bank at Berths 1 and 2 is dependent upon the construction of the pier including behind the upper solder pile bulkhead along the uplands side of the wharf. The proposed retrofit modifications to Berth 1 include steel pipe piles to support the new deck structure with pile tip elevations at minus 112 to 114 feet NGVD (minus 110.7 to 112.7 feet CRD) and a new pile supported relieving platform on the uplands side of the upper bulkhead, both of which relieve the pier related surcharge loading on the lower cantilevered sheet pile bulkhead. Berth 2 consists of shallower timber pile support (tip elevations unknown) along the uplands side of the existing pier and pavement on the uplands side of the upper bulkhead, both of which cause surcharge loading of the lower cantilevered sheet pile bulkhead. Refer to the attached GRI report (GRI 2005).

Analysis of the cantilevered sheet pile bulkhead along Berth 1 with the nominal average bulkhead height of 19.17 feet, for the loading recommended by GRI, indicates that the PZ27 sheet pile sections are overstressed to 136% of allowable. Analysis of the cantilevered sheet pile bulkhead along Berth 1 with the nominal average mudline elevation behind the bulkhead of minus 18.83, for the loading recommended by GRI, indicates that the PZ27 sheet pile sections are capable of supporting a 17.17-foot cantilevered height. Assuming a nominal average mudline elevation of minus 18.83 feet CRD behind the lower bulkhead, the allowable mudline elevation on the slip side of the bulkhead is minus 36.0 feet (minus 34.3 NGVD).

The cantilevered sheet pile bulkhead along Berth 2 was not formally analyzed due to the increased loading from the surcharge loading and the result of the Berth 1 analysis which indicated that a minus 38-foot CRD mudline elevation was not feasible at the face of the bulkhead.

Based on the structural analysis and the GRI reports, it is not feasible to deepen the berths to the proposed depths without strengthening or replacing the existing cantilevered sheet pile bulkhead. The existing mudline depths can be extended towards the north bank of the slip.

Refer to attached GRI report (GRI 2005) and Sketch 03-113Q-1 for a dredging profile for Berth 1.

The purpose of this letter report is to assist Schnitzer Steel in making certain decisions regarding the deepening of Berths 1 and 2 at the above referenced facility. Our discussions and conclusions are based on limited documentation and field observations, and the experience and judgement of our design staff.

Smith & Monroe & Gray Engineers Inc. appreciates the opportunity to work with Schnitzer Steel on this project, and is prepared to pursue any further efforts when requested. Please contact us if you have any questions or require further information.

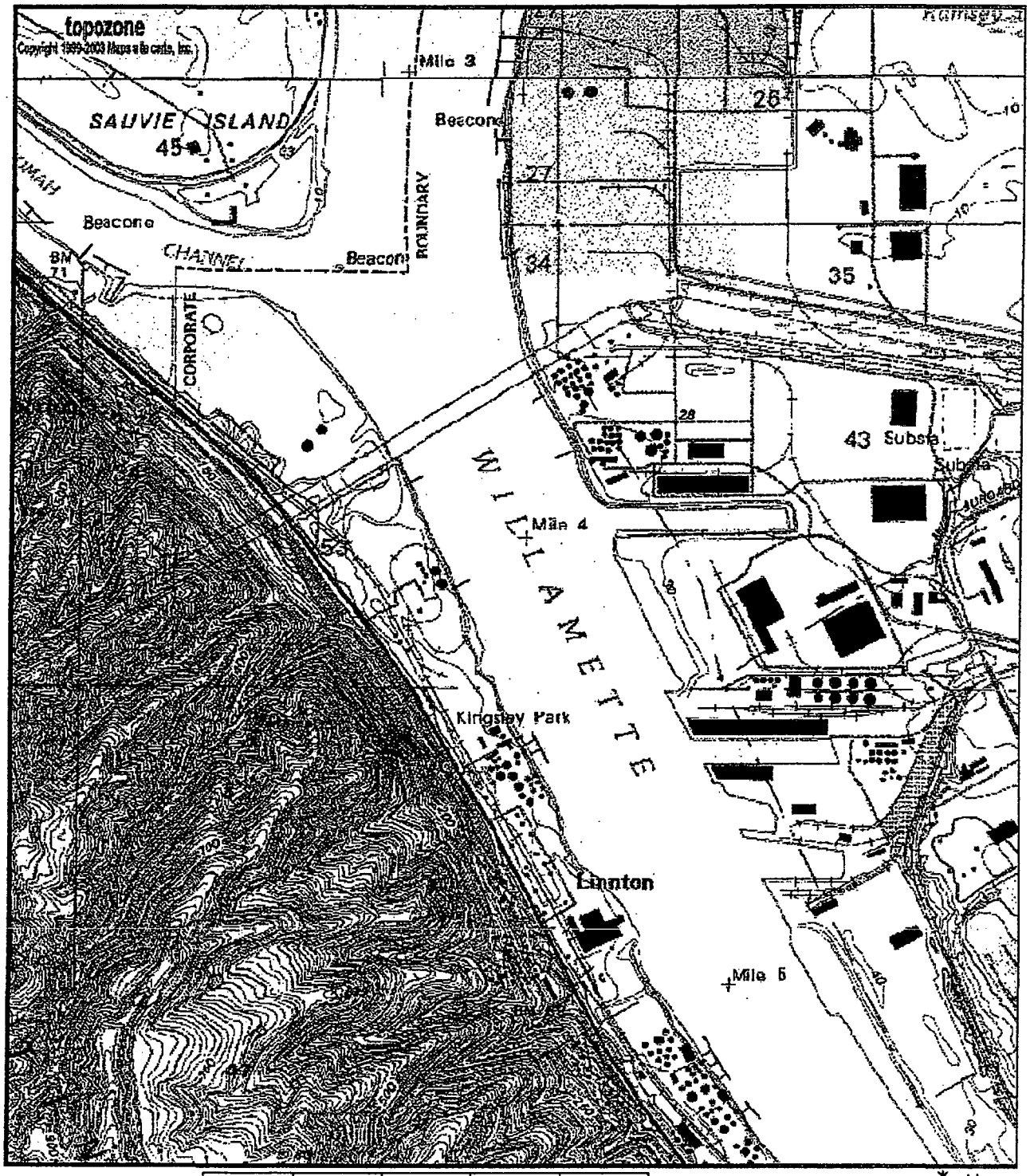
Respectfully,

Smith & Monroe & Gray Engineers, Inc.

Robert F. Scherzinger, PE, SE
Senior Structural Engineer

Attachments

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER
10,545
OREGON
JULY 13, 1978
ROBERT F. SCHERZINGER JR.
5-18
EXPIRATION DATE: 6-30-06



0 0.3 0.6 0.9 1.2 1.5 km

0 0.2 0.4 0.6 0.8 1 mi

M
G

Map center is UTM 10 516609E 5050628N (WGS84/NAD83)
Linnton quadrangle
Projection is UTM Zone 10 NAD83 Datum

M=17.609
G=0.152

http://www.topozone.com/print.asp?z=10&n=5050628.26450751&e=516608.868341867&siz... 8/2/04

SCHN00239647

GRI REPORTS
2005 & 2003

SCHNITZER STEEL INDUSTRIES INC.
PORTLAND, OR

GRI
Geotechnical & Environmental Consultants
9725 SW Beaverton-Hillsdale Hwy., Suite 140
Portland, OR 97005-3364
503-641-3478 FAX 503-644-8034

MEMORANDUM

To: Bob Scherzinger, PE, SE / Smith & Monroe & Gray Engineers

Date: March 10, 2005
GRI Project No.: 4213

From: Stan Kelsay, PE, and Jennifer Crump

cc: Jamie Wilson / Schnitzer Steel Industries, Inc.

Re: Evaluation of Underwater Slopes
Schnitzer Steel International Terminal
Portland, Oregon

At your request, GRI has evaluated the underwater slopes at the slip at Schnitzer International Terminal on the east bank of the Willamette River. We understand Schnitzer would like to deepen and widen the existing dredge line at Berths 1 and 2 in the slip. Our evaluation included review of the following background information developed by GRI:

> "Geotechnical Guidelines for Riverbank Slope Protection, International Terminals, Portland, Oregon," dated January 16, 1996.
>
> "Underwater Slope Evaluation, Dredging at Schnitzer International Terminal, Portland, Oregon," dated June 10, 2003.

Our review of these previous reports by GRI provides the majority of our current understanding of the history of the facility and subsurface conditions at the site. In this regard, the primary concerns associated with dredging at Berths 1 and 2 are slope stability considerations associated with the northern bank of the slip and the stress levels in the submerged cantilever wall at the face of the dock at Berths 1 and 2. Our evaluation consisted of slope stability studies for the north bank of the slip and development of lateral earth pressure criteria to assist Smith & Monroe & Gray Engineers, Inc. (SMG) in evaluating the impact of proposed dredging on the lower submerged cantilever retaining wall at the face of the dock at Berths 1 and 2. This memo summarizes the work accomplished and provides our conclusions and recommendations concerning the proposed dredging.

Site Conditions

The current mudline in the Berth 1 area of the slip is typically about elevation -38 ft (CRD). The existing mudline at Berth 2 is typically about elevation -33 ft. These mudline elevations extend about 80 ft out from the face of the dock, where the mudline slopes upward to the top of the north bank of the slip, which is at about elevation +26 ft. Most of the underwater slopes range from about 3H:1V to 4H:1V, with locally flatter areas.

A paved parking lot/roadway is located at the top of the easterly portion of the north riverbank slip area. The westerly portion is unpaved and used for laydown and storage. Due to erosion and slope instability concerns in 1996, about 500 lineal ft of the riverbank slope across from Berth 1 was protected with a riprap blanket keyed into the slope with a toe trench. The depth of the riprap toe trench varies along the riverbank; however, it is generally located at an elevation of about 0 ft (CRD). The remaining portions of the riverbank materials consist mostly of dredged sand fill with varying amounts of debris, such as concrete and asphaltic-concrete (AC) pieces. In addition, some vegetation, including brush and small trees, are present on the areas of the northern portion of the slip that have not been covered with riprap.

The available subsurface information indicates the site is capped with about 20 to 25 ft of sand fill that is underlain by alluvial floodplain deposits. The alluvial soils consist of fine-grained sand with varying amounts of silt and are typically underlain by gravel of the Troutdale Formation below about elevation –150 ft. We understand that primarily silt sediments have been removed during maintenance dredging of the slip.

Geotechnical Engineering Guidelines

We understand Schnitzer would like to dredge the area in front of Berths 1 and 2 to about elevation -38 ft (CRD) and widen the dredged area of the slip as much as possible. Our recommendations regarding the geotechnical engineering considerations associated with the dredging work are summarized below.

1) Our previous slope stability studies and additional slope stability analysis performed for this study indicate the final submerged slopes along the north bank of the slip below about elevation 0 ft (CRD) should be no steeper than 3H:1V. In addition, to limit the risk of undermining the existing riprap toe trench and triggering slope failures in the other areas along the north bank of the slip, the top of the 3H:1V slope should extend no closer than 20 ft from elevation 0 ft (CRD), as shown on the attached Figure 1.

2) To minimize the risk of the dredging causing localized slope failures, the dredging should be accomplished in two phases starting from the top of the slope about 20 ft from elevation 0 ft (CRD) and extending to about elevation -20 ft, or about half the total height of the 3H:1V slope. Once this has been accomplished, the second phase of dredging can be accomplished to the desired dredge line.

The slope stability analysis performed for the underwater slope evaluation studies (GRI, 2003) indicated the area in front of the sheetpile wall at Berths 1 and 2 could be dredged to elevation -42 ft and maintain an acceptable factor of safety against a global slope failure. However, this analysis did not evaluate the forces and deflections in the sheetpile wall. Furthermore, we recommended evaluating the sheetpile wall using the lateral earth pressure diagram shown on Figure 2. In our opinion, this loading diagram would be appropriate to evaluate the effect of dredging in front of the sheetpile wall in the area of Berth 2 that will not be modified for the new crane that is part of the planned improvements at Berth 1.

As discussed in our report (GRI, 2003), the surcharge loading from the dock provides a substantial lateral earth pressure behind the wall that is difficult to quantify. As shown on Figure 2, the load is represented as a uniform surcharge about 20 ft below the existing riverbank surface behind the sheetpile wall, which, in our opinion, is a reasonable depth. However, we acknowledge there is some uncertainty in the actual

location and magnitude of this load. Therefore, we recommend varying the location of the dock surcharge (i.e., the distance Hs) to evaluate the sensitivity of the stresses in the sheetpile wall due the location of the dock surcharge. In addition, if Schnitzer would limit the amount of surcharge placed on the dock and the area about 25 ft behind the dock, it would significantly reduce the stresses on the lower sheetpile wall.

For the area of Berth 1 where the dock will be modified and supported on the new 24-in.-diameter steel pipe piles and a relieving platform will be constructed behind the existing upper bulkhead, we recommend using the lateral earth pressure diagram on Figure 3 to evaluate the effect of dredging in front of the lower sheetpile wall. As noted on Figure 3, the widely spaced pipe piles and the effect of removing a portion of the soil behind the existing upper bulkhead and supporting the surcharge loading in this area with the relieving platform substantially reduces the lateral load on the lower sheetpile wall.

Based on previous studies, deepening the dredge line in front of the existing lower sheetpile wall may result in levels of stress in the steel sheetpiles that are unacceptable. Therefore, it may be beneficial to limit the amount of dredging in front of the sheetpile wall and slope the dredge line downward where the deeper dredge depth will not affect the sheetpile wall. To review the benefits of this approach, we recommend you assume the dredge line remains horizontal at a depth equal to 2.5 times the embedded depth of the sheetpiles below the dredge line. For example if the dredge depth is elevation -35 ft, this would result in about 40 ft of sheetpile embedment, which, in turn, would require a horizontal distance of 100 ft prior to sloping the dredge line downward. After this distance, the dredge line could be sloped at 3H:1V to the deeper dredge depth.

Other Considerations

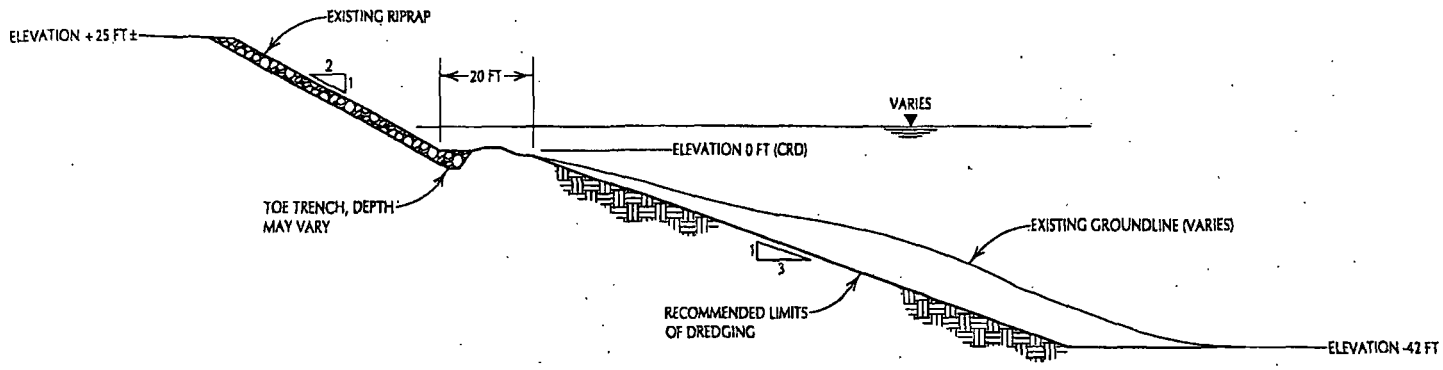
As discussed in our June 10, 2003, report, the underlying alluvial soils are considered to be relatively loose, and we anticipate that liquefaction of these soils would likely result from a strong local seismic event. In addition, we anticipate that seismically induced liquefaction at this site may produce lateral spreading of the slopes along the slip and riverfront and settlement of the ground surface of the steelyard. Our analyses and conclusions do not account for any seismic loading. Substantial deformations of the existing upper bulkhead, lower sheetpile wall, and dock structure in the slip should be expected based on the relatively low factor of safety for the existing slope and the likely relatively large magnitude of lateral spreading anticipated as a result of a strong seismic event.

Limitations

This memorandum has been prepared to aid SMG and Schnitzer in the evaluation of the proposed dredging at the slip. The scope is limited to the specific project and location described herein, and our description of the project represents our understanding of the existing slopes, structures, and soil conditions at the site. In the event that any changes in the dredging plan or the project elements as outlined in this memorandum are planned, we should be given the opportunity to review the changes and modify or reaffirm the conclusions and recommendations of this report in writing.

The conclusions and recommendations submitted in this report are based on our understanding of the existing conditions at this site based on review of the available information discussed in this report. This report does not reflect any variations in subsurface conditions that may be different from those described in the available information. The nature and extent of variation may not become evident until construction. If, during dredging, subsurface conditions different from those described in this report are observed or

encountered, we should be advised at once so that we can observe and review these conditions and reconsider our recommendations where necessary.



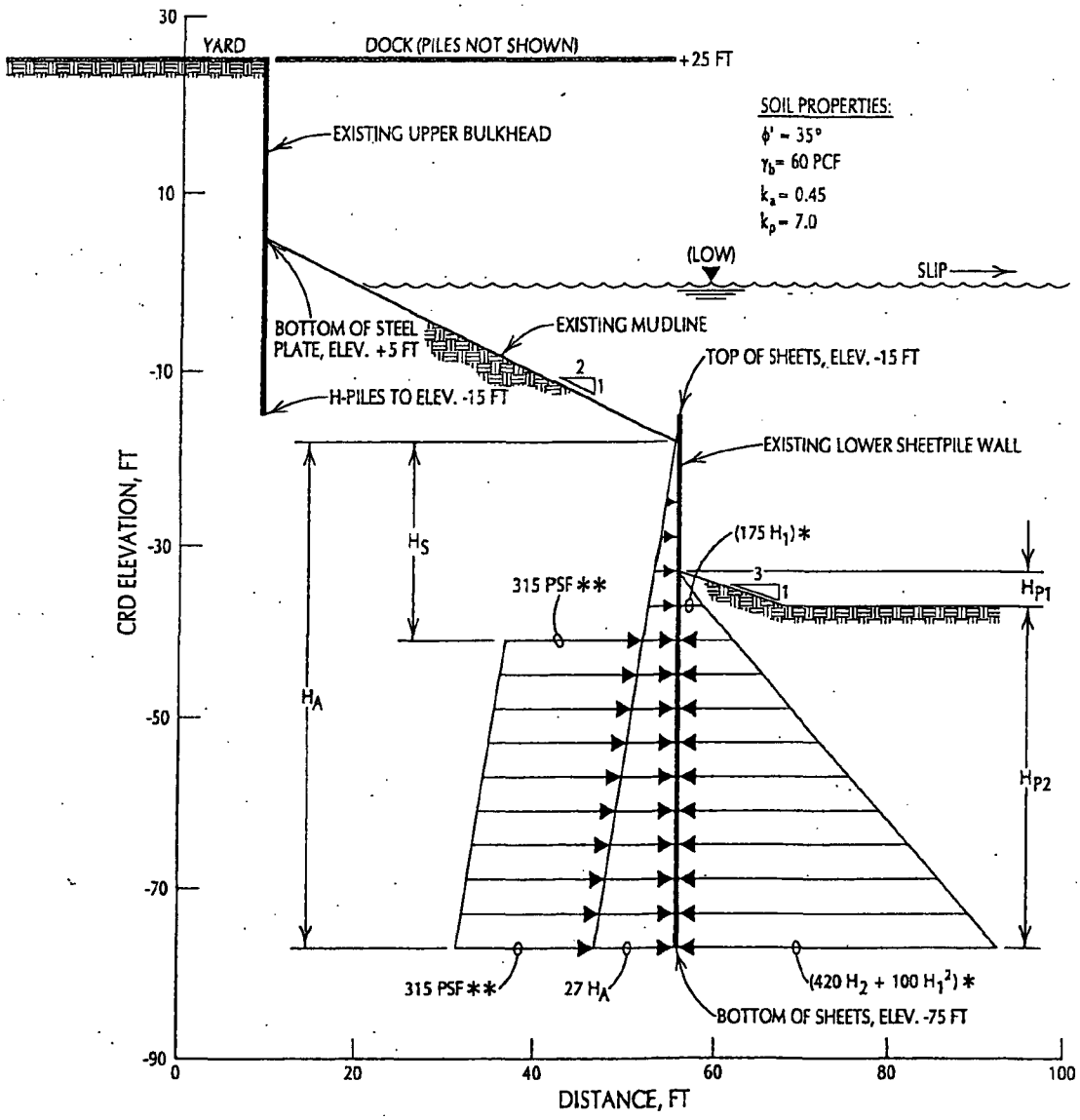
0 30 60 FT

GRI SMITH & MONROE & GRAY ENGINEERS
SCHNITZER INTERNATIONAL TERMINAL

NORTH BANK SLIP DREDGING GUIDELINES

MAR. 2005 JOB NO. 4213 FIG. 1

SCHN00239653



FOR EXISTING DOCK / BERTH 2

NOTES:

* ULTIMATE PASSIVE RESISTANCE (I.E. FACTOR OF SAFETY = 1.0); WILL REQUIRE APPROXIMATELY 2 TO 3 IN. OF MOVEMENT AT TOP OF SHEETS TO MOBILIZE

** LATERAL EARTH PRESSURE RESULTING FROM DOCK SURCHARGE OF 700 PSF

H_A DEPTH TO BOTTOM OF SHEETS BELOW EXISTING MUDLINE

H_{P1} DREDGE DEPTH

H_{P2} DEPTH TO BOTTOM OF SHEETS BELOW DREDGE LINE

H_S LOCATION OF DOCK SURCHARGE, DEPTH BELOW EXISTING MUDLINE, (VARIES ± 20 FT)

GRI SMITH & MONROE & GRAY ENGINEERS
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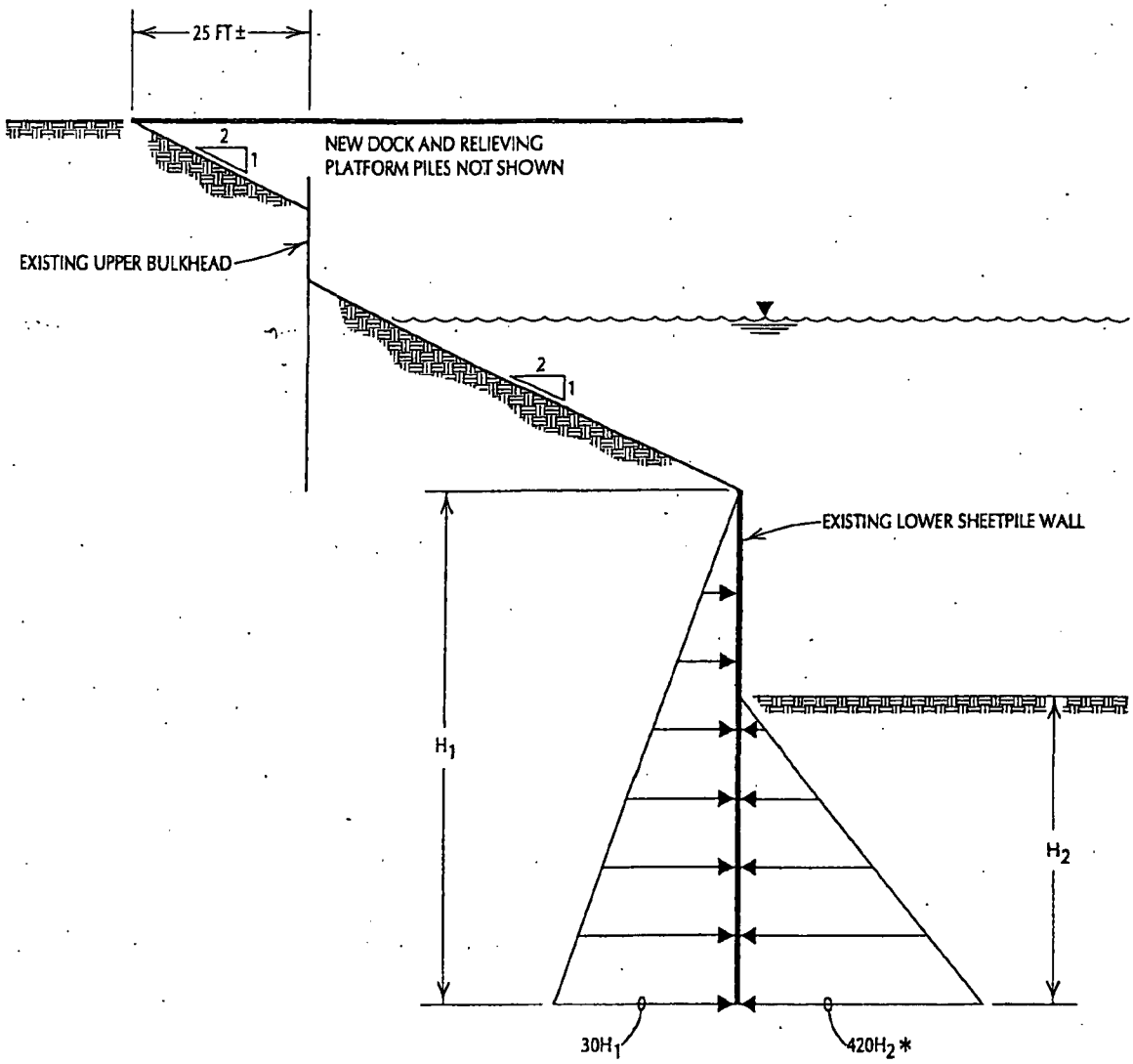
LATERAL EARTH PRESSURE DIAGRAM

MAR. 2005 JOB NO. 4213 FIG. 2

SCHN00239654



DOCK MODIFICATIONS / FOR BERTH 1

* THIS IS THE ULTIMATE PASSIVE RESISTANCE. FOR DESIGN THIS VALUE IS COMMONLY REDUCED ~ 50% (FS = 2)

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LATERAL EARTH PRESSURE DIAGRAM

MAR. 2005 JOB NO. 4213 FIG. 3

SCHN00239655

GRI Geotechnical & Environmental Consultants
9725 SW Beaverton Hillsdale Hwy, Ste 140
Portland, Oregon 97005-3364
PHONE 503/641/3478 FAX 503/644/8034

June 10, 2003

3776 GEOTECHNICAL RPT

Parsons Brinckerhoff Quade & Douglas, Inc.
400 SW Sixth Avenue, Suite 802
Portland, OR 97204

Attention: Jerald Ramsden

SUBJECT: Underwater Slope Evaluation
Dredging at Schnitzer International Terminal
Portland, Oregon

At your request, GRI has evaluated the underwater slopes at the slip and along the Willamette River at Schnitzer International Terminal. The Vicinity Map, Figure 1, shows the general location of the facility, which is located between river mile 3.6 and 4.1 on the east bank of the Willamette River. We understand there is a present need to deepen the berths along the river and deepen and widen the berths in the slip. Our evaluation has consisted of the review of available geotechnical information for the site, development of slope stability models, and engineering studies and analyses. This report describes the work accomplished, summarizes our conclusions regarding slope stability, and provides our recommendations for the proposed dredging and measures to mitigate the effects of the dredging on stability of the slopes and the existing pile-supported structures. All elevations in this report are based on Columbia River datum (CRD).

PROJECT DESCRIPTION

The Site Plans, Figures 2 and 3, show the configuration of the slip and riverbank as well as the topography of the above- and below-water slopes. We understand the proposed work in the slip area will include deepening the mudline to about elevation –42 to –36 ft in the area of the existing dock. In addition, the channel in the slip may be widened to establish a berth width of about 115 ft or wider. On the riverside of the facility, the proposed dredging would include deepening the mudline from a current elevation of about –35 ft to about elevation –42 ft along a 1,500 lineal ft section of river. Based on the topographic information and a visit to the site, the above-water slopes along the river are typically in the range of 1H:1V to 2H:1V, with locally steeper and flatter areas.

BACKGROUND INFORMATION

Background information regarding the design and construction of the existing dock, cantilever sheetpile wall, anchored bulkhead, and subsurface and underwater conditions at the site is documented in the following reports:

"Schnitzer Investment Corp., International Terminal, Foundation Investigation," by Foundation Sciences, Inc., dated December 1973.

"Geotechnical Investigation, Modifications to Schnitzer Steel Facility Dock, Portland, Oregon" by GRI, dated October 16, 2002.

www.gri.com

Our recent experience with the Schnitzer facility dock (GRI, 2002) and review of the report by FSI (1973) provide the majority of our current understanding regarding subsurface conditions at the site and the history of the original design and construction of the docks.

SITE DESCRIPTION

Existing Conditions

An existing dock with a deck elevation of +25 ft is present along the south side of the slip and extends from the river eastward to within about 250 ft of the end of the slip. At berth 1 (Station 0+00 to 6+00, Figure 1), the south (inner) half of the dock is currently supported by timber piles, and the north (outer) portion of the dock is supported on 26-in.-diameter steel pipe piles. As you know, modifications to berth 1 are currently under construction and include the installation of 24-in.-diameter steel pipe piles to support a new container crane. At berths 2 (Station 6+00 to 13+0, Figure 1) and 3 (Station 13+80 to 16+80, Figure 1), the dock is supported entirely on timber piles. The lengths of the existing timber and steel piles are not known as neither driving records nor as-built plans are available. An anchored tied-back soldier pile bulkhead is located along the south side of the dock and supports the edge of the steel yard. The steel yard is at elevation +25 ft. The soldier piles for the bulkhead consist of 40-ft-long steel H-piles on 10-ft centers. The bulkhead is a wide-flange/plate assembly about 10 to 12 in. thick, with wide flange stiffener members between steel plates that extend to about elevation +5 ft. We further understand the anchor is located about 6 ft below the top of each H-pile and consists of a 1¾-in.-diameter steel rod connected to a deadman anchor placed in the backfill an unknown distance behind the wall. The mudline in front of the tied-back bulkhead is at about elevation +10 ft and slopes downward to the north under the dock at a slope of about 2H:1V to the top of a submerged cantilever sheetpile wall at about elevation -15 ft. The cantilever sheetpile wall extends to a tip elevation of about -75 ft. The bulkhead and cantilever sheetpile wall are separated by a horizontal distance of about 50 ft. The mudline elevation in front of the cantilever sheetpile varies along the length of the wall; however, we understand it is typically on the order of elevation –40 and –39 ft at the west and east end of berth 1; respectively; elevation –39 and –23 ft at the west and east end of berth 2; respectively, and elevation –23 and –15 ft at the west and east end of berth 3; respectively.

Geology and Groundwater

The existing ground surface along the riverbank in the area of the proposed dredging is relatively flat and was created by placing dredged sand fill over alluvial floodplain deposits. The subsurface information for the site developed by FSI and GRI indicates the thickness of the fill varies; however, it is generally on the order of 25 ft thick along the river and thins inland to about 10 ft at the east end of the dock in the slip. The floodplain deposits that underlie the fill typically consist of fine-grained sand with varying amounts of silt near the river and transition inland to silt and clayey silt with lenticular interbeds of sand silt, silty sand, and locally thicker layers of fine-grained sand. The alluvial soils are generally underlain by gravel of the Troutdale Formation at depths below about elevation –150 ft.

Groundwater levels across this portion of the floodplain are expected to fluctuate in response to river level and, to a lesser extent, precipitation. We understand the 100-year flood level at the site is about elevation +26.1 ft, and the ordinary high and low water levels are about elevation +15.2 and +3.0 ft, respectively. We anticipate perched groundwater conditions may periodically develop locally above the less-permeable floodplain deposits and within the dredged sand cap that mantles the site.

Subsurface Conditions

According to the information provided in the above-referenced reports and our visits to the site, the riverbank on the south side of the slip is retained by an anchored bulkhead and underwater cantilever sheetpile wall. A dock is present between the bulkhead and cantilever sheetpile wall. The bulkhead retains the edge of the steel yard, which is at elevation +25 ft. The surface of the steel yard is paved with asphaltic concrete and Portland cement concrete. The pavement is underlain by dredged sand fill that varies from about 10 and 25 ft thick. The sand fill is generally medium dense, fine to medium grained, and contains up to a trace of silt. Alluvial deposits of silt and sand underlie the sand fill. Near the river, the alluvial deposits typically consist of medium dense, fine to medium grained sand that contains varying amounts of silt. Farther inland, the alluvial sand become siltier and transition to medium stiff to stiff silt with varying amounts of fine-grained sand and clay. The silt is underlain by medium dense to dense, fine-grained sand at depths of more than 90 to 100 ft (elevation –65 to –75 ft). Logs of the subsurface explorations for the above-referenced reports are provided in Appendix A.

FSI Stability Model

As referenced above, Foundation Sciences, Inc. (FSI) performed a subsurface investigation and stability analysis for the slopes beneath the dock in 1973. The purpose of the work by FSI was to evaluate the length and embedment of a sheetpile wall necessary to stabilize the slope beneath the dock, assuming a mudline elevation of –33 ft. The model developed by FSI assumes the bulkhead and sheetpile walls are individually stable, and the critical surface passes under the bulkhead and sheetpile wall, i.e., the FSI model assumed global stability controls. The FSI analysis was performed under static conditions, with the critical water surface located at elevation –5 ft. A uniform live load of 500 psf surcharge was applied in the area behind the tied-back bulkhead. The report concluded that a sheetpile wall 55 ft deep was necessary for stability at a minimum water level with a channel bottom of elevation –33 ft. The report does not indicate what embedment is necessary with a mudline at elevation –33 ft; however, the report recommended the sheetpile wall be embedded at least 22 ft below the channel bottom where the mudline was other than elevation –33 ft. Neither stability calculations nor factor of safety values are presented in the FSI report. Based on the available information, we understand the sheetpiles were installed to a final tip elevation of –73 ft. The slip has subsequently been dredged to a mudline elevation of about –40 ft in berth 1.

CONCLUSIONS AND RECOMMENDATIONS

General

As currently envisioned, the slip and river berths will be dredged to accommodate deeper and wider draft vessels. Berths 1, 2, and 3 in the slip will be dredged to about elevations –42, –38, and –36 ft; respectively, requiring 2 to 20 ft of deepening based on the current mudline elevation. In addition, the channel in the slip may be widened to establish a berth width of at least 115 ft. Berths 4 and 5 in the river will be dredged to about elevation –42 ft from a current mudline elevation of about –35 ft.

Based on the available subsurface information, the soils on the bottom of the slip in the area of the proposed dredging likely consist of medium dense sand on the west half and transition to medium stiff silt on the east half. It is also likely the river bottom consists of medium dense sand. We anticipate a thickness of loose, soft sediments has likely been deposited on the bottom of the slip since it was last dredged. The

thickness of sediments will likely vary by location in the slip and could be several feet thick. Due to river currents, the thickness of these sediments on the river bottom is likely less than in the slip.

Groundwater levels across this portion of the floodplain fluctuate in response to river levels and, to a lesser extent, precipitation. Changes in the groundwater level lag behind changes in river level. This periodically results in unbalanced conditions that are typically most critical for the overall stability of the riverbank. The largest unbalanced condition occurs when river levels quickly recede after flood events or prolonged periods of high water. For more usual conditions, when groundwater levels closely follow river levels, a low river level generally represents the worst-case condition for the stability of slopes along the waterfront.

Using the information discussed above, we have developed slope stability models to evaluate the effects of the proposed dredging on stability of the slip and riverbank slopes. The following sections of this report discuss the models developed, summarize our conclusions regarding the stability of the slopes, and provide recommendations for measures to mitigate the effects the proposed dredging will have on the overall stability of the slopes and the existing pile-supported dock, bulkhead, and sheetpile wall.

Stability Models

General. Computer-aided slope stability models were developed for the slopes at the berths to analyze the existing conditions and a deepened dredge depth. Modeling for local stability and global stability were performed. The models are two-dimensional and were developed using the Slope/W program, a software package developed by GEO-SLOPE International, Ltd., of Calgary, Alberta, Canada. Factors of safety against sliding were computed using Spencer's Method of Slices, which satisfies both force and moment equilibrium while assuming the resultant of interslice forces are of constant orientation throughout the sliding mass. The computed factor of safety is defined as the ratio of the forces (or moments) tending to resist sliding to the forces (or moments) tending to cause sliding within the slope. Computed factors of safety less than 1.0 represent potentially unstable conditions.

The program allows for defining potential failure surfaces within the slope as being either circular or a series of piece-wise linear segments. Automatic search routines can be used with circular surfaces to begin identifying the region within the slope near the critical surface. The critical surface is the potential failure surface with the lowest calculated factor of safety against sliding within the slope. Recognizing that a sliding surface is not always necessarily best approximated as a circular surface, piece-wise linear surfaces can then be manually input to further investigate or refine the shape of the critical surface. Because of the significantly different slope geometries between the slip and the river, the results of our stability studies are discussed separately in the following sections.

Properties of the materials comprising the slopes are based on our current understanding of subsurface conditions at the site. A total unit weight of 120 pcf and an angle of internal friction of 35° were used for the sand fill that mantles the upland portions of the site. A total unit weight of 110 to 115 pcf and an angle of internal friction of 34 to 35° were used for the alluvial silt layers present at the east portion of the site. A total unit weight of 120 pcf and an angle of internal friction of 35° were used for the alluvial deposits of sand that underlie the fill and silt at the site. A uniform live load of 1,000 psf was applied over the area behind the dock in the slip. An undrained shear strength in the range of 600 to 800 psf was also input into the model to analyze the undrained condition possible during dredging. All of our models assume a river

and groundwater level at elevation 0 ft and static conditions (no earthquake). The models in the slip assume the tied-back bulkhead and sheetpile walls are structurally stable.

In our analyses, we have not assumed any stabilizing effect that the existing dock piles may have on the overall stability of the slope in the slip. In general, the dock piles will tend to increase the actual factor of safety against sliding to some extent, and some pile contribution to the overall stability could be assumed if the critical surface passes through the pile zone. Methods exist to accomplish this by applying an increased strength factor to the soil that is proportional to the bending strength of the piles averaged over the area between piles. However, based on our experience with these methods, we expect the piles will provide only a relatively small increase in the factor of safety, since the spacing between the piles is relatively wide compared with the soil's ability to arch across the distance between the piles. This further assumes the piles would begin to carry a substantial amount of horizontal load from the slope in bending that could lead to undesirable deformations or other adverse impacts to the dock structure.

Slip. Several models and failure modes were analyzed as part of this stability investigation. As previously discussed, the configuration of the slopes in the slip at the location of the dock vary from west to east. In berths 1 and 2, an anchored bulkhead is located on the landside of the dock, and a cantilever sheetpile wall is present on the outboard side of the dock. In berth 3, only the anchored bulkhead is present, and the mudline under the dock slopes downward to the bottom of the channel at about 2H:1V.

Berth 1 and 2. As part of our analysis, we evaluated the global stability of the slopes in berths 1 and 2. Our representative model is based on the cross section at station 6+00 and assumes a mudline varying from elevation -30 to -42 ft; which represents the range of elevations under existing and final dredged conditions. A user-defined circular failure surface passing under the sheetpiles at an elevation of -75 ft was assumed as representative global failure surface. An illustration of our stability model for this condition is provided on Figure 4. Our model indicates a computed factor of safety of about 2.0 and 2.5 for a mudline of elevation -30 and -42 ft; respectively. In our opinion, the computed factor of safety value indicates an acceptably stable slope against a global failure with the mudline between elevation -30 and -42 ft. In our opinion, the area in front of the sheetpile wall could be dredged to elevation -42 ft in berths 1 and 2 while maintaining an acceptable factor of safety against a global failure.

The conclusion above assumes that forces and deflections in the sheetpile wall are within allowable limits. In this regard, the structural integrity of the sheetpile wall should be analyzed by a qualified structural engineer prior to dredging. A lateral earth pressure diagram to assist in evaluating the existing cantilever sheetpile wall is shown on Figure 5. The diagram allows for varying dredging depths (H_1) assuming a 3H:1V slope is maintained from the face of the sheetpile wall. In our opinion, the loading from the dock provides a substantial lateral earth pressure behind the wall and is difficult to quantify. As shown on Figure 5, the load is represented as a uniform surcharge about 20 ft below the existing riverbank surface behind the sheetpile wall, which in our opinion, is a reasonable depth. However, we acknowledge that there is some uncertainty in the actual location and magnitude of this load; therefore, we recommend varying the location of the dock surcharge (i.e., the distance Hs) to evaluate the sensitivity of the stresses in the sheetpile wall due the location of the dock surcharge.

Also, it should be noted that the passive resistance values shown on Figure 5 are ultimate values (i.e., factor of safety equals 1.0). The wall will likely be required to move on the order of 2 to 3 in. horizontally

outward into the slip to mobilize this amount of passive resistance. In this regard, a factor of safety of about 1.5 to 2.0 is typically applied to the passive resistance values to limit movement to smaller amounts.

Although not related to the effects of dredging, it should be noted that our recent modeling indicates the global failure discussed above does not represent the critical surface within the slope. The stability surrounding the upland bulkhead was also analyzed. As shown on Figure 4, a user-defined failure surface was placed passing below the wide-flange/plate assembly of the bulkhead and through the zone of soil supporting the H-piles. In our opinion, the H-Piles will provide a negligible amount of soil reinforcement due to there relatively wide spacing. Our model indicates a computed factor of safety of about 0.95 with a uniform live load of 1,000 psf. The analysis indicates a factor of safety of 1.10 without the surcharge. Based on the results of our analysis, the stability of the anchored bulkhead has a lower factor of safety than is commonly considered acceptable. Therefore, we recommend this condition be reviewed with Schnitzer and they consider limiting the amount of surcharge in the area behind the existing anchored bulkhead.

Berth 3. The configuration of the slopes at berth 3 is somewhat different than at berths 1 and 2. The significant difference is that the cantilever sheetpile wall is not present, and the mudline beneath the dock slopes downward from the bulkhead to the bottom of the channel at about a 2H:1V. However, the dock at this location is similar to berth 2 in that it is supported entirely on timber piles.

As part of our analysis of berth 3, we first calculated the critical surface within the slope under existing conditions with a representative model based on the cross section at station 15+55. An illustration of this stability model is provided on Figure 6. Our model indicates a factor of safety of slightly less than 1.0 with a 1,000 psf uniform surcharge. Without a surcharge the factor of safety increases slightly to 1.05. In addition, a critical surface exists beneath the bulkhead, as shown previously on Figure 4, and has a similar factor of safety. Based on the results of our analysis, the stability of the bulkhead at this location has a lower factor of safety than is commonly considered acceptable. Therefore, we recommend that this condition be reviewed with Schnitzer and they consider limiting the amount of surcharge in the area behind the existing anchored bulkhead, similar to what was recommended above for berths 1 and 2. In addition to the global stability of the bulkhead, the local stability of the existing 2H:1V mudline beneath the dock was also analyzed. Our analyses indicate a minimum factor of safety of about 1.4 against a local failure for the existing slope beneath the dock.

Our model was then used to predict the likely effect that deepening by dredging would have on the stability of the slope assuming an unsupported, vertical cut from elevation -25 ft to -36 ft at the face of the dock. The model identified circular surfaces with factors of safety less than 1.0 that begin at the toe of the cut and propagate upward through the lower portion of the slope as illustrated on Figure 7. These initially small failures can progressively lead to a larger failure once the top of these surfaces intersects the lower portion of the critical surface previously identified for the existing conditions. In this scenario, the material at the toe of the slope has progressively failed into the slip, resulting in less support for the remaining upslope material. This will tend to further reduce an already low computed factor of safety for the larger surface. On this basis, we conclude that making an unsupported cut at the toe of the slope to deepen the dredge depth at the face of the dock could begin a progressive failure that may ultimately propagate upslope to the area behind the dock. In order maintain the existing stability of the slopes after dredging, the mudline in front of the dock would have to be maintained at the current slope angle which is on the order of 2H:1V.

North Shore of Slip. The effects of dredging on the slopes on north side of the slip were also analyzed using the hydrographic data shown on Figures 2. The elevation and thickness of each distinct soil layer, as well as the water level, was assumed as the same as for berths 3 directly across the slip. Soil properties for the north shore of the slip consisted of the values discussed previously. The automatic search routine was used to identify circular surfaces to begin identifying the region within the slope near the critical surface. In addition, piece-wise linear surfaces were then manually input to further investigate and refine the shape of the critical surfaces. Our analyses indicate minimum factor of safety values of about 2.0 to 3.0 prior to and after dredging. Based on our analysis, and review of the hydrographic data, the proposed dredging will not adversely effect the stability of the slopes along the north side of the slip assuming the dredged slopes are not steeper than about 3H:1V, and the overall slope above the dredged line is no steeper than about 2H:1V.

Berth 4 and 5. The effects of dredging in the river at berth 4 and 5 were analyzed at cross sections 2+10 and 14+30; respectively. A representative model based on the available hydrographic data is shown on Figure 8. The automatic search routine was used to identify circular surfaces to begin identifying the region within the slope near the critical surface. In addition, piece-wise linear surfaces were then manually input to further investigate and refine the shape of the critical surfaces. Our analyses indicate minimum factor of safety values of the local underwater slopes and the entire riverbank (global stability), are in the range of about 1.5 to 2.0 prior to and after dredging. Based on our analysis, and review of the hydrographic data, the proposed dredging will not adversely effect the overall stability of the slopes along river assuming the dredged slopes are not steeper than about 3H:1V. We understand that, achieving the final dredge elevation of -42 ft and maintaining a 3H:1V slope would result in an excavation that will remove part of the above water slopes and steel yard. In our opinion, the top of the dredged slope can be "day-lighted" below the water line while still maintaining a dredged slope of about 3H:1V. The dredged can be made slightly steeper then 3H:1V (i.e., 18°), on the order of 2° or 3°, without significantly reducing the stability of the riverbank.

As part of our work, we visited the site to observe the existing riverbank slopes. Based on our observations at the site, a significant portion of the riverbank slopes are as steep as 1H:1V with locally steeper areas. These slopes on the upper riverbank are steeper than is commonly considered acceptable. Therefore, we recommend that this condition be reviewed with Schnitzer and that they consider avoiding placement of heavy objects and materials on the riverbank west of the railroad tracks. However, the proposed dredging should not effect the local stability of the upper river bank slopes.

Other Considerations

To reflect the current understanding of the potential seismicity of the Pacific Northwest, the Portland area is presently assigned to seismic zone 3 in the most recent edition of the Uniform Building Code (UBC). Since some of the hydraulically placed fill that mantles the site and the underlying alluvial soils are considered to be relatively loose, we anticipate that liquefaction of these soils would likely result from a strong local seismic event. Consequently, the UBC soil profile type for the site should be considered S_F. Although a site-specific seismic hazards study is beyond the scope of this investigation, we anticipate that seismically induced liquefaction at this site may produce lateral spreading of the slopes along the slip and riverfront and settlement of the ground surface of the steelyard. Our analyses and conclusions do not account for any seismic loading. Substantial deformations of the bulkhead, sheetpile wall and dock structure in the slip should be expected based on the relatively low factor of safety for the existing slope and the likely

relatively large magnitude of lateral spreading anticipated as a result of a strong UBC zone 3 type seismic event.

LIMITATIONS

This report has been prepared to aid the owner in the design of this project. The scope is limited to the specific project and location described herein, and our description of the project represents our understanding of the existing slopes, structures and underlying soil conditions at the site. In the event that any changes in the dredging plan or the project elements as outlined in this report are planned, we should be given the opportunity to review the changes and to modify or reaffirm the conclusions and recommendations of this report in writing.

The conclusions and recommendations submitted in this report are based on our understanding of the existing conditions at this site based on review of the available historic records discussed in this report. This report does not reflect any variations in subsurface conditions that may be different from those described in the available information. The nature and extent of variation may not become evident until construction. If, during construction, subsurface conditions different from those described in this report are observed or encountered, we should be advised at once so that we can observe and review these conditions and reconsider our recommendations where necessary.

Please contact the undersigned if you have any questions regarding this report.

Submitted for GRI,

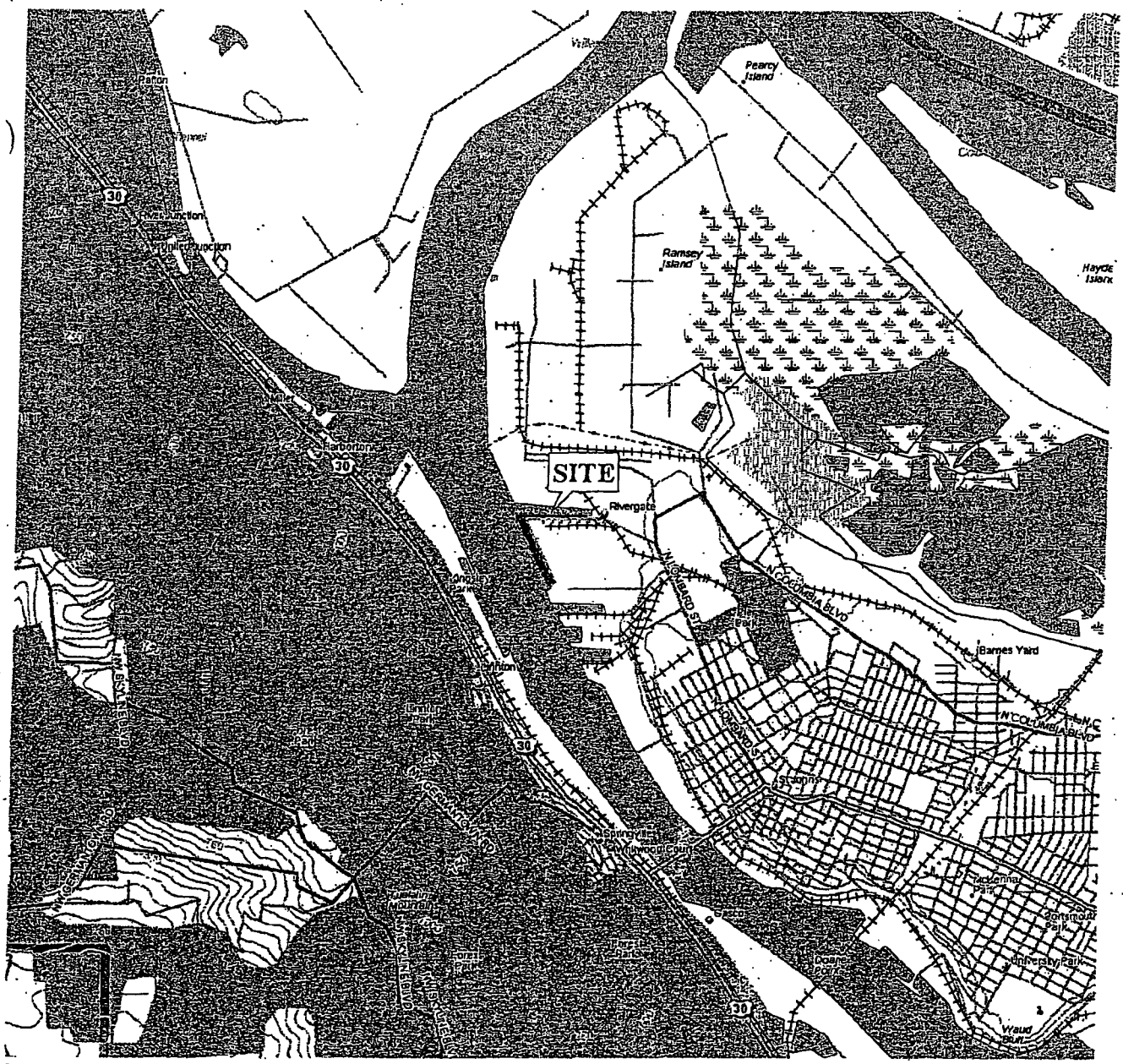
REGISTERED PROFESSIONAL ENGINEER 8045 OREGON JULY 22, 1974 H. STANLEY KELSAY exp. 6/05

H. Stanley Kelsay, PE
Principal

REGISTERED PROFESSIONAL ENGINEER 61354PE OREGON July 9, 2001 KEITH S. MARTIN

EXPIRES: 12/04

Keith S. Martin, PE
Project Engineer



DELORME 3-D TOPOQUADS, OREGON WEST
LINNTON, OREG. (1ab) 1999

North

0 1 2 MILES

GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

VICINITY MAP

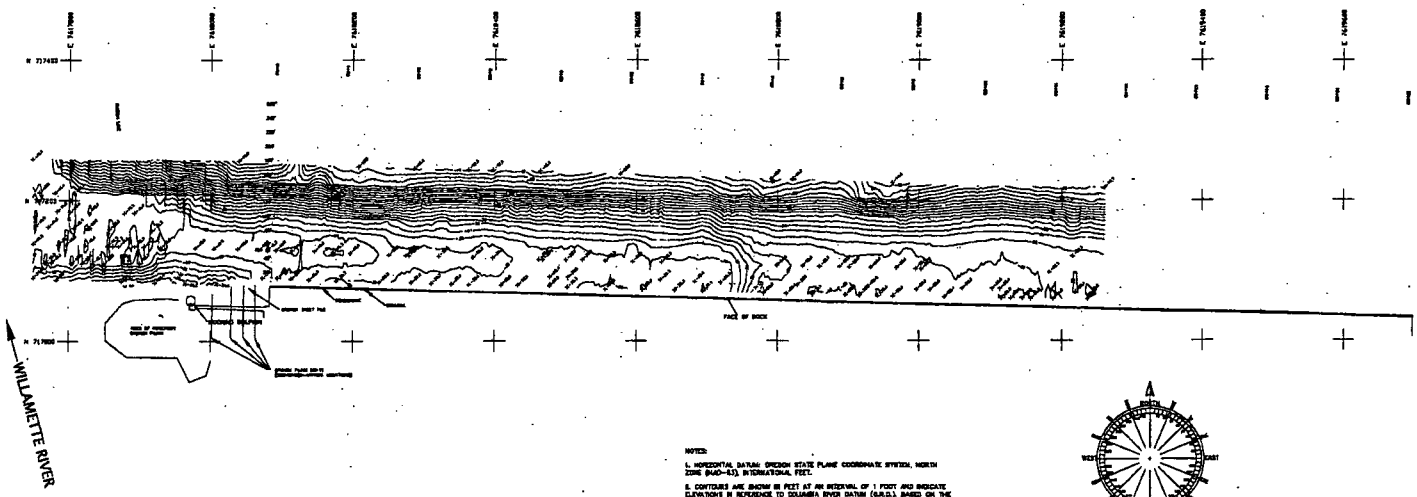
JUNE 2003 JOB NO. 3776 FIG. 1

SCHN00239664

SCHNITZER STEEL INDUSTRIES

HYDROGRAPHIC SURVEY

LOCATED ON THE WILLAMETTE RIVER AT RIVER MILE 3.7+/-
PORTLAND, OREGON
DECEMBER 21, 2004
MGS JOB# 04-562



NOTES:

1. HORIZONTAL DATUM: OREGON STATE PLANE COORDINATE SYSTEM, NORTH ZONE (NAD-83), INTERNATIONAL FEET.

2. CONTOURS ARE SHOWN IN FEET AT AN INTERVAL OF 1 FOOT AND INDICATE ELEVATIONS IN REFERENCE TO COLUMBIA RIVER DATUM (C.R.D.) BASED ON THE TIDE GUAGE LOCATED AT PORT OF PORTLAND SOUTH-411.

3. HORIZONTAL POSITIONS FOR NAVIGATION AND DATA COLLECTION WERE DETERMINED BY USING A TRIMBLE 4700 G.P.S. SYSTEM OPERATING IN DIFFERENTIAL MODE, USING THE G.P.S. CONTINUOUSLY OPERATING REFERENCE STATION (CORS).

4. BATHYMETRIC DATA WAS COLLECTED USING KNUDSEN 320M ECHOSOUNDER WITH A 4 DEGREE SINGLE BEAM TRANSDUCER, OPERATING AT 200 kHz.

5. SURVEY DATA WAS COLLECTED PARALLEL WITH THE DOCK USING A TWENTY-FIVE FOOT LINE SPACING. THE SURVEY DATA COLLECTED ALONG EACH SURVEY LINE WAS THINNED USING A "SNOAL BAS" METHOD TO AN APPROXIMATE HORIZONTAL SPACING OF 3 FEET.

6. THERE MAY BE BOTTOM FEATURES THAT ARE NOT SHOWN ON THIS MAP DUE TO THE LINE SPACING INTERVAL. THIS SURVEY DOES NOT INCLUDE BATHYMETRIC DATA BETWEEN THE ADJACENT SURVEY LINES.

7. THIS BATHYMETRIC SURVEY IS REPRESENTATIVE OF THE CONDITION OF THE BOTTOM AT THE TIME OF THE SURVEY, BASED ON THE LINE SPACING INTERVAL AND THINNING METHOD USED. THE CONDITION OF THE BOTTOM MAY CHANGE AT ANY TIME AFTER THE DATE OF THIS SURVEY.

8. BATHYMETRIC DATA WAS COLLECTED IN ACCORDANCE WITH THE U.S. ARMY CORPS OF ENGINEERS HYDROGRAPHIC MANUAL (U-1112-02-1003 (JANUARY 2002). FOR NAVIGATION AND DREDGING SUPPORT SURVEYS WITH THE BOTTOM CLASSIFICATION OF SOFT.

9. DOCK AND PHYSICAL FEATURES SHOWN WERE TRANSLATED AND ROTATED FROM A DIFFERENT DATUM AND SHOULD BE CONSIDERED APPROXIMATE.

10. DATA COLLECTED: DECEMBER 21, 2004.

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

AMERICAN CONGRESS ON SURVEYING AND MAPPING
HYDROGRAPHIC CERTIFICATION (521)
MARCH 24, 1999

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JULY 14, 1994
GEORGE F. P. BARD
2047LS
Expires 12-31-2005

MINISTER-GLAESER SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313

SCHN00239665

SCHNITZER STEEL INDUSTRIES

HYDROGRAPHIC SURVEY

LOCATED ON THE WILLAMETTE RIVER AT RIVER MILE 3.7+/-

PORTLAND, OREGON

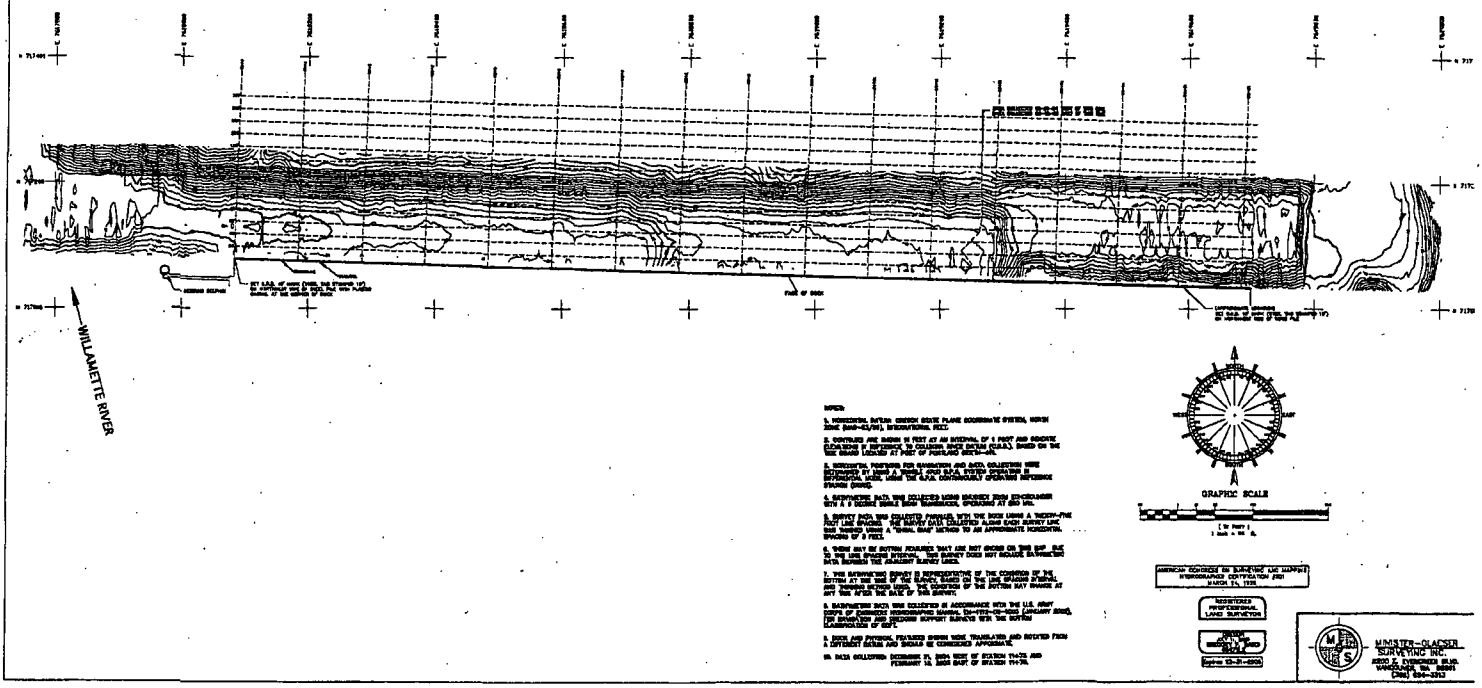
DECEMBER 21, 2004

AND

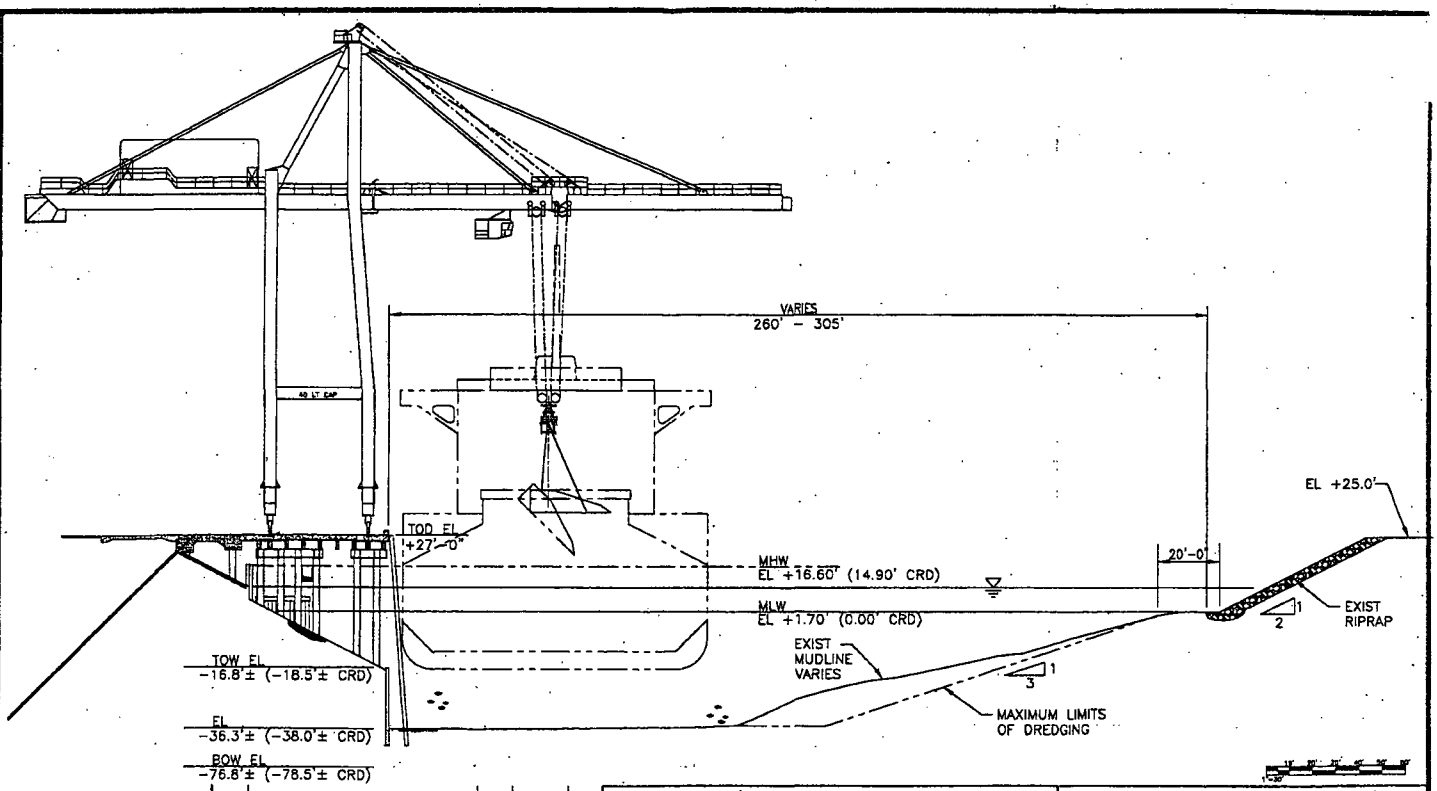
FEBRUARY 16, 2005

MCS JOB # 05-132

DRAWING DATE: FEBRUARY 22, 2005



SCHN00239666



THIS DRAWING INCLUDING THE PRINCIPLES OF DESIGN IS THE PROPERTY OF SMITH & MONROE & GRAY ENGINEERS, INC. (SMG). THE DESIGN SHOWN IN THIS DRAWING IS SITE SPECIFIC AND SHALL BE USED ONLY FOR THE PROJECT SHOWN ON THE TITLE BLOCK. IF THIS DRAWING IS NOT STAMPED WITH AN ENGINEER'S SEAL, THE DRAWING MAY HAVE BEEN REPRODUCED FROM AN UNAUTHORIZED ELECTRONIC COPY. REFER TO A STAMPED AND SIGNED HARD COPY OF THIS DRAWING FOR THE AUTHORIZED DOCUMENT. THIS DRAWING IS NOT TO BE USED IN A MANNER THAT WOULD BE A DETRIMENT TO SMG. ACCEPTANCE OF THIS DRAWING IS AN AGREEMENT TO THE ABOVE.

SYM.	REVISIONS	BY	DATE	CHK'D

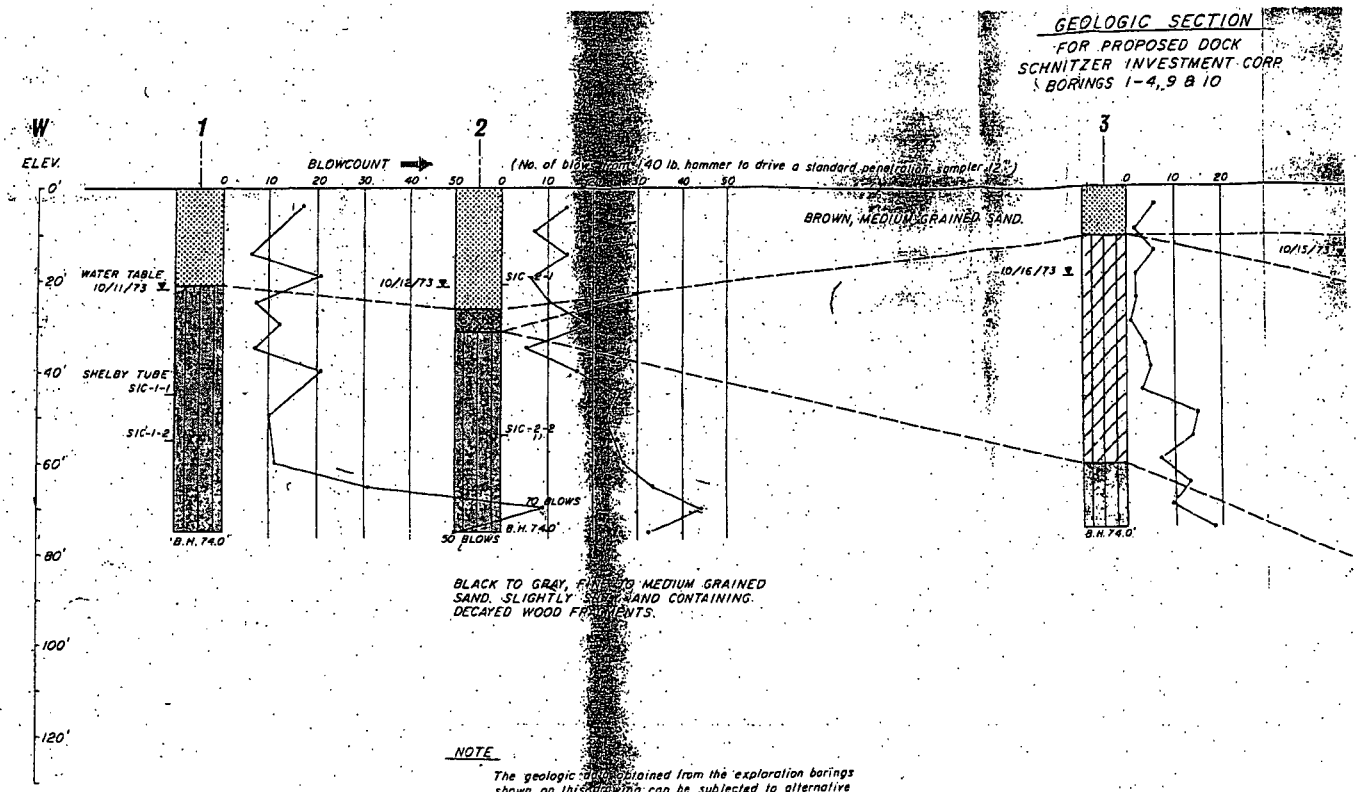
SMITH & MONROE & GRAY ENGINEERS, INC.
PARK PLAZA WEST, SUITE 210
10700 S.W. BEAVERTON HWY.
BEAVERTON, OREGON 97005
PHONE: (503) 643-8595
FAX: (503) 643-8610

SCHNITZER STEEL INDUSTRIES, INC.

BERTH 1
DREDGING PROFILE

DRAWN BY	DATE	CHKD BY	DATE	SCALE	DWG. NO.	REV.
G. Wulzen	4/1/05			1"=30'	03-113Q-01	

SCHN00239667



NOTE

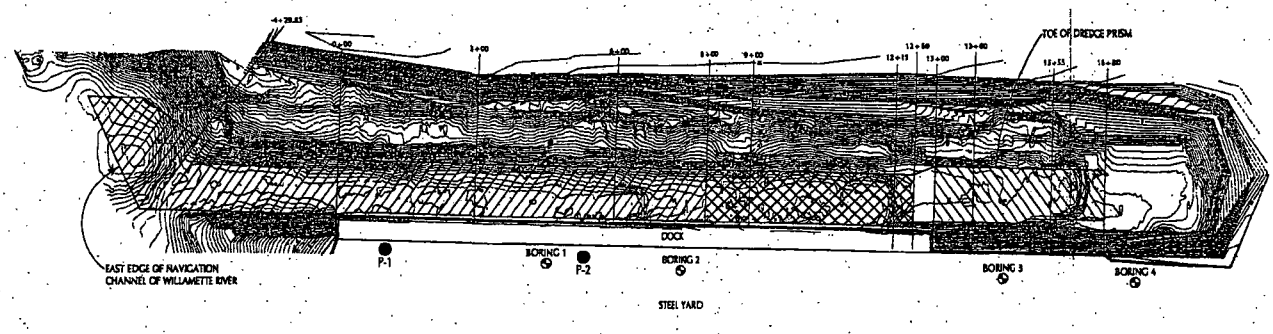
The geologic data obtained from the exploration borings shown on this drawing can be subjected to alternative interpretation. The geologic interpretation shown is an estimate of the conditions based upon Foundation Sciences' experience. Due to the nature of these deposits actual conditions encountered between the drill holes may be quite different.

GRI

LOGS OF BORING BY
FOUNDATION SCIENCES, INC.
(DECEMBER 1973)

JUNE 2003 | JOB NO. 3776 | FIG. 1A

SCHN00239668



STATIONS
BERTH 1: 0+00 TO 6+00
BERTH 2: 6+00 TO 13+80
BERTH 3: 13+80 TO 16+80

CONE PENETRATION TEST MADE BY GRI (JUNE 13, 2002)

BORING MADE BY FOUNDATION SCIENCES, INC. (LOCATION APPROXIMATE; DECEMBER 1973)

DREDGE DEPTH CRD -42 FT

DREDGE DEPTH CRD -38 FT

DREDGE DEPTH CRD -24 FT

SITE PLAN FROM FILE BY PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC. (UNDATED)

North

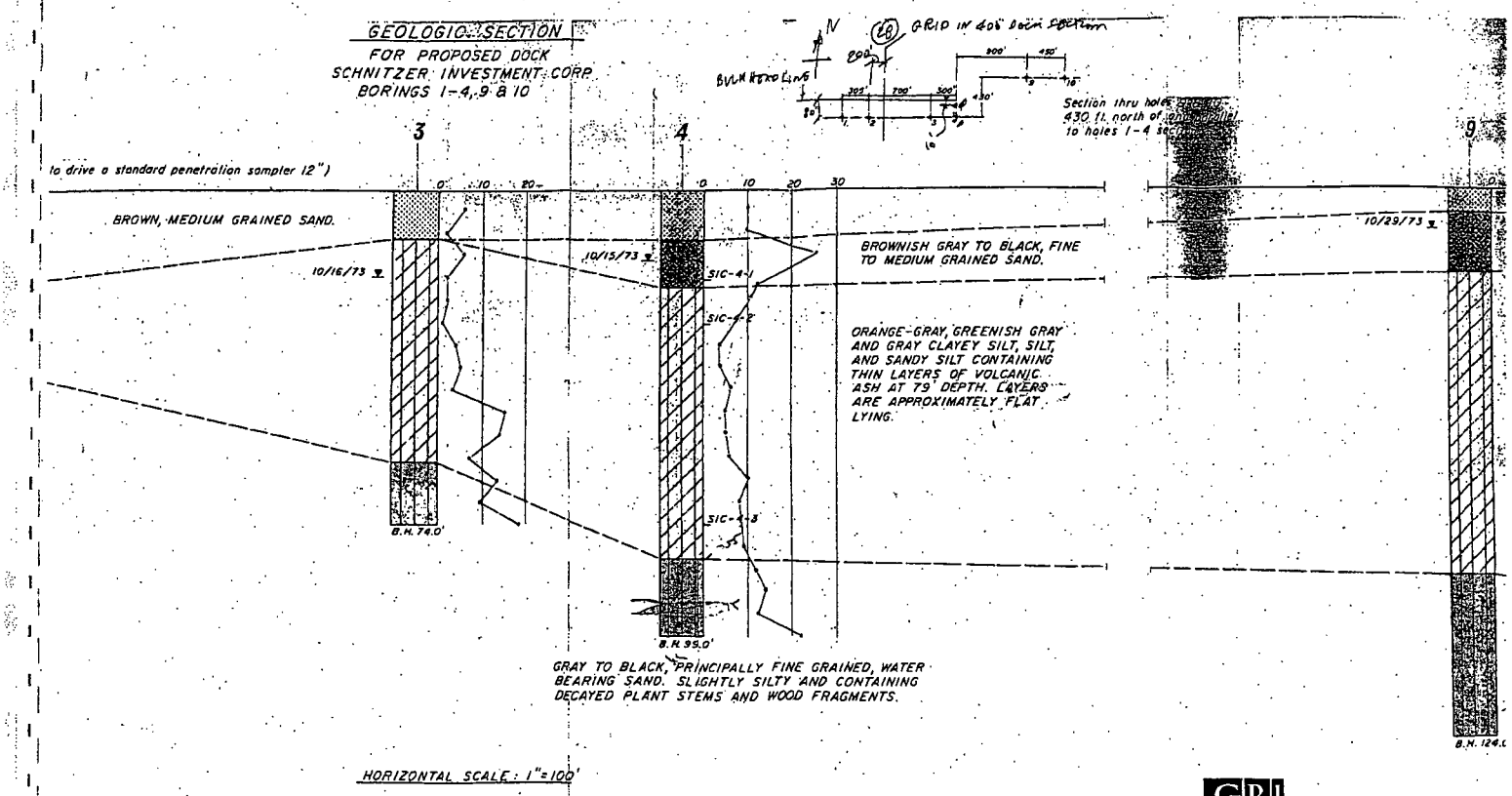
0 200 400 FT

GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

SITE PLAN
(SLIP)

JUNE 2003 | JOB NO. 3776 | FIG. 2

SCHN00239669

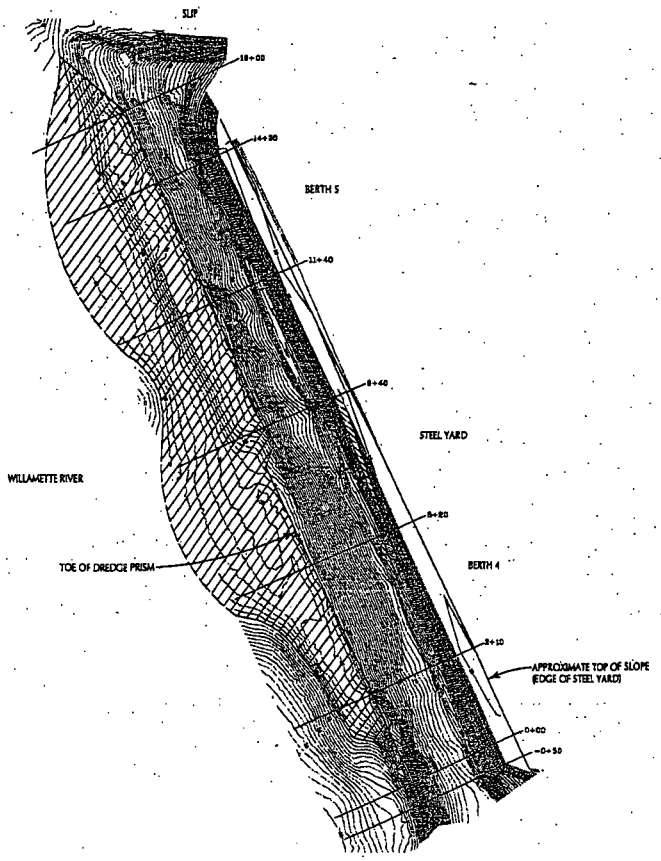


GRI

LOGS OF BORING BY
FOUNDATION SCIENCES, INC.
(DECEMBER 1973)

JUNE 2003 | JOB NO. 3776 | FIG. 2A

SCHN00239670



STATIONS
BERTH 4: 0+00 TO 8+00
BERTH 5: 8+00 TO 16+00

DREDGE DEPTH CRD -42 FT

SITE PLAN FROM FILE BY PARSONS BRINCKERHOFF QUADE & DOUGLAS, INC. (UNDATED)

North

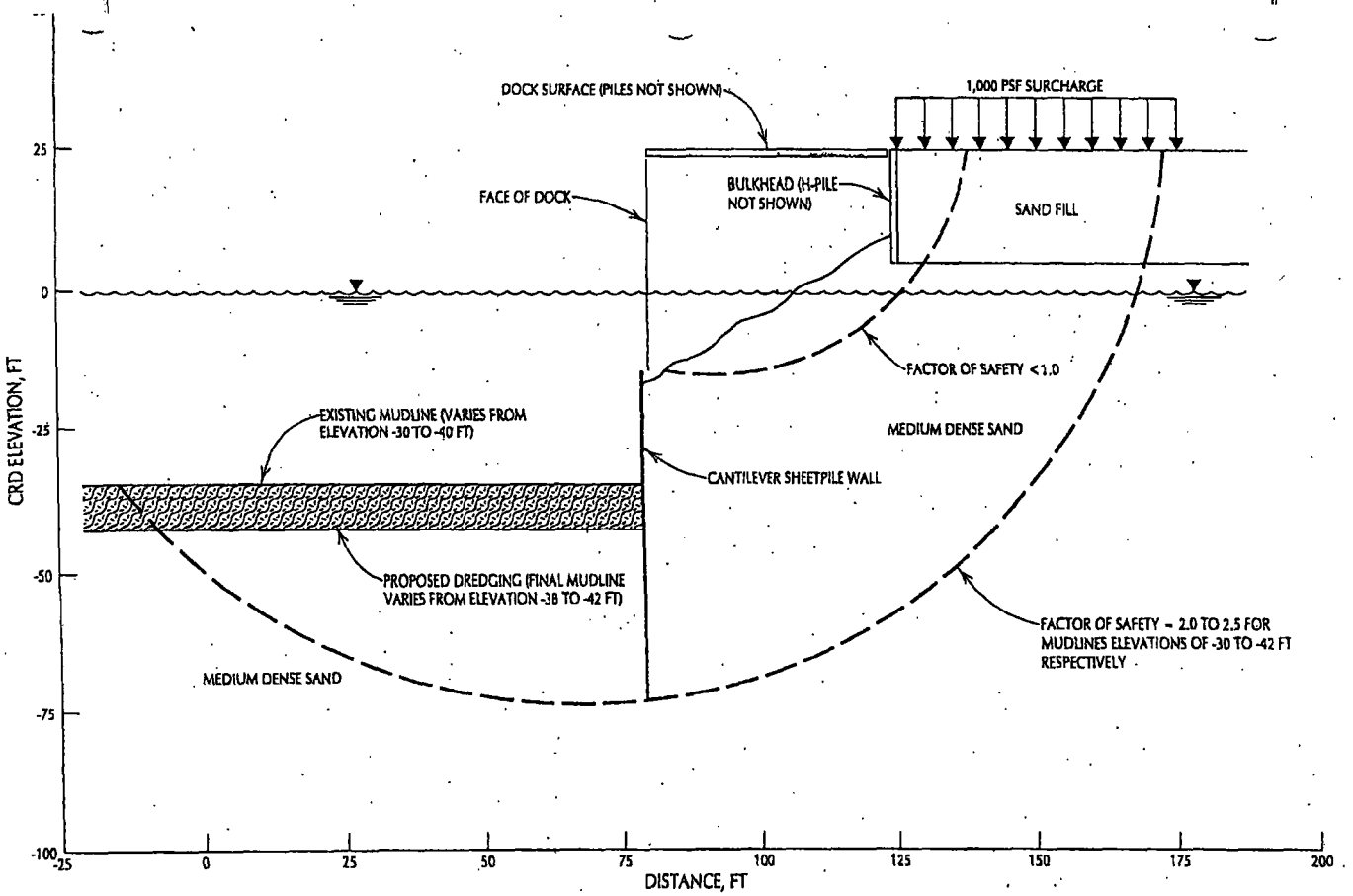
0 200 400 FT

GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

SITE PLAN
(RIVER)

JUNE 2003 JOB NO. 3776 FIG. 3

SCHN00239671



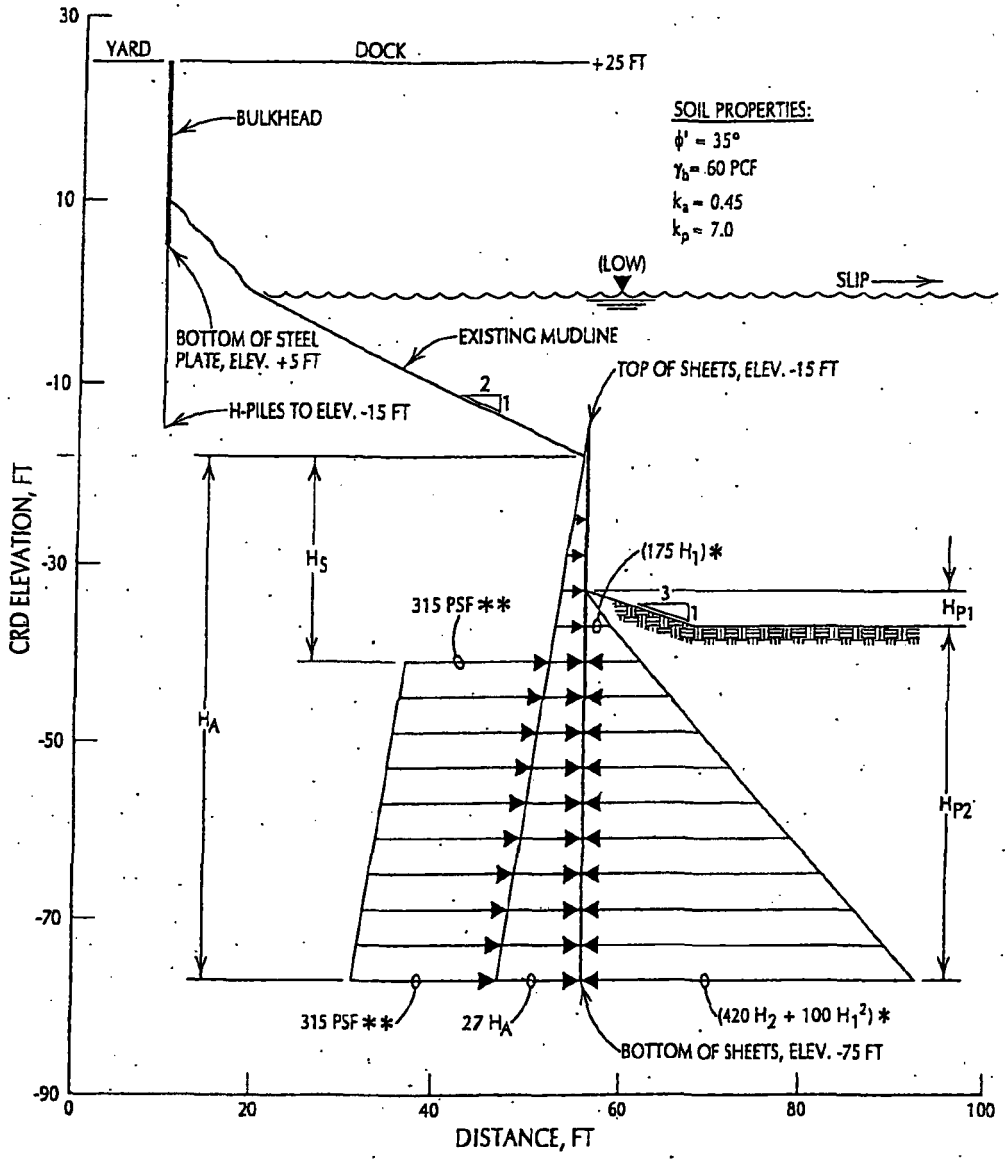
GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

STABILITY ANALYSIS

(BERTHS 1 & 2)

JUNE 2003 JOB NO. 3776 FIG. 4

SCHN00239672



NOTES:

* ULTIMATE PASSIVE RESISTANCE (I.E. FACTOR OF SAFETY = 1.0); WILL REQUIRE APPROXIMATELY 2 TO 3 IN. OF MOVEMENT AT TOP OF SHEETS TO MOBILIZE

** LATERAL EARTH PRESSURE RESULTING FROM DOCK SURCHARGE OF 720 PSF

H_A DEPTH TO BOTTOM OF SHEETS BELOW EXISTING MUDLINE

H_{P1} DREDGE DEPTH

H_{P2} DEPTH TO BOTTOM OF SHEETS BELOW DREDGE LINE

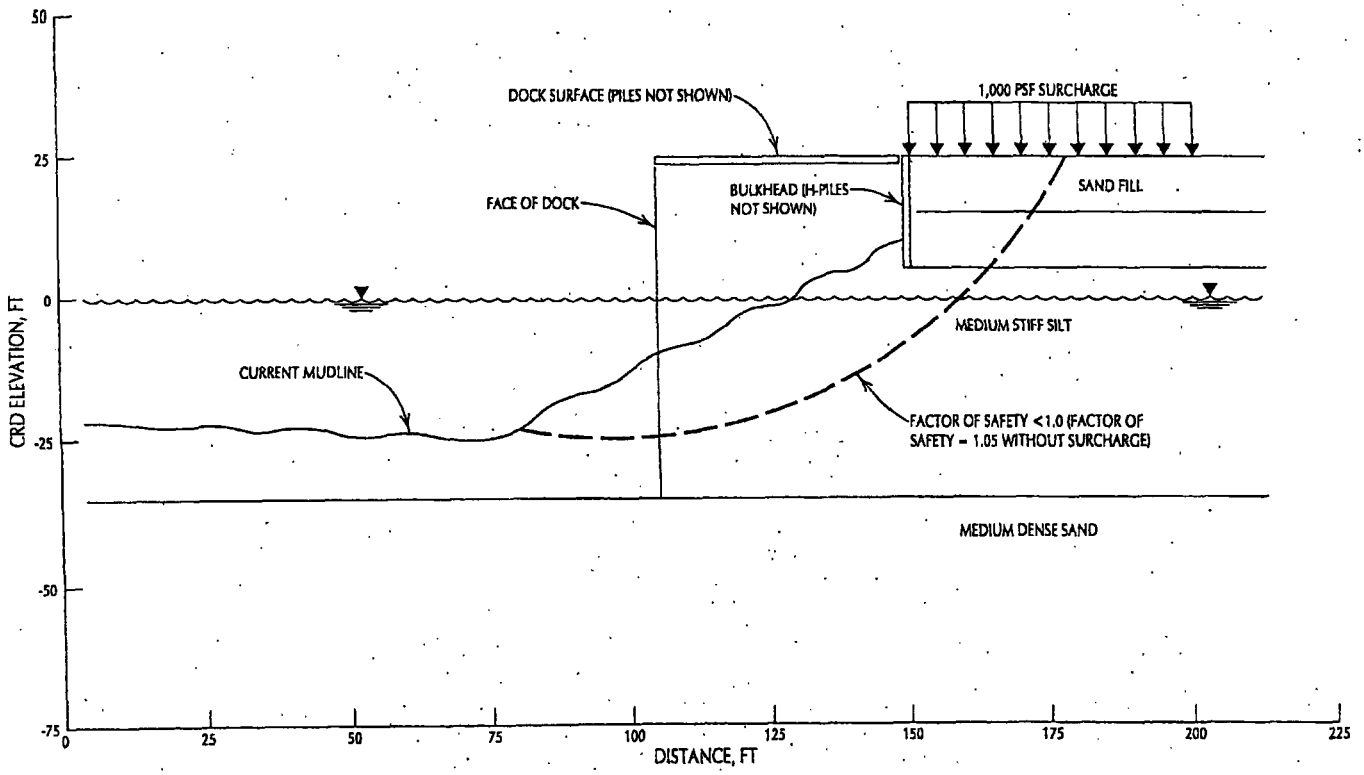
H_S LOCATION OF DOCK SURCHARGE, DEPTH BELOW EXISTING MUDLINE, (VARIES ± 20 FT)

GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

LATERAL EARTH PRESSURE DIAGRAM

JUNE 2003 JOB NO. 3776 FIG. 5

SCHN00239673

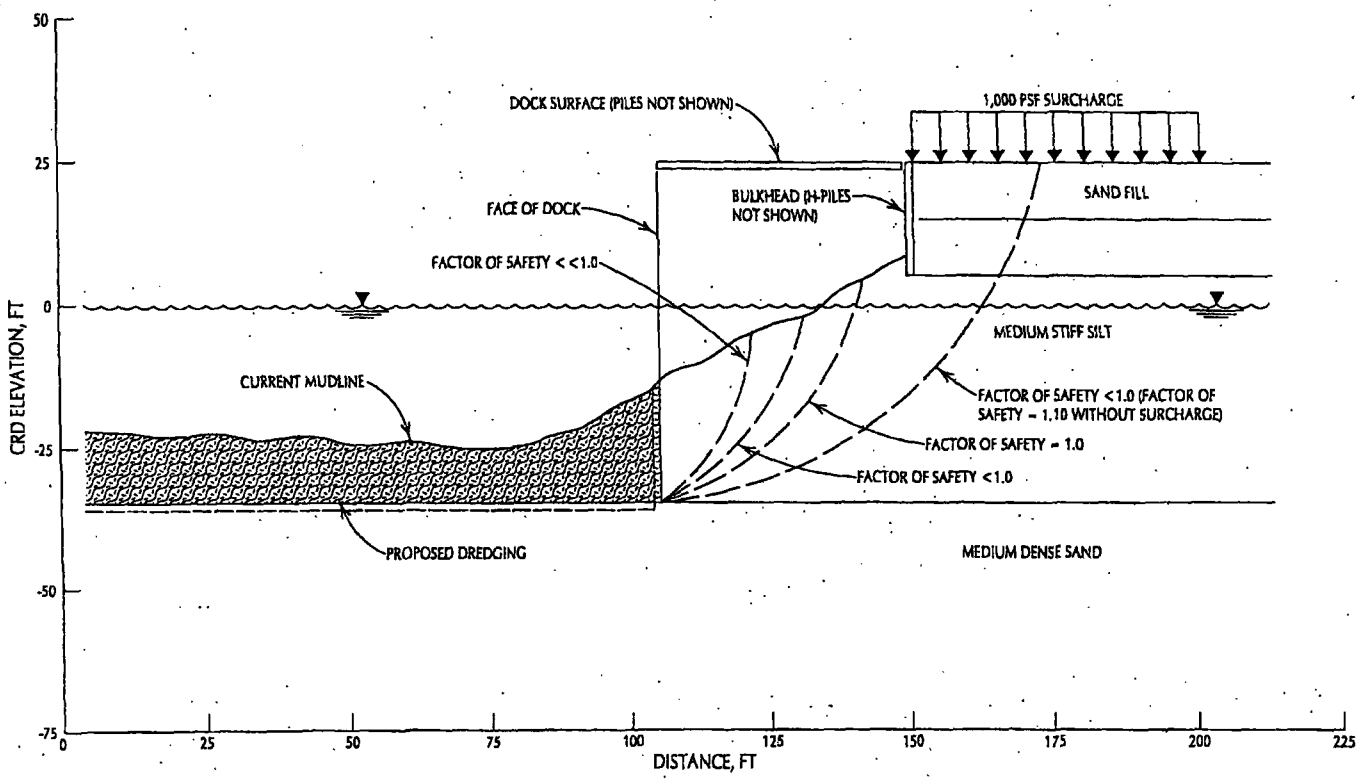


GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

STABILITY ANALYSIS
(BERTH 3 EXISTING CONDITIONS)

JUNE 2003 JOB NO. 3776 FIG. 6

SCHN00239674



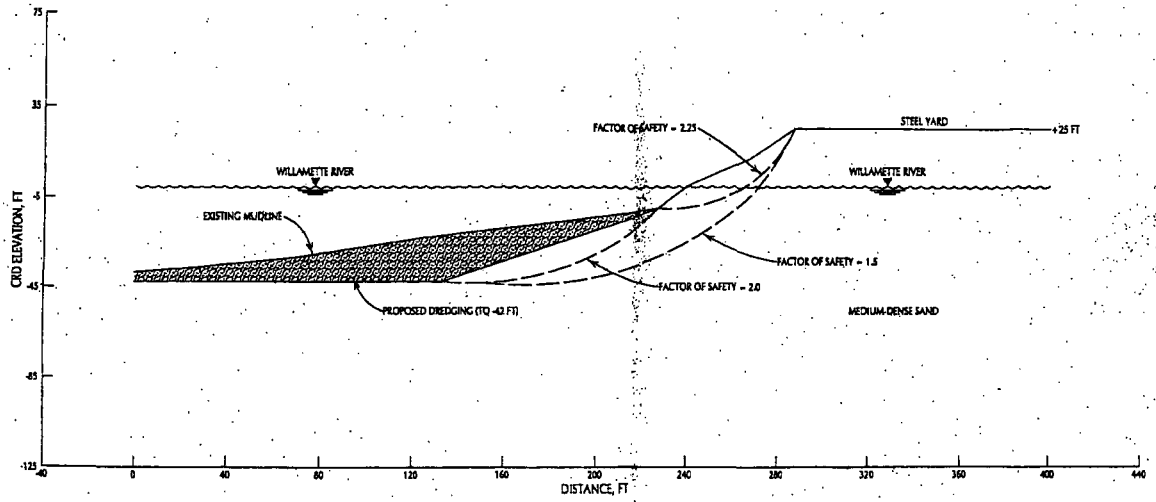
GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

STABILITY ANALYSIS

(BERTH 3 POST-DREDGE)

JUNE 2003 JOB NO. 3776 FIG. 7

SCHN00239675



GRI PARSONS BRINCKERHOFF QUADE AND DOUGLAS
SCHNITZER STEEL SLOPE EVALUATION

STABILITY ANALYSIS
(BERTHS 4 & 5 TYPICAL SECTION)

JUNE 2003 JOB NO. 3776 FIG. 8

SCHN00239676

APPENDIX A

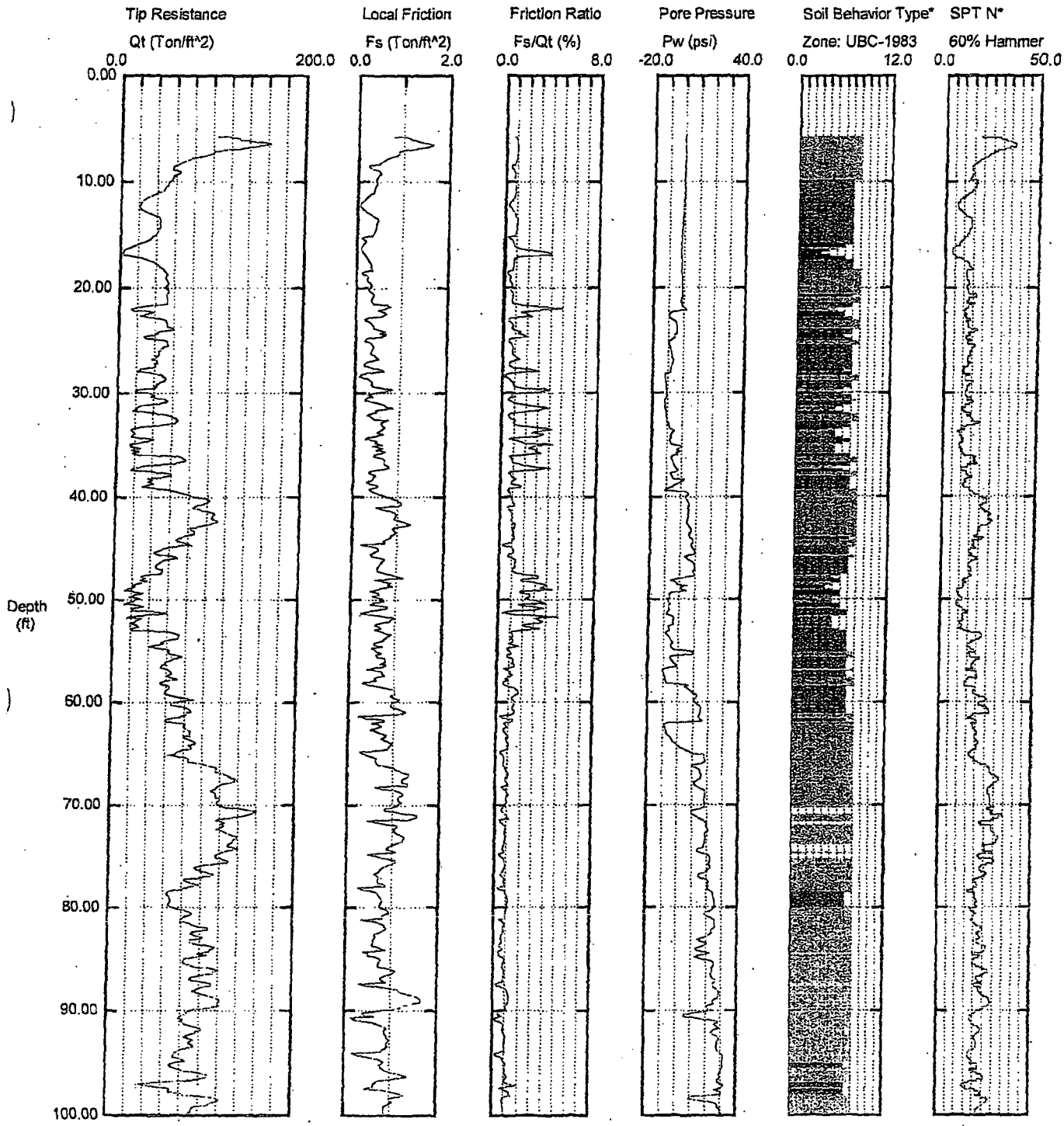
FIELD EXPLORATIONS

Subsurface Explorations

As discussed previously in this report, subsurface investigations were performed by GRI in 2002 and by FSI in 1973. As part of these investigations, subsurface explorations were performed.

The 1973 FSI investigation included six soil borings, designated Boring 1 through 4 and Borings 9 and 10. Logs of the borings are provided on Figures 1A and 2A. Borings 5 through 8 are located beyond the limits of this project and are provided in a separate FSI report. The logs provide a description of the materials encountered with depth and Standard Penetration N-values at selected depths to determine the relative density of granular soils and relative consistency of fine-grained soils.

To supplement the FSI borings, two electric cone penetration test (CPT) probes, designated P-1 and P-2, were performed in 2002 as part of the GRI investigation for the dock modifications as referenced previously in this report. Logs of the CPT probes are provided on Figures 3A and 4A. The CPT logs show the values of cone penetration resistance, sleeve friction, and friction ratio (i.e., sleeve friction divided by the cone penetration resistance) as a function of depth. The logs also provide an interpretation of the data with respect to the basic type of soil penetrated. Qualitative descriptions of relative consistency or density based on cone penetration resistance and sleeve friction are also provided on the logs.



Maximum Depth = 100.39 feet

Depth Increment = 0.16 feet

1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

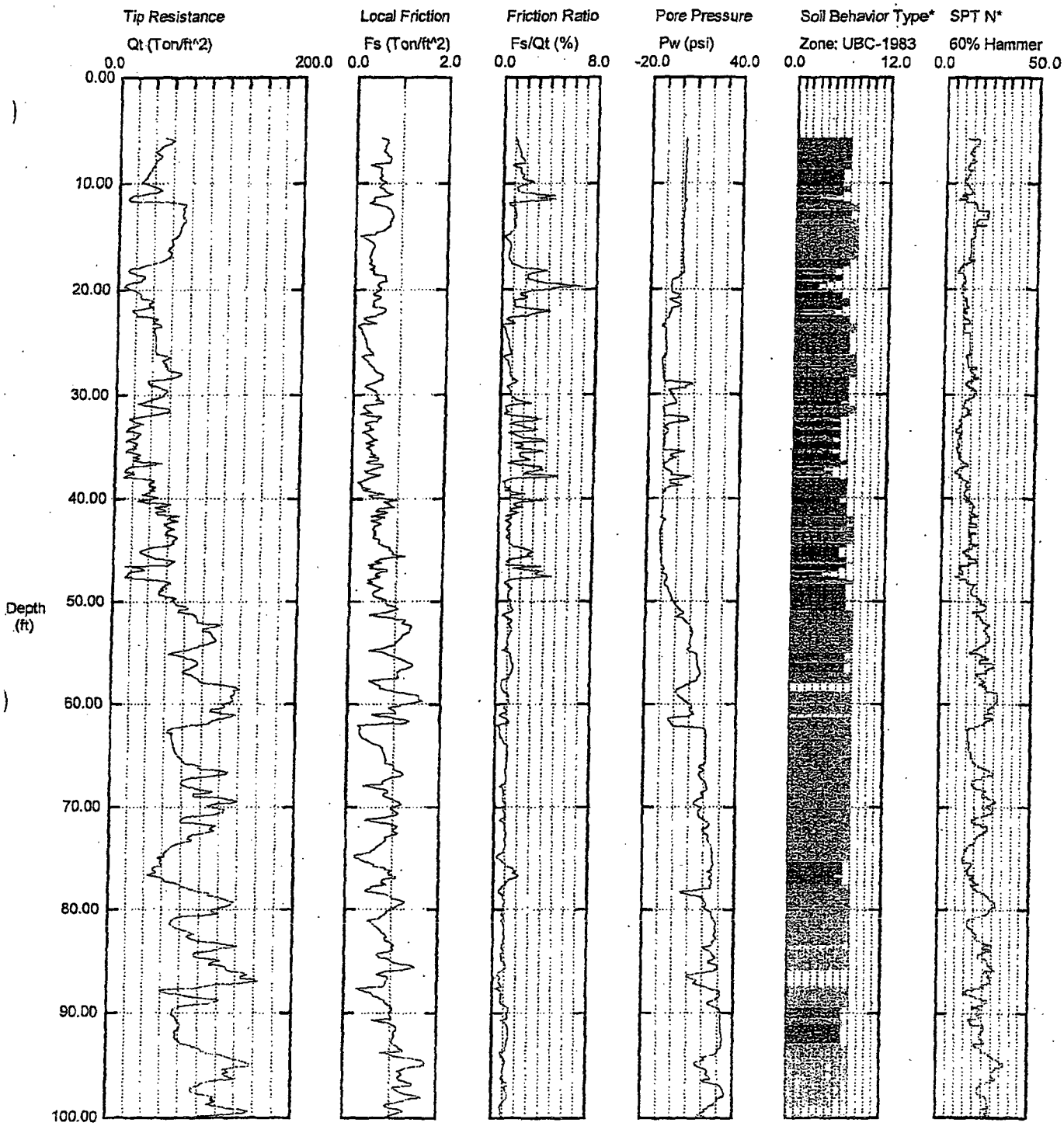
GRI

CONE PENETRATION TEST P-1

BY GRI (OCTOBER 2002)

JUNE 2003 | JOB NO. 3776 | FIG. 3A

SCHN00239678



1 sensitive fine grained
2 organic material
3 clay
4 silty clay to clay
5 clayey silt to silty clay
6 sandy silt to clayey silt
7 silty sand to sandy silt
8 sand to silty sand
9 sand
10 gravelly sand to sand
11 very stiff fine grained (*)
12 sand to clayey sand (*)

GRI

CONE PENETRATION TEST P-2

BY GRI (OCTOBER 2002)

JUNE 2003 | JOB NO. 3776 | FIG 4A

SCHN00239679

MORSE BROS. A KRC COMPANY

☐ Albany (541) 928-2547 ☐ Angell Quarry (503) 286-4201 ☐ Brownsville (541) 466-5899 ☐ Coffin Butte (541) 745-7572 ☐ Corvallis (541) 752-3428 ☐ Deer Island (503) 397-4659 ☐ Eugene (541) 689-6600 ☐ Gresham (503) 666-5577 ☐ Hardrock (541) 745-7572 ☐ Hillsboro - Best Mix (503) 648-3101 ☐ Lebanon Dispatcher (541) 258-7123 ☐ St. Helens (503) 397-0111 ☐ Salem (503) 390-6955 ☐ Sherwood (503) 692-8242 ☐ Springfield (541) 747-1213 ☐ Stayton (503) 769-6465 ☐ Sundial (503) 491-4423 ☐ Sweet Home (541) 367-6174

MAP LOCATE	BATCH TIME	LEAVE PLANT	ARRIVE JOB	BEGIN POUR	FINISH POUR	LEAVE JOB	ARRIVE PLANT

WATER ADDED AT CUSTOMER'S REQUEST

_____ gals. to full load
_____ gals. to ⅔ load
_____ gals. to ⅓ load

TEST CYL. TAKEN

☐ YES
☐ YES
☐ YES

6 MINUTES PER YARD FREE UNLOADING TIME ALLOWED ON FULL LOADS. Additional unloading time charged at current hourly truck rate.

CUSTOMER ACCOUNT # 26847 CODE
JOB # 15635 BID #
DEST # 1
SOLD TO MUNITOR CONSTRUCTION LLC / Jim Jakubiak
ANNUAL ANGELL 2004
SCHNITZER STEEL
DELIVERY POINT

ADDITIONAL WATER ADDED TO THIS CONCRETE WILL REDUCE STRENGTH. ANY WATER ADDED IS AT CUSTOMER'S OWN RISK.

WATER REQUESTED BY:

REASON FOR DELAY TIME:

☐ JOB NOT READY
☐ LACK OF HELP
☐ WHEEL BARROW JOB
☐ WAITING FOR TRUCK TO UNLOAD
☐ ADDING WATER
☐ ARRIVED JOB EARLY
☐ OTHER

DATE 9/21/04 P.O. #
TIME 13:36 PLANT 242010 PIT 0
DRIVER VERN
GROSS 104,020 lb TRUCK # TFT22 TRLR #
TARE 41,320 lb WEIGHMASTER SCOTT/GINNY
NET 62,700 lb

SPECIAL INSTRUCTIONS:

MATERIAL	MIX DESIGN, SSD	MOISTURE CORRECTION	DESIRED AMOUNT	ACTUAL AMOUNT	SSD CORRECTED AMOUNT

	Load Count	Accum. Qty	
JOB:	2	64.59 Ton	58.60 Mg
DESTINATION:	2	64.59 Ton	58.60 Mg

TRIM WATER GAL./YD.

WATER/ CEMENT RATIO

MAXIMUM ADD WATER GALS.

PRODUCT #	PRODUCT DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
SAND	SAND	31.35	Ton		
	DELIVERED TO ZONE 375 99998 CITY OF PORTLAND				

CJJ 9/21/04

TERMS: NET – CASH SALES PAYABLE UPON PICKUP OR DELIVERY. CHARGE SALES DUE AND PAYABLE BY THE 15TH OF MONTH FOLLOWING PURCHASE. A service charge of **1½%** per month, or a minimum of **$1.00**, will be made on the unpaid balance at the end of the following month's billing cycle. This is an **ANNUAL PERCENTAGE RATE OF 18%. PERSONAL NOTICE:** We reserve the right to claim lien for all labor and material furnished on this job according to OREGON REVISED STATUTE 87.021.

TOTAL

TICKET # 1503735

RECEIVED BY

Important: I acknowledge receipt of a copy of Morse Bros., Inc.'s Ready Mix concrete product label, and I understand and take responsibility for the warning in the product label regarding working with Portland Cement concrete.

Initials of Acknowledger

FORM 30 Revised 1/04
1503735

CCB# 2101

Administrative Group (541) 928-6491 • 32260 Old Hwy 34, Tangent, OR 97389
ALSO SERVING YOU AT Harrisburg Prestress (541) 995-6327 • Tangent Operations (541) 928-6491

SCHN00239685

MORSE BROS. A KRC COMPANY

☐ Albany (541) 928-2547 ☐ Angell Quarry (503) 286-4201 ☐ Brownsville (541) 466-5899 ☐ Coffin Butte (541) 745-7572
☐ Corvallis (541) 752-3428 ☐ Deer Island (503) 397-4659 ☐ Eugene (541) 689-6600 ☐ Gresham (503) 666-5577
☐ Hardrock (541) 745-7572 ☐ Hillsboro - Best Mix (503) 648-3101 ☐ Lebanon Dispatcher (541) 258-7123
☐ St. Helens (503) 397-0111 ☐ Salem (503) 390-6955 ☐ Sherwood (503) 692-8242 ☐ Springfield (541) 747-1213
☐ Stayton (503) 769-6465 ☐ Sundial (503) 491-4423 ☐ Sweet Home (541) 367-6174

MAP LOCATE	BATCH TIME	LEAVE PLANT	ARRIVE JOB	BEGIN POUR	FINISH POUR	LEAVE JOB	ARRIVE PLANT

WATER ADDED AT CUSTOMER'S REQUEST

_____ gals. to full load
_____ gals. to ⅔ load
_____ gals. to ⅓ load

TEST CYL. TAKEN

☐ YES
☐ YES
☐ YES

6 MINUTES PER YARD FREE UNLOADING TIME ALLOWED ON FULL LOADS.
Additional unloading time charged at current hourly truck rate.

CUSTOMER ACCOUNT # 26847 CODE
JOB # 15635 BID #
DEST # 1
SOLD TO MUNITOR CONSTRUCTION LLC / Jim Jakubiak
ANNUAL ANGELL 2004
SCHNITZER STEEL
DELIVERY POINT

ADDITIONAL WATER ADDED TO THIS CONCRETE WILL REDUCE STRENGTH. ANY WATER ADDED IS AT CUSTOMER'S OWN RISK.

REASON FOR DELAY TIME:

☐ JOB NOT READY
☐ LACK OF HELP
☐ WHEEL BARROW JOB
☐ WAITING FOR TRUCK TO UNLOAD
☐ ADDING WATER
☐ ARRIVED JOB EARLY
☐ OTHER

DATE 9/21/04 P.O. #
TIME 10:12 PLANT 242010 PIT 0
DRIVER VERN
GROSS 107,800 lb TRUCK # TFT22 TRLR #
TARE 41,320 lb WEIGHMASTER SCOTT/GINNY
NET 66,480 lb

WATER REQUESTED BY:

SPECIAL INSTRUCTIONS:

MATERIAL	MIX DESIGN, SSD	MOISTURE CORRECTION	DESIRED AMOUNT	ACTUAL AMOUNT	SSD CORRECTED AMOUNT

	Load Count	Accum. Qty	
JOB:	1	33.24 Ton	30.15 Mg
DESTINATION:	1	33.24 Ton	30.15 Mg

TRIM WATER GAL./YD.
WATER/CEMENT RATIO
MAXIMUM ADD WATER GALS.

PRODUCT #	PRODUCT DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AMOUNT
SAND	SAND	33.24	Ton		
	DELIVERED TO ZONE 375 99998 CITY OF PORTLAND				

9/21/04

TERMS: NET – CASH SALES PAYABLE UPON PICKUP OR DELIVERY. CHARGE SALES DUE AND PAYABLE BY THE 15TH OF MONTH FOLLOWING PURCHASE. A service charge of **1½%** per month, or a minimum of **$1.00**, will be made on the unpaid balance at the end of the following month's billing cycle. This is an **ANNUAL PERCENTAGE RATE OF 18%. PERSONAL NOTICE:** We reserve the right to claim lien for all labor and material furnished on this job according to OREGON REVISED STATUTE 87.021.

TOTAL

TICKET # 1503685

RECEIVED BY

Important: I acknowledge receipt of a copy of Morse Bros., Inc.'s Ready Mix concrete product label, and I understand and take responsibility for the warning in the product label regarding working with Portland Cement concrete.

Initials of Acknowledger

FORM 30 Revised 1/04
1503685

CCB# 2101

Administrative Group (541) 928-6491 • 32260 Old Hwy 34, Tangent, OR 97389
ALSO SERVING YOU AT Harrisburg Prestress (541) 995-6327 • Tangent Operations (541) 928-6491

SCHN00239686

MORSE BROS. A KRC COMPANY

☐ Albany (541) 928-2547 ☐ Corvallis (541) 752-3428 ☐ Hardrock (541) 745-7572 ☐ St. Helens (503) 397-0111 ☐ Stayton (503) 769-646
☐ Angell Quarry (503) 286-4201 ☐ Deer Island (503) 397-4659 ☐ Hillsboro - Best Mix (503) 648-3101 ☐ Salem (503) 390-6955 ☐ Sundial (503) 491-442
☐ Brownsville (541) 466-5899 ☐ Eugene (541) 689-6600 ☐ Lebanon Dispatcher (541) 258-7123 ☐ Sherwood (503) 692-8242 ☐ Sweet Home (541) 367
☐ Coffin Butte (541) 745-7572 ☐ Gresham (503) 666-5577 ☐ Springfield (541) 747-1213

MAP LOCATE	BATCH TIME	LEAVE PLANT	ARRIVE JOB	BEGIN POUR	FINISH POUR	LEAVE JOB	ARRIVE PL

WATER ADDED AT CUSTOMER'S REQUEST

_____ gals. to full load
_____ gals. to ⅔ load
_____ gals. to ⅓ load

TEST CYL. TAKEN

☐ YES
☐ YES
☐ YES

6 MINUTES PER YARD FREE UNLOADING TIME ALLOWED ON FULL LOADS. Additional unloading time charged at current hourly truck rate.

CUSTOMER ACCOUNT # 26847 CODE
JOB # 15635 BID #
DEST # 1
SOLD TO MUNITOR CONSTRUCTION LLC
ANNUAL ANGELL 2004
SCHNITZER STEEL
DELIVERY POINT

ADDITIONAL WATER ADDED TO THIS CONCRETE WILL REDUCE STRENGTH. ANY WATER ADDED IS AT CUSTOMER'S OWN RISK.

WATER REQUESTED BY:

REASON FOR DELAY TIME:

☐ JOB NOT READY
☐ LACK OF HELP
☐ WHEEL BARROW JOB
☐ WAITING FOR TRUCK TO UNLOAD
☐ ADDING WATER
☐ ARRIVED JOB EARLY
☐ OTHER

DATE 9/21/04 P.O. #
TIME 14:50 PLANT 242010 PIT 0
DRIVER VERN
GROSS 102,080 lb TRUCK # TFT22 TRLR #
TARE 41,320 lb WEIGHMASTER SCOTT/GINNY
NET 60,760 lb

SPECIAL INSTRUCTIONS:

MATERIAL	MIX DESIGN, SSD	MOISTURE CORRECTION	DESIRED AMOUNT	ACTUAL AMOUNT	SSD CORRECTED AMOUNT

	Load Count	Accum. Qty	
JOB:	3	94.97 Ton	86.16 Mg
DESTINATION:	3	94.97 Ton	86.16 Mg

TRIM WATER

WATER/ CEMENT RATIO

MAXIMUM ADD WATER

PRODUCT #	PRODUCT DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	AM
SAND	SAND	30.38	Ton		
	DELIVERED TO ZONE 375 99998 CITY OF PORTLAND				

TERMS: NET – CASH SALES PAYABLE UPON PICKUP OR DELIVERY. CHARGE SALES DUE AND PAYABLE BY THE 15TH OF MONTH FOLLOWING PURCHASE. A service charge of **1½%** per month, or a minimum of **$1.00**, will be made on the unpaid balance at the end of the following month's billing cycle. This is an **ANNUAL PERCENTAGE RATE OF 18%. PERSONAL NOTICE:** We reserve the right to claim lien for all labor and material furnished on this job according to OREGON REVISED STATUTE 87.021.

TOTAL

TICKET # 15

RECEIVED BY

Important: I acknowledge receipt of a copy of Morse Bros., Inc.'s Ready Mix concrete product label, and I understand and take responsibility for the warning in the product label regarding working with Portland Cement concrete.

Initials of Acknowledger

FORM 30 Revised
15037

CCB# 2101

Administrative Group (541) 928-6491 • 32260 Old Hwy 34, Tangent, OR 97389
ALSO SERVING YOU AT Harrisburg Prestress (541) 995-6327 • Tangent Operations (541) 928-6491

SCHN00239687

MUNITOR CONSTRUCTION, L.L.C.
CONSTRUCTION CONTRACT

This Contract is made this 20th day of August 2004 by and between Munitor Construction, L.L.C. (Munitor) and Schnitzer Steel Industries, ("SSI"):

For and in consideration of the mutual convenants contained herein, the parties agree:

ARTICLE I. SERVICES BY MUNITOR CONSTRUCTION, L.L.C.

1.0 Scope of Work

Munitor, at the direction of SSI will provide personnel, equipment, and materials for the cleaning of storm system as provided in quote attached at SSI's facility located at 12005 North Burgard Road in Portland, Oregon

1.1 Type of Services

As SSI may direct Munitor, will provide the following services (the "Services"):

Munitor to provide vacuum trucks, laborer, other equipment and materials to perform cleaning of storm drain system including oil water separators and sand filters at SSI's facility in Portland, Oregon.

1.2 Method of Performance

1.2.1 Munitor shall mobilize such personnel, equipment, and materials as described above starting the week of August 23, 2004 weather pending.

1.2.2 Munitor shall comply in all respects with all applicable federal, state, and local laws and regulations in its performance of the Services.

1.2.3 Munitor will make its personnel and authorized subcontractors available to confer with SSI to review the status of and to review and establish procedures for the efficient delivery of Services hereunder.

1.2.4 Neither Munitor, its authorized subcontractors, nor any of their employees shall supervise, directly or indirectly, any temporary or permanent employee of SSI.

ARTICLE II. COMPENSATION

2.1 Compensation

SSI shall reimburse Munitor for services rendered at a fixed price, not-to-exceed basis, in accordance with Munitor's bid dated August 12, 2004(Attached).

2.2 Invoice

Munitor Construction, L.L.C. shall invoice SSI monthly or upon project completion for Services performed hereunder. SSI shall make payment within thirty (30) days of receiving such invoice. A late fee will be added to accounts 30 days in arrears at the rate of one and one half percent (1.5%) of the amount due for each month of delinquency.

SCHN00239689

ARTICLE III. MUNITOR CONSTRUCTION, L.L.C. – LIABILITY INSURANCE

Until the Services are completed, Munitor agrees to provide and maintain at its own expense the following insurance coverage:

(a) Workers' Compensation at the statutory limits for the state or states in which the work is to be performed.
(b) Commercial Liability insurance in the amount of $5,000,000 combined single limit for bodily injury and property damage, including product liability, completed operations, contractual liability and, where applicable, coverage for damage caused by blasting, collapse or structural injury, and/or damage to underground utilities.
(c) Automobile Public Liability in the amount of $1,000,000 per occurrence for bodily injury and property damage, including non-owned automobiles. In the event that "Client" desires additional insurance,"Client" will notify Munitor of such request in writing and Munitor will obtain a quote from its insurance carrier regarding the cost of obtaining the requested coverage. The cost of such additional insurance will be borne by SSI. Munitor will not procure this additional coverage without the written approval of SSI.
(d) Munitor shall make SSI an additional insured party to their insurance policy.

ARTICLE IV. PROJECT PERFORMANCE

4.1 Performance of Services

Munitor will perform all Services under this Contract in accordance with generally accepted professional standards that apply in the community where the Services are performed for the type of work involved.

ARTICLE V. MISCELLANEOUS

5.1 Access to Property

SSI has the responsibility of obtaining a right of entry to property where the Services are to be performed. The right of entry shall allow Munitor, its agents, subcontractors, and employees to enter the property from time to time, as necessary to perform all acts, studies, and research pursuant to the agreed services within the scope of work. Munitor does not assume control of or responsibility for the property, the person in charge of the property, nor the safety of persons not in Munitor, employ.

5.2 Unforeseen Conditions or Occurrences

If any unforeseen conditions or occurrences, including, but not limited to, hazardous substances or pollutants, are encountered, which, in Munitor, reasonable judgment, significantly affect or may affect the recommended scope of the Services, then Munitor will notify SSI. After such notification, Munitor will complete the original scope of Services, if appropriate, or agree with SSI to modify the Agreement, or terminate this Agreement with respect to the Services pursuant to Section 6.11 hereof. Changes to the original scope of work that will result in increased compensation for the project must be approved by SSI in writing.

SCHN00239690

ARTICLE VI. GENERAL PROVISIONS

6.1 Indemnification

To the fullest extent permitted by law, each party shall defend, Indemnify and hold harmless the other party, its consultants, and the agents and employees of any of them from and against claims, damages, losses, and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from performance of services hereunder, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the indemnitor, anyone directly or indirectly employed by it, or anyone for whose acts it may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by any other person.

6.2 Permits and Access

Munitor will assist SSI in securing necessary permits required by authorities having jurisdiction over the project area.

6.3 Force Majeure

Delay or failure of Munitor in the performance of services hereunder shall be excused if caused by circumstances beyond the control of Munitor, including, without limitation, acts of God, strikes, fire, flood, windstorm, action or request of governmental authority, and inability to obtain material, equipment, or services, provided that a prompt notice of such delay or failure is given and Munitor diligently attempts to remove the cause.

6.4 Independent Client

Munitor is and shall perform all Services as an independent contractor and as such shall have and maintain exclusive control and direction over all of its employees, agents, and operations.

6.5 Subcontracts

Munitor may not, without SSI consent in writing, delegate the performance of Services hereunder, or any portion thereof. If approved, subcontractors will be required to sign a Munitor, subcontract agreement prior to the start of work.

6.6 Survival

Section 6.1 and all other provisions of this Contract that may reasonably be construed as surviving the term of this Contract shall survive the term of this Contract.

6.7 Applicable Law

Exclusively the laws of the State of Oregon shall govern this Contract. Venue for any dispute hereunder shall be in the federal or state courts sitting in Multnomah county, and each party hereby consents to the jurisdiction of such courts for any dispute hereunder, provided, however, that nothing herein shall preclude Munitor from excising its mechanics' or materialmen's lien rights under the laws of any jurisdiction where the Services are performed.

6.8 Severability

If any provision of this Contract if found to be illegal, invalid, or unenforceable for any reason, such findings shall not affect the other provisions hereof.

6.9 Taxes

SCHN00239691

SSI shall pay all state and local sales, use, or excise taxes of any kind assessed and/or arising out of the sale or use of the Services and shall, upon demand, reimburse Munitor for any sums it has expended for such taxes. It is assumed all taxes have been included in Munitor's attached cost proposal.

6.10 Term and Termination

The term of this Contract shall expire upon written notice by either party; provided, however, that neither party shall have the right to terminate this Contract except pursuant to the following provisions of this Section 6.11

(a) Either party may, for its sole convenience, terminate the performance of the Services in whole or in part at any time, or from time to time, by giving thirty (30) days written notice of intent to terminate.
(b) SSI will pay Munitor all time and materials costs (and any fee) which have accrued as of the effective date of termination and, in addition, those time and materials costs incurred or earned in good faith by Munitor after the effective date of termination in connection with (1) demobilization of equipment and personnel and (2) any necessary subcontract and/or vendor settlements.
(c) The rights and remedies of the parties provided in the section 6.10 are in addition to any other rights and remedies provided by law or under this Contract.

6.11 Entire Agreement

This Contract contains the entire and only agreement between SSI and Munitor respecting the subject matter hereof. It supersedes all prior or conflicting agreement, representation, promises, or conditions. Any modification of this Contract must be in writing and signed by both parties and must expressly indicate intent to modify this contract.

Jim Jakubicek	Harley Meservey
Name of Authorized Representative Of SSI (Printed)	Name of Munitor Rep.(Printed)
Authorized Signature	Authorized Signature
Title Environmental Administrator	Title President
Date August 31, 2004	Date Aug 20, 2004
Schnitzer Steel Industries, Inc. 12005 North Burgard Road Portland, Oregon 97203 (503) 224-9900	Munitor Construction, L.L.C. 206 N Tomahawk Island Drive Portland, OR 97217 (503) 702-6542

Munitor Construction, LLC
Portland, Oregon
CCB 148811

August 12, 2004

To: Mr. Jim Jakubiak
Schnitzer Steel, Inc.
Portland, Oregon

From: Mr. Harley Meservey
Munitor Construction, LLC
Portland, Oregon

Re. Storm Water System Maintenance
Schnitzer Steel
Portland, Oregon
Project #426

Option 2 Selected
August 31, 2004
James J. Jakubiak

Mr. Jim Jakubiak:

Munitor Construction, LLC (Munitor) is pleased to present this cost estimate for Storm Water System Maintenance. Below is a scope of work, cost estimate, and assumptions.

Scope of Work-Option 1 Cleaning and top 2" sand removal
Munitor understands that Schnitzer Steel is requesting the following work be performed at subject site:

- Clean the following systems-remove only top portion of sand
  - Outfall #3 Sandfilter
  - Outfall #4 Sandfilter
  - Outfall #5 Sandfilter
  - Outfall #6 Sandfilter
  - Oil/Water Seperators at outfall #1, #14, #16
  - Oil/Water Seperator at former outfall #7
  - Oil/Water Seperator at outfall #13 and #15
  - Site catch basins (approximately 175)
  - Clean Stormwater Management units and replace filters.

Cost Estimate-Option 1
Munitor Construction is providing the following bid for the project.
Estimate

Item	Qty	Unit	Rate	Total
Clean Sandfilter #3	1	LS	$4175.00	$4175.00
Clean Sandfilter #4	1	LS	$4175.00	$4175.00
Clean Sandfilter #5	1	LS	$5300.00	$5300.00
Clean Sandfilter #6	1	LS	$4830.00	$4830.00
Oil/Water Seperators at outfall #1, #14, #16	1	LS	$5665.00	$5665.00
Oil/Water Seperator at former outfall #7	1	LS	$1420.00	$1420.00
Oil/Water Seperator at outfall #13 and #15	1	LS	$3770.00	$3770.00
			Total	**$29335.00**

Scope of Work-Option 2 Cleaning with complete sand removal
Munitor understands that Schnitzer Steel is requesting the following work be performed at subject site:

- Clean the following systems-remove and replace sand
  - Outfall #3 Sandfilter
  - Outfall #4 Sandfilter
  - Outfall #5 Sandfilter
  - Outfall #6 Sandfilter
  - Oil/Water Seperators at outfall #1, #14, #16
  - Oil/Water Seperator at former outfall #7
  - Oil/Water Seperator at outfall #13 and #15
  - Includes Jet rodding lines to outfall from sand filters

SCHN00239693

- Replace filter fabric and piping in sand filters
- Sand replacement and removal

Cost Estimate-Option 2

Munitor Construction is providing the following bid for the project.

Estimate

Item	Qty	Unit	Rate	Total
Clean Sandfilter #3	1	LS	$7440.00	$7440.00
Clean Sandfilter #4	1	LS	$9290.00	$9290.00
Clean Sandfilter #5	1	LS	$17110.00	$17110.00
Clean Sandfilter #6	1	LS	$8215.00	$8215.00
Oil/Water Seperators at outfall #1, #14, #16	1	LS	$5665.00	$5665.00
Oil/Water Seperator at former outfall #7	1	LS	$1420.00	$1420.00
Oil/Water Seperator at outfall #13 and #15	1	LS	$3770.00	$3770.00
			Total	$52910.00

Assumptions

The following assumptions have been made in the development of this bid.

- Work will not be performed during rain events.
- All liquids removed will be ~~dumped~~ kept onsite and ~~water treatment system and sand disposal with auto fluff.~~ appropriately managed by SSI.

JJ 8-31-04
RN 8-31-04

Munitor would like to thank you for the opportunity to provide services to you. If you have any questions or would like to schedule work please contact me anytime at (503) 702-6542. We look forward to providing professional services to you and any future needs.

Regards,

Harley Meservey

Harley Meservey
President

Munitor Construction, LLC

PO Box 55575
Portland, Oregon 97238
Phone (503) 335-0260
Fax (503) 335-0259

Send to: Jim Jakubiak	**From: Harley Meservey**
Attention:	**Date:**
Office Location:	**Office Location:**
Fax Number:	**Phone Number:**

- ❑ **Urgent**
- ❑ **Reply ASAP**
- ❑ **Please comment**
- ❑ **Please Review**
- ❑ **For your Information**

Total pages, including cover:

Comments:

Cleaning/Maintenance Bid

PREPARED FOR ATTORNEY REVIEW
WORK PRODUCT

Munitor Construction, LLC
Portland, Oregon
CCB 148811

August 12, 2004

To: Mr. Jim Jakubiak
Schnitzer Steel, Inc.
Portland, Oregon

From: Mr. Harley Meservey
Munitor Construction, LLC
Portland, Oregon

Re. Storm Water System Maintenance
Schnitzer Steel
Portland, Oregon
Project #426

Mr. Jim Jakubiak:

Munitor Construction, LLC (Munitor) is pleased to present this cost estimate for Storm Water System Maintenance. Below is a scope of work, cost estimate, and assumptions.

Scope of Work-Option 1 Cleaning and top 2" sand removal
Munitor understands that Schnitzer Steel is requesting the following work be performed at subject site:

- Clean the following systems-remove only top portion of sand
  - Outfall #3 Sandfilter
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  - Outfall #6 Sandfilter
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  - Oil/Water Seperator at former outfall #7
  - Oil/Water Seperator at outfall #13 and #15
  - Site catch basins (approximately 175)
  - Clean Stormwater Management units and replace filters.

Cost Estimate-Option 1
Munitor Construction is providing the following bid for the project.
Estimate

Item	Qty	Unit	Rate	Total
Clean Sandfilter #3	1	LS	$4175.00	$4175.00
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Clean Sandfilter #5	1	LS	$5300.00	$5300.00
Clean Sandfilter #6	1	LS	$4830.00	$4830.00
Oil/Water Seperators at outfall #1, #14, #16	1	LS	$5665.00	$5665.00
Oil/Water Seperator at former outfall #7	1	LS	$1420.00	$1420.00
Oil/Water Seperator at outfall #13 and #15	1	LS	$3770.00	$3770.00
			Total	$29335.00

Scope of Work-Option 2 Cleaning with complete sand removal
Munitor understands that Schnitzer Steel is requesting the following work be performed at subject site:

- Clean the following systems-remove and replace sand
  - Outfall #3 Sandfilter
  - Outfall #4 Sandfilter
  - Outfall #5 Sandfilter
  - Outfall #6 Sandfilter
  - Oil/Water Seperators at outfall #1, #14, #16
  - Oil/Water Seperator at former outfall #7
  - Oil/Water Seperator at outfall #13 and #15
  - Includes Jet rodding lines to outfall from sand filters

Munitor Construction, LLC
Portland, Oregon
CCB 148811

- Replace filter fabric and piping in sand filters
- Sand replacement and removal

Cost Estimate-Option 2

Munitor Construction is providing the following bid for the project.

Estimate

Item	Qty	Unit	Rate	Total
Clean Sandfilter #3	1	LS	$7440.00	$7440.00
Clean Sandfilter #4	1	LS	$9290.00	$9290.00
Clean Sandfilter #5	1	LS	$17110.00	$17110.00
Clean Sandfilter #6	1	LS	$8215.00	$8215.00
Oil/Water Seperators at outfall #1, #14, #16	1	LS	$5665.00	$5665.00
Oil/Water Seperator at former outfall #7	1	LS	$1420.00	$1420.00
Oil/Water Seperator at outfall #13 and #15	1	LS	$8770.00	$8770.00
			Total	$52910.00

Assumptions

The following assumptions have been made in the development of this bid.

- Work will not be performed during rain events.
- All liquids removed will be dumped onsite and water treatment system and sand disposal with auto fluff.

Munitor would like to thank you for the opportunity to provide services to you. If you have any questions or would like to schedule work please contact me anytime at (503) 702-6542. We look forward to providing professional services to you and any future needs.

Regards,

Harley Meservey

Harley Meservey
President

STORMWATER MANAGEMENT INC.

July 6, 2004

Jim Jakubiak
Schnitzer Steel Industries
P.O. Box 10047
Portland, OR 97296

RE: SUCCESSFUL COMPLETION OF THE SCHNITZER STEEL - PORT TERMINAL 4 SERIAL #: 2925.01STORMWATER TREATMENT SYSTEM MAINTENANCE.

Dear Mr. Jakubiak :

We are writing to notify you that maintenance activities for your StormFilter(s) have been successfully completed for the 2004 season. The system was maintained as needed. We have notified Port of Portland, the stormwater-regulating agency in your area on your behalf. Keep this letter for your records in case you are contacted by any other regional agencies.

We appreciate your recognition that maintenance is critical in order for stormwater treatment systems to function properly and protect the environment. We also appreciate your use of Stormwater Management to ensure that the scheduled maintenance was carried out in a proper, timely, and safe manner.

Once again, thank you for your business. We look forward to helping you meet your stormwater needs in the future. Please call (503) 240-3393 if you have any questions or concerns.

Sincerely,

Matthew L. Stiller
Director of Operations

12021-B NE Airport Way, Portland, OR 97220 T 800.548.4667 F 800.561.1271 W stormwaterinc.com

Certificate of Compliance

This certifies that the

Schnitzer Steel - Port Terminal 4

StormFilter was maintained on

5/11/2004

And complies with the original system design standards
By Stormwater Management Inc.

Matthew L. Stiller
Director of Operations

SCHN00239711

STORMWATER MANAGEMENT INC.

July 6, 2004

Jim Jakubiak
Schnitzer Steel Industries
P O Box 10047
Portland, OR 97296

RE: SUCCESSFUL COMPLETION OF THE SCHNITZER STEEL - TERMINAL 4 - PHASE II SERIAL #: 3983.01STORMWATER TREATMENT SYSTEM MAINTENANCE.

Dear Mr. Jakubiak:

We are writing to notify you that maintenance activities for your StormFilter(s) have been successfully completed for the 2004 season. The system was maintained as needed. We have notified City, the stormwater-regulating agency in your area on your behalf. Keep this letter for your records in case you are contacted by any other regional agencies.

We appreciate your recognition that maintenance is critical in order for stormwater treatment systems to function properly and protect the environment. We also appreciate your use of Stormwater Management to ensure that the scheduled maintenance was carried out in a proper, timely, and safe manner.

Once again, thank you for your business. We look forward to helping you meet your stormwater needs in the future. Please call (503) 240-3393 if you have any questions or concerns.

Sincerely,

Matthew L. Stiller
Director of Operations

12021-B NE Airport Way, Portland, OR 97220 T 800.548.4667 F 800.561.1271 W stormwaterinc.com

Certificate of Compliance

This certifies that the

Schnitzer Steel - Terminal 4 - Phase II

StormFilter was maintained on

5/11/2004

And complies with the original system design standards
By Stormwater Management Inc.

Matthew L. Stiller
Director of Operations

SCHN00239713

STORMWATER MANAGEMENT INC.

July 6, 2004

Jim Jakubiak
Schnitzer Steel Industries
P.O. Box 10047
Portland, OR 97296-0047

RE: SUCCESSFUL COMPLETION OF THE SCHNITZER STEEL - GRANTS PASS SERIAL #: 3087.01 STORMWATER TREATMENT SYSTEM MAINTENANCE.

Dear Mr. Jakubiak:

We are writing to notify you that maintenance activities for your StormFilter(s) have been successfully completed for the 2004 season. The system was maintained as needed. We have notified , the stormwater-regulating agency in your area on your behalf. Keep this letter for your records in case you are contacted by any other regional agencies.

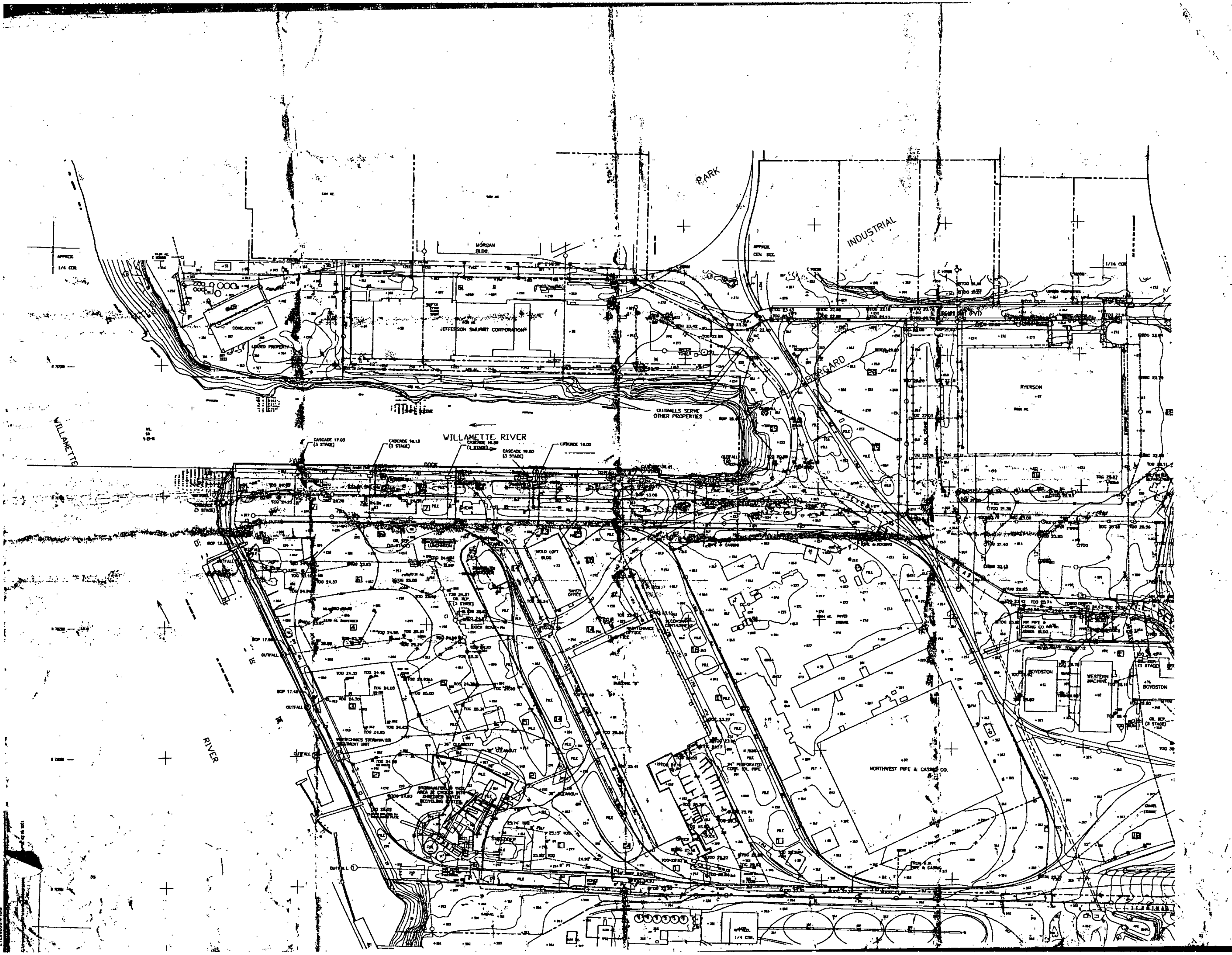
We appreciate your recognition that maintenance is critical in order for stormwater treatment systems to function properly and protect the environment. We also appreciate your use of Stormwater Management to ensure that the scheduled maintenance was carried out in a proper, timely, and safe manner.

Once again, thank you for your business. We look forward to helping you meet your stormwater needs in the future. Please call (503) 240-3393 if you have any questions or concerns.

Sincerely,

Matthew L. Stiller
Director of Operations

12021-B NE Airport Way, Portland, OR 97220 T 800.548.4667 F 800.561.1271 W stormwaterinc.com



SCHN00229717

Oversize Document Reduced for Production Purposes. Full-size Available Upon Request

PACIFIC NORTHERN ENVIRONMENTAL CORP. PNE

PNE CORP.

GENERAL CONTRACTOR
Environmental Services
Design & Layout Services
Tank & Line Testing

CCS, INC. (Division of PNE Corp.)

Industrial Cleaning Services
Commercial Sweeping Services
Land/Marine Emergency Spill Response
JONCO Portable Sanitation Services
Hazardous Waste Disposal Services

COWLITZ CLEAN SWEEP, INC. CCS DIVISION OF PNE CORP.

PNE Corp Office:	1081 Columbia Blvd. * Longview, WA 98632	(360) 423-2245	Fax: (360) 423-2272
PNE Sales Office:	9420 NW ST. Helens Road * Portland, OR 97231	(503) 247-3437	Fax: (503) 247-1002
PNE/CCS Annex:	1030 Columbia Blvd. * Longview, WA 98632	(360) 423-7838	Fax: (360) 578-3944
CCS Operations:	55 International Way * Longview, WA 98632	(360) 423-6316	Fax: (360) 423-3409

Visit our Website at: www.pnecorp.com

Fax

To:	Jim Jakubik	From:	Barney Hoyt
Fax:	503-286-6978	Pages:	2
Phone:	503-286-6976	Date:	9-10-01
Re:	Storm Drain Cleaning	CC:	

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

Comments:

Jim I'll be on vacation for the rest of the week. I'll be back monday 17th of Sept. If you need this job done before then just call the shop and schedule. I'll take care of the billing when I get back.

SCHN00239722

9-11-01

To: Schnitzer Steel
12005 North Burgard Rd
Portland, Or. 97203

Attn: Jim Jakubiak
Phone: 1-503-286-6976
Fax: 1-503-286-6948

Re: Cleaning Storm Drain Lines

Jim,

As per our conversation and my foreman's meeting with you on the storm drain issue, Cowlitz Clean Sweep is pleased to submit the following cost for man hours and truck time.

From the information I have gathered this task should take approximately 1 week.

I'm prepared to give you a set price for the truck and operator and one tech. Please keep in mind this truck is a brand new machine and should complete the job in a quicker time than your accustomed too.

$125.00 9/17/01 Barney

The hourly price for everything will be ~~$150.00~~ per hour.

Also keep in mind I will not charge you any overtime and only 1-hour mobe and demobe per day.

Thank you for letting CCS be of assistance in your contracting needs. If you have any questions feel free to call me anytime at 888-423-6316

Respectively,

Barney Hoyt
Manager CCS INC.

MEMORANDUM

TRT ENGINEERING, INC.
2636 SE Market St Portland, Oregon 97214 (503) 235-7592 Fax (503) 235-7593

TO: Steve Robinson
Pacific Underground Installations

DATE: 8/29/01

FROM: Tim Turner

SUBJECT: Schnitzer Steel, Stormwater Source Control Improvements

CC: Jim Jakubiak, Schnitzer Steel

Based on a site visit August 28, 2001 following is a list of work items to be completed for the project to be considered final.

1. Replace broken ladder in southern-most access manhole of Basin 3 arch pipe assembly.
2. Permanently attached filter fabric energy dissipaters to weir plate and sidewall of all three arch pipe assemblies, or install riprap rock per original design drawings.
3. Install 12" plug in horizontal cleanout of high-flow bypass assembly in Basin 3 and 4 flow control manholes.
4. Install cap on cleanout pipe in Basin 4 arch pipe assembly
5. Locate and clean existing catch basin inlet located adjacent to new 12" storm pipe (approximately one-half way between MH #1 and 3. This inlet was buried during nearby trench excavation
6. Complete asphalt pavement sealing
7. Remove waste materials and equipment

Please contact me when these work items are complete and I will make a final inspection. Call me at (503) 235-7592 if you have any questions.

C:\drawings\schnitzr\stormwater\Pacific.dot

PACIFIC UNDERGROUND INSTALLATIONS INC.

July 25, 2001 | Billing # 2

Schnitzer Steel Industries Inc.
P O Box 10047
Portland, Oregon 97296-0047

Period: 7-1-01 to 7-31-01

ATTN: Mr. James Jakubiak

PROJECT: Stormwater Source Control Project
Burgard Yards, Portland, Oregon

Contract Amount		$ 160,000.00
Approved Change Orders:		
Change Order #1	$3900.00	
Total Change Orders		3,900.00
Total Contract plus Change Orders		$ 163,900.00
Amount completed to date		163,900.00
Less previous gross application for payment		78,400.00
SUB TOTAL		$ 85,400.00
LESS 10% Retainage		8,540.00
Total amount due this request		$ 76,860.00

Pay This Amount!

Approved: James F Jakubiak 9/14/01
Site: SSI-IT
Project: Stormwater Source Control Project
AFE: No. 1099 2041

* Please pay immediately.
JJ

4544 N.E.102nd • PORTLAND, OREGON 97220 • 503 - 255-5368

SCHN00239745

PACIFIC
UNDERGROUND INSTALLATIONS INC.

August 9, 2001 INV: 01 - 0892

Schnitzer Steel Industries Inc.
P O Box 10047
Portland, Oregon 97296-0047

ATTN: Mr. James Jakubiak

PROJECT: Stormwater Source Control
Burgard Yards, Portland, Oregon

Time and Material: Dig up and remove existing oil/water separater, backfill with sand

LABOR	$ 120.00	$ 120.00
EQUPMENT	$ 250.00	$ 250.00

Total.....$ 370.00

Pay this Amount
Please pay immediately.
JJ

Approved: James J Jakubiak 9/14/01
Site: SSI-IT
Project: Stormwater Source Control Project
AFE: No. 10992041

4544 N.E.102nd • PORTLAND, OREGON 97220 • 503 - 255-5368

COMPANY NAME SCHNITZER STEEL INDUSTRIES INC.

JOB LOCATION BURGARD YARDS

P.O. #

JOB TYPE ~~TIME AND MATERIAL: Dig up and remove~~ existing oil/water separater, backfill with sand

PACIFIC UNDERGROUND INSTALLATIONS INC.

WEEK ENDING

NAME		7-12-01					
~~4Man/Operator~~	~~40.00~~	~~2~~					
~~Laborer~~	~~20.00~~	~~2~~					
EQUIPMENT USED							
Excavator 200	110.00	2					
Excavator							
Backhoe							
Backhoe							
Dozer							
Dozer							
Dumptruck	30.00	1					
Dumptruck							
Cut Off Saw							
Dump Fees							
Move In & Out							
MATERIALS							
Screenings							
Gravel							
Pipe							
Fittings							

PACIFIC UNDERGROUND INSTALLATIONS INC.

August 9, 2001 INV: 01 - 0893

Schnitzer Steel Industries Inc.
P O Box 10047
Portland, Oregon 97296-0047

ATTN: Mr. James Jakubiak

PROJECT: Stormwater Source Control
Burgard Yards, Portland, Oregon

Time and Material: Dug 40 feet looking for tie in, could not locate. Pulled out catch basin to assertain where line was coming into catch basin. Extra excavation due to tie in area on prints different than actual.

LABOR	$ 382.50	$ 382.50
EQUPMENT	$ 335.00	$ 335.00

Total.....$ 717.50

Pay this Amount.

Please pay immediately.
99

Approved: James J Jakubiak 9/14/01
Site: SSI-IT
Project: Stormwater Source Control Project
AFE: No. 10992041

4544 N.E.102nd • PORTLAND, OREGON 97220 • 503 - 255-5368

SCHN00239748

COMPANY NAME SCHNITZER STEEL INDUSTRIES INC.

JOB LOCATION BURGARD YARDS

P.O. #

JOB TYPE TIME AND MATERIAL: Per Mr. Jakubiak and Tim keep looking for tie in, could not locate.

PACIFIC UNDERGROUND INSTALLATIONS INC.

WEEK ENDING

NAME		6-29-01	7-3-01				
4Man/Oper	40.00	2.5	2				
Utility/Pipelayer	25.00	2.5	2				
Laborer	20.00	1.5	3				
EQUIPMENT USED							
Excavator 200	110.00	2.5					
Excavator							
Backhoe 416	60.00		2				
Backhoe							
Dozer							
Dozer							
Dumptruck							
Dumptruck							
Cut Off Saw							
Dump Fees							
Move In & Out							
MATERIALS							
Screenings							
Gravel							
Pipe							
Fittings							

SCHNITZER STEEL INDUSTRIES, INC.

12005 N Burgard Road, Portland, Oregon 97203
P.O. Box 10047, Portland, Oregon 97296-0047
(503) 224-9900 FAX (503) 286-6948

August 26, 2002

Ken Carlson, Plumbing Division Supervisor
City of Portland
Bureau of Buildings
1900 SW 4th Ave
Portland, OR 97201-5350

Re: Stormwater Source Control
Outfall 1 Upgrade
File No. 02-137399-000-00-PT

Dear Mr. Carlson:

The purpose of this letter is to confirm with the city of Portland, Bureau of Plumbing ("City") that Schnitzer Steel Industries, Inc. ("Schnitzer") has been notified by the City that construction of the lift station and force main piping associated with the subject project has been approved by the City as a variance to the standard requirements of the Uniform Plumbing Code. Schnitzer is accepting responsibility for the long-term maintenance and repair of the associated pump assembly, controls, and force main piping for as long as we own the property.

Please contact me at (503) 286-6976 if you have any questions on this project.

Sincerely,

SCHNITZER STEEL INDUSTRIES, INC.

Jim Jakubiak
Environmental Administrator

Accord
Construction and Environmental, Inc.
PO Box 301488, Portland, OR 97294 Tel:503-251-8557 Fax:503-251-2628

FAX Cover Sheet

To: TRT - Tim

Fax No.: 2357593

From:

Date:

There are _____ pages in this transmittal including the cover sheet.

Notes:

concrete pad?
How much?

PNE will
bring theirs
today

Accord
Construction and Environmental, Inc.

P.O. Box 301488, Portland, OR 97294 Tel: 503-251-8557 Fax: 503-251-2628

September 23, 2002

Mr. Mathew Cusma
Schnitzer Steel Industries, Inc.
3200 NW Yeon
PO Box 10047
Portland, OR 97296-0047

Dear Matt,

Accord Construction and Environmental, Inc., is pleased to submit this proposal for the stormwater source control improvements , Outfall 7.

The following items are assumptions are included in our bid:

The 26-inch steel pipe is assumed to be cleaned in 20 man-hours or less; and
No extensive dewatering is required for installation activities.

The price to perform the construction services is $87,089.

Please give me a call if you wish to discuss our bid in further detail.

Sincerely,

Don Coiteux

CHECK REQUEST FORM

VENDOR NO. _____ BANK _____ COMPANY SSP

ISSUE CHECK TO: Oregon Culvert Co., Inc.

INVOICE NO. 54-5167-00 DESCRIPTION See attached "acknowledgement"

DATE 9/23/02

AMOUNT $ 16,019.60

DUE DATE 9/25/02

COMMENTS Need check Wednesday afternoon (9/25/02).

SIGNATURES

PREPARED BY James F Gehlich

AUTHORIZATION Tom Zilenka

AUTHORIZATION _____

G/L DISTRIBUTION

DESCRIPTION	ACCOUNT NO	AMOUNT
	___-___-___-___-___-___	$___,___,___.__
	___-___-___-___-___-___	$___,___,___.__
	___-___-___-___-___-___	$___,___,___.__
	___-___-___-___-___-___	$___,___,___.__
	___-___-___-___-___-___	$___,___,___.__

CHECK AMOUNT _____

SPECIAL HANDLING INSTRUCTIONS Inter-office mail to Jim Jakubiak @ IT Wednesday afternoon (9/25/02). Thanks.

REV. 1/90

SCHN00239780

Washington Culvert Co.
&
Oregon Culvert Co., Inc.

ACKNOWLEDGEMENT

09/13/2002

SALE NO.	REV. NO.	SALES DATE	BUYER'S NUMBER	BUYER'S DATE	SHIP FROM	DATE WANTED	PAGE NO.
54-5167-00	0	09/11/2002	TIM TURNER	09/11/2002 Hillsboro		09/25/2002 DELIVER	1

SOLD TO:
SCHNITZER STEEL INDUSTRIES
3200 N.W. YEON
PORTLAND, OR 97210

SHIP TO:
SCHNITZER STEEL INDUSTRIES
C/O OUTFALL 7
NORTH BURGARD, ST. JOHNS, DRIVER
TO PICK UP CHECK FOR $16,019.60
N. PORTLAND, OR 97203

Order Copy

EST. SHIP DATE	PLANT ORDER NO.
/ /	74-7285-00

36 051

REGION	DIVISION	PLANT	SALES LOCATION	PRODUCT	MARKET	CREDIT CODE	CUSTOMER NO.	PRODUCT CODE
4354	5431	5431	5431	WDP	14K	W 3	95-10000	TRUCK

ORIGIN, FREIGHT PREPAID

TERMS
CASH SALE

INTEREST CHARGED ON OVERDUE INVOICES AT 18% PER ANNUM OR AT THE LEGAL RATE IF THAT IS LESS THAN 18%. ITEMIZED TRANSPORTATION AND SALES TAX ARE NOT SUBJECT TO CASH DISCOUNT.

THIS ACKNOWLEDGEMENT CONTAINS THE ENTIRE AGREEMENT WITH RESPECT TO THE PURCHASE AND SALE OF THE PRODUCTS REFERENCED HEREIN. ANY TERMS AND CONDITIONS SET FORTH ON THE FRONT SIDE AND REVERSE SIDE OF THIS ACKNOWLEDGEMENT ARE DIFFERENT FROM OR IN ADDITION TO THE TERMS AND CONDITIONS SET FORTH ON THE FRONT SIDE AND REVERSE SIDE OF THIS ACKNOWLEDGEMENT UNLESS TIMELY NOTICE TO THE CONTRARY IS RECEIVED BY SELLER. THE PRODUCTS HEREIN DESCRIBED WILL BE MANUFACTURED AND DELIVERED IN ACCORDANCE HEREWITH IN RECIPROCATION FOR YOUR ACCEPTANCE OF SUCH TERMS. THE MATERIALS MANUFACTURED PURSUANT TO THIS BARE CHAR ORDER OR THIS ORDER HAS BEEN ENTERED FOR FABRICATION BY WHICH BUYER ADMITS NO MODIFICATION OR CHANGE FOR ANY REASON WITHOUT PRIOR WRITTEN CONSENT OF THE REGIONAL SALES OFFICE AND THE DETERMINATION OF ANY CANCELLATION CHARGES. ITEMS SHIPPED MATERIAL CANNOT BE RETURNED FOR CREDIT UNLESS

SALES TAX ☐ YES. IF NOT SHOW EXEMPTION OR REASON
NO. NO OREGON TAX
21-RESALE

ITEM	DESCRIPTION	PIECES	WEIGHT		PRICE	AMOUNT
188 001	**H/C PIPE 3 x 1 AL T2 LS 10GA 114" 25.00FT** ARCHED(137x87), *WITH END CAP, BAFFLES, RISERS AND LADDERS,* *MARK A, PER DRAWING*	1	4917	1.00	7,727.400	7,727.40
188 002	**H/C PIPE 3 x 1 AL T2 LS 10GA 114" 20.00FT** ARCHED(137x87), *MARK B*	1	3934	1.00	3,105.400	3,105.40
188 003	**H/C PIPE 3 x 1 AL T2 LS 10GA 114" 20.00FT** ARCHED(137x87), *WITH END CAP, STUB, RISER AND LADDER, MARK C*	1	3934	1.00	4,410.440	4,410.44
188 004	**CSP BD 24"DIMPLE AL T2 14GA 114" 3PC** ARCHED(137x87),w/24" TECHCO WD,	2	314	2.00	388.180	776.36
188 005	**BAND ACC FLAT GASKET 114" 24"WIDE** *1" THICK*	2	10	2.00	Included	
188 005A	**BAND ACC OTHER TYLOX LUBRICANT GAL.**	2	18	2.00	Included	
		Total Weight	13,125 lbs.		Sub-Total	16,019.60
					Total Amount	16,019.60

OK Tom Zplank

SCHN00239781

CONDITIONS OF SALE

1. ACCEPTANCE. This quotation is an offer to sell to potential customer(s). BUYER'S RIGHT TO ACCEPT THIS OFFER IS LIMITED TO BUYER'S ASSENT TO THE TERMS AND CONDITIONS PRINTED HEREON, AND NO TERMS ADDITIONAL TO OR DIFFERENT FROM THOSE IN THIS OFFER ARE BINDING ON SELLER UNLESS AGREED TO IN WRITING BY SELLER. THERE ARE NO UNDERSTANDINGS, TERMS, CONDITIONS OR WARRANTIES NOT FULLY EXPRESSED HEREIN.

2. LIMITED WARRANTIES. Seller warrants that it can convey good title to the goods sold under this contract and that they are free of liens and encumbrances. Seller also warrants that the goods sold under this contract are free from defects in material and workmanship for a period of one year after the date of delivery There are no warranties, express or implied with respect to products sold hereunder which are misused, abused, or operated on mechanical equipment improperly designed or maintained or which are used, supplied for use or made available for use in any nuclear application of which Seller has not been notified in writing by Buyer at the time of order for the products sold hereunder. SELLER MAKES NO OTHER WARRANTY WHATSOEVER, EXPRESS OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE ARE DISCLAIMED BY SELLER AND EXCLUDED FROM THIS CONTRACT.

3. LIMITATION OF BUYER'S REMEDIES AND SELLER'S LIABILITY. Seller's liability hereunder shall be limited to the obligation to repair or replace only those products proven to have been defective in material or workmanship at the time of delivery, or allow credit therefor, at its option. Seller's total cumulative liability in any way arising from or pertaining to any product sold or required to be sold under this contract shall NOT in any case exceed the purchase price paid by Buyer for such product. IN NO EVENT SHALL SELLER HAVE ANY LIABILITY FOR COMMERCIAL LOSS, LOST PROFITS, CLAIMS FOR LABOR, OR CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY TYPE, WHETHER BUYER'S CLAIM BE BASED IN CONTRACT, TORT, WARRANTY, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE. IT IS EXPRESSLY AGREED THAT BUYER'S REMEDIES EXPRESSED IN THIS PARAGRAPH ARE BUYER'S SOLE AND EXCLUSIVE REMEDIES.

4. LIMITATION OF BUYER'S REMEDIES AND SELLER'S LIABILITY FOR FAILURE OR DELAY IN DELIVERY. NO DELIVERY DATES ARE GUARANTEED. BUYER'S SOLE AND EXCLUSIVE REMEDIES AND SELLER'S ONLY LIABILITY FOR ANY DELAY IN DELIVERY SHALL BE LIMITED AS SET FORTH IN PARAGRAPH 3 OF THIS CONTRACT.

5. FORCE MAJEURE. In any event and in addition to all other limitations stated herein, Seller shall not be liable for any act, omission, result or consequence, including but not limited to any delay in delivery or performance, which is (i) due to any act of God, the performance of any government order, any order bearing priority rating or order placed under any allocation program (mandatory or voluntary) established pursuant to law, local labor shortage, fire, flood or other casualty, governmental regulation or requirement shortage or failure of raw material, supply, fuel, power or transportation, breakdown of equipment, or any cause beyond Seller's reasonable control whether of similar or dissimilar nature to those above enumerated, or (ii) due to any strike, labor dispute, or difference with workers, regardless of whether or not Seller is capable of settling any such labor problem.

6. BUYER'S OBLIGATION TO PASS ON LIMITATION OF WARRANTIES AND REMEDIES. In order to protect Seller against claims by Buyer's buyer, if Buyer resells any of the goods purchased under this agreement, Buyer shall include the language contained in paragraphs 2 and 3 of this agreement, dealing with Seller's limitations of warranties and remedies, in an enforceable agreement with Buyer's buyer, or otherwise include language in an enforceable agreement with its buyer that makes Seller's limitation of warranties and remedies binding on its buyer. Buyer shall also include a provision in its agreement with its buyer applying Ohio law to any claims its buyer might assert against Seller with respect to goods manufactured by Seller, and requiring its buyer to bring any such action against Seller either in federal district court in Cincinnati, Ohio or the common pleas court for Butler County, Ohio. Buyer shall defend, indemnify and hold Seller harmless from any and all claims, causes of action, damages, losses or expenses (including reasonable attorneys fees) that Seller incurs by reason of Buyer's failure to comply with this paragraph.

7. PASSAGE OF TITLE. Title to the products sold hereunder shall pass upon delivery to the carrier at the point of shipment. Neither Buyer nor the consignee shall have the right to divert or reconsign such shipment to any destination other than specified in the bill of lading without permission of the Seller. Unless otherwise agreed Seller reserves the right to select the mode of transportation.

8. PAYMENTS AND LATE CHARGES ON PAST DUE ACCOUNTS. Buyer represents that Buyer is solvent and can and will pay for the products sold to Buyer in accordance with the terms hereof. If Buyer shall fail to comply with any provision or to make payments in accordance with the terms of this contract or any other contract between Buyer and Seller, Seller may at its option defer shipments or, without waiving any other rights it may have, terminate this contract. All deliveries shall be subject to the approval of Seller's Credit Department. Seller reserves the right, before making any delivery, to require payment in cash or security for payment, and if Buyer fails to comply with such requirement, Seller may terminate this contract. A late charge of 1-1/2% monthly (18% annual rate) or the maximum allowed by state law, if less, will be imposed on all past due accounts.

9. TRANSPORTATION CHARGES. Delivered prices or prices involving competitive transportation adjustments shall be subject to appropriate adjustment to reflect changes in transportation charges.

10. CLAIMS BY BUYER. Buyer shall thoroughly inspect products sold under this contract immediately upon receipt to verify for itself that they conform to the specifications of the contract. Buyer must notify Seller of claims for failure or delay in delivery within 30 days after the scheduled delivery date. Buyer must notify Seller of any claims for nonconforming or defective goods within 30 days after the nonconformity or defect was or should have been discovered. In addition, Seller must be given an opportunity to investigate the claim before Buyer disposes of the material, or else Buyer's claim will be barred. Seller shall incur no liability for damage, shortages, or other cause alleged to have occurred or existed at or prior to delivery to the carrier unless Buyer shall have entered full details thereof on its receipt to the carrier.

11. MECHANICAL PROPERTIES; CHEMICAL ANALYSES. Data referring to mechanical properties or chemical analyses are the result of tests performed on specimens obtained from specific locations of the product(s) in accordance with prescribed sampling procedures; any warranty thereof is limited to the values obtained at such locations and by such procedures. There is no warranty with respect to values of the materials at other locations.

12. PATENTS. Seller shall indemnify Buyer against attorneys' fees and any damages or costs awarded against Buyer in the event any legal proceeding is brought against Buyer by a third person claiming the material delivered hereunder in itself constitutes an infringement of any U.S. patent, provided Buyer gives Seller prompt notice of any such suit being brought, gives Seller the opportunity to defend any such suit, and cooperates with Seller with respect to any such defense; unless the material is made in accordance with material designs, or specifications required by Buyer, in which case Buyer shall similarly indemnify Seller.

13. PERMISSIBLE VARIATIONS. The products sold hereunder shall be subject to Sellers standard manufacturing variations, tolerances and classifications.

14. TECHNICAL ADVICE. Buyer represents that it has made its own independent determination that the products it is purchasing under this contract meet the design requirements of Buyer's project and are suitable for Buyer's intended application. Buyer further represents that it has not relied in any respect on any written or oral statements or advice from Seller, other than the standard product specifications set forth in the most recent edition of Seller's published product brochures, in making that determination. Provided that the products purchased under this contract meet Seller's published specifications.

15. TAXES. If this proposal includes furnishing labor to assemble products, applicable use taxes have been included in the prices quoted. However, no other tax imposed in respect of the sale of the products sold hereunder is included in any quotation by seller. Any such tax shall be added and paid by Buyer as part of the purchase price.

16. BUYER'S RIGHT OF TERMINATION. Buyer may terminate this contract in whole or in part upon notice in writing to Seller. Seller shall thereupon cease work and transfer to Buyer title all completed and partially completed products and to any raw materials or supplies acquired by Seller especially for the purpose of performing this contract, and Buyer shall pay Seller the sum of the following: (1) the contract price for all products which have been completed prior to termination; (2) the cost to Seller of the material or work in process as shown on the books of Seller in accordance with the accounting practice consistently maintained by Seller plus a reasonable profit thereon, but in no event more than the contract price; (3) the cost f.o.b. Seller's plant of materials and supplies acquired especially for the purpose of performing this contract; and (4) reasonable cancellation charges, if any, paid by Seller on account of any commitment(s) made hereunder.

17. SELLER'S RIGHT OF TERMINATION. In addition to the other rights of termination provided for in this contract, and if this contract is made pursuant to any governmental rule or regulation, plan, order or other directive, upon the termination thereof Seller shall have the option of canceling this contract in whole or in part.

18. WAIVER. Failure or inability of either party to enforce any right hereunder shall not waive any right in respect to any other or future rights or occurrences.

19. DELIVERY. Unless otherwise agreed to in writing by the Seller, the Buyer hereby agrees to take delivery of the materials on this order within the later of thirty (30) days after the wanted date shown on the face of the order or within thirty (30) days after notification, oral or written, that the materials are ready for shipment. In the event that the Buyer does not arrange to take delivery of the materials in accordance with this Contract, Seller, at Seller's option, may:

(a) invoice the Buyer for the materials, less freight if applicable; store the material in Seller's yard for a period not to exceed sixty (60) days from the date of the invoice; charge a storage fee not to exceed 5% per month or fraction thereof of the selling price of the stored materials; add any applicable price increases listed on the face of the order; charge for any repair work to protective coatings harmed by weathering while such material is being stored; and charge applicable freight when shipment to the Buyer is made. Materials remaining in storage after sixty (60) days from the invoice date shall become the property of the Seller for disposition at the Seller's discretion. In that event, Buyer shall not be liable for the invoice price of the materials, but shall be liable for the storage fee and any repair work to protective coatings; or

(b) cancel the order and invoice the Buyer for cancellation charges, which shall be 25% of the selling price of the materials if the materials are standard, in-stock material, or the full selling price if the materials are special or nonstandard in nature and were especially fabricated for the Buyer.

20. PERIOD OF LIMITATIONS. Buyer and Seller agree that any action by Buyer against Seller for a breach of this contract, including any action for breach of warranty, or otherwise in connection with the goods sold under this contract, must be commenced by Buyer against Seller within one year after the cause of action therefor accrues.

21. CONFLICTING PROVISIONS OFFERED BY BUYER. Any terms and conditions of any purchase order or other instrument issued by the Buyer, in connection with the subject matter of this document, which are in addition to or inconsistent with the terms and conditions expressed herein, will not be binding on Seller in any manner whatsoever unless accepted by Seller in writing.

22. SEVERABILITY. In case any provision of this contract shall be declared invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired.

23. APPLICABLE LAW. This contract shall be governed by, and construed and enforced in accordance with, the laws of the State of Ohio. Buyer and Seller specifically agree that any legal action brought relating to this contract will be brought and tried in the federal district court in Cincinnati, Ohio, or, in the absence of jurisdiction, the Butler County Court of Common Pleas in Hamilton, Ohio.

Rev. 8/99

OWCP-6255-L

SCHN00239782

Washington Culvert Co.
&
Oregon Culvert Co., Inc.

ACKNOWLEDGEMENT

09/13/2002

SALE NO.	REVISION	ORDER DATE	BUYER'S NUMBER	BUYER'S DATE	SHIP FROM	DATE WANTED		PAGE NO.
54-5167-00	0	09/11/2002	TIM TURNER	09/11/2002	Hillsboro	09/25/2002	DELIVER	2

SOLD TO:
SCHNITZER STEEL INDUSTRIES
3200 N.W. YEON
PORTLAND, OR 97210

SHIP TO:
SCHNITZER STEEL INDUSTRIES
C/O OUTFALL 7
NORTH BURGARD, ST. JOHNS, DRIVER
TO PICK UP CHECK FOR $16,019.60
N. PORTLAND, OR 97203

Order Copy

EST. SHIP DATE	PLANT ORDER NO.
/ /	74-7285-00

36 051

PLANT	DIVISION	SELLING	SPECIFICATIONS	PRICING	MARKET	CREDIT CODE	CUSTOMER NO.	MODE OF SHIP
4354	5431	5431	5431	WDP	14K	W 3	95-10000	TRUCK

ORIGIN, FREIGHT PREPAID

TERMS
CASH SALE

INTEREST CHARGED ON OVERDUE INVOICES AT 18% PER ANNUM OR AT THE LEGAL RATE IF THAT IS LESS THAN 18%. ITEMIZED TRANSPORTATION AND SALES TAX ARE NOT SUBJECT TO CASH DISCOUNT.

THIS ACKNOWLEDGEMENT CONTAINS THE PARTIES' ENTIRE AGREEMENT WITH RESPECT TO THE PURCHASE AND SALE OF THE PRODUCTS DESCRIBED HEREON AND WITH THE EXPRESS CONDITIONS OF CONTRACT DOCUMENTS SUPERSEDES ALL PREVIOUS COMMUNICATIONS. BUYER AGREES INTO SELL THE PRODUCTS DESCRIBED HEREON UPON THE EXPRESS CONDITIONS BUYER'S ASSENT TO THE CONDITIONS DESCRIBE, INCLUDING THOSE BELOW AND ON THE REVERSE SIDE, AND BUYER'S REMEDIES AND RESTRICTIONS OF LIABILITY THAT APPEAR ON THE REVERSE SIDE OF THIS FORM. DELIVERY, ACCEPTANCE OR DELIVERY OF THE PRODUCTS DESCRIBED HEREON SHALL BE DEEMED AN ACCEPTANCE OF THESE TERMS AND CONDITIONS. SELLER EXPRESSLY REJECTS ANY TERMS AND CONDITIONS THAT ARE DIFFERENT FROM OR IN ADDITION TO THE TERMS AND CONDITIONS SET FORTH ON THE FRONT SIDE AND REVERSE SIDE OF THIS ACKNOWLEDGEMENT UNLESS TIMELY NOTICE TO THE CONTRARY IS RECEIVED BY SELLER. THE PRODUCTS DESCRIBED HEREON WILL BE MANUFACTURED AND DELIVERED ON PRICES STATED HEREWITH IN REPLY AND ON YOUR ACCEPTANCE OF SELLER'S TERMS. THIS MATERIAL IS AVAILABLE FOR DIRECT INSPECTION AT ORDER. ONCE THE ORDER HAS BEEN ENTERED OR THE FABRICATION HAS NOT BEEN SUBJECT TO CANCELLATION. INFORMATION FOR ANY REQUIRED MATERIAL CHANGES OF YOUR ORDER REGIONAL SALES OFFICE AND THE DETERMINATION OF CORRECTION CHARGES, CHANGES NEEDED MATERIAL CANNOT BE RETURNED FOR CREDIT

SALES TAX ☐ YES. IF NOT SHOW EXEMPTION OR REASON
NO. NO OREGON TAX
21-RESALE

ITEM NO.	DESCRIPTION	PIECES	WEIGHT		PRICE	AMOUNT

CUSTOMER CONTACT: 503/235-7590, TIM TURNER

FAX INVOICE IN ADVANCE WEEK OF 9/20/02 TO
ATTN: JIM JAKUBIAK, FAX: 503/286-6948
CHECK WILL BE READY FOR DRIVER TO PICK UP

FOR ANY QUESTIONS OR CHANGES ON THIS ORDER, PLEASE
CALL DALE, CHRIS OR JANE AT (888) 333-9696

PLEASE SEE DRIVER FOR NUTS & BOLTS. PLEASE SIGN
BELOW INDICATING YOU HAVE RECEIVED THEM.
THANK YOU.
CUSTOMER'S SIGNATURE: _____

SCHN00239783

CONDITIONS OF SALE

1. ACCEPTANCE. This quotation is an offer to sell to potential customer(s). BUYER'S RIGHT TO ACCEPT THIS OFFER IS LIMITED TO BUYER'S ASSENT TO THE TERMS AND CONDITIONS PRINTED HEREON, AND NO TERMS ADDITIONAL TO OR DIFFERENT FROM THOSE IN THIS OFFER ARE BINDING ON SELLER UNLESS AGREED TO IN WRITING BY SELLER. THERE ARE NO UNDERSTANDINGS, TERMS, CONDITIONS OR WARRANTIES NOT FULLY EXPRESSED HEREIN.

2. LIMITED WARRANTIES. Seller warrants that it can convey good title to the goods sold under this contract and that they are free of liens and encumbrances. Seller also warrants that the goods sold under this contract are free from defects in material and workmanship for a period of one year after the date of delivery There are no warranties, express or implied with respect to products sold hereunder which are misused, abused, or operated on mechanical equipment improperly designed or maintained or which are used, supplied for use or made available for use in any nuclear application of which Seller has not been notified in writing by Buyer at the time of order for the products sold hereunder. SELLER MAKES NO OTHER WARRANTY WHATSOEVER, EXPRESS OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE ARE DISCLAIMED BY SELLER AND EXCLUDED FROM THIS CONTRACT.

3. LIMITATION OF BUYER'S REMEDIES AND SELLER'S LIABILITY. Seller's liability hereunder shall be limited to the obligation to repair or replace only those products proven to have been defective in material or workmanship at the time of delivery, or allow credit therefor, at its option. Seller's total cumulative liability in any way arising from or pertaining to any product sold or required to be sold under this contract shall NOT in any case exceed the purchase price paid by Buyer for such product. IN NO EVENT SHALL SELLER HAVE ANY LIABILITY FOR COMMERCIAL LOSS, LOST PROFITS, CLAIMS FOR LABOR, OR CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY TYPE, WHETHER BUYER'S CLAIM BE BASED IN CONTRACT, TORT, WARRANTY, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE. IT IS EXPRESSLY AGREED THAT BUYER'S REMEDIES EXPRESSED IN THIS PARAGRAPH ARE BUYER'S SOLE AND EXCLUSIVE REMEDIES.

4. LIMITATION OF BUYER'S REMEDIES AND SELLER'S LIABILITY FOR FAILURE OR DELAY IN DELIVERY. NO DELIVERY DATES ARE GUARANTEED. BUYER'S SOLE AND EXCLUSIVE REMEDIES AND SELLER'S ONLY LIABILITY FOR ANY DELAY IN DELIVERY SHALL BE LIMITED AS SET FORTH IN PARAGRAPH 3 OF THIS CONTRACT.

5. FORCE MAJEURE. In any event and in addition to all other limitations stated herein, Seller shall not be liable for any act, omission, result or consequence, including but not limited to any delay in delivery or performance, which is (i) due to any act of God, the performance of any government order, any order bearing priority rating or order placed under any allocation program (mandatory or voluntary) established pursuant to law, local labor shortage, fire, flood or other casualty, governmental regulation or requirement shortage or failure of raw material, supply, fuel, power or transportation, breakdown of equipment, or any cause beyond Seller's reasonable control whether of similar or dissimilar nature to those above enumerated, or (ii) due to any strike, labor dispute, or difference with workers, regardless of whether or not Seller is capable of settling any such labor problem.

6. BUYER'S OBLIGATION TO PASS ON LIMITATION OF WARRANTIES AND REMEDIES. In order to protect Seller against claims by Buyer's buyer, if Buyer resells any of the goods purchased under this agreement, Buyer shall include the language contained in paragraphs 2 and 3 of this agreement, dealing with Seller's limitations of warranties and remedies, in an enforceable agreement with Buyer's buyer, or otherwise include language in an enforceable agreement with its buyer that makes Seller's limitation of warranties and remedies binding on its buyer. Buyer shall also include a provision in its agreement with its buyer applying Ohio law to any claims its buyer might assert against Seller with respect to goods manufactured by Seller, and requiring its buyer to bring any such action against Seller either in federal district court in Cincinnati, Ohio or the common pleas court for Butler County, Ohio. Buyer shall defend, indemnify and hold Seller harmless from any and all claims, causes of action, damages, losses or expenses (including reasonable attorneys fees) that Seller incurs by reason of Buyer's failure to comply with this paragraph.

7. PASSAGE OF TITLE. Title to the products sold hereunder shall pass upon delivery to the carrier at the point of shipment. Neither Buyer nor the consignee shall have the right to divert or reconsign such shipment to any destination other than specified in the bill of lading without permission of the Seller. Unless otherwise agreed Seller reserves the right to select the mode of transportation.

8. PAYMENTS AND LATE CHARGES ON PAST DUE ACCOUNTS. Buyer represents that Buyer is solvent and can and will pay for the products sold to Buyer in accordance with the terms hereof. If Buyer shall fail to comply with any provision or to make payments in accordance with the terms of this contract or any other contract between Buyer and Seller, Seller may at its option defer shipments or, without waiving any other rights it may have, terminate this contract. All deliveries shall be subject to the approval of Seller's Credit Department. Seller reserves the right, before making any delivery, to require payment in cash or security for payment, and if Buyer fails to comply with such requirement, Seller may terminate this contract. A late charge of 1-1/2% monthly (18% annual rate) or the maximum allowed by state law, if less, will be imposed on all past due accounts.

9. TRANSPORTATION CHARGES. Delivered prices or prices involving competitive transportation adjustments shall be subject to appropriate adjustment to reflect changes in transportation charges.

10. CLAIMS BY BUYER. Buyer shall thoroughly inspect products sold under this contract immediately upon receipt to verify for itself that they conform to the specifications of the contract. Buyer must notify Seller of claims for failure or delay in delivery within 30 days after the scheduled delivery date. Buyer must notify Seller of any claims for nonconforming or defective goods within 30 days after the nonconformity or defect was or should have been discovered. In addition, Seller must be given an opportunity to investigate the claim before Buyer disposes of the material, or else Buyer's claim will be barred. Seller shall incur no liability for damage, shortages, or other cause alleged to have occurred or existed at or prior to delivery to the carrier unless Buyer shall have entered full details thereof on its receipt to the carrier.

11. MECHANICAL PROPERTIES; CHEMICAL ANALYSES. Data referring to mechanical properties or chemical analyses are the result of tests performed on specimens obtained from specific locations of the product(s) in accordance with prescribed sampling procedures; any warranty thereof is limited to the values obtained at such locations and by such procedures. There is no warranty with respect to values of the materials at other locations.

12. PATENTS. Seller shall indemnify Buyer against attorneys' fees and any damages or costs awarded against Buyer in the event any legal proceeding is brought against Buyer by a third person claiming the material delivered hereunder in itself constitutes an infringement of any U.S. patent, provided Buyer gives Seller prompt notice of any such suit being brought, gives Seller the opportunity to defend any such suit, and cooperates with Seller with respect to any such defense; unless the material is made in accordance with material designs, or specifications required by Buyer, in which case Buyer shall similarly indemnify Seller.

13. PERMISSIBLE VARIATIONS. The products sold hereunder shall be subject to Sellers standard manufacturing variations, tolerances and classifications.

14. TECHNICAL ADVICE. Buyer represents that it has made its own independent determination that the products it is purchasing under this contract meet the design requirements of Buyer's project and are suitable for Buyer's intended application. Buyer further represents that it has not relied in any respect on any written or oral statements or advice from Seller, other than the standard product specifications set forth in the most recent edition of Seller's published product brochures, in making that determination. Provided that the products purchased under this contract meet Seller's published specifications.

15. TAXES. If this proposal includes furnishing labor to assemble products, applicable use taxes have been included in the prices quoted. However, no other tax imposed in respect of the sale of the products sold hereunder is included in any quotation by seller. Any such tax shall be added and paid by Buyer as part of the purchase price.

16. BUYER'S RIGHT OF TERMINATION. Buyer may terminate this contract in whole or in part upon notice in writing to Seller. Seller shall thereupon cease work and transfer to Buyer title all completed and partially completed products and to any raw materials or supplies acquired by Seller especially for the purpose of performing this contract, and Buyer shall pay Seller the sum of the following: (1) the contract price for all products which have been completed prior to termination; (2) the cost to Seller of the material or work in process as shown on the books of Seller in accordance with the accounting practice consistently maintained by Seller plus a reasonable profit thereon, but in no event more than the contract price; (3) the cost f.o.b. Seller's plant of materials and supplies acquired especially for the purpose of performing this contract; and (4) reasonable cancellation charges, if any, paid by Seller on account of any commitment(s) made hereunder.

17. SELLER'S RIGHT OF TERMINATION. In addition to the other rights of termination provided for in this contract, and if this contract is made pursuant to any governmental rule or regulation, plan, order or other directive, upon the termination thereof Seller shall have the option of canceling this contract in whole or in part.

18. WAIVER. Failure or inability of either party to enforce any right hereunder shall not waive any right in respect to any other or future rights or occurrences.

19. DELIVERY. Unless otherwise agreed to in writing by the Seller, the Buyer hereby agrees to take delivery of the materials on this order within the later of thirty (30) days after the wanted date shown on the face of the order or within thirty (30) days after notification, oral or written, that the materials are ready for shipment. In the event that the Buyer does not arrange to take delivery of the materials in accordance with this Contract, Seller, at Seller's option, may:

(a) invoice the Buyer for the materials, less freight if applicable; store the material in Seller's yard for a period not to exceed sixty (60) days from the date of the invoice; charge a storage fee not to exceed 5% per month or fraction thereof of the selling price of the stored materials; add any applicable price increases listed on the face of the order; charge for any repair work to protective coatings harmed by weathering while such material is being stored; and charge applicable freight when shipment to the Buyer is made. Materials remaining in storage after sixty (60) days from the invoice date shall become the property of the Seller for disposition at the Seller's discretion. In that event, Buyer shall not be liable for the invoice price of the materials, but shall be liable for the storage fee and any repair work to protective coatings; or

(b) cancel the order and invoice the Buyer for cancellation charges, which shall be 25% of the selling price of the materials if the materials are standard, in-stock material, or the full selling price if the materials are special or nonstandard in nature and were especially fabricated for the Buyer.

20. PERIOD OF LIMITATIONS. Buyer and Seller agree that any action by Buyer against Seller for a breach of this contract, including any action for breach of warranty, or otherwise in connection with the goods sold under this contract, must be commenced by Buyer against Seller within one year after the cause of action therefor accrues.

21. CONFLICTING PROVISIONS OFFERED BY BUYER. Any terms and conditions of any purchase order or other instrument issued by the Buyer, in connection with the subject matter of this document, which are in addition to or inconsistent with the terms and conditions expressed herein, will not be binding on Seller in any manner whatsoever unless accepted by Seller in writing.

22. SEVERABILITY. In case any provision of this contract shall be declared invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired.

23. APPLICABLE LAW. This contract shall be governed by, and construed and enforced in accordance with, the laws of the State of Ohio. Buyer and Seller specifically agree that any legal action brought relating to this contract will be brought and tried in the federal district court in Cincinnati, Ohio, or, in the absence of jurisdiction, the Butler County Court of Common Pleas in Hamilton, Ohio.

Rev. 3/99

OWCP-6255-L

SCHN00239784

AFE /Asset No:
1099204/

PACIFIC UNDERGROUND INSTALLATIONS INC.

RECEIVED
FEB 2 1 2002
I.T. SSP, INC.

Feb 21
~~January 28,~~ 2002

Billing #4

Schnitzer Steel Industries Inc.
P O Box 10047
Portland, Oregon 97296-0047

ATTN: Mr. James Jakubiak

PROJECT: Stormwater Source Control Project
Burgard Yards, Portland, Oregon

Final billing of retention on above project ~~(final 1/2)~~.....~~$ 8,195.00~~

payment in full by 2-24-02 S.R. 2-21-02 7,050.00

SSP-IT Portland
Vendor #_____ AFE #_____

Account Code	Amount
- -	
-	
- -	
- -	
- -	
- -	

Review JJ Apprvd JJ 2/21/02 Apprvd_____

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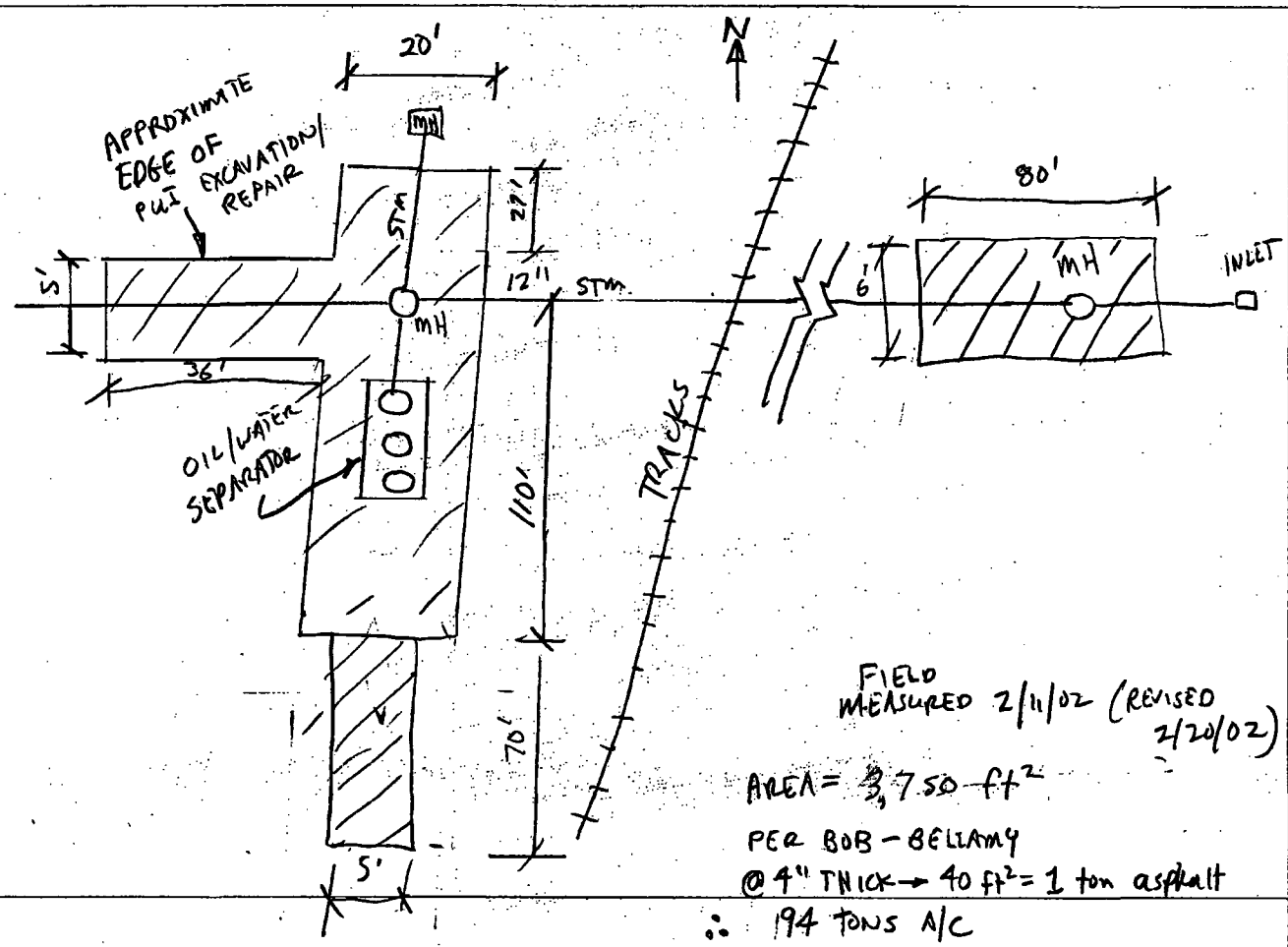
SCHN00239800



FIELD MEASURED 2/11/02 (REVISED 2/20/02)

AREA = 3,750 ft²

PER BOB - BELLAMY

@ 4" THICK → 40 ft² = 1 ton asphalt

∴ 194 TONS A/C

SCHN00239806

PACIFIC UNDERGROUND INSTALLATIONS INC.

November 26, 2001 Billing # 3

Schnitzer Steel Industries Inc.
P O Box 10047
Portland, Oregon 97296-0047

ATTN: Mr. James Jakubiak

PROJECT: Stormwater Source Control Project
Burgard Yards, Portland, Oregon

Partial billing of retention on above project (1/2).....$8,195.00

12/4/01 I called Mike in the office and asked for additional information on the repairs to the asphalt performed. Information requested include:
1) Area of the site repaired
2) Square footage repaired
Mike indicated she would forward the information.

1/7/02 3:50PM Mike called and asked for the address where I was physically located. She said she had a holiday gift sent back. I gave her corporate's mailing address.

1/7/02 3:55PM I called her back and told her I was still waiting to get the additional information I requested so I can pay the Nov. 26 invoice. She said the foreman was on vacation and would return on 1/9/02.

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SCHN00239807

PACIFIC UNDERGROUND INSTALLATIONS INC.

AFE / Asset No:
10992041

January 28, 2002

Schnitzer Steel Industries Inc.
P O Box 10047
Portland, Oregon 97296-0047

ATTN: Mr. James Jakubiak

PROJECT: Stormwater Source Control Project
Burgard Yards Portland, Oregon

Regarding the above project and specifically the paving portion. Over the weekend we measured the areas and feel that approximately 1,010 by the three (3) inch depth; down the ditch line of the 12 inch plastic pipe and around the new manhole and the new oil/water separator. Then to the 12 inch storm outfall to the river. We are responsible for this portion.

The paving over the 165 foot long detention pipe, we feel that we are not responsible because the equipment weights are way over the pipe specs.

Jim, please call me if you feel that you need to discuss this further. The office billed you the first half of the retention on November 26, 2001 we would hope it possible to be paid for that billing. We would like to get this portion of the project paid in full as it has gone so far past the time line for completion and final payment.

Thanking you, in advance.

Sincerely

Steve Robinson

Steve Robinson

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AFE AND ASSET ADDITION FORM

Date AFE (Authorization For Expenditure) Prepared: Jim Jakubiak AFE/Asset No.: 10992041
CIP Expenditure (X ONE): YES [] NO []
Proposed Project Start Date: 6/18/01
Proposed Project Completion Date (if CIP):
Capital Expenditure/Expense (x ONE): Capital [X] Expense []
Company: Schnitzer Steel Division: Scrap Location: Portland

Asset Description	Proposed Cost	Actual Cost
Project Name (OPTIONAL): Stormwater Source Control Project - Purchase and install stormwater treatment at the IT facility.		
Total	$260,000	$

Business Purpose (X ONE): Obey Law [X] Maintain Business [] Reduce Costs [] Expand Business []
Included in Capital Budget (X ONE): Yes [] No [X] (if yes, attach copy of budget)
Purpose/Benefits: Stormwater outfalls at the IT facility currently discharge to the Willamette River. This work is being conducted per the DEQ VCP Agreement for Storm Water Source Control as directed by DEQ. The Burgard facility is part of the Portland Harbor Superfund Site. This project will improve water quality and allow the facility to be in compliance with discharge limits and the DEQ VCP.

AFE (INITIAL)	AFE (INITIAL)	AFE (INITIAL)	ADDS (INITIAL)
Division Approval	Executive Approval	Corporate Review	Accounting Review
Proj. Mgr.:	JWC:	Legal:	(to be initialed only when
Dept. Head:	BAR:	Risk Mgmt.:	ADDS form is submitted
Purch. Mgr.:	KMN:	Tax:	Div. Acct.:
638 Div. Cont.:	RWP:		
Div. VP/Pres.:	LES:		Corp. CA Acct.:
			Corp. CA Sup.:

Cost Center: 3321010	Property Ref.:
General Ledger Account No.: 3320000.1755.45	Real/Personal/
Person with asset custody (OPT.):	Non-assessable: R P N
New or Used Asset:	Real Type: B YI MF
Model No.: Serial No.:	C P O
Expenditure Date (if CIP)/	Personal Type: V LB O
Entered Service Date (if not CIP):	Non-assessable Type: LV IN RM O
Asset (still) in CIP (X ONE): Yes [X] No []	Property Tax Lot:

SHADED AREAS TO BE COMPLETED BY CAPITAL ASSET ACCOUNTING

ACTUAL COST COLUMN TO BE COMPLETED AFTER AFE HAS BEEN APPROVED

AFE AND ASSET ADDITION FORM

Date AFE (Authorization For Expenditure) Prepared: Jim Jakubiak AFE/Asset No.:
CIP Expenditure (X ONE): YES [] NO []
Proposed Project Start Date: 6/18/01
Proposed Project Completion Date (if CIP):
Capital Expenditure/Expense (x ONE): Capital [] Expense []
Company: Schnitzer Steel Division: Scrap Location: Portland

Asset Description	Proposed Cost	Actual Cost
Project Name (OPTIONAL): Stormwater Source Control Project - Purchase and install stormwater treatment at the IT facility.		
Total	$260,000	

Business Purpose (X ONE): Obey Law [X] Maintain Business [] Reduce Costs [] Expand Business []
Included in Capital Budget (X ONE): Yes [] No [X] (if yes, attach copy of budget)
Purpose/Benefits: Stormwater outfalls at the IT facility currently discharge to the Willamette River. ~~Historical stormwater sampling conducted since 1995 indicates stormwater quality does not meet permit discharge benchmark standards~~. This project will improve water quality and allow the facility to be in compliance with discharge limits.

work part of source control needed as part of DEQ VCP agreement - uplands re Portland Harbor.

AFE (INITIAL)	AFE (INITIAL)	AFE (INITIAL)	ADDS (INITIAL)
Division Approval	Executive Approval	Corporate Review	Accounting Review
Proj. Mgr.:	JWC:	Legal:	(to be initialed only when
Dept. Head:	BAR:	Risk Mgmt.:	ADDS form is submitted
Purch. Mgr.:	KMN:	Tax:	Div. Acct.:
Div. Cont.:	RWP:		
Div. VP/Pres.:	LES:		Corp. CA Acct.:
			Corp. CA Sup.:

Cost Center:		Property Ref.:			
General Ledger Account No.:		Real/Personal/			
Person with asset custody (OPT.):		Non-assessable:	R	P	N
New or Used Asset:		Real Type	B	YI	ME
Model No.:	Serial No.:			C	O
Expenditure Date (if CIP)/		Personal Type:	V	LB	O
Entered Service Date (if not CIP):		Non-assessable Type:	LV	IN	RM O
Asset (still) in CIP (X ONE): Yes []	No []	Property Tax Lot:			

SHADED AREAS TO BE COMPLETED BY CAPITAL ASSET ACCOUNTING

ACTUAL COST COLUMN TO BE COMPLETED AFTER AFE HAS BEEN APPROVED

DEQ Stormwater BMPs
Necessary to be in compliance
with agreement.

SCHN00239862

Project Name: Burgard Yard, Schnitzer Steel Industries

Project Location: Portland, Oregon

Construction Agreement

THIS AGREEMENT, made and entered into this 15th day of June, 2001 by and between **Schnitzer Steel Industries, Inc.**, and by signature warrents that he/she is lease holder and has authority to enter into this contract will hereinafter be referred to as Owner, and **Pacific Underground Installations** Inc., hereinafter referred to as the Contractor.

NOW, THEREFORE, IT IS AGREED by and between the parties hereto, in consideration of their mutual promises as follows:

1. SCOPE OF WORK:
Contractor shall provide all labor, materials and equipment needed to complete the "Stormwater Source Control Project" the description of work ("Work") below:

> **Erosion control, Install 500 feet of silt fence; C.M.P.(260 feet of 11 1/2 foot wide by 7.25 foot height) pipe installation; Manhole installation, 4 new manholes, 1 only oil/water separator, two (2) tie-in's to existing catch basins, Rerouting of existing stormwater piping with 540 feet of C-900 pipe: All excavated material will be used in pipe and manhole excavation; Excess material will be stockpiled on site at owner's location; Saw cut approximately 1000 feet; Asphalt patching at 6 inch depth approximately 4500 feet; Shoring, warning signs and barricades; Five (500) hundred feet of two (2) inch PVC pipe installation for phone sleeve.**

1.1 Plans and Drawings. Except as otherwise provided herein, the Work includes drawing or plans dated April, 2001 and references surveys or reports as design criteria. Contractor, its employees and agents, shall not be liable to the owner, owner's personal representatives, heirs, successors, agents or assigns in contract, tort, or otherwise arising from, related to, or connected with the design, planning, surveying, architectural or engineering services and work needed, obtained or refused for the project.

1.2 The Work does not include:

1.2.1 Fees and permits

1.2.2 Staking or engineering

1.2.3 Rock removal or blasting

1.2.4 Hazardous substance excavation or removal

1.2.5 No steel sleeve for 12 inch C-900 at railroad track

1.2.6. Phone line relocation and materials by others

1.2.7 Any activities associated with the identification, reporting, removal, amelioration, or other required act relating to any unforeseen subsurface condition including, without limitation, the presence of rock, concrete, hazardous materials, piping, stumps, subsurface structures, sinkholes, erosion, springs, wells, or conditions created by the Owner.

1.3 Changes in the Work

1.3.1 Owner may order changes in the Work without invalidating this Contract. The Owner may change the Work by negotiating with the Contractor to adjust contract price and /or time accordingly with a duly executed written Change Order. Any increase in the Contract Price due to changes requested by Owner in writing shall be paid by Owner to Contractor when the change is ordered. The amount paid shall be the agreed change order price, or if the price has not been agreed upon, Contractor's good faith estimate of the increase. The price and payment for change order work shall be adjusted upon completion of such change order

work. Contractor shall have no obligation to proceed with changes until the written change order has been received. Unless otherwise agreed to in writing by Contractor, the Contract Price shall be increassed by the amount of Contractor's direct costs for labor, materials, equipment rental and transportation, plus 20% thereof, for overhead and profit, for all extra or additional work performed under this Contract. The Contract Price shall be reduced by the direct costs saved as a result of the Work deleted from this Contract.

2. COMMENCEMENT AND COMPLETION OF THE WORK:

2.1 Contractor agrees to commence work within seven (7) days of Contractor's receipt of the signing of this Contract for this project. The Contractor agrees to prosecute the Work in a reasonably diligent and workmanlike manner to its completion.

2.2 Delays due to changes in the Work, adverse weather, and/or unforeseen conditions shall extend the actual days of work accordingly, and the parties hereto agree to execute a Change Order extending the time for completion in accordance with the provisions of this Contract governing changes. Costs caused by delays, improperly timed activities or defective performance of others shall be borne by the responsible party.

3. PRICE AND PAYMENT

3.1 The price for the Work shall be $160,000.00, payable in accordance with the provisions of this Contract.

3.2 Payment for the Work will be in the form of progress billings. Billings will be made on the 25th of the month, with the final billing to be upon completion of the project. Retention will be withheld at a rate of 10% and paid within sixty (60) days of completion of the Work.

3.3 Payments shall be made within fifteen (15) days of invoicing. All balances not so paid shall be subject to a late payment fee of 1.5% per month. The Contractor may, without prejudice or waiver of any other rights or remedies, stop work if the Owner does not pay Contractor in accordance with the terms of this Contract.

4. CONTRACTOR'S WARRANTY AND DISCLAIMER

The Contractor warrants that the described Work will conform to requirements of the contract documents and be free from defects not inherent in the quality required; and any Work which proves to be defective in materials or workmanship within one year of substantial completion will be corrected. Contractor agrees to defend, indemnify and hold harmless Owner from any claims, losses, costs, or damages, including attorneys fees, resulting from any breach of this warrenty. **THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES; THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE.**

5. OWNER'S WARRANTY AND OBLICATIONS

5.1 Owner further warrants the accuracy of all prints, drawings, surveys, plot plans and any other representations to Contractor concerning location of property lines and property corners. Owner agrees to defend indemnify and hold harmless Contractor from any claims, losses, cost or damages, including attorney fees, resulting from any breach of this warrenty.

5.2 Owner shall clear the immediate area and any adjacent areas that may be impacted by the Work of furnishings and personal property before the Work is scheduled to begin. Owner shall remove shrubs, trees, flowers, or landscaping elements which would hinder or delay the Work and which are so situated as to be damaged or destroyed in the course of the Work. Contractor shall have no liability for damage to such items which are not removed or for damage to lawns, landscaping, sidewalks, driveways and other surfaces required for staging and other construction activities, resulting from Contractor's reasonable practices.

6. DEFAULT AND TERMINATION

6.1 Owner must notify Contractor in writing of any default or defect, and must allow Contractor a reasonable opportunity to cure such default or defect. In the event Contractor fails to cure such default or defect despite a reasonable opportunity to do so, Owner shall have the right to (a) direct Contractor in writing to stop work until the cure is made; or (b) correct such default or defect and approve a deductive change order for the reasonable cost thereof.

6.2 If this Contract is terminated for any reason not attributable to the default of negligence of the Contractor, Contractor shall be entitled to recover from the Owner payment for the amount of work complete.

7. DISPUTE RESOLUTION

7.1 The Work shall not be delayed due to mediation or arbitration unless mutually agreed to by all parties. Owner and Contractor acknowledge that mediation helps parties settle their dispute and any party may propose mediation whenever any dispute arises under this Agreement. Contractor and Owner agree to initiate any mediation through the Arbitration Service of Portland or another service as agreed upon by the parties. When proposed by any party, the parties to this Agreement agree to cooperate in good faith in scheduling, attending, and participating in, the mediation.

7.2 Contractor and Owner shall submit to arbitration all complaints, disputes and/or controversies that may arise out of or in connection with this Contract which might be pled or urged in a counterclaim or set off to an action at law to enforce payment of the Contract Price herein. Such dispute shall be settled exclusively by arbitration under the laws of the State of Oregon, and in accordance with the Arbitration Rules of the Arbitration Service of Portland, Inc. The decision of the arbitrator(s) shall be final and binding upon both parties.

7.3 In the event suit or action is brought, or an arbitration is initiated, to enforce or interpret any of the provisions of this agreement, or which is based thereon, the prevailing party shall be entitled to reasonable attorney fees in connection therewith, both at trial or hearing and any subsequent appeal. The determiniation of who is the prevailing party and the amount of reasonable attorney's fees to be paid to the prevailing party shall be decided by the arbitrator(s) (with respect to attorney's fees incurred prior to and during arbitration proceedings) and by the court or courts, including a court which hears a request to stay litigation or to enjoin arbitration or which hears any exceptions made to an arbitration award submitted to it for confirmation as a judgment (with respect to attorney's fees incurred in such court proceedings).

PACIFIC UNDERGROUND INSTALLATIONS INC.	OWNER (Schnitzer Steel Industries)
By:_____	By: James F Johnson for
	Company Schnitzer Steel Industries, Inc.
Its:_____	Its:_____
Dated_____	Dated: June 15, 2001

PACIFIC UNDERGROUND INSTALLATIONS INC.

May 31, 2001

TO: Jim Jakubiak

FROM: Steve Robinson

PROJECT: Burgard Yard, Schnitzer Steel Industries
Portland, Oregon

RE: Storm water drainage system improvements

Our bid includes:

Erosion control
C.M.P. pipe installation
Manhole installation
Saw cutting
Asphalt patching
Pipe re-routing
Catch basin hook-up
Shoring
All material and labor
Five hundred feet (500) of two (2) inch PVC pipe installation for phone sleeve.

BID $160,000

EXCLUSIONS AND NOTES
No fees and no permits
No staking or engineering
No rock removal or blasting
No contanminated soil excavation or removal

NOTE: As per pre-construction meeting discussion, the soil is sand

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STATE OF OREGON CONSTRUCTION CONTRACTORS BOARD

LICENSE CERTIFICATE

This certifies that the person named hereon is licensed as provided by law as a

Specialty Contractor/All
NON-EXEMPT
Corporation

License Number: 84813
License Expires: 10/08/02

PACIFIC UNDERGROUND INSTALLATIONS INC
4544 NE 102ND
PORTLAND OR 97220-0000

SIGNATURE OF REGISTRANT

POCKET CARD

DETACH AND CARRY WITH YOU

STATE OF OREGON

Licensed as: No. 84813

Specialty Contractor/All
NON-EXEMPT
Corporation

PACIFIC UNDERGROUND INSTALLATIONS INC
4544 NE 102ND
PORTLAND OR 97220-0000

FOLD

CONSTRUCTION CONTRACTORS BOARD

Bond $ 10,000.00
Insurance ASSURANCE CO OF AMERICA (NY

License Expires: 10/08/02
Employer Accounts: ON FILE

AFE AND ASSET ADDITION FORM

Date AFE (Authorization For Expenditure) Prepared: Jim Jakubiak
AFE/Asset No.:
CIP Expenditure (X ONE): YES [] NO []
Proposed Project Start Date: 6/18/01
Proposed Project Completion Date (if CIP):
Capital Expenditure/Expense (x ONE): Capital [] Expense []
Company: Schnitzer Steel Division: Scrap Location: Portland

Asset Description	Proposed Cost	Actual Cost
Project Name (OPTIONAL): Stormwater Source Control Project - Purchase and install stormwater treatment at the IT facility.		
Total	$260,000	$

Business Purpose (X ONE): Obey Law [X] Maintain Business [] Reduce Costs [] Expand Business []
Included in Capital Budget (X ONE): Yes [] No [X] (if yes, attach copy of budget)
Purpose/Benefits: Stormwater outfalls at the IT facility currently discharge to the Willamette River. This work is being conducted per the DEQ VCP Agreement for Storm Water Source Control as directed by DEQ. The Burgard facility is part of the Portland Harbor Superfund Site. This project will improve water quality and allow the facility to be in compliance with discharge limits and the DEQ VCP.

AFE (INITIAL)	AFE (INITIAL)	AFE (INITIAL)	ADDS (INITIAL)
Division Approval	Executive Approval	Corporate Review	Accounting Review
Proj. Mgr.:	JWC:	Legal:	(to be initialed only when
Dept. Head:	BAR:	Risk Mgmt.:	ADDS form is submitted
Purch. Mgr.:	KMN:	Tax:	Div. Acct.:
Div. Cont.:	RWP:		
Div. VP/Pres.:	LES:		Corp. CA Acct.:
			Corp. CA Sup.:

Cost Center:	Property Ref.:
General Ledger Account No.:	Real/Personal/
Person with asset custody (OPT.):	Non-assessable: R P N
New or Used Asset:	Real Type B YL ME
Model No.: Serial No.:	C O
Expenditure Date (if CIP)/	Personal Type: V LB O
Entered Service Date (if not CIP):	Non-assessable Type: LV IN RM O
Asset (still) in CIP (X ONE): Yes [] No []	Property Tax Lot:

SHADED AREAS TO BE COMPLETED BY CAPITAL ASSET ACCOUNTING

ACTUAL COST COLUMN TO BE COMPLETED AFTER AFE HAS BEEN APPROVED

Munitor Construction, LLC
Portland, Oregon
CCB 148811

December 11, 2002

To: Mr. Jim Jakubiak
Schnitzer Steel
Portland, Oregon

From: Mr. Harley Meservey
Munitor Construction, LLC
Portland, Oregon

Re. Sediment Filter Cleaning
T-4 Dock
Portland, Oregon

Mr. Jim Jakubiak

This letter is in regard to the services provided by Munitor Construction, LLC (Munitor) for the maintenance cleaning and repairs to the sediment filter system.

Munitor on 11/28/02, 12/2/02, and 12/4/02 performed cleaning and maintenance services for the sediment filter system. These services included the following:

- Remove water from piping and manholes with a vacuum truck (Cowlitz Clean Sweep, Inc. contracted directly by Schnitzer Steel),
- Have water discharged into onsite water treatment system for the scrap shredder,
- Remove film of fine sediment located on top of the sand,
- Stockpile sediment on plastic near filter system,
- Inspect pipe joints for separation,
- Grout joints,
- Low pressure line cleaning of perforated piping,
- Replenish sand,
- Level sand, and
- Install new filter fabric with sand bags.

Thank you for the opportunity to provide professional services to Schnitzer Steel. Copies of daily forms are attached to this letter. If you have any further information regarding services please feel free to contact me at anytime.

Regards,

Harley Meservey

Harley Meservey
President

Cc: File

SCHN00239877

AFE AND ASSET ADDITION FORM

Date AFE (Authorization For Expenditure) Prepared: Jim Jakubiak
CIP Expenditure (X ONE): YES [] NO []
Proposed Project Start Date: 6/18/01
Proposed Project Completion Date (if CIP):
Capital Expenditure/Expense (x ONE): Capital [] Expense []
Company: Schnitzer Steel Division: Scrap Location: Portland

AFE/Asset No.: 10992041

Asset Description	Proposed Cost	Actual Cost
Project Name (OPTIONAL): Stormwater Source Control Project - Purchase and install stormwater treatment at the IT facility.		
Total	$260,000	$

Business Purpose (X ONE): Obey Law [X] Maintain Business [] Reduce Costs [] Expand Business []
Included in Capital Budget (X ONE): Yes [] No [X] (if yes, attach copy of budget)
Purpose/Benefits: Stormwater outfalls at the IT facility currently discharge to the Willamette River. This work is being conducted per the DEQ VCP Agreement for Storm Water Source Control as directed by DEQ. The Burgard facility is part of the Portland Harbor Superfund Site. This project will improve water quality and allow the facility to be in compliance with discharge limits and the DEQ VCP.

AFE (INITIAL)	AFE (INITIAL)	AFE (INITIAL)	ADDS (INITIAL)
Division Approval	Executive Approval	Corporate Review	Accounting Review
Proj. Mgr.:	JWC:	Legal:	(to be initialed only when
Dept. Head:	BAR:	Risk Mgmt.:	ADDS form is submitted
Purch. Mgr.:	KMN:	Tax:	Div. Acct.:
Div. Cont.:	RWP:		
Div. VP/Pres.:	LES:		Corp. CA Acct.:
			Corp. CA Sup.:

Cost Center:	Property Ref.:
General Ledger Account No.:	Real/Personal/
Person with asset custody (OPT.):	Non-assessable: R P N
New or Used Asset:	Real Type B YL ME
Model No.: Serial No.:	C O
Expenditure Date (if CIP)/	Personal Type: V LB O
Entered Service Date (if not CIP):	Non-assessable Type: LV IN RM O
Asset (still) in CIP (X ONE): Yes [] No []	Property Tax Lot:

SHADED AREAS TO BE COMPLETED BY CAPITAL ASSET ACCOUNTING

ACTUAL COST COLUMN TO BE COMPLETED AFTER AFE HAS BEEN APPROVED

ATTN: Janet
From Cory LaVelle

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Jim Jikubiak
Date 1-24-03	Site Address Burgard Yard Portland	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Cory LaVelle		4.0			

Equipment / Materials			
Use current rate sheets			
DESCRIPTION	Qty	$/Hr	TOTAL
Jet Rodder (CCS)			
Camera (CCS)			
Truck #71			

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

Worked with CCS Crew to Jet rod lines in Catch basin near Longshoremans office and Transformer. Crew also used Camera to inspect Lines.

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

6/12/02

SCHN00239891

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Jim Jikubiak
Date 1-21-03	Site Address Burgard Yard Pfld	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Cary LaVelle		8.0			
Sergio Barbosa		8.0	2.0		

PRESENTED

Equipment / Materials

Use current rate sheets

DESCRIPTION	Qty	$/Hr	TOTAL
Truck #71			
(CCS) Vac Truck			
*Pressure Washer (CCS)			

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

Worked w/ Sergio Barbosa & Chris w/ CCS used Vacuum Truck & Pressure Washer TO dig Test Pit.

Located Storm Water Line & Catch Basin. Sergio observed Schnitzer operator Backfilling trench Correctly

CRL went TO work on another Task w/ chris Sergio Buttoned up site

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

Sergio Barbosa 100 mi round Trip

6/12/02

SCHN00239892

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schintzer	Billing Address Portland	CONTACT Miles
Date 1-20-03	Site Address OREGON	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/HR	TOTAL
Brian Johnson		9			

Equipment / Materials

Use current rate sheets

DESCRIPTION	Qty	$/Hr	TOTAL

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

PAID

JOB DESCRIPTION / WORK PERFORMED

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

Mileage 100 miles

6/12/02

SCHN00239893

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Jim Jikubiak
Date 1-20-03	Site Address Burgard ~~Yard~~	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Cory Lavelle		8.0			

PRESENT

Equipment / Materials

Use current rate sheets

DESCRIPTION	Qty	$/Hr	TOTAL
Truck #71			
Cutting Torch (PNE)			
generator (PNE)			

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

~~Tank~~ Trimmed welded Corners from remains of Tank (oil/water separator) at out fall #9 removed Steel from below dock.

Finished grout on outfall 8 pipes Touched up grout on 16" and Plugged 10"

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

6/12/02

SCHN00239894

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT miles
Date 1-17-03	Site Address	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/HR	TOTAL
Brian Johnson		7			

Equipment / Materials

Use current rate sheets

DESCRIPTION	Qty	$/Hr	TOTAL

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

Mileage 100 Miles

6/12/02

SCHN00239895

ATTN: Janet
From: Cory LaVelle

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Jim Jikubiak
Date 1-17-03	Site Address Burgard Yard	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Cory LaVelle		8.0			

Equipment / Materials — Use current rate sheets			
DESCRIPTION	Qty	$/Hr	TOTAL
Truck #71	1		
Generator (PNE)	1		
Cutting Torch	2		

RECEIVED

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

Worked w/ Brian Johnson TO decommission oil/water separator at outfall 9

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

6/12/02

SCHN00239896

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Miles
Date 1-16-03	Site Address	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Brian Johnson		10			

POSTED

Equipment / Materials

Use current rate sheets

DESCRIPTION	Qty	$/Hr	TOTAL

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

Mileage 100 Miles

POSTED

6/12/02

SCHN00239897

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Jim Jikubiak
Date 1-16-03	Site Address Burgard Yard Pitd	PERSONAL CODES
Job#	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Cory LaVelle		80	20		

Equipment / Materials

Use current rate sheets

DESCRIPTION	Qty	$/Hr	TOTAL
Truck #71	1		
Generator (PNE)	1		
Cutting Torch (PNE)	2		

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

Worked w/ Brian Johnson to Decomission oil/water Separator at outfall #12

Cut off 8" Pipe & Plugged w/ Bentonite & grout

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

O^2 & Acetylene used to date

5 acetylene Bottles

~~1-13 used 1 set CPL~~ 5 O^2 Bottles

6/12/02

SCHN00239898

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Miles
Date 1-15-03	Site Address	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/HR	TOTAL
Brian Johnson		6			

POSTED

Equipment / Materials

Use current rate sheets

DESCRIPTION	Qty	$/Hr	TOTAL

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

Mileage 100 miles

POSTED

6/12/02

SCHN00239899

ATTN: Janet

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

From: Cory LaVelle

Customer Schnitzer	Billing Address	CONTACT Jim Jikubiak
Date 1-15-03	Site Address Burgard Yard	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Cory LaVelle		8.0	0.5		

Equipment / Materials — Use current rate sheets	Qty	$/Hr	TOTAL
Truck #71			
Cutting Torch (PNE)			
generator (PNE)			
Bentonite	6		
PO# 061185			

POSTED

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

Worked w/ Brian Johnson and Tracy Ennis (Approx 1/2 Each)

Cut off & grated Pipes at outfall 8

began decommissioning oil/water separator at outfall #17

Picked up Bentonite from Familian PO# 061185

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

6/12/02

SCHN00239900

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Miles
Date 1-14-03	Site Address	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Brian Johnson		9			

POSTED

Equipment / Materials

Use current rate sheets

DESCRIPTION	Qty	$/Hr	TOTAL

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

Mileage 100 miles

POSTED

6/12/02

SCHN00239901

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Jim Jikubiak
Date 1-14-03	Site Address Burgard Yard Pit	PERSONAL CODES
Job#	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Cory LaVelle		8.0			

POSTED

Equipment / Materials — Use current rate sheets	Qty	$/Hr	TOTAL
Truck #71	1		
Cutting Torch (PNE)	1		
Generator (PNE)	1		

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

Worked to decommission oil/water Separator. C&L & Brian Johnson Used cutting torches to remove Separator from below Dock.

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

6/12/02

SCHN00239902

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Jim Jikubiak
Date 1-13-03	Site Address Burgard Yard	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Cory LaVelle		8.0	2.0		

Equipment / Materials

Use current rate sheets

DESCRIPTION	Qty	$/Hr	TOTAL
Truck #7			
Cutting Torch (PNE)			
generator (PNE)			
grout			
Bricks			
Epoxy Etc..			$202.48
			Pa # 061184

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

Picked up Materials from Masons
Worked w/ Brian Johnson
Cut off 8" oil/water seperator
pipe and grouted plugged w/ grout

began Demo of oil/water
at outfall 8a

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

6/12/02

SCHN00239903

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address Portland OR	CONTACT miles
Date 1-13-03	Site Address	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	~~OT~~	~~$/HR~~	TOTAL
Brian Johnson		8			

DISPATCHED

Equipment / Materials

Use current rate sheets

DESCRIPTION	Qty	$/Hr	TOTAL

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

Mileage 100 miles

6/12/02

SCHN00239904

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Jim Tikubiak
Date 7-10-02	Site Address Burgard Yard	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Cory LaBelle		3.0			

Equipment / Materials — Use current rate sheets			
DESCRIPTION	Qty	$/Hr	TOTAL
Truck #71			

Perdiem / Lodging expenses		
Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED
Picked up Tanks and Torch Set from Longview Shop
Moved equipment

SUBCONTRACTOR'S PO #			
SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

6/12/02

SCHN00239905

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Jim Tikubiak
Date 6-9-03	Site Address Burgard Yard	PERSONAL CODES
Job# 42024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Cory Lakille		5.0			

POSTED

Equipment / Materials — *Use current rate sheets*

DESCRIPTION	Qty	$/Hr	TOTAL
Truck #71			
Power Snake rental	1		Approx 36.00
Pvc Material			

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

Picked up Power Snake from United Rental. Used Power Snake to unclog Storm Drain/Catch Basin NE section of site. Picked up Material from Familliam, installed Clean out w/TEE in Catch Basin

P.O. # 061182 United Rental
PO # 061183 Familliam

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

6/12/02

SCHN00239906

ENVIRONMENTAL SERVICES DIVISION

1081 COLUMBIA BLVD.
LONGVIEW, WASHINGTON 98632

Phone 360 423 6316
Fax 360 423 3409

Customer Schnitzer	Billing Address	CONTACT Jim Jikubiak
Date 6-8-02	Site Address Burgard Road	PERSONAL CODES
Job# 420024	PO#	S=Superintendent T=Technician SS= Site Safety

Employee	CODE	REG	OT	$/ HR	TOTAL
Cary LaVelle		8.0			

Equipment / Materials			
Use current rate sheets			
DESCRIPTION	Qty	$/Hr	TOTAL
Truck #71			

POSTED

Perdiem / Lodging expenses

Employee	Perdiem	Lodging

JOB DESCRIPTION / WORK PERFORMED

Met w/ CCS Tim Turner & Locates Down Under. Jet Rodded CCS Jet Rodded Catch Basin Near Longshoreman office / DU attached Tracer wire to Locate. Worked with CCS Crew to vac oil/water Separator and five Catch basins attempted to Jet rod another Catch Basin met refusal

SUBCONTRACTOR'S PO #

SUB Name	PO #	Cost	Total

ADDITIONAL INFORMATION (Job notes, etc)

6/12/02

SCHN00239907

HOME DEPOT COMMERCIAL CREDIT

Account: 7901 587116 7 Statement Date: 01/02/03 Page: 1 of 17

SAVE TIME! VIEW, MANAGE AND PAY YOUR ACCOUNT ONLINE AT HOMEDEPOT.COM. CLICK ON CREDIT CENTER TO SIGN UP.

S1700336 001-017

PNE CORP
ATTN: A/P
1081 COLUMBIA BLVD
LONGVIEW, WA 98632-1024

22089-1365.50 22047-28.40
22046-81.47 22050-28.40
22003-16.02 22051-28.40
22109-48.64
22115-15.72
22112-103.04
22098-195.25 $3150.21
42023-520.65
22120-16.93
22094-19.96 42016-10.73
22106-22.68 658.20-208.74
42013-182.95 661.22-257.16

Payments Received

12/17/02	0024729	(739.65)	PAYMENT RECEIVED - THANK YOU

Current Invoices (Details for Current Month's

Date	Invoice	Amount	Due Date	Store	Reference
12/02/02	6012483	22.68	01/20/03	4725	58385 22106
12/04/02	4011420	15.72	01/20/03	4006	22115 22115
12/04/02	4021305	19.96	01/20/03	4013	057491/22094 22094
12/06/02	2020208	257.16	01/20/03	4725	061308 661.22
12/09/02	9091745	10.73	01/20/03	4002	061165 42016
12/09/02	9041650	55.83	01/20/03	4713	60771 42023
12/10/02	8100236	50.44	01/20/03	4713	60774 42023
12/11/02	7030534	36.96	01/20/03	4713	60778 42023
12/12/02	6091926	48.24	01/20/03	4713	60781 42023
12/13/02	5010665	337.49	01/20/03	6649	60580 22089
12/15/02	3070907	38.58	01/20/03	1006	FLYING J RIPON 22089
12/16/02	2022174	15.24	01/20/03	1006	FLYING J RIPON 22089
12/16/02	2031892	87.91	01/20/03	1006	FLYING J RIPON 22089
12/17/02	1022264	136.54	01/20/03	1006	605584 22089
12/17/02	1190156	182.95	01/20/03	4017	60782 42013
12/17/02	1020402	9.46	01/20/03	4713	061169 42023
12/17/02	1020403	53.36	01/20/03	4713	061169 42023
12/17/02	1020325	79.54	01/20/03	4713	061169 42023
12/18/02	0032098	57.82	01/20/03	1006	FLYING RIPON 22089
12/18/02	0130709	89.32	01/20/03	4402	59886 22098
12/18/02	0012142	76.62	01/20/03	4713	061169 42023
12/19/02	9032225	77.47	01/20/03	1006	FLYING J RIPON 22089
12/19/02	9321505	24.79	01/20/03	4713	061171 - 42023
12/19/02	9321508	85.41	01/20/03	4713	061171 42023
12/20/02	8071257	66.38	01/20/03	1006	FLYING J RIPON 22089
12/20/02	8011885	16.93	01/20/03	4725	JUBITZ 22120
12/21/02	7071313	161.91	01/20/03	1006	FLYING J RIPON 22089
12/22/02	6011978	61.35	01/20/03	4402	59889 - 22098
12/24/02	4101185	21.27	01/20/03	4402	059891 - 22098

- Continue -

S1700336 003-017

059886

2002

Sale: 12/02/02
6012483
DB: 58385

PRICE	EXT.PRICE
3.89	3.89
2.79	2.79
2.88	2.88
5.76	11.52
Balance Due:	22.68

Sale: 12/04/02
4011420
B: 22115

PRICE	EXT.PRICE
5.24	15.72
Balance Due:	15.72

Sale: 12/04/02
4021305
B: 057491/22094

PRICE	EXT.PRICE
9.98	19.96
Balance Due:	19.96

	UNIT
82	

H

chasing Agent

SCHN00239917

Munitor Construction, LLC

Form 4210.5

Onsite Discharge Information

Client: Schnitzer Steel
Location: Schnitzer Steel
Date: 11-27-02

Information Regarding Material to be Discharged: Storm water from Sand Filters

Are any permits required if so document permit number: NO

Discharge Location: on Site.

Field Testing: Yes (No)
Results: N/A

Signature of Client: _____ Date: _____
Munitor Supervisor: John Shoulder Date: 11-27-02

SCHN00239925

135142

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-12-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

103160 lb 11:09 am 10/12/01 Tm/Dt

37980 lb 10:31 am 10/12/01 Tm/Dt

65,180

CARRIER Dick Moll Trkg

TRACTOR NO. #4

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

INFORM GRAPHICS, INC. (503) 643-FORM (3676) JS26119

S1011 (Rev. 12/99)

SCHN00239936

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-12-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" – Out

103160 lb 11:09 am 10/12/01 Tm/Dt

37980 lb 10:31 am 10/12/01 Tm/Dt

65,180

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER Wm

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J32619 135142

S1011 (Rev. 12/99)

SCHN00239937

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-12-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt"-Out

103420 lb 08:24 am 10/12/01 Tm/Dt

38060 lb 07:08 am 10/12/01 Tm/Dt

65,360

CARRIER Dick Moll Trkg

TRACTOR NO. #4

DRY	RAIN ☐	SLEET ☐	DOORS
WET	SNOW ☐	SEALS	LEAK ☐

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

INFORM GRAPHICS, INC. (503) 643-FORM (3676) 332619 135142

S1011 (Rev. 12/99)

SCHN00239938

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-12-01

CUSTOMER Hillsboro Landfill CAR NO.

ADDRESS COMMODITY "Dirt"-Out

103420 lb 08:24 am 10/12/01 Tm/Dt

38060 lb 07:08 am 10/12/01 Tm/Dt

65,360

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J32619 135142

SCHN00239939

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-12-01

CUSTOMER Hillsboro Landfill CAR NO.

ADDRESS COMMODITY "Dirt" - Out

110240 lb 02:36 pm 10/12/01 Tm/Dt

37800 lb 02:10 pm 10/12/01 Tm/Dt

72,440

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

INFORM GRAPHICS, INC. (503) 643-FORM (3676) 132619 135142

81011 (Rev. 12/99)

SCHN00239940

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-12-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

110240 lb 02:36 pm 10/12/01 Tm/Dt

37800 lb 02:10 pm 10/12/01 Tm/Dt

72,440

CARRIER Dick Moll Trkg

TRACTOR NO. #4

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J32619 135142

S1011 (Rev. 12/99)

SCHN00239941

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10/12/01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY Dirt-out

39020 lb 07:16 am 10/12/01 Tm/Dt

xx 105140 l 08:22 am 10/12/01 Tm/D

t

CARRIER Keith Moss Trucking

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J326619 135142

SCHN00239942

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10/12/01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY Dirt-out

39020 lb 07:16 am 10/12/01 Tm/Dt

xx 105140 l 08:22 am 10/12/01 Tm/D

t

CARRIER Keith Moss Trucking

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER Craig Moffat

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS G	LEAK G

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J328519 136142

S1011 (Rev. 12/99)

SCHN00239943

SCHNITZER STEEL INDUSTRIES, INC.
CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED
DATE 10/12/01

CUSTOMER Hillsboro Landfill
CAR NO.
ADDRESS
COMMODITY Dirt-Dust

38960 lb 10:33 am 10/12/01 Tm/Dt
104220 lb 01:02 pm 10/12/01 Tm/Dt

CARRIER Keith Moll Trucking
TRACTOR NO. 1
STENCIL/LOAD LIMIT
STENCIL/TARE
WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

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S1011 (Rev. 12/99)

SCHN00239944

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J32619 135142

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10/12/01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY Dirt-Out

38960 lb 10:33 am 10/12/01 Tm/Dt
104220 lb 01:02 pm 10/12/01 Tm/Dt

CARRIER Keith Mott Trucking

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

B1011 (Rev. 12/99)

SCHN00239945

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-11-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

105760 lb 01:43 pm 10/11/01 Tm/Dt

37860 lb 01:17 pm 10/11/01 Tm/Dt

67,900

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN ☐	SLEET ☐	DOORS
WET	SNOW ☐	SEALS	LEAK ☐

S1011 (Rev. 12/99)

SCHN00239946

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-11-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

104080 lb 10:59 am 10/11/01 Tm/Dt

38040 lb 10:17 am 10/11/01 Tm/Dt

66,040

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER Wm

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	ICE G	LEAK G

S1011 (Flex. 12/99)

SCHN00239947

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-11-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

105680 lb 07:41 am 10/11/01 Tm/Dt

38000 lb 07:15 am 10/11/01 Tm/Dt

67,680

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

SCHN00239948

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10/11/01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY Dirt-out

38730 lb 12:56 pm 10/11/01 Tm/Dt

107420 lb 01:35 pm 10/11/01 Tm/Dt

CARRIER Keith Moll Trucking

TRACTOR NO. 1

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

B1011 (Rev. 12/99)

SCHN00239949

SCHNITZER STEEL INDUSTRIES, INC.
CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED
DATE 10/11/01

CUSTOMER Hillsboro LandFill CAR NO.

ADDRESS COMMODITY Diet - out

39100 lb 10:13 am 10/11/01 Tm/Dt
105260 lb. 10:34 am 10/11/01 Tm/Dt

CARRIER Keith Moll Trucking
TRACTOR NO. 1
STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER Craig

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

SCHN00239950

SCHNITZER STEEL INDUSTRIES, INC.
CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED
DATE 10/11/01

CUSTOMER Hillsboro Landfill
CAR NO.
ADDRESS
COMMODITY Dirt-out

38900 lb 07:17 am 10/11/01 Tm/Dt

106280 lb 07:47 am 10/11/01 Tm/Dt

CARRIER Keith Moll Trucking
TRACTOR NO. 1
STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER Craig Moffitt

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

SCHN00239951

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

103900 lb 10:47 am 10/10/01 Tm/Dt

37860 lb 10:23 am 10/10/01 Tm/Dt

66,040

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/89)

INFORM GRAPHICS, INC. (503) 643-FORM (3676) 232619

135142

SCHN00239952

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

103900 lb 10:47 am 10/10/01 Tm/Dt

37860 lb 10:23 am 10/10/01 Tm/Dt

66,040

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J32619 135142

S1011 (Rev. 12/89)

SCHN00239953

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J326519

136142

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out -

103320 lb 08:07 am 10/10/01 Tm/Dt

37840 lb 07:11 am 10/10/01 Tm/Dt

65,480

CARRIER Dick Moll Trkg

TRACTOR NO. #4

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER Wm

S1011 (Rev. 12/99)

SCHN00239954

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out -

103320 lb 08:07 am 10/10/01 Tm/Dt

37840 lb 07:11 am 10/10/01 Tm/Dt

65,480

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

136142

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J32619

S1011 (Rev. 12/99)

SCHN00239955

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

102600 lb 01:40 pm 10/10/01 Tm/Dt

37880 lb 01:09 pm 10/10/01 Tm/Dt

64,720

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J82619 135142

S1011 (Rev. 12/99)

SCHN00239956

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

102600 lb 01:40 pm 10/10/01 Tm/Dt

37880 lb 01:09 pm 10/10/01 Tm/Dt

64,720

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J32519 135142

S1011 (Rev. 12/99)

SCHN00239957

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

~~CUSTOMER~~ HAULED TO Hillsboro Landfill

CAR NO.

ADDRESS Hillsboro, OR

COMMODITY Clean Soil

38940 lb 01:08 pm 10/10/01 Tm/Dt

102200 lb 01:29 pm 10/10/01 Tm/Dt

63240

31.63 tons

CARRIER Kirk Moll Trucking

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER Steve

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

135142

INFORM GRAPHICS, INC. (503) 643-FORM (3676) J32619

B1011 (Rev. 12/99)

SCHN00239958

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

~~CUSTOMER~~ Hauled to Hillsboro Landfill

CAR NO.

ADDRESS Hillsboro, OR

COMMODITY Clean Soil

38940 lb 01:08 pm 10/10/01 Tm/Dt

102200 lb 01:29 pm 10/10/01 Tm/Dt

63240

31.63 tons

CARRIER Rich Moll Trucking

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER Steve

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

135142

(INFORM GRAPHICS, INC.) (503) 643-FORM (3676) J52619

81011 (Rev. 12/99)

SCHN00239959

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

HAULED TO: ~~CUSTOMER~~ HILLSBORO LANDFILL

CAR NO.

ADDRESS HILLSBORO, OR.

COMMODITY CLEAN SOIL

38620 lb 07:13 am 10/10/01 Tm/Dt

102680 lb 08:11 am 10/10/01 Tm/Dt

64060

32.03 tons

CARRIER KEITH MOLL TRUCKING

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER SHANE

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

SCHN00239960

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

HAULED TO:

~~CUSTOMER~~ HILLSBORO LANDFILL

CAR NO.

ADDRESS HILLSBORO, OR.

COMMODITY CLEAN SOIL

38620 lb 07:13 am 10/10/01 Tm/Dt

102680 lb 08:11 am 10/10/01 Tm/Dt

64060

32.03 tons

CARRIER KEITH MOLL TRUCKING

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER SHANE

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

SCHN00239961

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

HAULED TO: ~~CUSTOMER~~ HILLSBORO LANDFILL

CAR NO.

ADDRESS HILLSBORO, OR.

COMMODITY CLEAN SOIL

38620 lb 10:24 am 10/10/01 Tm/Dt

105640 lb 10:45 am 10/10/01 Tm/Dt

67020 LBS.

33.51 tons

CARRIER Keith Mott Trucking

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER

DRY	RAIN ☐	SLEET ☐	DOORS
WET	SNOW ☐	SEALS	LEAK ☐

S1011 (Rev. 12/99)

SCHN00239962

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-10-01

HAULED TO:

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS Hillsboro, OR.

COMMODITY Clean Soil

38620 lb 10:24 am 10/10/01 Tm/Dt

105640 lb 10:45 am 10/10/01 Tm/Dt

67020 LBS.

33.51 tons

CARRIER Keith Moll Trucking

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER J. Shaw

DRY	RAIN ☐	SLEET ☐	DOORS
WET	SNOW ☐	SEALS	LEAK ☐

S1011 (Rev. 12/99)

SCHN00239963

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 9/24/01

CUSTOMER Hills Boro Land Fill - (Sand) CAR NO.

ADDRESS COMMODITY

105860 lb 01:02 pm 09/24/01 Tm/Dt

38420 lb 12:37 pm 09/24/01 Tm/Dt

67,440

33.72 TONS

CARRIER Keith Moll Trucking

TRACTOR NO.

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/95)

SCHN00239964

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 9/24/01

CUSTOMER Hillsboro Landfill - Sand CAR NO.

ADDRESS ~~38540 lb 07:26 am 09/24/01 Tm/Dt~~ COMMODITY

38540 lb 07:26 am 09/24/01 Tm/Dt

102920 lb 07:57 am 09/24/01 Tm/Dt

64,380 lbs

32.19 TONS

CARRIER K. Moll Trkg

TRACTOR NO.

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/96)

SCHN00239965

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

20325

DATE 9/24/01

CUSTOMER ~~OREGON WASTE SYSTEMS~~ Hillsboro Landfill - Sand

BOX NO.

ADDRESS

PROFILE NO. 090302

105260 lb 10:31 am 09/24/01 Tm/Dt

38440 lb 10:15 am 09/24/01 Tm/Dt

66,820 lbs
33.41 tons

CARRIER Keith Mott Trucking

TRACTOR NO.

DRY	RAIN ☐	SLEET ☐	DOORS
WET	SNOW ☐	SEALS	LEAK ☐

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

OWS001 (Rev. 8/00)

SCHN00239966

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 9-24-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS Hillsboro, Ore

COMMODITY Dirt - Out -

105080 lb 07:58 am 09/24/01 Tm/Dt

37600 lb 07:28 am 09/24/01 Tm/Dt

67,480

CARRIER Dick Moll Trkg

TRACTOR NO. 1

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN ☐	SLEET ☐	DOORS
WET	SNOW ☐	SEALS	LEAK ☐

S1011 (Rev. 12/99)

SCHN00239967

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 9-24-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS Hillsboro, Ore.

COMMODITY Dirt-Out

103000 lb 10:38 am 09/24/01 Tm/Dt

37520 lb 10:17 am 09/24/01 Tm/Dt

65,480

CARRIER Dick Moll - TRKG

TRACTOR NO.

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN ☐	SLEET ☐	DOORS
WET	SNOW ☐	SEALED	LEAK ☐

B1011 (Rev. 12/95)

SCHN00239968

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 09-24-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS Hillsboro

COMMODITY Dirt-Out.

105040 lb 01:05 pm 09/24/01 Tm/Dt

37420 lb 12:48 pm 09/24/01 Tm/Dt

67,620

CARRIER Dick Moll Trkg

TRACTOR NO.

DRY	RAIN G	SLEETG	DOORS
WET	SNOW G	SEALS	LEAK G

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

S1011 (Rev. 12/99)

SCHN00239969

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-9-01

CUSTOMER Hillsboro Landfile

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

106480 lb 02:13 pm 10/09/01 Tm/Dt

37640 lb 02:01 pm 10/09/01 Tm/Dt

68,840

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

INFORM GRAPHICS INC. (503) 643-FORM (3676) J32619

135142

SCHN00239970

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-9-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

106480 lb 02:13 pm 10/09/01 Tm/Dt

37640 lb 02:01 pm 10/09/01 Tm/Dt

68,840

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

INFORM GRAPHICS INC. (503) 643-FORM (3676) J32619 135142

S1011 (Rev. 12/99)

SCHN00239971

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-9-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY Dirt - Out -

104120 lb 08:32 am 10/09/01 Tm/Dt

37820 lb 07:50 am 10/09/01 Tm/Dt

66,300

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

SCHN00239972

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-9-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY Dirt - Out

104120 lb 08:32 am 10/09/01 Tm/Dt

37820 lb 07:50 am 10/09/01 Tm/Dt

66,300

CARRIER Dick Moll Trkg

TRACTOR NO. #4

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	BEANS	LEAK G

INFORM GRAPHICS INC. (503) 643-FORM (3676) J32619

135142

S1011 (Rev. 12/99)

SCHN00239973

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-9-01

CUSTOMER Hillsboro Landfill CAR NO.

ADDRESS COMMODITY "Dirt"-Out

106740 lb 11:49 am 10/09/01 Tm/Dt

37740 lb 11:26 am 10/09/01 Tm/Dt

69,000

CARRIER Dick Moll Trug

TRACTOR NO. #4

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEEDS	LEAK G

S1011 (Rev. 12/99)

135142

INFORM GRAPHIC SYSTEMS (503) 643-FORM (3576) J32619

SCHN00239974

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-9-01

CUSTOMER Hillsboro Landfill CAR NO.

ADDRESS COMMODITY "Dirt"-Out

106740 lb 11:49 am 10/09/01 Tm/Dt

37740 lb 11:26 am 10/09/01 Tm/Dt

69,000

CARRIER Dick Moll Trug

TRACTOR NO. #4

STENCIL/LOAD LIMIT STENCIL/TARE WEIGHER

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEEDS	LEAK G

S1011 (Rev. 12/99)

INFORM GRAPHIC SYSTEMS (503) 643-FORM (3676) J32619

135142

SCHN00239975

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-09-01

HAULED TO:

CUSTOMER HILLSBORO LANDFILL

CAR NO.

ADDRESS HILLSBORO, OR.

COMMODITY CLEAN SOIL

38680 lb 07:52 am 10/09/01 Tm/Dt

99640 lb 08:39 am 10/09/01 Tm/Dt

60960 LBS.

30.48 TONS

CARRIER KEITH MOII TRUCKING

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER SHANE

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

SCHN00239976

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-09-01

HAULED TO:

CUSTOMER HILLSBORO LANDFILL

CAR NO.

ADDRESS HILLSBORO, OR.

COMMODITY CLEAN SOIL

38680 lb 07:52 am 10/09/01 Tm/Dt

99640 l 08:39 am 10/09/01 Tm/Dt

60960 LBS.

30.48 TONS

CARRIER KEITH MOIL TRUCKING

TRACTOR NO. 1

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER SHANE

S1011 (Rev. 12/99)

SCHN00239977

SCHNITZER STEEL INDUSTRIES, INC.
CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED
DATE 10/09/01

CUSTOMER Hawk To Hillsboro Landfill
CAR NO.
ADDRESS Hillsboro, OR
COMMODITY Clean Soil

38520 LWT See Attached
105880 1 11:57 am 10/09/01 Tm/Dt
67300
33.65 tons

CARRIER Keith Moll Trucking
TRACTOR NO. /
STENCIL/LOAD LIMIT
STENCIL/TARE
WEIGHER Shane

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

ORM GRAPHIC SYSTEMS (503) 643-FORM (3678) J32619 135142

SCHN00239978

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10/09/01

CUSTOMER Haul To Hillsboro Landfill

CAR NO.

ADDRESS Hillsboro, OR

COMMODITY Clean Soil

38520 LWT See Attached

105880 1 11:57 am 10/09/01 Tm/Dt

67300

33.65 tons

CARRIER Keith Moll Trucking

TRACTOR NO. /

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER Shane

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

ORM GRAPHICS (503) 643-FORM (3676) J32619 135142

SCHN00239979

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10/09/01

HAUL TO:

~~CUSTOMER~~ HILLSBORO LANDFILL

CAR NO.

ADDRESS Hillsboro, OR.

COMMODITY CLEAN SOIL

[illegible] Dto [illegible] am [illegible]

CARRIER KEITH MOLL TRUCKING

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER [illegible]

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

INFORM GRAPHIC SYSTEMS (503) 643-FORM (3676) J32619

135142

S1011 (Rev. 12/99)

SCHN00239980

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10/09/01

HAUL TO:

~~CUSTOMER~~ HILLSBORO LANDFILL

CAR NO.

ADDRESS Hillsboro, OR.

COMMODITY CLEAN SOIL

[illegible] lbs [illegible] am [illegible] Tm Dt

CARRIER KEITH MOLL TRUCKING

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER [illegible]

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

INFORM GRAPHIC SYSTEMS (503) 643-FORM (3676) J32619

135142

SCHN00239981

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10/09/01

HAUL TO:

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS Hillsboro, OR.

COMMODITY Clean Soil

38500 lb 02:03 pm 10/09/01 Tm/Dt

103280 lb 02:19 pm 10/09/01 Tm/Dt

64780

32.39 tons

CARRIER Keith Moll Trucking

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER Shane

DRY	RAIN ☐	SLEET ☐	DOORS
WET	SNOW ☐	SEALS	LEAK ☐

S1011 (Rev. 12/99)

SCHN00239982

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10/09/01

HAUL TO:

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS Hillsboro, OR.

COMMODITY Clean Soil

38500 lb 02:03 pm 10/09/01 Tm/Dt

103280 lb 02:19 pm 10/09/01 Tm/Dt

CM780

32.39 tons

CARRIER Keith Moll Trucking

TRACTOR NO. 1

STENCIL/LOAD LIMIT

STENCIL/TARE

WEIGHER Shane

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

S1011 (Rev. 12/99)

SCHN00239983

SCHNITZER STEEL INDUSTRIES, INC.

CERTIFIED PUBLIC SCALE

☐ COUPLED ☐ UNCOUPLED

DATE 10-15-01

CUSTOMER Hillsboro Landfill

CAR NO.

ADDRESS

COMMODITY "Dirt" - Out

[illegible] 07:53 on 10/15/01 Tm/Dt

[illegible] 07:28 on 10/15/01 Tm/Dt

66,160

"Last Load"

CARRIER Dick Moll Trkg

TRACTOR NO. #4

DRY	RAIN G	SLEET G	DOORS
WET	SNOW G	SEALS	LEAK G

(Rev. 12/99)

SCHN00239984

Confirmation Report – Memory Send

Time : 09-21-2001 03:17pm
Tel line : 5032866948
Name : SCHNITZER SCRAP OFFICE

Job number	:	498
Date	:	09-21 03:15pm
To	:	915034937822
Document pages	:	004
Start time	:	09-21 03:15pm
End time	:	09-21 03:17pm
Pages sent	:	004
Status	:	OK

Job number : 498 *** SEND SUCCESSFUL ***

09/19/01 11:03 FAX 503 493 7822 WASTE MANAGEMENT 001

WASTE MANAGEMENT, INC.

7227 N.E. 55th Avenue
Portland, OR 97218
Phone: 503-331-2250 Fax: 503-493-7822

FAX COVER PAGE

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. COMMUNICATION IN ERROR, PLEASE NOTIFY US IMMEDIATELY BY TELEPHONE AND RETURN THE ORIGINAL MESSAGE TO US AT THE ABOVE ADDRESS VIA U.S. POSTAL SERVICE. WE APPRECIATE YOUR COOPERATION.

Date: ~~9-19-01~~ 9/21/01
Attention: ~~Jim J~~ Dean Larson
Company: ~~Schnitzer~~ Waste Management
Fax number:
From: Dean Larson – Landfill Sales
Number of Pages (with cover sheet): 3

Comments: How about the 1st of 5 trucks on Monday, 24th @ 0700? Please let me know ASAP so I can confirm tracking. Please fill out attached & fax back to me.

$2 $6 trans $8 trans

Dean Please call me.
Thanks,
J

If you do not receive all of the pages or it is illegible, please call 503-493-7825.

SCHN00239985

Coarse grade - washed

GLACIER NORTHWEST
COLUMBIA RIVER SAND
SIEVE ANALYSIS (Linnton)

2001

TOP DRESSING / MASON

L	DATE	CBTCODE	TONS REF	PERCENT PASSING #8 2.36mm	#10 2.00mm	#18 1.00mm	#35 500um	#50 250um	#100 150um	#140 106um	#270 53um	S.E.	PERCENT RETAINED #8 2.36mm	#10 2.00mm	#18 1.00mm	#35 500um	#50 250um	#100 150um	#140 106um	#270 53um
1	1/17/01	L41		100	100	92	67	21	3	2	1		0.1	0.3	8.2	24.6	46.7	17.6	1.4	0.9
2	2/2/01	L41		100	99	89	61	17	3	2	1		0.4	0.5	10.2	28.4	43.7	13.7	1.1	0.8
3	2/27/01	L41		100	100	93	69	20	4	2	1.6		0.1	0.2	6.9	23.8	48.7	18.7	1.3	0.7
4	3/6/01	L41		100	100	94	71	21	4	2	1.2		0.2	0.2	6.0	23.0	51.1	16.9	1.4	1.0
5																				
6																				
		AVERAGE		100	100	92	67	20	4	2	1.2	3/31/01	0.2	0.3	7.8	25.0	47.3	16.2	1.3	0.9

		spec.
USL	1 #10 & #18	10%or less
LSL	2 #35 & #50	60% min.
	3 #100	20% max
	4 #140 & #270	5% max

SCHN00239995

GLACIER NORTHWEST
COLUMBIA RIVER SAND
SIEVE ANALYSIS (Linnton)
FILL SAND

2001

L	DATE	CBTCODE	TONS REP.	3/8 9.5mm	#4 4.75mm	#8 2.36mm	#16 1.18mm	#30 600um	#50 300um	#100 150um	#200 75um	F.M.	S.E	COMMENTS
1	1/17/01	CR41		100	99	98	93	78	36	3	0.9	1.91		
2	3/21/01	CR41		100	99	96	90	73	31	3	1.4	2.08		
3														
4														
		AVERAGE		100	99	97	92	76	35	3	1.2	2.00	######	
			USL											
			LSL											

SCHN00239996

Exhibit 5-6
FILTER BED MEDIUM

The filter bed medium shall consist of clean medium to fine sand with no organics, frozen pieces, or other deleterious materials and meeting the following gradation:

Sieve Size	Percent Passing
#4	95-100
#8	70-100
#16	40-90
#30	15-75
#50	0-25
#100	< 4

SCHN00239997

May 15, 2001

Questions for Tim Turner: IT Storm Water Source Control Project

- If all the discharge valves were closed, what volume of water would the units hold?
  100,000 gallons.

- What would the weights of the systems be, fully loaded?
  ~ 590 tons.

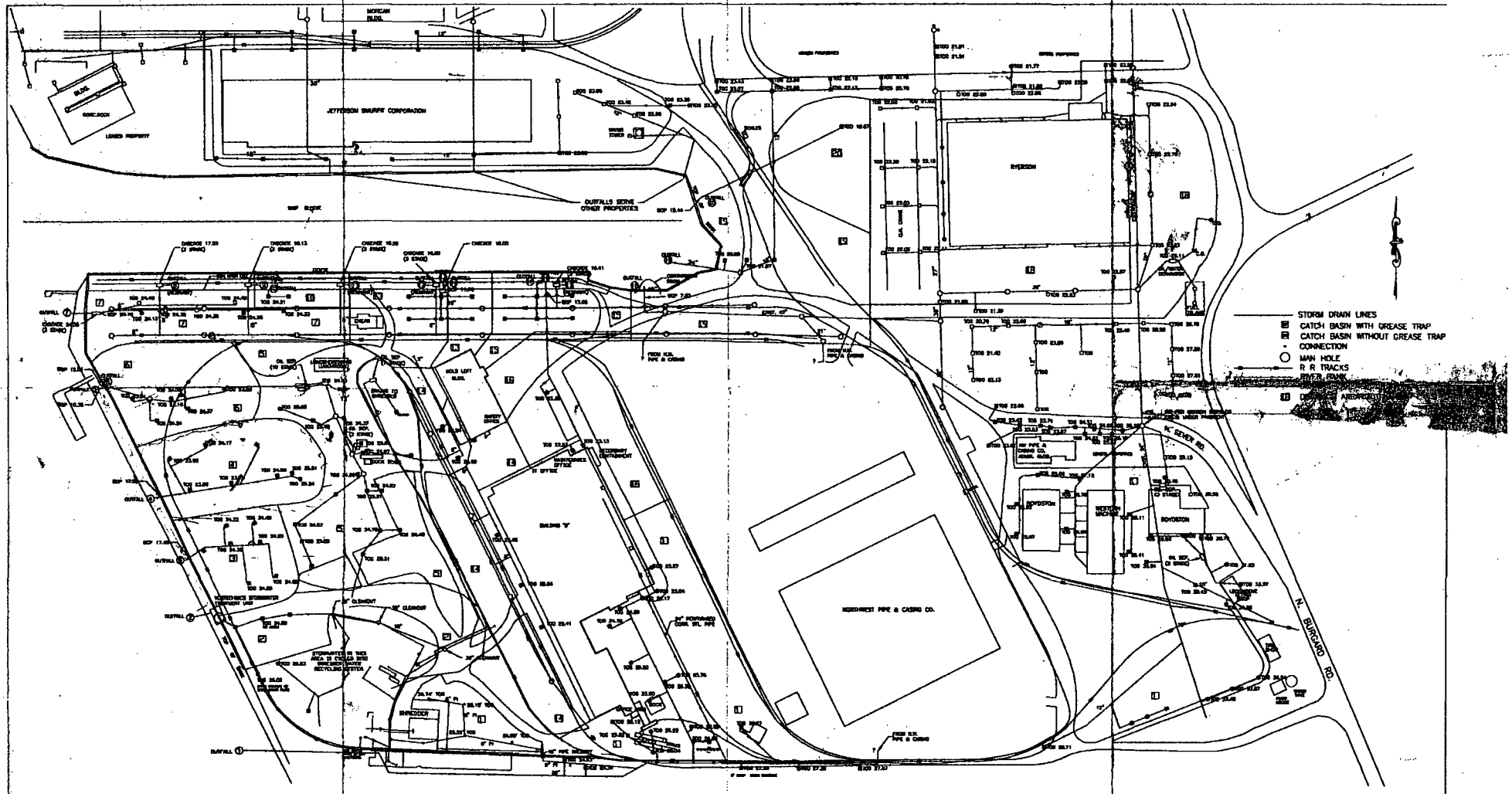
- Are there any geo-tech stability concerns? Once built and fully loaded?
  Liquefaction during an earthquake could be a problem or if the bank erodes during a flood event.

- What is the total cost of the project? $ At this point without actual cost estimates, I'd guess $200,000 to $400,000.

- What is the name of the system component fabricators?
  ConTech Construction, Inc./Oregon Culvert
  2257 NE Cornell Road
  Hillsboro, OR>

Concerns:

- Access limited for cleaning
- How is the sand installed?
- will a confined space permit be needed for cleaning? Yes
- What is the design storm criteria used for the system?



SCHNITZER STEEL PRODUCTS CO.

PORTLAND, OREGON

FIGURE 2: SITE PLAN SHOWING DRAINAGE FEATURES

10/4/99

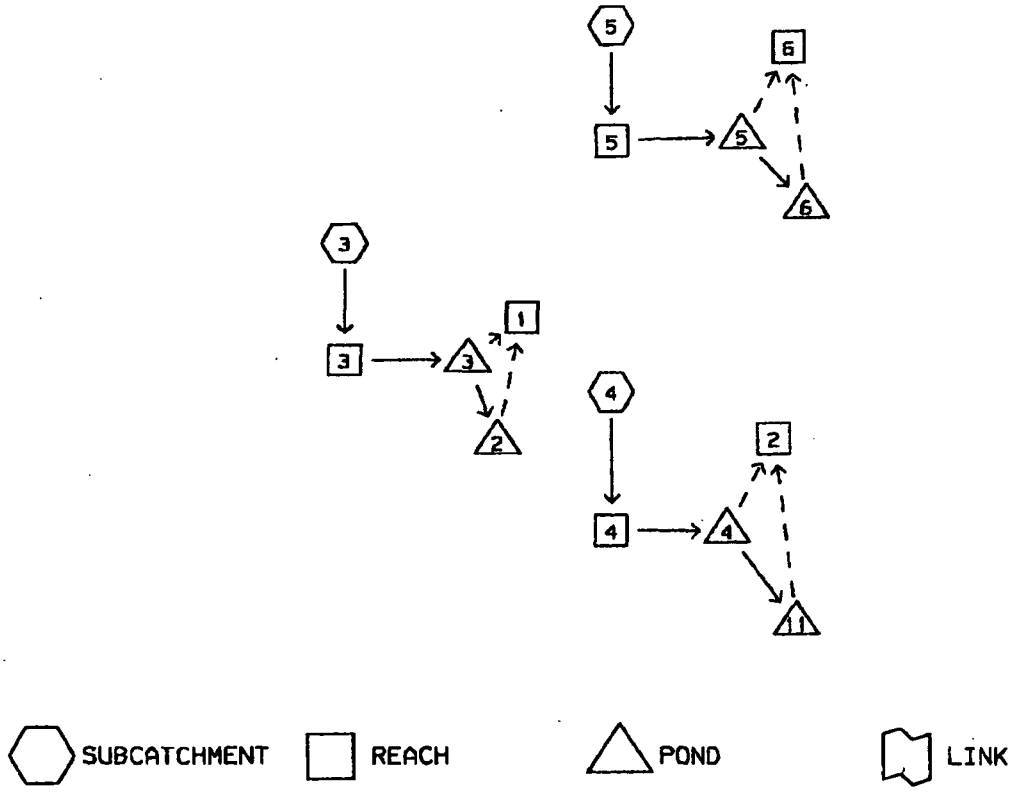
SCHN00240054

Data for 1904 RIVER SITE (WQ EVENT) MAXIMIZE
TYPE IA 24-HOUR RAINFALL= .83 IN
BASIN 3, 4, 5/6

10 May 01

HydroCAD 5.11 000668 (c) 1986-1999 Applied Microcomputer Systems

WATERSHED ROUTING ==========



*Designed to 1/3 of a 2 year storm event.

POND 2 25 LF SAND FILTER (40 LF TOTAL)

Qin = .38 CFS @ 7.96 HRS, VOLUME= .12 AF
Qout= .06 CFS @ 13.72 HRS, VOLUME= .12 AF, ATTEN= 84%, LAG= 345.8 MIN
Qpri= .06 CFS @ 13.72 HRS, VOLUME= .12 AF
Qsec= 0.00 CFS @ 0.00 HRS, VOLUME= 0.00 AF

ELEVATION (FT)	CUM.STOR (CF)
0.0	0
1.8	1
3.0	488
4.0	954
5.0	1374
6.0	1729
7.0	1969
7.3	1991
10.0	1992

STOR-IND METHOD
PEAK STORAGE = 1921 CF
PEAK ELEVATION= 6.8 FT
FLOOD ELEVATION= 10.0 FT
START ELEVATION= 0.0 FT
SPAN= 0-48 HRS, dt=.1 HRS
20 x FINER ROUTING
Tdet= 468.9 MIN (.12 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	0.0'	SAND FILTER - 2"/HR
2	S	7.7'	15" HORIZONTAL ORIFICE/GRATE

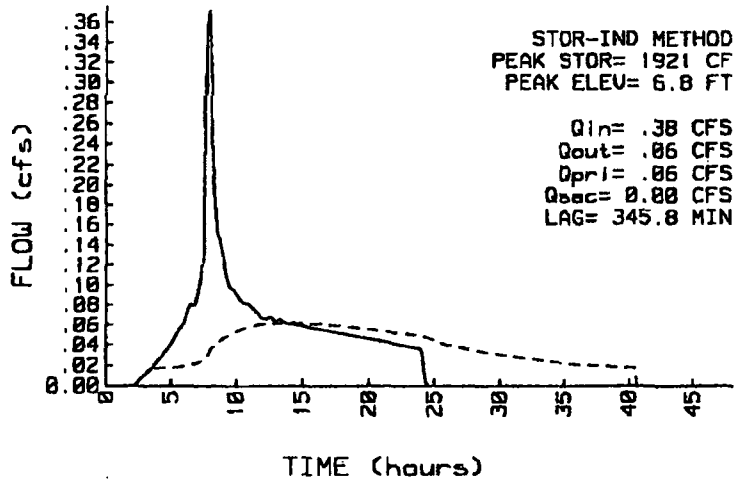
ELEV(FT)	DISCH(CFS)
0.0	0.00
.1	.01
2.5	.02
5.0	.04
7.5	.07
10.0	.09

Q=.6 Area SQR(2gH) (Limited to weir flow @ low head)

Primary Discharge
└─1=Special Outlet

Secondary Discharge
└─2=Orifice/Grate

POND 2 INFLOW & OUTFLOW
25 LF SAND FILTER (40 LF TOTAL)



BASIN 3

Job Name: SCHNITZER STEEL
Job Number:
Date: 5/10/01 2:28 PM
Pond Description: CMPA Storage Volume (Area 3)

Determination of Area **Values of A/BD**

d/D	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.100	—	0.072	0.081	0.090	0.100	0.109	0.119	0.128	0.138	0.148
0.200	0.157	0.167	0.177	0.187	0.197	0.207	0.217	0.227	0.237	0.247
0.300	0.257	0.267	0.277	0.287	0.297	0.307	0.316	0.326	0.336	0.346
0.400	0.356	0.365	0.375	0.385	0.394	0.404	0.413	0.423	0.432	0.442
0.500	0.451	0.460	0.470	0.479	0.488	0.497	0.506	0.515	0.524	0.533
0.600	0.541	0.550	0.559	0.567	0.576	0.584	0.592	0.600	0.608	0.616
0.700	0.624	0.632	0.640	0.647	0.655	0.662	0.670	0.677	0.684	0.690
0.800	0.697	0.704	0.710	0.716	0.722	0.728	0.734	0.740	0.745	0.750
0.900	0.755	0.760	0.764	0.769	0.772	0.776	0.780	0.783	0.785	0.787
1.000	0.788									

Given: L= 40
B= 11.83
D= 7.58

Given: L= 25 LF sand bed
BD= 89.671

d	d/D	Factor	Area/LF	Volume (cu. ft.)
0.50	0.066	0.128	11.48	459.1
1.80	0.237	0.233	20.89	835.7
3.00	0.396	0.369	33.09	1323.5
4.00	0.528	0.499	44.75	1789.8
5.00	0.660	0.616	55.24	2209.5
6.00	0.792	0.715	64.12	2564.6
7.00	0.923	0.782	70.12	2804.9
7.58	1.000	0.788	70.66	2826.4

Adjusted for standing water and sand filter volume

0.0
0.0
487.81
954.10
1373.77
1728.86
1969.18
1990.71

BASIN 3

Job Name: SCHNITZER STEEL
Job Number:
Date: 5/10/01 2:29 PM
Pond Description: WQ Treatment System

SIZING SAND FILTER SYSTEM

PSM page III-3-80 appears to recommend f = 2 in/hr (f representing hydraulic conductivity) for a representative rate. (Note that the formula given for hydraulic gradient on that page is incorrect; it is given correctly on III-3-17.)

For a definition of hydraulic gradient, PSM uses:

I = (h + L) / L where **h** is head and **L** is depth of filter material

This produces an ***instantaneous*** hydraulic gradient at a particular water depth.

Since the infiltration provisions of HydroCAD represent a fixed rate of water movement through the bottom of the pond rather than a depth dependent rate, the program must use a special outlet to model properly a filtration facility. That option models the outlet rate as a linear function of depth.

Since the structure used for this sand filter is a pipe arch, the volume is not linearly related to depth. The surface area is approximately 25 x 11.8 = 295 sq. ft.

We choose to use the PSM formulation, as we are able to model dynamically.

And per PSM,

f = 2.00 in/hr	**Q/A = f (h+L)/L =**	0.000000 fps	@ h =-1.50,	where (h = -L)
= 4.63E-05 fps		0.000185 fps	@ h = 4.50',	
		0.00 cu. ft.	@ h = 0.00',	if **A** = 295 sf
from stage/storage tabulation in HyroCAD, the volume =			@ h = 7.25',	
The outlet flow rate, then, is **Q = A x Q/A =**		0.000 cfs	@ h =-1.50,	
		0.023 cfs	@ h = 1.00',	
		0.046 cfs	@ h = 3.50',	
		0.068 cfs	@ h = 6.00',	
		0.091 cfs	@ h = 8.50',	

Failure: The vault is assumed to be in need of maintenance when the fall rate of water in the vault after inflow has ceased is less than that calculated for a hydraulic conductivity of one inch per hour. For various heads, those rates are:

f = 1.00	**v = f (h+L)/L =**	1.000 in/hr	@ h = 0.00',	where (h = -L)
		1.667 in/hr	@ h = 1.00',	
		2.333 in/hr	@ h = 2.00',	
		3.000 in/hr	@ h = 3.00',	
		3.667 in/hr	@ h = 4.00',	
		4.333 in/hr	@ h = 5.00',	
		5.000 in/hr	@ h = 6.00',	

POND 11 40 LF SAND FILTER (55 LF TOTAL)

Qin = .56 CFS @ 7.96 HRS, VOLUME= .18 AF
Qout= .10 CFS @ 12.70 HRS, VOLUME= .18 AF, ATTEN= 82%, LAG= 284.3 MIN
Qpri= .10 CFS @ 12.70 HRS, VOLUME= .18 AF
Qsec= 0.00 CFS @ 0.00 HRS, VOLUME= 0.00 AF

ELEVATION (FT)	CUM.STOR (CF)
0.0	0
1.8	1
3.0	671
4.0	1312
5.0	1889
6.0	2377
7.0	2707
7.3	2737
10.0	2738

STOR-IND METHOD
PEAK STORAGE = 2614 CF
PEAK ELEVATION= 6.7 FT
FLOOD ELEVATION= 10.0 FT
START ELEVATION= 0.0 FT
SPAN= 0-48 HRS, dt=.1 HRS
20 x FINER ROUTING
Tdet= 395.7 MIN (.18 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	0.0'	SAND FILTER - 2"/HR
2	S	7.7'	15" HORIZONTAL ORIFICE/GRATE

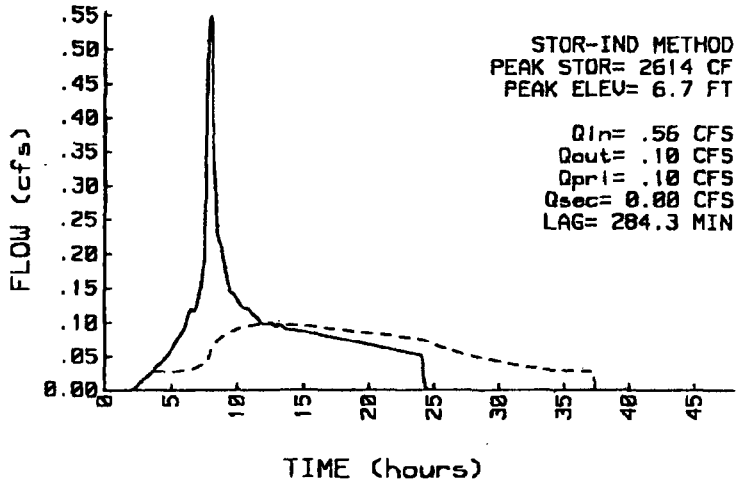
ELEV(FT)	DISCH(CFS)
0.0	0.00
.1	.02
2.5	.03
5.0	.07
7.5	.11
10.0	.15

Q=.6 Area SQR(2gH) (Limited to weir flow @ low head)

Primary Discharge
└─1=Special Outlet

Secondary Discharge
└─2=Orifice/Grate

POND 11 INFLOW & OUTFLOW
40 LF SAND FILTER (55 LF TOTAL)



Job Name: SCHNITZER STEEL
Job Number:
Date: 5/10/01 2:55 PM
Pond Description: CMPA Storage Volume

BASIN 4

Determination of Area **Values of A/BD**

d/D	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.100	—	0.072	0.081	0.090	0.100	0.109	0.119	0.128	0.138	0.148
0.200	0.157	0.167	0.177	0.187	0.197	0.207	0.217	0.227	0.237	0.247
0.300	0.257	0.267	0.277	0.287	0.297	0.307	0.316	0.326	0.336	0.346
0.400	0.356	0.365	0.375	0.385	0.394	0.404	0.413	0.423	0.432	0.442
0.500	0.451	0.460	0.470	0.479	0.488	0.497	0.506	0.515	0.524	0.533
0.600	0.541	0.550	0.559	0.567	0.576	0.584	0.592	0.600	0.608	0.616
0.700	0.624	0.632	0.640	0.647	0.655	0.662	0.670	0.677	0.684	0.690
0.800	0.697	0.704	0.710	0.716	0.722	0.728	0.734	0.740	0.745	0.750
0.900	0.755	0.760	0.764	0.769	0.772	0.776	0.780	0.783	0.785	0.787
1.000	0.788									

Given: L= 55
B= 11.83
D= 7.58

Given: L= 40 LF sand bed
BD= 89.671

d	d/D	Factor	Area/LF	Volume (cu. ft.)
0.50	0.066	0.128	11.48	631.3
1.80	0.237	0.233	20.89	1149.1
3.00	0.396	0.369	33.09	1819.9
4.00	0.528	0.499	44.75	2461.0
5.00	0.660	0.616	55.24	3038.1
6.00	0.792	0.715	64.12	3526.3
7.00	0.923	0.782	70.12	3856.8
7.58	1.000	0.788	70.66	3886.4

Adjusted for standing water and sand filter volume

0.0
0.0
670.74
1311.89
1888.93
2377.19
2707.63
2737.22

BASIN 4

Job Name: SCHNITZER STEEL
Job Number:
Date: 5/10/01 2:57 PM
Pond Description: WQ Treatment System

SIZING SAND FILTER SYSTEM

PSM page III-3-80 appears to recommend f = 2 in/hr (f representing hydraulic conductivity) for a representative rate. (Note that the formula given for hydraulic gradient on that page is incorrect; it is given correctly on III-3-17.)

For a definition of hydraulic gradient, PSM uses:

I = (h + L) / L where **h** is head and **L** is depth of filter material

This produces an ***instantaneous*** hydraulic gradient at a particular water depth.

Since the infiltration provisions of HydroCAD represent a fixed rate of water movement through the bottom of the pond rather than a depth dependent rate, the program must use a special outlet to model properly a filtration facility. That option models the outlet rate as a linear function of depth.

Since the structure used for this sand filter is a pipe arch, the volume is not linearly related to depth. The surface area is approximately 40 x 11.8 = 472 sq. ft.

We choose to use the PSM formulation, as we are able to model dynamically.

And per PSM,

f = 2.00 in/hr	Q/A = f (h+L)/L =	0.000000 fps	@ h =-1.50,	where (h = -L)
= 4.63E-05 fps		0.000185 fps	@ h = 4.50',	
		0.00 cu. ft.	@ h = 0.00',	if A = 472 sf
from stage/storage tabulation in HyroCAD, the volume =			@ h = 7.25',	
The outlet flow rate, then, is Q = A x Q/A =		0.000 cfs	@ h =-1.50,	
		0.036 cfs	@ h = 1.00',	
		0.073 cfs	@ h = 3.50',	
		0.109 cfs	@ h = 6.00',	
		0.146 cfs	@ h = 8.50',	

Failure: The vault is assumed to be in need of maintenance when the fall rate of water in the vault after inflow has ceased is less than that calculated for a hydraulic conductivity of one inch per hour. For various heads, those rates are:

f = 1.00	v = f (h+L)/L =	1.000 in/hr	@ h = 0.00',	where (h = -L)
		1.667 in/hr	@ h = 1.00',	
		2.333 in/hr	@ h = 2.00',	
		3.000 in/hr	@ h = 3.00',	
		3.667 in/hr	@ h = 4.00',	
		4.333 in/hr	@ h = 5.00',	
		5.000 in/hr	@ h = 6.00',	

POND 6 140 LF SAND FILTER (165 LF TOTAL)

Qin = 1.65 CFS @ 7.96 HRS, VOLUME= .53 AF
Qout= .30 CFS @ 11.78 HRS, VOLUME= .53 AF, ATTEN= 82%, LAG= 229.3 MIN
Qpri= .30 CFS @ 11.78 HRS, VOLUME= .53 AF
Qsec= 0.00 CFS @ 0.00 HRS, VOLUME= 0.00 AF

ELEVATION (FT)	CUM.STOR (CF)
0.0	0
1.8	1
3.0	2012
4.0	3936
5.0	5666
6.0	7131
7.0	8123
7.3	8212
10.0	8213

STOR-IND METHOD
PEAK STORAGE = 7024 CF
PEAK ELEVATION= 5.9 FT
FLOOD ELEVATION= 10.0 FT
START ELEVATION= 0.0 FT
SPAN= 0-48 HRS, dt=.1 HRS
20 x FINER ROUTING
Tdet= 321.8 MIN (.53 AF)

#	ROUTE	INVERT	OUTLET DEVICES
1	P	0.0'	SAND FILTER - 2"/HR
2	S	7.7'	15" HORIZONTAL ORIFICE/GRATE

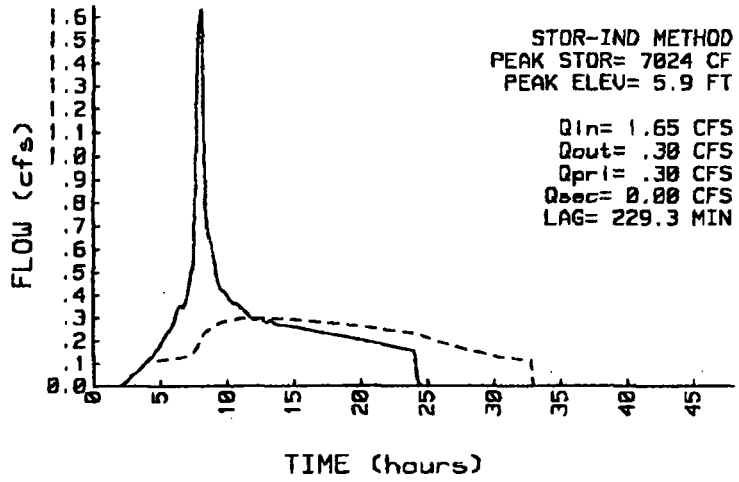
ELEV(FT)	DISCH(CFS)
0.0	0.00
.1	.07
2.5	.13
5.0	.25
7.5	.38
10.0	.51

Q=.6 Area SQR(2gH) (Limited to weir flow @ low head)

Primary Discharge
└─1=Special Outlet

Secondary Discharge
└─2=Orifice/Grate

POND 6 INFLOW & OUTFLOW
140 LF SAND FILTER (165 LF TOTAL)



Job Name: SCHNITZER STEEL
Job Number:
Date: 5/10/01 2:56 PM
Pond Description: CMPA Storage Volume

BASIN 5/6

Determination of Area **Values of A/BD**

d/D	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.100	—	0.072	0.081	0.090	0.100	0.109	0.119	0.128	0.138	0.148
0.200	0.157	0.167	0.177	0.187	0.197	0.207	0.217	0.227	0.237	0.247
0.300	0.257	0.267	0.277	0.287	0.297	0.307	0.316	0.326	0.336	0.346
0.400	0.356	0.365	0.375	0.385	0.394	0.404	0.413	0.423	0.432	0.442
0.500	0.451	0.460	0.470	0.479	0.488	0.497	0.506	0.515	0.524	0.533
0.600	0.541	0.550	0.559	0.567	0.576	0.584	0.592	0.600	0.608	0.616
0.700	0.624	0.632	0.640	0.647	0.655	0.662	0.670	0.677	0.684	0.690
0.800	0.697	0.704	0.710	0.716	0.722	0.728	0.734	0.740	0.745	0.750
0.900	0.755	0.760	0.764	0.769	0.772	0.776	0.780	0.783	0.785	0.787
1.000	0.788									

Given: L= 165
B= 11.83
D= 7.58

Given: L= 140 LF sand bed
BD= 89.671

d	d/D	Factor	Area/LF	Volume (cu. ft.)
0.50	0.066	0.128	11.48	1893.9
1.80	0.237	0.233	20.89	3447.4
3.00	0.396	0.369	33.09	5459.6
4.00	0.528	0.499	44.75	7383.1
5.00	0.660	0.616	55.24	9114.2
6.00	0.792	0.715	64.12	10579.0
7.00	0.923	0.782	70.12	11570.3
7.58	1.000	0.788	70.66	11659.1

Adjusted for standing water and sand filter volume

0.0
0.0
2012.23
3935.68
5666.78
7131.57
8122.88
8211.66

Job Name: SCHNITZER STEEL

Job Number:

Date: 5/10/01 2:56 PM

Pond Description: WQ Treatment System

BASIN 5/6

SIZING SAND FILTER SYSTEM

PSM page III-3-80 appears to recommend f = 2 in/hr (f representing hydraulic conductivity) for a representative rate. (Note that the formula given for hydraulic gradient on that page is incorrect; it is given correctly on III-3-17.)

For a definition of hydraulic gradient, PSM uses:

I = (h + L) / L where **h** is head and **L** is depth of filter material

This produces an ***instantaneous*** hydraulic gradient at a particular water depth.

Since the infiltration provisions of HydroCAD represent a fixed rate of water movement through the bottom of the pond rather than a depth dependent rate, the program must use a special outlet to model properly a filtration facility. That option models the outlet rate as a linear function of depth.

Since the structure used for this sand filter is a pipe arch, the volume is not linearly related to depth. The surface area is approximately 140 x 11.8 = 1652 sq. ft.

We choose to use the PSM formulation, as we are able to model dynamically.

And per PSM,

f = 2.00 in/hr	**Q/A = f (h+L)/L =**	0.000000 fps	@ h =-1.50,	where (h = -L)
= 4.63E-05 fps		0.000185 fps	@ h = 4.50',	
		0.00 cu. ft.	@ h = 0.00',	if **A** = 1,652 sf
from stage/storage tabulation in HyroCAD, the volume =			@ h = 7.25',	
The outlet flow rate, then, is **Q = A x Q/A =**		0.000 cfs	@ h =-1.50,	
		0.127 cfs	@ h = 1.00',	
		0.255 cfs	@ h = 3.50',	
		0.382 cfs	@ h = 6.00',	
		0.510 cfs	@ h = 8.50',	

Failure: The vault is assumed to be in need of maintenance when the fall rate of water in the vault after inflow has ceased is less than that calculated for a hydraulic conductivity of one inch per hour. For various heads, those rates are:

f = 1.00	**v = f (h+L)/L =**	1.000 in/hr	@ h = 0.00',	where (h = -L)
		1.667 in/hr	@ h = 1.00',	
		2.333 in/hr	@ h = 2.00',	
		3.000 in/hr	@ h = 3.00',	
		3.667 in/hr	@ h = 4.00',	
		4.333 in/hr	@ h = 5.00',	
		5.000 in/hr	@ h = 6.00',	

SCHNITZER STEEL PRODUCTS CO.
3200 NW Yeon Avenue P.O. Box 10047 Portland, Oregon 97296-0047
Phone (503) 286-5771 Telex 289875 FAX (503) 286-6948

Mr. Dennis Jurries
Oregon Department of Environmental Quality
Northwest Region, Water Quality Program
2020 SW 4th Avenue, Suite 400
Portland, Oregon 97201

September 20, 1999

SUBJECT: Comments on Draft NPDES General Stormwater Discharge Permit 1200-COLS

Dear Mr. Jurries:

Schnitzer Steel Products Co. would like to take this opportunity to provide comments on the draft NPDES General Stormwater Discharge Permit 1200-COLS recently issued for public comment. Schnitzer Steel appreciates the time and effort that the Department of Environmental Quality (DEQ) has put into preparing this general permit, and is committed to cooperating with both public and private stakeholders in pursuing improved water quality through the permitting process. As a stormwater discharger potentially located within the Columbia Slough watershed, and who potentially may be impacted by the 1200-COLS permit, Schnitzer Steel appreciates the opportunity to provide the following comments:

1. **Sources Covered:** The draft permit states that it is intended to replace other 1200-series permits in the "Columbia Slough sub-basin." However, the Columbia Slough sub-basin is not depicted, described or otherwise defined in the permit. The DEQ should provide a map or other means of defining this sub-basin.

2. **Sources Covered:** The draft 1200-COLS permit appears to have significantly expanded authority over dischargers by relying on definitions of "stormwater associated with industrial activity," rather than strictly by SIC codes as has previously been the case. This expansion of authority raises concern regarding the potential for arbitrary interpretation and broad administrative discretion that could lead to inconsistent application of rules between potential permittees. If this is the intended interpretation, the DEQ should justify this expansion of authority. Otherwise, the permit should clearly indicate that only industrial activities associated with the SIC codes listed in the table are subject to the permit.

3. **Schedule A, Stormwater Discharge Benchmarks, Item 8. Benchmarks:** The benchmark for lead in the draft permit has been established based on chronic health criteria, rather than acute criteria as has previously been the case. However, stormwater discharge events are short-term in nature, suggesting that acute values may be more appropriate for the purpose of setting benchmarks.

4. **Schedule A, Stormwater Discharge Benchmarks, Item 9. Review of SWPCP:** The draft permit allows only 30 days for review of the SWPC Plan in the event that benchmarks are not achieved. Under other 1200-series permits (e.g., the 1200-Z), 60 days is allowed for Plan review. As stormwater BMPs increase in complexity, it becomes increasingly difficult to identify and evaluate available and appropriate BMPs for implementation. Therefore, the DEQ should consider maintaining the 60-day time period for plan review.

5. **Schedule A, Stormwater Discharge Benchmarks, Item 9. Review of SWPCP, b) Background or Natural Conditions:** The draft permit indicates that a demonstration of natural or background conditions must be performed through monitoring of the same storm event used to evaluate benchmarks. However, there are some circumstances where this requirement would not be appropriate. For example, if the benchmark exceedance were the result of groundwater intrusion, it might be more appropriate to determine the background groundwater concentrations prior to dilution by stormwater. The DEQ should consider revising this condition to allow more flexibility on a case-by-case basis.

6. Due to the complexity of the draft permit, and the numerous and significant differences from previous permits which this draft is intended to replace, many significant comments are expected to be provided to the DEQ by various interested parties. Should the comments received result in substantial changes to the draft permit, the DEQ should consider providing a revised draft of the permit and requesting a second round of public comment.

Thank you for providing the opportunity to comment on the draft permit. If you have any questions regarding the comments detailed above, please do not hesitate to contact me directly (503) 286-6944.

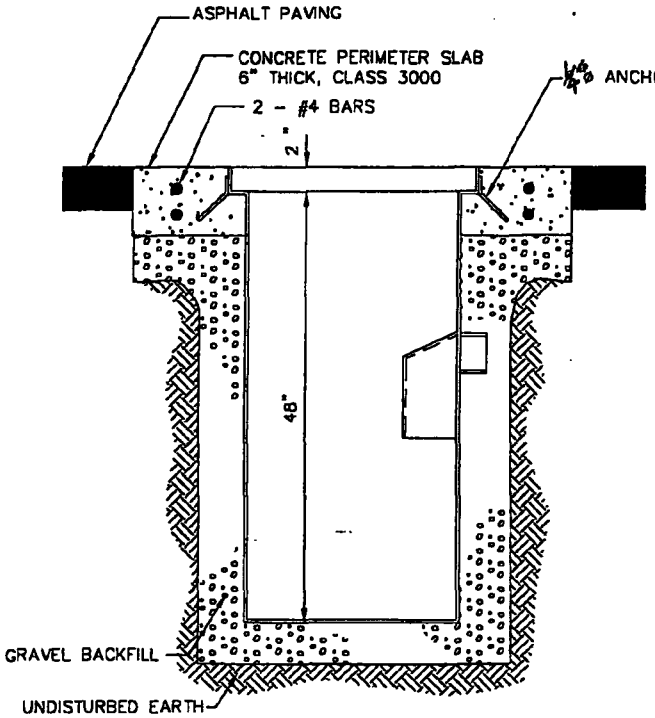
Sincerely,

SCHNITZER STEEL PRODUCTS CO.

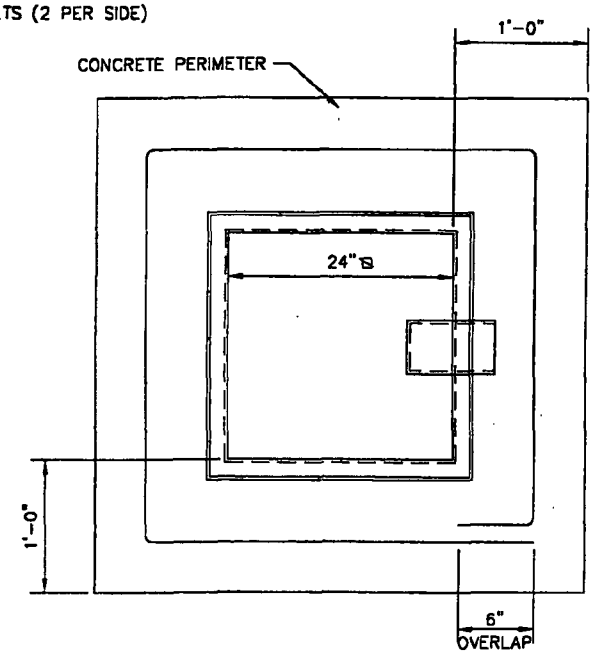
MATHEW J. CUSMA
Environmental Administrator

mjc

bcc: Jim Jakubiak, SSP-IT
Tom Zelenka, SIC



SECTION



PLAN

SPECIFICATIONS

1. ALL WELDED, SOLID CONSTRUCTION, PL. BODY, WITH PL. GRATE FRAME.
2. COATED INSIDE AND OUT WITH ASPHALTIC PAINT.
3. SUPPLIED WITH EIGHT ANCHOR BOLTS EACH.
4. DUCTILE IRON GRATE.

THE Lynch CO., INC.
4706 S.E. 18TH AVE. PORTLAND, OREGON 97202
PHONE (503) 236-3825

H-20 LOAD DESIGN

DRAWN BY: BPT 1/14/97

FILENAME: LYNCH08.DWG

COME RAIN, WE SHINE.

STORMWATER MANAGEMENT

June 7, 2000

Jim Jakubiak
Schnitzer Steel
PO Box 10047
Portland, OR 97296-0047

Dear Jim,

This is to follow up on yesterday's conversation and provide the information that you requested on our catch basin StormFilter (CBSF).

As we discussed, the sizing calculation for 12,600 square feet using the Portland storm (0.83 inches in 24 hours) indicates that the site would generally require a catch basin unit with 2 cartridges*. When I was dealing with Joe Sturza, I recommended a 4-cartridge unit because the site has a high potential for accumulating sediment. As per our discussion, however, a single cartridge unit may be a good place to start for your trial system if you are willing to monitor the filter regularly, remove sediment, and change the filter as needed. Since there is no regulatory agency reviewing anything on this, it is entirely your choice. We just need to be sure that you understand that this system will need to be maintained more frequently than a larger system.

Also as discussed, we do not provide any site engineering or construction services. You may wish to contact one of the following contractors:

John L. Jersey Company 287-4185
Contact - Duke Walton

East Side Paving 519-6479
Contact - Herb VanCleave

They have both installed our systems before and have provided good service to our customers. East Side Paving has done more total installations. Jersey has done one catch basin unit plus at least one larger system.

The cost for a single cartridge catch basin unit is $2,500 with H-20 loading capacity. We recommend H-20 loading for this site, since heavy equipment will be driving over it. Please note that to obtain full H-20 loading capacity, a concrete collar is required around the rim of the catch basin. A drawing of the collar is enclosed.

Since your company will be performing the maintenance, you can exchange old cartridges for clean ones for a cost of $50 each if picked up here. If we deliver, then we charge $60 each.

---

* The typo I made in my communication to Joe Sturza does not affect the result, as I performed all math correctly. The actual calculated discharge rate for the Portland WQ storm is 0.059 cfs (not 0.59cfs). This corresponds to about 26 gpm. Since we design for 15 gpm per cartridge, a 2-cartridge system is recommended.

2035 NE Columbia Blvd. Portland OR, 97211 T 503.240.3393 800.548.4667 F 503.240.9553 W stormwatermgt.com

COME RAIN, WE SHINE

STORMWATER MANAGEMENT

When you – or your contractor – gets ready to order the catch basin, simply call Matt Stiller at this office to request a formal quote. The actual order takes place when we hear back that the quote has been accepted. Depending on when we receive the order, delivery may take a couple of weeks, as we do not always have the H-20 units in stock. The enclosed CB worksheet is helpful to make sure that we provide exactly the type of unit you need. You may fill this out anytime and submit it so we can plan ahead. Also – if you know the approximate date you will need it, please let us know.

Since you are doing this experimentally, you may wish to consider various options for the filtration media. The media that we use most commonly for sediment removal is the Perlite media. While Perlite is not generally recommended for heavy metals removal, in cases where the metals are associated with the sediment, metals will be removed. Where the customers want to be sure that dissolved metals will be filtered, we recommend our compost (CSF) media. The CSF media does a good job on the sediment also. Another option is to use the "ZeoPerl" media that combines Zeolite and Perlite in one cartridge. The Zeolite adds some capability to remove dissolved metals to the Perlite.

You are certainly welcome to try several different media types, since you anticipate changing cartridges frequently. You may want to have Matt Stiller provide your crew with some basic training on how to perform the maintenance.

Please let me know if you need any additional information.

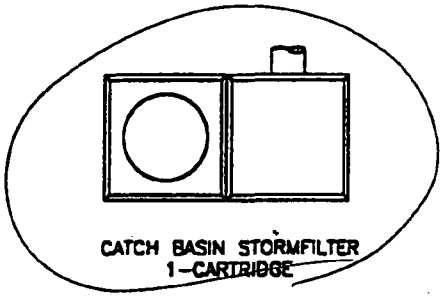
Sincerely,

Lew Scholl

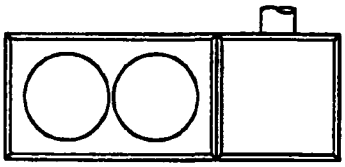
Lew Scholl, PE
Project Engineer

2035 NE Columbia Blvd. Portland OR, 97211 T 503.240.3393 800.548.4667 F 503.240.9553 W stormwatermgt.com

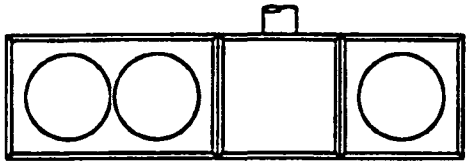
(1) CIRCLE REQUESTED CONFIGURATION:



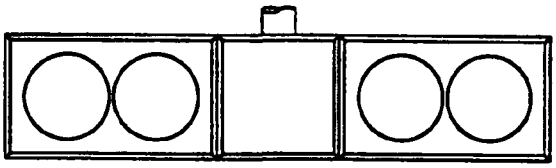
CATCH BASIN STORMFILTER
1-CARTRIDGE



CATCH BASIN STORMFILTER
2-CARTRIDGES



CATCH BASIN STORMFILTER
3-CARTRIDGES



CATCH BASIN STORMFILTER
4-CARTRIDGES

(2) ENTER REQUIRED INFORMATION:

PROJECT NAME: Jim Jakobiak

OWNER: Schnitzer Steel

PROJECT LOCATION: 12005 N Burgard

SITE ADDRESS: 12005 N Burgard

STRUCTURE CALLOUT ID: H-20 Loading

DATE PRODUCT REQUIRED: ASAP

MEDIA TYPE (PLEASE CIRCLE): COMPOST CFS PERLITE PERL/ZEO OTHER

(3) THE FOLLOWING OPTIONS ARE AVAILABLE FOR AN ADDITIONAL COST:

MIRROR IMAGE CONFIGURATION REQUIRED? Y/N

H-20 LOAD RATING REQUIRED? Y/N
IF YES: CONTRACTOR IS RESPONSIBLE FOR CONCRETE COLLAR

STUB FOR INLET PIPE REQUIRED? Y/N
IF YES: NUMBER?
DIAMETER?

OUTLET PIPE STUB OTHER THAN 8" REQUIRED? Y/N
IF YES: DIAMETER?

DELIVERY OF SYSTEM REQUESTED? Y/N

(4) NOTES:

SOME JURISDICTIONS MAY REQUIRE DOCUMENTATION INDICATING THAT THE SYSTEM HAS BEEN REVIEWED BY STORMWATER MANAGEMENT, INC. IF REQUIRED FOR THIS PROJECT, ADDITIONAL INFORMATION INCLUDING HYDROLOGIC CALCULATIONS, SITE PLAN AND DETAILS ARE NEEDED.

NAME: Jim Jakobiak

PHONE: (503) 286-6976

COMPANY: SSI

FAX: (503) 286-6948

ADDRESS: PO Box 10047
Portland, OR. 97296-0047

SHEET 1/1

CATCH BASIN STORMFILTER
WORKSHEET

SCALE: AS SHOWN | PROJECT NO. 3000 | DRAWING FILE NAME: CBSF WORKSHEET.DWG

STORMWATER MANAGEMENT

SCHN00240077

****
*** ACTIVITY REPORT ***
****

TRANSMISSION OK

TX/RX NO.	2224
CONNECTION TEL	95382600
CONNECTION ID	
START TIME	06/23 15:02
USAGE TIME	04'54
PAGES	4
RESULT	OK

Post-it® Fax Note 7671	Date 6/23/00 # of pages ▶ 4
To Gary Shroyer	From Jim Jakobiak
Co./Dept. TCMI	Co. SSI
Phone #	Phone #
Fax #	Fax #

STORMWATER MANAGEMENT

CATCH BASIN STORMFILTER™

Stormwater Management's StormFilter is now available in a catch basin configuration. The Catch Basin StormFilter system, an extension of the widely accepted StormFilter Best Management Practice, has been engineered to replace the standard catch basin. In the Catch Basin StormFilter, polluted runoff enters the system through a traffic-bearing grate into the primary settling chamber where heavier solids drop to a sump. Lighter solids and dissolved pollutants are then directed under a baffle into the cartridge chamber where the StormFilter cartridge is housed. During filtration, lighter solids and soluble pollutants are removed and clean water is discharged from the filter into the outlet. During extremely heavy storms, water in the primary settling chamber overflows the bypass weir, preventing the re-suspension of sediments and pollutants trapped in the cartridge chamber.

SYSTEM FEATURES AND BENEFITS

- Proven StormFilter technology targets site-specific pollutants
- Low cost, heavy gauge, all steel construction
- Internal bypass that minimizes re-suspension of trapped pollutants
- Simple, low cost installation
- Easy maintenance
- Operation & Maintenance Guidelines available from Stormwater Management

GENERAL SPECIFICATIONS

- StormFilter capacity – 15 gpm/cartridge (up to 4 cartridges)
- Peak hydraulic capacity – 1.0 CFS
- Hydraulic drop (Rim to Invert) – 26.75"

STORMWATER MANAGEMENT

Post-it® Fax Note 7671	Date 6/13	# of pages ▶ 4
To Jim Jakubiak	From Leo Cahill	
Co./Dept. Schnitzer Steel	Co. SW Management	
Phone # 286-6876	Phone # 240-3393	
Fax # 286-6488	Fax # 240-9523	

June 7, 2000

Jim Jakubiak
Schnitzer Steel
PO Box 10047
Portland, OR 97296-0047

Dear Jim,

This is to follow up on yesterday's conversation and provide the information that you requested on our catch basin StormFilter (CBSF).

As we discussed, the sizing calculation for 12,600 square feet using the Portland storm (0.83 inches in 24 hours) indicates that the site would generally require a catch basin unit with 2 cartridges*. When I was dealing with Joe Sturza, I recommended a 4-cartridge unit because the site has a high potential for accumulating sediment. As per our discussion, however, a single cartridge unit may be a good place to start for your trial system if you are willing to monitor the filter regularly, remove sediment, and change the filter as needed. Since there is no regulatory agency reviewing anything on this, it is entirely your choice. We just need to be sure that you understand that this system will need to be maintained more frequently than a larger system.

Also as discussed, we do not provide any site engineering or construction services. You may wish to contact one of the following contractors:

John L. Jersey Company 287-4185
Contact – Duke Walton

East Side Paving 519-6479
Contact - Herb VanCleave

They have both installed our systems before and have provided good service to our customers. East Side Paving has done more total installations. Jersey has done one catch basin unit plus at least one larger system.

The cost for a single cartridge catch basin unit is $2,500 with H-20 loading capacity. We recommend H-20 loading for this site, since heavy equipment will be driving over it. Please note that to obtain full H-20 loading capacity, a concrete collar is required around the rim of the catch basin. A drawing of the collar is enclosed.

Since your company will be performing the maintenance, you can exchange old cartridges for clean ones for a cost of $50 each if picked up here. If we deliver, then we charge $60 each.

* The typo I made in my communication to Joe Sturza does not affect the result, as I performed all math correctly. The actual calculated discharge rate for the Portland WQ storm is 0.059 cfs (not 0.59cfs). This corresponds to about 26 gpm. Since we design for 15 gpm per cartridge, a 2-cartridge system is recommended.

STORMWATER MANAGEMENT

When you – or your contractor – gets ready to order the catch basin, simply call Matt Stiller at this office to request a formal quote. The actual order takes place when we hear back that the quote has been accepted. Depending on when we receive the order, delivery may take a couple of weeks, as we do not always have the H-20 units in stock. The enclosed CB worksheet is helpful to make sure that we provide exactly the type of unit you need. You may fill this out anytime and submit it so we can plan ahead. Also – if you know the approximate date you will need it, please let us know.

Since you are doing this experimentally, you may wish to consider various options for the filtration media. The media that we use most commonly for sediment removal is the Perlite media. While Perlite is not generally recommended for heavy metals removal, in cases where the metals are associated with the sediment, metals will be removed. Where the customers want to be sure that dissolved metals will be filtered, we recommend our compost (CSF) media. The CSF media does a good job on the sediment also. Another option is to use the "ZeoPerl" media that combines Zeolite and Perlite in one cartridge. The Zeolite adds some capability to remove dissolved metals to the Perlite.

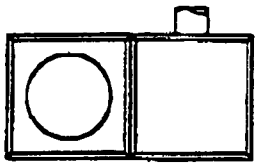
You are certainly welcome to try several different media types, since you anticipate changing cartridges frequently. You may want to have Matt Stiller provide your crew with some basic training on how to perform the maintenance.

Please let me know if you need any additional information.

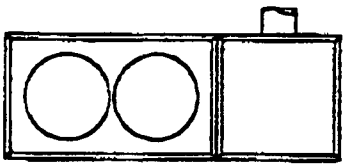
Sincerely,

Lew Scholl, PE
Project Engineer

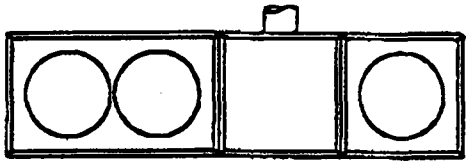
(1) CIRCLE REQUESTED CONFIGURATION:



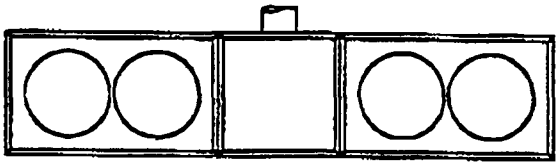
CATCH BASIN STORMFILTER
1-CARTRIDGE



CATCH BASIN STORMFILTER
2-CARTRIDGES



CATCH BASIN STORMFILTER
3-CARTRIDGES



CATCH BASIN STORMFILTER
4-CARTRIDGES

(2) ENTER REQUIRED INFORMATION:

PROJECT NAME:

OWNER:

PROJECT LOCATION:

SITE ADDRESS:

STRUCTURE CALLOUT ID:

DATE PRODUCT REQUIRED:

MEDIA TYPE (PLEASE CIRCLE): COMPOST PERLITE PERL/ZEO OTHER

(3) THE FOLLOWING OPTIONS ARE AVAILABLE FOR AN ADDITIONAL COST:

MIRROR IMAGE CONFIGURATION REQUIRED? Y/N

H-20 LOAD RATING REQUIRED? Y/N
IF YES: CONTRACTOR IS RESPONSIBLE FOR CONCRETE COLLAR

STUB FOR INLET PIPE REQUIRED? Y/N
IF YES: NUMBER?
DIAMETER?

OUTLET PIPE STUB OTHER THAN 8" REQUIRED? Y/N
IF YES: DIAMETER?

DELIVERY OF SYSTEM REQUESTED? Y/N

(4) NOTES:

SOME JURISDICTIONS MAY REQUIRE DOCUMENTATION INDICATING THAT THE SYSTEM HAS BEEN REVIEWED BY STORMWATER MANAGEMENT, INC. IF REQUIRED FOR THIS PROJECT, ADDITIONAL INFORMATION INCLUDING HYDROLOGIC CALCULATIONS, SITE PLAN AND DETAILS ARE NEEDED.

NAME:

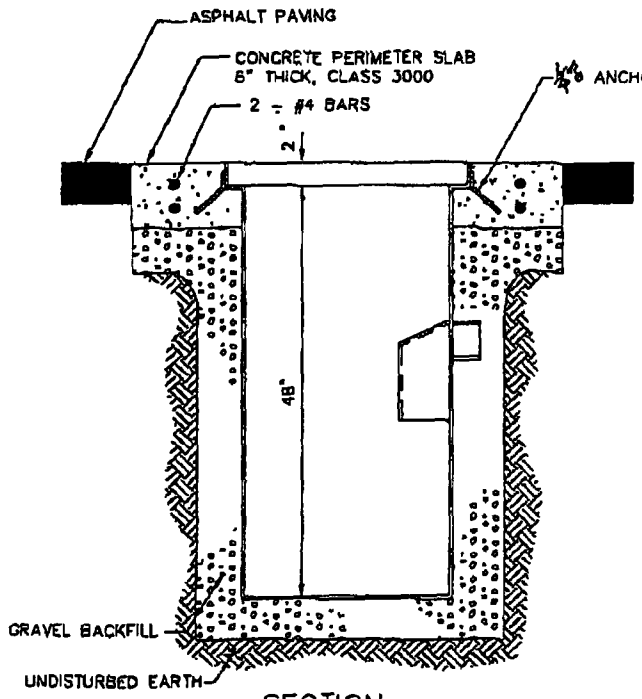
PHONE:

COMPANY:

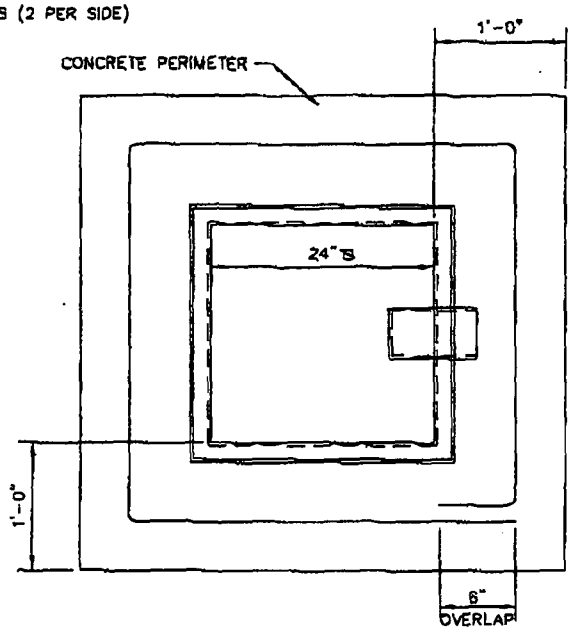
FAX:

ADDRESS:

CATCH BASIN STORMFILTER
WORKSHEET



SECTION



PLAN

SPECIFICATIONS

1. ALL WELDED, SOLID CONSTRUCTION, ⅜" PL BODY, WITH ¼" PL. GRATE FRAME.
2. COATED INSIDE AND OUT WITH ASPHALTIC PAINT.
3. SUPPLIED WITH EIGHT ANCHOR BOLTS EACH.
4. DUCTILE IRON GRATE.

THE Lynch CO., INC.
4706 S.E. 18TH AVE. PORTLAND, OREGON 97202
PHONE (503) 236-3825

H-20 LOAD DESIGN

DRAWN BY: BPT 1/14/97

FILENAME: LYNCH08.DWG

COME RAIN, WE SHINE. STORMWATER MANAGEMENT

2035 N.E. Columbia Blvd.
Portland, OR 97211
Phone: 503-240-3393 Fax: 503-240-9553

SHIPPER/RECEIVER

SHIP DATE _____

Ship To:
Schnitzer Steel Industries
12005 N. Burgard Rd.
Portland, OR

Bill To:
Schnitzer Steel Industries

Site Contact: Jim Jakubiak 503-286-6976

Project Name: **Schnitzer Steelyard - CBSF**
Serial Number: **2594.01**

Quantity	Unit	Description
1	EA	Single cartridge catch basin (H-20 rated) w/ perlite

Quality Control Check TM

Received By J. Jakubiak Date Received 7-20-00

MUNITOR CONSTRUCTION, L.L.C.
CONSTRUCTION CONTRACT

This Contract is made this 21th day of April 2003 by and between Munitor Construction, L.L.C. (Munitor) and Schnitzer Steel Industries, ("SSI"):

For and in consideration of the mutual convenants contained herein, the parties agree:

ARTICLE I. SERVICES BY MUNITOR CONSTRUCTION, L.L.C.

1.0 Scope of Work

Munitor, at the direction of SSI will provide personnel, equipment, and materials to install a new storm drain system with oil water separator at SSI's facility located at 12005 North Burgard Road in Portland, Oregon

1.1 Type of Services

As SSI may direct Munitor, will provide the following services (the "Services"):

Install a new storm drain system unit at SSI's facility in Portland, Oregon. The installation will be completed in accordance with TRT Engineering drawings and specifications, dated April 22, 2003.

1.2 Method of Performance

1.2.1 Munitor shall mobilize such personnel, equipment, and materials as described above starting the week of April 22, 2003.

1.2.2 Munitor shall comply in all respects with all applicable federal, state, and local laws and regulations in its performance of the Services.

1.2.3 Munitor will make its personnel and authorized subcontractors available to confer with SSI to review the status of and to review and establish procedures for the efficient delivery of Services hereunder.

1.2.4 Neither Munitor, its authorized subcontractors, nor any of their employees shall supervise, directly or indirectly, any temporary or permanent employee of SSI.

ARTICLE II. COMPENSATION

2.1 Compensation

SSI shall reimburse Munitor for services rendered at a fixed price, not-to-exceed basis, in accordance with Munitor's bid dated February 8, 2003 (Attached).

2.2 Invoice

Munitor Construction, L.L.C. shall invoice SSI monthly or upon project completion for Services performed hereunder. SSI shall make payment within thirty(30) days of receiving such invoice. A late fee will be added to accounts 30 days in arrears at the rate of one and one half percent (1.5%) of the amount due for each month of delinquency.

ARTICLE III. MUNITOR CONSTRUCTION, L.L.C. – LIABILITY INSURANCE

Until the Services are completed, Munitor agrees to provide and maintain at its own expense the following insurance coverage:

(a) Workers' Compensation at the statutory limits for the state or states in which the work is to be performed.
(b) Commercial Liability insurance in the amount of $1,000,000 combined single limit for bodily injury and property damage, including product liability, completed operations, contractual liability and, where applicable, coverage for damage caused by blasting, collapse or structural injury, and/or damage to underground utilities.
(c) Automobile Public Liability in the amount of $1,000,000 per occurrence for bodily injury and property damage, including non-owned automobiles. In the event that "Client" desires additional insurance,"Client" will notify Munitor of such request in writing and Munitor will obtain a quote from its insurance carrier regarding the cost of obtaining the requested coverage. The cost of such additional insurance will be borne by SSI. Munitor will not procure this additional coverage without the written approval of SSI.
(d) Munitor shall make SSI an additional insured party to their insurance policy.

ARTICLE IV. Project Performace

4.1 Performance of Services

Munitor will perform all Services under this Contract in accordance with generally accepted professional standards that apply in the community where the Services are performed for the type of work involved.

ARTICLE V. MISCELLANEOUS

5.1 Access to Property

SSI has the responsibility of obtaining a right of entry to property where the Services are to be performed. The right of entry shall allow Munitor, its agents, subcontractors, and employees to enter the property from time to time, as necessary to perform all acts, studies, and research pursuant to the agreed services within the scope of work. Munitor does not assume control of or responsibility for the property, the person in charge of the property, nor the safety of persons not in Munitor, employ.

5.2 Unforeseen Conditions or Occurrences

If any unforeseen conditions or occurrences, including, but not limited to, hazardous substances or pollutants, are encountered, which, in Munitor, reasonable judgement, significantly affect or may affect the recommended scope of the Services, then Munitor will notify SSI. After such notification, Munitor will complete the original scope of Services, if appropriate, or agree with SSI to modify the Agreement, or terminate this Agreement with respect to the Services pursuant to Section 6.11 hereof. Changes to the original scope of work that will result in increased compensation for the project must be approved by SSI in writing.

ARTICLE VI. GENERAL PROVISIONS

6.1 Indemnification

To the fullest extent permitted by law, each party shall defend. indemnify and hold harmless the other party, its consultants, and the agents and employees of any of them from and against claims, damages, losses, and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from performance of services hereunder, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the indemnitor, anyone directly or indirectly employed by it, or anyone for whose acts it may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by any other person.

SCHN00240095

6.2 Permits and Access

Munitor will assist SSI in securing necessary permits required by authorities having jurisdiction over the project area.

6.3 Force Majeure

Delay or failure of Munitor in the performance of services hereunder shall be excused if caused by circumstances beyond the control of Munitor, including, without limitation, acts of God, strikes, fire, flood, windstorm, action or request of governmental authority, and inability to obtain material, equipment, or services, provided that a prompt notice of such delay or failure is given and Munitor diligently attempts to remove the cause.

6.4 Independent Client

Munitor is and shall perform all Services as an independent contractor and as such shall have and maintain exclusive control and direction over all of its employees, agents, and operations.

6.5 Subcontracts

Munitor may not, without SSI consent in writing, delegate the performance of Services hereunder, or any portion thereof. If approved, subcontractors will be required to sign a Munitor, subcontract agreement prior to the start of work.

6.6 Survival

Section 6.1 and all other provisions of this Contract that may reasonably be construed as surviving the term of this Contract shall survive the term of this Contract.

6.7 Applicable Law

Exclusively the laws of the State of Oregon shall govern this Contract. Venue for any dispute hereunder shall be in the federal or state courts sitting in Multnomah county, and each party hereby consents to the jurisdiction of such courts for any dispute hereunder, provided, however, that nothing herein shall preclude Munitor from excising its mechanics' or materialmen's lien rights under the laws of any jurisdiction where the Services are performed.

6.8 Severability

If any provision of this Contract if found to be illegal, invalid, or unenforceable for any reason, such findings shall not affect the other provisions hereof.

6.9 Taxes

SSI shall pay all state and local sales, use, or excise taxes of any kind assessed and/or arising out of the sale or use of the Services and shall, upon demand, reimburse Munitor for any sums it has expended for such taxes. It is assumed all taxes have been included in Munitor's attached cost proposal.

6.10 Term and Termination

The term of this Contract shall expire upon written notice by either party; provided, however, that neither party shall have the right to terminate this Contract except pursuant to the following provisions of this Section 6.11

(a) Either party may, for its sole convenience, terminate the performance of the Services in whole or in part at any time, or from time to time, by giving thirty (30) days written notice of intent to terminate.

SCHN00240096

(b) SSI will pay Munitor all time and materials costs (and any fee) which have accrued as of the effective date of termination and, in addition, those time and materials costs incurred or earned in good faith by Munitor after the effective date of termination in connection with (1) demobilization of equipment and personnel and (2) any necessary subcontract and/or vendor settlements.

(c) The rights and remedies of the parties provided in the section 6.10 are in addition to any other rights and remedies provided by law or under this Contract.

6.11 Entire Agreement

This Contract contains the entire and only agreement between SSI and Munitor respecting the subject matter hereof. It supersedes all prior or conflicting agreement, representation, promises, or conditions. Any modification of this Contract must be in writing and signed by both parties and must expressly indicate intent to modify this contract.

James L. Jakubick	HARLEY MESERVEY
Name of Authorized Representative Of SSI(Printed)	Name of Munitor Rep.(Printed)
James F Jakubick	Harley Meservey
Authorized Signature	Authorized Signature
Title Environmental Administrator	Title President
Date April 25, 2003	Date April 22, 2003
Schnitzer Steel Industries, Inc. 12005 North Burgard Road Portland, Oregon 97203 (503) 224-9900	Munitor Construction, L.L.C. 206 N Tomahawk Island Drive Portland, OR 97217 (503) 702-6542

Munitor Construction, LLC
Portland, Oregon
CCB 148811

February 8, 2003

To: Mr. Jim Jakubiak
Schnitzer Steel, Inc.
Portland, Oregon

From: Mr. Harley Meservey
Munitor Construction, LLC
Portland, Oregon

Re. Grading
Schnitzer Steel
Portland, Oregon
Project #265

Mr. Jim Jakubiak:

Munitor Construction, LLC (Munitor) is pleased to present this cost estimate for the installation storm drainpipe, manholes, oil water separator, and final clean up. Below is a scope of work, cost estimate, and assumptions based on information obtained from a drawing and specifications dated April 21, 2003 and field visit.

Scope of Work
Munitor understands that Schnitzer Steel is requesting the following work be performed at subject site:

- Excavate and install storm drain to grades and location provided in drawings,
- Stockpile soil on site and cover with plastic,
- Back fill trench and compact with hoe pac to achieve maximum density,
- Use ¾" minus rock as backfill as directed by TRT Engineering,
- Install Manholes to grade and location provided on drawings,
- Install Oil water separator to grade and location provided on drawings,
- Connect new storm drain pipes to existing pipe as shown on drawings,
- Apply water to backfill to achieve maximum density,
- Proof roll top lift of trench backfill with loaded dump truck. To be observed and approved by TRT Engineering. Soft spots will be corrected,
- Contractor to use shoring as necessery, and
- Backfill to match existing grade.

Cost Estimate
Munitor Construction is providing the following bid for the project.

Estimate

Item	Qty	Unit	Rate	Total
Mobilization	1	LS	$1461.00	$1461.00
Vault Model (816-3-CPS) w/ risers	1	LS	$33432.00	$33432.00
Gibson ¼" wall catch basin	6	ea	$396.40	$2378.40
48" Manhole	1	ea	$1922.00	$1922.00
72" Manhole	2	ea	$3342.00	$6684.00

SCHN00240098

¾" Minus Rock	780	ton	$13.50	$10530.00
Trenching w/ pipe w/catch basin install	1240	lf	$35.35	$43834.00
48" Manhole Install	1	ea	$1900.00	$1900.00
72" Manhole Install	2	ea	$2200.00	$4400.00
Oil Water Install	1	ea	$5200.00	$5200.00
			Total	$111741.40

Assumptions

The following assumptions have been made in the development of this bid.

- Assume that buried objects can be removed by 40,000# excavator,
- Existing Pipe in trench for new pipe will be removed,
- Pipe not in new trench or requires additional excavation for removal or camera inspection will be at additional costs,
- Rock will be charged on the actual quantity used, 780 tons is estimated at ½ of trench,
- Contractor will not have to saw cut asphalt,
- Contractor not be required to repair asphalt or concrete around catch basins, only backfill to grade,
- Asphalt removed for trenching will be left on site in stockpile,
- Client to provide utility locate, Contractor to have utility locates during construction if uncertainty with drawings is observed,
- Contractor to work in evenings and weekends as needed,
- Client to provide steel plates for cover open excavation,
- Excavated spoils will be stockpiled on site, Schnitzer to provide location,
- Work is exoected to be completed within 45 days of mobilization,
- Payment will be received for services within 30 days of approved final product.

Munitor would like to thank you for the opportunity to provide services to you. If you have any questions or would like to schedule work please contact me anytime at (503) 702-6542. We look forward to providing professional services to you and any future needs.

Regards,

Harley Meservey
President

MUNITOR CONSTRUCTION, L.L.C.
CONSTRUCTION CONTRACT

This Contract is made this 21th day of April 2003 by and between Munitor Construction, L.L.C. (Munitor) and Schnitzer Steel Industries, ("SSI"):

For and in consideration of the mutual convenants contained herein, the parties agree:

ARTICLE I. SERVICES BY MUNITOR CONSTRUCTION, L.L.C.

1.0 Scope of Work

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1.1 Type of Services

As SSI may direct Munitor, will provide the following services (the "Services"):

Install a new storm drain system unit at SSI's facility in Portland, Oregon. The installation will be completed in accordance with TRT Engineering drawings and specifications, dated April 22, 2003.

1.2 Method of Performance

1.2.1 Munitor shall mobilize such personnel, equipment, and materials as described above starting the week of April 22, 2003.

1.2.2 Munitor shall comply in all respects with all applicable federal, state, and local laws and regulations in its performance of the Services.

1.2.3 Munitor will make its personnel and authorized subcontractors available to confer with SSI to review the status of and to review and establish procedures for the efficient delivery of Services hereunder.

1.2.4 Neither Munitor, its authorized subcontractors, nor any of their employees shall supervise, directly or indirectly, any temporary or permanent employee of SSI.

ARTICLE II. COMPENSATION

2.1 Compensation

SSI shall reimburse Munitor for services rendered at a fixed price, not-to-exceed basis, in accordance with Munitor's bid dated February 8, 2003 (Attached).

2.2 Invoice

Munitor Construction, L.L.C. shall invoice SSI monthly or upon project completion for Services performed hereunder. SSI shall make payment within thirty(30) days of receiving such invoice. A late fee will be added to accounts 30 days in arrears at the rate of one and one half percent (1.5%) of the amount due for each month of delinquency.

ARTICLE III. MUNITOR CONSTRUCTION, L.L.C. – LIABILITY INSURANCE

Until the Services are completed, Munitor agrees to provide and maintain at its own expense the following insurance coverage:

(a) Workers' Compensation at the statutory limits for the state or states in which the work is to be performed.
(b) Commercial Liability insurance in the amount of $1,000,000 combined single limit for bodily injury and property damage, including product liability, completed operations, contractual liability and, where applicable, coverage for damage caused by blasting, collapse or structural injury, and/or damage to underground utilities.
(c) Automobile Public Liability in the amount of $1,000,000 per occurrence for bodily injury and property damage, including non-owned automobiles. In the event that "Client" desires additional insurance,"Client" will notify Munitor of such request in writing and Munitor will obtain a quote from its insurance carrier regarding the cost of obtaining the requested coverage. The cost of such additional insurance will be borne by SSI. Munitor will not procure this additional coverage without the written approval of SSI.
(d) Munitor shall make SSI an additional insured party to their insurance policy.

ARTICLE IV. *Project Performace*

4.1 Performance of Services

Munitor will perform all Services under this Contract in accordance with generally accepted professional standards that apply in the community where the Services are performed for the type of work involved.

ARTICLE V. MISCELLANEOUS

5.1 Access to Property

SSI has the responsibility of obtaining a right of entry to property where the Services are to be performed. The right of entry shall allow Munitor, its agents, subcontractors, and employees to enter the property from time to time, as necessary to perform all acts, studies, and research pursuant to the agreed services within the scope of work. Munitor does not assume control of or responsibility for the property, the person in charge of the property, nor the safety of persons not in Munitor, employ.

5.2 Unforeseen Conditions or Occurrences

If any unforeseen conditions or occurrences, including, but not limited to, hazardous substances or pollutants, are encountered, which, in Munitor, reasonable judgement, significantly affect or may affect the recommended scope of the Services, then Munitor will notify SSI. After such notification, Munitor will complete the original scope of Services, if appropriate, or agree with SSI to modify the Agreement, or terminate this Agreement with respect to the Services pursuant to Section 6.11 hereof. Changes to the original scope of work that will result in increased compensation for the project must be approved by SSI in writing.

ARTICLE VI. GENERAL PROVISIONS

6.1 Indemnification

To the fullest extent permitted by law, each party shall defend. indemnify and hold harmless the other party, its consultants, and the agents and employees of any of them from and against claims, damages, losses, and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from performance of services hereunder, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the indemnitor, anyone directly or indirectly employed by it, or anyone for whose acts it may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by any other person.

SCHN00240101

6.2 Permits and Access

Munitor will assist SSI in securing necessary permits required by authorities having jurisdiction over the project area.

6.3 Force Majeure

Delay or failure of Munitor in the performance of services hereunder shall be excused if caused by circumstances beyond the control of Munitor, including, without limitation, acts of God, strikes, fire, flood, windstorm, action or request of governmental authority, and inability to obtain material, equipment, or services, provided that a prompt notice of such delay or failure is given and Munitor diligently attempts to remove the cause.

6.4 Independent Client

Munitor is and shall perform all Services as an independent contractor and as such shall have and maintain exclusive control and direction over all of its employees, agents, and operations.

6.5 Subcontracts

Munitor may not, without SSI consent in writing, delegate the performance of Services hereunder, or any portion thereof. If approved, subcontractors will be required to sign a Munitor, subcontract agreement prior to the start of work.

6.6 Survival

Section 6.1 and all other provisions of this Contract that may reasonably be construed as surviving the term of this Contract shall survive the term of this Contract.

6.7 Applicable Law

Exclusively the laws of the State of Oregon shall govern this Contract. Venue for any dispute hereunder shall be in the federal or state courts sitting in Multnomah county, and each party hereby consents to the jurisdiction of such courts for any dispute hereunder, provided, however, that nothing herein shall preclude Munitor from excising its mechanics' or materialmen's lien rights under the laws of any jurisdiction where the Services are performed.

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If any provision of this Contract if found to be illegal, invalid, or unenforceable for any reason, such findings shall not affect the other provisions hereof.

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(c) The rights and remedies of the parties provided in the section 6.10 are in addition to any other rights and remedies provided by law or under this Contract.

6.11 Entire Agreement

This Contract contains the entire and only agreement between SSI and Munitor respecting the subject matter hereof. It supersedes all prior or conflicting agreement, representation, promises, or conditions. Any modification of this Contract must be in writing and signed by both parties and must expressly indicate intent to modify this contract.

James L. Jakubiak	HARLEY MESERVEY
Name of Authorized Representative Of SSI(Printed)	Name of Munitor Rep.(Printed)
James L. Jakubiak	Harley Meservey
Authorized Signature	Authorized Signature
Title Environmental Administrator	Title President
Date April 25, 2003	Date April 22, 2003
Schnitzer Steel Industries, Inc. 12005 North Burgard Road Portland, Oregon 97203 (503) 224-9900	Munitor Construction, L.L.C. 206 N Tomahawk Island Drive Portland, OR 97217 (503) 702-6542

Munitor Construction, LLC
Portland, Oregon
CCB 148811

February 8, 2003

To: Mr. Jim Jakubiak
Schnitzer Steel, Inc.
Portland, Oregon

From: Mr. Harley Meservey
Munitor Construction, LLC
Portland, Oregon

Re. Grading
Schnitzer Steel
Portland, Oregon
Project #265

Mr. Jim Jakubiak:

Munitor Construction, LLC (Munitor) is pleased to present this cost estimate for the installation storm drainpipe, manholes, oil water separator, and final clean up. Below is a scope of work, cost estimate, and assumptions based on information obtained from a drawing and specifications dated April 21, 2003 and field visit.

Scope of Work
Munitor understands that Schnitzer Steel is requesting the following work be performed at subject site:

- Excavate and install storm drain to grades and location provided in drawings,
- Stockpile soil on site and cover with plastic,
- Back fill trench and compact with hoe pac to achieve maximum density,
- Use ¾" minus rock as backfill as directed by TRT Engineering,
- Install Manholes to grade and location provided on drawings,
- Install Oil water separator to grade and location provided on drawings,
- Connect new storm drain pipes to existing pipe as shown on drawings,
- Apply water to backfill to achieve maximum density,
- Proof roll top lift of trench backfill with loaded dump truck. To be observed and approved by TRT Engineering. Soft spots will be corrected,
- Contractor to use shoring as necessery, and
- Backfill to match existing grade.

Cost Estimate
Munitor Construction is providing the following bid for the project.

Estimate

Item	Qty	Unit	Rate	Total
Mobilization	1	LS	$1461.00	$1461.00
Vault Model (816-3-CPS) w/ risers	1	LS	$33432.00	$33432.00
Gibson ¼" wall catch basin	6	ea	$396.40	$2378.40
48" Manhole	1	ea	$1922.00	$1922.00
72" Manhole	2	ea	$3342.00	$6684.00

SCHN00240104

¾" Minus Rock	780	ton	$13.50	$10530.00
Trenching w/ pipe w/catch basin install	1240	lf	$35.35	$43834.00
48" Manhole Install	1	ea	$1900.00	$1900.00
72" Manhole Install	2	ea	$2200.00	$4400.00
Oil Water Install	1	ea	$5200.00	$5200.00
			Total	$111741.40

Assumptions

The following assumptions have been made in the development of this bid.

- Assume that buried objects can be removed by 40,000# excavator,
- Existing Pipe in trench for new pipe will be removed,
- Pipe not in new trench or requires additional excavation for removal or camera inspection will be at additional costs,
- Rock will be charged on the actual quantity used, 780 tons is estimated at ½ of trench,
- Contractor will not have to saw cut asphalt,
- Contractor not be required to repair asphalt or concrete around catch basins, only backfill to grade,
- Asphalt removed for trenching will be left on site in stockpile,
- Client to provide utility locate, Contractor to have utility locates during construction if uncertainty with drawings is observed,
- Contractor to work in evenings and weekends as needed,
- Client to provide steel plates for cover open excavation,
- Excavated spoils will be stockpiled on site, Schnitzer to provide location,
- Work is exoected to be completed within 45 days of mobilization,
- Payment will be received for services within 30 days of approved final product.

Munitor would like to thank you for the opportunity to provide services to you. If you have any questions or would like to schedule work please contact me anytime at (503) 702-6542. We look forward to providing professional services to you and any future needs.

Regards,

Harley Meservey
President

MUNITOR CONSTRUCTION, L.L.C.
SAND FILTER INSTALLATION CONTRACT

This Contract is made this 16th day of October 2002 by and between Munitor Construction, L.L.C., ("Munitor") and Schnitzer Steel Industries, Inc. ("SSI").

For and in consideration of the mutual covenants contained herein, the parties agree:

ARTICLE I. SERVICE BY MUNITOR

1.0 Scope of Work

Munitor, at the direction of the SSI will provide personnel, equipment, and materials to install a subsurface sand filter unit at SSI's facility located at 12005 North Burgard Road in Portland, Oregon.

1.1 Type of Services

As SSI may direct, Munitor, will provide the following services (the "Services"):

Install a subsurface sand filter unit at SSI's facility in Portland, Oregon. The installation will be completed in accordance with TRT Engineering drawings and specifications, dated October 15, 2002.

1.2 Method of Performance

1.2.1 Munitor shall mobilize such personnel, equipment, and materials as described above.

1.2.2 Munitor shall comply in all respects with all applicable federal, state and local laws and regulations in its performance of the Services.

1.2.3 Munitor will make its personnel and authorized subcontractors available to confer with SSP to review the status of and to review and establish procedures for the efficient delivery of Services hereunder.

1.2.4 Neither Munitor, its authorized subcontractors, nor any of their employees shall supervise, directly or indirectly, any temporary or permanent employee of SSI.

ARTICLE II. COMPENSATION

2.1 Compensation

SSI shall reimburse Munitor for services rendered at a fixed price, not-to-exceed basis, in accordance with Munitor's bid dated October 1, 2002 (attached).

2.2 Invoice

Munitor shall invoice SSI monthly or upon project completion for Services performed hereunder. SSI shall make payment within thirty (30) days of receiving such invoice. A late fee will be added to accounts 30 days in arrears at the rate of one and one half percent (1.5%) of the amount due for each month of delinquency.

ARTICLE III. MUNITOR – LIABILITY INSURANCE

Until the Services are completed, Munitor agrees to provide and maintain at its own expense the following insurance coverage:

(a) Workers' Compensation at the statutory limits for the state or states in which the work is to be performed.

(b) Commercial Liability insurance in the amount of $1,000,000 combined single limit for bodily injury and property damage, including product liability, completed operations, contractual liability and, where applicable, coverage for damage caused by blasting, collapse or structural injury, and/or damage to underground utilities.

(c) Automobile Public Liability in the amount of $1,000,000 per occurrence for bodily injury and property damage, including non-owned automobiles. In the event that SSP desires additional insurance, SSP will notify Munitor of such request in writing and Munitor will obtain a quote from its insurance carrier regarding the cost of obtaining the requested coverage. The cost of such additional insurance will be borne by SSP. Munitor will not procure this additional coverage without the written approval of SSP.

(d) Munitor shall make SSI an additional insured party to their insurance policy.

ARTICLE IV. - PROJECT PERFORMANCE

4.1 Performance of Services

Munitor will perform all Services under this Contract in accordance with generally accepted professional standards that apply in the community where the Services are performed for the type of work involved.

ARTICLE V. MISCELLANEOUS

5.1 Access to Property

SSI has the responsibility of obtaining a right of entry to property where the Services are to be performed. The right of entry shall allow Munitor, its agents, subcontractors, and employees to enter the property from time to time, as necessary to perform all acts, studies and research pursuant to the agreed services within the scope of work. Munitor does not assume control or responsibility for the property, the person in charge of the property, nor the safety of persons not in Munitor, employ.

5.2 Unforeseen Conditions or Occurrences

If any unforeseen conditions or occurrences, including, but not limited to, hazardous substances or pollutants, are encountered, which, in Munitor, reasonable judgment, significantly affect or may affect the recommended scope of Services, then Munitor will notify SSI. After such notification, Munitor will complete the original scope of Services, if appropriate, or agree with SSI to modify the Agreement, or terminate this Agreement with respect to the Services pursuant to Section 6.11 hereof. Changes to the original scope of work that will result in increased compensation for the project must be approved by SSP in writing.

ARTICLE VI. GENERAL PROVISIONS

6.1 Indemnification

To the fullest extent permitted by law, each party shall defend, indemnify and hold harmless the other party, its consultants and the agents an employees of any of them from and against claims, damages, losses, and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from performance of services hereunder, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the Indemnitor, anyone directly or indirectly employed by it, or anyone for whose acts it may be liable, regardless or whether or not such claim, damage, loss, or expense is caused in part by any other person.

6.2 Permits and Access

Munitor will assist SSI in securing necessary permits required by authorities having jurisdiction over the project area.

6.3 Force Majeure

Delay of failure of Munitor in the performance of services hereunder shall be excused if caused by circumstances beyond the control of Munitor, including, without limitation, acts of God, strikes, fire, flood, windstorm, action or request of governmental authority, and inability to obtain material, equipment, or services, provided that a prompt notice of such delay or failure is given and Munitor diligently attempts to remove the cause.

6.4 Independent Contractor

Munitor is and shall perform all Services as an independent contractor and as such shall have and maintain exclusive control and direction over all of its employees, agents, and operations.

6.5 Subcontracts

Munitor may not, without SSI consent in writing, delegate the performance of Services hereunder, or any portion thereof. If approved, subcontractors will be required to sign a Munitor subcontractor agreement prior to start of work.

6.6 Survival

Section 6.1 and all other provisions of this Contract that may reasonably be construed as surviving the term of this Contract shall survive the term of this Contract.

6.7 Applicable Law

Exclusively the laws of the State of Oregon shall govern this Contract. Venue for any dispute hereunder shall be in the federal or state courts sitting in Multnomah County, and each party hereby consents to the jurisdiction of such courts for any dispute hereunder, provided, however, that nothing herein shall preclude Munitor from excising its mechanics' or materialmen's lien rights under the laws of any jurisdiction where the Services are performed.

6.8 Severability

If any provision of this Contract is found to be illegal, invalid, or unenforceable for any reason, such findings shall not affect the provisions hereof.

6.9 Taxes

SSI shall pay all state and local sales, use, or excise taxes of any kind assessed and/or arising out of the sale or use or the Services and shall, upon demand, reimburse Munitor for any sums it has expended for such taxes. It is assumed all taxes have been included in Munitor's attached cost proposal.

6.10 Term and Termination

The term of this Contract shall expire upon written notice by either party; provided, however, that neither party shall have the right to terminate this Contract except pursuant to the following provisions of this Section 6.10

(a) Either party may, for its sole convenience, terminate the performance of the Services in whole or in part at any time, or from time to time, be giving thirty (30) days written notice of intent to terminate.

(b) SSP will pay Munitor all time and materials costs (and any fee) which have accrued as to the effective date of termination and, in addition, those time and material costs incurred or earned in good faith by Munitor after the effective date of termination in connection with (1) demobilization of equipment and personnel and (2) any necessary subcontract and/or vendor settlements.

(c) The rights and remedies of the parties provided in the Section 6.10 are in addition to any other rights and remedies provided by law or under this Contract.

6.11 Entire Agreement

This Contract contains the entire and only agreement between SSI and Munitor respecting the subject matter hereof. It supersedes all prior or conflicting agreement, representation, promises, or conditions. Any modification of this Contract must be in writing and signed by both parties and must expressly indicate intent to modify this contract.

James L. Jakubiak	HARLEY MESERVEY
Name of Authorized Representative of SSI (Printed)	Name of Munitor rep. (Printed)
James L Jakubiak	Harley Meservey
Authorized Signature	Authorized Signature
Title Environmental Administrator	Title President
Date 10/17/02	Date 10/16/02
Schnitzer Steel Industries, Inc. 12005 North Burgard Road Portland, Oregon 97203 (503) 224-9900	Munitor Construction L.L.C. 206 N. Tomahawk Island Portland, Oregon 97217 (503) 702-6542

Munitor Construction, LLC
Portland, Oregon
CCB #188II

October 1, 2002

To: Mr. Tim Fischer
TRT Engineering
Portland, Oregon

From: Mr. Harley Meservey
Munitor Construction, LLC
Portland, Oregon

Re. Sediment Trap Install
Schnitzer Steel
Portland, Oregon
Project #225

Mr. Tim Fischer:

Munitor Construction, LLC (Munitor) is pleased to present this cost estimate for the installation of manholes, sediment trap, pipe, 26" pipe plug, repairs to existing sediment trap, new concrete, camera inspection, and final clean-up. Below is a scope of work, cost estimate, and assumptions based on information obtained from our phone conversation and a site visit on September 27, 2002.

Scope of Work
Munitor understands that TRT is requesting the following work be performed at subject site:

Sediment Trap Install

- Install manholes as appears in drawings,
- Install sediment trap supplied by Schnitzer Steel,
- Install connecting pipe,
- Camera inspection on existing 26" pipe,
- Plug 26" pipe with concrete plug,
- Repairs to existing sediment trap including grout and compaction of soil, and
- Final clean-up of site.

Cost Estimate
Munitor Construction is providing the following bid for the project.

Estimate

Item	Qty	Unit	Rate	Total
Manholes and Install	3	ea	$7058.00	$21174.00
Pipe and Install	319	lf	$41.60	$13270.40
Culvert Install	1	LS	$16624.00	$16624.00
Install Clay collars	1	LS	$1193.00	$1193.00
Repair Culvert	1	LS	$1293.00	$1293.00
Pipe Plug, clean, camera	1	LS	$951.00	$951.00
			Total	$54505.40

Assumptions

Munitor Construction, LLC
Portland, Oregon
CCB 148811

The following assumptions have been made in the development of this bid.

- Project can be performed during normal working hours,
- Buried items larger than can be removed safely with a 42,000# excavator will be charged additionally,
- Soil will be disposed or stockpiled on site,
- Munitor not responsible for any analytical for soil,
- 8" pipe installed will be SDR 3034,
- Pipe Cleaning includes 4 hours of cleaning,
- TRT Engineering will be available for questions or concerns as needed, and
- Payment will be received for services within 30 days of approved final product.

Munitor would like to thank you for the opportunity to provide services to you. If you have any questions or would like to schedule work please contact me anytime at (503) 702-6542. We look forward to providing professional services to you and any future needs.

Regards,

Harley Meservey

Harley Meservey
President

MUNITOR CONSTRUCTION, LLC
SERVICES CONTRACT

This Contract is made this 24th day of September 2003 by and between Munitor Construction, LLC ("Munitor") and Schnitzer Steel Industries, ("SSI"):

For and in consideration of the mutual convenants contained herein, the parties agree:

ARTICLE I. SERVICES BY MUNITOR CONSTRUCTION, LLC

1.0 Scope of Work

Munitor, will provide personnel, equipment, and materials remove water, sand, replace with new sand, and Jet Rod Basin 4 and 5 oil water separators at SSI's facility located at 12005 North Burgard Road in Portland, Oregon.

1.1 Type of Services

As SSI may direct Munitor, will provide the following services (the "Services"):

Remove water, sand and install new sand and Jet Rod piping for Basin 4 and 5 at SSI's facility in Portland, Oregon. The services will be completed in accordance with TRT Engineering drawings.

1.2 Method of Performance

1.2.1 Munitor shall mobilize such personnel, equipment, and materials as described above starting the week of September 27, 2003.

1.2.2 Munitor shall comply in all respects with all applicable federal, state, and local laws and regulations in its performance of the Services.

1.2.3 Munitor will make its personnel and authorized subcontractors available to confer with SSI to review the status of and to review and establish procedures for the efficient and safe delivery of Services hereunder.

1.2.4 Neither Munitor, its authorized subcontractors, nor any of their employees shall supervise, directly or indirectly, any temporary or permanent employee of SSI.

ARTICLE II. COMPENSATION

2.1 Compensation

SSI shall reimburse Munitor for services rendered at a fixed price, not-to-exceed basis, in accordance with Munitor's bid dated September 9, 2003 (Attached 1).

2.2 Invoice

Munitor Construction, L.L.C. shall invoice SSI monthly or upon project completion for Services performed hereunder. SSI shall make payment within thirty (30) days of receiving such invoice. A late fee will be added to accounts 30 days in arrears at the rate of one and one half percent (1.5%) of the amount due for each month of delinquency.

ARTICLE III. MUNITOR CONSTRUCTION, LLC – LIABILITY INSURANCE

Until the Services are completed, Munitor agrees to provide and maintain at its own expense the following insurance coverage:

(a) Workers' Compensation at the statutory limits for the state or states in which the work is to be performed.
(b) Commercial Liability insurance in the amount of $1,000,000 combined single limit for bodily injury and property damage, including product liability, completed operations, contractual liability and, where applicable, coverage for damage caused by blasting, collapse or structural injury, and/or damage to underground utilities.
(c) Automobile Public Liability in the amount of $1,000,000 per occurrence for bodily injury and property damage, including non-owned automobiles. In the event that "Client" desires additional insurance,"Client" will notify Munitor of such request in writing and Munitor will obtain a quote from its insurance carrier regarding the cost of obtaining the requested coverage. The cost of such additional insurance will be borne by SSI. Munitor will not procure this additional coverage without the written approval of SSI.
(d) Munitor shall make SSI an additional insured party to their insurance policy.

ARTICLE IV. PROJECT PERFORMANCE

4.1 Performance of Services

Munitor will perform all Services under this Contract in accordance with generally accepted professional standards that apply in the community where the Services are performed for the type of work involved.

4.2 Completion of Services

Munitor will complete the Project within 30 days of initiation.

ARTICLE V. MISCELLANEOUS

5.1 Access to Property

SSI has the responsibility of obtaining a right of entry to property where the Services are to be performed. The right of entry shall allow Munitor, its agents, subcontractors, and employees to enter the property from time to time, as necessary to perform all acts, studies, and research pursuant to the agreed services within the scope of work. Munitor does not assume control of or responsibility for the property, the person in charge of the property, nor the safety of persons not in Munitor, employ.

5.2 Unforeseen Conditions or Occurrences

If any unforeseen conditions or occurrences, including, but not limited to, hazardous substances or pollutants, are encountered, which, in Munitor, reasonable judgment, significantly affect or may affect the recommended scope of the Services, then Munitor will notify SSI. After such notification, Munitor will complete the original scope of Services, if appropriate, or agree with SSI to modify the Agreement, or terminate this Agreement with respect to the Services pursuant to Section 6.11 hereof. Changes to the original scope of work that will result in increased compensation for the project must be approved by SSI in writing.

ARTICLE VI. GENERAL PROVISIONS

6.1 Indemnification

To the fullest extent permitted by law, each party shall defend, Indemnify and hold harmless the other party, its consultants, and the agents and employees of any of them from and against claims, damages, losses, and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from performance of services hereunder, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the indemnitor, anyone directly or indirectly employed by it, or anyone for whose acts it may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by any other person.

6.2 Force Majeure

Delay or failure of Munitor in the performance of services hereunder shall be excused if caused by circumstances beyond the control of Munitor, including, without limitation, acts of God, strikes, fire, flood, windstorm, action or request of governmental authority, and inability to obtain material, equipment, or services, provided that a prompt notice of such delay or failure is given and Munitor diligently attempts to remove the cause.

6.3 Independent Client

Munitor is and shall perform all Services as an independent contractor and as such shall have and maintain exclusive control and direction over all of its employees, agents, and operations.

6.4 Subcontracts

Munitor may not, without SSI consent in writing, delegate the performance of Services hereunder, or any portion thereof. If approved, subcontractors will be required to sign a Munitor, subcontract agreement prior to the start of work.

6.5 Survival

Section 6.1 and all other provisions of this Contract that may reasonably be construed as surviving the term of this Contract shall survive the term of this Contract.

6.6 Applicable Law

Exclusively the laws of the State of Oregon shall govern this Contract. Venue for any dispute hereunder shall be in the federal or state courts sitting in Multnomah county, and each party hereby consents to the jurisdiction of such courts for any dispute hereunder, provided, however, that nothing herein shall preclude Munitor from excising its mechanics' or materialmen's lien rights under the laws of any jurisdiction where the Services are performed.

6.7 Severability

If any provision of this Contract if found to be illegal, invalid, or unenforceable for any reason, such findings shall not affect the other provisions hereof.

SCHN00240121

6.8 Taxes

SSI shall pay all state and local sales, use, or excise taxes of any kind assessed and/or arising out of the sale or use of the Services and shall, upon demand, reimburse Munitor for any sums it has expended for such taxes. It is assumed all taxes have been included in Munitor's attached cost proposal.

6.9 Term and Termination

The term of this Contract shall expire upon written notice by either party; provided, however, that neither party shall have the right to terminate this Contract except pursuant to the following provisions of this Section 6.11

(a) Either party may, for its sole convenience, terminate the performance of the Services in whole or in part at any time, or from time to time, by giving thirty (30) days written notice of intent to terminate.

(b) SSI will pay Munitor all time and materials costs (and any fee) which have accrued as of the effective date of termination and, in addition, those time and materials costs incurred or earned in good faith by Munitor after the effective date of termination in connection with (1) demobilization of equipment and personnel and (2) any necessary subcontract and/or vendor settlements.

(c). The rights and remedies of the parties provided in the section 6.10 are in addition to any other rights and remedies provided by law or under this Contract.

6.10 Entire Agreement

This Contract contains the entire and only agreement between SSI and Munitor respecting the subject matter hereof. It supersedes all prior or conflicting agreement, representation, promises, or conditions. Any modification of this Contract must be in writing and signed by both parties and must expressly indicate intent to modify this contract.

James L. Jakubcik	Harley Meservey
Name of Authorized Representative Of SSI (Printed)	Name of Munitor Rep. (Printed)
James F. Jakubcik	Harley Meservey
Authorized Signature	Authorized Signature
Title Environmental Administrator	Title President
Date September 24, 2003	Date Sept. 24, 2003
Schnitzer Steel Industries, Inc. 12005 North Burgard Road Portland, Oregon 97203 (503) 224-9900	Munitor Construction, LLC 206 N Tomahawk Island Drive Portland, OR 97217 (503) 702-6542

September 9, 2003

To: Jim Jakubiak
SSI
Portland, Oregon

From: Harley Meservey
Munitor Construction, LLC
Portland, Oregon

Re: Basin 4 and 5 Cleaning
T-4 Docks
Portland, Oregon
Project #334

Mr. Jakubiak:

Munitor Construction, LLC (Munitor) is pleased to present the following estimate for the cleaning, sand removal/replacement, and maintenance of Basin 4 and 5. Attached below is a Scope of Work, Cost Estimate, Assumptions, and Payment.

Scope of Work
Based on the information for the drawings dated 8/19/03 the following Scope of Work has been developed:

- Remove standing water from manholes, basins, and sand compartments,
- Remove sand filter and debris,
- *Replace filter sock on pipe,*
- Jet rod discharge line to river,
- Replace filter sand,
- Install new filter fabric over sand and secure with sand bags.

Price
Basin 5

Item	Qty	Unit	Rate	Total
Water Removal	1	LS	$1285.00	$1285.00
Sand Removal	1	LS	$9257.00	$9257.00
Pipe Filter Replacement	1	LS	$837.00	$837.00
Jet Rodding	1	LS	$2985.00	$2985.00
Replace Sand	1	LS	$12800.00	$12800.00
Filter Fabric	1	LS	$625.00	$625.00
			Total	$27789.00

Basin 4

Water Removal	1	LS	$1025.00	$1025.00
Sand Removal	1	LS	$3665.00	$3665.00
Pipe Filter Replacement	1	LS	$340.00	$340.00
Jet Rodding	1	LS	$1345.00	$1345.00

Replace Sand	1	LS	$4100.00	$4100.00
Filter Fabric	1	LS	$185.00	$185.00
			Total	$10660.00

Assumptions
The following assumptions have been made for the development of this bid.

- Certified filter sand will be used,
- Water will be dumped onsite at treatment plant,
- Sand will be stockpiled onsite,
- Work hours will be scheduled as needed with Schnitzer.

Munitor would like to that you for the opportunity to provide professional services to Schnitzer Steel. If you have any questions please feel free to contact me anytime at (503) 702-6542. Thank you.

Regards,

Harley Meservey

Harley Meservey
President

MUNITOR CONSTRUCTION, LLC
SERVICES CONTRACT

This Contract is made this 24th day of September 2003 by and between Munitor Construction, LLC ("Munitor") and Schnitzer Steel Industries, ("SSI"):

For and in consideration of the mutual convenants contained herein, the parties agree:

ARTICLE I. SERVICES BY MUNITOR CONSTRUCTION, LLC

1.0 Scope of Work

Munitor, will provide personnel, equipment, and materials remove water, sand, replace with new sand, and Jet Rod Basin 4 and 5 oil water separators at SSI's facility located at 12005 North Burgard Road in Portland, Oregon.

1.1 Type of Services

As SSI may direct Munitor, will provide the following services (the "Services"):

Remove water, sand and install new sand and Jet Rod piping for Basin 4 and 5 at SSI's facility in Portland, Oregon. The services will be completed in accordance with TRT Engineering drawings.

1.2 Method of Performance

1.2.1 Munitor shall mobilize such personnel, equipment, and materials as described above starting the week of September 27, 2003.

1.2.2 Munitor shall comply in all respects with all applicable federal, state, and local laws and regulations in its performance of the Services.

1.2.3 Munitor will make its personnel and authorized subcontractors available to confer with SSI to review the status of and to review and establish procedures for the efficient and safe delivery of Services hereunder.

1.2.4 Neither Munitor, its authorized subcontractors, ~~not~~ any of their employees shall supervise, directly or indirectly, any temporary or permanent employee of SSI.

ARTICLE II. COMPENSATION

2.1 Compensation

SSI shall reimburse Munitor for services rendered at a fixed price, not-to-exceed basis, in accordance with Munitor's bid dated September 9, 2003 (Attached 1).

2.2 Invoice

Munitor Construction, L.L.C. shall invoice SSI monthly or upon project completion for Services performed hereunder. SSI shall make payment within thirty (30) days of receiving such invoice. A late fee will be added to accounts 30 days in arrears at the rate of one and one half percent (1.5%) of the amount due for each month of delinquency.

ARTICLE III. MUNITOR CONSTRUCTION, LLC – LIABILITY INSURANCE

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(a) Workers' Compensation at the statutory limits for the state or states in which the work is to be performed.
(b) Commercial Liability insurance in the amount of $1,000,000 combined single limit for bodily injury and property damage, including product liability, completed operations, contractual liability and, where applicable, coverage for damage caused by blasting, collapse or structural injury, and/or damage to underground utilities.
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ARTICLE IV. PROJECT PERFORMANCE

4.1 Performance of Services

Munitor will perform all Services under this Contract in accordance with generally accepted professional standards that apply in the community where the Services are performed for the type of work involved.

4.2 Completion of Services

Munitor will complete the Project within 30 days of initiation.

ARTICLE V. MISCELLANEOUS

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5.2 Unforeseen Conditions or Occurrences

If any unforeseen conditions or occurrences, including, but not limited to, hazardous substances or pollutants, are encountered, which, in Munitor, reasonable judgment, significantly affect or may affect the recommended scope of the Services, then Munitor will notify SSI. After such notification, Munitor will complete the original scope of Services, if appropriate, or agree with SSI to modify the Agreement, or terminate this Agreement with respect to the Services pursuant to Section 6.11 hereof. Changes to the original scope of work that will result in increased compensation for the project must be approved by SSI in writing.

ARTICLE VI. GENERAL PROVISIONS

6.1 Indemnification

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6.7 Severability

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SCHN00240127

6.8 Taxes

SSI shall pay all state and local sales, use, or excise taxes of any kind assessed and/or arising out of the sale or use of the Services and shall, upon demand, reimburse Munitor for any sums it has expended for such taxes. It is assumed all taxes have been included in Munitor's attached cost proposal.

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James L. Jakobiak	HARLEY MESERVEY
Name of Authorized Representative Of SSI (Printed)	Name of Munitor Rep. (Printed)
James F. Jakobiak	Harley Meservey
Authorized Signature	Authorized Signature
Title Environmental Administrator	Title President
Date ~~October~~ September 24, 2003	Date Sept. 24, 2003
Schnitzer Steel Industries, Inc. 12005 North Burgard Road Portland, Oregon 97203 (503) 224-9900	Munitor Construction, LLC 206 N Tomahawk Island Drive Portland, OR 97217 (503) 702-6542

September 9, 2003

To: Jim Jakubiak
SSI
Portland, Oregon

From: Harley Meservey
Munitor Construction, LLC
Portland, Oregon

Re: Basin 4 and 5 Cleaning
T-4 Docks
Portland, Oregon
Project #334

Mr. Jakubiak:

Munitor Construction, LLC (Munitor) is pleased to present the following estimate for the cleaning, sand removal/replacement, and maintenance of Basin 4 and 5. Attached below is a Scope of Work, Cost Estimate, Assumptions, and Payment.

Scope of Work
Based on the information for the drawings dated 8/19/03 the following Scope of Work has been developed:

- Remove standing water from manholes, basins, and sand compartments,
- Remove sand filter and debris,
- Replace filter sock on pipe,
- Jet rod discharge line to river,
- Replace filter sand,
- Install new filter fabric over sand and secure with sand bags.

Price

Basin 5				
Item	Qty	Unit	Rate	Total
Water Removal	1	LS	$1285.00	$1285.00
Sand Removal	1	LS	$9257.00	$9257.00
Pipe Filter Replacement	1	LS	$837.00	$837.00
Jet Rodding	1	LS	$2985.00	$2985.00
Replace Sand	1	LS	$12800.00	$12800.00
Filter Fabric	1	LS	$625.00	$625.00
			Total	$27789.00
Basin 4				
Water Removal	1	LS	$1025.00	$1025.00
Sand Removal	1	LS	$3665.00	$3665.00
Pipe Filter Replacement	1	LS	$340.00	$340.00
Jet Rodding	1	LS	$1345.00	$1345.00

Replace Sand	1	LS	$4100.00	$4100.00
Filter Fabric	1	LS	$185.00	$185.00
			Total:	$10660.00

Assumptions
The following assumptions have been made for the development of this bid.

- Certified filter sand will be used,
- Water will be dumped onsite at treatment plant,
- Sand will be stockpiled onsite,
- Work hours will be scheduled as needed with Schnitzer.

Munitor would like to that you for the opportunity to provide professional services to Schnitzer Steel. If you have any questions please feel free to contact me anytime at (503) 702-6542. Thank you.

Regards,

Harley Meservey
President

Attachment 1

Munitor Construction

[Click here and type return address]

September 16, 2003

To: Mr. Jim Jakubiak

From: Harley Meservey

Basin 4 and 5 Bld

Thanks for the opportunity

FAX 503 286-6448

September 9, 2003

To: Jim Jakubiak
SSI
Portland, Oregon

From: Harley Meservey
Munitor Construction, LLC
Portland, Oregon

Re: Basin 4 and 5 Cleaning
T-4 Docks
Portland, Oregon
Project #334

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President

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Harley Meservey

Harley Meservey
President

SCHNITZER STEEL PRODUCTS CO.

00 N.W. Yeon Ave. P.O. Box 10047 Portland, Oregon 97210
one 503/224-9900 Telex/W.U.36-0144 FAX 503/323-2793

MAINTENANCE OFFICE

FAX TRANSMITTAL COVER SHEET

TO: DANIEL LEE DATE: 3-17-93

CASCADE NUMBER OF PAGES BEING SENT

FROM: KEITH LAWSON (INCLUDING COVER PAGE 2

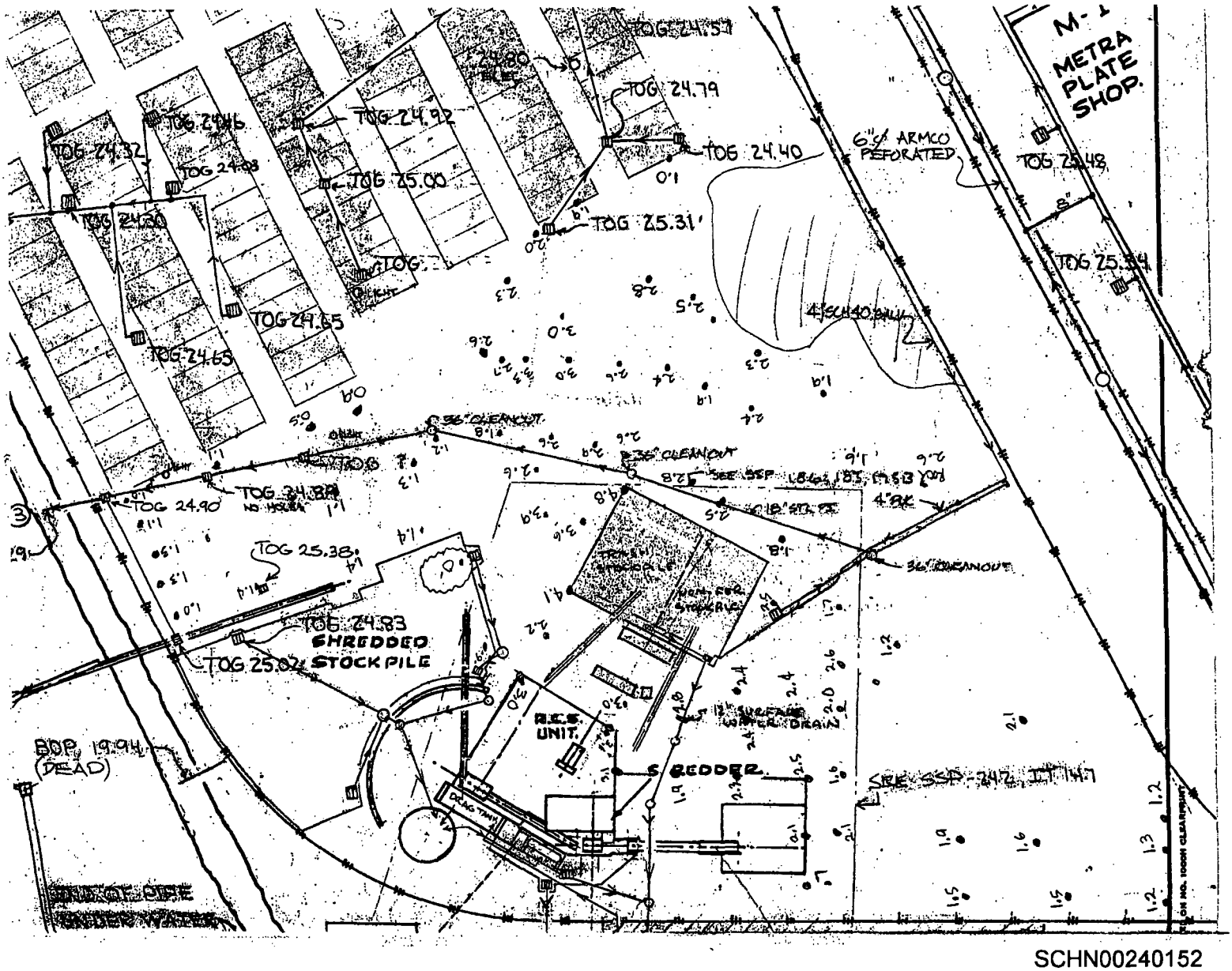
IF MESSAGE IS INCOMPLETE OR ILLEGIBLE, PLEASE CALL (503) 286-5771 EXT. 6955.
IF YOU WANT TO SEND A FAX TO SCHNITZER STEEL, OUR FAX NUMBER IS (503) 286-6956.

RE: MAP (TOPO)

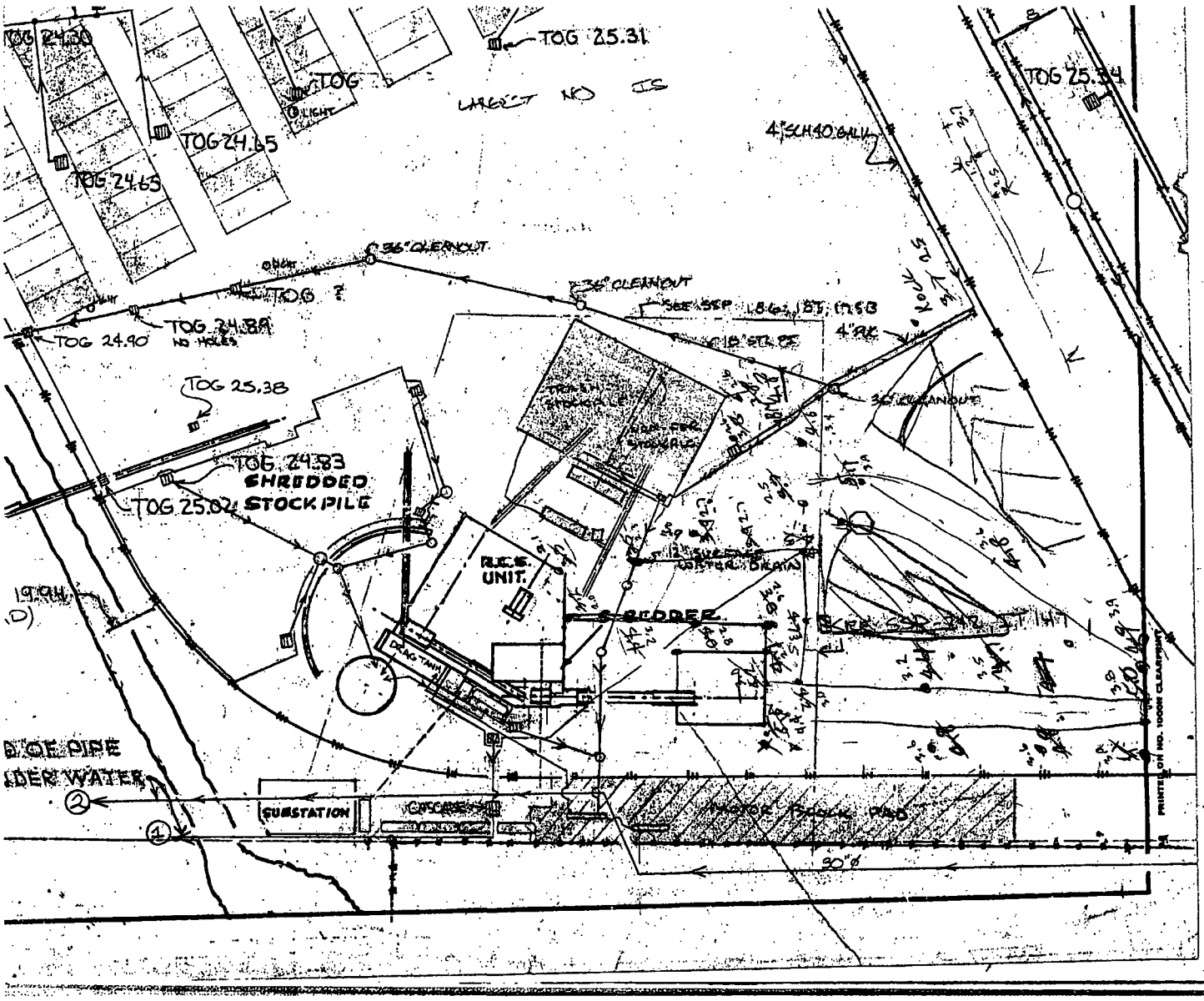
WRITTEN QUOTE TO SCHNITZER STEEL PRODUCTS

BEFORE PROCEEDING WITH REPAIRS.

ALL USED PARTS MUST BE RETURNED.



SCHN00240152



SCHN00240153

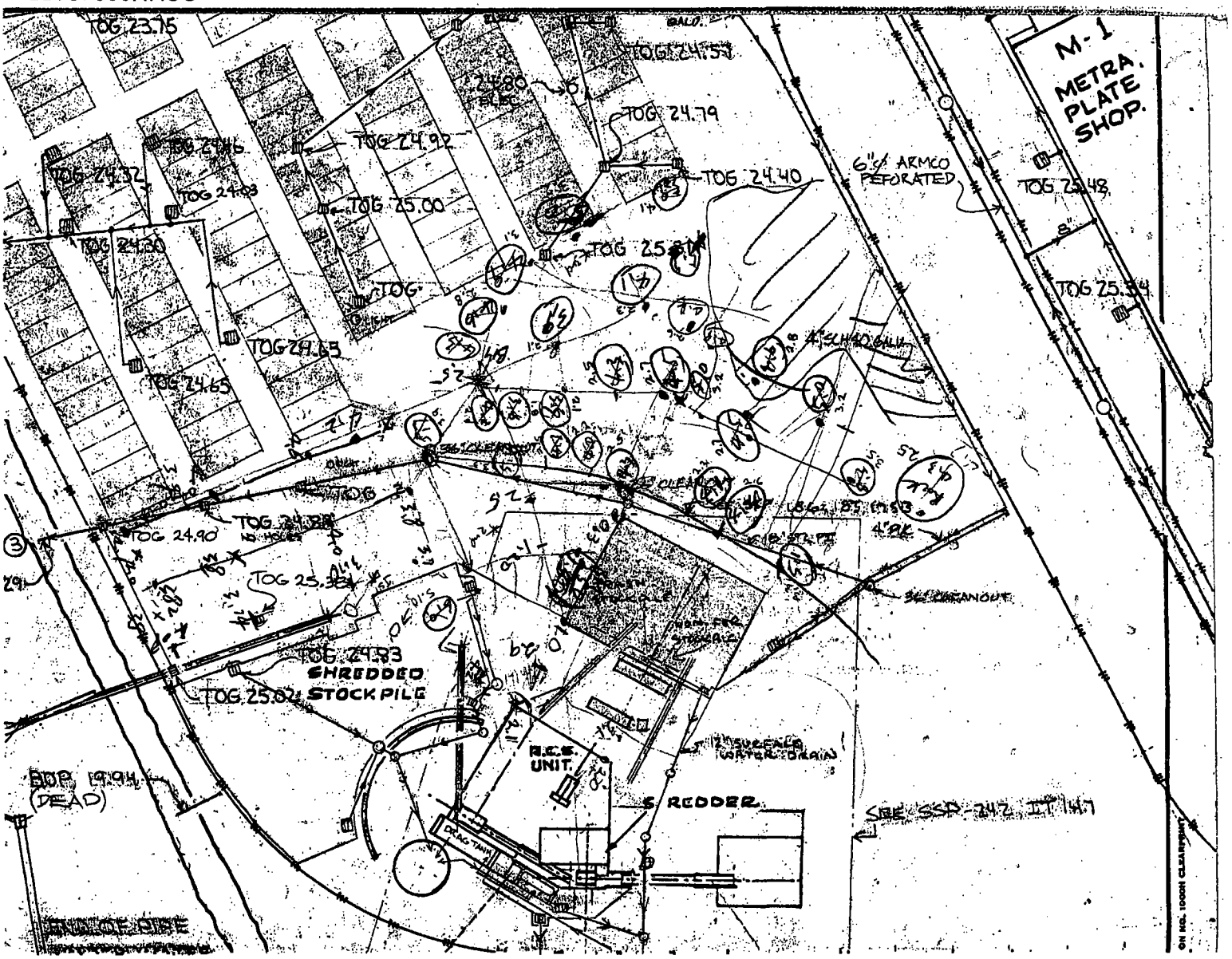
"Rite in the Rain"
ALL-WEATHER WRITING PAPER

No. 1104

J.L. DARLING CORP.
TACOMA, WA 98421

SCHN00240154

SCHN00240155



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TACOMA, WA 98421

SCHN00240156

Oregon

DEPARTMENT OF
ENVIRONMENTAL
QUALITY

April 23, 1991

Mr. Keith Lawson
Mechanical Engineer
Schnitzer Steel Products Co.
3200 NW Yeon Ave.
P.O. Box 10047
Portland, OR 97210

Re: SPECIAL PERMIT
Discharge of Dye Mixture to Willamette River

Dear Mr. Lawson:

Department staff have reviewed your request for a special discharge permit. We understand that you would like to place a mixture of water and dye into your site storm drains to assist you in mapping the drainage system. The original drawings of the drainage system have been lost or misplaced. The water/dye mixture would be discharged via the storm drains into the Willamette River.

You are hereby authorized to conduct this activity subject to the constraints listed below.

1. Rhodamine WT dye shall be used and no other. We have reviewed the material safety data sheet provided by you and information published by the United States Geological Survey concerning dye toxicity. We are convinced that Rhodamine WT would satisfy your needs and would be relatively non-toxic at the concentrations to be discharged.

2. The concentration of Rhodamine WT shall not exceed 100 parts per million. This concentration is below reported acute toxicity values for freshwater organisms.

811 SW Sixth Avenue
Portland, OR 97204-1390
(503) 229-5696

SCHN00240157

3. The total quantity of water/dye mixture shall not exceed approximately 100,000 gallons over the term of the permit. No more than 10,000 gallons shall be discharged during any single day.

4. Dye testing shall be conducted Monday through Friday between 7:30 a.m. and 6:00 p.m. This testing period would reduce the possibility that the colored dye would be observed by people using the Willamette River for recreational purposes. We expect the water/dye mixture to be diluted rapidly upon entering the Willamette River because of the relatively low volumes and concentrations to be discharged, the duration of the activity, and the location of the discharges.

This special discharge permit is valid for 60 days. It expires on June 25, 1991.

Please contact Ken Vigil at 229-5256 if you have any questions about the terms of this permit.

Sincerely,

Lydia R. Taylor

Lydia R. Taylor
Administrator
Water Quality Division

LRT:KMV:crw
IW\WC8\WC8225
cc: Northwest Region, DEQ
cc: City of Portland

FAX MESSAGE

TO: Keith Lawson DATE: 4/2/91

FROM: Helen Bradly-Burr Crompton & Knowles

PLEASE DISTRIBUTE COPIES TO:

SUBJECT: MSDS

Attached you will find the MSDS for Intracid Rhodamine WT liq. per request.

- BURR

Thanks,
Helen Bradly-Burr

25 LB MIN @ $16.00/LB = $400.00
+ FREIGHT

SCHN00240159

100 PPM

1 LITER

CROMPTON & KNOWLES CORPORATION
DYES & CHEMICALS DIVISION
ENVIRONMENTAL AFFAIRS DEPARTMENT
P.O. BOX 341
READING, PA 19603

(215) 582-8765

NOT TO EXCEED 100 PPM

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

TRADE NAME.....: INTRACID RHODAMINE WT LIQUID
CHEMICAL FAMILY....: XANTHENE
ITEM FAMILY.....: 4517
COLOR INDEX NAME...: C.I.ACID RED 388
REVISION DATE.....: 01/03/89 LAST REVISION DATE: 06/03/85

II. HAZARD WARNING LABEL

WARNING:

MAY CAUSE EYE IRRITATION

HANDLE WITH CARE, AVOID CONTACT

THIS PRODUCT IS NOT HAZARDOUS AS DEFINED BY THE OSHA HAZARD COMMUNICATION STANDARD. HOWEVER, AS WITH ALL CHEMICALS; HANDLE WITH CARE, AVOID EYE AND SKIN CONTACT, AVOID INHALATION OF DUSTS OR VAPORS. WASH THOROUGHLY AFTER HANDLING. KEEP CONTAINERS CLOSED.

III. HAZARDOUS INGREDIENTS

INGREDIENT: SODIUM HYDROXIDE (1310-73-2) %: <1
EXPOSURE LIMITS....: 2 MG/M3 CEILING (ACGIH)

HAPIM HMIS
H: 1 F: 1 R: 1 P: C

IV. PHYSICAL DATA

APPEARANCE.....: DARK RED LIQUID
ODOR.....: NO ODOR
BOILING POINT.....: AQUEOUS
MELTING POINT.....: -10 C
PH.....: 10.8 +/- 0.7
SOLUBILITY IN WATER: SOLUBLE
SPECIFIC GRAVITY...: 1.19

V. FIRE AND EXPLOSION DATA

FLASH POINT.....: N/A AQUEOUS
FLAMMABLE UNITS....: N/A
EXTINGUISHING MEDIA: WATER, DRY CHEMICAL, CO2
SPECIAL PROCEDURES
FOR FIGHTING FIRE..: WEAR SCBA
UNUSUAL HAZARDS....: NONE EXPECTED

NFPA CODE:
F: 1 H: 1 R: 1 S: N

SCHN00240161

VI. REACTIVITY DATA

STABILITY.....: STABLE
CONDITIONS TO
AVOID.....: NONE
POLYMERIZATION.....: WILL NOT OCCUR
CONDITIONS TO
AVOID.....: NONE
INCOMPATIBILITY....: NONE KNOWN
HAZARDOUS
DECOMPOSITION.....: NOT DETERMINED

VII. HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:
LIQUID IN CONTACT WITH EYES MAY CAUSE IRRITATION.

INTRACID RHODAMINE WT LIQUID WAS TESTED IN A BATTERY OF IN VITRO AND IN VIVO MAMMALIAN ASSAYS RESULTING IN NEGLIGIBLE OR LOW LEVELS OF GENOTOXIC ACTIVITY EVEN AT VERY HIGH CONCENTRATIONS. NO EVIDENCE OF IN VIVO GENETIC ACTIVITY WAS OBSERVED EITHER IN TERMS OF BONE MARROW MICRONUCLEI OR SPERM ABNORMALITIES. (G.R.DOUGLAS ET AL. "COMPARATIVE MAMMALIAN IN VITRO AND IN VIVO STUDIES ON THE MUTAGENIC ACTIVITY OF RHODAMINE WT", MUTATION RESEARCH. 118, 1983. 117-125)

INTRACID RHODAMINE WT WAS POSITIVE IN A SALMONELLA/MAMMALIAN MICROSOME ASSAY (NESTMANN AND KOWBEL, 1979). G.DOUGLAS AS REFERENCED, STATED THAT IMPURITIES IN THE DYE MAY HAVE CAUSED THE MUTAGENIC EFFECTS SEEN OR ALTERNATIVELY THE DYE MAY BE A POINT MUTAGEN. DOUGLAS FURTHER REPORTED THAT TAKING THE DATA ALTOGETHER FROM HIS STUDY, "...RHODAMINE WT APPEARS NOT TO REPRESENT A MAJOR GENOTOXIC HAZARD."

ROUTES OF EXPOSURE:
INHALATION: SKIN: X INGESTION: EYES: X

SIGNS AND SYMPTOMS
OF OVEREXPOSURE....: NOT KNOWN

MEDICAL CONDITIONS
GENERALLY AGGRAVATED
BY EXPOSURE.....: NOT KNOWN

CARCINOGENICITY:
NTP: NO IARC: NO OSHA REGULATED: NO

TOXICITY DATA:
ORAL (ANIMAL).....: ALD 25 G/KG
DERMAL (ANIMAL)....: NO DATA
INHALATION (ANIMAL): NO DATA
EFFECTS TO EYES
(ANIMAL).....: NO DATA
SKIN IRRITATION....:
(ANIMAL).....: NO DATA
FISH, LC50 (LETHAL): >320 MG/L 96 & 48 HR (RAINBOW TROUT)
ADDITIONAL DATA....: 170 MG/L 72HR (DAPHNIA), 10 MG/L 48HR (OYSTER), >2000 MG/L 96HR (WATER HOG LOUSE)

NO EVIDENCE OF SIGNIFICANT BIOACCUMULATION IN FISH

VIII. EMERGENCY AND FIRST AID PROCEDURE

INHALATION.....: IF INHALED, MOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, GIVE OXYGEN AND GET MEDICAL ATTENTION RIGHT AWAY.

EYE CONTACT.....: FLUSH EYES WITH FLOWING WATER FOR AT LEAST 15 MINUTES, HOLDING EYELIDS APART TO IRRIGATE THOROUGHLY. GET MEDICAL ATTENTION RIGHT AWAY.

SKIN CONTACT.....: WASH AFFECTED SKIN AREAS THOROUGHLY WITH SOAP AND WATER. IF IRRITATION DEVELOPS, CONSULT A PHYSICIAN

INGESTION.....: IF SWALLOWED, DILUTE WITH WATER AND INDUCE VOMITING. GET IMMEDIATE MEDICAL ATTENTION. NEVER GIVE FLUIDS OR INDUCE VOMITING IF PATIENT IS UNCONSCIOUS OR HAS CONVULSIONS.

IX. SPECIAL PROTECTION

RESPIRATORY.....: NOT REQUIRED
EXPOSURE LIMITS.....: NONE ESTABLISHED FOR THE LIQUID PRODUCT

VENTILATION LOCAL: X MECHANICAL:

PROTECTIVE GLOVES...: RUBBER GLOVES
EYE PROTECTION.....: GOGGLES
OTHER PROTECTIVE EQUIPMENT.....: APRON, COVERALL TO MINIMIZE SKIN CONTACT

X. SPECIAL PRECAUTIONS

IN ACCORD WITH GOOD INDUSTRIAL PRACTICE, HANDLE THIS PRODUCT WITH CARE AND AVOID PERSONAL CONTACT.

XI. TRANSPORTATION INFORMATION

DOT HAZARD CLASSIFICATION.....: N/A
DOT PROPER SHIPPING NAME.....: DOT NOT REGULATED
DOT LABEL.....: N/A
UN/NA NUMBER.....: N/A
R.Q.....: N/A

XII. SPILL AND LEAK PROCEDURES

REGULATORY WASTE DESCRIPTION.....: NOT HAZARDOUS ACCORDING TO 40 CFR PART 261
R.Q.....: NONE
WASTE DISPOSAL.....: BURY OR INCINERATE ACCORDING TO FEDERAL, STATE AND LOCAL REGULATIONS.
DRUM DISPOSAL.....: CONTAINERS SHOULD BE TRIPLE RINSED ACCORDING TO FEDERAL REGULATIONS.
STEPS TO BE TAKEN IF MATERIAL RELEASED OR SPILLED.....: WEAR APPROPRIATE SAFETY EQUIPMENT. CONTAIN AND CLEAN UP SPILL IMMEDIATELY. PREVENT FROM ENTERING

SCHN00240163

FLOOR DRAINS. CONTAIN LIQUIDS USING ABSORBANTS. SWEEP POWDERS CAREFULLY MINIMIZING DUSTING. SHOVEL ALL SPILL MATERIALS INTO DISPOSAL DRUM. FOLLOW DISPOSAL INSTRUCTIONS. SCRUB SPILL AREA WITH DETERGENT. FLUSH WITH COPIOUS AMOUNTS OF WATER.

XIII. REGULATORY INFORMATION

TSCA.....: IN COMPLIANCE.

SARA:
THIS PRODUCT IS NOT REPORTABLE UNDER SARA SECTION 313

OSHA HAZARD CLASSIFICATION:
ACUTE....: NO CHRONIC..: NO FLAMMABLE.:NO
REACTIVE.: NO OXIDIZER.: NO

STATE RIGHT TO KNOW LAWS:
PENNSYLVANIA
THIS PRODUCT IS NOT REGULATED UNDER THE PENNA R-T-K LAW
NONHAZARDOUS INGREDIENTS:
C.I.ACID RED 388
WATER

XIV. OTHER INFORMATION

THIS PRODUCT IS NOT A "CONTROLLED" PRODUCT AS DEFINED BY THE CANADIAN WHMIS.

DISCLAIMER:

CROMPTON & KNOWLES WARRANTS THAT THIS PRODUCT CONFORMS TO THE CHEMICAL DESCRIPTION ON THE LABEL AND IS REASONABLY FIT FOR THE SPECIFIC PURPOSES REFERRED TO IN ITS DIRECTIONS FOR USE, SUBJECT TO THE INHERENT RISKS REFERRED TO IN THE MATERIAL SAFETY DATA SHEET FOR THIS PRODUCT. CROMPTON & KNOWLES MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILTIY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL CROMPTON & KNOWLES BE LIABLE FOR CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

SCHN00240164

SCHNITZER STEEL IND. INC. 0005 S-230546

P.O. Box 10047 • PORTLAND, OREGON 97210 • (503) 224-9900

YOUR INVOICE NO.	INVOICE DATE	DESCRIPTION	AMOUNT	DISCOUNT	AMOUNT
040391	04/01/91	PERMIT FEES	125.00	0.00	125.00
		TOTAL:	125.00	0.00	125.00

PLEASE DETACH BEFORE DEPOSITING

SCHN00240165

SCHNITZER STEEL PRODUCTS CO.

3200 N.W. Yeon Ave. P.O. Box 10047 Portland, Oregon 97210
Phone 503/224-9900 Telex/W.U.36-0144 FAX 503/323-2793

MARCH 26, 1991

KEN VIGIL
ENVIRONMENTAL ENGINEER
DEPT. OF ENVIRONMENTAL QUALITY
811 S.W. 6TH.
PORTLAND, OREGON 97204

DEAR KEN:

AS PER OUR DISCUSSION ON MARCH 21, 1991, I AM SUPPLYING YOU WITH THE MSDS PAPERS ON THE RODAMINE AND THE FLUORESCEIN.

I AM REQUESTING A 60 DAY PERMIT FOR THE USE OF EITHER CHEMICAL FOR USE AS VISIBLE DYE CHECK IN OUR DRAINAGE SYSTEM AT INTERNATIONAL TERMINALS.

I NEED THE PERIOD OF THE 60 DAYS TO START AS SOON AS THE PERMIT IS RELEASED.

IF YOU HAVE ANY QUESTIONS, PLEASE GIVE ME A CALL AT 286-6953.

SINCERELY,

KEITH LAWSON
MECHANICAL ENGINEER

KL/TH

not liquid at this time.

EYSTONE PACIFIC DIVISION
3767 MILROY PLACE
ANTA FE SPRINGS, CA 90670
HONE 213-802-3937

TRADE NAME RHODAMINE B SOLUTION
PRODUCT CODE 000C00070301045
PREPARED FOR MT HOOD CHEMICAL CORP

001435

MATERIAL SAFETY DATA SHEET

COLOR INDEX NAME	BASIC VIOLET 10 IN ACETIC ACID
CAS REGISTRY NUMBER	MIXTURE
CHEMICAL FAMILY	XANTHENE
TSCA LISTED	IN COMPLIANCE
OSHA HAZARDOUS	YES

HAZARDOUS INGREDIENTS

BASIC VIOLET 10	CAS# 64381-99-3	TLV NOT ESTABLISHED
ACETIC ACID	CAS# 64-19-7	TLV 10 PPM (OSHA, ACGIH) STEL 15 PPM (ACGIH)

PHYSICAL DATA

APPEARANCE & ODOR	RED LIQUID, ACETIC ACID ODOR
SOLUBILITY IN WATER	SOLUBLE
BOILING POINT	> 212 DEGREES F
SPECIFIC GRAVITY	NA
% VOLATILE BY WEIGHT	NA
PH	2.0-3.0

FIRE AND EXPLOSION DATA

FLASH POINT	NA
FLAMMABLE LIMITS	NA
EXTINGUISHING MEDIA	WATER FOG, DRY CHEMICAL, FOAM
SPECIAL PROCEDURES FOR FIRE FIGHTING	WEAR SELF-CONTAINED BREATHING APPARATUS AND TURN-OUT GEAR.
UNUSUAL HAZARDS	NONE

REACTIVITY DATA

STABILITY	STABLE
CONDITIONS TO AVOID	MATERIAL IS CORROSIVE TO METAL
POLYMERIZATION	WILL NOT OCCUR

INCOMPATIBLE MATERIALS NONE KNOWN

HAZARDOUS DECOMPOSITION PRODUCTS: NOT ESTABLISHED.

HEALTH HAZARDS

EFFECTS OF OVEREXPOSURE

LD50(ORAL, RAT) 3,500 MG/KG
SKIN/EYES (RABBIT) SEVERELY IRRITATING
CONTACT WITH EYES MAY RESULT IN SEVERE IRRITATION. PERMANENT EYE INJURY MAY RESULT. CONTACT WITH SKIN MAY RESULT IN STRONG IRRITATION AND BURNS. INGESTION MAY RESULT IN SEVERE GASTRIC DISTURBANCES, INCLUDING NAUSEA, VOMITING, AND GI DAMAGE. INHALATION OF VAPOR MAY RESULT IN IRRITATION OF THE RESPITATORY TRACT.

BASIC VIOLET 10 WAS CARCINOGENIC TO RATS AND MICE IN A LIFETIME FEEDING STUDY.

EMERGENCY FIRST AID PROCEDURES

INHALATION- IF INHALED, MOVE TO FRESH AIR. IF DIFFICULTY IN BREATHING, ADMINISTER OXYGEN AND GET IMMEDIATE MEDICAL ATTENTION.

INGESTION- IF SWALLOWED, GIVE SEVERAL GLASSES OF MILK OR WATER DO NOT INDUCE VOMITING!!! GET IMMEDIATE MEDICAL ATTENTION. NEVER GIVE FLUIDS OR INDUCE VOMITING IF PATIENT IS UNCONSCIOUS OR HAS CONVULSIONS.

EYE CONTACT- WASH WITH FLOWING WATER FOR AT LEAST 15 MINUTES. GET IMMEDIATE MEDICAL ATTENTION.

SKIN CONTACT- WASH AFFECTED SKIN AREA WITH SOAP AND WATER, GET IMMEDIATE MEDICAL ATTENTION. REMOVE AND LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
SPILLS SHOULD BE CONTAINED, SOLIDIFIED, AND PLACED IN SUITABLE CONTAINERS FOR DISPOSAL IN A RCRA LICENSED FACILITY. THIS MATERIAL IS RCRA HAZARDOUS DUE TO ITS PROPERTIES.

WASTE DISPOSAL METHOD
INCINERATE IN A RCRA LICENSED FACILITY. DO NOT DISCHARGE INTO WATERWAYS OR SEWER SYSTEMS WITHOUT PROPER AUTHORITY.

RCRA HAZARDOUS WASTE: YES NO. D002 (CORROSIVE)
CERCLA LISTED: YES RQ: 5000 LBS (ACETIC ACID)
DOT REGULATED: YES (ACETIC ACID) RQ: 5000 LBS UN# 2801

SPECIAL PROTECTION

RESPIRATORY PROTECTION- IN CASES WHERE THERE IS A LIKELIHOOD OF INHALATION EXPOSURE TO VAPORS (MIST), WEAR A NIOSH APPROVED ORGANIC ACID/MIST RESPIRATOR.

PROTECTIVE GLOVES- WEAR IMPERVIOUS GLOVES AS A STANDARD HANDLING PROCEDURE.

EYE PROTECTION- CHEMICAL GOGGLES.

OTHER PROTECTION- WEAR APPROPRIATE EQUIPMENT TO PREVENT THE PROBABILITY OF EXPOSURE AND PERSONAL CONTACT. DELUGE SAFETY SHOWER AND EYE WASH SHOULD BE LOCATED NEAR WORK AREA.

VENTILATION- LOCAL EXHAUST TO MEET PEL.

SPECIAL PRECAUTIONS

IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICES, HANDLE WITH CARE AND AVOID PERSONAL CONTACT.

HMIS RAW MATERIALS RATING

HEALTH -3
FIRE -2
REACTIVITY -0

OTHER DATA

PREPARATION DATE 11/25/85 PREPARED BY J A ANDREWS
REVISION DATE 02/27/90 REVISED BY M E A

FOR FURTHER INFORMATION, PLEASE CONTACT JOHN A ANDREWS
312-666-2015

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO THE INFORMATION CONTAINED HEREIN. THIS MATERIAL SAFTEY DATA SHEET WAS PREPARED TO COMPLY WITH THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200). THIS SUPERCEDES ANY PREVIOUS INFORMATION.

MATERIAL SAFETY DATA SHEET

15174 Uranine Conc.

SECTION I - IDENTIFICATION

MANUFACTURER/DISTRIBUTOR. CHEMCENTRAL/Detroit
EMERGENCY PHONE NUMBER... (313) 941-4800
EFFECTIVE DATE..... 11-05-85
.....
CHEMICAL NAME..... Acid Yellow 73 (Color Index name) Fluorescen Dye
TRADE NAME..... 15174 Uranine Conc.
CHEMICAL FAMILY..... Xanthene
CHEMICAL FORMULA..... 45350 (Color Index formula)

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS	HAZARDOUS %	TLV (Units)	PROD. CAS #
None as per part 29 CFR 1910.1200			

SECTION III - PHYSICAL DATA

BOILING Point(F)..... N/A
FREEZING POINT (F)..... N/A
VOLATILITY/VOL(%)..... N/A
MELTING POINT..... N/A
VAPOR PRESSURE (mm Hg)... N/A
VAPOR DENSITY (Air=1).... N/A
SOLUBILITY IN H2O..... Moderate
APPEARANCE/ODOR..... Orange powder, no characteristic odor
SPECIFIC GRAVITY (H2O=1). Approximately 1
EVAPORATION RATE..... N/A
PH..... N/A

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT..... N/A
LOWER FLAME LIMIT..... N/A
HIGHER FLAME LIMIT..... N/A
EXTINGUISH MEDIA..... Water fog, CO_2, or Dry chemical.
FOR FIRE..... Fire fighters should be equipped with self contained breathing apparatus and turnout gear.
UNUSUAL FIRE HAZARD..... Adequate ventilation and clean up must be maintained to minimize dust accumulation. May form explosive dust/air mixture.

SECTION V - HEALTH HAZARD DATA

SCHN00240174

MATERIAL SAFETY DATA SHEET

15174 Uranine Conc.

THRESHOLD LIMIT VALUE.... Ingestion in rats LD 50>6,800 mg/kg
OVER EXPOSURE EFFECTS.... Contact with eyes may result in severe irritation. Contact with skin may result in irritation. Ingestion may result in gastric disturbances. Inhalation of dust may irritate respiratory tract.
FIRST AID PROCEDURES..... Flush eyes with flowing water at least 15 minutes. If irritation develops, consult a physician. Wash affected skin areas thoroughly with soap and water. If irritation develops, consult a physician. Remove and launder contaminated clothing before reuse. If swallowed, dilute with water and induce vomiting. Get immediate medical attention. If inhaled, move to fresh air. Aid in breathing, if necessary, and get medical attention.
NEVER GIVE FLUIDS OR INDUCE VOMITING IF PATIENT IS UNCONSCIOUS OR HAS CONVULSIONS.

SECTION VI - REACTIVITY DATA

CHEMICAL STABILITY..... Stable
CONDITIONS TO AVOID..... N/A
INCOMPATIBLE MATERIALS... Unknown
DECOMPOSITION PRODUCTS... Carbon monoxide,Carbon dioxide,and oxides of Nitrogen.

HAZARDOUS POLYMERIZATION. Does not occur
POLYMERIZATION AVOID..... N/A

SECTION VII - SPILL OR LEAK PROCEDURE

FOR SPILL ..... Spills should be contained and placed in suitable containers.
WASTE DISPOSAL METHOD.... Do not discharge into sewers or waterways. Dispose of in accordance with local regulations.

SECTION VIII - SPECIAL PROTECTION

RESPIRATORY PROTECTION... NIOSH/OSHA approved dust respirator as necessary.
VENTILATION..... Local exhaust to control dusts.
PROTECTIVE GLOVES..... To prevent skin contact.
EYE PROTECTION..... Goggles.
PROTECTIVE EQUIPMENT..... Eye wash fountains should be easily accessible.
HANDLING AND STORAGE..... Keep away from excessive heat and moisture. Keep containers closed.

SECTION IX - SPECIAL PRECAUTIONS

HAZARD CLASS..... N/A
DOT SHIPPING NAME..... Coal Tar Dyestuff

SCHN00240175

MATERIAL SAFETY DATA SHEET

15174 Uranine Conc.

REPORTABLE QUANTITY (RQ). N/A
UN NUMBER..... N/A
NA #..... N/A
PACKAGING SIZE..... Various

FOOT NOTES
This information is furnished without warranty, representation, or license of any kind, except that it is accurate to the best of CHEMCENTRAL Corporation's knowledge or obtained from sources believed by CHEMCENTRAL Corporation to be accurate. The CHEMCENTRAL Corporation does not assume any legal responsibility for use or reliance upon same. Customers are encouraged to conduct their own tests. Before using any product, read its label.

N/A = Not applicable

REFERENCES

SCHNITZER STEEL PRODUCTS CO.

5200 N.W. Yeon Ave. P.O. Box 10047 Portland, Oregon 97210
Phone 503/224-9900 Telex/W.U.U.36-0144 FAX 503/323-2793

April 2, 1991

Mr. Ken Vigil
Environmental Engineer
Department of Environmental Quality
811 Southwest 6th Street
Portland, Oregon 97204

Dear Ken:

As per our discussion on April 1, 1991, I am supplying you with information about A.) Mixture Quantities, B.) Test Duration, and C.) Discharge Locations.

A.) Mixture Quantities

1. Rhodamine WT - not to exceed 100 PPM

2. Sodium Fluorescein - not to exceed 10 PPM

B.) Test Duration

1. I would like to be able to test on any day throughout the permit period, preferably on non-raining days.

C.) Test Location

1. See attached map. SEE LINNTON 7.5 MINUTE TOPO MAP

If you have any questions, please give me a call at 286-6953.

Sincerely,

SCHNITZER STEEL PRODUCTS CO.

Keith Lawson

Keith Lawson
Mechanical Engineer

SENT WITH $125.00 FOR FEE

KL:kg
Enclosure

SCHNITZER STEEL PRODUCTS CO.

3200 N.W. Yeon Ave. P.O. Box 10047 Portland, Oregon 97210
Phone 503/224-9900 Telex/W.U.36-0144 FAX 503/323-2793

APRIL 16, 1991

MR. KEN VIGIL
ENVIRONMENTAL ENGINEER
DEPARTMENT OF ENVIRONMENTAL QUALITY
811 S.W. 6TH. STREET
PORTLAND, OREGON 97204

DEAR KEN:

THE AMOUNT OF WATER I INTEND TO DISCHARGE WILL NOT EXCEED 1000 GALLONS PER DRAIN. AT THIS POINT, I STILL HAVE 85 DRAINS TO CHECK.

THE TIMES I WOULD LIKE TO TEST WOULD BE ON MONDAY THRU FRIDAY. THE TIME BEING 7:30 A.M. THRU 6:00 P.M. PREFERABLY ON DRY DAYS.

IF YOU HAVE ANY QUESTIONS, PLEASE FEEL FREE TO GIVE ME A CALL AT 286-6953.

SINCERELY,

Keith Lawson

KEITH LAWSON
MECHANICAL ENGINEER

KL/TH

KEYSTONE

KEYSTONE ANILINE CORPORATION - PACIFIC DIVISION 13767 Milroy Place, Santa Fe Springs, CA 90670 213/802-3937

FASCIMILE TRANSMITTAL

DATE: 3/21/91

OUR FAX NO. 1-213-921-3461

TO: Schnitzer Steel/Prod. ATTENTION: Keith Lawson

FROM: Matt Austin

NUMBER OF PAGES 7, INCLUDING THIS COVER PAGE.

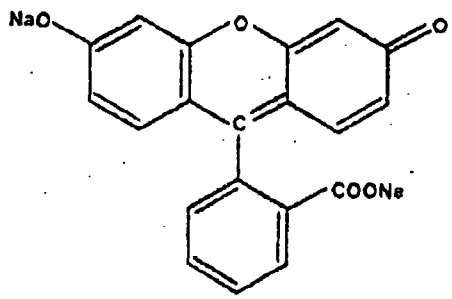
Please notify us immediately if this transmittal is not received properly by return FAX or by calling us at 1-213-802-3937.

MESSAGE: Attached are technical bulletins and a MSDS for Keyacid Uranine Conc. (801-073-50 Keystone®). Also, I have attached a credit application if you decide to purchase this item.

Keyacid Uranine

801-073-50/55

STRUCTURE



COLOR INDEX NAME	Acid Yellow 73
COLOR INDEX NUMBER	45350
FORMULA	$C_{20}H_{10}O_5Na_2$
MOLECULAR WEIGHT	376.3
APPEARANCE	Red powder
STRENGTH	75% ± 5% Pure dye by Visible Absorption Spectrophotometry
SHADE	Yellow with a dark green fluorescence (In solution)
SOLUBILITY	Water - Soluble Alcohol - Dye is soluble - diluent is insoluble
PRECAUTIONS	Material Safety Data Sheet supplied upon request
PACKAGING	Fiber Drums with P.E. liners 100 lbs. net

The information provided on this and any following pages regarding our product(s) has been developed as a guide for your consideration and verification and does not constitute a legal representation or warranty. Due to differences in product formulation and operational conditions, we cannot be responsible for results in the user's plant or product.

KEYSTONE

KEYACID URANINE
801-073-50

Generic Name - C.I. Acid Yellow 73
Color Index - #45350 (Xanthene)
Classic Name - Sodium Fluorescein
Molecular Weight - 376.3

Due to its intense fluorescence in water, Uranine is used mainly for tracing and detecting underground streams and water leaks in coal mines, quarries, oil drilling pipe lines and storage tanks, as well as a dye marker in open seas and oceans.

Its intense fluorescence allows detection in concentrations as little a 1/ppm under ideal viewing conditions.

For detecting leaks in storage tanks, pipe lines, etc., we recommend 10/ppm. However, submerged lines could require a higher concentration to allow for a dilution factor. Likewise, under ideal conditions as little as 1/ppm may suffice.

The following chart gives the amounts of Uranine required for 10/ppm for varying amounts of water in gallons and cubic feet:

Gallons Water	Cubic Ft. Water	Lbs. Uranine
12,000	1,604	1.0
24,000	3,208	2.0
60,000	8,021	5.0
100,000	13,368	8.5
120,000	16,042	10.0
180,000	24,062	15.0
240,000	32,083	20.0
300,000	40,104	25.0
480,000	64,166	40.0
600,000	80,208	50.0
1,000,000	133,681	84.0
1,200,000	160,420	100.0

KEYSTONE ANILINE CORPORATION/PACIFIC DIVISION PO Box 1296 La Mirada, CA 90637 213/802-3937 Telex: 25-3366

KEYSTONE PACIFIC DIVISION
13767 MILROY PLACE
SANTA FE SPRINGS, CA 90670
PHONE 213-802-3937
EMERGENCY PHONE CHEM-TEL 800-255-3924

TRADE NAME KEYACID URANINE CONC.
PRODUCT CODE 801-073-55
PREPARED FOR SCHNITZER STEEL PRODUCTS

MATERIAL SAFETY DATA SHEET

IDENTIFICATION

COLOR INDEX NAME	ACID YELLOW 73
CAS REGISTRY NUMBER	518-47-8
CHEMICAL FAMILY	XANTHENE
TSCA LISTED	YES
OSHA HAZARDOUS	NO

HAZARDOUS INGREDIENTS

NONE AS PER 29CFR PART 1910.1200 TREAT AS A NUISANCE DUST

PHYSICAL DATA

APPEARANCE & ODOR	RED-ORANGE POWDER, NO ODOR
SOLUBILITY IN WATER	HIGHLY SOLUBLE
BOILING POINT	NA
SPECIFIC GRAVITY	NA
% VOLATILE BY VOLUME	NA

FIRE AND EXPLOSION DATA

FLASH POINT	N/A
FLAMMABLE LIMITS	N/A
EXTINGUISHING MEDIA	FOAM, DRY CHEMICAL
SPECIAL PROCEDURES FOR FIRE FIGHTING	NONE
UNUSUAL HAZARDS	NONE EXPECTED

REACTIVITY DATA

STABILITY	STABLE
CONDITIONS TO AVOID	NONE
POLYMERIZATION	WILL NOT OCCUR
CONDITIONS TO AVOID	NONE

PROTECTIVE GLOVES- WEAR IMPERVIOUS GLOVES AS A STANDARD HANDLING PROCEDURE.

EYE PROTECTION- SAFETY GLASSES WITH SIDE SHIELDS.

OTHER PROTECTION- WEAR APPROPRIATE EQUIPMENT TO PREVENT THE PROBABILITY OF EXPOSURE AND PERSONAL CONTACT. DELUGE SAFETY SHOWER AND EYE WASH SHOULD BE LOCATED NEAR WORK AREA.

VENTILATION- LOCAL EXHAUST IS RECOMMENDED, MECHANICAL EXHAUST IS ACCEPTABLE.

SPECIAL PRECAUTIONS

IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICES, HANDLE WITH CARE AND AVOID PERSONAL CONTACT

HMIS RAW MATERIALS RATING

HEALTH -1
FIRE -0
REACTIVITY -0

OTHER DATA

PREPARATION DATE 01/24/90 PREPARED BY M E A

FOR FURTHER INFORMATION, PLEASE CONTACT JOHN A ANDREWS
312-666-2015

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO THE INFORMATION CONTAINED HEREIN. THIS MATERIAL SAFTEY DATA SHEET WAS PREPARED TO COMPLY WITH THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200). THIS SUPERCEDES ANY PREVIOUS INFORMATION.

INCOMPATIBLE MATERIALS NONE KNOWN

HAZARDOUS DECOMPOSITION PRODUCTS: THERMAL DECOMPOSITION MAY YIELD CARBON MONOXIDE.

HEALTH HAZARDS

EFFECTS OF OVEREXPOSURE

LOW TOXICITY - ABSORBED THROUGH MOUTH AND NOSE URINE WILL TURN GREEN.

EMERGENCY FIRST AID PROCEDURES

INHALATION- IF INHALED, MOVE TO FRESH AIR. IF DIFFICULTY IN BREATHING, ADMINISTER OXYGEN AND GET IMMEDIATE MEDICAL ATTENTION.

INGESTION- IF SWALLOWED, GIVE SEVERAL GLASSES OF MILK OR WATER AND INDUCE VOMITING. GET IMMEDIATE MEDICAL ATTENTION. NEVER GIVE FLUIDS OR INDUCE VOMITING IF PATIENT IS UNCONSCIOUS OR HAS CONVULSIONS.

EYE CONTACT- WASH WITH FLOWING WATER FOR AT LEAST 15 MINUTES. IF IRRITATION DEVELOPS, CONSULT A PHYSICIAN.

SKIN CONTACT- WASH AFFECTED SKIN AREA WITH SOAP AND WATER. IF IRRITATION DEVELOPS, CONSULT A PHYSICIAN. REMOVE AND LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

SPILL AND LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
WHERE EXPOSURE IS NOT KNOWN, WEAR A NIOSH APPROVED DUST RESPIRATOR. USING AN ABSORBANT TO PREVENT DUSTING, SWEEP OR SHOVEL SPILLS INTO A WASTE DISPOSAL CONTAINER. WASH DOWN THE AREA WITH WATER

WASTE DISPOSAL METHOD
BURY OR INCINERATE ACCORDING TO FEDERAL, STATE, AND LOCAL REGULATIONS.

DOT REGULATED: NO

SPECIAL PROTECTION

RESPIRATORY PROTECTION - IN CASES WHERE THERE IS A LIKELIHOOD OF INHALATION EXPOSURE TO WATER DUST, WEAR A NIOSH APPROVED RESPIRATOR.

KEYSTONE

CREDIT APPLICATION

_____ (DATE)

$_____ (LINE OF CREDIT REQUESTED)

(THE FOLLOWING INFORMATION MUST BE COMPLETED IN FULL. ALL INFORMATION WILL BE HELD IN STRICTEST CONFIDENCE)

BUSINESS NAME_____ PHONE( )_____

ADDRESS_____
(STREET) (CITY) (STATE) (ZIP CODE)

RESALE#_____ TAX %_____ (COMPLETE ATTACHED RESALE CARD)

OWNERSHIP: _____ SOLE OWNER _____ PARTNERSHIP _____ CORPORATION

PRINCIPAL:_____
(NAME) (TITLE)

PRINCIPAL:_____
(NAME) (TITLE)

TRADE REFERENCES:

_____
(NAME) (ADDRESS) (PHONE #)

_____
(NAME) (ADDRESS) (PHONE #)

_____
(NAME) (ADDRESS) (PHONE #)

_____
(NAME) (ADDRESS) (PHONE #)

FINANCE:

_____
(BANK NAME) (ACCOUNT #)

_____
(BANK ADDRESS) (CITY) (STATE) (ZIP CODE)

_____ _____
(ACCOUNT REPRESENTATIVE) (PHONE NUMBER)

I (WE) CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT, AND THAT WE CAN AND WILL COMPLY WITH YOUR TERMS OF 1% 10 NET 30.

_____ _____ _____
(DATE) (SIGNED) (TITLE)

SCHNITZER STEEL PRODUCTS CO.

3200 N.W. Yeon Ave. P.O. Box 10047 Portland, Oregon 97210
Phone 503/224-9900 Telex/W.U.U.36-0144 FAX 503/323-2793

MAINTENANCE OFFICE

FAX TRANSMITTAL COVER SHEET

RALPH BECKER

TO: GEORGE GROSS DATE: 3-20-91

SPENCER B. GROSS INC NUMBER OF PAGES BEING SENT

FROM: KEITH LAWSON (INCLUDING COVER PAGE 2

SSP

IF MESSAGE IS INCOMPLETE OR ILLEGIBLE, PLEASE CALL (503) 286-5771 EXT. 6955.
IF YOU WANT TO SEND A FAX TO SCHNITZER STEEL, OUR FAX NUMBER IS (503) 286-6956.

RE: INTERNATIONAL TERMINALS

FAX
626-4818

SPENCER B. GROSS, INC.

CONSULTING ENGINEERS

13545 N.W. SCIENCE PARK DR.
PORTLAND, OREGON 97229
503/646-1733

Date: 20 MARCH 1991

To: MR Keith Lawson

Company: Schnitzer Steel

Fax: 286-6956

From: George Gross

Comments:

This photo is 1" = 1000' scale (before Fa

It should include your property.

Please outline the limits of what must be mapped and Fax back.

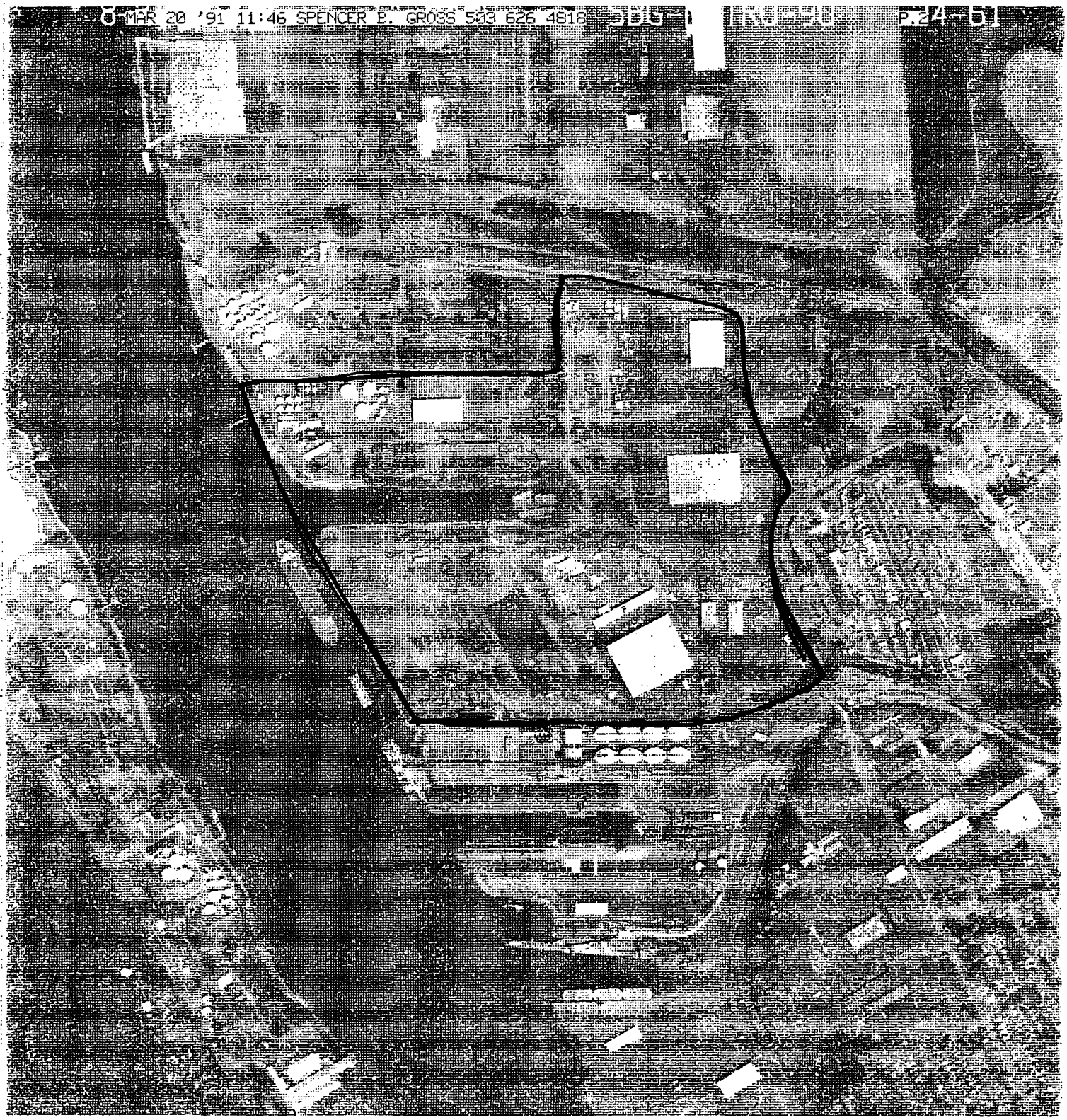
Thanks

George Gross

Total number of pages transmitted including cover sheet 2.

PHOTOGRAMMETRIC MAPPING FOR

CITY AND COUNTY PLANNING • SEWER AND WATER SYSTEMS • HIGHWAY PLANNING AND DESIGN
HYDRO-ELECTRIC DEVELOPMENT • TRANSMISSION LINES • FORESTRY AND LOGGING



Applied Geotechnology Inc.

December 4, 1990

Mr. Bud Kramer
Schnitzer Steel Products Co.
12005 N. Burgard
Portland, Oregon 97203

STORM WATER DISCHARGE

Dear Bud:

Enclosed is a recently issued EPA summary of the NPDES Permit Application Requirements for Storm Water Discharge and a presentation outline developed by our Chief Chemist, Dr. Teri Floyd, for a talk she gave in August on Non-Point Source Issues. Although the outline was prepared before publication of the EPA's final stormwater rules, it has information you will find useful.

Also enclosed is a list of City and County contacts for storm drainage and topographical information. I continue to believe that developing the base information on where the storm water is coming from and how it is conveyed off site is the best and safest thing that can be done at this time.

Dr. Floyd has worked with two of our clients on NPDES issues. At industrial sites in New Jersey and Tacoma, she has assisted with permitting, water sampling and chemical analysis, and development of best operating procedures to eliminate or decrease the need for treatment prior to discharge.

I have asked Janet Gillaspie to schedule a time for Teri to come down so we can talk with you about the storm water rules and how AGI might be of assistance. Thanks for your time last week. I will be talking to you soon.

Very truly yours,

Janet Gillaspie for

Patrick Kelly, P.E.
Vice President

Enclosures

Bud - I'll call you next week to clear your schedule - Jay

2510 S.W. First Avenue Portland, OR 97201 FAX 503/222-0141 Telephone 503/222-2820

QUARTER SECTION NO.
~~796-7098~~
796-7310

Applied Geotechnology Inc.

SECTION TOWNSHIP RANGE

SOURCES OF INFORMATION ON TOPO MAPS AND STORM WATER

TOPOGRAPHIC MAPS

Multnomah County: Partial coverage of county at scales of 1" = 100' and 1" = 200'. It is unlikely they cover the Rivergate area but worth a try. The County Surveyors office is located at 1620 SE 190th, 248-3600.

City of Portland: Partial coverage of the City at 1" = 100' scale. Indexed by 1/4 section. Available at 3rd floor of the Portland Building, 796-7230.

$3500.00

646-1733
SPENCER GROSS
30 DAYS

ARIAL
JOE LEATHAN

STORM DRAINAGE

City of Portland: Contact Bill Baechler in the Engineering Services Group, 796-7103.

Port of Portland: Contacts are Mike Itel in Engineer Reproduction Services, 231-5000, ext. 772 or Ted Winter in Marine Maintenance, ext. 396.

326-6473
CORP OF ENG
MAP FILES
LOIS BURNS
EXT 6901
326-6901

MULTN
119 SW PINE
BETWEEN 3-4th
RM 208

2510 S.W. First Avenue Portland, OR 97201 FAX 503/222-0141 Telephone 503/222-2820

SCHN00240192

PRESENTATION
ENVIRONMENTAL ISSUES FOR ATTORNEYS
SEATTLE, WASHINGTON
FALL 1990

DR. TERI FLOYD

NON-POINT SOURCE ISSUES

I. STORMWATER REGULATIONS

A. The Legal Framework

1. The Water Quality Act (WQA) of 1987. This set of amendments to the Clean Water Act of 1972 (CWA) is the first major federal effort to regulate stormwater. Between 1972 and 1987, the CWA was fairly successful with reducing point source pollution from industrial discharges. The reduction in point source pollution was carried out under The National Pollutant Discharge Elimination System (NPDES), which was discussed earlier. Because of the success of this system, it was considered desirable to extend the NPDES to cover stormwater discharges. The Act was vague with respect to how this was to be accomplished.

2. Regulatory Authority. Rather than establishing a new program similar to the NPDES, the WQA placed Indsutrial and Large and Medium Municipal stormwater sources under the NPDES and required the States to initially prepare State Assessment Reports and State Management Programs (33 USC 1329). The Statess were strongly encouraged to be developed Management Programs on a watershed by watershed basis, and more than one state could be involved. The States were given 18 months to assess all the navigable waters in the State and to develop management plans that involved local governments, public participation, and, where needed, inter-state agreements. In States where the laws of the State did not "provide adequate authority to implement such management program," the States were to develop a schedule for obtaining that authority "as expeditiously as practicable."

3. Stormwater and the NPDES. The WQA of 1987 added "Municipal and Industrial Stormwater Discharges" to the NPDES (33 USC 1342). This allows either the EPA Administrator or the State (if it has an approved program) to regulate discharges "composed entirely of stormwater" with a NPDES permit.

3. Limitations on Authority. Various sections of the WQA of 1987 limited regulatory authority by excluding certain waters from the NPDES permitting process; specifically:

- Agricultural return flows. (33 USC 1342)
- Agricultural stormwater discharges. (33 USC 1362)
- Stormwater runoff from Oil, Gas, and Mining Operations, "which are not contaminated with ... raw material, intermediate products, ... waste products on the site of such operations." (33 USC 1342)

4. Timeframe. Prior to October 1, 1992, the Administrator or the State was prohibited from regulating discharges composed entirely of stormwater, except:

"(A) A discharge with respect to which a permit has been issued under this section before the date of the enactment of this subsection.

"(B) A discharge associated with industrial activity.

"(C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more.

"(D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000.

"(E) A discharge for which the Administrator or the State ... determines that the stormwater discharge contributes to the violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

The Administrator or State had 2 years post-enactment to develop regulations (regs) for industrial and large municipal stormwater systems (B and C, above), and 4 years to develop regs for medium municipalities (D, above). By 1992, "the Administrator, in consultation with State and local officials," is to issue regulations for all additional sources of stormwater.

Category	Final Regs, Statutory Deadline
Industrial	Feb. 1989
Large Municipal	Feb. 1989
Medium Municipal	Feb. 1991
Others, except Ag and Mining	Oct. 1992

5. Industrial Stormwater Provisions. The WQA only requires are that industrial stormwater permits meet "all applicable provisions of this section [NPDES, 33 USC 1342] and section 301 [effluent limitations, 33 USC 1311].

6. Municipal Discharge Provisions. Permits for municipal storm sewers:

"(i) may be issued on a system- or jurisdiction-wide basis;

"(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

"(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable...."

Note well: The WQA does not require that municipal permits meet the effluent guidelines in section 301 (33 USC 1311).

B. Industrial and Large Municipal Stormwater Regulations

In December 1988, the Administrator proposed amendments in the NPDES Program in Subpart B - Permit Application and Special NPDES Program Requirements. These amendments included major additions and changes to 40 CFR 122.26 Stormwater Discharges (including a change in the spelling of stormwater). These amendments are not final, nor are they likely to become final in their present form.

The 1988 proposed regs would have required approximately 170 cities, 125,000 businesses and industries, and 10,000 construction sites to obtain NPDES permits.

Key points of the sections are given below:

1. Permit Requirements. Prior to October 1, 1992, the only stormwater sources that are to be regulated are sources which were regulated prior to February 1987, industrial sources, large and medium municipal sources, and sources that are contributing to contamination of a navigable waterway.

   Uncontaminated stormwater from mining, oil exploration, and gas exploration are exempt from the NPDES system.

   Combined stormwater and municipal sewage systems are point sources regulated under sewer systems 40 CFR 122.21 and must have NPDES permits.

2. Individual Industrial Discharge. This is probably the most straight forward of the permits. By February 1990 (in WQA) or 12 months after regs are final (1988 Proposed Regs), an operator of any discharge that contains storm water associated with industrial activity is required to apply for a permit. Although regulations do not yet exist on how to apply, the operator is technically in violation of the law if he does not apply.

   The proposed regs require the operator to submit a permit that contains fairly detailed information about the site topography and hydrology and the chemical usage, and actual measured concentrations of various chemicals in stormwater under various climatic conditions. Preparation of the permit and collection of the chemical data typical cost between $20,000 and $500,000 for an industrial facility. These costs may include more than one NPDES stormwater permit, if there are several distinct outfalls at the facility.

   Individual industries that discharge into a municipal separate storm sewer system would not have to apply for NPDES permits, providing that they supplied the operator of the municipal sewer similar information to that required in the NPDES system. EPA would not regulate the permits between the industry and the municipal storm system operator.

3. Industrial Discharge to a Common Pipe. This is where the proposed regs start to encounter serious trouble. Many industries do not discharge directly into waters of the State; they discharge into a ditch, pipe, or culvert into which several other industries discharge. In theory each facility would have an individual permit for its own discharges into the pipe. In practice, one often has several facilities discharging into a common ditch via surface runoff and shallow groundwater seeps. The permitting process is not designed to handle this. Future facility improvements will likely be required to change this discharge pattern.

4. Group Industrial Permits. In this scenario, several similar industries form a "group", and submit a group application for permits. For example, the American Wood Treaters Association would offer a service to its members to develop a uniform application for facilities using pentachlorophenol and creosote as wood treatments. This application would be submitted to EPA for approval. It would be submitted in two parts: Part 1 would have information on industrial activity and chemical usage; Part 2 would contain site specific information, especially chemical data on stormwater quality. It is not clear how the States would be involved.

5. Large and Medium Municipal Separate Storm Sewer Systems. The regs proposed in 1988 require the operator of the Municipal System to apply for the permit. The Administrator is given a fair degree of latitude in how the permit(s) is issued. Depending on the characteristics of the system, a single permit can be issued for the whole system, permits can be issued for discharges into separate watersheds, permits can be issued to different participants in the system, etc.

Example One: The town of Green Hills, population 100,001, has a storm sewer system that discharges into three separate creeks: Smith, Clearwater, and Green. Each creek forms its own water shed. The Administrator can either issue Green Hills a single permit, or three permits, one for each discharge. Since the different watersheds and systems have different characteristics, she will probably issue three permits.

Example Two: The town of Car City, population 250,000, has three main separate storm sewer lines. Line A serves a primarily residential area, line B serves the major industrial area, and line C serves a mixed residential/industrial area. At the edge of town, the three lines join and discharge into a pipeline to Big City; there the storm water from Car City mixes with storm water from Big City and discharges to the ocean. Here, the administrator has three choices: issue three permits to Car City - one for each line; issue one permit to Car City on combined storm system; or issue a joint permit to Big City and Car City for the ocean discharge which contains storm water from both towns.

C. Proposed 1990 Stormwater Regulations.

Final Stormwater regs were due by statutory authority to be final by February 1990. This deadline was extended to July 20, 1990 by court order when NRDC sued EPA claiming that the 1988 Draft regs were "illegal." EPA has now requested an extension to October 1990. The latest delay was necessary because the Office of Regional Counsel and the various regions could not reach agreement on provisions for industrial discharges.

The two attached articles from "Inside EPA" summarize NRDC's original concerns with the regs. and the remaining problems.

Where do we go from here? Even if stormwater regs are finalized this year, it is likely that either NRDC or an industry group will sue. It is unlikely that the stormwater issue will be settled within the next few years.

As the law currently stands, most Industrial and Large Muncipal are probably in violation unless they have filed a permit application.

II. FUTURE STORMWATER AND NON-POINT SOURCE TRENDS.

1. Regulation of urban and rural stormwater.
(Driven NRDC and wetlands and estuary concerns)

2. Regulations baning "dry wells" and infiltration galleries.
(Already inplace as part of injection well regs, but not commonly known)

3. Agricultural stormwater regulations.

4. Agricultural practices and groundwater regs.
(Draft documents are in review process at EPA)

5. Application of ocean discharge requirements (CWA 403(c)) to estuaries and bays.
(Proposed in reports to House Committees on Merchant Marine and Fsiheries and Public Works and Transportation.)

6. Wetlands protections on flow and quality.
(Making its way through Federal, State, and Local Governments)

7. Legal action by NOAA for damages to marine and estuary habitats. National resource damage lawsuits.
(Current legal action in Region X.)

FUTURE DIRECTIONS IN NON-POINT SOURCE ISSUES

- Urban and rural stormwater: quality and flow rate
- Elimination of dry wells and infiltration galleries for stormwater control
- Agricultural stormwater
- Agricultural practices and groundwater contamination
- Wetlands protection and recovery
- Estuary and bay protection and renovation
  - CWA Section 403
  - National resource damage suits by NOAA

Aug. 20, 1990

Post-it™ brand fax transmittal memo 7671 | # of pages ▸

To Ken	From
Co. Schnitzer Steel	Co.
Dept. Engineering	Phone #
Fax # 286-6956	Fax #

MT. HOOD CHEMICAL CORPORATION

WATER TREATMENT DIVISION

3/17/91

Schnitzer Steel
Fax # 286-6956

Attn: Ken

RE: Storm drain trace dye

Dear Ken;

This letter will certify that the red Rhodamine Powder dye purchased from Mt. Hood Chemical , if used at the dosage rate of 1 thru 3 grams per 1000 gallons of water will be safe for discharge into city storm system.

Sincerely yours;

Perry T. Kenin
Manager
Water Treatment Division

4444 N.W. Yeon / Portland, OR 97210 / (503) 227-3505 / Toll Free (800) 547-2594 / FAX (503) 225-9143

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

WASTE DISCHARGE PERMIT

Department of Environmental Quality
1234 S. W. Morrison Street
Portland, Oregon 97205
Telephone: (503) 229-5696

Issued in accordance with the provisions of
ORS 449.083 (Recodified as 468.740)
and
Federal Water Pollution Control Act Amendments of 1972,
P.L. 92-500, Oct. 18, 1972 (33 U.S.C. § 1251 et seq.)
(Hereinafter referred to as the "Federal Act").

ISSUED TO:	REFERENCE INFORMATION
International Terminals Division of Schnitzer Investment Corporation 3300 N. W. Yeon Portland, Oregon 97210	File Number: 79280 Appl. No.: OR-002981-5 Received 9/5/75
PLANT SITE: 12005 N. Burgard Road Portland, Oregon	Major Basin: Willamette Minor Basin: Receiving Stream: Willamette River
ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY Loren Kramer Director MAY 6 1976 Date	River Mile: County: Multnomah

PERMITTED ACTIVITIES

Until such time as this permit expires or is modified or revoked, International Terminals Division of Schnitzer Investment Corporation is herewith permitted to:

a. Operate waste water control facilities.
b. Discharge adequately treated ship water to the Willamette River (001).

All of the above activities must be carried out in conformance with the requirements, limitations and conditions which follow.

All other waste discharges are prohibited.

SPECIAL CONDITIONS

1. Oil and contaminated water transfer procedures must be conducted in accordance with U. S. Coast Guard Regulations.

2. At all times, a continuous boom shall be maintained around vessels on which any work is being performed.

3. Plant, shipboard operations, and all other operations conducted by the permittee shall be conducted and maintained in a manner which will prevent oil and/or debris from entering the Willamette River or other public waters.

4. No emissions, emulsifying agents, dispersants, cleaning agents, detergents or like chemicals shall be allowed to enter the gravity oil/water separators or the waste water collection system.

5. Prior to contructing or modifying any waste water control facilities, detailed plans and specifications shall be approved in writing by the Department.

6. The quantitiy and quality of treated ship water (001) discharged directly or indirectly to the Willamette River shall be limited as follows:

Parameter	Monthly Average	Daily Maximum
Oil and Grease	10 mg/l	15 mg/l

7. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted which will violate Water Quality Standards as adopted in OAR 340-41-045 except in the following defined mixing zone:

   The mixing zone shall consist of that portion of the Willamette River within a 50-foot radius from the point of discharge.

8. No petroleum-base products in excess of the limits in Condition 6 or other substances which might cause the Water Quality Standards of the State of Oregon to be violated shall be discharged or otherwise allowed to reach any of the waters of the state.

9. Sanitary wastes shall be disposed of to the City of Portland municipal sewerage system.

10. Unless approved otherwise in writing by the Department the permittee shall observe and inspect all waste handling, treatment and disposal facilities and the receiving stream above and below each point of discharge at least daily to insure compliance with the conditions of this permit. A written record of all such observations shall be maintained at the plant and shall be made available to the Department of Environmental Quality staff for inspection and review upon request.

11. The permittee shall monitor the operation and efficiency of all treatment and control facilities and the quantity and quality of the wastes discharged. A record of all such data shall be maintained and submitted to the Department of Environmental Quality at the end of each calendar month. Unless otherwise agreed to in writing by the Department of Environmental Quality, data collected and submitted shall include but not necessarily be limited to the following parameters and minimum frequencies:

Parameter	Minimum Frequency
Flow	Weekly Estimate
Oil and Grease	One composite sample/week*

*This composite sample shall consist of a minimum of at least three (3) grab samples taken at equal intervals over an 8-hour period when discharging.

12. Within 30 days of the issuance of this permit the permittee shall submit a detailed description of the sampling procedures used, sample analysis techniques and exact location of sampling stations.

13. An adequate contingency plan for prevention and handling of spills and unplanned discharges shall be in force at all times. A continuing program of employee orientation and education shall be maintained to ensure awareness of the necessity of good inplant control and quick and proper action in the event of a spill or accident.

14. The permittee shall, during all times of disposal, provide personnel whose responsibilities include assuring the continuous performance of the disposal system within the limitations of this permit.

GENERAL CONDITIONS

G1. All discharges and activities authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.

G2. Monitoring procedures:

a. Monitoring shall begin on the first day of the month following issuance of this permit.

b. Monitoring reports shall be submitted by the 15th day of each following month unless otherwise approved in writing by the Department.

c. Monitoring reports shall be submitted on approved NPDES report forms.

d. All records of monitoring activities and results, including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records, shall be retained by the permittee for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the permittee or when requested by the Director.

e. The permittee shall record for each measurement or sample taken pursuant to the requirements of this permit the following information: (1) the date, exact place and time of sampling; (2) the dates the analyses were performed; (3) who performed the analyses; (4) the analytical techniques or methods used and (5) the results of all required analyses.

f. Samples and measurements taken to meet the requirements of this condition shall be representative of the volume and nature of the monitored discharge.

g. All sampling and analytical methods used to meet the monitoring requirements specified in this permit shall, unless approved otherwise in writing by the Department, conform to the Guidelines Establishing Test Procedures for the Analysis of Pollutants as specified in 40 CFR, Part 136.

G3. All waste solids, including dredgings and sludges, shall be utilized or disposed of in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state and such that health hazards and nuisance conditions are not created.

G4. The diversion or bypass of any discharge from facilities utilized by the permittee to maintain compliance with the terms and conditions of this permit is prohibited, except (a) where unavoidable to prevent loss of life or severe property damage or (b) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the terms and conditions of this permit. The permittee shall immediately notify the Department in writing of each such diversion or bypass in accordance with the procedure specified in Condition G12.

G5. 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 any infringement of Federal, State or local laws or regulations.

G6. Whenever a facility expansion, production increase or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, a new application must be submitted together with the necessary reports, plans and specifications for the proposed changes. No change shall be made until plans have been approved and a new permit or permit modification has been issued.

G7. 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 or any applicable rule, standard, or order of the Commission;

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

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

G8. 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 Federal Act for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee shall be so notified.

G9. The permittee shall, at all reasonable times, allow authorized representatives of the Department of Environmental Quality:

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

b. To have access to and copy any records required to be kept under the terms and conditions of this permit;

c. To inspect any monitoring equipment or monitoring method required by this permit; or

d. To sample any discharge of pollutants.

G10. The permittee shall maintain in good working order and operate as efficiently as practicable all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

G11. The Department of Environmental Quality, its officers, agents and employees shall not sustain any liability on account of the issuance of this permit or on account of the construction or maintenance of facilities because of this permit.

G12. In the event the permittee is unable to comply with all of the conditions of this permit because of a breakdown of equipment or facilities, an accident caused by human error or negligence, or any other cause such as an act of nature, the permittee shall:

a. Immediately take action to stop, contain and clean up the unauthorized discharges and correct the problem.

b. Immediately notify the Department of Environmental Quality so that an investigation can be made to evaluate the impact and the corrective actions taken and determine additional action that must be taken.

c. Submit a detailed written report describing the breakdown, the actual quantity and quality of resulting waste discharges, corrective action taken, steps taken to prevent a recurrence and any other pertinent information.

Compliance with these requirements does not relieve the permittee from responsibility to maintain continuous compliance with the conditions of this permit or the resulting liability for failure to comply.

SCHNITZER INVESTMENT CORP.

3200 N.W. Yeon Ave. P.O. Box 10047, Portland, Oregon 97210 Phone 503/224-9900 Telex/W.U. 36-0144

RCVD 9-16-80

FILE PONDS DRAINAGE

September 15, 1980

Mr. Carl Jonasson
Project Manager
Port of Portland
700 N. E. Multnomah
Portland, OR 97232

RE: Storm Drainage - International Terminals

Dear Carl:

It has been several months since we last met regarding the storm drainage at International Terminals. To review our last discussions Schnitzer Investment had sought the help of the Port of Portland in remedying a drainage problem. We indicated that there exists a drainage pipe, which was placed on what is now Schnitzer property back in the 1940s, which drains to the pond north of Time Oil Road. However, the water no longer flows freely through the drain into the pond due to the increased level of water in the pond.

Research indicated that in the past these ponds drained naturally into the slough, which in turn flowed to the Columbia River. In more recent years the natural drainage of the pond into the slough had been disrupted by the placement of a culvert and railroad fill by the Port of Portland. This in turn has increased the ground water levels under Time Oil Road and on the Schnitzer property south of that road, as well as preventing proper functioning of the Schnitzer storm drain emptying into the pond.

It was resolved in our last meeting that it would be Schnitzer Investment's responsibility to prove that the storm drain did exist and that it did drain to the pond. It was our understanding that once the drainage to the area was established that the Port would take necessary steps to correct this drainage problem. In the interim while Schnitzer was establishing the actual drainage, the Port was to seek an opinion of counsel regarding the rights and duties of the Port of Portland in this matter.

In pursuit of a resolution of this matter, we contacted your office on September 4, 1980 requesting a representative of the Port of Portland visit the site to verify a dye test that was being conducted. Mr. LaGrande Marchant of your offices came to the site on that day and also Friday, the 5th, and observed the dye test which was conducted. The dye test replicated, under tremendous pressure, what would normally be the natural flow of drainage through the pipe had the elevation of water in the pond not been altered.

We feel that based on the dye tests, as witnessed by your representative, drainage to the enpondment area has been established and that the burden is now on the Port of Portland to remedy this situation.

We would appreciate hearing from you in the near future as to the course of action you intend to pursue. We look forward to a timely resolution of this matter.

Very truly yours,

SCHNITZER INVESTMENT CORP.

Morton I. Michelson
Executive Vice President

MIM:rs

cc: Mr. LaGrande Marchant
Manager of Design Engineering

Betty Crofoot
House Counsel

bcc: Bond Easly

SCHNITZER INVESTMENT CORP.

3200 N W Yeon Ave P O Box 10047 Portland, Oregon 97210 Phone 503/224-9900 Telex/W U 36-0144

May 13, 1980

Mr. Robert Nordlander
Director of Engineering
Port of Portland
P. O. Box 3529
Portland, Oregon 97208

Dear Bob: Bob

I've recently completed a tour of Schnitzer Investment Corporation's holdings at International Terminals. As you are aware, we are building a new eight million dollar complex for Metra Steel, one of our divisions, financed via a Port Industrial Development Bond Issue.

In order to build this facility, we were required to explore proper storm water drainage and run off systems, not only for the Metra site but the entire property.

During the course of this work, we discovered some problems relating to proper drainage which appear to relate to development on Port property north of Time Oil Road and the Union Pacific rail line that services South Rivergate.

We would like to meet with Port engineering representatives to discuss the findings, explore theories, and see if we can agree on corrective measures that could be taken by either party on respective properties.

If you would give me a call, I'd like to set up a meeting.

Best regards,

Mort

Morton I. Michelson
Executive Vice President

MIM/cmc

cc: Mr. Bond C. Easly

MACKENZIE ENGINEERING INCORPORATED

FILE: TOPO-- PONDS DRAINAGE

MEMORANDUM

DATE: May 30, 1980

SUBJECT: Metra Steel New Storage Facility at I.T.
MEI Job

BY: Tom Mackenzie

TO: FILE

RE: Storm Drainage

There follows a summary of certain matters discussed in the conference on May 28, 1980, at International Terminals, regarding the existing storm drainage system that runs north from I.T. under Time Road and into the ponds just north of Time Road. Present at this discussion were: Mort Mickleson and Vicki Bayless, Schnitzer Investment Corp.; Ken Underdahl, Metra Steel; Bond Easly, Schnitzer Steel Products; Eugene Arnold, Gary Tucker and Carl Jonasson, Port of Portland; and Tom Mackenzie, Mackenzie Engineering.

Schnitzer Steel Products (Bond Easly) will conduct a dye test to establish that there does exist flow of storm water from the I.T. system through the 42" conduit into the ponds. Easly will furnish the personnel to monitor the appearance of the dye in the pond as well as acquire the dye and insert it into the storm sewer. Mackenzie Engineering will supervise this test so than an independent engineering summary will be available. Schnitzer Steel will give Mackenzie Engineering at least one day notice prior to the start of the test, so that supervisory personnel can be available.

Schnitzer Investment agreed to determine the approximate depth of the pond but no specific party was designated to accomplish the sounding of the pond. We suggest that the sounding or probing of the pond depth be accomplished by personnel under our control and coordinated with our surveyor so that the data obtained can be carefully added to topographic and related data already prepared for other portions of I.T.

0690 S.W. BANCROFT STREET • PORTLAND, OREGON 97201 • PHONE 503/224-9560

MEMORANDUM
May 30, 1980
MEI Job #79389

Mackenzie Engineering is to explore methods of location of the pipe outflow into the pond. We are investigating the use of electronic type pipe finders. In addition, we are calculating from data available in this office, the approximate depth and probable horizontal location of the end of the pipe as probing may be an appropriate method of location.

Schnitzer Investment is pursuing legal basis for use of the existent storm drainage system by I.T. This involves a search for easements or similar specific legal basis as well as data related to legal tradition, etc.

Carl Jonasson questioned the adequacy of the storm sewer system at I.T. to service the entire I.T. area. No mention was made of the fact that there are alterations existent to that system that limit the amount of water that could flow to the pond. It would appear logical that Mackenzie Engineering perform a study to determine what areas (and related volumes of water) could be handled by the system if there were free flow from the ponds. However, we have no specific direction at this time to accomplish such a study.

The point was clearly made, that this system now does in fact drain part of a public street, and that we had reasonable evidence that the restriction of flow from the ponds was caused by the railway fill. Jonasson made a positive public statement that the drainage system under the railroad was placed at the elevation of the bottom of the pond. It appears that all knowledgeable parties did not accept Mr. Jonasson's statement.

TRM/tmc

cc: Schnitzer Investment Corp. - Mort Mickleson
Vicki Bayless
Schnitzer Steel Products - Bond Easly
Ric Saito
Gary Thornton

MACKENZIE ENGINEERING INCORPORATED

yellow

November 12, 1979

Schnitzer Investment Corp.
P.O. Box 10047
Portland, Oregon 97210

Attention: Mr. Ken Novack

RE: Storm Drainage - International Terminals
Job #79389

Dear Ken,

As you will recall, there is a main storm sewer running north through the proposed Metra complex, by the Walker site, under Time Road and emptying into the pond just north of Time Road. Research accomplished by Bond Easly and this office, indicates that at the time the storm sewer was built, the pond naturally drained into a slough east of the pond. In more recent years, this natural drainage has been interrupted by construction of the railroad that services Rivergate. A culvert was placed under this railroad, but at an elevation such that the pond water levels are considerably higher. It appears that the Port of Portland was responsible for the construction, and therefore the improper placement of the culvert. Standing water in the pond now grossly restricts the flow of storm water from International Terminals, and is probably contributing to water table problems under Time Road and in portions of International Terminals.

I have enclosed a sketch illustrating the present situation. One can presume that the original situation would have allowed water to freely drain to slough elevation.

We were previously instructed to contact Mr. Norlander at the Port, and seek their immediate correction of the matter. It is our understanding that you are now handling this matter, and will probably contact Mort Michaelson instead of Norlander.

If you have any questions, please call.

Very truly yours,

Tom

Thomas R. Mackenzie, P.E.
President

TRM/tmc

Enclosures
cc: Bond Easly
Ed Westerdahl

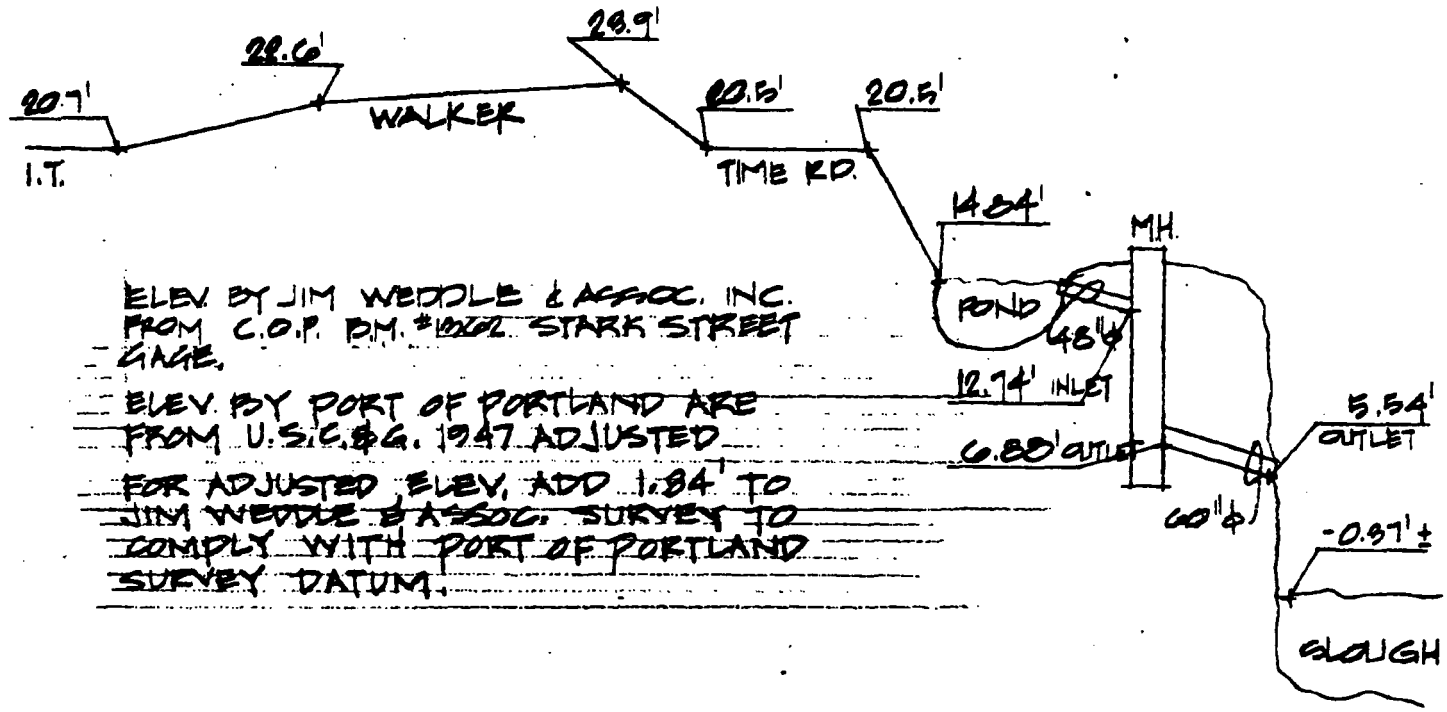
MCC

Principals:
Thomas R. Mackenzie
Eric T. Saito
M. M. Breshears
H. D. Reins

2850 N.W. 31ST AVENUE • PORTLAND, OREGON 97210 • PHONE 503/224-9560

BY MH DATE 11-12-79 BLD'G FOR METRA STEEL
CHKD. BY DATE INTERNATIONAL TERMINALS
JOB # 79289 GRADE ELEVATIONS

MACKENZIE ENGINEERING INCORPORATED
CONSULTING ENGINEERS
SHEET NO. OF



ELEV. BY JIM WEDDLE & ASSOC. INC. FROM C.O.P. B.M. #1362 STARK STREET GAGE.

ELEV. BY PORT OF PORTLAND ARE FROM U.S.C.&G. 1947 ADJUSTED

FOR ADJUSTED ELEV. ADD 1.84' TO JIM WEDDLE & ASSOC. SURVEY TO COMPLY WITH PORT OF PORTLAND SURVEY DATUM.

SCHEMATIC ELEVATIONS

NO SCALE

SCHN00240212

BRIDGEWATER GROUP, INC.

Groundwater Monitoring Results Summary
Burgard Industrial Park

TO: Alicia Voss/DEQ

COPY: Mat Cusma/Schnitzer

FROM: Ross Rieke/Bridgewater Group

DATE: July 14, 2004

This memorandum presents a summary of the groundwater monitoring performed over the past year at the Burgard Industrial Park in Portland, Oregon (Figures 1 through 5). The groundwater monitoring was performed in accordance with the March 17, 2003, *Revised Groundwater Monitoring Plan* prepared for the Burgard site and as modified in a September 22, 2003 email from you.

The groundwater monitoring plan notes that a one year summary report will present the following:

- *Comparison of the groundwater flow directions and gradients noted in the Phase I RI* and those noted in the groundwater monitoring events.
- Comparison of the groundwater contaminant concentrations noted in the Phase I RI and those noted in the groundwater monitoring events

This summary report presents these comparisons.

Groundwater Flow Directions and Gradients

The consistency of the groundwater flow directions and gradients was assessed by comparing the relative groundwater elevations in the site monitoring wells over the various monitoring events. Table 1 presents the groundwater elevations measured in the Site monitoring wells. Figure 6 presents a hydrograph of the groundwater elevations measured in the wells. Figure 6 notes the following:

- The water levels in the wells respond consistently with changes in the river elevation. The water level responses in MW-5 and MW-2 show the greatest connection with the river which is consistent with their being closest to the river. The water levels in MW-7 are less affected by the river level as MW-7 is located relatively distant from river.
- Although the water levels in MW-6 are consistently higher than those in the other site wells, the water levels in MW-6 show a similar connection to the river levels. The higher groundwater elevations in MW-6 are likely associated with presence of silty clay at a depth of about 15 feet at MW-6. Similar fine-grain soil was observed elsewhere only in MW-1 and at a significantly greater depth (i.e., 23 feet).
- There are consistently relatively low gradients between the wells located along the river. This general lack of gradient is consistent with an overall general groundwater flow perpendicular with the river.

SCHN00240217

- Water flows from the river to the Site during periods of high river levels (see March 2003 and December 2003 monitoring events). This suggests that the groundwater in the wells near the shore may reflect, to some degree, water quality in the river.
- Water flows from the Site to the river during periods of moderate to low river levels (see May 2003, June 2003, September 2003, and March 2004 monitoring events).

In general, the groundwater levels measured during the RI and during the monitoring period were consistent with the current conceptual site groundwater flow model.

Groundwater Contaminant Concentrations

The consistency of the groundwater contaminant concentrations between the RI and monitoring period was assessed by considering the concentrations of trichloroethene (TCE), tetrachloroethene (PCE), and dissolved arsenic in the groundwater samples. TCE and PCE were the only organic contaminants routinely detected and whose concentrations approached or exceeded the most conservative surface water quality criteria (DEQ SLVs or EPA Ambient Water Quality Criteria). Likewise, arsenic was the only dissolved metal that was routinely detected and whose concentrations exceeded the most conservative surface water quality criteria. Analyses of the concentrations of these three contaminants provided an assessment of the overall consistency of the groundwater contaminant concentrations at the Site over the monitoring period.

Table 2 presents a summary of the volatile organic compound (VOC) concentrations in the groundwater samples. Table 3 presents the dissolved metal concentrations in the groundwater samples. Figures 7, 8, and 9 show the time-concentration plots for PCE, TCE, and arsenic, respectively. As shown in the figures, the concentrations of these three contaminants are either stable or have decreased over the monitoring period.

Conclusions and Recommendations

Based on the consistency of the relative groundwater elevations in the groundwater monitoring wells and the low and consistent concentrations of the few contaminants detected in the groundwater, additional groundwater monitoring at this time is not necessary. Additional groundwater monitoring may be appropriate in the future depending on the findings of the Portland Harbor remedial investigation process. In particular, if, during the Portland Harbor remedial investigation, TCE, PCE or arsenic are identified as a risk driver in the overall Portland Harbor and that the TCE, PCE or arsenic concentrations present in the Site groundwater could potentially be contributing to unacceptable risk in the Portland Harbor, potential additional groundwater monitoring will be discussed with DEQ.

Please call if you have any questions.

TABLES

Table 1
Groundwater Elevations in Monitoring Wells
Burgard Industrial Park

Monitoring Well	Top of Casing Elevation (ft)	Date	Depth (ft)	GW Elev (ft) COP Datum
MW-01	28.02	1/27/2002	18.05	10.0
		3/23/2003	18.53	9.5
		4/15/2003	18.21	9.8
		4/28/2003	17.79	10.2
		6/20/2003	17.73	10.3
		9/21/2003[3]	22.20	5.8
		12/14/2003	20.34	7.7
		2/5/2004	18.19	9.8
		3/18/2004	19.61	8.4
MW-02	27.39	1/27/2002	16.46	10.9
		3/23/2003	16.63	10.8
		4/15/2003	17.36	10.0
		4/28/2003	17.15	10.2
		6/20/2003	17.83	9.6
		9/21/2003[3]	22.80	4.6
		12/14/2003	17.99	9.4
		2/5/2004	17.18	10.2
		3/18/2004	20.12	7.3
MW-03	27.27	1/27/2002	17.65	9.6
		3/23/2003	17.59	9.7
		4/15/2003	nm	nm
		4/28/2003	16.91	10.4
		6/20/2003	16.75	10.5
		9/21/2003	20.67	6.6
		12/14/2003	19.47	7.8
		2/5/2004	17.19	10.1
		3/18/2004	19.03	8.2
MW-04	28.03	1/27/2002	16.99	11.0
		3/23/2003	nm	nm
	27.93	4/15/2003	17.93	10.0
		4/28/2003	17.52	10.4
		6/20/2003	18.17	9.8
		9/21/2003[3]	22.82	5.1
		12/14/2003	18.25	9.7
		2/5/2004	17.37	10.6
		3/18/2004	20.75	7.2
MW-05	28.34	1/27/2002	17.47	10.9
		3/23/2003	17.83	10.5
		4/15/2003	18.68	9.7
		4/28/2003	17.35	11.0
		6/20/2003	19.22	9.1
		9/21/2003[3]	24.22	4.1
		12/14/2003	19.03	9.3
		2/5/2004	18.38	10.0
		3/18/2004	21.52	6.8
MW-06	28.31	1/27/2002	11.89	16.4
		3/23/2003	12.37	15.9
		4/15/2003	12.13	16.2
		4/28/2003	12.31	16.0
		6/20/2003	12.80	15.5
		9/21/2003[3]	17.51	10.8
		12/14/2003	13.21	15.1
		2/5/2004	12.20	16.1
		3/18/2004	12.48	15.8
MW-07	35.47	1/27/2002	25.77	9.7
		3/23/2003	25.41	10.1
		4/15/2003	24.98	10.5
		4/28/2003	24.62	10.9
		6/20/2003	24.24	11.2
		9/21/2003	27.01	8.5
		12/14/2003	26.81	8.7
		2/5/2004	25.12	10.4
		3/18/2004	25.28	10.2

		Gauge[1] (ft)	COP Datum[2] (ft)
Willamette River	1/27/2002	8.75	11.68
	3/23/2003	7.95	10.88
	4/15/2003	7.00	9.93
	4/28/2003	6.40	9.33
	6/20/2003	5.80	8.73
	9/21/2003	0.55	3.48
	12/14/2003	7.70	10.63
	2/5/2004	6.40	9.33
	3/18/2004	3.46	6.39

1 - Willamette River gauge at Morrison Bridge
2 - COP Datum = Morrison St. Bridge Guage + 2.93
3 - September 21, 2003 data suspect due to little water in well and lack of recovery after purging.

SCHN00240220

Table 2
Concentrations in Groundwater Samples
Volatile Organic Compounds
Burgard Industrial Park
All results in ug/l

Probe/ Well	Location	Date	cis-1,2,-Dichloroethene	Tetrachlorethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride
MW01	Former NW Oil Tanks	1/28/2002	9.13	32.7	1 U	4.5	1.23
		3/23/2003	14.3	23.2	1 U	20.1	1.18
		12/14/2003	32.8	14.5	1 U	6.74	1 U
MW02	Shoreline, north end of site	1/28/2002	2.78	6.68	1 U	8.06	1 U
		4/14/2002	-	-	-	-	-
		3/23/2003	1.97	7.76	1 U	8.90	1 U
		12/14/2003	1.9	5.75	1 U	7.51	1 U
MW03	Shoreline, middle of site	1/27/2002	1 U	1 U	1 U	1 U	1 U
		4/14/2002	-	-	-	-	-
		3/23/2003	-	-	-	-	-
		4/28/2003	-	-	-	-	-
		9/21/2003	-	-	-	-	-
MW04	Shoreline, middle of site	1/27/2002	1 U	1 U	1 U	1 U	1 U
		4/14/2002	-	-	-	-	-
		4/15/2003	-	-	-	-	-
		12/14/2003	-	-	-	-	-
MW05	Shoreline, south end of site	1/27/2002	1 U	1 U	1 U	1 U	1 U
		4/14/2002	-	-	-	-	-
		3/23/2003	-	-	-	-	-
		12/14/2003	-	-	-	-	-
MW06	Outfall 1 plug area	1/28/2002	1 U	1 U	1 U	1 U	1 U
		4/14/2002	-	-	-	-	-
MW07	Southeast area	1/28/2002	1 U	1.91	1 U	1 U	1 U
		4/14/2002	-	-	-	-	-
		3/23/2003	1 U	1 U	1 U	1.27	1 U
		9/21/2003	1 U	1.1	1 U	1 U	1 U
PP02	WMW compressor	12/18/2001	1 U	1 U	1 U	1 U	1 U
PP03	Boydston oil storage area	12/18/2001	1 U	1 U	1 U	1 U	1 U
PP04	PBM wash pad	12/18/2001	1 U	1 U	1.23	1 U	1 U
PP05	Former NW Oil Tanks	12/18/2001	1 U	1 U	1 U	1 U	1 U
PP06	Shoreline, north end of site	4/15/2003	1.69	1 U	1 U	1.36	1 U
PP07	Former NW Oil Tanks	4/15/2003	1 U	1 U	1 U	1 U	1 U
PP08	Shoreline, north end of site	4/15/2003	1 U	1 U	1 U	1 U	1 U
PP09	Former NW Oil Tanks	4/15/2003	1 U	1 U	1 U	1 U	1 U
PW01	UST Pad	1/28/2002	1 U	1 U	1 U	1 U	1 U
PW03	PBM wash pad	1/28/2002	1 U	1.67	1 U	1.7	1 U
PW06	Southwest corner of site	1/27/2002	1 U	1 U	1 U	1 U	1 U
EPA Ambient Water Quality Criteria				8.85		81	525
DEQ Level II Surface Water SLV				240	11	21.9	1300

U - Not detected at noted reporting limit
"-" - Not analyzed
All VOCs not shown in table are not detected.

Table 3
Concentrations in Groundwater Samples
Dissolved Metals
Burgard Industrial Park
All results in ug/l

Probe/ Well	Location	Date	Dissolved Antimony	Dissolved Arsenic	Dissolved Barium	Dissolved Cadmium	Dissolved Chromium	Dissolved Copper	Dissolved Lead	Dissolved Mercury	Dissolved Nickel	Dissolved Selenium	Dissolved Silver	Dissolved Thallium	Dissolved Zinc
MW01	Former NW Oil Tanks	1/28/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		3/23/2003	-	1 U	46.4	-	-	-	-	-	-	-	-	-	-
		12/14/2003	-	5.01	-	-	1 U	-	-	-	-	-	-	-	-
MW02	Shoreline, north end of site	1/28/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	6.3	-	-	1.1	-	-	-	-	-	-	-	-
		3/23/2003	-	1.0 U	27.4	-	1.0 U	-	1.0 U	-	-	-	-	-	-
		12/14/2003	-	-	-	-	-	-	-	-	-	-	-	-	-
MW03	Shoreline, middle of site	1/27/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	37.7	-	-	1.0 U	-	-	0.2 U	-	-	-	-	-
		3/23/2003	-	32.8	113	-	1.0 U	1.06	1.0 U	0.2 U	-	-	-	-	-
		4/28/2003	-	-	-	-	-	-	-	-	-	-	-	-	-
		9/21/2003	-	38.9	-	-	1.0 U	2.0 U	1.0 U	0.2 U	-	-	-	-	-
MW04	Shoreline, middle of site	1/27/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	11.4	-	-	1.0 U	-	-	-	-	-	-	-	-
		4/15/2003	-	6.29	77.6	-	-	-	-	0.2 U	-	-	-	-	-
		12/14/2003	-	3.34	-	-	-	-	-	-	-	-	-	-	-
MW05	Shoreline, south end of site	1/27/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
		3/23/2003	-	-	10.1	-	-	-	-	-	-	-	-	-	-
		12/14/2003	-	-	-	-	-	-	-	-	-	-	-	-	-
MW06	Outfall 1 plug area	1/28/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	-	-	-	1.0 U	-	-	-	-	-	-	-	-
MW07	Southeast area	1/28/2002	-	-	-	-	-	-	-	-	-	-	-	-	-
		4/14/2002	-	6.1	-	-	1.0 U	-	-	-	-	-	-	-	-
		3/23/2003	-	1.64	65.3	-	1.0 U	1.61	1.0 U	-	-	-	-	-	-
		9/21/2003	-	1.97	-	-	2.05	2.0 U	-	-	-	-	-	-	-
EPA Ambient Water Quality Criteria			4300	0.14				1300		0.05	4600	69000			
DEQ Level II Surface Water SLV			1600	150		2.2	0.21	9	2.5	0.77	52	120	0.12	40	120

U - Not detected at noted reporting limit
"-" - Not analyzed

SCHN00240222

FIGURES

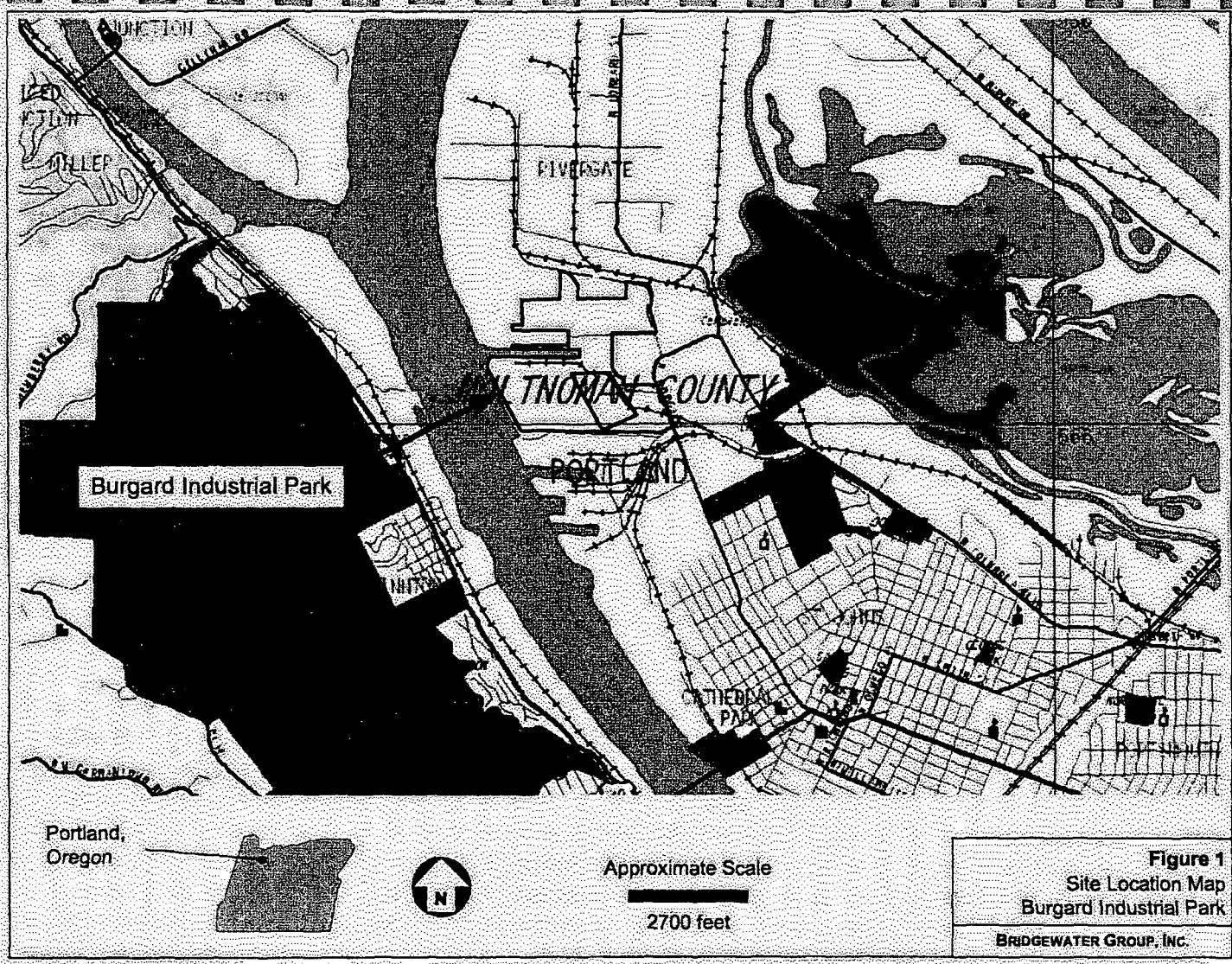
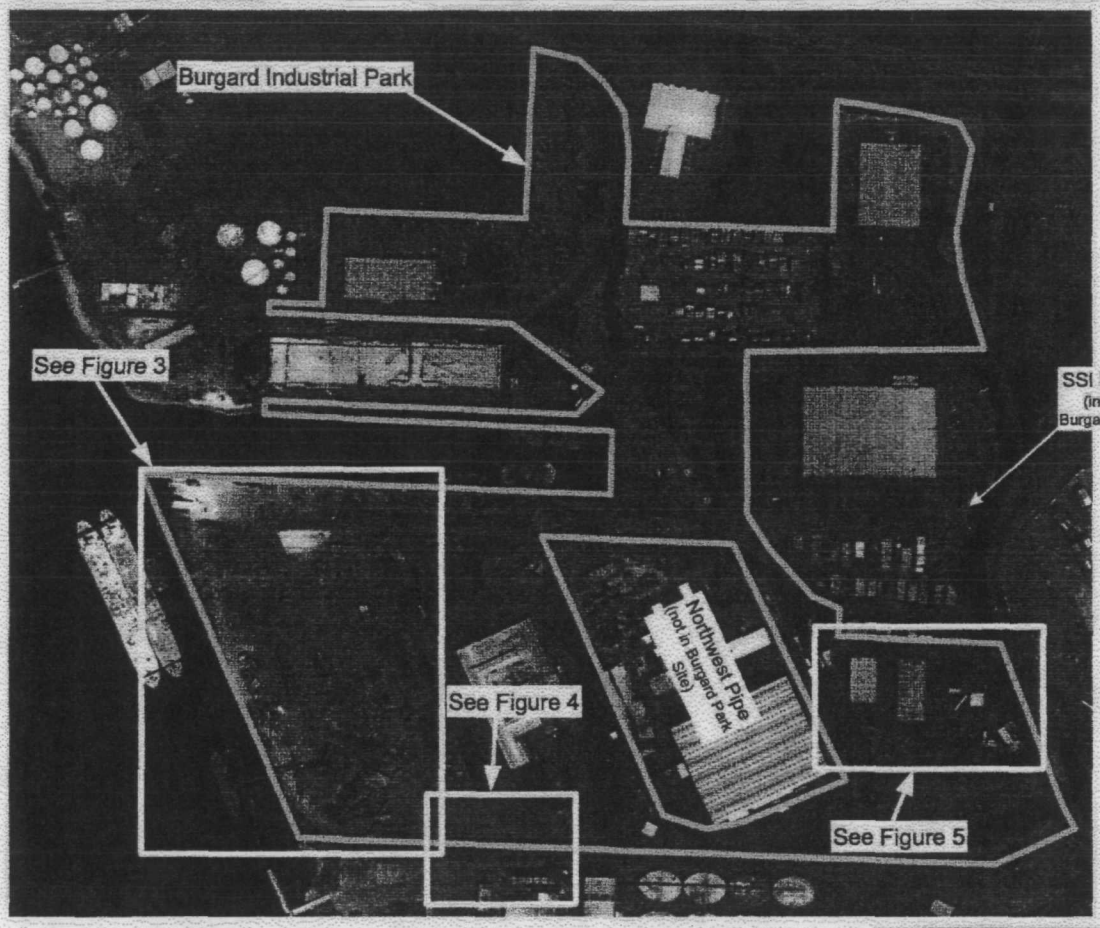


Figure 1
Site Location Map
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00240224



N

Approximate Scale

600 Feet

Figure 2
July 2002 Aerial Photograph
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00240225

N

Approximate Scale

220 feet

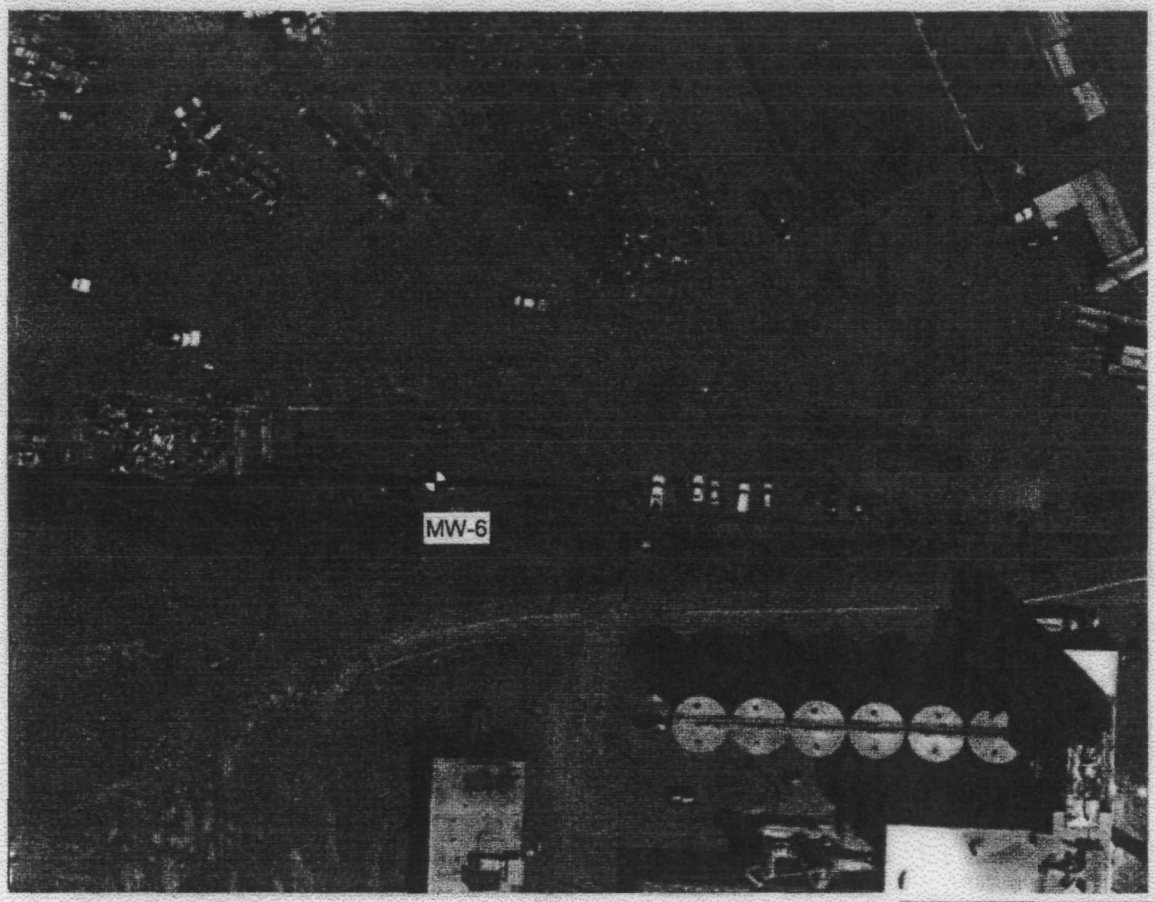
Monitoring Well

Phase I Push Probe

Phase II Push Probe

Figure 3
Western Area
Burgard Industrial Park

BRIDGEWATER GROUP, INC.



Approximate Scale

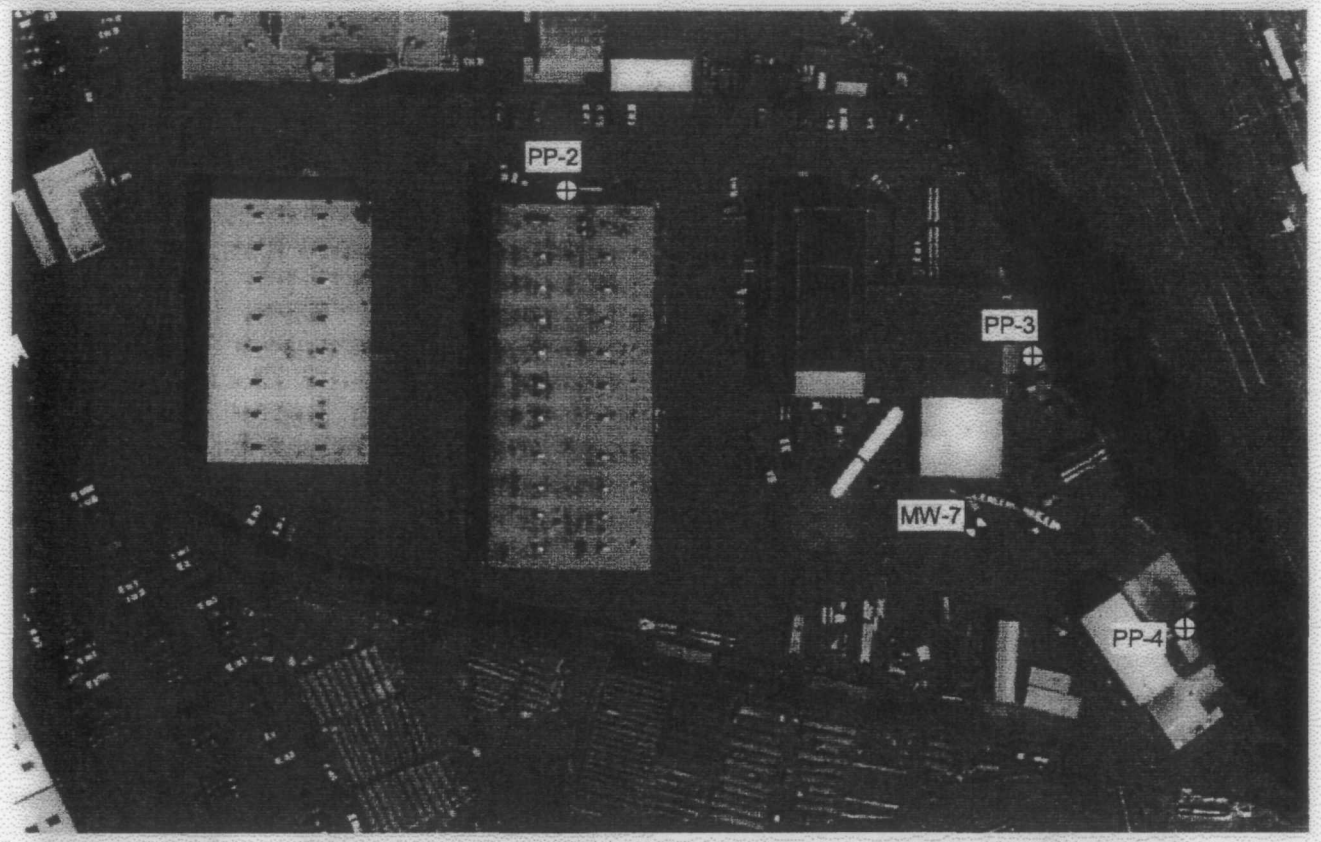
80 feet

Monitoring Well

Figure 4
South Area
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

SCHN00240227



N

Approximate Scale

100 feet

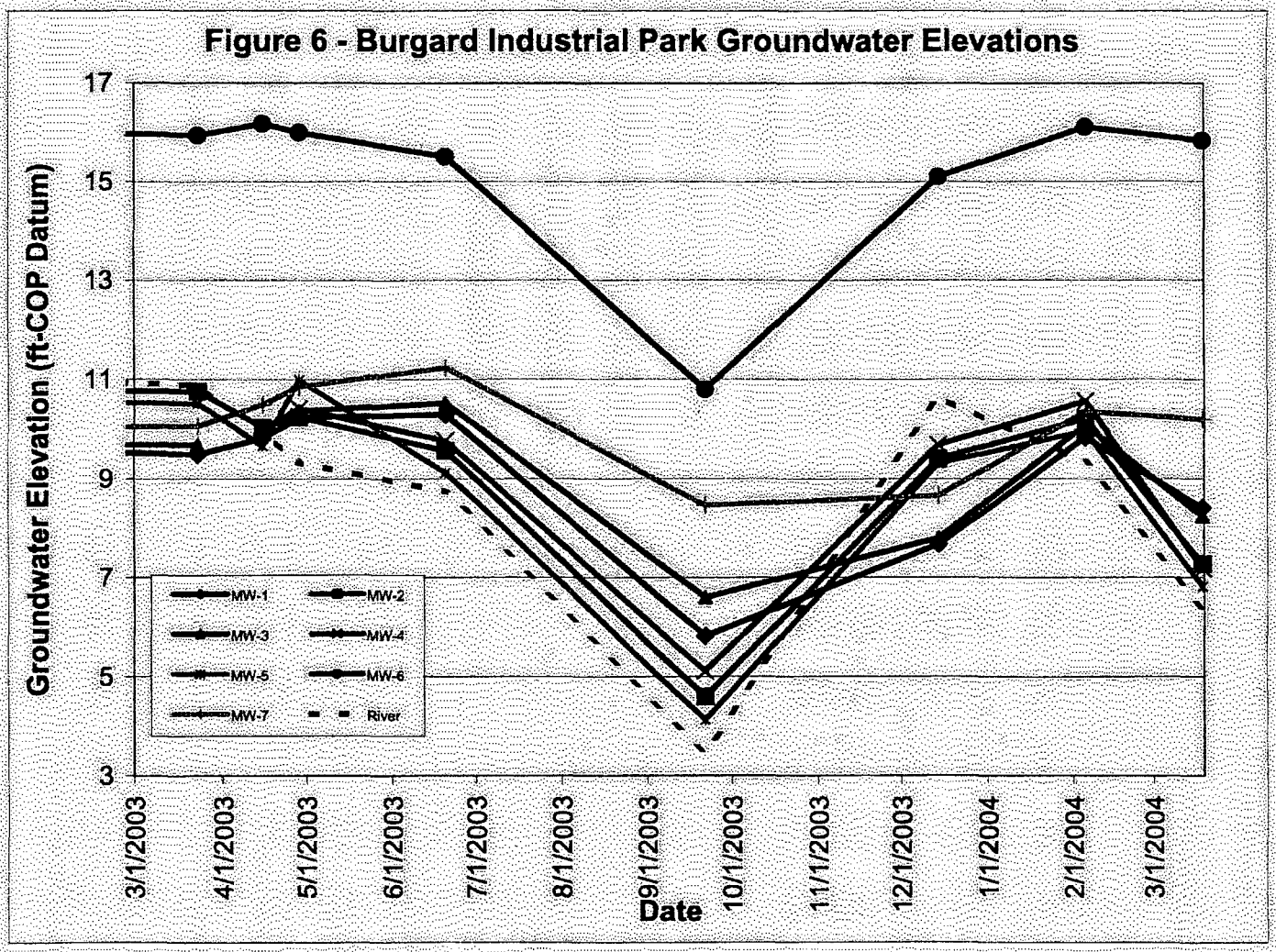
Monitoring Well

Push Probe

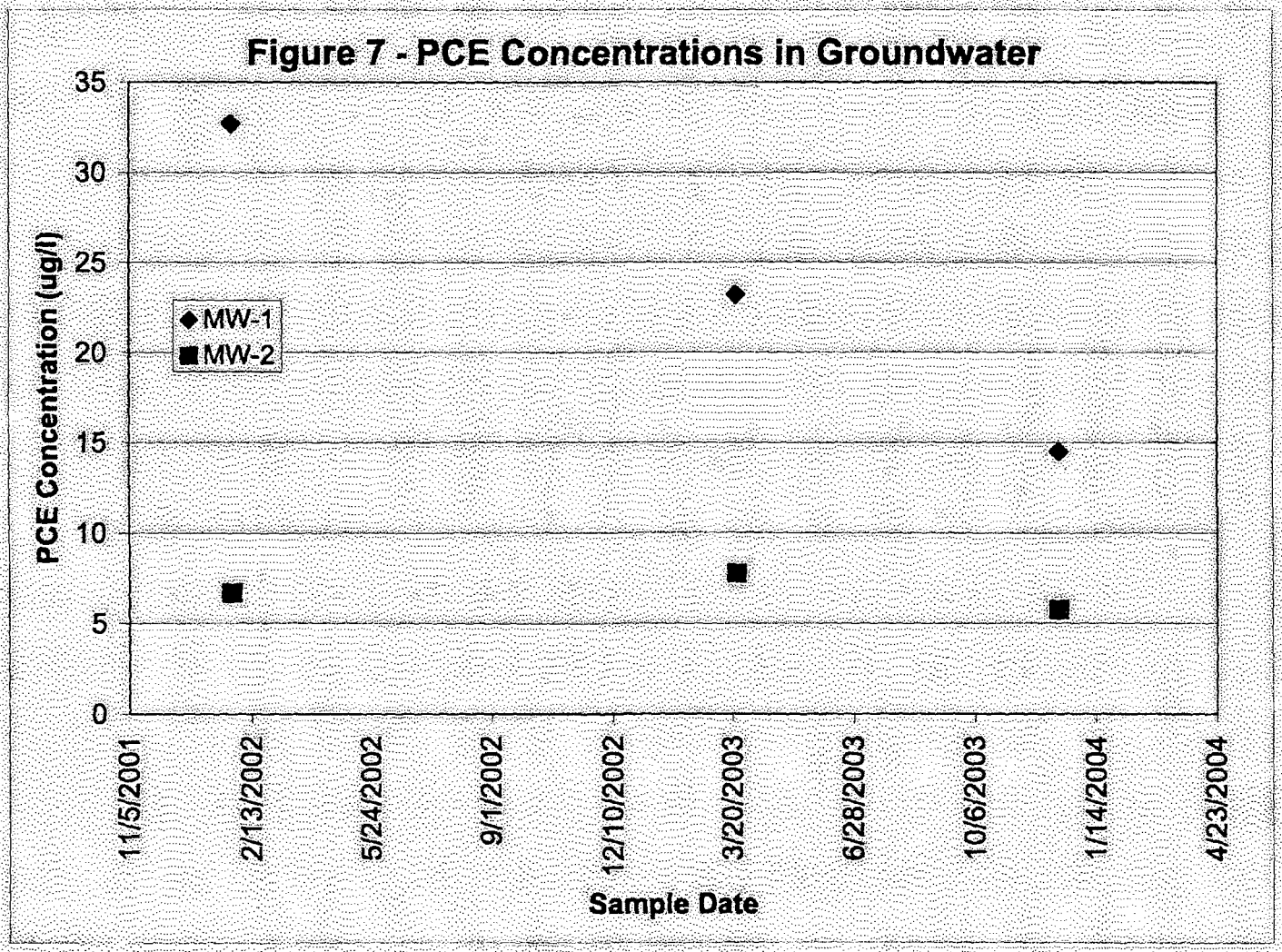
Figure 5
Southeast Area
Burgard Industrial Park

BRIDGEWATER GROUP, INC.

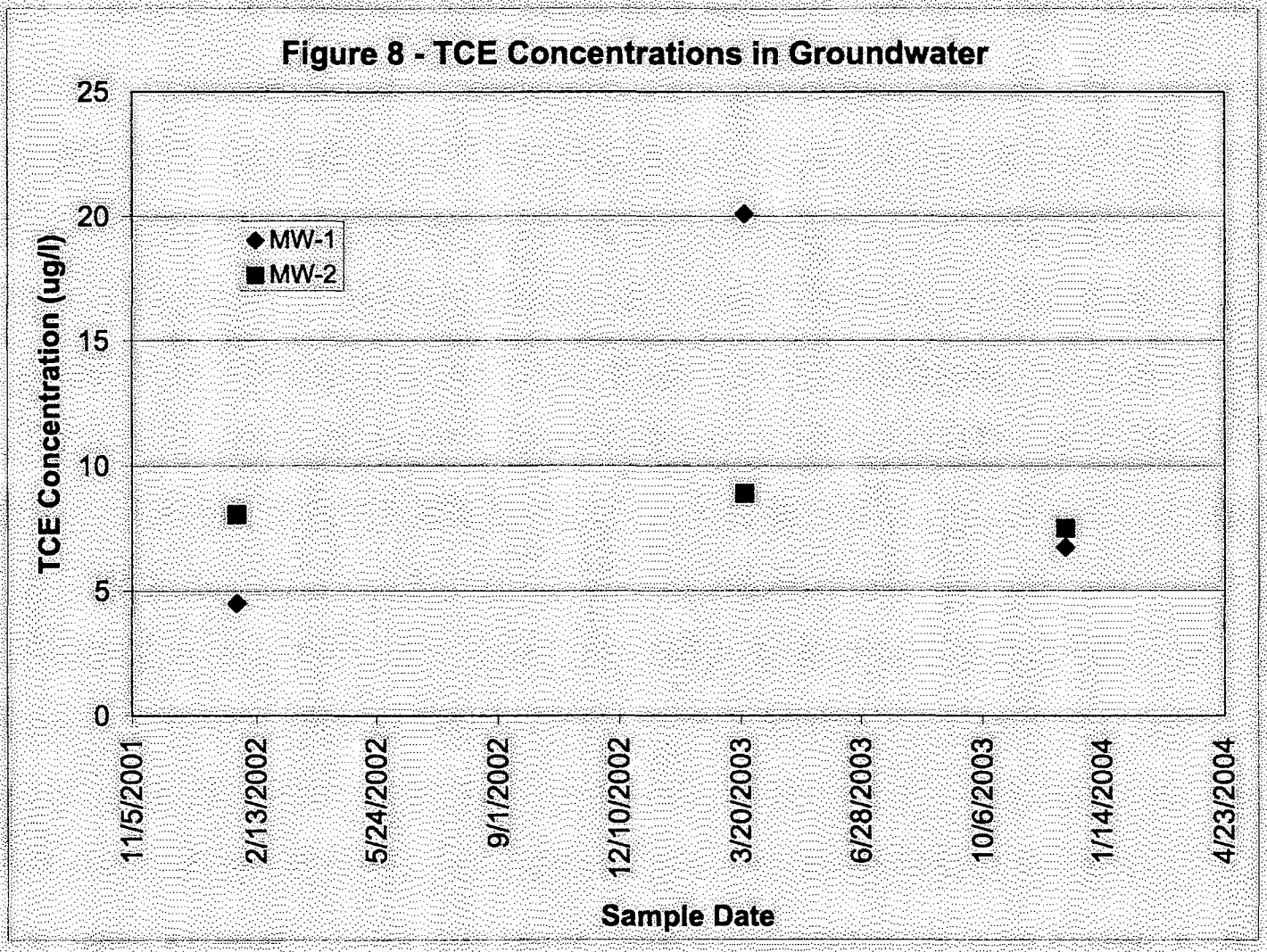
SCHN00240228



SCHN00240229

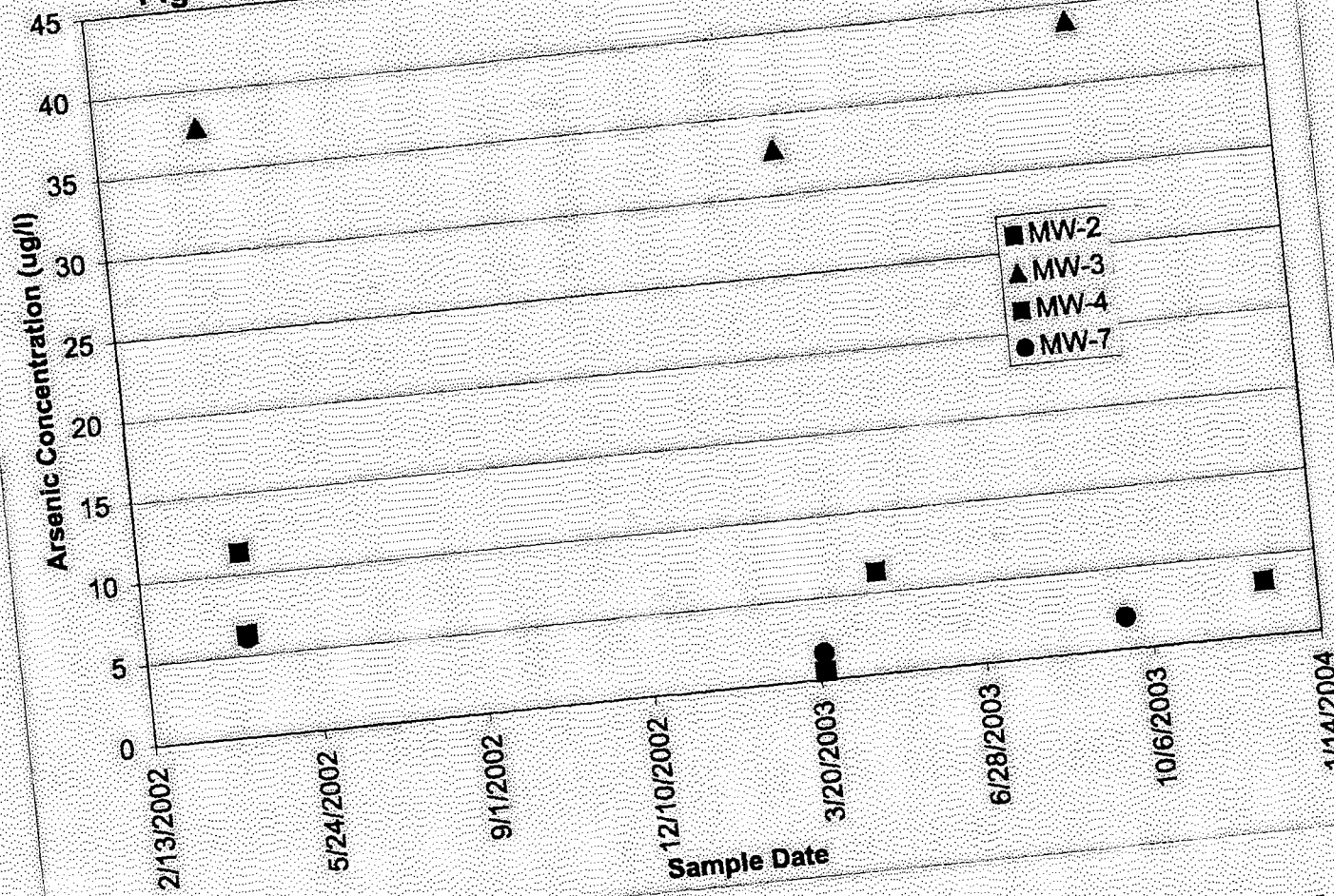


SCHN00240230



SCHN00240231

Figure 9 - Dissolved Arsenic Concentrations in Groundwater



SCHN00240232

** Argument Against Wet Shredding

Several Spill Response Normal

Portland Yard A/P
Selected vendors
FY2003

Spencer Environmental

495139 PV	00111	4/15/2003	5/1/2003	195.00	Outfall #2
495140 PV	00111	4/18/2003	5/1/2003	78.00	& Sandfilter #3
501662 PV	00111	5/21/2003	6/1/2003	2,339.25	Cleaning
501663 PV	00111	5/6/2003	6/1/2003	532.50	
509625 PV	00111	4/29/2003	7/1/2003	932.70	
509626 PV	00111	6/12/2003	7/1/2003	885.00	
				4,962.45	

Cowlitz Clean Sweep

448151 PV	00110	9/30/2002	10/1/2002	2,217.50	
451161 PV	00110	9/27/2002	10/1/2002	5,736.75	(1) Shredder
456312 PV	00110	10/31/2002	11/1/2002	13,398.06	AFE #10992083
460445 PV	00110	10/31/2002	12/1/2002	1,125.00	
460446 PV	00110	10/31/2002	12/1/2002	1,927.88	(2) Shredder
460451 PV	00110	11/19/2002	12/1/2002	723.00	
460452 PV	00110	11/18/2002	12/1/2002	1,284.00	
460453 PV	00110	11/12/2002	12/1/2002	2,158.59	
461475 PV	00110	10/31/2002	12/1/2002	2,548.50	
461476 PV	00110	10/31/2002	12/1/2002	1,673.26	
464125 PV	00110	11/30/2002	12/1/2002	1,498.75	
467937 PV	00110	11/30/2002	1/1/2003	4,329.50	
469682 PV	00110	12/31/2002	1/1/2003	2,188.75	
475573 PV	00110	1/14/2003	2/1/2003	1,253.00	
475574 PV	00110	1/14/2003	2/1/2003	1,537.50	
475575 PV	00110	12/30/2002	2/1/2003	4,893.45	
476960 PV	00110	1/31/2003	2/1/2003	842.50	
476973 PV	00110	1/31/2003	2/1/2003	2,672.50	
482007 PV	00110	2/10/2003	3/1/2003	572.50	
482494 PV	00110	1/31/2003	3/1/2003	2,533.50	(6) Shredder
483713 PV	00110	1/31/2003	3/1/2003	1,625.00	
483923 PV	00110	1/31/2003	3/1/2003	939.00	(7) Shredder
483924 PV	00110	2/28/2003	3/1/2003	1,190.63	
483925 PV	00110	2/28/2003	3/1/2003	1,015.00	
483926 PV	00110	2/19/2003	3/1/2003	975.00	
485527 PV	00110	2/28/2003	3/1/2003	937.50	(8) Shredder
488918 PV	00110	2/28/2003	4/1/2003	1,000.00	
491465 PV	00111	3/31/2003	4/16/2003	1,072.50	
491466 PV	00111	3/31/2003	4/16/2003	1,250.00	
500426 PV	00111	4/28/2003	5/1/2003	2,800.00	
501458 PV	00111	5/16/2003	6/1/2003	345.00	
501459 PV	00111	4/30/2003	6/1/2003	1,532.50	
501460 PV	00111	4/28/2003	6/1/2003	1,520.00	
501461 PV	00111	4/28/2003	6/1/2003	1,440.00	
501802 PV	00111	5/16/2003	6/1/2003	812.50	
502964 PV	00111	4/30/2003	6/1/2003	2,212.50	
505274 PV	00111	5/29/2003	6/1/2003	320.00	
505283 PV	00111	5/31/2003	6/1/2003	800.00	

Site Inspections: by Regulators – (5)

Sampling Events (2)

[redacted]

Spill/Pollution Discovery Events

– October ASR overflow impacted 2 & 3 units

– December Shear Hydraulic Release

[redacted]

– December Slip Shear Events

– 3 Machine Hydraulic hose release events

Been forced to address SW throughout the business park.

505285 PV	00111	5/31/2003	6/1/2003	691.88	(9) Shredder
505287 PV	00111	5/31/2003	6/1/2003	1,387.25	
505288 PV	00111	5/31/2003	6/1/2003	1,958.75	
509597 PV	00111	6/20/2003	7/1/2003	656.25	(11) Dock
509620 PV	00111	5/31/2003	7/1/2003	7,269.50	AFE #10992118 (10)
510810 PV	00111	6/30/2003	7/1/2003	1,446.25	
512554 PV	00111	11/30/2002	7/1/2003	1,257.50	
512555 PV	00111	12/16/2002	7/1/2003	2,022.25	
512556 PV	00111	12/16/2002	7/1/2003	680.00	
512558 PV	00111	12/30/2002	7/1/2003	1,203.00	
512559 PV	00111	12/30/2002	7/1/2003	1,646.25	
512561 PD	00111	2/24/2003	7/1/2003	(223.50)	- Credits Adjustment
512563 PD	00111	2/24/2003	7/1/2003	(16.00)	
512564 PD	00111	2/24/2003	7/1/2003	(355.00)	
512566 PD	00111	2/24/2003	7/1/2003	(281.75)	
512999 PV	00111	12/24/2002	7/1/2003	882.75	
517996 PV	00111	6/30/2003	8/1/2003	869.00	
517997 PV	00111	6/30/2003	8/1/2003	5,415.00	
520351 PV	00111	8/13/2003	8/1/2003	1,190.00	(15) Sweeping
521919 PV	00111	8/21/2003	8/1/2003	595.00	
521920 PV	00111	8/29/2003	8/1/2003	562.50	(12) Shredder
521921 PV	00111	8/29/2003	8/1/2003	2,072.50	(16) Shredder
521922 PV	00111	8/29/2003	8/1/2003	742.50	(14) Shredder
521923 PV	00111	8/29/2003	8/1/2003	2,990.00	(13) Shredder
524694 PD	00111	8/30/2003	9/1/2003	(560.00)	
				111,003.50	

Pacific Northern
none

Munitor Construction LLC

461540 PV	00110	11/25/2002	12/1/2002	38,239.26	AFE #10992041
461541 PV	00110	11/20/2002	12/1/2002	147.50	AFE #10992083
461542 PV	00110	11/21/2002	12/1/2002	162.50	AFE #10992083
461543 PV	00110	11/26/2002	12/1/2002	757.50	Outfall #3
468010 PV	00110	12/3/2002	1/1/2003	1,017.66	
475580 PV	00110	12/2/2002	2/1/2003	2,089.00	
501964 PV	00111	5/1/2003	6/1/2003	42,535.40	AFE #10992118
501966 PV	00111	5/20/2003	6/1/2003	49,056.95	AFE #10992118
509622 PV	00111	6/6/2003	7/1/2003	6,670.78	AFE #10992118
510861 PV	00111	6/30/2003	7/1/2003	350.00	AFE #10992118
				141,026.55	

Shredder Services - $19,790.26

Sweeping Services - $1,190.00

Construction - $7,269.50

$82,753.74

Total Charges:

$111,003.50
$4,962.45
$3864.16

119,830.11

Guess
Best Estimate:

Outfall 2 Maintenance - $14,582
Outfall 3 Maintenance - $8,826.61
Shredder Maintenance - $19,790.26
$76,631.24
Normal Maintenance - $36,730.55
Special Event Maintenance -

SCHNITZER STEEL INDUSTRIES INC.

Vendor Detail Report

SSP - Portland

For Transactions Between: 10-01-02 and 9-30-03

Vendor			Amount	
BELLAMY AND SON PAVING CONTRACTOR			***$148,159.60***	
PO No. 9711	12/30/2002	Asphalt Hump around motor room	*450*	— TACOMA 7,000 HP MOTOR STORAGE ROOM
PO No. 10225	2/12/2003	repave temch after sump line installed	*1818.15*	
PO No. 10542	3/14/2003	BLACK TOP EDGE OF GRAY BIN	*1447.85*	— DOCK BIN
PO No. 10826	4/9/2003	Patch area around new cement slab	*5520*	— ASR CONCRETE
PO No. 11210	5/14/2003	Drive way behind shear	*136863.6*	
PO No. 12183	8/21/2003	Grind, Prepare & Patch with Asphalt-Misc Ditchlines	*2060*	
		Grand Total	$148,159.60	

ROAD WAY FROM SCALE TO SHEAR ALONGSIDE BLDG. B
$134,863.60 AFE

DRIVE THROUGH EAST OF SHEAR
$ 2,000.00

$136,863.60 TOTAL

SCHN00240235

CCS
PHE
Spencer Environmental
Monitor

SCHNITZER STEEL INDUSTRIES INC.

Vendor Detail Report

SSP - Portland

For Transactions Between: 10-01-02 and 9-30-03

Vendor			Amount
COWLITZ CLEAN SWEEP INC.			**$31,014.51**
PO No. 9151	10/24/2002	CLEAN PITS AND TANKS ON 8/29 AND 8/30	5736.75 (1) ✓
PO No. 9387	11/19/2002	VAC OUT DRAG TANK AND PIT ON 10-16-02	1927.88 (2) ✓
PO No. 9830	1/10/2003	CREDIT ITEM	1034 (3) –
PO No. 9877	1/15/2003	JET ROD 8" LINE AND CLEAN OUT	882.75 (4) ?
PO No. 9878	1/15/2003	CREDIT ITEM	848 (5) –
PO No. 10336	2/24/2003	VACUUM TANKS NEXT TO SHREDDER,CATCH BASINS	2533.5 (6) ✓
PO No. 10345	2/25/2003	VACUUM OUT DRAG TANK AND PIT FOR PUMP INSTALLATION	939 (7) ✓
PO No. 10557	3/17/2003	PVC 6"X100' DISP. SUCTION HOSE	937.5 (8) ✓
PO No. 11072	5/1/2003	VACUUM DRAINS AND JET ROD LINES	691.88 (9) ✓
PO No. 11195	5/13/2003	JET RODDER/AIR MOVER	7269.5 (10) AFE ✓
PO No. 11499	6/16/2003	PRESSURE WASH AREA ON DOCK FOR CARGO STORAGE	656.25 (11) ✓
PO No. 12045	8/7/2003	VACUUM OUT SUMP BY SHRED PILE	562.5 (12) ✓
PO No. 12135	8/18/2003	VAC. OUT DRAIN AND DOWN GRADIENT AREAS	2990 (13) ✓
PO No. 12179	8/20/2003	PUMP & CLEAN SUMPS JETROD LINES	742.5 (14) ✓
PO No. 12200	8/21/2003	Hours sweeping yard	1190 (15)
PO No. 12286	8/29/2003	CLEAN AND JETROD DRAINS AT SHREDDER	2072.5 (16) ✓
PO No. 12401	9/11/2003	CLEAN OUT WATER TANKS AT SHREDDER	0
		Grand Total	$31,014.51

SCHN00240236

Normal Storm Drains -

Repair & Maintence -

Special Needs -

MUNITOR CONSTRUCTION, LLC
CONSTRUCTION CONTRACT

This Contract is made this 24th day of September 2003 by and between Munitor Construction, LLC ("Munitor") and Schnitzer Steel Industries, ("SSI"):

For and in consideration of the mutual convenants contained herein, the parties agree:

ARTICLE I. SERVICES BY MUNITOR CONSTRUCTION, LLC

1.0 Scope of Work

Munitor, at the direction of SSI will provide personnel, equipment, and materials to install a new storm drain system with oil water separator at SSI's facility located at 12005 North Burgard Road in Portland, Oregon.

1.1 Type of Services

As SSI may direct Munitor, will provide the following services (the "Services"):

Install a new storm drain system unit at SSI's facility in Portland, Oregon. The installation will be completed in accordance with TRT Engineering drawings and specifications, dated August 15, 2003 and in conformance with proposal (Attachment 1).

9/25/03
HM 10/2/03

1.2 Method of Performance

1.2.1 Munitor shall mobilize such personnel, equipment, and materials as described above starting the week of September 27, 2003.

1.2.2 Munitor shall comply in all respects with all applicable federal, state, and local laws and regulations in its performance of the Services.

1.2.3 Munitor will make its personnel and authorized subcontractors available to confer with SSI to review the status of and to review and establish procedures for the efficient delivery of Services hereunder.

1.2.4 Neither Munitor, its authorized subcontractors, nor any of their employees shall supervise, directly or indirectly, any temporary or permanent employee of SSI.

ARTICLE II. COMPENSATION

2.1 Compensation

SSI shall reimburse Munitor for services rendered at a fixed price, not-to-exceed basis, in accordance with Munitor's bid dated July 17, 2003 (Attached).

2.2 Invoice

Munitor Construction, L.L.C. shall invoice SSI monthly or upon project completion for Services performed hereunder. SSI shall make payment within thirty (30) days of receiving such invoice. A late fee will be added to accounts 30 days in arrears at the rate of one and one half percent (1.5%) of the amount due for each month of delinquency.

ARTICLE III. MUNITOR CONSTRUCTION, LLC – LIABILITY INSURANCE

Until the Services are completed, Munitor agrees to provide and maintain at its own expense the following insurance coverage:

(a) Workers' Compensation at the statutory limits for the state or states in which the work is to be performed.
(b) Commercial Liability insurance in the amount of $1,000,000 combined single limit for bodily injury and property damage, including product liability, completed operations, contractual liability and, where applicable, coverage for damage caused by blasting, collapse or structural injury, and/or damage to underground utilities.
(c) Automobile Public Liability in the amount of $1,000,000 per occurrence for bodily injury and property damage, including non-owned automobiles. In the event that "Client" desires additional insurance,"Client" will notify Munitor of such request in writing and Munitor will obtain a quote from its insurance carrier regarding the cost of obtaining the requested coverage. The cost of such additional insurance will be borne by SSI. Munitor will not procure this additional coverage without the written approval of SSI.
(d) Munitor shall make SSI an additional insured party to their insurance policy.

ARTICLE IV. PROJECT PERFORMANCE

4.1 Performance of Services

Munitor will perform all Services under this Contract in accordance with generally accepted professional standards that apply in the community where the Services are performed for the type of work involved.

4.2 Completion of Services

Munitor will complete the Project within 30 days of initiation.

ARTICLE V. MISCELLANEOUS

5.1 Access to Property

SSI has the responsibility of obtaining a right of entry to property where the Services are to be performed. The right of entry shall allow Munitor, its agents, subcontractors, and employees to enter the property from time to time, as necessary to perform all acts, studies, and research pursuant to the agreed services within the scope of work. Munitor does not assume control of or responsibility for the property, the person in charge of the property, nor the safety of persons not in Munitor, employ.

5.2 Unforeseen Conditions or Occurrences

If any unforeseen conditions or occurrences, including, but not limited to, hazardous substances or pollutants, are encountered, which, in Munitor, reasonable judgment, significantly affect or may affect the recommended scope of the Services, then Munitor will notify SSI. After such notification, Munitor will complete the original scope of Services, if appropriate, or agree with SSI to modify the Agreement, or terminate this Agreement with respect to the Services pursuant to Section 6.11 hereof. Changes to the original scope of work that will result in increased compensation for the project must be approved by SSI in writing.

ARTICLE VI. GENERAL PROVISIONS

6.1 Indemnification

To the fullest extent permitted by law, each party shall defend, Indemnify and hold harmless the other party, its consultants, and the agents and employees of any of them from and against claims, damages, losses, and expenses, including, but not limited to, attorneys' fees, arising out of or resulting from performance of services hereunder, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property, including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the indemnitor, anyone directly or indirectly employed by it, or anyone for whose acts it may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by any other person.

6.2 Permits and Access

Munitor will assist SSI in securing necessary permits required by authorities having jurisdiction over the project area.

6.3 Force Majeure

Delay or failure of Munitor in the performance of services hereunder shall be excused if caused by circumstances beyond the control of Munitor, including, without limitation, acts of God, strikes, fire, flood, windstorm, action or request of governmental authority, and inability to obtain material, equipment, or services, provided that a prompt notice of such delay or failure is given and Munitor diligently attempts to remove the cause.

6.4 Independent Client

Munitor is and shall perform all Services as an independent contractor and as such shall have and maintain exclusive control and direction over all of its employees, agents, and operations.

6.5 Subcontracts

Munitor may not, without SSI consent in writing, delegate the performance of Services hereunder, or any portion thereof. If approved, subcontractors will be required to sign a Munitor, subcontract agreement prior to the start of work.

6.6 Survival

Section 6.1 and all other provisions of this Contract that may reasonably be construed as surviving the term of this Contract shall survive the term of this Contract.

6.7 Applicable Law

Exclusively the laws of the State of Oregon shall govern this Contract. Venue for any dispute hereunder shall be in the federal or state courts sitting in Multnomah county, and each party hereby consents to the jurisdiction of such courts for any dispute hereunder, provided, however, that nothing herein shall preclude Munitor from excising its mechanics' or materialmen's lien rights under the laws of any jurisdiction where the Services are performed.

SCHN00240268

6.8 Severability

If any provision of this Contract if found to be illegal, invalid, or unenforceable for any reason, such findings shall not affect the other provisions hereof.

6.9 Taxes

SSI shall pay all state and local sales, use, or excise taxes of any kind assessed and/or arising out of the sale or use of the Services and shall, upon demand, reimburse Munitor for any sums it has expended for such taxes. It is assumed all taxes have been included in Munitor's attached cost proposal.

6.10 Term and Termination

The term of this Contract shall expire upon written notice by either party; provided, however, that neither party shall have the right to terminate this Contract except pursuant to the following provisions of this Section 6.11

(a) Either party may, for its sole convenience, terminate the performance of the Services in whole or in part at any time, or from time to time, by giving thirty (30) days written notice of intent to terminate.

(b) SSI will pay Munitor all time and materials costs (and any fee) which have accrued as of the effective date of termination and, in addition, those time and materials costs incurred or earned in good faith by Munitor after the effective date of termination in connection with (1) demobilization of equipment and personnel and (2) any necessary subcontract and/or vendor settlements.

(c) The rights and remedies of the parties provided in the section 6.10 are in addition to any other rights and remedies provided by law or under this Contract.

6.11 Entire Agreement

This Contract contains the entire and only agreement between SSI and Munitor respecting the subject matter hereof. It supersedes all prior or conflicting agreement, representation, promises, or conditions. Any modification of this Contract must be in writing and signed by both parties and must expressly indicate intent to modify this contract.

James L. Jakubiak	Harley Meservey
Name of Authorized Representative Of SSI (Printed)	Name of Munitor Rep. (Printed)
James L Jakubiak	Harley Meservey
Authorized Signature	Authorized Signature
Title Environmental Administrator	Title President
Date 9/25/03	Date 9/24/03
Schnitzer Steel Industries, Inc. 12005 North Burgard Road Portland, Oregon 97203 (503) 224-9900	Munitor Construction, LLC 206 N Tomahawk Island Drive Portland, OR 97217 (503) 702-6542

Policy Number: A102ELF00059 Date Entered: 9/24/2003

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 9/24/2003

PRODUCER
Arnold, Bruce & Doerfler
1405 SW 14th Avenue
PO Box 567
Portland, Or 97207
(503) 222-1951

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED
MONITOR CONSTRUCTION, LLC

206 N KINGSWAY DRIVE
PORTLAND, OR 97217

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: EVANSTON INSURANCE COMPANY	
INSURER B: FINANCIAL INDEMNITY COMPANY	
INSURER C: RED SHIELD INSURANCE COMPANY	
INSURER D:	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS MADE X OCCUR X Pollution X Professional GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC	02ELF00059	8/23/2003	8/23/2004	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 50,000 $ 5,000 $ 1,000,000 $ 1,000,000 $ 1,000,000
B	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS X SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS	C7775960	10/8/2002	10/8/2003	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
	GARAGE LIABILITY ANY AUTO				AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EA ACC / AGG	$ $ $
	EXCESS/UMBRELLA LIABILITY OCCUR CLAIMS MADE DEDUCTIBLE RETENTION $				EACH OCCURRENCE AGGREGATE	$ $ $ $ $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under SPECIAL PROVISIONS below				WC STATU-TORY LIMITS / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $
D	OTHER CONTRACTOR'S EQUIP Including Rental	CEQ 001519	9/10/2003	9/10/2004	$100,000	$250 DED

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

Schnitzer Steel Industries, Inc. is an additional insured with respect to the general liability insurance policy listed above subject to policy terms, conditions and limits.
Transmitted via facsimile to Rachel Nordin 503.735.2976. Original will not follow.

CERTIFICATE HOLDER

Schnitzer Steel Industries, Inc.
12005 N Burgard Rd.
Portland OR 97203

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

© ACORD CORPORATION 1988

Attachment 1

Munitor Construction, LLC

206 N. Tomahawk Is. Dr.
Portland, Oregon 97217
Phone (503) 702-6542
Fax (503) 735-2976

Send to: Jim Jakubiak	**From: Harley Meservey**
Attention:	**Date:**
Office Location:	**Office Location:**
Fax Number:	**Phone Number:**

- ☐ **Urgent**
- ☐ **Reply ASAP**
- ☐ **Please comment**
- ☐ **Please Review**
- ☐ **For your Information**

Total pages, including cover:

Comments:

Outfall 16 Bid

Munitor Construction, LLC
Portland, Oregon
CCB #8811

July 17, 2003

To: Mr. Jim Jakubiak
Schnitzer Steel, Inc.
Portland, Oregon

From: Mr. Harley Meservey
Munitor Construction, LLC
Portland, Oregon

Re. Outfall 16
Schnitzer Steel
Portland, Oregon
Project #815

Mr. Jim Jakubiak:

Munitor Construction, LLC (Munitor) is pleased to present this cost estimate for the installation storm drainpipe, manholes, oil water separator, and final clean up. Below is a scope of work, cost estimate, and assumptions based on information obtained from a drawing and specifications dated July and field visit.

Scope of Work
Munitor understands that Schnitzer Steel is requesting the following work be performed at subject site:

- Excavate and install storm drain to grades and location provided in drawings,
- Stockpile soil on site,
- Backfill trench with 2' of ¾" minus and the remaining with excavated soil and compact with hoe pac to achieve maximum density,
- Install Manholes to grade and location provided on drawings,
- Install Oil water separator to grade and location provided on drawings,
- Connect new storm drain pipes to existing pipe as shown on drawings,
- Apply water to backfill to achieve maximum density,
- Proof roll top lift of trench backfill with loaded dump truck. To be observed and approved by TRT Engineering. Soft spots will be corrected,
- Contractor to use shoring as necessary
- Grade swale area to drain as shown on drawings,
- Contract Bellamy Bros. to perform asphalt repairs, and
- Backfill to match existing grade.

Cost Estimate
Munitor Construction is providing the following bid for the project.

Estimate

Item	Qty	Unit	Rate	Total
Mobilization	1	LS	$1250.00	$1250.00
Vault Model (816-3-CPS) w/ risers	1	LS	$36255.00	$36255.00

Munitor Construction, LLC
Portland, Oregon
CCB #188II

4' Manhole w/ Installation	3	Ea	$2485.00	$7455.00
6' Manhole w/ Installation	1	Ea	$5300.00	$5300.00
12" Pipe Installation	291	lf	$20.25	$5892.75
10" Pipe Installation	586	lf	$19.75	$11573.50
8" Pipe Installation	627	lf	$19.00	$11913.00
Field Inlet	1	ea	$1700.00	$1700.00
Swale grading	365	cy	$6.50	$2372.50
Paving	1	LS	$16885.00	$16885.00
Paving ¾" Minus Rock 1.5'	500	ton	$13.25	$6625.00
Catch Basin Install	3	ea	$500.00	$1500.00
			Total	$108721.75

Assumptions

The following assumptions have been made in the development of this bid.

- Assume that buried objects can be removed by 40,000# excavator,
- Existing Pipe in trench for new pipe will be removed,
- Pipe not in new trench or requires additional excavation for removal or camera inspection will be at additional costs,
- Rock for trench bed is based on 2' of ¾" minus rock,
- Asphalt removed for trenching will be left on site in stockpile,
- Client to provide utility locate, Contractor to have utility locates during construction if uncertainty with drawings is observed,
- Contractor to work in evenings and weekends as needed,
- Client to provide steel plates for cover open excavation,
- Excavated spoils will be stockpiled on site, Schnitzer to provide location,
- Payment will be received for services within 30 days of approved final product.

Munitor would like to thank you for the opportunity to provide services to you. If you have any questions or would like to schedule work please contact me anytime at (503) 702-6542. We look forward to providing professional services to you and any future needs.

Regards,

Harley Meservey

Harley Meservey
President

July 1, 2003

TRT Engineering – Task Assignment 1

TRT Engineering, Inc. agrees to do the following scope of services for the Schnitzer Steel Industries, Inc. for the facility located at 12005 North Burgard in Portland, Oregon.

- Design stormwater conveyance system and treatment for Outfall #16.
- Provide professionally stamped construction drawings for said project.
- Provide contractor bid walk for eligible contractors.
- Answer all questions from contractor regarding said project.
- Oversee construction and provide quality assurance project is built per construction drawings.
- Provide as-built drawings for said project.
- Update site as-built drawings for the entire IT facility when construction is completed.

Project will be completed in accordance with agreed scope of services and per the Agreement For On-Call Environmental Engineering Services contract dated July 1, 2003. The scope of services will not exceed $15,000.00 in charges.

Party: Schnitzer Steel Industries, Inc.
By: Jim Jakobsen
Title: Environmental Administrator
Signature:
Date: 7/1/03

Party: TRT Engineering, Inc.
By: TIMOTHY R. TURNER
Title: PRESIDENT
Signature:
Date: 10/2/03

July 1, 2003

TRT Engineering – Task Assignment 2

TRT Engineering, Inc. agrees to do the following scope of services for the Schnitzer Steel Industries, Inc. for the facility located at 12005 North Burgard in Portland, Oregon.

- Provide professionally stamped drawings for cleaning sand filters 4 and 5 at site referenced above.
- Provide contractor bid walk for eligible contractors.
- Answer all questions from contractor regarding said project.
- Oversee construction and provide quality assurance project is built per drawings.
- Provide summary memo for said project.

Project will be completed in accordance with agreed scope of services and per the Agreement For On-Call Environmental Engineering Services contract dated July 1, 2003. The scope of services will not exceed $5,000.00 in charges.

Party: Schnitzer Steel Industries, Inc.
By: Jim Jakubiak
Title: Environmental Administrator
Signature: [illegible]
Date: 7/1/03

Party: TRT Engineering, Inc.
By: TIMOTHY R. TURNER
Title: PRESIDENT
Signature: [illegible]
Date: 10/2/03

AGREEMENT FOR ON-CALL ENVIRONMENTAL ENGINEEERING SERVICES

This Agreement for On-call Environmental Engineering Services hereinafter referred to as "AGREEMENT", effective as of this 1st day of July 2003, is by and between Schnitzer Steel Industries, Inc., hereinafter referred to as "Schnitzer", and TRT Engineering, Inc., hereinafter referred to as "TRT." TRT agrees to perform the Services described in project specific task orders, which will be issued separately by Schnitzer and will be conducted in accordance with the terms of this agreement.

This Agreement, including the General Conditions for Consulting Services, together with any supplementary exhibits, attachments, documents, schedules, specifications, task orders and drawings incorporated in it by reference, constitute the entire Agreement and understanding between the parties, and any prior negotiations, proposals or oral agreements are intended to be integrated herein and to be superseded by this Agreement. This Agreement may not be modified or altered, except by an Agreement in writing and signed by authorized representatives of both parties hereto, which specifically refers to this Agreement.

Party:	Schnitzer Steel Industries, Inc.	TRT Engineering, Inc.
By:	Jim Jakubiak	TIMOTHY R. TURNER
Title:	Environmental Administrator	PRESIDENT
Signature:	[signature]	[signature]
Date:	7/1/03	7/1/03

GENERAL CONDITIONS FOR SUBCONSULTING SERVICES
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GENERAL CONDITIONS FOR SUBCONSULTING SERVICES

1. DEFINITIONS

1.1 *Work Product:* The labor, materials, equipment and services required to complete the full range of TRT services described in the individually issued Task Orders.

1.2 *Change Order:* A written agreement between Schnitzer and TRT, executed after the inception date of this Agreement, which modifies the scope of services, compensation, schedule, or all of them.

1.3 *Work Authorization:* A written notice (Task Order) from Schnitzer to TRT authorizing TRT to proceed pursuant to this Agreement.

1.4 *Project:* The complete range of services to be provided collectively by Schnitzer and TRT at the project site.

1.5 *Hazardous Materials:* The term Hazardous Materials shall mean any toxic substances, chemicals, pollutants or other materials, in whatever form or state, including, but not limited to smoke, vapors, soot, fumes, acids, alkalis, minerals, toxic chemicals, liquids, gasses or any other material, irritant, contaminant or pollutant, which are regulated under any applicable local, state, or federal law including those substances defined, designated or listed in Section 4004 of the Solid Waste Disposal Act (42 USC § 6903); Section 9601(14) of the Comprehensive Environmental Response, Compensation and Liability Act (42 USC § 9601(14); as listed or designated under Sections 1317 and 1321(b)(2)(a) of the Title 33 (33 USC §§ 1317 and 1321(b)(2)(a) or as defined, designated or listed under any other federal, state or local law, regulation or ordinance concerning hazardous materials, toxic substances or pollution.

1.6 *Task Order:* A written agreement executed by Schnitzer and TRT that describes a specific task to be performed by TRT in accordance with this Agreement. The Task Order shall designate the work to be performed, the time of performance and the compensation due for successful completion of the task. The terms and conditions of this Agreement supersede any terms and conditions contained in the Task Order unless the Task Order specifically references a term or condition of this Agreement as states that such term or condition is superseded or modified.

2. INDEPENDENT CONTRACTOR

The Parties intend that TRT, in performing services specified in this Agreement, shall act as an independent contractor and not as an agent or employee of Schnitzer. TRT will be solely responsible for the control and direct performance of the details of the services performed by TRT, its employees, agents, and subconsultants.

3. PROFESSIONAL SERVICES

TRT represents that it is a specialist in the type of services to be accomplished under this Agreement and that it will provide such services in accordance with the professional standards prevailing at the time the services are performed including but not limited to applicable professional and trade standards and all federal, state and local regulations, ordinances and statues. TRT shall maintain all professional licenses and registrations required for the performance of its services.

4. SCHNITZERS' RESPONSIBILITIES

Schnitzer shall provide TRT with criteria and information concerning the requirements for each Project. This includes giving TRT drawings, specifications, schedules, and other information which were prepared by Schnitzer, or available to Schnitzer, and which Schnitzer considers pertinent for TRT to complete the scope of services and responsibilities as outlined in this Agreement and the separately issued Task Orders. Schnitzer will give prompt notice to TRT whenever Schnitzer observes or otherwise becomes aware of any development that affects the scope or timing of TRT's services.

5. FAMILIARITY WITH SERVICES TO BE PERFORMED

For each Task Order, TRT agrees that it will become familiar with the job site and the conditions under which the TRT services are to be performed and will review the project requirements provided by

Schnitzer including the schedule and conditions under which the services are to be performed, and has determined that it has adequate information to allow TRT to complete its services in accordance with the terms of this Agreement.

6. TASK ORDERS

TRT shall begin work only after receipt of a written Task Order from Schnitzer which describes the scope and conditions of TRT services. Work shall be completed in accordance with the individual Task Orders under this Agreement. All Task Orders issued hereunder are subject to the general conditions of this Agreement.

7. CHANGES AND EXTRA WORK

Schnitzer shall have the right to make changes within the scope of services or request TRT to perform extra services if Schnitzer deems such changes appropriate for completing the Project. All changes will be by written Change Order, and shall not take effect unless agreed upon by the TRT. Upon receiving the Change Order, TRT shall notify Schnitzer of any adjustments in fees or schedule which will result from the Change Order. Schnitzer may request that the TRT provide a written proposal outlining the additional scope of services, changes in schedule, and adjustments in fees for performing the work required by the Change Order. TRT will not begin work under the Change Order until receiving written approval from Schnitzer.

Except as otherwise specifically stated in the Change Order, all services to be performed under the Change Order shall be in conformance with the terms and conditions of this Agreement.

8. INVOICING AND PAYMENT

Unless otherwise agreed in writing, all payment shall be made on the basis of monthly itemized invoices. Invoices shall be delivered to Schnitzer according to the schedule of invoicing and payment. In no event shall the amount due for any phase or task exceed the balance remaining for fees and expenses allocated for such tasks. Schnitzer shall not pay for any work or services other than expressly described and approved in the Task Order unless authorized by Change Order. TRT's fees will be based on the TRT's attached schedule of charges for compensation. TRT will provide Schnitzer a copy of their current schedule of charges for review prior to finalizing this agreement. A finalized mutually agreed upon schedule of charges will become part of this Agreement and will be strictly adhered to by TRT for invoices submitted to Schnitzer. In the event that TRT changes their schedule of charges during this Agreement, Schnitzer should be notified immediately. Any changes to TRT's schedule of charges must be approved by Schnitzer in writing prior to implementation of the new schedule of charges.

TRT shall make available, upon request, to Schnitzer all financial books, ledgers, documents, payroll data, time cards and other documents to assure the financial accuracy of the invoices submitted to Schnitzer. TRT further agrees to provide such supporting documentation for each invoice as Schnitzer may reasonably require.

Payment to TRT will be made within 30 days of Schnitzer's receipt of the invoice date.

In the event that Schnitzer disputes all or a portion of an invoice otherwise in acceptable format, Schnitzer shall advise TRT in writing, shall pay the undisputed portion of the invoice as specified in this Agreement, and shall resolve the disputed portion of the invoice through the disputes procedures of this Agreement.

9. FORCE MAJEURE

Neither Schnitzer nor TRT shall be liable for failure to perform services provided for in this Agreement when such performance is hindered or prevented by an occurrence beyond the reasonable control and without the fault or negligence of either Schnitzer or the TRT.

10. INDEMNITY

TRT shall defend, indemnify and hold harmless Schnitzer, its officers, directors, shareholders and employees from and against any and all claims of any kind or nature arising out of or relating to TRT's negligent acts, errors, or omissions in connection with the performance of the professional services under this Agreement.

Schnitzer shall indemnify and hold harmless TRT, its officers, directors, shareholders and employees from and against any and all claims of any kind or nature arising out of or relating to Schnitzer's negligent acts, errors, or omissions in connection with the performance of its obligations under this Agreement.

These indemnification provisions shall survive the expiration or termination of this Agreement.

11. HEALTH AND SAFETY

TRT shall be responsible for its activity and that of TRT's employees or agents on the job site with respect to job site safety. Neither the professional activities nor the presence of Schnitzer or its employees and other TRTs shall be understood to control the operations of others.

TRT shall arrange for all of its employees who will be working on a hazardous materials site have adequate training courses for safety and health. The costs and expenses for the employees taking such course shall be paid by TRT. Proof of completion of such course by each employee who is to work on a hazardous materials site shall be furnished to Schnitzer prior to any such employee's entering the site for any purpose. Said proof must certify to Schnitzer that such training course conforms to the requirements of 29 C.F.R. Part 10.

TRT is responsible for providing, at its own expense, all personal protective clothing and equipment required for its employees to perform their work in a safe manner and in compliance with all applicable local, state, and federal laws and regulations including, but not limited to OSHA standards. TRT is responsible for ensuring that such equipment is in good condition and is properly inspected and maintained. In cases where a health and safety plan has been prepared or adopted by Schnitzer, TRT must, at a minimum, use the equipment and follow the procedures described in that plan. This does not relieve TRT of the responsibility to provide equipment and institute procedures affording a greater degree of protection than those specified in the health and safety plan, if such equipment and procedures are necessary for TRT to perform its tasks in a safe manner and in compliance with applicable local, state, and federal regulations.

Nothing contained in this provision will be construed as diminishing, altering, or otherwise affecting the provision of this Agreement in Section 10, Indemnity.

TRT agrees, at its own expense, to enroll each employee in a medical surveillance program, consisting of an initial medical examination, periodic examinations and such interim examinations as may be required by Schnitzer or applicable government agencies to protect or assess employee health status for the duration of this Agreement. TRT agrees to submit to Schnitzer a statement for each employee assigned to hazardous materials site field activities that said employee is enrolled in the medical surveillance program and has been medically certified by a physician for this work, including the use of a respirator.

12. OUTSIDE SERVICES SUPPLIED TO TRT

TRT will notify Schnitzer of any outside services, including other consultants, contractors and laboratories, required to complete the Project according to the Scope of Services specified in the Task Order. Schnitzer reserves the right to refuse the use of specific companies or firms providing the outside services to the TRT if Schnitzer considers the use of a specific company or firm to be detrimental to completing the Project.

TRT shall defend, indemnify, and hold harmless Schnitzer and its affiliates (including Schnitzer Investment Corp.) from and against any and all claims for payment, liens or other encumbrances recorded against real property asserted or filed by any person or entity hired or contracted by TRT. Before issuance of final payment, TRT, if required by Schnitzer, shall submit evidence satisfactory to Schnitzer that all bills for outside services provided by TRT have been satisfied and paid.

13. TERMINATION FOR CONVENIENCE

Schnitzer, for its convenience, may in its sole discretion terminate the services of TRT in whole or in part at any time by written notice to TRT which shall state the extent and effective date of such termination. On the effective date thereof, TRT shall (a) stop all services and place no further orders or subcontracts, and (b) terminate work orders and subcontracts outstanding. Schnitzer shall reimburse TRT for reasonable costs necessarily incurred by TRT up to seven (7) days following the notice of termination.

14. TERMINATION FOR DEFAULT

If Schnitzer, in its sole discretion, determines that TRT is failing to perform properly any services or maintain the schedule or perform the services in accordance with the conditions or provisions of this Agreement, Schnitzer shall require TRT to remedy such default within three (3) days after receipt of written notice of default from Schnitzer. If TRT fails to cure the default conditions, or provide satisfactory evidence to Schnitzer that such default will be corrected, Schnitzer may at its option, terminate this Agreement. TRT may contest the default termination according to the dispute resolution procedures described in Section 19 of this Agreement. Schnitzer shall have the right to complete the services by whatever method Schnitzer, in its sole discretion, deems expedient, including employing another contractor to re-perform or complete the services. The expense of so completing such services shall be deducted from any amounts due TRT. If such expense exceeds the sum which otherwise would have been payable under this Agreement, TRT shall be liable for, and upon notice from Schnitzer shall promptly pay Schnitzer the amount of the excess.

15. CONFIDENTIALITY

All documents, reports, disclosures, plans and other information of any nature and description obtained by TRT in the performance of services hereunder, and not classified as public information by Schnitzer will be strictly confidential and will not be used for the benefit of TRT or any affiliate, subsidiary or parent organization of TRT, or disclosed to any third party, either during TRT's employment or after its termination, except as may be necessary in order to perform services pursuant to this Agreement.

16. COMPLIANCE WITH LAWS/PERMITS/LICENSES

TRT shall perform services in accordance with all applicable laws, regulations, ordinances, permits, licenses, and other rules of the state, territory, or political subdivisions where the services are performed and/or provided. TRT shall provide Schnitzer with copies of any permits obtained during performance of the services required to complete the Scope of Services.

17. PAYROLL TAXES

TRT shall comply with federal, state, and local, tax laws, Social Security Acts, Unemployment Compensation and Workers' Compensation Acts insofar as applicable to the performance of this Agreement as well as the tax laws of any other political jurisdiction wherein the services are performed and/or provided.

18. DISPUTE RESOLUTION

18.1 Exhaustion of Remedies Required

No action may be filed unless the procedures set forth in this section have been fully complied with and all dispute resolution procedures exhausted. No legal action may be commenced to interpret or enforce the terms of the agreement until the dispute resolution procedures have been exhausted.

18.2 *Scope of Clause*

The dispute resolution procedures of this section shall apply to any and all disputes between Schnitzer and TRT which arise from, or in any way are related to this Agreement, including, but not limited to the interpretation of this Agreement, the enforcement of its terms, any acts, errors or omissions in the performance of this Agreement or any dispute between Schnitzer and TRT concerning the amounts owed TRT for performance of services.

18.3 *Notice of Dispute*

Within ten days (10) after Schnitzer or the TRT determines that an unresolved dispute exists, the party seeking relief shall serve the other party with a written notice specifying the nature of the relief sought, the amount of relief sought, a description of the reason relief should be granted, and citation of the appropriate portions of this Agreement that authorize the relief requested.

18.4 *Meet and Confer*

Within ten days (10) of receipt of the Notice of Dispute, the parties shall meet and confer in a good faith attempt to resolve the dispute. Participants in the meeting must have the authority to enter into a resolution on behalf of each party.

If an Agreement is reached resolving the dispute, the parties shall immediately execute an addendum to this Agreement.

SCHN00240282

18.5 *Facilitated Mediation*

If no Agreement is reached, or if the Agreement does not resolve all of the issues encompassed by the Notice of Dispute, either party may request facilitated mediation. A written Request for Mediation shall be served upon the other party within seven days after the Meet and Confer session.

Within thirty days after serving the Request for Mediation, unless the parties agree in writing to extend such time, the parties shall participate in a mediation facilitated by an independent third party. Principals of each party with authority to resolve the dispute shall attend the mediation and may be represented or assisted by legal counsel. The out-of-pocket costs of mediation shall be borne equally. In the event that third parties participate in the mediation, the costs shall be borne on a per capita basis. Within seven days after the service of the Request for Mediation, the parties shall confer to select an independent mediator. If the parties cannot agree on a mediator, then a mediator will be selected by the American Arbitration Association.

If an Agreement is reached resolving the dispute, the mediation shall be transformed into a binding agreement. The agreement award shall be binding upon the parties and enforceable in any court of competent jurisdiction. Each party shall bear its own costs and attorneys fees arising out of the mediation.

19.6 *Non-admissibility and Confidentiality*

No evidence, whether it consist of written or oral communication, statement, document provided, expert opinion, expert report or offer to compromise, may be introduced at any later proceeding unless such was made, provided or disclosed outside of, and not in connection with, the Meet and Confer or Facilitated Mediation. Under no circumstances may the mediator or any documents created or maintained by the mediation, be subpoenaed, nor shall the mediator testify in any subsequent proceedings.

All communications, statements, documents provided, expert opinions, expert reports or offers to compromise are confidential and may not be disclosed without the written consent of the party making the statement or offering the information.

20. LAWS

This agreement, and the rights and obligations of Schnitzer and TRT hereunder, shall be governed by and interpreted and construed in accordance with the laws of the state in which the Project is located. If any part of this Agreement shall be held illegal, unenforceable, void, or voidable by any court of competent jurisdiction, each of the remainder of the provisions shall nevertheless remain in full force and effect as a separate Agreement and shall in no way be affected, impaired or invalidated.

21. INSURANCE

TRT shall maintain continuously during the life of this Agreement, and shall require its lower tier TRTs to maintain, the following minimum insurance requirements:

1) Worker's Compensation Insurance with statutory limits. If applicable, this shall include coverage for U.S. Longshoreman's and Harbor Worker's Act, the Jones Act, and Outer Continental Shelf Lands Act. Employer's Liability limits shall meet minimum state requirements.
2) Professional Liability Insurance in the amount of $1,000,000 covering claims, damages and liability arising out of, or resulting from, TRT's negligent acts, errors, or omissions.

<u>The policies under 3) and 4) below shall: (a) name Schnitzer as Additional Insureds; (b) be primary to any other insurance maintained by Schnitzer ; (c) contain a severability of interest or cross-liability provisions; and (d) provide 30 days advance notice to Schnitzer in the event of any nonrenewal, cancellation, restriction, or modification of insurance.</u>

3) Comprehensive General Liability with limits of not less than $1,000,000 applicable to bodily injury, sickness, or death in any one occurrence or in the aggregate and not less than $1,000,000 for loss of, or damage to, property in any one occurrence or in the aggregate. This coverage shall include the following: (1) Comprehensive form; (2) Premises operations; (3) Contractual liability; (4) Broad form property damage; (5) Personal injury.

4) Automobile Liability covering all owned, non-owned, or hired vehicles used by TRT with limits of not less than $1,000,000 applicable to bodily injury, sickness, or death of any one person per occurrence and $1,000,000 for loss of or damage to property in any one occurrence.

TRT shall provide Schnitzer with satisfactory evidence of the above-stated coverages prior to commencement of the services. Failure to maintain such coverages is a material breach of this Agreement. No payment shall be due TRT for any services performed during a period or periods in which the insurance coverages were not in effect.

22. ASSIGNMENT

This Agreement may not be assigned or further subcontracted by TRT without the prior written consent of Schnitzer.

23. INTERPRETATION OF AGREEMENT

Each party acknowledges that it has had an opportunity to seek the advice of and consult with counsel of its choosing in connection with the negotiation and preparation of this Agreement.

24. ENTIRE AGREEMENT AND MODIFICATIONS

This Agreement, including attachments incorporated herein by reference, represents the entire Agreement and understanding between the parties, and any negotiations, proposals or oral agreements are intended to be integrated herein and to be superseded by this Agreement. In case of any conflict or inconsistency between provisions in the body of this Agreement and provisions in any contract document incorporated herein by reference, the provisions in the body of this Agreement shall control.

The Agreement may not be modified or altered, except by a supplemental agreement in writing and signed by authorized representatives of both parties.

These General Conditions, together with any supplementary exhibits, attachments, documents, schedules, specifications, and drawings incorporated in it by reference, constitute the entire Agreement between Schnitzer and TRT.

End of General Conditions

TRT ENGINEERING, INC.

FEE SCHEDULE

Effective Date - July 1, 2003

Consultant's total compensation for services performed shall be as follows:

a) Professional Services: Time engaged in the work according to the following schedule:

POSITION TITLE	HOURLY RATE
Principal Engineer	$ 80.00
Field Technician/Sampler	$ 65.00
Computer Graphics/AutoCad	$ 55.00
Reports/Word Processing	$ 55.00

b) Travel Time: Time spent in local travel will be invoiced in accordance with the preceding schedule. No more than eight (8) travel hours in a day will be invoiced for out of area travel.

c) Expert Witness: Expert witness testimony or participation at hearings or depositions, including necessary preparation time will be invoiced at 200% of the base rate quoted above.

d) Direct Cost: Direct costs associated with the services provided such as; shipping charges, printing/reproduction, special fees; insurance, licenses and non-inventoried equipment and supplies, public travel fares, equipment rental, subcontractors, meals, lodging, communications, outside computer time, expendable materials, etc., will be invoiced at cost plus ten (10) percent.

e) Mileage: Mileage of Company and/or employee owned vehicle(s) will be invoiced at $0.36 per mile.

f) Invoicing and Payment: Each invoice will be paid within twenty-five (25) days of the date of the invoice. A late payment charge of 1.5 percent per month, which equals an ANNUAL PERCENTAGE RATE OF 18% will be charged on all invoices past due.

g) Rate Change: Published fees, rates and policies contained in the Fee Schedule are subject to change without notice.

Bud Bellamy & Son, Inc.
7701 SE Madison
Portland, OR 97215
(503) 492-8699 office (503) 492-3710 Fax

ATTN: DARREL
Date: August 26, 2003
Company: S S P
Phone Number: 503-849-8779
FAX Number: 503-471-4416
Number of pages 1
From: DAN BELLAMY
RE: PATCH BINS

BIN #7: AREAS 1,500sq.ft.
BIN #8: AREAS 860sq.ft.
BIN # 16: AREAS 1,440sq.ft.
TOTAL 3,800sq.ft.

Grind edges. Excavate failed AC and leave on site.
Pave with 6" class B AC in two lifts.

FOR THE SUM OF $ 8,454.00

PLEASE CALL IF YOU HAVE ANY QUESTIONS. THANK YOU.

Munitor Construction, LLC

206 N. Tomahawk Island Dr.
Portland, Oregon 97217
Phone (503) 702-6542
Fax (503) 735-2976

Send to: Jim Jakubiak	From: Harley Meservey
Attention:	Date:
Office Location:	Office Location:
Fax Number:	Phone Number:

- ☐ Urgent
- ☐ Reply ASAP
- ☐ Please comment
- ☐ Please Review
- ☐ For your Information

Total pages, including cover:

Comments:

Spreadsheet for outfall 16

Invoice #		Invoice Amount
730	$	30,338.15
798	$	34,530.00
811	$	59,689.25
Total	$	124,557.40
Total Bid Amount	$	108,721.75
Total Bid Unused	$	4,072.50
Total Project Invoice	$	104,649.25
Credit Amount	$	19,908.15

Items Unused In Bid		
Field Inlet	$	1,700.00
Swale Grading	$	2,372.50
	$	4,072.50

Bud Bellamy & Son, Inc.
7701 SE Madison
Portland, OR 97215
(503) 492-8699 office (503) 492-3710 Fax

ATTN: JIM J.
Date: September 8, 2003
Company: S S P
Phone Number: 503-519-4795
FAX Number: 503-286-6948
Number of pages 1
From: DAN BELLAMY
RE: ROAD BY OFFICES TO CAT SCALE

EXCAVATE, ROCK AND PAVE: AREAS 1,960sq.ft.

Grind edges. Excavate and haul AC off site. Owner to remove rails.
Excavate base and leave on site. Remove rail ties and leave on site.
Place sub grade fabric. Haul, place and compact 12" crushed rock base.
Pave with 6" class B AC in two lifts.

FOR THE SUM OF $ 9,644.00

PLEASE CALL IF YOU HAVE ANY QUESTIONS. THANK YOU.

Cell #

RUSSELL CONSTRUCTION, INC.

"Building a Tradition of Quality"

Facsimile Cover Letter

Date: 7/20/03 **No of Pages including this cover:** 2

Attention: Mr. Takubail **Company:**

From: Ernie Bingham **Email:**

Regarding:

Building B Rain Drain

2211 NW Front Avenue, Suite 202 / Portland, Oregon 97209-1820 / Office 503.228-3413
Fax 503.228-2770 / www.RussellConstruction.com / ccb#58918

R:\Shared\Word\FAX.doc

RUSSELL CONSTRUCTION INC.

"Building a Tradition of Quality"

July 20, 2003

James L. Jakubiak
Environmental Administrator
Schnitzer Investment Corp.

RE: Building B cast iron rain drains

MR. Jakubiak
Russell Construction is pleased to provide you with a quote on the following scope of work.

To run 1000 +or- lft of 6" cast iron rain drain from inside of building (B) to the outside and down to ground level as per TRT Engineering. Installation to include all labor, materials and equipment as needed to complete the project.

Total $ 17,500.00

If you have any further questions please don't hesitate to call me at anytime.
503-519-9679 or 503-890-4083
Sincerely

Ernie Bighaus
Project Manager
Russell Construction

2211 NW Front Avenue, Suite 202 / P.O. Box 5757, Portland, Oregon 97228-5757 / Office 503.228-3413

7002 2410 0001 7213 5535

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS. FOLD AT DOTTED LINE

CERTIFIED MAIL

7002 2410 0001 7213 5535

SEATTLE OCT 22 '03

U.S. POSTAGE 0.42

LEVY - VON BECK & ASSOCIATES, P.S.
600 University Street, Suite 3300
Seattle, WA 98101

87699

Attn: Darrell Ford Box 10047
Schnitzer Steel Industries Inc./Schnitzer Investment Corp.
3200 NW Yeon Ave.
Portland, OR 97210-1524

LW 10-28

1103

97210#1524

SCHN00240322

LEVY - VON BECK & ASSOCIATES, P.S.
ATTORNEYS AT LAW
3300 One Union Square
600 University Street
SEATTLE, WASHINGTON 98101
(206) 626-5444
FAX: (206) 382-5527

SANFORD R. LEVY
DAVID VON BECK
CHARLES P. MORTIMER
OFFICE MANAGER
DOLORES EVANS

Preliminary Notice Staff
TED LEVY
REBECCA PERRY
ANDY GOLUB
GRETCHEN AXELSON

OREGON NOTICE OF THE RIGHT TO LIEN - WARNING: READ THIS NOTICE. PROTECT YOURSELF FROM PAYING ANY CONTRACTOR OR SUPPLIER TWICE FOR THE SAME SERVICE

Our File No. 1103.87699
Date of Mailing: October 21, 2003

TO: **Schnitzer Steel Industries Inc./Schnitzer Investment Corp., Owner; Cert. Mail 7002 2410 0001 7213 5535**
Russell Construction Inc., Prime Contractor

RE: Schnitzers Scrapyard, Bldg. B; 12005 N Burgard Rd.; Portland, OR

This is to inform you that on or about 10/16/03, Keller Supply Company began to furnish plumbing and/or HVAC materials and/or services ordered by Premier Plumbing Inc. for improvements to property you own, which is referenced above.

A lien may be claimed for all materials, labor, and services furnished after a date that is eight (8) days, not including Saturdays, Sundays, and other holidays as defined in ORS 187.010, before this notice was mailed to you.

Even if you or your mortgage lender have made full payment to the contractor who ordered these materials or services, your property may still be subject to a lien unless the supplier providing this notice is paid.

THIS IS NOT A LIEN. It is a notice sent to you for your protection in compliance with the construction lien laws of the State of Oregon.

This notice has been sent to you on behalf of:

Sender: **Keller Supply Company**
Address: **P.O. Box 79014 Seattle, WA 98119**
Telephone: **(206) 285-3300**

IMPORTANT INFORMATION FOR YOUR PROTECTION

Under Oregon's laws, those who work on your property or provide materials and are not paid have a right to enforce their claim for payment against your property. This claim is known as a construction lien.

If your contractor fails to pay subcontractors, laborers, or material suppliers, or neglects to make other legally required payments, the people who are owed money may look to your property for payment, EVEN IF YOU HAVE PAID YOUR CONTRACTOR IN FULL.

The law states that all people hired by a contractor to provide you with services or materials are required to give you a notice of the right to lien to let you know what they have provided.

WAYS TO PROTECT YOURSELF ARE:

-RECOGNIZE that this notice of delivery of labor, services, or materials may result in a lien against your property unless all those supplying a notice of the right to lien have been paid.

-LEARN more about the construction lien laws and the meaning of this notice by contacting the Construction Contractors Board, an attorney, or the firm sending this notice.

-ASK for a statement of the labor or materials provided to your property from each party that sends you a notice of the right to lien.

-WHEN PAYING your contractor for services or materials, you may make checks payable JOINTLY to the contractor and the firm furnishing services or materials for which you have received a notice of the right to lien.

- OR use one of the methods suggested by the "Information Notice to Owners." If you have not received such a notice, contact the Construction Contractors Board.

-GET EVIDENCE that all firms from whom you have received a notice of the right to lien have been paid or have waived the right to claim a lien against your property.

-CONSULT an attorney, a professional escrow company, or your mortgage lender.

Pursuant to ORS 87.001, claimants are required to send a copy of this notice to all lenders involved with a construction project. If a lender is not shown above, and there is one participating in the project, please contact Levy & Associates as soon as possible so that we may amend the notice and make notification. You may also fax a copy of the project information sheet to (800) 368-1736, if that is more convenient. We will assume, in the absence of information to the contrary, that there are no construction or mortgage lenders.

Very truly yours,

LEVY - VON BECK & ASSOCIATES, P.S.

Legal Assistant

cc: Keller Supply Company

DECLARATION OF MAILING

I, Ted Levy hereby declare that I mailed a copy of the Notice to Owner by certified mail, return receipt requested, postage prepaid, to the owner, tenant (when applicable), and the original contractor on 10/22/03. I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Date: 10/22/03

Place: Seattle

SCHN00240324

NOTICE OF RIGHT TO A LIEN.

NOV 0 4 2003 BM-10-OR

(UNDER ORS 87.021 AND ORS 87.025)

WARNING: READ THIS NOTICE.
PROTECT YOURSELF FROM PAYING ANY CONTRACTOR OR SUPPLIER TWICE FOR THE SAME SERVICE.

Operator: DEBI Call Date: 10/28/03 Ref.# Schnitzer StScott Page 1 of 1

To: [X] Owner [ ] Lender [ ] Contract [ ] Lessee
Certification # :70030500000495346998
Owner's address: 00738934
SCHNITZER INVESTMENT CORP
3200 NW YEON AVE
PORTLAND, OR 97210

Date of mailing: 10/31/03 Service Date: 10/23/03

Member # 00000438-B Job # 00738934-1

This is to inform you that MORSE BROS., INC./ (503)286-4201
has begun to provide
Rock

(description of materials, equipment, labor or services)
ordered by JW UNDERGROUND

for improvements to property you own (as owner, reputed owner, contract buyer, lessee, contract seller, lessor or otherwise) or in which you have a security interest (as a lender or otherwise).

The property is located at
Address: 12005 N BURGARD ST
County: MULTNOMAH, PORTLAND , State of Oregon
Lot 1 Block Add BURGARD INDUSTRI
AL PARK
Tax Lot: 00800
Section 35D Township 2N Range 1W of the W.M. as Described.

To: [ ] Owner [ ] Lender [ ] Contract [ ] Lessee
Certification # :
Address:

To: [ ] Owner [ ] Lender [ ] Contract [ ] Lessee
Certification # :
Address:

LENDER/SECURITY INTEREST RECORDING INFORMATION:

NOTICE TO OWNER(S), REPUTED OWNER(S), CONTRACT BUYER(S), LESSEE(S), LENDER(S), LESSOR(S), CONTRACT SELLER(S), OTHER OWNER(S) AND/OR OTHER SECURITY INTEREST HOLDER(S) OF LABOR, MATERIALS, EQUIPMENT OR SERVICES PROVIDED.

A lien may be claimed for all materials, equipment, labor and services furnished after a date that is eight days, not including Saturdays, Sundays and other holidays, as defined in ORS 187.010, before this notice was mailed to you.

Even if you or your mortgage lender have made full payment to the contractor who ordered these materials or services, your property may still be subject to a lien unless the supplier providing this notice is paid.

THIS IS NOT A LIEN. It is a notice sent to you for your protection in compliance with the construction lien laws of the State of Oregon.

The following explanatory paragraph is *not* required by ORS 87.023 and is included by BMDA:

This notice is part of transacting business in the construction industry, and is to inform you that if the person or firm who supplied labor, materials, equipment or services, for some reason or another does not receive payment, they would then have the right to file a lien on your property for labor, materials, equipment or services they provided and which remain unpaid. This notice is not a direct reflection upon the integrity or credit standing of yourself, your lender, or your contractor. No further notice to you of this or any subsequent delivery may be necessary. Further, not all persons or entities entitled to a construction lien are required to give this notice. There are some exceptions. This notice provides GENERAL INFORMATION ONLY. It should *not* be viewed as a substitute for legal advice.

This notice is sent to you by: NAME: **BUILDING MATERIAL DEALERS ASSOCIATION (BMDA), AGENT**
ADDRESS: **12540 SW Main St., Suite 200 • Tigard, OR 97223-6112**
TELEPHONE: **(503) 624-0561 • 1-800-666-BMDA • FAX (503) 620-1016**

IF YOU HAVE ANY QUESTIONS ABOUT THIS NOTICE, FEEL FREE TO CALL US.

IMPORTANT INFORMATION ON REVERSE SIDE

©2/94 BY BMDA
BMDA-001 (3/00)

SCHN00240326

IMPORTANT INFORMATION FOR YOUR PROTECTION

Under Oregon's laws, those who work on your property or provide labor, equipment, services or materials and are not paid have a right to enforce their claim for payment against your property. This claim is known as a construction lien.

If your contractor fails to pay subcontractors, material suppliers, rental equipment suppliers, service providers or laborers or neglects to make other legally required payments, the people who are owed money can look to your property for payment, even if you have paid your contractor in full.

The law states that all people hired by a contractor to provide you with materials, equipment, labor or services must give you a notice of right to a lien to let you know what they have provided.

WAYS TO PROTECT YOURSELF ARE:

—RECOGNIZE that this notice of right to a lien may result in a lien against your property unless all those supplying a notice of right to a lien have been paid.

—LEARN more about the lien laws and the meaning of this notice by contacting the Construction Contractors Board, an attorney or the firm sending this notice.

—ASK for a statement of the labor, equipment, services or materials provided to your property from each party that sends you a notice of right to a lien.

—WHEN PAYING your contractor for materials, equipment, labor or services you may make checks payable jointly to the contractor and the firm furnishing materials, equipment, labor or services for which you have received a notice of right to a lien.

—OR use one of the methods suggested by the "Information Notice to Owners." If you have not received such a notice, contact the Construction Contractors Board.

—GET EVIDENCE that all firms from whom you have received a notice of right to a lien have been paid or have waived the right to claim a lien against your property.

—CONSULT an attorney, a professional escrow company or your mortgage lender.

IMPORTANT INFORMATION ON
REVERSE SIDE

Project Development Group, Inc.
2501 S.E. Columbia Way • Suite 120 • Vancouver, WA 98661
360-737-2585 • 503-282-6013 • FAX 503-288-5141

June 6, 2001

Mr. Jim Jakubiak
Schnitzer Steel Industries
3200 NW Yeon Avenue
Portland, OR. 97296

RE: Asbestos Abatement – Bugard Park
Project #: 01-6564

Dear Mr. Jakubiak:

Please find enclosed the project documentation for the asbestos abatement performed at the above referenced location. This information is for your records.

1. Notifications (L & I and Department of Ecology)
2. Washington Employee Certification Letter
3. Work Site Entry Reports
4. Daily Site Reports
5. Air Sample Analysis Reports
6. Disposal Documents – ASN 4

If you should have any questions or require further assistance regarding the above referenced project, please do not hesitate to contact me at (360) 737-2585.

Regards,

Erin L Riley
Office Manager

Enclosures: As Noted

To: Whom It May Concern

From: Erin L. Riley
Office Manager

Date: June 6, 2001

RE: Employee Certification and Medical Reports
Project: #01-6564
Bugard Park/Portland, OR

This is to certify that all of our employees have met the required training for the Asbestos Certification Program and are certified by the Department of Environmental Quality (DEQ) under OAR Chapter 340, Division 33, and under TSCA Title II. The required training applies to both asbestos workers and supervisors.

We also certify that all of our employees have met the medical requirements as specified by OR-OSHA CFR Title 29, Part 1926.58.m. Due to the Privacy Information Act, we do not release copies of medical information forms.

If you should have any questions regarding this information, please do not hesitate to contact me at (503) 282-6013 or (360) 737-2585.

ASN-1

OREGON DEQ NOTICE OF INTENT TO REMOVE OR ENCAPSULATE FRIABLE ASBESTOS-CONTAINING MATERIAL

For DEQ use only	
Date Received	APR - 9 2001
Amount Received	$70.00
Check Number	1287
Project Number	

~~# 01-6556~~ NO

ATTENTION! This notification must be complete and received by DEQ at least 10 days before the start date of any asbestos abatement project and accompanied by the notification fee. (PLEASE TYPE OR PRINT CLEARLY)

PROJECT CATEGORY AND NOTIFICATION FEE

____ Emergency (**Emergency notifications require a 50% fee increase**)
A.____ $35 for each project with less than 40 linear or 80 square feet of asbestos-containing material and for each residential abatement project.
B.X $70 for projects from 40 to 259 linear feet or 80 to 159 square feet of asbestos-containing material.
C.____ $275 for projects from 260 to 1299 linear feet or 160 to 799 square feet of asbestos-containing material.
D.____ $375 for projects from 1300 to 2599 linear feet or 800 to 1599 square feet of asbestos-containing material.
E.____ $650 for projects from 2600 to 4999 linear feet or 1600 to 3499 square feet of asbestos-containing material.
F.____ $750 for projects from 5000 to 9999 linear feet or 3500 to 5999 square feet of asbestos-containing material.
G.____ $1,200 for projects from 10,000 to 25,999 linear feet or 6000 to 15,999 square feet of asbestos-containing material.
H.____ $2,000 for projects from 26,000 to 259,999 linear feet or 16,000 to 159,999 square feet of asbestos-containing material.
I.____ $2,500 for projects 260,000 linear feet or more or 160,000 square feet or more of asbestos-containing material.

1. Is this a revision to a previous notification? Yes ____ No ✓
2. Asbestos abatement project starting date: 4/16/01 Completion date: 4/16/01
3. Project site name: SCHNITZER BURGARD PARK Address: 3200 NW YEON AV PDX 97296 (Street) (City) (County) (ZIP)
4. Property Owner: SCHNITZE STEEL INDUSTRIES
   Address: 3200 NW YEON AV PDX OR 97296 (City) (State) (ZIP)
5. Site Contact: JAMES JAKUBIAK Phone: 503-286-6976
6. Describe physical structure of facility: STEEL STRUCTURE.
7. Give present and prior use of facility: INDUSTRIAL, HYDROGEN GENERATION PLANT.
8. Will this be a complete demolition? Yes: ____ No: ✓
   If yes, give demolition start date: ____
9. Describe type and percentage of asbestos material and where it is located in facility: MENS AND LADIES RESTROOMS 20 % CHRISOTILE ON SHEET VINYL
10. Quantity of asbestos material to be removed or encapsulated:
    Linear feet: ____ Square feet: 128
11. Abatement Contractor Name: PROJECT DEVELOPMENT GROUP INC
    Address: 2501 SE COLUMBIA WAY, VANC WA 98661 (City) (State) (ZIP)
    Phone: 503-282-6013
    DEQ license number: FSC 672
12. Describe method of removal or encapsulation: WET, METHODS IN ENCLOSURE
13. Days of week and hours of day to be worked: MONDAY 8:00 AM TO 4:30 PM
14. Oregon Certified Supervisor on this project: JOSE BALENA
    Oregon Certification #: S-08976
15. Asbestos disposal site: HILLSBORO LANDFILD
    Address: 3205 MINTER RD BRIDGE, HILLSBORO OR 97123
16. Waste Hauler: PDG
    Phone: 503-282-6013
17. Name of owner, operator, or abatement contractor: PROJECT DEVELOPMENT GROUP INC
18. Signature: EMILIO P PARRA Date: 4/6/01 Phone: 282-6013

Sign this form and mail with the fee to the DEQ Business Office, 811 SW 6th, Portland, OR 97204. Make checks payable to "DEQ". Revisions to notifications may be faxed to the appropriate DEQ regional office at: Portland NWR (503) 229-5265, Bend ER (541) 388-8283, and Medford WR (541) 776-6262.

(Revised5/98)

SCHN00240331

ASN-4

ASBESTOS WASTE SHIPMENT REPORT FORM

FRIABLE

PLEASE PRINT OR TYPE! If you have questions, contact the DEQ Asbestos Control Section located at 2020 SW 4th, Suite 400, Portland, Oregon 97201 or call (503) 229-5982, OR (800) 452-4011 for the phone number and location of your local regional DEQ office.

Permit #: 10645
P.O. #: 9603
Job #: 016564

WASTE GENERATOR: (Contractor, Facility, or Operator)

1. Asbestos removal site name and address: Schnitzer Burnside Park
   3200 N W Yeon Ave (Street) Portland (City/State) Multnomah (County) OR 97296 (Zip)
   Contact person: Jim Jokubaitis Phone: (503) 286-6976
2. Operator's name and address: PROJECT DEVELOPMENT GROUP Phone: (503) 282-6013
   2501 S.E. COLUMBIA WAY #120 (Street) VANCOUVER (City/State) CLARK (County) WA 98661 (Zip)
3. Waste disposal site: Hillsboro LANDFILL Phone: (503) 640-9427
   3205 S.E. MINTER BRIDGE ROAD (Street) HILLSBORO (City/State) WASHINGTON (County) OR 97123 (Zip)
4. Describe asbestos materials: Transite Board
5. Containers: Number: 36 bags Type: 6 mil double plastic
6. Total quantity (cubic yards): 3

7. **OPERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately Described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to government regulations. All movement of this asbestos-Containing material is recorded on this Waste Shipment Record Form.

   Name: MARSHA McCREADY Company: PROJECT DEV. GROUP
   Signature: Marsha J. McCready Date: 4-3-01

TRANSPORTER(S):

8. Transporter #1: (Acknowledgment of receipt of materials)
   Agent: MARSHA McCREADY Company: PROJECT DEVELOPMENT GROUP
   Address: 2501 SE. COLUMBIA WAY #120 VANCOUVER WA 98661 Phone: (503) 282-6013
   Signature: Marsha J. McCready Date: 4-3-01
9. Transporter #2: (Acknowledgment of receipt of materials)
   Agent: KENNETH LEACH Company: FLANNERY'S DISPOSAL
   Address: P.O. Box 1887 GRESHAM, OR 97030 Phone: (503) 777-2854
   Signature: Kenneth Leach Date: 4-3-01

DISPOSAL: (Certification of receipt of asbestos materials covered by this manifest, except as noted in item 11 below.)

10. Waste Disposal Site: HILLSBORO LANDFILL, INC.
    Name and Title: BRAD BLUE, OPERATIONS Date:
    Signature: (503) 640-9427 Phone:
    APR 03 2001

11. **DISCREPANCY SPACE:** (Add attachments as needed)

08/11/99

SCHN00240332

ASN-4 ASBESTOS WASTE SHIPMENT REPORT FORM

FRIABLE

PLEASE PRINT OR TYPE! If you have questions, contact the DEQ Asbestos Control Section located at 2020 SW 4th, Suite 400, Portland, Oregon 97201 or call (503) 229-5982, OR (800) 452-4011 for the phone number and location of your local regional DEQ office.

Permit #: 10645
P.O. #: 4629
Job #: 016564

WASTE GENERATOR: (Contractor, Facility, or Operator)

1. Asbestos removal site name and address: Schnitzer Steel
   3200 N.W. Yeon Ave (Street) Portland (City/State) Multnomah (County) OR 97296 (Zip)
   Contact person: Jerry Jakubecek Phone: (503) 286-6976
2. Operator's name and address: PROJECT DEVELOPMENT GROUP Phone: (503) 282-6013
   2501 S.E. COLUMBIA WAY #120 (Street) VANCOUVER (City/State) CLARK (County) WA 98661 (Zip)
3. Waste disposal site: HILLSBORO LANDFILL Phone: (503) 640-9427
   3205 S.E. MINTER BRIDGE ROAD (Street) HILLSBORO (City/State) WASHINGTON (County) OR 97123 (Zip)
4. Describe asbestos materials: Floor Tile
5. Containers: Number: 5 bags Type: 6 mil double plastic
6. Total quantity (cubic yards): 1/2

7. **OPERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately Described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to government regulations. All movement of this asbestos-Containing material is recorded on this Waste Shipment Record Form.

   Name: MARSHA McCREADY Company: PROJECT DEV. GROUP
   Signature: Marsha J. McCready Date: 4-24-01

TRANSPORTER(S):

8. Transporter #1: (Acknowledgment of receipt of materials)
   Agent: MARSHA McCREADY Company: PROJECT DEVELOPMENT GROUP
   Address: 2501 SE. COLUMBIA WAY #120 VANCOUVER, WA 98661 Phone: (503) 282-6013
   Signature: Marsha J. McCready Date: 4-24-01
9. Transporter #2: (Acknowledgment of receipt of materials)
   Agent: KENNETH LEACH Company: FLANNERY'S DISPOSAL
   Address: P.O. Box 1887, GRESHAM, OR 97030 Phone: (503) 777-2854
   Signature: Kenneth Leach Date: 4-24-01

DISPOSAL: (Certification of receipt of asbestos materials covered by this manifest, except as noted in item 11 below.)

10. Waste Disposal Site: HILLSBORO LANDFILL, INC.
    Name and Title: BRAD BLUE, OPERATIONS Date:
    Signature: (503) 640-9427 Phone:
    APR 24 2001

11. **DISCREPANCY SPACE:** (Add attachments as needed)

08/11/99

SCHN00240333

❖ CERTIFIED ENVIRONMENTAL CONSULTING, INC. ❖

01-6564

BULK SAMPLE ANALYSIS REPORT

CLIENT:

PROJECT DEVELOPMENT GROUP
2501 SE COLUMBIA WAY- STE 120
VANCOUVER, WA 98661

SOURCE: SCHNITZER
SAMPLED BY: CLIENT
LAB#: M-449
ANALYZED BY: TOM THOMPSON

DATE SAMPLED: 03-16-01
DATE RECEIVED: 03-16-01
DATE COMPLETED: 03-19-01

PAGE 2

ANALYTICAL METHOD: EPA, 40 CFR Part 763, Section 1, Subpart F, Appendix A, PLM/Dispersion Staining

SAMPLE ID #	SAMPLE DESCRIPTION	SAMPLE LOCATION	ASBESTOS CONTENT	OTHER MATERIAL
N01	FLOOR TILE & MASTIC	FRONT OFFICE	**FLOOR TILE:** **4% CHRYSOTILE** **MASTIC:** NONE DETECTED <1% ASBESTOS	TRACE CELLULOSE, CALCIUM CARBONATE VINYL, BINDER, ADHESIVE
N02	LINOLEUM	FRONT OFFICE BATHROOM	**20% CHRYSOTILE**	5% CELLULOSE, VINYL, CALCITE, ADHESIVE
N03	LINOLEUM	BACK OFFICE	**15% CHRYSOTILE**	5% CELLULOSE, VINYL, CALCITE, ADHESIVE
N04	LINOLEUM	BACK OFFICE	NONE DETECTED <1% ASBESTOS	20% CELLULOSE, VINYL, CALCITE, ADHESIVE

ANALYST: Tom Thompson **REVIEWED BY:**

DEVIATION FROM METHOD: NONE.
PERCENTAGES ARE ESTIMATES.
TEST RESULTS PERTAIN ONLY TO ITEMS TESTED.
* DETECTION LIMIT IS LESS THAN 1% ASBESTOS.
NON ASBESTOS MATERIALS ARE NOT NECESSARILY LISTED.

12806 NE 40TH CIRCLE • VANCOUVER, WASHINGTON 98682
PORTLAND (503) 221-7904 •VANCOUVER (360) 254-9385 •FAX (360) 891-9633

OCL # 124105

SCHN00240334

Worksite Entry Log

By signing below I warrant that I have been instructed by the contractor, or previously have the knowledge, in the hazards of asbestos exposure, use and fitting of respirators, protective clothing, use of showers, entry and exit from work areas, emergency procedures and safety equipment, and I further warrant that I will comply with these requirements and instructions.

Job Number 16669 **Project Name** Schnitzer
Contractor Project Development Group: **Date** 4-16-01

Name (print) / Signature	Time In:	Time Out:	Activity/Task
D. Jarvis	700 am	1200 am	
	1130 pm	300 pm	
Diego Martinez	700 am	1200 am	
Diego Martinez	1130 pm	300 pm	
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	

PDGEnvironmental

Sheet No. ____ of ____

DAILY SITE REPORT

PROJECT NAME: Schnitzer
PROJECT NUMBER: 16569
SHIFT START: 700

DATE: 4/16/01
DAY: Monday
SHIFT END: 5:30

LIST OF WORKERS

1. D. Martinez	7.	13.	19.
2. ~~Diego~~	8.	14.	20.
3.	9.	15.	21.
4.	10.	16.	22.
5.	11.	17.	23.
6.	12.	18.	24.

DAILY WORK DESCRIPTION AND COMMENTS
INCLUDE: PROBLEMS, DELAYS, CHANGES, PROTESTS

Met Jim J. w/ Schnitzer drove to site 9038 N Seven Rd.
Set up critical & neg air. Removed tile & vinyl (wet)
in bath areas. Final clean, demoked waste. HEPA Vacuum
edges
Took supplies to shop. Called Jim for building lockup.
Locked down floor in bath areas.

SOLUTION TO PROBLEMS:

PERSONNEL OSHA MONITORED: D. Martinez

LOCATION/ROOM NO. OF WORK AREA(S) ____ SF ____
NO. OF BAGS AND DRUMS LOADED 5E 75 NF
VISITORS

Submitted by: ____
Project Superintendent

SCHN00240336

Worksite Entry Log

By signing below I warrant that I have been instructed by the contractor, or previously have the knowledge, in the hazards of asbestos exposure, use and fitting of respirators, protective clothing, use of showers, entry and exit from work areas, emergency procedures and safety equipment, and I further warrant that I will comply with these requirements and instructions.

Job Number 01-6569 **Project Name** Schnitzer
Contractor **Project Development Group:** **Date** 3-28-01

Name (print) / Signature	Time In:	Time Out:	Activity/Task
Cesar Nadrigal G.	8:00 am pm	1:00 am pm	Remove and
Cesar Nadrigal G.	2:00	6:30	Clean-up
Ramon Martinez	8:00 am pm	1:00 am pm	Remove and
Ramon Martinez	2:00	6:30	Clean-up
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	
	am pm	am pm	

PDGEnvironmental

Sheet No. ____ of ____

DAILY SITE REPORT

PROJECT NAME: Schnitzer
PROJECT NUMBER: 01-6564
SHIFT START: 8:00 AM

DATE: 3-28-01
DAY: Wed
SHIFT END: 6:30 PM

LIST OF WORKERS

1. Cesar Madrigal	7.	13.	19.
2. Ramon Martinez	8.	14.	20.
3.	9.	15.	21.
4.	10.	16.	22.
5.	11.	17.	23.
6.	12.	18.	24.

DAILY WORK DESCRIPTION AND COMMENTS
INCLUDE: PROBLEMS, DELAYS, CHANGES, PROTESTS

we were trying to cut some kind of a bag that had metal sticks in the bag with asbestos but we were un able to cut it because we needed a different crecent rush and then had to go to the shop to pick-it up then we had to pull out pieces by piece and continue the job in to we finish it we took out 36 bags and put then in the container

SOLUTION TO PROBLEMS: NONE

PERSONNEL OSHA MONITORED: NONE

LOCATION/ROOM NO. OF WORK AREA(S) _____ SF _____
NO. OF BAGS AND DRUMS LOADED 36 BAGS
VISITORS NONE

Submitted by: Ramon Martinez
Project Superintendent

SCHN00240338

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY) 28-MAR-2001

PRODUCER 101459
Willis North America, Inc. - Regional Cert Center
11201 N. Tatum Blvd.
Suite 300
Phoenix AZ 85028
(877) 559-6769

Jan Baird

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY A: 22322-001 (SEAT) Greenwich Insurance Company

COMPANY B:

COMPANY C:

COMPANY D:

INSURED

PROJECT DEVELOPMENT GROUP, INC.
ATTN: MARSHA MCCREADY
COLUMBIA BUSINESS CENTER
2501 SE COLUMBIA WAY #120
VANCOUVER WA 98661

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY	GEC0000820-01	31-JAN-2001	31-JAN-2002	GENERAL AGGREGATE	$ 2,000,000
	X COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OP AGG	$ 2,000,000
	CLAIMS MADE [X] OCCUR				PERSONAL & ADV INJURY	$ 1,000,000
	OWNER'S & CONTRACTOR'S PROT				EACH OCCURRENCE	$ 1,000,000
	X Asbestos Abatement				FIRE DAMAGE (Any one fire)	$ 50,000
	X Lead Abatement				MED EXP (Any one person)	$ 5,000
	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT	$
	ANY AUTO				BODILY INJURY (Per person)	$
	ALL OWNED AUTOS					
	SCHEDULED AUTOS				BODILY INJURY (Per accident)	$
	HIRED AUTOS					
	NON-OWNED AUTOS				PROPERTY DAMAGE	$
	GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
	ANY AUTO				OTHER THAN AUTO ONLY:	
					EACH ACCIDENT	$
					AGGREGATE	$
A	EXCESS LIABILITY	UEC0000824-01	31-JAN-2001	31-JAN-2002	EACH OCCURRENCE	$ 1,000,000
	X UMBRELLA FORM				AGGREGATE	$ 1,000,000
	OTHER THAN UMBRELLA FORM					$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				WC STATUTORY LIMITS / OTHER	
	THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: INCL / EXCL				EL EACH ACCIDENT	$
					EL DISEASE-POLICY LIMIT	$
					EL DISEASE-EA EMPLOYEE	$
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

Certificate Holder is Additional Insured with respect to General Liability where required by written contract.
RE:Job #016564-Schnitzer Burgard Park, 3200 NW Yeon Ave, Portland, OR,97296

CERTIFICATE HOLDER

SCHNITZER STEEL INDUSTRIES
3200 NW YEON AVENUE
PORTLAND OR 97296

CANCELLATION Non-payment/Statutory

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

© ACORD CORPORATION 1988

Spill Contingency Procedures and Emergency Information

SPILL CONTINGENCY PROCEDURES

If oil/fuel associated with onsite activities is spilled, attending Schnitzer personnel should perform the following:

- IMMEDIATELY shut down transfer operations or stop leak if this can be done safely.
- Determine potential fire/explosion hazard; if hazard poses immediate threat to human life/health, evacuate facility and notify appropriate emergency agencies.
- Place absorbent pads and/or socks in the path of the spill and affected drainage area. Cover nearby catch basins if possible.
- Immediately notify supervisor and environmental staff identified below for assistance with containment, cleanup and potential notification procedures.

EMERGENCY INFORMATION

Schnitzer Steel Industries, Inc.
12005 North Burgard Road
Portland, Oregon 97203-6432

EMERGENCY NUMBERS

Ambulance 911
Fire 911
Police 911

Nearest Emergency Medical Facility:
Emmanuel Hospital (503)413-2200
2801 North Gantenbein
Portland, Oregon 97227

Primary Environmental Staff Contacts:

Mathew Cusma (after hours) (503)209-6057
Office: (503)286-6944

Jim Jakubiak (Cell number) (360)241-5575
(Alt. number) (503)519-4795
Office: (503)286-6976

National Response Center 24-Hour Spill Reporting Number: 1-800-424-8802

Oregon Emergency Management Division 24-Hour Spill Reporting Number: 1-800-452-0311

Coast Guard (503)240-9300

Marine Fire and Safety (503)220-2055

Spill Supplies/Equipment

Spill kits are located throughout facility. Extra absorbent materials are located in maintenance shop area (Building B)

PetroSorb - 2800 NW 31st Avenue, Portland, Oregon (503) 205-7750

Spill Information Needed

- Reporting Party
- Contact Phone Number(s)
- Responsible Party
- Material Released
- Resources Damages
- Quantity
- Concentration
- Location
- Cleanup Status

Schnitzer Steel Industries, Inc.

Transmittal

To: Jamie Wilson, SSI
Rod Monroe, SMG
Brian O'Neal, PES

From: Jim Jakubiak **Date:** 3/29/2006

Re: Schnitzer Stormwater Evaluation Information

CC:

☐ **Urgent** ☑ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **For Your Use**

Information requested by SMG and PES is attached for your use in evaluating storm water quality and site conditions for Schnitzer's Portland Facility. Additional information will be forwarded as it becomes available. The information provided with this packet includes:

- Storm Water Pollution Prevention Plan
- NPDES General Storm Water Permit
- Spill Prevention, Control and Countermeasures (SPCC) Plan
- Summary of Available Storm Water Data
- DEQ Notices – New Permit Requirements
- DEQ Portland Harbor Information
- Recent City of Portland Environmental Services Correspondence

SCHN00240342

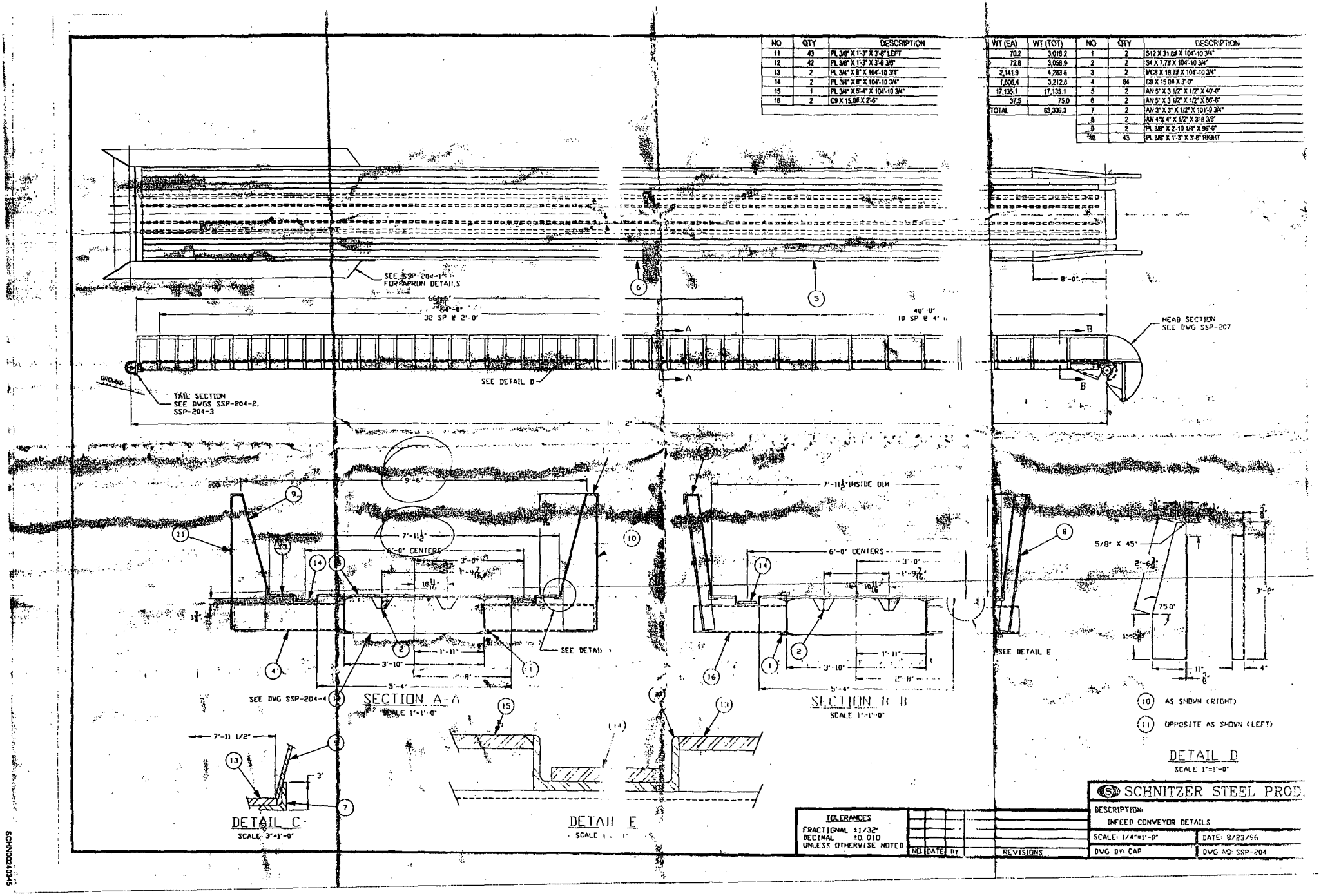
- Historical Site Maps
- Burgard Industrial Park – Consultant Reports

SSI - IT
INFEED CONVEYOR SYSTEM

SCHN00240344

NO	QTY	DESCRIPTION	WT (EA)	WT (TOT)
11	43	PL 3/8" X 1'-3" X 3'-8" LEFT	70.2	3,018.2
12	42	PL 3/8" X 1'-3" X 3'-8 3/8"	72.8	3,056.9
13	2	PL 3/4" X 8" X 104'-10 3/4"	2,141.9	4,283.8
14	2	PL 3/4" X 8" X 104'-10 3/4"	1,606.4	3,212.8
15	1	PL 3/4" X 5'-4" X 104'-10 3/4"	17,135.1	17,135.1
16	2	C9 X 15.0# X 2'-6"	37.5	75.0
			TOTAL	63,306.3

NO	QTY	DESCRIPTION
1	2	S12 X 31.8# X 104'-10 3/4"
2	2	S4 X 7.7# X 104'-10 3/4"
3	2	WC8 X 18.7# X 104'-10 3/4"
4	84	C9 X 15.0# X 3'-0"
5	2	AN 5" X 3 1/2" X 1/2" X 40'-0"
6	2	AN 5" X 3 1/2" X 1/2" X 66'-6"
7	2	AN 3" X 3" X 1/2" X 101'-9 3/4"
8	2	AN 4"X 4" X 1/2" X 3'-8 3/8"
9	2	PL 3/8" X 2'-10 1/4" X 98'-6"
10	43	PL 3/8" X 1'-3" X 3'-8" RIGHT



TOLERANCES
FRACTIONAL ±1/32"
DECIMAL ±0.010
UNLESS OTHERWISE NOTED

NO	DATE	BY	REVISIONS

SCHNITZER STEEL PROD.

DESCRIPTION: INFEED CONVEYOR DETAILS

SCALE: 1/4"=1'-0" | DATE: 9/23/96

DWG BY: CAP | DWG NO: SSP-204

SCHN00240345

LETTER OF TRANSMITTAL

TRT ENGINEERING, INC
2636 SE Market St
Portland, Oregon 97214
Phone (503) 235-7592
Fax (503) 235-7593

TO: Schnitzer Steel Industries
P.O. Box 10047
Portland, OR 97296-0047

DATE: 3/8/03
ATTENTION: Jim Jakubiak
JOB NUMBER:

Outfall 14

WE ARE SENDING YOU:

COPIES	DATE	NO.	DESCRIPTION
1	3/8/03	2	Storm Drain Plan + Profile / Details

Jim,
I sent a copy to Harley - Munitor Construction

COPY TO: Munitor construction SIGNED: Tim Turner

SCHN00240356

PACIFIC UNDERGROUND INSTALLATIONS INC.

August 2, 2001

To: Jim Jakubiak
Schnitzer Steel Industries
Portland, Oregon

From: Steve Robinson

PROJECT: Additional detention system
Burgard Yards, Portland, Oregon

Excavate, install 65 foot long detention system, One (1) manhole plus three (3) concrete aprons;

$ 42,500.00

4544 N.E.102nd • PORTLAND, OREGON 97220 • 503 - 255-5368

PACIFIC UNDERGROUND INSTALLATIONS INC

SITE PREPARATION UNDERGROUND UTILITIES

DIGGIN' IT !!

DATE SENT: 7-19-01

TO: Jim Jakubiak **FAX: 503 286-6948**
Schnitzer Steel Industries Inc.

FROM: Steve Robinson

COMPANY: *PACIFIC UNDERGROUND INSTALLATIONS INC.*

FAX: (503) 255-7901 **PHONE: (503) 255-5368**

2 including COVER SHEET

COMMENTS:

PACIFIC UNDERGROUND INSTALLATIONS INC.

July 19, 2001

To: Jim Jakubiak
Schnitzer Steel Industries
Portland, Oregon

From: Steve Robinson

PROJECT: Additional detention system
Burgard Yards, Portland, Oregon

Excavate, Install 65 foot long detention system, One (1) manhole plus three (3) concrete aprons; Asphalt replacement;

$ 50,420.00

4544 N.E.102nd • PORTLAND, OREGON 97220 • 503 - 255-5368

IT DRAINAGE/STORMWATER SOURCE CONTROL COST ESTIMATE			
ITEM DESCRIPTION	**UNIT COST**	**AMOUNT**	**COST**
Site Improvements			
Basin 7 Design	$ 2,000.00	lump sum	$ 2,000.00
Engineering Design/Construction Oversight Assumes 1 week const., 3 visits /week	$ 3,000.00	lump sum	$ 3,000.00
Basin 7 Materials/Construction (Preliminary Design Only)	$ 35,000.00	estimated	$ 35,000.00
Sand Filtration Units/Materials/Const. See Attached Drawing & Bid (Basins 3,4,5 & 6)	$ 160,000.00	lump sum	$ 160,000.00
Engineering Design/Construction Oversight Assumes 3-4 weeks const., 3 visits /week	$ 15,000.00	lump sum	$ 15,000.00
Construction/Installation Subtotal			**$ 215,000.00**
Operations & Maintenance			
Sand Replacement 150 cubic yards	$ 5.00 per yard	150 yards	$ 750.00
Cleaning Vac Truck (once per year-confined space)	$ 33,895.00 per year	1 years	$ 33,895.00
Oily solids disposal (non-haz)	$ 7,500.00 per year	1 years	$ 7,500.00
Discharge monitoring Sample analysis, $1290/event, twice per year	$ 2,580.00 per year	1 years	$ 2,580.00
Annual Permit Compliance Fee	$ 275.00 per year	1 years	$ 275.00
O&M Subtotal (1 year)			**$ 45,000.00**
TOTAL			**$ 260,000.00**

Notes: This project should be eligible for tax credits from the State of Oregon (pollution control equipment) and from the City of Portland (Clean River Discounts).

Report Date: March 1, 1995
Job Number: 950221AI
PO Number: 22704
Project No: None Provided
Project Name: Feb. Outfall

Attention: Keith Lawson
Schnitzer Steel Industries,Inc
12005 N. Burgard Rd.
Portland, OR 97203

Analytical Narrative

The samples were received on 02/21/95 by Coffey Laboratories, Inc. (CLI) Sample Reception personnel under strict chain of custody protocol. The following information was provided at the time of sample reception:

Laboratory Sample ID	Field Identification	Matrix	Collection Date	Collection Time
950221AI-1	Sample #2	Storm Water	02/17/95	NP
950221AI-2	Sample #3	Storm Water	02/17/95	NP
950221AI-3	Sample #4	Storm Water	02/17/95	NP
950221AI-4	Sample #5	Storm Water	02/17/95	NP
950221AI-5	Sample #6	Storm Water	02/17/95	NP
950221AI-6	Sample #7	Storm Water	02/17/95	NP
950221AI-7	Sample #11	Storm Water	02/17/95	NP
950221AI-8	Sample #12	Storm Water	02/17/95	NP
950221AI-9	Sample #14	Storm Water	02/17/95	NP
950221AI-10	Sample #15	Storm Water	02/17/95	NP
950221AI-11	Sample #16	Storm Water	02/17/95	NP
950221AI-12	Sample #17	Storm Water	02/17/95	NP
950221AI-13	Sample #18	Storm Water	02/17/95	NP

COFFEY LABORATORIES, INC.
12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Job Number: 950221AI

Analytical Narrative (continued)

The recommended holding time for each batch of analyses was in accordance with the data quality objectives as specified in the CLI Quality Assurance Plan unless otherwise noted.

EPA 150.1: The samples were received at the laboratory and analyzed for pH four (4) days after the method holding time had expired.

Acceptable precision and accuracy were achieved for all analyses associated with this work order as demonstrated by the recoveries of the quality control samples analyzed concurrently with each batch.

The data submitted in this report is for the sole and exclusive use of the above-named client. All samples associated with the work order will be retained a maximum of 15 days from the report date or until the maximum holding time expires. All results pertain only to samples submitted.

Thank you for allowing Coffey Laboratories to be of service to you. If you have questions or need further assistance, please do not hesitate to call our Customer Services Department.

Sincerely,

Rona A. Klueh
Technical Director

RAK/atc

COFFEY LABORATORIES, INC.
12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-1
Field ID: Sample #2
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	210	µmhos/cm
pH	EPA 150.1	---	7.32	S.U.
Total Suspended Solids	EPA 160.2	4.	32.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	37.	mg/L
Total Organic Carbon	EPA 415.1	1.	15.	mg/L
Total Oil & Grease	SM 5520BF	3.	ND	mg/L
Polar Oil & Grease	SM 5520BF	3.	ND	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	ND	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	0.009	mg/L
Copper	CFR 200.7	0.02	0.05	mg/L
Lead	CFR 200.7	0.05	0.08	mg/L
Nickel	CFR 200.7	0.01	ND	mg/L
Zinc	CFR 200.7	0.02	0.64	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	0.004	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-2
Field ID: Sample #3
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	430	µmhos/cm
pH	EPA 150.1	----	8.15	S.U.
Total Suspended Solids	EPA 160.2	10.	340	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	300	mg/L
Total Organic Carbon	EPA 415.1	1.	57.	mg/L
Total Oil & Grease	SM 5520BF	3.	19.	mg/L
Polar Oil & Grease	SM 5520BF	3.	9.	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	10	mg/L

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Cadmium	CFR 200.7	0.005	0.031	mg/L
Chromium	CFR 200.7	0.005	0.15	mg/L
Copper	CFR 200.7	0.02	0.55	mg/L
Lead	CFR 200.7	0.05	1.1	mg/L
Nickel	CFR 200.7	0.01	0.11	mg/L
Zinc	CFR 200.7	0.04	6.7	mg/L
Arsenic	EPA 206.2	0.005	0.013	mg/L
Mercury	EPA 245.1	0.0005	0.0029	mg/L

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-3
Field ID: Sample #4
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	80.	µmhos/cm
pH	EPA 150.1	----	7.84	S.U.
Total Suspended Solids	EPA 160.2	10.	250	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	80.	mg/L
Total Organic Carbon	EPA 415.1	1.	3.	mg/L
Total Oil & Grease	SM 5520BF	3.	12.	mg/L
Polar Oil & Grease	SM 5520BF	3.	6.	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	6.	mg/L

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	0.043	mg/L
Copper	CFR 200.7	0.02	0.08	mg/L
Lead	CFR 200.7	0.05	0.18	mg/L
Nickel	CFR 200.7	0.01	0.02	mg/L
Zinc	CFR 200.7	0.02	0.43	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	0.002	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-4
Field ID: Sample #5
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	100	µmhos/cm
pH	EPA 150.1	----	9.80	S.U.
Total Suspended Solids	EPA 160.2	4.	28.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	8.	mg/L
Total Organic Carbon	EPA 415.1	1.	5.	mg/L
Total Oil & Grease	SM 5520BF	3.	ND	mg/L
Polar Oil & Grease	SM 5520BF	3.	ND	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	ND	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	ND	mg/L
Copper	CFR 200.7	0.02	ND	mg/L
Nickel	CFR 200.7	0.01	ND	mg/L
Zinc	CFR 200.7	0.02	0.03	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	ND	mg/L
Lead	EPA 239.2	0.001	0.005	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-5
Field ID: Sample #6
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	950	µmhos/cm
pH	EPA 150.1	---	7.61	S.U.
Total Suspended Solids	EPA 160.2	4.	140	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	140	mg/L
Total Organic Carbon	EPA 415.1	1.	3.	mg/L
Total Oil & Grease	SM 5520BF	3.	16.	mg/L
Polar Oil & Grease	SM 5520BF	3.	6.	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	11.	mg/L

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	0.056	mg/L
Copper	CFR 200.7	0.02	0.16	mg/L
Lead	CFR 200.7	0.05	0.33	mg/L
Nickel	CFR 200.7	0.01	0.06	mg/L
Zinc	CFR 200.7	0.02	1.2	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	0.004	mg/L
Mercury	EPA 245.1	0.0005	0.0016	mg/L

ND means none detected at or above the detection limit listed.

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-6
Field ID: Sample #7
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	130	µmhos/cm
pH	EPA 150.1	—	8.77	S.U.
Total Suspended Solids	EPA 160.2	10.	80	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	ND	mg/L
Total Organic Carbon	EPA 415.1	1.	4.	mg/L
Total Oil & Grease	SM 5520BF	3.	7.	mg/L
Polar Oil & Grease	SM 5520BF	3.	4.	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	3.	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	0.010	mg/L
Copper	CFR 200.7	0.02	0.02	mg/L
Nickel	CFR 200.7	0.01	ND	mg/L
Zinc	CFR 200.7	0.02	0.09	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	ND	mg/L
Lead	EPA 239.2	0.003	0.064	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-7
Field ID: Sample #11
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	120	µmhos/cm
pH	EPA 150.1	----	8.86	S.U.
Total Suspended Solids	EPA 160.2	10.	180	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	6.	mg/L
Total Organic Carbon	EPA 415.1	1.	3.	mg/L
Total Oil & Grease	SM 5520BF	3.	ND	mg/L
Polar Oil & Grease	SM 5520BF	3.	ND	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	ND	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	0.010	mg/L
Copper	CFR 200.7	0.02	0.04	mg/L
Lead	CFR 200.7	0.05	0.08	mg/L
Nickel	CFR 200.7	0.01	ND	mg/L
Zinc	CFR 200.7	0.02	0.14	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	ND	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-8
Field ID: Sample #12
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	520	µmhos/cm
pH	EPA 150.1	---	7.73	S.U.
Total Suspended Solids	EPA 160.2	10.	140	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	96.	mg/L
Total Organic Carbon	EPA 415.1	1.	9.	mg/L
Total Oil & Grease	SM 5520BF	3.	10	mg/L
Polar Oil & Grease	SM 5520BF	3.	7.	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	3.	mg/L

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	0.084	mg/L
Copper	CFR 200.7	0.02	0.35	mg/L
Lead	CFR 200.7	0.05	0.78	mg/L
Nickel	CFR 200.7	0.01	0.05	mg/L
Zinc	CFR 200.7	0.02	1.1	mg/L
Arsenic	EPA 206.2	0.005	0.012	mg/L
Cadmium	EPA 213.2	0.001	0.004	mg/L
Mercury	EPA 245.1	0.0005	0.0025	mg/L

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-9
Field ID: Sample #14
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	620	µmhos/cm
pH	EPA 150.1	—	9.08	S.U.
Total Suspended Solids	EPA 160.2	4.	40.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	74.	mg/L
Total Organic Carbon	EPA 415.1	1.	14.	mg/L
Total Oil & Grease	SM 5520BF	3.	8.	mg/L
Polar Oil & Grease	SM 5520BF	3.	4.	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	4.	mg/L

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	0.039	mg/L
Copper	CFR 200.7	0.02	0.11	mg/L
Lead	CFR 200.7	0.05	0.21	mg/L
Nickel	CFR 200.7	0.01	0.02	mg/L
Zinc	CFR 200.7	0.02	0.52	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	0.002	mg/L
Mercury	EPA 245.1	0.0005	0.0010	mg/L

ND means none detected at or above the detection limit listed.

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-10
Field ID: Sample #15
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	380	µmhos/cm
pH	EPA 150.1	---	7.74	S.U.
Total Suspended Solids	EPA 160.2	1.	22.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	34.	mg/L
Total Organic Carbon	EPA 415.1	1.	10.	mg/L
Total Oil & Grease	SM 5520BF	3.	11.	mg/L
Polar Oil & Grease	SM 5520BF	3.	4.	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	7.	mg/L

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	0.012	mg/L
Copper	CFR 200.7	0.02	0.07	mg/L
Lead	CFR 200.7	0.05	0.09	mg/L
Nickel	CFR 200.7	0.01	0.02	mg/L
Zinc	CFR 200.7	0.02	0.20	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	ND	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-11
Field ID: Sample #16
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	200	µmhos/cm
pH	EPA 150.1	----	7.53	S.U.
Total Suspended Solids	EPA 160.2	1.	6.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	41.	mg/L
Total Organic Carbon	EPA 415.1	1.	11.	mg/L
Total Oil & Grease	SM 5520BF	3.	8.	mg/L
Polar Oil & Grease	SM 5520BF	3.	4.	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	4.	mg/L

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	ND	mg/L
Copper	CFR 200.7	0.02	ND	mg/L
Nickel	CFR 200.7	0.01	0.03	mg/L
Zinc	CFR 200.7	0.02	0.06	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	0.003	mg/L
Lead	EPA 239.2	0.001	0.017	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-12
Field ID: Sample #17
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	190	µmhos/cm
pH	EPA 150.1	----	7.62	S.U.
Total Suspended Solids	EPA 160.2	2.	8.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	8.	mg/L
Total Organic Carbon	EPA 415.1	1.	ND	mg/L
Total Oil & Grease	SM 5520BF	3.	ND	mg/L
Polar Oil & Grease	SM 5520BF	3.	ND	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	ND	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	0.017	mg/L
Copper	CFR 200.7	0.02	ND	mg/L
Nickel	CFR 200.7	0.01	ND	mg/L
Zinc	CFR 200.7	0.02	0.09	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	ND	mg/L
Lead	EPA 239.2	0.001	0.002	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 950221AI

Lab Sample ID: 950221AI-13
Field ID: Sample #18
Date/Time: 02/17/95
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	1800	µmhos/cm
pH	EPA 150.1	----	7.64	S.U.
Total Suspended Solids	EPA 160.2	2.	36.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	550	mg/L
Total Organic Carbon	EPA 415.1	1.	210	mg/L
Total Oil & Grease	SM 5520BF	3.	15.	mg/L
Polar Oil & Grease	SM 5520BF	3.	ND	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	13.	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Chromium	CFR 200.7	0.005	0.010	mg/L
Copper	CFR 200.7	0.02	0.23	mg/L
Lead	CFR 200.7	0.05	0.07	mg/L
Nickel	CFR 200.7	0.01	0.04	mg/L
Zinc	CFR 200.7	0.02	0.27	mg/L
Arsenic	EPA 206.2	0.005	0.009	mg/L
Cadmium	EPA 213.2	0.001	0.001	mg/L
Mercury	EPA 245.1	0.0005	0.0013	mg/L

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COFFEY LABORATORIES, INC
12423 NE Whitaker Way
Portland, Oregon 97230
Phone (503) 254-1794

INVOICE

Invoice#: 9502-60629 Page# 1
Inv Date: 03/01/1995
Due Date: 03/31/1995
Account: SCHNITZERS

Billing Address
Chuck Howell
Schnitzer Steel Ind., Inc.
12005 N. Burgard Road
Portland, OR 97203

Reporting Address
Keith Lawson
Schnitzer Steel Industries,Inc
12005 N. Burgard Rd.
Portland, OR 97203

Samples Received: 02/21/95
Coffey Labs Job#: 950221AI
Project No.: None Provided
Project Name: Feb. Outfall
Purchase Order #: 22704

Item#	DESCRIPTION		BASE PRICE	DISC	UNIT PRICE	UNITS	TOTAL
1	ICP-Total Cu Ni Zn	STANDARD	$48.00	25%	$36.00	13	$468.00
2	Phys: Conductivity: Water Samples Only	STANDARD	$18.00	27%	$13.00	13	$169.00
3	pH: multi parameter testing	STANDARD	$6.00	33%	$4.00	13	$52.00
4	Solids: TSS (Total Suspended Solids) (non-filter)	STANDARD	$18.00	27%	$13.00	13	$169.00
5	HGA-Total As	STANDARD	$20.00	40%	$12.00	13	$156.00
6	HGA-Total Cd	STANDARD	$20.00	40%	$12.00	13	$156.00
7	HGA-Total Cr	STANDARD	$20.00	40%	$12.00	13	$156.00
8	HGA-Total Pb	STANDARD	$20.00	40%	$12.00	13	$156.00
9	Mercury-Cold Vapor: Total Hg in Aqueous Samples	STANDARD	$32.00	37%	$20.00	13	$260.00
10	COD: Chemical Oxygen Demand; Spectrophotometric	STANDARD	$18.00	27%	$13.00	13	$169.00
11	TOC: Total Organic Carbon in water samples only	STANDARD	$37.00	24%	$28.00	13	$364.00
12	TPH/Oil & Grease Combination-Gravimetric	STANDARD	$55.00	20%	$44.00	13	$572.00

Terms: Net 30 Days
A 1.5% per month finance charge will be added after 30 days on any unpaid balance

TOTAL AMOUNT DUE 2,847.00

THANK YOU FOR YOUR BUSINESS.

ORIGINAL

SCHN00240394

Report Date: November 9, 1994
Job Number: 941028F
PO Number: 21625
Project No: None Provided
Project Name: Oct 94 Stormwater

Attention: Keith Lawson
Schnitzer Steel Industries,Inc
P.O. Box 10047
Portland, OR 97233

Analytical Narrative

The samples were received on 10/28/94 by Coffey Laboratories, Inc. (CLI) Sample Reception personnel under strict chain of custody protocol. The following information was provided at the time of sample reception:

Laboratory Sample ID	Field Identification	Matrix	Collection Date	Collection Time
941028F-1	Sample #3	Storm Water	10/27/94	1:30
941028F-2	Sample #4	Storm Water	10/27/94	1:30
941028F-3	Sample #6	Storm Water	10/27/94	1:30
941028F-4	Sample #7	Storm Water	10/27/94	1:30
941028F-5	Sample #11	Storm Water	10/27/94	1:30
941028F-6	Sample #12	Storm Water	10/27/94	1:30
941028F-7	Sample #14	Storm Water	10/27/94	1:30

The recommended holding time for each batch of analyses was in accordance with the data quality objectives as specified in the CLI Quality Assurance Plan unless otherwise noted.

EPA 150.1: The samples were received at the laboratory and analyzed for pH one (1) day after the method holding time had expired.

Acceptable precision and accuracy were achieved for all analyses associated with this work order as demonstrated by the recoveries of the quality control samples analyzed concurrently with each batch.

The data submitted in this report is for the sole and exclusive use of the above-named client. All samples associated with the work order will be retained a maximum of 15 days from the report date or until the maximum holding time expires. All results pertain only to samples submitted.

Thank you for allowing Coffey Laboratories to be of service to you. If you have questions or need further assistance, please do not hesitate to call our Customer Services Department.

Sincerely,

Rona A. Klueh
Technical Director

RAK/atc

COFFEY LABORATORIES, INC.
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Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 941028F

Lab Sample ID: 941028F-1
Field ID: Sample #3
Date/Time: 10/27/94 1:30
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	44.	µmhos/cm
pH	EPA 150.1	----	7.52	S.U.
Total Suspended Solids	EPA 160.2	1.	8.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	22.	mg/L
Total Organic Carbon	EPA 415.1	1.	6.	mg/L
Total Oil & Grease	SM 5520BF	3.	6.	mg/L
Polar Oil & Grease	SM 5520BF	3.	ND	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	4.	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Copper	CFR 200.7	0.02	0.04	mg/L
Nickel	CFR 200.7	0.01	ND	mg/L
Zinc	CFR 200.7	0.02	0.16	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	ND	mg/L
Chromium	EPA 218.2	0.001	0.004	mg/L
Lead	EPA 239.2	0.001	0.025	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

COFFEY LABORATORIES, INC.
12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 941028F

Lab Sample ID: 941028F-2
Field ID: Sample #4
Date/Time: 10/27/94 1:30
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	83.	µmhos/cm
pH	EPA 150.1	----	7.74	S.U.
Total Suspended Solids	EPA 160.2	1.	30.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	22.	mg/L
Total Organic Carbon	EPA 415.1	1.	6.	mg/L
Total Oil & Grease	SM 5520BF	3.	ND	mg/L
Polar Oil & Grease	SM 5520BF	3.	ND	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	ND	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Copper	CFR 200.7	0.02	0.13	mg/L
Nickel	CFR 200.7	0.01	ND	mg/L
Zinc	CFR 200.7	0.02	0.13	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	ND	mg/L
Chromium	EPA 218.2	0.005	0.080	mg/L
Lead	EPA 239.2	0.001	0.033	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

COFFEY LABORATORIES, INC.
12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 941028F

Lab Sample ID: 941028F-3
Field ID: Sample #6
Date/Time: 10/27/94 1:30
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	140	µmhos/cm
pH	EPA 150.1	----	8.88	S.U.
Total Suspended Solids	EPA 160.2	1.	54.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	29.	mg/L
Total Organic Carbon	EPA 415.1	1.	4.	mg/L
Total Oil & Grease	SM 5520BF	3.	8.	mg/L
Polar Oil & Grease	SM 5520BF	3.	ND	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	5.	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Copper	CFR 200.7	0.02	0.03	mg/L
Nickel	CFR 200.7	0.01	ND	mg/L
Zinc	CFR 200.7	0.02	0.06	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	ND	mg/L
Chromium	EPA 218.2	0.001	0.013	mg/L
Lead	EPA 239.2	0.001	0.031	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

COFFEY LABORATORIES, INC.
12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 941028F

Lab Sample ID: 941028F-4
Field ID: Sample #7
Date/Time: 10/27/94 1:30
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	96.	μmhos/cm
pH	EPA 150.1	----	9.71	S.U.
Total Suspended Solids	EPA 160.2	1.	32.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	22.	mg/L
Total Organic Carbon	EPA 415.1	1.	2.	mg/L
Total Oil & Grease	SM 5520BF	3.	ND	mg/L
Polar Oil & Grease	SM 5520BF	3.	ND	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	ND	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Copper	CFR 200.7	0.02	0.04	mg/L
Nickel	CFR 200.7	0.01	ND	mg/L
Zinc	CFR 200.7	0.02	0.05	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	ND	mg/L
Chromium	EPA 218.2	0.001	0.010	mg/L
Lead	EPA 239.2	0.001	0.017	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

COFFEY LABORATORIES, INC.
12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 941028F

Lab Sample ID: 941028F-5
Field ID: Sample #11
Date/Time: 10/27/94 1:30
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	530	µmhos/cm
pH	EPA 150.1	---	7.66	S.U.
Total Suspended Solids	EPA 160.2	1.	76.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	44.	mg/L
Total Organic Carbon	EPA 415.1	1.	9.	mg/L
Total Oil & Grease	SM 5520BF	3.	5.	mg/L
Polar Oil & Grease	SM 5520BF	3.	4.	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	ND	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Copper	CFR 200.7	0.02	0.05	mg/L
Nickel	CFR 200.7	0.01	ND	mg/L
Zinc	CFR 200.7	0.02	0.13	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	ND	mg/L
Chromium	EPA 218.2	0.001	0.014	mg/L
Lead	EPA 239.2	0.002	0.056	mg/L
Mercury	EPA 245.1	0.0005	ND	mg/L

ND means none detected at or above the detection limit listed.

COFFEY LABORATORIES, INC.
12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 941028F

Lab Sample ID: 941028F-6
Field ID: Sample #12
Date/Time: 10/27/94 1:30
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	570	µmhos/cm
pH	EPA 150.1	----	7.32	S.U.
Total Suspended Solids	EPA 160.2	1.	65.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	120	mg/L
Total Organic Carbon	EPA 415.1	1.	27.	mg/L
Total Oil & Grease	SM 5520BF	3.	7.	mg/L
Polar Oil & Grease	SM 5520BF	3.	5.	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	ND	mg/L

ND means none detected at or above the detection limit listed.

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Copper	CFR 200.7	0.02	0.19	mg/L
Lead	CFR 200.7	0.05	0.32	mg/L
Nickel	CFR 200.7	0.01	0.02	mg/L
Zinc	CFR 200.7	0.02	0.60	mg/L
Arsenic	EPA 206.2	0.005	0.006	mg/L
Cadmium	EPA 213.2	0.001	0.003	mg/L
Chromium	EPA 218.2	0.002	0.054	mg/L
Mercury	EPA 245.1	0.0005	0.0016	mg/L

COFFEY LABORATORIES, INC.
12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

Analytical Data

Schnitzer Steel Industries,Inc

Job Number: 941028F

Lab Sample ID: 941028F-7
Field ID: Sample #14
Date/Time: 10/27/94 1:30
Matrix: Storm Water

EPA Category: Conventional Parameters

Parameter	Method	Detection Limit	Analytical Result	Units
Conductivity	EPA 120.1	0.5	73.	µmhos/cm
pH	EPA 150.1	----	7.76	S.U.
Total Suspended Solids	EPA 160.2	1.	81.	mg/L
Chemical Oxygen Demand	EPA 410.4	1.	49.	mg/L
Total Organic Carbon	EPA 415.1	1.	3.	mg/L
Total Oil & Grease	SM 5520BF	3.	11.	mg/L
Polar Oil & Grease	SM 5520BF	3.	8.	mg/L
Total Petroleum Hydrocarbons	SM 5520BF	3.	4.	mg/L

EPA Category: Metals

Parameter	Method	Detection Limit	Analytical Result	Units
Copper	CFR 200.7	0.02	0.11	mg/L
Nickel	CFR 200.7	0.01	0.01	mg/L
Zinc	CFR 200.7	0.02	0.39	mg/L
Arsenic	EPA 206.2	0.005	ND	mg/L
Cadmium	EPA 213.2	0.001	0.002	mg/L
Chromium	EPA 218.2	0.001	0.036	mg/L
Lead	EPA 239.2	0.005	0.19	mg/L
Mercury	EPA 245.1	0.0005	0.0006	mg/L

ND means none detected at or above the detection limit listed.

COFFEY LABORATORIES, INC.
12423 N.E. Whitaker Way • Portland, OR • 97230 • (503) 254-1794 • FAX (503) 254-1452

MT. HOOD
CHEMICAL CORPORATION
4444 N.W. Yeon Avenue Portland, Oregon 97210

FAX # (503) 225-9143

DATE: 5/13/94

TO: Schnitzer

ATTN: Keith

FAX #: 286-6956

FROM: Brenda / Perry Kerin

4 PAGES INCLUDING COVER PAGE

Fluorescein Dye 1 Pt = 8.00
1 Qt = 14.00

(503) 227-3505 / FAX (503) 225-9143 / TOLL FREE (800) 547-2594

HMIS
H: 0
F: 0
R: 0
O: None

KEYSTONE-INGHAM CORP MATERIAL SAFETY DATA SHEET

KEYSTONE-INGHAM CORPORATION
P.O. Box 1296
La Mirada, CA 90637
(213) 802-3937

Date Prepared: 10-17-85
Date Revised:

IDENTIFICATION

Common Name : (used on label)

CAS No.: 518-47-8 (Mixture containing,)

Chemical Name or
Trade Name: Fluorescein, disodium

Product Class: Acid Dye

Molecular Formula: $C_{20}H_{10}O_5 \cdot 2Na$

HAZARDOUS INGREDIENTS

(CAS Reg. No.) None

PHYSICAL & CHEMICAL CHARACTERISTICS (Fire & Explosion Data)

Specific Gravity (H_2O=1): NA

Vapor Density (Air=1): NA

Solubility in Water: Soluble in water

Reactivity in Water: None known

Appearance and Odor: Red-orange powder

Flash Point: NA

Extinguishing Media: Waterfog, carbon dioxide, dry chemical

Special Fire
Fighting Procedures: None

Unusual Fire and
Explosion Hazards: None

PHYSICAL HAZARDS

Stability: Unstable
Stable

Conditions
to Avoid: None

Incompatability: None known
(Materials to Avoid)

Hazardous
Decomposition Products: Burning may yield carbon monoxide.

Hazardous
Polymerization: May Occur
Will Not Occur

HEALTH HAZARDS

Signs and
Symptoms of Exposure: Exposed skin areas may be temporarily stained by this product.

Acute Overexposure: No significant health hazard is expected to result under conditions of normal usage of this material.

Medical Conditions Generally
Aggravated by Exposure: UI

Chemical Listed as Carcinogen
or Potential Carinogen: No citation found

OSHA Permissible
Exposure Limit: Not established

ACGIH Threshold
Limit Value: Not established

Emergency and
First Aid Procedures:

1. Inhalation: This material is not expected to be an inhalation problem.

2. Eyes: Flush eyes with plenty of low pressure water. If irritation exists obtain medical attention.

3. Skin: Wash exposed skin areas with soap and water.

4. Ingestion: If large amounts of product are ingested obtain medical attention.

SPECIAL PROTECTION INFORMATION

Respiratory Protection: An approved dust respirator should be worn.

Ventilation: Sufficient to prevent inhalation of dusts.

Protective Gloves: Recommended

Eye Protection: Safety goggles

Other Protective Clothing or Equipment: NA

SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be Taken
in Handling and Storage: Store in dry area. Protect containers from physical damage.

Other Precautions: In accord with good industrial practices handle with due care and avoid personal contact.

Steps to be Taken in Case
Material is Released or Spilled: Sweep up spilled material and discard into proper waste container. Provide adequate ventilation during clean up. Wear proper respiratory protection.

Waste Disposal Methods: Dispose of according to federal, state and local regulations.

NA - Not Applicable UI - Unavailable Information

This information is furnished without warranty, representation, or license of any kind, except that it is accurate to the best of the Keystone-Ingham Corporation's knowledge or obtained from sources believed by the Keystone-Ingham Corporation to be accurate. The Keystone-Ingham Corporation does not assume any legal responsibility for use or reliance upon same. Customers are encouraged to conduct their own tests. Before using any product read its label.

SCHNITZER STEEL PRODUCTS CO.

3200 N.W. Yeon Ave. P.O. Box 10047 Portland, Oregon 97210
Phone 503/224-9900 Telex/W.U.36-0144 FAX 503/323-2793

Oct. 6, 1993

Department of Environmental Quality
Business Office
811 S.W. Sixth Avenue
Portland, OR 97204

Dear sir/madam:

Enclosed please find the followings:

1) A completed DEQ Registration Application for the General Storm Water Permit.

2) A Land Use Compatibility Statement.

3) A $300 permit application fee.

4) A site drainage map.

Schnitzer Steel Products Co. has participated in the Group Application process through Institute of Scrap Recycling Industries, Inc. (ISRI) to obtain a National Pollutant Discharge Elimination System (NPDES) permit for the storm water discharge from our facility. ISRI has probably provided the information about the Group Application process for DEQ. However, please contact Ms. Robin Wiener, ISRI, at (202) 466-4050 if you need more information about it.

If you have any questions, give me a call at (503) 472-4181.

Sincerely,

Daniel Lee

Daniel Lee
Environmental Specialist

cc: Peter Kramer, SSP
Tom Zelenka, SSI

SUBMIT APPLICATION TO:

DEPARTMENT OF ENVIRONMENTAL QUALITY
Business Office
811 S.W. Sixth Avenue
Portland, OR 97204
(503) 229-6308

REGISTRATION APPLICATION FOR GENERAL STORM WATER PERMIT

STATE OF OREGON

(Attach additional sheets if necessary.)

OFFICIAL DEQ USE ONLY

Date Received: _____
Amount Received: _____
Application No.: _____
File No.: _____

I. FACILITY INFORMATION

FIRM NAME: This name will appear on the permit and must be the legal Oregon corporate name (i.e., Acme Products) or the legal representative of the company if the company operates under an assumed business name (i.e., John Smith, dba Acme Products).

A. Name and Address of Owner or Operator:
SCHNITZER STEEL IND., INC.
3200 N.W. YEON AVENUE
PORTLAND, OREGON 97210
(503) 224-9900

B. Site Address if Different than A:
SCHNITZER STEEL PRODUCTS COMPANY
12005 NORTH BURGARD ROAD
PORTLAND, OREGON 97213
(503) 286-5771

C. Facility Contact Person: PETER KRAMER
Phone: (503) 286-5771

D. Standard Industrial Classification (SIC) Code, Name, and Four Digit Number: METAL, SCRAPYARD, 5093

E. Other DEQ Permits Currently in Force for the Facility: NONE

F. Site Location:

Latitude			Longitude		
45°	36'	29"	122°	46'	26"
Deg.	Min.	Sec.	Deg.	Min.	Sec.

NOTE:

Please list the latitude and longitude of the approximate center of the regulated site to the nearest 15 seconds. In addition, attach a map to this application upon which the site location is identified. (For multiple rock pits or gravel mining sites, please attach an additional sheet.)

II. STORM WATER DISCHARGE INFORMATION

A. Briefly describe the various activities which take place at the site which may contribute to the contamination of storm water:
1.OUT DOOR PRODUCT STORAGE BEFORE PROCESSING
2.OUT DOOR PRODUCT PROCESSING
3.OUT DOOR PRODUCT AND RESIDUE STORAGE AFTER PROCESSING

B. Number of outfalls or channelized flows that run off your property (as shown on the site map in Part IV): 23

C. Where does storm water discharge to?

- Municipal Storm Sewer System? No: X Yes: ___ (Name): _____

— OVER —

SCHN00240410

- Surface Waterbody? No: ___ Yes: X (Name): WILLAMETTE RIVER AND COLUMBIA SLOUGH
- Seeps into Ground? No: ___ Yes: X (If "Yes" — Well: ___ Seepage Pit: ___ Pond: ___ Other: ___)

D. Has any storm water quality analytical data been collected? No: X Yes: ___ (If "Yes", please attach.)

E. Describe any storm water treatment and/or control facilities in use: MULTIPLE STAGE CASCADES, AND CATCH BASINS WITH OIL SEPARATORS ARE USED.

F. The NPDES industrial storm water regulations (40 CFR 122.26) require certification that all storm water outfalls associated with industrial activities have been evaluated for the presence of non-storm water discharges not otherwise covered by an NPDES Permit. Your signature on this application provides that certification. Describe the method used to evaluate for the presence of non-storm water discharges: ___
A. VISUAL B. KNOWLEDGE OF PROCESS C. TOPOGRAPHY
D. DRAWINGS AND MAPS

G. If non-storm water discharges were discovered during the investigation required by item F., which are currently not covered by an NPDES permit, please list the wastewater source(s): NONE

H. Have any leaks or spills or other instances of storm water contamination occurred at the facility within the last three (3) years? No: X
Yes: ___ (If "Yes", describe:) ___

III. DISCHARGES OTHER THAN STORM WATER

A. Are other permitted discharges using any of the storm water outfalls? No: X Yes: ___ (Describe:) ___

If so, give NPDES Permit Number? ___

IV. SITE DRAINAGE MAP

A. Attach a site map which includes the following items.

- Outline of drainage areas served by each outfall.
- Location of storm discharge outfalls.
- Runoff conveyance structures — storm sewer, ditch, etc.
- Areas where activities are, or have been conducted, material stored, or where spills have occurred which could affect the quality of the storm water.
- Location of impervious areas.
- Facility's property lines.

V. SIGNATURE

I HEREBY CERTIFY THAT THE INFORMATION THAT IS INCLUDED IN THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE, AND THERE ARE NO WASTEWATERS BEING DISCHARGED TO THE STORM SEWER SYSTEM WHICH HAVE NOT BEEN IDENTIFIED IN THIS APPLICATION.

PETER KRAMER
Name of Owner
(Or Legally Authorized Representative)

VICE PRES. and GEN MGR
Title

Signature

Oct. 8, 1993
Date

Fees in the amount of $300 are required with this application. (Make your check payable to the Department of Environmental Quality.) Unless the DEQ has a Land Use Compatibility statement on file for this facility, one must be filed with this application.

DEPARTMENT OF ENVIRONMENTAL QUALITY
811 SW Sixth Avenue
Portland, Oregon 97204

LAND USE COMPATIBILITY STATEMENT

(read page 1 before completing)

TO BE COMPLETED BY APPLICANT

1. Name: SCHNITZER STEEL PRODUCTS Address: PORTLAND OREGON 97210
   City State Zip

   Phone: (503) 286-5771 Type of permit/approval: STORM WATER

2. Application to DEQ will be for: XX New Permit/Plan Approval ___ Permit Renewal
   ___ Permit Modification ___ Authorization Letter

3. Name and address of business: SCHNITZER STEEL PRODUCTS COMPANY
   12005 NORTH BURGARD PORTLAND, OREGON 97210

4. Describe the type of business and product or service the business provides:
   METAL RECYCLING BUSINESS

5. If not a new source, explain the change in circumstances that require a permit/approval:
   DEQ REQUIREMENTS

6. Describe the specific source/facility that requires a permit/approval:
   SCHNITZER STEEL PRODUCTS COMPANY
   INTERNATIONAL TERMINALS

7. For permit modification/renewal only: Does the criteria in section II, page 1 apply to the proposed permit modification or renewal? ___ Yes XX No
   Explain basis for determination:

   If yes, describe how the changes may impact land uses, i.e. increased lot coverage; increased air emissions, water discharges or noise levels; impacts to transportation system, etc.:

TO BE COMPLETED BY LOCAL GOVERNMENT PLANNING DEPARTMENT

(The jurisdiction in which the business is located)

8. Business/facility location: X Inside city limits ___ Inside UGB ___ Outside UGB
   What local government(s) has planning jurisdiction over this use? City of Portland/Planning
   Is the local plan currently acknowledged? X Yes ___ No
   If no, is this use affected by any portion of the plan which is not acknowledged? ___ Yes ___ No

9. The business/facility:
   A. X *Is an allowed outright use.
   B. ___ Is allowed subject to siting, design, construction or operational standards.
   C. ___ Is allowed subject to conditional use or review requirements which require public notice.
   D. ___ Is prohibited by the plan.
   E. ___ Is not addressed by the plan.

   IH zone

* This means the use may exist without any further local planning conditions or authorizations.

SCHN00240412

If A. applies, identify or provide duplicate copy of applicable zone/provisions and state specific name of the designated allowed use applied to this business/facility.

IH zone standards attached

If applicable, have the additional requirements under B. or C. been met? ___ Yes ✓ No

Date of decision or expected decision: _____

Written findings are required for determinations checked under section 9. B, C, D and E. Findings may include plan policies, criteria, conditions, standards or related regulations. (State findings below or attach separately to statement.) If the activity is not addressed in the plan, under 9. E., compatibility findings must be based on the statewide goals.

no LUR's

10. Is public notice and opportunity for public hearing required? ___ Yes ✓ No

If yes, date of notice: _____ Date of public hearing: _____

If a public hearing was held, attach a summary or hearing report.

11. Would the city/county like to receive a copy of DEQ's public notice regarding this source?

___ Yes ✓ No

REQUIRED SIGNATURES

City land use jurisdiction: City of Portland/Planning Phone: 823-7526

Signature: [signature] Title: Planner Date: 8/30/93

County land use jurisdiction: _____ Phone: _____

Signature: _____ Title: _____ Date: _____

Please direct questions to the Management Services Division at 800-452-4011 or 229-5408, or contact the Division responsible for processing the application (Air, Water, Solid Waste) through the above toll free number.

BUREAU OF PLANNING
City of Portland
First Floor - Permit Center
1120 S. W. Fifth Avenue
Portland, Oregon 97204-1992

SCHN00240413

CITY OF PORTLAND - PLANNING BUREAU
PERMIT CENTER RECEIPT

PL N: 107706

DATE: 8/30/93

NAME: Schnitzer Steel Products PHONE #: 286-5771

ADDRESS: CITY/ST/ZIP:

JOB ADDRESS: 2005 N. Burgard PERMIT #:

The following reviews require payment of the Hearings Officer fee:

Amount	Fee Code	Item Description
	0224	CCPD Height Transfer
	0202	Comp Plan Map Amendment
	0227	Conditional Use - Minor
	0203	Conditional Use - Major
	0204	Convenience Store Review
	0206	Environmental Conservation
	0229	Environmental Protection
	0225	Essential Service Provider
	0207	Excavation and Fill Reveiw
	0208	Greenway Review
	0209	Hazardous Substance Review
	0211	Industrial Park Review
	0213	Land Division - Major
	0223	Master Plan Review
	0215	Non-Conforming Use Review
	0216	Planned Unit Development
	0243	Property Tax Exemption
	0230	Reasonable Use Review
	0218	Revocable Permit Extension
	0231	Rocky Butte Hist. Features
	0220	Statewide Planning Goal
	0221	Sub-Standard Lot Review
	0232	Tree Removal Review
	0222	Zoning Map Amendment
	0254	**Hearings Officer Fee**

These reviews do not require payment of the Hearings Officer fee:

Amount	Fee Code	Item Description
	0201	Adjustment Review
	0228	Design Review - Minor
	0205	Design Review - Major
	0210	Historic Landmark Reviews
	0214	Land Division - Minor
	0212	Lot Line Adjusment
	0233	Non-Conf Use Establishment
	0217	Pre-Application Conference
	0244	Plan Check
109.00	0251	Zoning Confirmation
	0253	Document and Map Sales

08-31-1993 04:40 PM 109.00
SCHNITZER STEEL
CASE # PL-107706
BUREAU OF BUILDINGS

109.00 **TOTAL FEES**

_____ **Cash**

_____ **Check**

_____ **TF**

_____ **Bill to:**

Bureau Staff:

'/91

Exterior De

SCHN00240414

City of Portland
Bureau of Planning
Land Use Permits Sections
1st Floor, Permit Center
1120 S.W. Fifth Avenue
Portland, OR 97204-1966
(503) 823-PLAN (823-7526)

SUMMARY OF EMPLOYMENT AND INDUSTRIAL ZONES
Chapter 33.140

Characteristics of the Zones

General Employment. The General Employment zones implement the Mixed Employment map designation of the Comprehensive Plan. The zones allow a wide range of employment opportunities without potential conflicts from interspersed residential uses. The emphasis of the zones is on industrial and industrially-related uses. Other business and commercial uses are also allowed to support a wide range of services and employment opportunities The development standards for each zone are intended to allow new development which is similar in character to existing development. The intent is to promote viable and attractive industrial/business areas.

General Employment 1. EG1 areas generally have smaller lots and a grid block pattern. The area is mostly developed, with sites having high building coverages and buildings which are usually close to the street. EG1 zoned lands will tend to be on strips or small areas.

General Employment 2. EG2 areas have larger lots and an irregular or large block pattern. The area is less developed, with sites having medium and low building coverages and buildings which are usually set back from the street. EG2 zoned lands will generally be on larger areas than those zoned EG1.

Central Employment. This zone implements the Central Employment map designation of the Comprehensive Plan. The zone allows mixed-uses and is intended for areas in the center of the City that have predominantly industrial type development. The intent of the zone is to allow industrial, business, and service uses which need a central location. Residential uses are allowed, but are are not intended to predominate or set development standards for other uses in the area. The development standards are intended to allow new development which is similar in character to existing development.

General Industrial. The General Industrial zones are two of the three zones that implement the Industrial Sanctuary map designation of the Comprehensive Plan. The zones provide areas where most industrial uses may locate, while other uses are restricted to prevent potential conflicts and to preserve land for industry. The development standards for each zone are intended to allow new development which is similar in character to existing development. The intent is to promote viable and attractive industrial areas.

General Industrial 1. IG1 areas generally have smaller lots and a grid block pattern. The area is mostly developed, with sites having high building coverages and buildings which are usually close to the street. IG1 areas tend to be the City's older industrial areas.

General Industrial 2. IG2 areas generally have larger lots and an irregular or large block pattern. The area is less developed, with sites having medium and low building coverages and buildings which are usually set back from the street.

Heavy Industrial. This zone is one of the three zones that implement the Industrial Sanctuary map designation of the Comprehensive Plan. The zone provides areas where all kinds of industries may locate including those not desirable in other zones due to their objectionable impacts or appearance. The development standards are the minimum necessary to assure safe, functional, efficient, and environmentally sound development

Table 140-1
Employment and Industrial Zone Primary Uses

Use Categories	EG1	EG2	EX	IG1	IG2	IH
Residential Categories						
Household Living	CU	CU	Y	CU	CU	CU
Group Living	CU	CU	L/CU [1]	N	N	N
Commercial Categories						
Retail Sales And Service	L [2]	L [2]	Y	L/CU [3]	L/CU [4]	L/CU [4]
Office	L [2]	L [2]	Y	L/CU [3]	L/CU [4]	L/CU [4]
Quick Vehicle Servicing	Y	Y	Y	Y	Y	Y
Vehicle Repair	Y	Y	Y	Y	Y	Y
Commercial Parking	Y	Y	CU	CU	CU	CU
Self-Service Storage	Y	Y	L [5]	Y	Y	Y
Commercial Outdoor Recreation	Y	Y	Y	CU	CU	CU
Major Event Entertainment	CU	CU	CU	CU	CU	CU
Industrial Categories						
Manufacturing And Production	Y	Y	Y	Y	Y	Y
Warehouse And Freight Movement	Y	Y	Y	Y	Y	Y
Wholesale Sales	Y	Y	Y	Y	Y	Y
Industrial Service	Y	Y	Y	Y	Y	Y
Railroad Yards	N	N	N	Y	Y	Y
Waste-Related	N	N	N	L/CU [6]	L/CU [6]	L/CU [6]
Institutional Categories						
Basic Utilities	Y	Y	Y	Y	Y	Y
Community Service	Y	Y	Y	L/CU [7]	L/CU [7]	L/CU [7]
Essential Service Providers	L [8]	L [8]	L [8]	N	N	N
Parks And Open Areas	Y	Y	Y	Y	Y	Y
Schools	Y	Y	Y	N	N	N
Colleges	Y	Y	Y	N	N	N
Medical Centers	Y	Y	Y	N	N	N
Religious Institutions	Y	Y	Y	N	N	N
Daycare	Y	Y	Y	L/CU [7]	L/CU [7]	L/CU [7]
Other Categories						
Agriculture	Y	Y	Y	Y	Y	Y
Aviation And Surface Passenger Terminals	CU	CU	CU	CU	CU	CU
Detention Facilities	CU	CU	CU	CU	CU	CU
Mining	N	N	N	CU	CU	CU
Radio And TV Broadcast Facilities	Y	Y	L/CU [9]	Y	Y	Y
Rail Lines And Utility Corridors	Y	Y	Y	Y	Y	Y

Y = Yes, Allowed
CU = Conditional Use Review Required
L = Allowed, But Special Limitations
N = No, Prohibited

Notes:
- The use categories are described in Chapter 33.920.
- Regulations that correspond to the bracketed numbers [ ] are stated in 33.140.100.B.

SCHN00240415

Table 140-4
Development Standards [1]

Standard	EG1	EG2	EX	IG1	IG2	IH
Maximum FAR (see 33.140.205)	3 to 1	3 to 1	3 to 1	no limit	no limit	no limit
Maximum Height (see 33.140.210)	45 ft.	no limit	65 ft	no limit	no limit	no limit
Min. Building Setbacks (see 33.140.215) · Street lot line	5 ft.	25 ft.	0	0	25 ft.	5 ft.
· Lot line abutting an OS, C, E, or I zoned lot	0	0	0	0	0	0
· Lot line abutting an R zoned lot	0 to 14 ft. [2]	15 ft.	0 to 14 ft. [2]	0 to 14 ft. [2]	15 ft.	15 ft.
Maximum Building Coverage (see 33.140.220)	85% of site area	85% of site area	100% of site area	100% of site area	85% of site area	100% of site area
Min. Landscaped Area (see 140.225)	15% of site area	15% of site area	None	None	15% of site area	None
Ground Floor Window Standards apply (see 33.140.230)	No	No	Yes	No	No	No
Pedestrian Standards Apply (see 33.140.240)	Yes	Yes	Yes	No	No	No
Min. Landscaping Abutting an R zoned lot (see 33.140.215.B.)	5 ft. @ L3 [3]	10 ft. @ L3	5 ft. @ L3 [3]	5 ft. @ L3 [3]	10 ft. @ L3	10 ft. @ L3

Notes:
[1] Plan district regulations may supercede these standards.
[2] See Table 140-5.
[3] For building setbacks of 5 feet or less, landscaping is required for the entire depth of the setback. However, no landscaping is required when buildings abut a lot line.

Table 140-5
Minimum Building Setbacks From Residential Zone Lot Lines [1]

Height of the building wall	Lots abutting a side lot line of an R zoned lot	Lots abutting a rear lot line of an R zoned lot
15 ft. or less	5 ft.	0
16 to 30 ft.	8 ft.	8 ft.
31 to 45 ft.	11 ft.	11 ft.
46 ft. or more	14 ft.	14 ft.

Notes: [1] Does not apply to lot lines that abut lots in the RX zone.

Table 140-6
Exterior Development Setbacks and Landscaping [1]

	EG1, IG1	EG2, IG2	EX	IH
Exterior Display Abutting a street	5 ft. / L1	10 ft. / L1	Not Allowed	5 ft. / L1
Abutting a C, E or I zone lot	0	0	Not Allowed	0
Abutting an R or OS zone lot	5 ft. / L3	10 ft. / L3	Not Allowed	10 ft. / L3
Exterior Storage Abutting a street [2]	5 ft. / L3, or 5 ft. / F2 + L2	25 ft. / L3, or 25 ft. / F2 + L2	Not Allowed	5 ft. / L3, or 5 ft. / F2 + L2
Abutting a C, E or I zone lot	0 / F1	0 / F1	Not Allowed	0
Abutting an R or OS zone lot	5 ft. / L4	10 ft. / L4, or 25 ft. / L3	Not Allowed	10 ft. / L4, or 25 ft. / L3

Notes:
[1] The development standards first state the required setback, then the required landscaping standard.
[2] If parking areas are placed between exterior storage areas and the street, an F2 screen is required on the edge of the storage area, but not the required landscaped area.

Table 140-2
Allowed Hazardous Substances

Hazardous Substance Category [1]	EG1, EG2 & EX	IG1 & IG2	IH
Class A & B Explosives Forbidden	b-N, u-N, p-N, c-Y	b-N, u-N, p-N, c-Y	b-N, u-N, p-R, c-Y
Poison A or B Pyrophoric Liquid	b-N, u-N, p-R, c-Y	b-N, u-R, p-Y, c-Y	b-N, u-R, p-Y, c-Y
Corrosive Flammable Gas Flammable Liquid	b-N, u-Y, p-Y, c-Y	b-R, u-Y, p-Y, c-Y	b-R, u-Y, p-Y, c-Y
Flammable Solid Irritating Non-Flammable Gas ORM A, B or E Organic Peroxide Oxidizer	b-N, u-Y, p-Y, c-Y	b-R, u-Y, p-Y, c-Y	b-Y/R [2], u-Y, p-Y, c-Y
Combustible Liquid	b-R/Y [3], u-Y, p-Y, c-Y	b-R/Y [3], s-Y, p-Y, c-Y	b-Y/R [2], s-Y, p-Y, c-Y

Quantities: b = bulk plant, u = bulk use, p = package use, c = consumer commodity
See 33.140.120.C. for definitions.

Y = Yes, Allowed, R = Hazardous Substance Review Required (See Chapter 33.840),
N = No, Prohibited

Notes:
[1] Hazardous substances belonging to more than one category are subject to the regulations of the more stringent category.
[2] If the site is 1/2 mile or closer to a residential zone, school, college or medical center, a hazardous material review is required.
[3] If the substance is stored underground, then it is allowed outright.

SCHNITZER STEEL IND. INC.

P.O. Box 10047 • PORTLAND, OREGON 97210 • (503) 224-9900

0191

S-28353

YOUR INVOICE NO.	INVOICE DATE	DESCRIPTION	AMOUNT	DISCOUNT	AMOUNT
083193	08/31/93	STORM WATER PERMIT	300.00	0.00	300.0
		TOTAL:	300.00	0.00	300.0

PLEASE DETACH BEFORE DEPOSITING

SCHNITZER STEEL IND. INC.

P.O. BOX 10047 • PORTLAND, OREGON 97210 • (503) 224-9900

VOID

The Chase Manhattan Bank, NA
Syracuse, New York

50-937
213

CHECK

S-2835

DATE
09/03/93

AMOUNT OF CHECK
$******300.00**

PAY ******300*** DOLLARS AND **NO** CENTS

TO THE ORDER OF

DEPT. OF ENVIRONMENTAL
QUALITY
811 SW 6TH AVE.
PORTLAND, OR 97204

⑈283538⑈ ⑆021309379⑆ 601⑈2⑈85869⑈

SCHN00240417

Columbia Analytical Services INC.
An Employee-Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222 • FAX (360) 636-1068

SR#: _____

PAGE 1 OF 1 COC # _____

PROJECT NAME: SSI
PROJECT NUMBER:
PROJECT MANAGER: Jim Jakubiak
COMPANY/ADDRESS: 3200 NW Yeon Ave
Portland OR 97296-0047
PHONE #: (503) 786-6976
FAX #: (503) 786-6948
SAMPLER'S SIGNATURE: [signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Pesticide / Herbicides 608☐ 8081☐ 8141☐ 8151☐	Total Toxic Organics (TTO) 608☐ 624☐ 625☐	PCB AROCLORs 8082	NWTPH - HCID☐ NWTPH-G☐ NWTPH-D☐	Hydrocarbon Scan☒ O & G☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	GC/MS-SIM PAH☐ Phenol☐ Phthalates☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle)	TOC 9020☐ AOX 1650☐ 506☐	TCLP Metals				REMARKS
S1	7/17	10:30		S	1							X									X				
S2	7/17	10:35		S	1							X									X				
S3	7/17	10:40		S	1							X									X				

REPORT REQUIREMENTS

- X I. Routine Report: Method Blank, Surrogate, as required
- ___ II. Report Dup., MS, MSD as required
- ___ III. Data Validation Report (includes all raw data)
- ___ IV. CLP Deliverable Report
- ___ V. EDD

INVOICE INFORMATION

P.O. #: _____
Bill To: Address Above

TURNAROUND REQUIREMENTS

- X 24 hr. ___ 48 hr.
- ___ 5 Day
- ___ Standard (10-15 working days)
- ___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al (As) Sb (Ba) Be B Ca (Cd) Co (Cr) Cu Fe (Pb) Mg Mn Mo (Ni) K (Ag) Na (Se) Sr Tl Sn V (Zn) Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

SPECIAL INSTRUCTIONS/COMMENTS:

* 24 hr turnaround
* Quantify positive TPH hits

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
[signature]	7/17/01 10:45						
Signature	Date/Time	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
Printed Name	Firm	Printed Name	Firm	Printed Name	Firm	Printed Name	Firm

SCHN00240419

Columbia Analytical Services, Inc. General Terms and Conditions
Laboratory Services

1. These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory ("LAB") and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to LAB. The invalidity or unenforceability, in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state from which services are procured.

2. **Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

At LAB sole discretion, preliminary results may be given in advance of the laboratory report. Such preliminary results are tentative, subject to confirmation and final review by LAB. Client's use of preliminary results in any manner shall be at Client's sole risk.

3. **Scope and Compensation.** LAB agrees to perform the services described in the proposal or agreement to which these Terms and Conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described.

Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1 1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sales, use or other taxes. Such taxes will be added to invoice prices when required. LAB reserves the right to require payment prior to release of data. Until such time as Client invoices are paid in full, LAB has no obligation, and will not defend, reproduce, return, or supplement data results.

4. **Prices.** Compensation for services performed will be based on the current Lab Analytical Fee Schedule, or on verbal quotations agreed to in writing by the parties. Unless specifically indicated on the written confirmation of quotation, analytical turnaround times are not guaranteed. The minimum charge will be $100.00 unless otherwise noted.

5. **Methods.** Where applicable, LAB will use analytical methodologies which are in substantial conformity with U.S. Environmental Protection Agency (EPA), State Agency, American Society for Testing and Materials (ASTM), Association of Official Analytical Chemists (AOAC), Standard Methods for the Examination of Water and Wastewater, or other recognized methodologies. LAB reserves the right to deviate from these methodologies, if necessary or appropriate, due to the nature or composition of the sample or otherwise, based on the reasonable judgment of LAB. Deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or LAB's standard operating procedures.

6. **Limitations of Liability.** In the event of any error, omission or other professional negligence, the sole and exclusive responsibility of LAB shall be to reperform the deficient work at its own expense; and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.

LAB shall have no liability, obligation or responsibility of any kind for losses, costs, expenses or other damages (including but not limited to any special, indirect, incidental or consequential damages) with respect to LAB's services or results.

All results provided by LAB are strictly for the use of its clients, and LAB is in no way responsible for the use of such results by clients or third parties. All results should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of the results.

7. **Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance which is to be delivered to LAB will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

8. **Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss of or damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from LAB's premises.

LAB will use its best efforts to arrange for the shipment of specially prepared sample bottles, sampling instructions per Client instruction by the readily available, least cost method. Any other shipment arrangements will be at Client's expense.

Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis, unless modified by applicable state or federal laws. Client will be required to give to LAB written instructions concerning disposal of these samples.

LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample which, in the sole judgment of LAB, (a) is of unsuitable volume, (b) may be or become unsuitable for, or may pose a risk in handling, transport or processing for any health, safety, environmental or other reason, whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) has been delivered to the LAB more than 72 hours after sampling or if one half or more of the recommended holding time for the analysis has lapsed.

9. **Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort, including negligence.

10. **Data Deliverables.** Where specifically requested by Client, LAB agrees to produce electronic data representing services performed hereunder, subject to the following specific understanding between the parties: LAB agrees to supply Client with electronic data as mutually defined, using an agreed medium. Client recognizes that LAB is not a software consultant, manufacturer or reseller; any transfer of electronic data pursuant to services provided by LAB is an accommodation to and strictly for the convenience of the client who is solely liable for the choice and maintenance of the medium utilized. Electronic data provided under this agreement is not deemed to be the project deliverable for the purpose of fulfilling obligations under the Agreement. The provision of electronic data does not in any way modify the intention of the parties that the Client rely on the written or hard copy form of the deliverable.

Except with regard to any limited warranty as specifically set forth below, LAB disclaims and excludes all warranties express or implied with regard to the creation, transmittal or use of electronic data hereunder. The limited warranty in this Agreement replaces all other warranties, express or implied, including any warranties of merchantability or fitness for a particular purpose. Professional warranties extend to written or hard copy deliverables only and do <u>not</u> extend to electronic data supplied to Client. Professional warranties in the Agreement which extend to written or hard copy deliverables shall be undisturbed by this Amendment. LAB's liability for medium failure shall be limited to replacement of the electronic data with a hard copy for a period of thirty days from the date of delivery. LAB's electronic data transfer is derived in part from or is created using third party software, and no such third party warrants or assumes any liability regarding use of or undertakes to provide support information relating to LAB's electronic data. LAB will utilize anti-virus programs on a best efforts basis in preparation of the electronic data transfer, but LAB makes no warranty as to the effectiveness of such screening. LAB will also use its best efforts to ensure that its electronic data will meet all criteria as specified by Client, including criteria regarding date/time data, if, and when, included; but LAB makes no warranty as to the appropriateness of the client specified criteria by accepting the same.

In addition to indemnities contained in the underlying agreement between LAB and Client, Client shall hold LAB harmless from any claims, suits or liability arising from or related to electronic data supplied pursuant to this Agreement. Any reuse of original or altered files by Client shall be at Client's risk and without liability or responsibility to LAB, but shall entitle LAB to additional compensation for such unauthorized reuse. In no event will LAB's liability for electronic data include any special, incidental or consequential damages, whether or not LAB has knowledge of the potential for loss or damage.

11. **Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Columbia Analytical Services INC.
An Employee-Owned Company

July 20, 2001

Service Request No: K2105072

Jim Jakubiak
Schnitzer Steel Products Company
P.O. Box 10047
Portland, OR 97296-0047

Re: SSI

Dear Jim:

Enclosed are the results of the rush sample(s) submitted to our laboratory on July 18, 2001. For your reference, these analyses have been assigned our service request number K2105072.

All analyses were performed according to our laboratory's quality assurance program. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3260.

Respectfully submitted,

Columbia Analytical Services, Inc.

Harvey Jacky
Project Chemist

HJ/ee

1317 South 13th Avenue • P.O. Box 479 • Kelso, Washington 98626 • Telephone 360/ 577-7222 • Fax 360/636-1068

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
E	The reported value is estimated because of the presence of matrix interference.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL has been elevated due to a matrix interference.
X	See case narrative.
*	The duplicate analysis not within control limits. See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides).
U	The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
i	The MRL/MDL has been elevated due to a chromatographic interference.
X	See case narrative.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	7/17/01
Sample Matrix:	Soil	**Date Received:**	7/18/01
		Date TCLP Performed:	7/18/01
		Date Extracted:	7/19/01

Toxicity Characteristic Leaching Procedure (TCLP)
EPA Method 1311
Metals
Units: mg/L (ppm) in TCLP Extract

			Sample Name:	S1	S2	S3
			Lab Code:	K2105072-001	K2105072-002	K2105072-003
			Date Analyzed:	7/19/01	7/19/01	7/19/01
Analyte	**EPA Method**	**MRL**	**Regulatory Limit***			
Arsenic	3010A/6010B	0.1	5	ND	ND	ND
Barium	3010A/6010B	1	100	ND	ND	ND
Cadmium	3010A/6010B	0.01	1	ND	ND	ND
Chromium	3010A/6010B	0.01	5	ND	ND	ND
Lead	3010A/6010B	0.05	5	ND	ND	ND
Mercury	7470A	0.001	0.2	ND	ND	ND
Selenium	3010A/6010B	0.1	1	ND	ND	ND
Silver	3010A/6010B	0.02	5	ND	ND	ND

* From 40 CFR Part 261, et al., and *Federal Register*, March 29, 1990 and June 29, 1990.

Approved By: HG Date: 7/19/01

TCLP/102194
050721CP.EA1 - TCLP 7/19/01

SCHN00240430

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date TCLP Performed:	7/18/01
		Date Extracted:	7/19/01

Toxicity Characteristic Leaching Procedure (TCLP)
EPA Method 1311
Metals
Units: mg/L (ppm) in TCLP Extract

			Sample Name:	**Method Blank**
			Lab Code:	K2105072-MB
			Date Analyzed:	7/19/01
Analyte	**EPA Method**	**MRL**	**Regulatory Limit***	
Arsenic	3010A/6010B	0.1	5	ND
Barium	3010A/6010B	1	100	ND
Cadmium	3010A/6010B	0.01	1	ND
Chromium	3010A/6010B	0.01	5	ND
Lead	3010A/6010B	0.05	5	ND
Mercury	7470A	0.001	0.2	ND
Selenium	3010A/6010B	0.1	1	ND
Silver	3010A/6010B	0.02	5	ND

* From 40 CFR Part 261, et al., and *Federal Register*, March 29, 1990 and June 29, 1990.

Approved By: _____ Date: 7/19/01

TCLP/102194
05072ICP.EA1 - TCLP (2) 7/19/01

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	7/17/01
Sample Matrix:	Soil	**Date Received:**	7/18/01
		Date TCLP Performed:	7/18/01
		Date Extracted:	7/19/01
		Date Analyzed:	7/19/01

Matrix Spike Summary
Toxicity Characteristic Leaching Procedure (TCLP)
EPA Method 1311
Metals
Units: mg/L (ppm) in TCLP Extract

Sample Name: S1
Lab Code: K2105072-001MS

Analyte	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery*
Arsenic	5	ND	4.8	96
Barium	10	ND	10	100
Cadmium	1	ND	0.92	92
Chromium	5	ND	4.54	91
Lead	5	ND	4.52	90
Mercury	0.005	ND	0.005	100
Selenium	1	ND	0.99	99
Silver	1	ND	0.90	90

* Percent recovery information is provided in order to assess the performance of the method on this matrix.

Approved By: HK Date: 7/19/01

TCLPMS162194 - Spike 7/19/01

00006
Page No.:

SCHN00240432

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	07/17/2001
Sample Matrix:	Soil	**Date Received:**	07/18/2001

Total Petroleum Hydrocarbon - Hydrocarbon Identification

Sample Name:	S1	**Units:**	mg/Kg
Lab Code:	K2105072-001	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH_HCID		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	ND	U	22	1	07/17/01	07/19/01	KWG0104280	
Diesel Range Organics (DRO)	ND	U	55	1	07/17/01	07/19/01	KWG0104280	
Residual Range Organics (RRO)	ND	U	110	1	07/17/01	07/19/01	KWG0104280	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	72	20-150	07/19/01	Acceptable
o-Terphenyl	112	50-150	07/19/01	Acceptable
n-Triacontane	102	50-150	07/19/01	Acceptable

Comments:

00007

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	07/17/2001
Sample Matrix:	Soil	**Date Received:**	07/18/2001

Total Petroleum Hydrocarbon - Hydrocarbon Identification

Sample Name:	S2	**Units:**	mg/Kg
Lab Code:	K2105072-002	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH_HCID		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	ND	U	23	1	07/17/01	07/19/01	KWG0104280	
Diesel Range Organics (DRO)	ND	U	58	1	07/17/01	07/19/01	KWG0104280	
Residual Range Organics (RRO)	ND	U	120	1	07/17/01	07/19/01	KWG0104280	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	70	20-150	07/19/01	Acceptable
o-Terphenyl	107	50-150	07/19/01	Acceptable
n-Triacontane	98	50-150	07/19/01	Acceptable

Comments:

00008

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	07/17/2001
Sample Matrix:	Soil	**Date Received:**	07/18/2001

Total Petroleum Hydrocarbon - Hydrocarbon Identification

Sample Name:	S3	**Units:**	mg/Kg
Lab Code:	K2105072-003	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH_HCID		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	ND	U	23	1	07/17/01	07/19/01	KWG0104280	
Diesel Range Organics (DRO)	ND	U	56	1	07/17/01	07/19/01	KWG0104280	
Residual Range Organics (RRO)	ND	U	120	1	07/17/01	07/19/01	KWG0104280	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	65	20-150	07/19/01	Acceptable
o-Terphenyl	110	50-150	07/19/01	Acceptable
n-Triacontane	100	50-150	07/19/01	Acceptable

Comments:

00009

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Total Petroleum Hydrocarbon - Hydrocarbon Identification

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG0104280-3	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH_HCID		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	ND	U	20	1	07/17/01	07/19/01	KWG0104280	
Diesel Range Organics (DRO)	ND	U	50	1	07/17/01	07/19/01	KWG0104280	
Residual Range Organics (RRO)	ND	U	100	1	07/17/01	07/19/01	KWG0104280	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	67	20-150	07/19/01	Acceptable
o-Terphenyl	109	50-150	07/19/01	Acceptable
n-Triacontane	102	50-150	07/19/01	Acceptable

Comments: 00010

Columbia Analytical Services INC.
An Employee-Owned Company

CHAIN OF CUSTODY

1317 South 13th Ave. • Kelso, WA 98626 • (360) 577-7222 • (800) 695-7222 • FAX (360) 636-1068

SR#: KU05072

PAGE 1 OF 1 COC #

PROJECT NAME: SSI
PROJECT NUMBER:
PROJECT MANAGER: Jim Jakubiak
COMPANY/ADDRESS: 3200 NW Yeon Ave, Portland, OR 97296-0047
PHONE #: (503) 286-6976 FAX #: (503) 286-6948
SAMPLER'S SIGNATURE: [signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐	Volatile Organics 624☐ 8260☐	Pesticide / Herbicides 608☐ 8081☐ 8021☐ BTEX☐	Total Toxic Organics (TTO) 608☐ 624☐ 625☐ 8151☐	PCB AROCLORs 8082	NWTPH - HCID☐ NWTPH-D☐ NWTPH-G☐	Hydrocarbon Scan ☒ OR-HCID O & G☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	PAHs 8310☐ SIM☐	GC/MS-SIM PAH☐ Phenol☐ Phthalates☐	Metals, Total or Dissolved (See list below)	Cyanide☐ Hex-Chrom☐	pH, Cond., Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS (circle)	NH3-N, COD, Total-P, TKN, TOC, DOC (circle)	TOC 9020☐ AOX 1650☐ 508☐	TCLP Metals				REMARKS
S1	7/17	10:30	1	S	1							X									X				
S2	7/17	10:35	2	S	1							X									X				
S3	7/17	10:40	3	S	1							X									X				

00011

REPORT REQUIREMENTS

X I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. Data Validation Report (includes all raw data)
___ IV. CLP Deliverable Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To: Address Above

TURNAROUND REQUIREMENTS

X 24 hr. ___ 48 hr.
___ 5 Day
___ Standard (10-15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

SPECIAL INSTRUCTIONS/COMMENTS:

* 24 hr turnaround
* Quantify positive TPH hits

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
[signature]	7/17/01 10:45	[signature] Black	7/18/01 0925a				
Signature	Date/Time	Signature	Date/Time	Signature	Date/Time	Signature	Date/Time
Printed Name	Firm	Printed Name	Firm	Printed Name	Firm	Printed Name	Firm

SCHN00240437

Columbia Analytical Services, Inc. General Terms and Conditions

Laboratory Services

1. These Terms and Conditions embody the whole agreement of the parties in the absence of a signed and executed contract between the Laboratory ("LAB") and Client. They shall supersede all previous communications, representations, or agreements, either verbal or written, between the parties. The LAB specifically rejects all additional, inconsistent or conflicting terms, whether printed or otherwise set forth in any purchase order or other communication from the Client to LAB. The invalidity or unenforceability, in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder of the Terms and Conditions. No waiver by LAB of any provision, term or condition hereof or of any breach by or obligation of the Client hereunder shall constitute a waiver of such provision, term or condition on any other occasion or a waiver of any other breach by or obligation of the Client. This agreement shall be administered and interpreted under the laws of the state from which services are procured.

2. **Warranty.** Recognizing that the nature of many samples is unknown and that some may contain potentially hazardous components, LAB warrants only that it will perform testing services, obtain findings and prepare reports in accordance with generally accepted analytical laboratory principles and practices at the time of performance of services. LAB makes no other warranty, express or implied.

At LAB sole discretion, preliminary results may be given in advance of the laboratory report. Such preliminary results are tentative, subject to confirmation and final review by LAB. Client's use of preliminary results in any manner shall be at Client's sole risk.

3. **Scope and Compensation.** LAB agrees to perform the services described in the proposal or agreement to which these Terms and Conditions are attached. Unless the parties agree in writing to the contrary, the duties of LAB shall not be construed to exceed the services specifically described.

Payment terms are net 30 days from the date of invoice. All overdue payments are subject to an interest charge of one and one-half percent (1 1/2%) per month or a portion thereof. Client shall also be responsible for costs of collection, including payment of reasonable attorney fees if such expense is incurred. The prices, unless stated, do not include any sales, use or other taxes. Such taxes will be added to invoice prices when required. LAB reserves the right to require payment prior to release of data. Until such time as Client invoices are paid in full, LAB has no obligation, and will not defend, reproduce, return, or supplement data results.

4. **Prices.** Compensation for services performed will be based on the current Lab Analytical Fee Schedule, or on verbal quotations agreed to in writing by the parties. Unless specifically indicated on the written confirmation of quotation, analytical turnaround times are not guaranteed. The minimum charge will be $100.00 unless otherwise noted.

5. **Methods.** Where applicable, LAB will use analytical methodologies which are in substantial conformity with U.S. Environmental Protection Agency (EPA), State Agency, American Society for Testing and Materials (ASTM), Association of Official Analytical Chemists (AOAC), Standard Methods for the Examination of Water and Wastewater, or other recognized methodologies. LAB reserves the right to deviate from these methodologies, if necessary or appropriate, due to the nature or composition of the sample or otherwise, based on the reasonable judgment of LAB. Deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or LAB's standard operating procedures.

6. **Limitations of Liability.** In the event of any error, omission or other professional negligence, the sole and exclusive responsibility of LAB shall be to reperform the deficient work at its own expense, and LAB shall have no other liability whatsoever. All claims shall be deemed waived unless made in writing and received by LAB within ninety (90) days following completion of services.

LAB shall have no liability, obligation or responsibility of any kind for losses, costs, expenses or other damages (including but not limited to any special, indirect, incidental or consequential damages) with respect to LAB's services or results.

All results provided by LAB are strictly for the use of its clients, and LAB is in no way responsible for the use of such results by clients or third parties. All results should be considered in their entirety, and LAB is not responsible for the separation, detachment, or other use of any portion of the results.

7. **Hazard Disclosure.** Client represents and warrants that any sample delivered to LAB will be preceded or accompanied by complete written disclosure of the presence of any hazardous substances known or suspected by Client. Client further warrants that any sample containing any hazardous substance which is to be delivered to LAB will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

8. **Sample Handling.** Prior to LAB's acceptance of any sample (or after any revocation of acceptance), the entire risk of loss of or damage to such sample remains with Client. Samples are accepted when receipt is acknowledged on chain of custody documentation. In no event will LAB have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from LAB's premises.

LAB will use its best efforts to arrange for the shipment of specially prepared sample bottles, sampling instructions per Client instruction by the readily available, least cost method. Any other shipment arrangements will be at Client's expense.

Disposal of hazardous waste samples is the responsibility of the Client. If the Client does not wish such samples returned, LAB may add storage and disposal fees to the final invoice. Maximum storage time for samples is 30 days after completion of analysis, unless modified by applicable state or federal laws. Client will be required to give to LAB written instructions concerning disposal of these samples.

LAB reserves the absolute right, exercisable at any time, to refuse to receive delivery of, refuse to accept, or revoke acceptance of any sample which, in the sole judgment of LAB, (a) is of unsuitable volume, (b) may be or become unsuitable for, or may pose a risk in handling, transport or processing for any health, safety, environmental or other reason, whether or not due to the presence in the sample of any hazardous substance, and whether or not such presence has been disclosed to LAB by Client or (c) has been delivered to the LAB more than 72 hours after sampling or if one half or more of the recommended holding time for the analysis has lapsed.

9. **Legal Responsibility.** LAB is solely responsible for performance of this contract, and no affiliated company, director, officer, employee, or agent shall have any legal responsibility hereunder, whether in contract or tort, including negligence.

10. **Data Deliverables.** Where specifically requested by Client, LAB agrees to produce electronic data representing services performed hereunder, subject to the following specific understanding between the parties: LAB agrees to supply Client with electronic data as mutually defined, using an agreed medium. Client recognizes that LAB is not a software consultant, manufacturer or reseller; any transfer of electronic data pursuant to services provided by LAB is an accommodation to and strictly for the convenience of the client who is solely liable for the choice and maintenance of the medium utilized. Electronic data provided under this agreement is not deemed to be the project deliverable for the purpose of fulfilling obligations under the Agreement. The provision of electronic data does not in any way modify the intention of the parties that the Client rely on the written or hard copy form of the deliverable.

Except with regard to any limited warranty as specifically set forth below, LAB disclaims and excludes all warranties express or implied with regard to the creation, transmittal or use of electronic data hereunder. The limited warranty in this Agreement replaces all other warranties, express or implied, including any warranties of merchantability or fitness for a particular purpose. Professional warranties extend to written or hard copy deliverables only and do <u>not</u> extend to electronic data supplied to Client. Professional warranties in the Agreement which extend to written or hard copy deliverables shall be undisturbed by this Amendment. LAB's liability for medium failure shall be limited to replacement of the electronic data with a hard copy for a period of thirty days from the date of delivery. LAB's electronic data transfer is derived in part from or is created using third party software, and no such third party warrants or assumes any liability regarding use of or undertakes to provide support information relating to LAB's electronic data. LAB will utilize anti-virus programs on a best efforts basis in preparation of the electronic data transfer, but LAB makes no warranty as to the effectiveness of such screening. LAB will also use its best efforts to ensure that its electronic data will meet all criteria as specified by Client, including criteria regarding date/time data, if, and when, included; but LAB makes no warranty as to the appropriateness of the client specified criteria by accepting the same.

In addition to indemnities contained in the underlying agreement between LAB and Client, Client shall hold LAB harmless from any claims, suits or liability arising from or related to electronic data supplied pursuant to this Agreement. Any reuse of original or altered files by Client shall be at Client's risk and without liability or responsibility to LAB, but shall entitle LAB to additional compensation for such unauthorized reuse. In no event will LAB's liability for electronic data include any special, incidental or consequential damages, whether or not LAB has knowledge of the potential for loss or damage.

11. **Force Majeure.** LAB shall have no responsibility or liability to the Client for any failure or delay in performance by LAB which results in whole or in part from any cause or circumstance beyond the reasonable control of LAB. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any government authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, difficulties or delays in transportation, mail or delivery services, inability to obtain sufficient services or supplies from LAB's usual suppliers, or any other cause beyond LAB's reasonable control.

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Form

CAS Courier

Project/Client Schnitzer Steel Work Order K21 5072

Cooler received on 7/17/01 and opened on 7/18/01 by JM

RUSH

1. Were custody seals on outside of cooler? YES NO
   If yes, how many and where? 1 Front
2. Were seals intact and signature & date correct? YES NO
3. COC #
   Temperature of cooler(s) upon receipt: 5.4
   Temperature Blank:
4. Were custody papers properly filled out (ink, signed, etc.)? YES NO
5. Type of packing material present water
6. Did all bottles arrive in good condition (unbroken)? YES NO
7. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? YES NO
8. Did all bottle labels and tags agree with custody papers? YES NO
9. *Were the correct types of bottles used for the tests indicated?* YES NO
10. Were all of the preserved bottles received at the lab with the appropriate pH? ~~YES NO~~
11. Were VOA vials checked for absence of air bubbles, and if present, noted below? ~~YES NO~~
12. Did the bottles originate from CAS/K or a branch laboratory? _____ YES NO

Explain any discrepancies _____

Samples that required preservation or received out of temperature:

Sample ID	Reagent	Volume	Lot Number	Bottle Type	Rec'd out of Temperature	Initials

RUSH

00012

CRFREV.DOC1/2/01

SCHN00240439

Soil Pile

Columbia Analytical Services Inc.

FAX

Date: 7/19

Pages: _____ *(including cover sheet)*

To: Jim Jakubiak
Schnitzer Steel

Phone: _____
Fax: _____

CC: _____

Phone: _____
Fax: _____

From: Harvey Jacky
Columbia Analytical Services
1317 South 13th Ave.
P.O. Box 479
Kelso, WA 98626
Phone: (360) 577-7222
Fax: (360) 636-1068

Rush TCLP metals Results

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Schnitzer Steel Products Co.
Project: SSI
Sample Matrix: Soil

Service Request: K2105072
Date Collected: 7/17/01
Date Received: 7/18/01
Date TCLP Performed: 7/18/01
Date Extracted: 7/19/01

Toxicity Characteristic Leaching Procedure (TCLP)
EPA Method 1311
Metals
Units: mg/L (ppm) in TCLP Extract

			Sample Name:	S1	S2	S3
			Lab Code:	K2105072-001	K2105072-002	K2105072-003
			Date Analyzed:	7/19/01	7/19/01	7/19/01
Analyte	**EPA Method**	**MRL**	**Regulatory Limit***			
Arsenic	3010A/6010B	0.1	5	ND	ND	ND
Barium	3010A/6010B	1	100	ND	ND	ND
Cadmium	3010A/6010B	0.01	1	ND	ND	ND
Chromium	3010A/6010B	0.01	5	ND	ND	ND
Lead	3010A/6010B	0.05	5	ND	ND	ND
Mercury	7470A	0.001	0.2	ND	ND	ND
Selenium	3010A/6010B	0.1	1	ND	ND	ND
Silver	3010A/6010B	0.02	5	ND	ND	ND

* From 40 CFR Part 261, et al., and *Federal Register*, March 29, 1990 and June 29, 1990.

Approved By: HK Date: 7/19/01

TCLP/102194
050721CP.EA1 - TCLP 7/19/01

Page No.:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
		Date TCLP Performed:	7/18/01
		Date Extracted:	7/19/01

Toxicity Characteristic Leaching Procedure (TCLP)
EPA Method 1311
Metals
Units: mg/L (ppm) in TCLP Extract

			Sample Name:	**Method Blank**
			Lab Code:	K2105072-MB
			Date Analyzed:	7/19/01
Analyte	**EPA Method**	**MRL**	**Regulatory Limit***	
Arsenic	3010A/6010B	0.1	5	ND
Barium	3010A/6010B	1	100	ND
Cadmium	3010A/6010B	0.01	1	ND
Chromium	3010A/6010B	0.01	5	ND
Lead	3010A/6010B	0.05	5	ND
Mercury	7470A	0.001	0.2	ND
Selenium	3010A/6010B	0.1	1	ND
Silver	3010A/6010B	0.02	5	ND

* From 40 CFR Part 261, et al., and *Federal Register*, March 29, 1990 and June 29, 1990.

Approved By: _____ Date: 7/19/01

TCLP/102194
05072ICP.EA1 - TCLP (2) 7/19/01

Page No.:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	7/17/01
Sample Matrix:	Soil	**Date Received:**	7/18/01
		Date TCLP Performed:	7/18/01
		Date Extracted:	7/19/01
		Date Analyzed:	7/19/01

Matrix Spike Summary
Toxicity Characteristic Leaching Procedure (TCLP)
EPA Method 1311
Metals
Units: mg/L (ppm) in TCLP Extract

Sample Name: S1
Lab Code: K2105072-001MS

Analyte	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery*
Arsenic	5	ND	4.8	96
Barium	10	ND	10	100
Cadmium	1	ND	0.92	92
Chromium	5	ND	4.54	91
Lead	5	ND	4.52	90
Mercury	0.005	ND	0.005	100
Selenium	1	ND	0.99	99
Silver	1	ND	0.90	90

* Percent recovery information is provided in order to assess the performance of the method on this matrix.

Approved By: HK Date: 7/19/01

TCLP/MS/[illegible] - Spike 7/19/01

Page No.:

07/19/01 THU 18:59 FAX CAS KELSO 004

SCHN00240443

Columbia Analytical Services inc.

FAX

Date: 7/20

Pages: _____ *(including cover sheet)*

To: Jim Jakubiak
Schwitzer Steel

Phone: _____
Fax: _____

CC: _____

Phone: _____
Fax: _____

From: Harvey Jacky
Columbia Analytical Services
1317 South 13th Ave.
P.O. Box 479
Kelso, WA 98626
Phone: (360) 577-7222
Fax: (360) 636-1068

HCID Results
All ND

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Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	07/17/2001
Sample Matrix:	Soil	**Date Received:**	07/18/2001

Total Petroleum Hydrocarbon - Hydrocarbon Identification

Sample Name:	S1	**Units:**	mg/Kg
Lab Code:	K2105072-001	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH_HCID		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	ND	U	22	1	07/17/01	07/19/01	KWG0104280	
Diesel Range Organics (DRO)	ND	U	55	1	07/17/01	07/19/01	KWG0104280	
Residual Range Organics (RRO)	ND	U	110	1	07/17/01	07/19/01	KWG0104280	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	72	20-150	07/19/01	Acceptable
o-Terphenyl	112	50-150	07/19/01	Acceptable
n-Triacontane	102	50-150	07/19/01	Acceptable

Comments:

Analytical Results

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	07/17/2001
Sample Matrix:	Soil	**Date Received:**	07/18/2001

Total Petroleum Hydrocarbon - Hydrocarbon Identification

Sample Name:	S2	**Units:**	mg/Kg
Lab Code:	K2105072-002	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH_HCID		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	ND	U	23	1	07/17/01	07/19/01	KWG0104280	
Diesel Range Organics (DRO)	ND	U	58	1	07/17/01	07/19/01	KWG0104280	
Residual Range Organics (RRO)	ND	U	120	1	07/17/01	07/19/01	KWG0104280	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	70	20-150	07/19/01	Acceptable
o-Terphenyl	107	50-150	07/19/01	Acceptable
n-Triacontane	98	50-150	07/19/01	Acceptable

Comments:

Analytical Results

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	07/17/2001
Sample Matrix:	Soil	**Date Received:**	07/18/2001

Total Petroleum Hydrocarbon - Hydrocarbon Identification

Sample Name:	S3	**Units:**	mg/Kg
Lab Code:	K2105072-003	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH_HCID		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	ND	U	23	1	07/17/01	07/19/01	KWG0104280	
Diesel Range Organics (DRO)	ND	U	56	1	07/17/01	07/19/01	KWG0104280	
Residual Range Organics (RRO)	ND	U	120	1	07/17/01	07/19/01	KWG0104280	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	65	20-150	07/19/01	Acceptable
o-Terphenyl	110	50-150	07/19/01	Acceptable
n-Triacontane	100	50-150	07/19/01	Acceptable

Comments:

Analytical Results

Client:	Schnitzer Steel Products Co.	**Service Request:**	K2105072
Project:	SSI	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA

Total Petroleum Hydrocarbon - Hydrocarbon Identification

Sample Name:	Method Blank	**Units:**	mg/Kg
Lab Code:	KWG0104280-3	**Basis:**	Dry
Extraction Method:	EPA 3550B	**Level:**	Low
Analysis Method:	NWTPH_HCID		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Gasoline Range Organics (GRO)	ND	U	20	1	07/17/01	07/19/01	KWG0104280	
Diesel Range Organics (DRO)	ND	U	50	1	07/17/01	07/19/01	KWG0104280	
Residual Range Organics (RRO)	ND	U	100	1	07/17/01	07/19/01	KWG0104280	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
4-Bromofluorobenzene	67	20-150	07/19/01	Acceptable
o-Terphenyl	109	50-150	07/19/01	Acceptable
n-Triacontane	102	50-150	07/19/01	Acceptable

Comments:

Table 4-1
Storm Water Monitoring Program
Burgard Industrial Park

Monitoring Group	Drainage Basin	Drainage Basin Characteristics	Analytes 1200Z	Analytes PAHs
A	1	Paved access road. o/w separator.	X	
B[1]	2, 3, 4, 5, 6	Paved, yard and dock storage areas. o/w separator with sand filter.	X	X
C[2]	10	Paved. Dock loading and unloading.	X	
D[3]	13, 15	Paved. Dock loading and unloading. o/w separator.	X	
E	14, 16	Paved, access road. Building roof drains. o/w separator.	X	
F	20, 19	Paved and unpaved areas near head of slip. Few activities.	X	X

Samples collected twice per year from at least one basin in each basin group in accordance with 1200Z monitoring requirements.

1 - Collect sample from Basin 2 in each Monitoring Group B sampling event during first year to assess O&G and PAH relationship.

2 - Catch basins in Basin 10 currently covered with large crane. No current drainage from basin.

3 - Collect Monitoring Group D sample from Basin 15 to provide adequate database for future trend analysis.

SCHN00240449

May 13, 2004

IT YARD – General Yard Improvement Tasks

Front Entrance & Sweep off Bins

- Front entrance looks great right now. We should do a quick Walk through and pick up misc. wood and garbage along road and fence.
- Cleanup debris both inside and outside of each bin
- *Remove half rounds with garbage*

Shredder

- Area in front of shredder needs to be swept and we need to maintain
- Remove paper and plastic garbage from around the employee work trailer and along railroad tracks (may want to rake)
- Remove oil spots for dirt areas
- Put misc. scrap laying around in shredder
- Consolidate propane tanks in one area to be inspected prior to shredding
- Remove bins of garbage (tires, debris, etc) near scrap drop off area by shredder
- Pick up shred from along railroad tracks along River Bank
- Pick up and dispose of garbage along Port of Portland fence line

ASR Processing and Loadout

- Sweep all ASR into contained area
- Sweep up ASR trailing away from process area going towards trailer
- Remove misc. dirt piles in vicinity and cleanup ASR in vicinity of bunker fuel tanks.

Bulk Loader Area

- Sweep and clean area between new concrete slab and railroad tracks

Maintenance Shop

- Have battery recycler make pickup of **all** regular an locomotive batteries (Wagstaff Battery & Service) Remaining batteries must be placed on spill pallets
- Keep it clean, swept and oil spots as clean as practical
- Remove/cleanup oil from shop surfaces as needed

Building B - Southwest Section (Near Old Scrap Office)

- Pick up various waste drums and relocate them in waste storage area near maintenance.
- Dispose of oily rags
- Sweep this section of the building (bird droppings, dust, etc.)
- Pick up and dispose of wood debris, garbage
- Scrap scales and other old remnant items of no value (lighting stuff, electrical boxes, work out benches, etc)

ASR Load Out & Oil Storage Areas (Behind Building B)

- Remove small ASR piles
- Rake and remove ASR from roadway and adjacent areas
- Sweep asphalt along oil storage area
- Remove oily pads and rags from oil storage and clean up curbing
- Wipe down labels on oil and antifreeze containers so they can be read easier (make labels visible)
- Check spill kits to make sure they have absorbents

Truck Storage & Equipment Parking

- Remove oil stains and rock
- Pick up garbage
- Scrap what you can

Remnant Storage Yard

- Sweep and remove debris
- Scrap old stuff of no value
- Dispose of TV near front gate
- Sweep and dispose of accumulated dirt piles and debris

Gate 5

- Clean up metallic fines outside of concrete block and along tracks
- Spread soil pile by former utility repair area

Rail Scale

- Remove oil spot from rail spur
- Empty trash container
- Empty water from AST containment (no sheen, can go on ground – just rainwater)

- Put new "USED OIL" label on Aboveground tank

Head of Slip & Upland of the Slip

- Remove and process scrap
- Pickup all debris(wood, tires, rope), scrap and garbage
- Remove concrete
- Grade or rake soil to flatten
- Place ~10 hay bales at the base of the hill (above high water line) to prevent erosion

Shoreline along Willamette River

- Inspect and remove metal, wood and garbage as needed
- Remove and dispose of alumina debris in half round bin

Dock and Torch Line

- Remove oil spot near alum ingot storage.
- Pickup all oily absorbent pads along torch line and dock
- Pickup wood, garbage (insulation, rubber pieces) and misc. scrap pieces along entire length of dock.
- Sweep entire length of dock, especially in areas of truck traffic
- Vacuum dirt between rails the entire length of dock
- Cover all dock grates with filter fabric. **Jim working on**

Shear

- Pick up garbage and butts around the shear
- Sweep roadway and rail tracks in this area

Lunchroom Area

- Pickup trash and wood debris
- Empty bins with trash
- Wash spill kit and check contents near lunchroom

Truck wash & Shear

- Remove oil drum near tractor trailers. Place in oil storage and label.
- Pick up misc. dry sweep.
- Clean up dirt and debris
- Clean roadway where trucks enter and leave truck wash
- Remove standing water **OK**
- *Remove half round with garbage*

- *Remove scrap metal on ground in area*

Throughout Yard

- Keep sweeping every night
- Remove half round with garbage by the pig iron storage pile.
- Remove 55 gallon steel drum spill kit that contains water (near shred bin)

March 29, 2005

Truck wash entrance & exit

Outfall #2 shovel

IT YARD – General Yard Improvement Tasks

Front Entrance & Sweep off Bins

- Looks great right now. Need to stay on top of it.
- Pick up litter one more time along entire roadway
- Clean roll-off bins Thursday night.

Scale

- Sweep off scale and around scale.

Shredder

- Area in front of shredder needs to be swept and we need to maintain
- Empty bin with motors, cylinders and batteries
- Remove trash and accumulated items (gas can) near employee trailer
- Empty all ½ rounds and WM trash container
- Sell or recycle metal shavings – reduce pile by half if possible
- Pump excess water by catch basins if still present Thursday

ASR Processing and Load Out

- Looks great now. Need to stay on top of it.
- Keep ASR swept up near storage pile (Thursday night)
- Excess ASR not stored on concrete needs to be picked up and processed for disposal
- Pump Outfall 2 sumps to shredder

Maintenance Shop

- Keep it clean, swept and oil spots as clean as practical
- Pick up absorbent rags and absorbent on floor.
- Empty all garbage containers and ½ rounds

ASR Load Out & Oil Storage Areas (Behind Building B)

- Keep clean
- Rake and remove ASR from roadway and adjacent areas
- Sweep asphalt along oil storage area
- Remove and manage two 55 gallon drums with oil and water
- Pick up oiled absorbent rags

Former Remnant Storage Yard behind Building B

- Empty half round with mud and debris near green WM box.

Gate 5

- If empty and clean, remove hazard label from RR tanker car. Double check to make sure customer cleaned as required.
- Place metallic fines in bin
- Remove propane cylinder from half round by fence

Rail Scale and Nearby Vacant Lot

- Empty trash container
- Empty water from AST containment (no sheen, can go on ground – just rainwater)
- Place drip pans under locomotive as needed.

Head of Slip & Upland of the Slip

- Remove and process misc scrap debris.
- Pickup all debris(wood, tires, rope), scrap and garbage.
- Place hay bales.
- Plant grass to prevent erosion (after inspection).
- Place filter fabric in nearby catch basins (2)

Shoreline along Willamette River

- Pick up all debris from the bank to the RR tracks
- Pump clear water from transformer pad to treatment system.

Dock and Torch Line

- Sweep and pick up debris length of dock (especially where barge unloaded and in areas of truck traffic
- Replace and cover all dock grates with filter fabric. If fabric fell to walkway…remove and dispose
- 55 gallon drum (with Foss label) in construction zone needs to be put in Mold Loft Building (we should inspect and determine contents
- Make spill kits visible and accessible (don't have them prop up work tables
- Return scrap barge

Lunchroom Area

- Empty trash

Throughout Yard

- Keep sweeping every night
- Soil/dirt pile in central portion of yard needs to be removed

RAD Detection

	IT	SST
Barge -	Truck Detector PASCO	Need Yes
Rail -		X Exploranium
Truck -	X Exploranium	X Exploranium
Shredder -		Need Yes

RADCOM
Exploranium
Ludlum
Bicron

APPENDIX B:
SCRAP ACCEPTANCE POLICY

SCHN00240490

SCRAP ACCEPTANCE GUIDELINES

SCHNITZER STEEL PRODUCTS CO.
12005 N BURGARD RD.
PO BOX 10047
PORTLAND, OR 97296-0047

503-286-5771
FAX 503-286-6948

Dear Customers:

This brochure clarifies our policies for accepting recyclable metals. These requirements reflect our commitment to responsible environmental management. Please be aware that many of our policies are controlled by state and federal environmental regulations which apply both to us and to our customers.

This list is not inclusive; other items not listed may be inappropriate for recycling as scrap metal. Please read this brochure carefully, and contact us at 503/286-5771 if you have questions about specific items. **Remember that any load may be rejected at your cost if these guidelines are not followed.**

The following materials will NOT be accepted at our facility:

- Refrigerants (including CFCs and HCFCs) in refrigerators and air conditioners. Please note that Clean Air Act regulations (§608(b)(1) and §608(c)) prohibit any release of refrigerants to the atmosphere, and require persons handling refrigerants to follow specific procedures. Our customers are REQUIRED to sign a statement certifying that all refrigerants have been properly removed (40 CFR §82).
- Asbestos or asbestos containing materials, such as pipe insulation and surfacing material commonly found on I-beams, tanks, and other structural and demolition debris (40 CFR §61.150).
- Oils, gasoline, other petroleum products and antifreeze. This includes hydraulic fluids, gear oils and grease. Hydraulic equipment must have hydraulic hoses removed and cylinders cut open and drained.
- Lead-acid batteries or battery parts, including automobile batteries (40 CFR §273).
- Items that contain or have contained PCBs, including small capacitors, fluorescent light ballasts and electrical transformers or transformer components (TSCA and 40 CFR §258 and §261).
- Automobile airbags, which contain sodium azide (40 CFR §261).
- Paint cans or other paint containers.
- Acetylene bottles and other sealed containers. Sealed containers are described as air or water tight containers without visible openings.
- Fluorescent lights, neon, high intensity or mercury vapor lights.
- Any material containing hazardous or toxic substances.
- Military scrap of any kind, unless approved in advance.
- Explosives or explosive residues.
- Radioactive materials of any kind.
- Tires, wood, dirt, yard debris, concrete, asphalt, glass, rubber, or other non-metallic materials.
- The following items will be accepted ONLY if prepared as described:
- Appliances: ALL electrical components and compressors must be removed.
- Automobiles: ALL fluids, including refrigerants, must be drained. Tires, batteries, lead wheel weights, mercury switches, and undeployed air bags must be removed.
- Air conditioning compressors: MUST be removed from item, cut in half, and drained.
- Drums, barrels and other containers: MUST be thoroughly cleaned and open for inspection.
- Gas cylinders, including air bottles, shock absorbers, and propane and other gas tanks, must be cut in half or have a hole to allow inspection.
- Cable and wire: MUST be cut in 3-foot lengths, or coiled and banded with 3/4-inch steel banding in at least four places.
- Metal banding: MUST be cut in 1-foot lengths.
- Chain-link fencing: MUST be cut in sections no larger than 18 feet by 4 feet.
- Aerosol cans: MUST be empty and crushed or punctured. Plastic caps must be removed.

APPENDIX C:
SPILL PREVENTION, CONTROL, AND COUNTERMEASURES (SPCC) PLAN

SCHN00240493

APPENDIX D:
SITE INSPECTION CHECKLIST

SCHN00240494

SITE INSPECTION CHECKLIST
SCHNITZER STEEL PRODUCTS CO. - INTERNATIONAL TERMINALS
Stormwater Pollution Prevention Plan

Inspector Signature _____ Date _____

MONTHLY INSPECTION ITEMS						
Inspection Items	Status Acceptable	Status Unacceptable	Comments	Recommended Corrective Action	Date Completed	Initials
Catch Basins						
Unobstructed/operative						
Filters present						
Grates in good condition						
Other						
Vehicles/Equipment						
Oil leaks						
Drip pans in place						
Pavement						
Condition/repair						
Swept/free of buildup						
Evidence of spill or leakage						
Debris, refuse						
Trailer sweep-off bins						
Trash dumpsters						
Other						
Spill response kits						
Unnacceptable or suspect materials						
Containers						
Kept closed						
Properly labeled						
In good condition						
No signs of leakage or spillage						
Outfalls						
Floating solids						
Oil&Grease sheen						
Oil/Water Separators						
Sediment buildup						

APPENDIX E:
TRAINING RECORD FORM

TRAINING RECORD

DATE: _____ INSTRUCTORS NAME: _____

The training included a discussion of each section of the SWPPP and highlighted spill response, good housekeeping, and proper operation and maintenance of equipment. Other topics and discussion items included:		
Instructor's Signature:		
Participant's Name:	Participant's Job Function:	Participant's Signature:

DATE: _____ INSTRUCTORS NAME: _____

The training included a discussion of each section of the SWPPP and highlighted spill response, good housekeeping, and proper operation and maintenance of equipment. Other topics and discussion items included:		
Instructor's Signature:		
Participant's Name:	Participant's Job Function:	Participant's Signature:

STORMWATER POLLUTION CONTROL PLAN

SCHNITZER STEEL PRODUCTS CO.
International Terminals
12005 N Burgard Road
Portland, Oregon 97203

January 2005

STORMWATER POLLUTION CONTROL PLAN
SCHNITZER STEEL PRODUCTS CO.
International Terminals

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Figure 2: Site Plan Showing Drainage Features

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Appendix B: *Scrap Acceptance Policy*

Appendix C: Spill Prevention, Control, and Countermeasures (SPCC) Plan

Appendix D: Site Inspection Checklist

Appendix E: Training Record Form

SCHN00240500

STORMWATER POLLUTION CONTROL PLAN
SCHNITZER STEEL PRODUCTS CO.
International Terminals

1.0 PLAN OVERVIEW

1.1 Introduction

This Stormwater Pollution Control (SWPC) Plan covers the operations of the Schnitzer Steel Products Co. (SSP) scrap metal recycling facility and International Terminals (IT) cargo facility located in the Burgard Industrial Park on the east bank of the Willamette River in north Portland, Oregon. This SWPC Plan was prepared in accordance with the requirements of the Oregon Department of Environmental Quality (DEQ) General Permit 1200-Z issued under the National Pollutant Discharge Elimination System (NPDES).

The U.S. Environmental Protection Agency's (EPA's) model permit for the scrap processing and recycling industry (U.S. EPA, 1993), and the DEQ's *Guidance Document for Preparation of the NPDES Storm Water Pollution Control Plan* (DEQ, 1997) were used as guidance for the preparation of this SWPC Plan.

This SWPC Plan describes the SSP-IT facility and its operations; identifies potential sources of stormwater pollution at the facility; and describes appropriate stormwater pollution control measures to reduce the potential for discharge of pollutants in stormwater run-off. In addition, the requirement for periodic review of this Plan is established.

1.2 General Facility Information

Following is a brief summary of general facility information related to the SSP-IT site:

Name of Facility:	Schnitzer Steel Products Co.
Owner:	Schnitzer Investment Corp.
Operator:	Schnitzer Steel Products Co.
Facility Address:	12005 N Burgard Road Portland, Oregon 97203

SCHN00240501

Mailing Address: P.O. Box 10047
Portland, Oregon 97296-0047

Facility Contacts:

Primary: Jim Goodrich, General Manager
(503) 286-5771
(503) 793-0023 (cell)

Alternate: Jim Jakubiak, Environmental Administrator
(503) 286-6976
(503) 519-4795 (cell)

Alternate: Mathew Cusma, Environmental Administrator
(503) 286-6944
(503) 209-6057(cell)

Number of Employees: 100 (approximate - varies)

Operations Description: Ferrous scrap metal recovery and recycling. Scrap metals are delivered to the site from private and commercial parties by truck, rail, or barge, and are graded and sorted on-site. Scrap metals may be resized by shredding, shearing, or torching, and are ultimately shipped off site by truck, rail, barge, or ship for use as feed stock in domestic or foreign steel mills.

Standard Industrial Classification (SIC) Code: 5093, Scrap and Waste Materials

Site Drainage: The site is flat and has been graded to promote desired drainage patterns. The site is predominantly paved (asphalt) and stormwater drains by sheet flow to catch basins. Catch basins drain through subsurface piping to oil/water separators, which discharge either to an onsite process water management system, or off site to the Willamette River.

Stormwater Outfalls: 18 active outfalls discharge to the Willamette River.

1.3 Plan Objectives

In November 1990, the U.S. EPA adopted regulations (40 CFR Parts 122, 123, and 124) to control stormwater discharges from industrial facilities and certain municipalities through the NPDES permit program. The goal of the NPDES permit program is to improve the quality of surface waters by reducing the quantity of pollutants that are

SCHN00240502

potentially contained in stormwater run-off. In the State of Oregon, the Oregon DEQ has been granted the authority to administer the NPDES program.

The NPDES program specifies certain SIC categories [40 CFR §122.26(b)(14)(i-ix, xi)] for which discharge permits are required. Any facility falling within such a category, and from which stormwater leaves the site and enters surface waters through a "point source," must apply for a stormwater discharge permit under the NPDES system. In addition, facilities subject to NPDES permitting requirements, which include the SSP-IT facility, are required under the permit conditions to prepare and implement a Stormwater Pollution Control Plan. The SSP-IT facility is currently permitted to discharge stormwater to waters of the State under General Permit 1200-Z (included as Appendix A).

The objectives of this SWPC Plan are: 1) to identify potential sources of pollution at the facility which could adversely affect the quality of the stormwater discharges from the site, and 2) to describe appropriate pollution control measures and best management practices (BMPs) that will address the identified potential pollution sources and stormwater quality requirements for this facility. Proposed control measures include active potential source isolation and abatement, as well as support programs such as a periodic facility inspection program and detailed recordkeeping and reporting procedures. These measures will assist the compliance staff in maintaining compliance with the terms and conditions of General Permit 1200-Z.

1.4 SWPC Plan Organization

The SWPC Plan is organized into sections as follows:

Section 2.0: Stormwater Pollution Prevention Team

Personnel responsible for implementation of the SWPC Plan are identified and their specific responsibilities related to stormwater management are detailed.

Section 3.0: Facility Description

A detailed description of the site layout, facility operations, and potential sources of stormwater pollution is presented. A facility location map, a site plan showing drainage and other relevant features, an inventory of significant materials potentially exposed to stormwater, and a discussion of past spills are also included.

Section 4.0: Stormwater Pollution Controls

Stormwater management controls, and spill prevention and response procedures are detailed. Preventive maintenance measures, the employee training program, and periodic SWPC Plan review and amendment requirements are set forth.

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Section 5.0: Stormwater Monitoring Program

The stormwater monitoring program, including sampling frequencies and protocols, analytical parameters, and recordkeeping and reporting requirements are presented.

Section 6.0: Implementation Schedule

The SWPC Plan implementation schedule and the discharge permit compliance schedule are detailed.

Section 7.0: Additional Permit Requirements

Oregon Administrative Rules (OAR) specific to the Willamette Basin are addressed.

Section 8.0: Plan Certification

Certification of the SWPC Plan by the owner/operator is presented.

2.0 STORMWATER POLLUTION PREVENTION TEAM

Stormwater pollution prevention depends on the awareness and cooperation of all SSP employees. However, the Stormwater Pollution Prevention Team is primarily responsible for developing, implementing, maintaining and revising this SWPC Plan; ensuring facility employees receive appropriate training in BMPs related to stormwater; conducting periodic site inspections to identify areas needing improvement; and ensuring that any identified deficiencies are corrected in a timely manner.

Team members and their specific duties and responsibilities related to stormwater management are detailed below. All members of the team are familiar with the management and operations of the SSP-IT facility.

Jim Goodrich, General Manager: Responsible for supervision and direction of all stormwater pollution prevention activities at the facility, including compliance with the General Permit and the SWPC Plan. Releases annual stormwater quality reports to the DEQ (July 15th each year), and approves necessary budget items and schedules for implementation of pollution control measures as required by the SWPC Plan.

Jim Jakubiak, Environmental Administrator: Responsible for overseeing day-to-day SWPC Plan implementation. Performs necessary recordkeeping and reporting activities. Assists with employee training related to stormwater pollution prevention. Conducts periodic site inspections and SWPC Plan effectiveness evaluations.

SCHN00240504

Mathew Cusma, Environmental Administrator: Responsible for overseeing day-to-day SWPC Plan implementation. Performs necessary recordkeeping and reporting activities. Assists with employee training related to stormwater pollution prevention. Conducts periodic site inspections and SWPC Plan effectiveness evaluations.

3.0 FACILITY DESCRIPTION

3.1 Facility Location and Description

The SSP-IT facility occupies approximately 70 acres of upland in the Rivergate industrial area between the Willamette River and North Burgard Road in Portland, Oregon. An additional approximately 50 acres of industrial land contiguous to the SSP-IT facility is owned by Schnitzer Investment Corp. (SIC), but is leased to other tenants, and is therefore not covered under this SWPC Plan. Access to the facility is provided primarily by an entrance roadway off of North Burgard Road near the intersection of North Terminal Road. The site can also be accessed using North Sever Road and Time-Oil Road, although these two entrances primarily serve neighboring facilities. A facility location map is provided as Figure 1.

The site is fenced on three sides, with the fourth side bounded by the river. The active portion of the property is bounded as follows:

- On the north, by a marine vessel berthing slip, Jefferson Smurfit Corporation, and Time Oil Co.
- On the east, by Northwest Pipe & Casing Co., Ryerson Steel, and Western Machine Works (tenant of SIC), and by North Burgard Road.
- On the south, by Terminal 4, a shipping terminal owned and operated by the Port of Portland.
- On the west, by the Willamette River.

Properties on the north and east sides of the site are not addressed in this SWPC Plan, except to the extent that their discharge may affect discharges from the outfalls associated with SSP-IT. SSP-IT is in continuing communication with these facilities regarding issues related to stormwater management.

The facility is predominantly paved (asphalt), and includes two large warehouses, three modular office buildings, a break/locker room, and two scale houses. A large automobile shredder, including associated magnetic separators and conveyors, is located at the southwest corner of the property, and a hydraulic guillotine shear is located in the north-central portion of the property.

SCHN00240505

3.2 Operations Description

Metal scrap consisting of a wide variety of recycled items including metal parts, automobiles, appliances, and steel fabrication remnants is delivered to the facility from private and commercial parties by truck, rail, or barge. The scrap is weighed, graded and sorted according to its type, size and thickness, and the transport is directed to the appropriate location at the facility for offloading.

Once received, the scrap material is either processed immediately (e.g., in the shredder or shear, depending on the grade of the material), or is staged for future processing or offsite transfer. Materials processed in the shredder include automobiles, appliances, baled and loose tin and sheet metal, and other relatively thin metals. The shredder reduces the size of the scrap and separates the ferrous metals from non-ferrous metals and nonmetallics (Automobile Shredder Residue [ASR]) using a variety of means including magnetic and gravity separators. The shear is used to re-size steel plate, heavy-walled pipe, cable, and other relatively thick scrap, using a hydraulic guillotine. Items not amenable to processing in either the shredder or the shear may be cut by portable shears or by torch, or transferred offsite as-is.

Processed and unprocessed scrap, and some processing residues (e.g., ASR, nonmetallic components, etc.), are temporarily staged at the facility in outdoor piles until offsite shipment is arranged. The processed and sorted scrap is then loaded into trucks, rail cars, cargo containers, barges, or ships for shipment off site to domestic and foreign steel mills, where the material is melted and formed into new steel for manufacturing of new products. The ASR is loaded on trucks for shipment offsite for use as an approved alternate daily cover material at appropriate Subtitle D landfills.

In addition to these primary facility operations, several support operations, including weigh-scales, vehicle and equipment maintenance, steel remnant storage and sales, bulk material (e.g., pig iron, ferro-manganese, silica-manganese, etc.) storage and sales, and truck washing, are conducted at the facility. Materials related to these support operations that have the potential to adversely impact stormwater, including petroleum products, coolants (glycol), and waste fluids (oils and coolant), are stored either indoors or in a covered outdoor area provided with secondary containment. Steel, pig iron, manganese, and similar bulk materials are typically stored outdoors in paved areas divided by steel retaining walls.

3.3 Site Map

Pursuant to the requirements of NPDES General Permit 1200-Z, a site map of the facility is provided with this SWPC Plan. The site map shows the following features:

- Drainage patterns.

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- Drainage and discharge structures.
- Catch basins.
- Sumps.
- Storm sewer piping.
- Outfalls.
- An outline of the drainage area for each stormwater outfall.
- Paved areas and buildings within each drainage area.
- Areas used for outdoor manufacturing, treatment, storage, and/or disposal of significant materials (no disposal occurs at the site).
- Existing structural control measures for reducing pollutants in stormwater run-off.
  - Sand filters.
  - Oil/water separators.
  - Containment booms.
  - Grease traps.
- Material loading and access areas.
- Hazardous waste treatment, storage and disposal facilities (NONE).
- Locations of wells, including waste injection wells, seepage pits, dry wells, etc. (only one well, a cooling water supply well, exists on-site).
- Locations of springs, wetlands, and other surface water bodies.
  - Willamette River.
  - Berthing Slip (appendage of Willamette River).

3.4 Stormwater Drainage

Stormwater run-off at the SSP-IT facility is routed to 18 active outfalls which discharge into the Willamette River. Each of the outfalls serves a specific drainage area within the facility boundaries, as shown on the site map provided with this SWPC Plan. In addition, there are two remnant outfalls at the site related to historic operations, that no longer convey stormwater. Table 1 presents a summary of each of the outfalls at the facility, the activities conducted in the associated drainage areas, and the significant materials present.

In addition to the facility drainage areas served by the outfalls identified in Table 1, precipitation incident in five drainage areas is contained and used in the scrap processing operations at the site. These areas are described below:

- The area immediately surrounding the shredder (approximately three acres) is paved and provided with catch basins piped to a closed-loop collection and

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Table 1: Site Drainage Summary

OUTFALL ID [1]	DRAINAGE AREA ACTIVITIES	SIGNIFICANT MATERIALS	POTENTIAL POLLUTANTS	END-OF-PIPE TREATMENT	COLLECT SW SAMPLE
1	Entrance roadway, vehicle scales, vehicle parking and traffic, offices	Parked vehicles and traffic, ferrous and non-ferrous materials	Oil and grease, petroleum hydrocarbons, heavy metals (dust)	Coalescing Plate Oil/Water Separator	YES
2	Heavy equipment parking, truck loading, crushed automobile storage	Stored equipment, truck and equipment traffic	Oil and grease, petroleum hydrocarbons, heavy metals (dust)	Vortech Treatment Unit, Sand Filter	Represented by Outfall 6
3A, 3B	Steel storage, bulk material (e.g., pig iron) storage, traffic	Steel and other ferrous materials, vehicles	Oil and grease, petroleum hydrocarbons, heavy metals (dust)	Oil/Water Separator, Sand Filter	Represented by Outfall 6
4A, 4B	Steel storage, bulk material (e.g., pig iron) storage, traffic	Steel and other ferrous materials, vehicles	Oil and grease, petroleum hydrocarbons, heavy metals (dust)	Oil/Water Separator, Sand Filter	Represented by Outfall 6
5A, 5B	Steel storage, bulk material (e.g., pig iron) storage, truck scales, traffic	Steel and other ferrous materials, crushed automobiles, traffic	Oil and grease, petroleum hydrocarbons, heavy metals (dust)	Oil/Water Separator, Sand Filter	Represented by Outfall 6
6A, 7	Ship slip and dock activities, scrap, steel and metal product loading and unloading	Heavy equipment, rail cranes, railroad cars and engines, scrap stockpiles	Oil and grease, petroleum hydrocarbons, heavy metals (dust)	Oil/Water Separator, Sand Filter	YES
10	Ship slip and dock activities, scrap, steel and metal product loading and unloading	Heavy equipment, rail cranes, railroad cars and engines, scrap stockpiles	Oil and grease, petroleum hydrocarbons, heavy metals (dust)	None	YES
13	Dock activities, scrap, steel and metal product loading and unloading	Shear, heavy equipment, railroad cars and engines, scrap stockpiles	Oil and grease, petroleum hydrocarbons, heavy metals (dust)	Eight-stage Oil/Water Separator	YES
14	Ferrous scrap storage, vehicle and rail road traffic, vehicle parking, offices	Vehicles, ferrous scrap	Oil and grease, petroleum hydrocarbons, heavy metals (dust)	None	YES
15	Ship slip and dock activities, scrap, steel and metal product loading and unloading	Heavy equipment, rail cranes, railroad cars and engines, scrap stockpiles	Oil and grease, petroleum hydrocarbons, heavy metals (dust)	Eight-stage Oil/Water Separator	Represented by Outfall 13
16	Vehicle parking, equipment storage, non-ferrous scrap receiving and storage, petroleum secondary containment area (under roof)	Parked vehicles, stored equipment, potential spillage	Oil and grease, petroleum hydrocarbons, antifreeze, heavy metals (dust)	None	Represented by Outfall 14
18	This outfall primarily serves NW Pipe and adjacent properties (permitted separately). A small fuel island at the east end of the property (operated by SSP) is also served by this outfall.	Vehicle traffic, potential spillage	Oil and grease, petroleum hydrocarbons, heavy metals (dust)	N/A	N/A
19	Vehicle traffic, rail car storage	Vehicle traffic, potential spillage	Dust, roadway accumulations	None	YES
20	Rail car storage, scrap storage	Ferrous scrap, vehicle traffic, potential spillage	Heavy metals (dust), oil and grease	None	Represented by Outfall 19

[1] - Outfall locations are shown on the Site Map provided with this SWPC Plan.
- Former Outfalls 8, 9, and 12 have been abandoned. The discharge pipes have been cut and grouted.
- Former Outfalls 11 and 17 are remnants of an historical shipyard. They are no longer connected to any catch basins at the site, and do not discharge stormwater.

treatment system. In addition to shredder operations, this area is used for staging of unprocessed scrap items, processed scrap, and ASR. Water collected in this area is treated in a 90,000-gallon clarifier through polymer and flocculent addition, and is then transferred to a 270,000-gallon storage tank. Stored water is supplied to the shredder, as needed, to facilitate the shredding of metal materials. The water added to the shredder either evaporates, or is discharged with the shredded material, and drains back into the area catch basins to be recycled (i.e., it is a closed loop system). Because stormwater is not capable of providing sufficient water for this purpose during most of the year, water also may be drawn from a nearby supply well, as well as from the city water supply, to fulfill the need for shredder process water.

- An approximate 400 foot by 60 foot concrete slab (approximately $^1/_2$ acre) located along the southern property boundary near the shredder drains through two large oil/water separators. This slab is used for storage of motor blocks, machine turnings, and other potentially oily scrap. Stormwater from this slab is pumped from the oil/water separator to the shredder for use as process water make-up.
- A small paved area south of the shear (approximately $^1/_2$ acre) is served by a catch basin which is also piped to the shredder process water recycling system. This area is used primarily for storage of scrap electrical cable.
- The electrical transformer substation serving the shredder (located in the southwest corner of the site) is equipped with secondary containment including a blind sump. A manually operated pump has been installed in the sump to evacuate the containment area, as necessary. This water is pumped into the shredder process water recycling system.
- The concrete slab underlying the hydraulic shear is served by a large sump which collects stormwater. The stormwater is pumped from the sump through two large oil/water separators (located near the dock lunchroom), and then flows to the shredder process water recycling system for re-use.

3.5 Significant Materials and Potential Stormwater Pollutants

The NPDES General Permit 1200-Z requires the SWPC Plan to include a description of "significant materials" at the site which may be exposed to stormwater. For the purposes of the permit, "significant materials" are defined as including, but not limited to, "raw materials; fuels; materials such as solvents, detergents and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ash, slag and sludge that have the potential to be released with storm water discharges."

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Significant materials that might be expected at the SSP-IT facility include the following:

- Ferrous metal scrap.
- Non-ferrous metal scrap.
- Automobile shredder residue (ASR - shredded plastic, fabric, carpet and rubber residuals from the recycling process).
- Bulk materials (pig iron, manganese, etc.).
- Petroleum products (new and used).
- Trash and debris.
- Steel and other metal products.

Both new and used vehicle maintenance fluids (e.g., oil, hydraulic fluid, antifreeze, etc.) are stored in drums and other closed containers, either inside an enclosed building, or within a covered secondary containment area. Potential contact of these materials with stormwater would be limited to leaks from vehicles or equipment, or potential spills.

As a result of the presence of these significant materials, and as summarized above in Table 1, the following potential stormwater pollutants have been identified:

- Petroleum hydrocarbons.
  - Oil and grease.
  - Hydraulic fluid.
  - Fuels (diesel, gasoline, etc.).
- Antifreeze (glycol).
- Heavy metals (dust).
- Dust/soils.

4.0 STORMWATER POLLUTION CONTROLS

This section describes the stormwater pollution controls that will be implemented at the facility to reduce or eliminate the potential for pollutants to impact stormwater run-off from the site. The following categories of pollution controls are addressed, as required by NPDES General Permit 1200-Z:

- Stormwater Best Management Practices.
  - Containment.
  - Oil and Grease.
  - Waste Chemicals and Material Disposal.
  - Erosion and Sediment Control.
  - Debris Control.
  - Stormwater Diversion.

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- Covering Activities.
- Housekeeping.
- Other Operational Controls. (in addition to those required by permit)

- Spill Prevention and Response.
- Preventive Maintenance.
- Employee Education.
- Recordkeeping and Internal Reporting Procedures.
- Plan Review and Revision Requirements.

4.1 Stormwater Management

The potential for stormwater pollution occurs when incident rainwater or stormwater run-off comes into contact with pollutants on exposed surfaces. Pollutants may dissolve, become suspended, or float on the surface of the water, or may attach (e.g., via absorption or adsorption) to soil particulates suspended in the stormwater. Stormwater quality at the SSP-IT facility has the potential to be impacted as a result of exposed or leaking vehicles or equipment, stockpiled scrap metals and bulk materials, staged shredder residues, and exposed pavement impacted by vehicle traffic and parking.

The vast majority of the SSP-IT property (approximately 90%) is paved (asphalt or concrete), and is graded to drain to catch basins. Most of the site's catch basins are designed as grease traps (i.e., with an inverted drain pipe). Stormwater run-off drains via sheet flow to the catch basins, the majority of which are piped to oil/water separators and/or settling cascades, and ultimately to the outfalls serving the site. There are a total of 18 active stormwater outfalls serving the site, which discharge to the Willamette River either directly, or via the berthing slip. As indicated in Table 1, above, two former outfalls (Outfalls 11 and 17) are remnants of a historical ship yard, and are not currently connected to any catch basins. Three other former outfalls (Outfalls 8, 9, and 12) have been formally abandoned and grouted closed.

In addition, Outfall 18 primarily serves facilities east of the SSP-IT facility, at least one of which uses the outfall for permitted discharge of non-contact process water. SSP operates a small fuel island in an area near the east property boundary that is also served by this outfall. However, stormwater in the fuel island area drains through grease-trap catch basins and through a three-stage oil/water separator prior to joining other flows directed to the outfall.

As described in detail in Section 3.4, and again in Section 4.1.1 below, precipitation incident in five facility drainage areas is contained and used in the scrap processing operations at the site. These areas include the area immediately surrounding the shredder (approximately three acres), a concrete slab at the south property boundary

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(approximately $^1/_2$ acre), a small area south of the shear (approximately $^1/_2$ acre), the concrete slab underlying the shear, and a small secondary containment system for the shredder electrical transformer substation.

SSP has implemented a variety of stormwater pollution controls, BMPs, and structural modifications to minimize the potential for contamination of stormwater run-off from the site. Stormwater pollution controls can generally be categorized as either source controls or structural controls. Source controls are practices that reduce or eliminate the potential for contact of stormwater with pollutant sources, or eliminate non-stormwater discharges (e.g., spills or leaks). Structural controls are in-pipe or end-of-pipe treatment systems and discharge volume reduction devices. Some controls, such as containment structures designed to isolate potential pollutant sources, may be classified in either category.

In general, source controls are given the highest priority for implementation under this SWPC Plan. SSP believes that control of potential pollution sources is a more proactive approach to stormwater pollution prevention, minimizing the need for often expensive end-of-pipe treatment technologies. However, due to the nature of scrap recycling operations and existing conditions, structural controls have also played an important role in stormwater pollution prevention at the facility, and will continue to be evaluated for implementation.

Table 2 provides a summary of the existing and proposed stormwater pollution control measures relevant to the SSP-IT facility. As indicated in the table, existing control measures are continuously undergoing evaluation for applicability and effectiveness, and some have been designated for improvement. The following subsections describe the control measures in greater detail.

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Table 2: Stormwater Pollution Controls and BMPs

Control/BMP	Frequency	Current	Improvement Needed	Future	Implementation Date
All vehicle maintenance conducted indoors.	at all times	✓			
Maintenance schedule developed for all vehicles/equipment (based on manufacturer's recommendations).	once	✓			
Drip pans or other containment in use for all stored vehicles/equipment to contain leaks.	at all times	✓			
Lids/covers in use on all trash bins and dumpsters.	at all times	✓			
Oil/water separators inspected for excessive sediment accumulation (i.e., above drain pipe inlet).	monthly	✓			
Oil/water separators pumped out.	as needed	✓			
Additional treatment technology implemented for outfalls not meeting water quality criteria.	as needed	✓			
All vehicle washing restricted to covered truck wash.	at all times	✓			
Existing pavement maintained to minimize erosion.	as needed	✓			
Accessible areas are swept with a vacuum/broom sweeper.	weekly	✓			
Accessible areas are swept with a magnetic sweeper.	bi-weekly	✓			
Unpaved portions of site inspected for signs of erosion.	monthly	✓			
Run-off from shredder residues diverted away from outfalls and into shredder process water.	at all times	✓			
Run-off from outdoor storage areas diverted away from outfalls.	at all times	✓			
Shredder residues stockpiled under cover pending offsite shipment and disposal.	at all times	✓			
Accurate storm sewer drainage and piping layouts maintained.	at all times	✓			
Hazardous substances properly identified, labeled and stored.	at all times	✓			
Spill containment pallets in use under all containers of liquids outside of secondary containment structures.	at all times	✓			
Dust controlled by maintaining clean pavement and posting speed limits, limiting the need for water application.	as needed	✓			
Signs/stencils used to warn against dumping materials into storm drains, where problems exist.	at all times	✓			
Dry cleanup methods (e.g., absorbent) used for spilled or leaked liquids in processing and maintenance areas.	as needed	✓			
Corporate Environmental Policy established and reviewed for applicability and adequacy (revised as necessary).	annually	✓			
Scrap acceptance policy established and reviewed for applicability and adequacy (revised as necessary).	annually	✓			
Procedures established for managing potentially hazardous materials inadvertently received.	once	✓			
Spill prevention and response procedures established.	once	✓			
Employees trained regarding corporate environmental policy, stormwater pollution prevention, and spill response.	annually	✓			
Stormwater pollution prevention procedures reviewed, and revised as necessary.	annually	✓			
Storm drain covers provided in areas where spills or leaks are most prone to occur.	at all times	✓			
Spill response kits provided in areas where spills are most prone to occur.	at all times	✓			
Stationary equipment inspected for evidence of leaks or maintenance issues which may result in leaks.	weekly	✓			
Stormwater outfall discharges inspected for color, foam, sheen, and other visible evidence of potential problems.	monthly	✓			

4.1.1 CONTAINMENT

As noted above, containment measures, which involve isolating potential pollution sources from contact with stormwater, may be classified as both a source control and a structural control. Containment measures play an important part in stormwater pollution control at the SSP-IT facility, and are generally considered to be the preferred mechanism for reducing or eliminating adversely impacted stormwater discharges. The following containment measures have been implemented at the facility to minimize the exposure of significant materials to stormwater:

- To the extent possible, vehicle and equipment maintenance activities are conducted inside a fully enclosed, concrete floored building. The building floor slopes toward low spots in the floor that serve as blind liquid collection points. Drains inside the building that connect to the site's stormwater sewer system are not located in areas used for maintenance activities. Vehicle maintenance outside of the building is conducted only in the event of an emergency, such as the failure of hydraulic systems, and is limited to activities necessary to ensure capture and containment of fluids and other significant materials. Equipment maintenance outside of the building is limited to items that are not mobile or portable.
- New and used motor oil, hydraulic fluid, antifreeze, etc. are stored in drums and other sealed containers under roof in a concrete secondary containment unit. Containers are elevated above the floor of the containment structure to facilitate detection and collection of spilled and accumulated liquids. Small quantities of these items may also be stored inside of the vehicle maintenance building, elevated on pallets or placed in polyethylene or steel drip pans.
- The paved area immediately surrounding the automobile shredder (approximately three acres) is sloped toward catch basins, which are piped to a nearby storage tank. Water collected in the tank is treated and supplied to the shredder, as needed, as a coolant/lubricant to facilitate the shredding of metal materials. The water added to the shredder either evaporates in the process, or is discharged with the shredded material, draining back into the catch basins to be again recycled. This area is used for stockpiling of shredded ferrous and non-ferrous metals and ASR prior to offsite shipment.
- An approximate 400 foot by 60 foot concrete slab (approximately $^1/_2$ acre) located along the southern property boundary near the shredder drains through two large oil/water separators. This slab is used for storage of motor blocks, machine turnings, and other potentially oily scrap. Stormwater from this slab is pumped from the oil/water separator to the shredder for use as process water make-up.
- A small paved area south of the shear (approximately $^1/_2$ acre) is served by a catch basin which is also piped to the shredder process water recycling system. This area is used primarily for storage of scrap electrical cable.

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- The electrical transformer substation serving the shredder (located in the southwest corner of the site) is equipped with secondary containment including a blind sump. A manually operated pump has been installed in the sump to evacuate the containment area, as necessary. This water is pumped into the shredder process water recycling system.
- The concrete slab underlying the hydraulic shear is served by a large sump which collects stormwater. The stormwater is pumped from the sump through two large oil/water separators (located near the dock lunchroom), and then flows to the shredder process water recycling system for re-use.
- The electrical transformer substation serving the shredder (located in the southwest corner of the site) is equipped with secondary containment including a blind sump. A manually operated pump has been installed in the sump to evacuate the containment area, if necessary.
- Drip pans are placed beneath vehicles and equipment that show evidence of potential oil or fluid leakage, and that are parked or stored for periods longer than one shift (eight hours).

4.1.2 OIL AND GREASE

Oil and grease separation is a structural control that is in extensive use at the SSP-IT facility. The following oil and grease separation control measures have been implemented for stormwater at the site.

- There are four oil/water separators in existence at the facility. Oil/water separators are passive, flow-through, multi-step chambers designed to separate floating product and settleable solids from the discharge stream. The oil/water separators vary in size and complexity, and are installed in discharge lines serving the following areas:
  - A coalescing plate oil/water separator is installed at Outfall 1. The drainage area served by this unit includes the site access road, the truck scales, remnant steel storage, and office parking. In addition to a sediment-retaining weir and oil-retaining baffle, this unit includes a bank of coalescing media plates designed to facilitate the removal of oils from the discharge stream.
  - A Vortechs Stormwater Treatment System, designed to remove floating product (oil and grease), as well as settleable solids, is installed at Outfall 2, immediately upstream of a sand filter. This outfall serves the drainage area immediately north of the shredder, in which bulk materials, crushed automobiles, shredder residues, and other significant materials are stored. Shredder process water, which is recycled through a treatment system for re-use, is not discharged through this unit.
  - One eight-stage oil/water separator is installed at Outfall 13. The drainage area served by this unit, located on the dock immediately east of the shear, is used for

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staging of scrap metals which must be torch cut or otherwise dismantled either prior to, or in lieu of, being resized in the shear.

- One eight-stage oil/water separator is installed at Outfall 15. The drainage area served by this unit, located on the dock east of the shear, is used for staging of scrap metals which must be torch cut or otherwise dismantled either prior to, or in lieu of, being resized in the shear.

- A single cartridge Stormwater Management StormFilter has been installed at the catch basin nearest the bay door opening into the maintenance shop in Building B. The device was installed in order to address the increased risk of potential oil spills or leakage at this location.
- Each of the five sand filters installed at the facility include pre-chambers equipped with sediment weirs and oil baffles to minimize oil-fouling of the filtration media. The sand filters are described in detail in Section 4.1.4.
- Approximately 80% of the storm drain catch basins at the SSP-IT property are designed with inverted outflow pipes to trap oil and grease in the basin. The outflow pipes discharge water collected in the basin from below the water surface, essentially trapping oil, grease and other floating materials in the basin. These catch basins are located throughout the site, but are concentrated in areas of storage and operations (e.g., most of the non-grease trap basins are located along access roads and in parking areas).
- Passive oil skimmers (absorbent pillows) are placed in all catch basins throughout the operations areas and high traffic areas of the site. These pillows are designed to absorb petroleum products floating on the surface of the collected water, thereby reducing the amount of oil that is free-floating, and that might flow out of the basin to the oil/water separators and the outfalls.
- Drip pans are placed beneath vehicles and equipment that show evidence of potential oil or fluid leakage, and that are parked or stored for periods longer than one shift (eight hours).
- Small spills or releases of oil or other petroleum products are cleaned up using dry absorbents which are swept up and properly disposed upon completion of clean-up. Soils that may be impacted by small spills are removed and properly disposed. Detergents and solvents are not used to clean up spills.
- Oil/water separators are inspected on a monthly basis for buildup of sediments, grease, and related materials. The chambers are pumped out and cleaned by a licensed private wastewater contractor, as necessary.
- Catch basin skimmers are inspected at least monthly, and are replaced as necessary. Oil-soaked absorbents are properly disposed.

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Numerous additional oil and grease separation control measures are in use at the facility related to the shredder process water system and other non-stormwater related activities that are not described here.

4.1.3 WASTE CHEMICALS AND MATERIAL DISPOSAL

Management controls related to waste chemicals and material disposal include both source control and structural control options. The following management practices related to waste chemical and material disposal have been implemented at the site:

- SSP's stringent scrap metal acceptance policy (included as Appendix B) requires that waste materials be removed from discarded items prior to acceptance.
  - Appliances must have all electrical components removed.
  - Vehicles must be drained of all fluids, including fuel, radiator and air-conditioning coolants, and lubricants.
  - Lead acid batteries and mercury switches must be removed from all vehicles or equipment.
  - Compressors from appliances must be removed, drained, and cut in half.
  - Aerosol cans must be empty, and either punctured or crushed.
  - Drums, barrels, and other containers must be thoroughly cleaned and cut open for inspection.
- Waste coolants and lubricants generated by SSP are accumulated in above ground storage tanks or drums in a covered, concrete secondary containment structure prior to periodic offsite shipment for recycling.
- Containers are properly labeled, are kept closed, and are maintained in appropriate storage areas. Any containers damaged in shipment or storage are promptly over-packed, or the contents are transferred to a sound container.
- Solvents and degreasers used in self-contained parts cleaners are periodically exchanged by an outside contractor, and waste solvents are transported offsite for recycling.
- Although uncommon, waste items delivered improperly to SSP (e.g., lead-acid batteries) are temporarily stored under cover in the maintenance building pending offsite shipment for recycling or proper disposal.

4.1.4 EROSION AND SEDIMENT CONTROL

The majority of the SSP-IT property (approximately 90%) is paved. Additional portions of the site are scheduled to be paved in the future. Currently unpaved areas primarily consist of narrow strips of property along the banks of the Willamette River and around the head of the ship berthing slip. Very narrow strips of unpaved area also exist along the network of railroad tracks at the site. The following measures have been implemented at the site to control sediment and erosion:

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- Five sand filters have been installed to control suspended sediment discharge with stormwater along the river. These sand filters serve Outfalls 2, 3, 4, 5, and 6/7. Each sand filter is equipped with a high flow bypass to prevent the sand filter from constricting high flow to the point of flooding the yard. As shown on the attached site map, outfalls designated with an "A" discharge treated flow, and outfalls designated with a "B" discharge the high flow bypass. Exceptions to these designations occur at Outfall 2, where a single outfall discharges both treated and bypass stormwater, and at Outfall 7, which discharges bypass stormwater from Basin 6.
- All oil/water separators at the facility are equipped with either sediment weirs or elevated discharge pipes to trap sediments in a chamber of the unit.
- Accessible areas are swept using a vacuum/broom sweeper on an average of once per week.
- Vegetation (primarily indigenous grasses and blackberry) has been allowed to take root in unpaved areas along the water banks to reduce erosion. In addition, rip-rap has been historically emplaced on the slopes of the river bank which may be prone to erosion due to wave action.
- Straw bales, drain filters, or similar mechanisms are used to minimize the influx of sediment into stormwater catch basins and into the river, where appropriate.
- Facility-wide inspections are conducted at least once per month to identify areas of erosion, damaged pavement, and areas requiring sweeping.
- In areas where bulk material storage is conducted, drain covers may be emplaced during storage of materials which might contribute to suspended solids in stormwater run-off (e.g., fine particulates or dusty materials), as necessary.

4.1.5 DEBRIS CONTROL

Considering the nature of facility operations, debris build-up is of significant concern. Although scrap recycling operations requires the accumulation of both processed and unprocessed scrap metals in stockpiles, SSP personnel strive to ensure that only designated areas are used for these stockpiles, and that all roadways, railways, parking areas, work areas, and buildings remain free of accumulated debris. The following measures have been implemented at the facility to control debris:

- Accessible areas are swept using a vacuum/broom sweeper on an average of once per week.
- Accessible areas are swept using a magnetic collector on an average of once per month.
- Trash dumpsters are placed strategically around the site to promote proper disposal of paper, wood, and other items that may be discarded during truck loading and offloading.

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- Two trailer sweep-off areas are designated along the access road to the facility to allow suppliers to dispose of debris prior to exiting the site. Permanent three-sided bins are provided at each location to contain the debris. These bins are cleaned out on a weekly basis.
- Facility-wide inspections are conducted at least once per month to identify areas of debris build-up that need cleanup.

4.1.6 STORMWATER DIVERSION

Stormwater diversion controls have been implemented at the site primarily as a means of ensuring that stormwater drainage in areas that may be prone to adverse impact is either recycled, or is directed through treatment systems (e.g., oil/water separators and sand filters) prior to discharge. The following stormwater diversion measures have been implemented at the facility:

- The area immediately surrounding the shredder (approximately three acres) is paved and provided with catch basins piped to a closed-loop collection and treatment system. This water is used for cooling and dust suppression in the shredder.
- An approximate 400 foot by 60 foot concrete slab (approximately $^1/_2$ acre) located along the southern property boundary near the shredder drains through two large oil/water separators. Stormwater from this slab is pumped from the oil/water separator to the shredder for use as process water make-up.
- A small paved area south of the shear (approximately $^1/_2$ acre) is served by a catch basin which is also piped to the shredder process water recycling system.
- The concrete slab underlying the hydraulic shear is served by a large sump which collects stormwater. The stormwater is pumped from the sump through two large oil/water separators (located near the dock lunchroom), and then flows to the shredder process water recycling system for re-use.

4.1.7 COVERING ACTIVITIES

Activities and storage areas that are most prone to potentially adversely affecting stormwater quality are maintained under cover, either inside of the maintenance building, or in a roofed concrete secondary containment structure. These areas are further discussed in Section 4.1.1, above.

In addition, SSP has constructed a secondary separation system for the ASR that is completely enclosed within Building B. ASR from the shredder is loaded onto dump trucks and transferred to a large bin inside the building. A front-end loader then takes the ASR from the bin and feeds it into a hopper that delivers the material to shaker screens, separation equipment, and finally picking tables, to remove as much non-

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magnetic, non-ferrous metal as practical from the ASR. After passing through this system, the ASR is deposited in two large, elevated, bottom dump hoppers, that ultimately discharge the material into trucks destined for the landfill. This system results in a substantial decrease in the amount of significant materials which would be exposed to incident precipitation or stormwater run-off at the site.

Covered storage and operations areas are inspected monthly to ensure that any significant materials stored or used in the areas are being properly contained and managed.

4.1.8 HOUSEKEEPING

Maintaining a clean and orderly job site is instrumental for controlling potential stormwater pollutants, as well as for ensuring a safe working environment. The following management practices related to good housekeeping are followed at the SSP-IT facility:

- Accessible areas are swept using a vacuum/broom sweeper on an average of once per week, and are swept using a magnetic collector on an average of once per month. Minimal amounts of water are used in the paved areas for dust control during dry periods.
- Trash dumpsters are placed strategically around the site to promote proper disposal of paper, wood, and other items that may be discarded during truck loading and offloading.
- Two trailer sweep-off areas are designated along the access road to the facility to allow suppliers to dispose of debris prior to exiting the site. Permanent three-sided bins are provided at each location to contain the debris. These bins are cleaned out on a weekly basis.
- Containers are properly labeled, are kept closed, and are maintained in appropriate storage areas. Any containers damaged in shipment or storage are promptly over-packed, or the contents are transferred to a sound container.
- Drip pans are placed beneath vehicles and equipment that exhibit evidence of potential oil or fluid leakage, and that are parked or stored for periods longer than one shift (eight hours).
- Facility-wide inspections are conducted at least once per month to identify areas needing cleanup and general policing.

4.1.9 OTHER OPERATIONAL CONTROLS

Significant operational controls are in place at the facility that exceed the specific requirements of the NPDES General Permit. These controls include the following:

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- Periodic community outreach events are conducted in order to elevate the awareness of scrap suppliers toward SSP's stringent scrap acceptance policies. These events include signage posted at SSP-IT, policy and guideline mailings, and visits to supplier facilities by SSP environmental and/or management personnel.
- An inbound material inspection program has been developed to minimize the potential for receipt of unacceptable materials. The program includes the following:
  - Passage of every load of scrap entering the facility through a radiation detector.
  - Visual screening of every load of scrap received at the facility by scale-house personnel.
  - Visual screening of all scrap materials offloaded from transport vehicles by equipment operators and ground personnel in the yard.
  - Periodic thorough inspections of offloaded scrap from specific suppliers (on a rotating basis) by environmental or management personnel.
  - In the event that unacceptable or suspect materials are detected as a result of this program, the materials may be segregated from the scrap for proper disposal, may be returned to the supplier, or the entire load may be rejected. In any case, the supplier will be contacted and informed of the rejection, and the scrap acceptance policy will be reiterated.

4.2 Spill Prevention and Response

SSP-IT maintains a written Spill Prevention, Control, and Countermeasures (SPCC) Plan, which details the specific procedures to be followed in the event of a spill or release of oil, fuel, or other petroleum product a the facility. A copy of the SPCC Plan is provided as Appendix C.

Potential causes of spills or leaks of significant materials at the facility could include container failures, equipment or vehicle leaks, and spills of shredded materials, ASR, and/or chemicals during handling or transport operations. Frequent inspections of storage, maintenance and processing areas, and inspections of vehicles and equipment are intended to identify potential problems areas, and to allow the timely detection of any spillage prior to adversely impacting the storm sewer system, or reaching surface waters.

Spill response equipment, including containment and absorbent booms, absorbent socks and pads, and related safety equipment, are maintained on-hand in spill kits placed in strategic locations throughout the site.

Spill prevention and response provisions include the following:

- Operations personnel are equipped with radios and/or cellular phones to provide immediate communication in the event of an accidental release.

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- Storm drain covers are available to block catch basins in the event of a spill which has the potential to reach a drain.
- Spill kits containing absorbent pads and booms, and other cleanup and safety supplies are placed in strategic locations throughout the site.
- An adequate supply of absorbent and containment booms and similar items are available to contain and clean up any spilled materials. Spilled materials are cleaned up using dry methods whenever possible.
- Containers of liquids, including oils and other petroleum products, are stored within secondary containment, or are placed on spill containment pallets.
- Drip pans are placed beneath vehicles and equipment that exhibit evidence of potential oil or fluid leakage, and that are parked or stored for periods longer than one shift (eight hours).
- Containers are periodically inspected to ensure that they are closed, properly labeled, and in good condition.

4.3 Preventive Maintenance

Preventive maintenance involves the regular inspection, cleaning and mechanical maintenance of vehicles, equipment, and stormwater management structures, as well as other activities designed to reduce the likelihood of spills and leaks. The following preventive maintenance provisions have been implemented at the SSP-IT facility:

- A vehicle and equipment inspection and maintenance program has been developed which includes the following:
  - Regularly scheduled vehicle and equipment inspections focused on fluid leaks.
  - Service and inspection checklists specific to each type of vehicle and major item of equipment.
  - Maintenance logs detailing services performed on each vehicle and major item of equipment.
  - Training requirements for personnel involved in vehicle and equipment operations, inspection, and maintenance.
- Major items of equipment that are stored or used outdoors are cleaned on a regular basis to remove accumulated oil and grease from exterior surfaces (except as necessary for proper operation).
- Vehicle and equipment maintenance is conducted within the enclosed maintenance building, to the extent possible.

During monthly site inspections, the inspector (a designated member of the Stormwater Pollution Prevention Team [refer to Section 2.0]) will determine whether potential pollution sources are being adequately controlled, and whether pollution controls specified in the SWPC Plan have been properly and effectively implemented.

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Inspections will be documented using a comprehensive Site Inspection Checklist (included as Appendix D), which will include the dates of inspection, items inspected, problems or concerns encountered, and corrective measures implemented. The facility drainage areas described in Table 1 will be included in the inspections, and the following items will be inspected, at a minimum:

- Containment structures, booms and berms, on a monthly basis, to ensure that they are intact and functional.
- Discharges from outfalls, on at least a monthly basis when occurring, to inspect for color, foam and sheen.
- Facility-wide inspections, at least once per month, to identify areas of erosion, damaged pavement, and areas requiring sweeping.
- Oil/water separators, on a monthly basis, for buildup of sediments, grease, and related materials. The chambers are pumped out and cleaned by a licensed private wastewater contractor, as necessary.
- Catch basin skimmers, at least monthly. Spent absorbents are replaced as necessary, and are properly disposed.

4.4 Employee Education

SSP has developed a comprehensive employee training program which includes practices and procedures related to stormwater management, pollution prevention, and spill control and countermeasures. Operations personnel begin their training by viewing a stormwater pollution prevention video prepared and distributed through the Institute of Scrap Recycling Industries (ISRI). Additional training is provided by the facility's environmental and safety staff, and includes the following:

- Information on the acceptability and unacceptability of certain types of scrap and other materials.
- Proper procedures for containing or otherwise isolating unacceptable materials and spills.
- Locations of spill response kits and other emergency equipment.
- Proper notification procedures.

Training is documented using Training Record forms (included as Appendix E). Training Records are maintained for each employee for a minimum of five years, and are retained at the SSP Health and Safety office in the employee personnel files.

In addition to employee training, SSP-IT strives to educate its scrap suppliers regarding scrap acceptability, both to prevent improper receipt of unacceptable materials, and to protect site stormwater from potential pollution sources. SSP-IT has a written scrap

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acceptance policy (included as Appendix B) which is distributed to suppliers in periodic mailings and in frequent hand-outs when entering or exiting the facility. The policy identifies specific items that cannot be accepted, as well as particular preparation requirements for other items. The policy is periodically reviewed and updated, and updates are communicated promptly to SSP's suppliers.

4.5 Recordkeeping and Internal Reporting Procedures

Records of site inspections are maintained using a comprehensive Site Inspection Checklist (included as Appendix D). This checklist provides a means for documenting the dates of inspection, items inspected, problems or concerns encountered, and corrective measures implemented.

Site Inspection Checklists, stormwater monitoring results, records of spills and associated corrective action, and preventive maintenance records will be retained on file by SSP for a minimum of five years.

Stormwater monitoring results will be tabulated and submitted in a report to DEQ's Northwest Region by July 15th of each year. Other relevant records will be made available to authorized representatives of the DEQ upon request.

4.6 Plan Review and Revision Requirements

Based on the results of monthly site inspections detailed previously, the SSP-IT facility will periodically assess the overall effectiveness of this SWPC Plan, and will implement modifications or improvements to the plan, as appropriate. The periodic plan assessment will include the following:

- The site map will be modified or updated to reflect current facility conditions.
- Identified potential stormwater pollution sources will be visually inspected to determine if they are being adequately and effectively controlled.
- Pollution control structures will be evaluated to determine if they have been properly installed, and to assess their effectiveness.
- Pollution control measures will be evaluated to determine if they have been properly implemented, and to assess their effectiveness.
- Spill response equipment and supplies will be inspected to ensure proper operation and adequate supply.

In addition, the SWPC Plan will be reviewed within 60 days of receipt of any sampling results demonstrating that effluent benchmarks specified in the NPDES General Permit have not been met. The purpose of this review will be to determine if the SWPC Plan has been properly and effectively implemented, and to identify any additional technically

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feasible and economical site controls that may be implemented to further improve the quality of stormwater discharges. Based on this review, the SWPC Plan may be revised, as necessary, and the revised plan will be submitted to the DEQ within 14 days of completion.

5.0 MONITORING PROGRAM

In compliance with the NPDES General Permit, stormwater samples will be collected from the active discharge outfalls serving the facility twice each year. One of the sampling events will be conducted during the first month of the Fall during which stormwater discharge occurs. The second event will be conducted no less than 60 days after the first event.

Monitoring for the purposes of this SWPC Plan will not include Outfalls 11 and 17, since these outfalls are not currently connected to any catch basins and do not typically discharge stormwater. Also, Outfall 18 will not be included for monitoring under this plan, since it is sampled monthly by a neighboring facility as part of a separate NPDES Individual Permit.

SSP may elect to reduce the number of actual monitoring points at the facility based on site operations and specific activities conducted within the drainage areas, in accordance with NPDES General Permit Condition B.1(c). Discharges from multiple outfalls serving drainage areas representing similar activities, and where discharges are expected to be of similar composition, may be represented by a single monitoring point. In addition, outfalls serving areas with no exposure of stormwater to industrial activities will not require monitoring.

Visual monitoring at all outfalls and at areas of potential pollutant contact is required during at least one storm event per month during the rainy season (approximately October through April) that results in at least one hour of continuous discharge. In addition, visual monitoring at each outfall is required at least twice during the dry season (approximately May through September). These visual monitoring requirements will be met through monthly site inspections conducted as described in Section 4.0.

Collected stormwater samples must be representative of the discharge from the facility, and will be analyzed in accordance with the approved methods specified in 40 CFR 136.

Stormwater samples collected during the sampling events will be delivered to a laboratory for analysis for the parameters required by the NPDES General Permit, as summarized in Table 3.

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Table 3:	Stormwater Sample Analytical Requirements	
PARAMETER	ANALYTICAL METHOD	EFFLUENT BENCHMARK
Total Copper	EPA 6010B	0.1 mg/l
Total lead	EPA 7421	0.4 mg/l
Total Zinc	EPA 6010B	0.6 mg/l
pH	EPA 150.1	5.5 to 9.0 s.u.
Total Suspended Solids (TSS)	EPA 160.2	130 mg/l
Oil & Grease	EPA 413.1	10 mg/l
Floating Solids (associated with industrial activities)	Visual Observation	No Visible Discharge
Oil & Grease Sheen	Visual Observation	No Visible Sheen

The results of stormwater sample analyses will be tabulated and submitted to the DEQ's Northwest Region by July 15th for the preceding reporting period (July 1st through June 30th).

In the event that stormwater monitoring results indicate that a pollutant parameter for which the receiving water is water quality limited is being discharged in significant concentrations, a waste load allocation may be added to the permit conditions by the DEQ.

In the event that stormwater monitoring results indicate that a pollutant parameter is being discharged at a concentration that may be a threat to the water quality of the receiving stream, additional effluent limits may be added to the permit conditions by the DEQ.

Biannual sample analytical results and periodic visual inspection observations will be evaluated by SSP-IT's Stormwater Pollution Prevention Team during periodic SWPC Plan effectiveness assessments to determine if modified or additional stormwater management practices and/or structural controls are warranted. The SWPC Plan will be revised as appropriate, and employees will be properly trained as necessary.

6.0 IMPLEMENTATION SCHEDULE

In accordance with the requirements of NPDES General Permit 1200-Z, revision of the facility's SWPC Plan was required within 90 days of receipt of the General Permit. In addition, implementation of the plan, with the exception of site controls requiring capital improvements, was required within 90 days of SWPC Plan revision. Future revision of this plan may be required as a result of modification of the General Permit, and will be completed in accordance with the schedules provided in the modified permit, as applicable.

Site controls determined to be warranted based on SWPC Plan review (as described in Section 4.6) will be implemented in a timely manner, and will be incorporated into the

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SWPC Plan as an update. Updated SWPC Plans will be submitted to the DEQ within 14 days of completion.

7.0 ADDITIONAL PERMIT REQUIREMENTS

7.1 Waste Disposal Wells

Oregon Administrative Rule (OAR) 340-44-50 provides specific requirements for the use of waste disposal wells for stormwater drainage. The SSP-IT facility does not use waste disposal wells for stormwater drainage.

7.2 Surface Water Temperature Management Plan

Individual stormwater dischargers are not expected to cause a measurable increase in stream temperature. Compliance with the NPDES General Permit meets the requirement of OAR 340-41-26(3)(a)(D) to develop and implement a surface water temperature management plan. However, in the event that the Total Maximum Daily Load (TMDL) for temperature is being exceeded by stormwater dischargers in a specific river basin, additional management practices to reduce the temperature of discharges may be required. Such management practices may include increasing vegetation to provide shading, construction of underground conveyance systems or detention structures, or installation of filtration devices to reduce above-ground detention times.

In the event that additional temperature management controls are required by the DEQ, SSP-IT will revise the SWPC Plan to include management practices focused on reducing discharge temperatures, as necessary.

7.3 Specific River Basin Requirements

The SSP-IT facility lies within the Willamette River Basin. Water quality standards for the Willamette River Basin are provided in OAR 340-041-0442 through OAR 340-041-0470.

In general, the effluent benchmarks specified in NPDES General Permit 1200-Z are expected to meet the water quality requirements for the Willamette River Basin. However, in some cases, monitoring requirements of the General Permit are not directly applicable for demonstrating compliance with Willamette Basin water quality standards. For example, based on the requirements of OAR 340-041-0445(2)(c), no more than a 10% cumulative increase in natural stream turbidities is allowed for a discharger, as measured relative to a control point immediately upstream of the turbidity causing activity. However, the NPDES General Permit does not require monitoring for turbidity, but for total suspended solids (TSS). Although the benchmark for TSS is expected to

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be protective of the turbidity standard, no direct correlation between the two measurements has been determined.

The DEQ is currently addressing this situation by modifying the NPDES General Permits for specific watersheds. In the event that additional monitoring or management controls are required by the modified permits (provided they apply to the SSP-IT facility), SSP-IT will revise the SWPC Plan to include those monitoring requirements and management practices, as necessary.

8.0 PLAN APPROVAL AND CERTIFICATION

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 gathered and evaluated 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 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

1.31.05
Date

Jim Goodrich
General Manager
Schnitzer Steel Products Co.

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FIGURES

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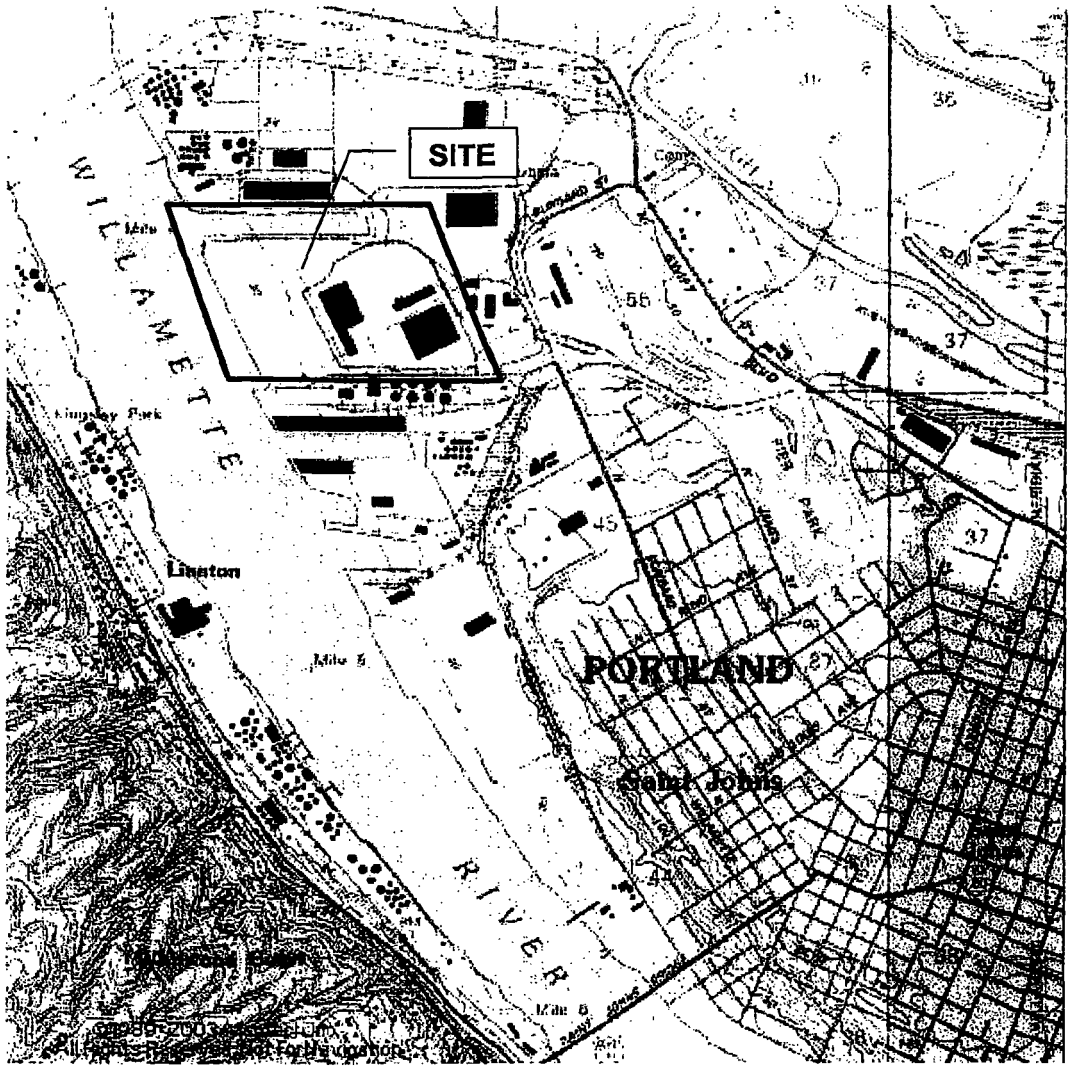
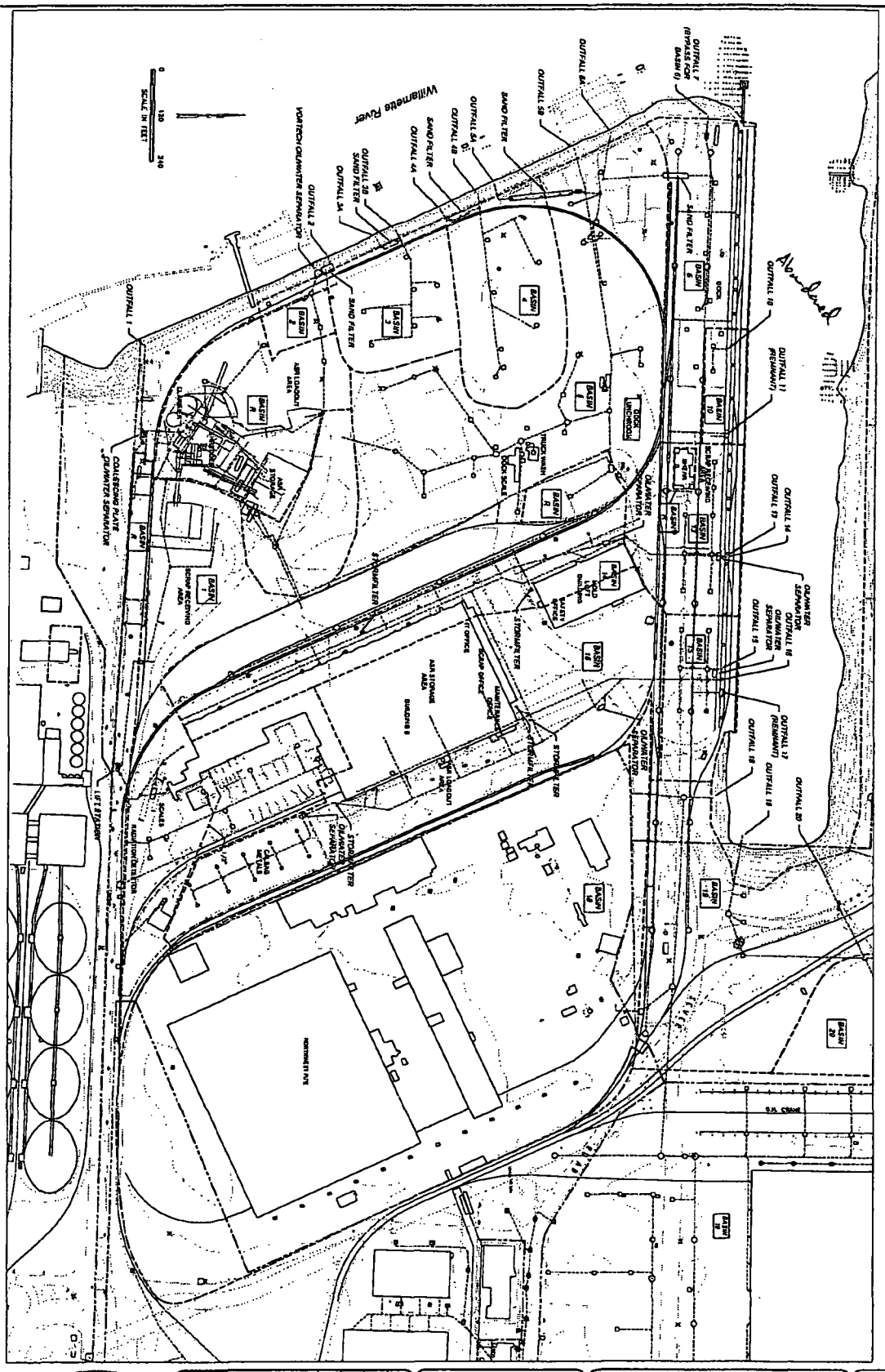


SCHNITZER STEEL PRODUCTS CO.
Portland, Oregon

Figure 1: Site Location Map

SCHWSP04 5/14/04



REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
DATE OF ISSUE MAY 2004	DWN BY TRT	DES BY TRT	CHK BY	APP BY		

TRT ENGINEERING, INC.
2636 S.E. MARKET STREET
PORTLAND, OREGON 97214
PHONE (503) 233-7582
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SCHNITZER STEEL INDUSTRIES INC.
BURGARD YARD
PORTLAND, OREGON
STORMWATER POLLUTION CONTROL PLAN
MAY 2004
SITE MAP

DRAWING NO. 1
PROJECT NO.

SCHN00240531

APPENDIX A:
NPDES GENERAL STORMWATER DISCHARGE PERMIT

SCHN00240532

GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORM WATER DISCHARGE PERMIT

Department of Environmental Quality
811 Southwest Sixth Avenue, Portland, OR 97204
Telephone: (503) 229-5630 or 1-800-452-4011 toll free in Oregon
Issued pursuant to ORS 468B.050 and The Federal Clean Water Act

Issued 10/10/02 GEN12Z MULTNOMAH/NWR
File No. 108103 ORR60-0289

Schnitzer Steel Industries, Inc. dba
Schnitzer Steel Products Co.
12005 N. Burgard Rd.
Portland, OR 97203

SOURCES COVERED BY THIS PERMIT

Facilities identified in 40 Code of Federal Regulation (CFR) §122.26(b)(14)(i - ix, xi) with storm water discharges. See *Table 1: Sources Covered* on p. 2 for more information on the CFR regulated industries covered by this permit. Facilities may qualify for a conditional exclusion from the requirement to obtain coverage under a permit if there is no exposure of industrial activities and materials to storm water pursuant to 40 CFR §122.26(g); see *Permit Coverage and Exclusion from Coverage* on p. 3 for more information.

Construction activities, asphalt mix batch plants, concrete batch plants and Standard Industrial Classification code 14, *Mining and Quarrying of Nonmetallic Minerals, Except Fuels*, are excluded from this permit. These activities are regulated under separate permits.

Michael T. Llewelyn, Administrator
Water Quality Division

Issued: July 26, 2002
Effective: August 9, 2002

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify, or operate storm water treatment and/or control facilities, and to discharge storm water to public waters in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

		Page
Permit Coverage and Exclusion From Coverage		3
Schedule A -	Storm Water Pollution Control Plan, Additional Requirements, Limitations, and Benchmarks	5
Schedule B -	Monitoring and Reporting Requirements	10
Schedule C -	Compliance Conditions and Schedules	12
Schedule D -	Special Conditions	13
Schedule F -	General Conditions	14

Unless specifically authorized by this permit, by another NPDES or WPCF permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including discharges to an underground injection control system.

TABLE 1: SOURCES COVERED

Facilities with the following primary Standard Industrial Classification codes: 10 Metal Mining 12 Coal Mining 13 Oil and Gas Extraction 20 Food and Kindred Products 21 Tobacco Products 22 Textile Mill Products 23 Apparel and Other Finished Products Made From Fabrics and Similar Material 24 Lumber and Wood Products, Except Furniture (excluding 2491 Wood Preserving and 2411 Logging) 25 Furniture and Fixtures 27 Printing, Publishing and Allied Industries 28 Chemicals and Allied Products (excluding 2874 Phosphate Fertilizer Manufacturing) 29 Petroleum Refining and Related Industries 30 Rubber and Miscellaneous Plastics Products 31 Leather and Leather Products 32 Stone, Clay, Glass, and Concrete Products 33 Primary Metal Industries 34 Fabricated Metal Products, Except Machinery and Transportation Equipment 35 Industrial and Commercial Machinery and Computer Equipment 36 Electronic and Other Electrical Equipment and Components, Except Computer Equipment 37 Transportation Equipment 38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks 39 Miscellaneous Manufacturing Industries 4221 Farm Product Warehousing and Storage 4222 Refrigerated Warehousing and Storage 4225 General Warehousing and Storage 5015 Motor Vehicle Parts, Used 5093 Scrap and Waste Materials
Facilities with the following primary Standard Industrial Classification codes that have vehicle maintenance shops (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport deicing operations: 41 Local and Suburban Transit and Interurban Highway Passenger Transportation 42 Motor Freight Transportation and Warehousing (excluding 4221 Farm Product Warehousing and Storage, 4222 Refrigerated Warehousing and Storage, and 4225 General Warehousing and Storage) 43 United States Postal Service 44 Water Transportation 45 Transportation by Air 5171 Petroleum Bulk Stations and Terminals
Steam Electric Power Generation including coal handling sites
Landfills, land application sites and open dumps [excluding landfills regulated by 40 CFR §445 that discharge "contaminated storm water" (as defined by 40 CFR §445.2) to waters of the U.S.]
Hazardous Waste Treatment, Storage and Disposal Facilities [excluding hazardous waste landfills regulated by 40 CFR §445 that discharge "contaminated storm water" (as defined by 40 CFR §445.2) to waters of the U.S.]
Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, recycling, and reclamation of municipal or domestic sewage (including land dedicated to the disposal of sewage sludge that are located within the confines of the facility) with the design flow capacity of 1.0 mgd or more, or required to have a pretreatment program under 40 CFR §403.

PERMIT COVERAGE AND EXCLUSION FROM COVERAGE

1. **Application for General Permit Coverage**
   a) *New facilities and existing facilities obtaining coverage for the first time*
   Owners or operators of sources covered by this permit must:
      i) Submit a complete copy of the Department-approved application form to the Department requesting coverage under this permit at least 180 days prior to the planned activity that will result in the discharge to waters of the state, unless otherwise approved by the Department.
      ii) Provide payment of all fees applicable to this permit prior to obtaining coverage.

   b) *Renewal of permit coverage for existing permittees*
   Owners or operators of sources covered by this permit must:
      i) Submit a complete copy of the Department approved application form 180 days prior to permit expiration, unless otherwise approved in writing by the Department.
      ii) Provide payment of all applicable fees for permit renewal.
      iii) The existing permit will continue to be in effect through administrative extension after the permit expiration date if a complete renewal application is submitted.

   c) *Notification that permit coverage has been obtained*
      i) The Department will notify the applicant by mail that they have received coverage and is authorized to operate under the conditions of this permit.
      ii) If the applicant's operation cannot be approved for coverage under this permit, the applicant may apply for an individual permit.

2. **"No Exposure" Conditional Exclusion from Permit Coverage**
   Application for permit coverage is not required to obtain the "No Exposure" conditional exclusion described below.
   a) To qualify for this exclusion, the owner or operator must:
      i) Provide a storm resistant shelter to protect industrial materials and activities from exposure to rain, snow, snow melt, and runoff.
      ii) Complete and sign a certification, on a form approved by the Department, that there are no discharges of storm water contaminated by exposure to industrial materials and activities from the entire facility, except as provided in 40 CFR §122.26(g)(2).
      iii) Submit the signed certification to the Department once every five years.
      iv) Allow the Department to inspect the facility to determine compliance with the "no exposure" conditions, and allow the Department to make any "no exposure" inspection reports available to the public upon request.
      v) For facilities that discharge through a municipal separate storm sewer system (MS4), upon request, submit a copy of the "no exposure" certification to the MS4 operator (i.e., local municipality), as well as allow inspection and public reporting by the MS4 operator.
      vi) Use the Environmental Protection Agency (EPA) *Guidance Manual for Conditional Exclusion from Storm Water Permitting Based on "No Exposure" of Industrial Activities to Storm Water* (EPA 833-B-00-001, June 2000) to determine "no exposure."

   b) Limitations for obtaining and/or maintaining the exclusion:
      i) This exclusion is available on a facility-wide basis only, not for individual outfalls. If a facility has some discharges of storm water that would otherwise be "no exposure" discharges, individual permit requirements should be adjusted accordingly.

ii) If circumstances change and industrial materials or activities become exposed to rain, snow, snow melt, and/or runoff, the conditions for this exclusion no longer apply. In such cases, the discharge becomes subject to enforcement for un-permitted discharge. Any conditionally exempt discharger who anticipates changes in circumstances should apply for and obtain permit coverage prior to the change of circumstances.

iii) The Department retains the authority to require permit coverage (and deny this exclusion) upon making a determination that the discharge causes, has reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

iv) The Department will notify the permittee in writing of its approval of the "no exposure' conditional exclusion and termination of permit coverage. The owner or operator must maintain this notification on site.

SCHEDULE A
STORM WATER POLLUTION CONTROL PLAN

1. **Preparation and Implementation of the Storm Water Pollution Control Plan (SWPCP)**
The permittee must prepare and implement the SWPCP according to the following:
   a) The SWPCP must be prepared according to the requirements in Schedule A.2 by a person knowledgeable in storm water management and familiar with the facility. The person(s) preparing the plan must be identified in the plan.
   b) The SWPCP must be signed in accordance with 40 CFR §122.22. Updates and revisions to the SWPCP must also be signed and certified pursuant to 40 CFR §122.22.
   c) The SWPCP must be prepared and implemented according to the time frames set forth in Schedule C.
   d) The SWPCP must be kept current and updated as necessary to reflect any changes in facility operation.
   e) The SWPCP and updates to the SWPCP must be submitted to the Department in accordance with Schedule B.3.
   f) A copy of the SWPCP must be kept at the facility and made available upon request to government agencies responsible for storm water management in the permittee's area.

2. **Storm Water Pollution Control Plan Requirements**
   a) **Site Description** The SWPCP must contain the following information:
      i) A description of the industrial activities conducted at the site. Include a description of the significant materials (see Schedule D.3, Definitions) that are stored, used, treated and/or disposed of in a manner that allows exposure to storm water. Also describe the methods of storage, usage, treatment and/or disposal.
      ii) A general location map showing the location of the site in relation to surrounding properties, transportation routes, surface waters and other relevant features.
      iii) A site map including the following:
         (1) drainage patterns
         (2) drainage and discharge structures
         (3) outline of the drainage area for each storm water outfall
         (4) paved areas and buildings within each drainage area
         (5) areas used for outdoor manufacturing, treatment, storage, and/or disposal of significant materials
         (6) existing structural control measures for reducing pollutants in storm water runoff
         (7) material loading and access areas
         (8) hazardous waste treatment, storage and disposal facilities
         (9) location of wells including waste injection wells, seepage pits, drywells, etc.
         (10) location of springs, wetlands and other surface water bodies.
      iv) Estimates of the amount of impervious surface area (including paved areas and building roofs) relative to the total area drained by each storm water outfall.
      v) For each area of the site where a reasonable potential exists for contributing pollutants to storm water runoff, identify the potential pollutants that could be present in storm water discharges.
      vi) The name(s) of the receiving water(s) for storm water drainage. If drainage is to a municipal storm sewer system, the name(s) of the ultimate receiving waters and the name of the municipality.
      vii) Identification of the discharge outfall(s) and the point(s) where storm water monitoring will occur as required by Schedule B. If multiple discharge outfalls exist but will not all

be monitored (as allowed in Schedule B.1.c), a description supporting this approach must also be included.

b) **Site Controls** The permittee must maintain existing controls and/or develop new controls appropriate for the site. The purpose of these controls is to eliminate or minimize the exposure of pollutants to storm water. In developing a control strategy, the SWPCP must have the following minimum components. A description of each component must be included in the SWPCP.

i) *Storm Water Best Management Practices* If technically and economically feasible, the following best management practices must be employed at the site. A schedule for implementation of these practices must be included in the SWPCP if the practice has not already been accomplished. This schedule must be consistent with the requirements for developing and implementing the SWPCP in Schedule C of the permit.

(1) Containment - All hazardous substances (see Schedule D.3, Definitions) must be stored within berms or other secondary containment devices to prevent leaks and spills from contaminating storm water. If the use of berms or secondary containment devices is not possible, then hazardous substances must be stored in areas that do not drain to the storm sewer system.

(2) Oil and Grease - Oil/Water separators, booms, skimmers or other methods must be employed to eliminate or minimize oil and grease contamination of storm water discharges.

(3) Waste Chemicals and Material Disposal - Wastes must be recycled or properly disposed of in a manner to eliminate or minimize exposure of pollutants to storm water. All waste contained in bins or dumpsters where there is a potential for drainage of storm water through the waste must be covered to prevent exposure of storm water to these pollutants. Acceptable covers include, but are not limited to, storage of bins or dumpsters under roofed areas and use of lids or temporary covers such as tarps.

(4) Erosion and Sediment Control - Erosion control methods such as vegetating exposed areas, graveling or paving must be employed to minimize erosion of soil at the site. Sediment control methods such as detention facilities, sediment control fences, vegetated filter strips, bioswales, or grassy swales must be employed to minimize sediment loads in storm water discharges. For activities that involve land disturbance, the permittee must contact the local municipality to determine if there are other applicable requirements.

(5) Debris Control - Screens, booms, settling ponds, or other methods must be employed to eliminate or minimize debris in storm water discharges.

(6) Storm Water Diversion - Storm water must be diverted away from fueling, manufacturing, treatment, storage, and disposal areas to prevent exposure of uncontaminated storm water to potential pollutants.

(7) Covering Activities - Fueling, manufacturing, treatment, storage, and disposal areas must be covered to prevent exposure of storm water to potential pollutants. Acceptable covers include, but are not limited to, permanent structures such as roofs or buildings and temporary covers such as tarps.

(8) Housekeeping - Areas that may contribute pollutants to storm water must be kept clean. Sweeping, prompt clean up of spills and leaks, and proper maintenance of vehicles must be employed to eliminate or minimize exposure of storm water to pollutants.

ii) *Spill Prevention and Response Procedures* Methods to prevent spills along with clean-up and notification procedures must be included in the SWPCP. These methods and procedures must be made available to appropriate personnel. The required clean up material must be on-site or readily available. Spills prevention plans required by other regulations may be substituted for this provision providing that storm water management concerns are adequately addressed.

iii) *Preventative Maintenance* A preventative maintenance program must be implemented to ensure the effective operation of all storm water best management practices. At a minimum the program must include:

(1) Monthly inspections of areas where potential spills of significant materials or industrial activities could impact storm water runoff.

(2) Monthly inspections of storm water control measures, structures, catch basins, and treatment facilities.

(3) Cleaning, maintenance and/or repair of all materials handling and storage areas and all storm water control measures, structures, catch basins, and treatment facilities as needed upon discovery. Cleaning, maintenance, and repair of such systems must be performed in such a manner as to prevent the discharge of pollution.

iv) *Employee Education* An employee orientation and education program must be developed and maintained to inform personnel of the components and goals of the SWPCP. The program must also address spill response procedures and the necessity of good housekeeping practices. A schedule for employee education must be included in the SWPCP. The Department recommends this education and training occur at the time of an employee's hire and annually thereafter.

c) **Record Keeping and Internal Reporting Procedures** The following information must be recorded and maintained at the facility and provided to the Department and other government agencies upon request. This information does not need to be submitted as part of the SWPCP.

i) Inspection, maintenance, repair and education activities as required by the SWPCP.

ii) Spills or leaks of significant materials that impacted or had the potential to impact storm water or surface waters. Include the corrective actions to clean up the spill or leak as well as measures to prevent future problems of the same nature.

ADDITIONAL REQUIREMENTS

3. **Oregon Administrative Rule 340-041-0026(3)(a)(D), Surface Water Temperature Management Plan** Individual storm water discharges are not expected to cause a measurable increase in stream temperature because the storm water discharges mainly occur at a time of year when ambient stream and runoff temperatures are relatively low. Compliance with this permit meets the requirement of OAR 340-041-0026(3)(a)(D) to develop and implement a surface water temperature management plan. If permitted storm water discharges in a particular basin are assigned waste load allocations under a Total Maximum Daily Load for temperature, then permittees in this basin will be required to implement additional management practices to reduce the temperature of the discharges. These practices include, but are not limited to, increased vegetation to provide for shading, underground conveyance systems or detention vaults, and filter treatment systems to reduce detention times.

4. **Storm Water Only** This permit only regulates the discharge of storm water. It does not authorize the discharge or on-site disposal of process wastewater, wash water, boiler blowdown, cooling

water, air conditioning condensate, deicing residues, or any other non-storm discharges associated with the facility. The Department recommends that piping and drainage systems for floor drains and other process wastewater discharge points be separated from the storm drainage system to prevent inadvertent discharge of pollutants to waters of the state.

Any other wastewater discharge or disposal must be permitted in a separate permit. A separate Department permit may not be required if the wastewater is reused or recycled without discharge or disposal, or discharged to the sanitary sewer with approval from the local sanitary authority.

5. **Water Quality Limited Streams** - If Total Maximum Daily Loads are established and the discharge from a permitted source is assigned a waste load allocation, application for an individual or different general permit or other appropriate tools may be required to address the allocation.

6. **Water Quality Standards** The ultimate goal for permittees is to comply with water quality standards in OAR 340-041. In instances where a storm water discharge adversely impacts water quality, the Department may require the facility to implement additional management practices, apply for an individual permit, or take other appropriate action.

CODE OF FEDERAL REGULATION STORM WATER DISCHARGE LIMITATIONS

7. The permittee with the following activities must be in compliance with the applicable limitations at the time of permit assignment:

CFR Industry		Parameter	Limitation	
Category	Subcategory			
Cement manufacturing (40 CFR §411)	Materials storage piles runoff	pH	6.0 - 9.0 SU	
		Total Suspended Solids (TSS)	50 mg/l	
Steam powered electric power generating (40 CFR §423)	Coal pile runoff	TSS	50 mg/l, Daily Maximum	
Paving and roofing materials (tars and asphalt) (40 CFR §443)	Runoff from manufacturing of asphalt paving or roofing emulsion	Oil & Grease	20 mg/l, Daily Maximum	15 mg/l, 30 Day Average
		pH	6.0 - 9.0 SU	

STORM WATER DISCHARGE BENCHMARKS

8. **Benchmarks** Benchmarks are guideline concentrations not limitations. They are designed to assist the permittee in determining if the implementation of their SWPCP is reducing pollutant concentrations to below levels of concern. For facilities that are subject to federal limitations, benchmarks apply to only those pollutants that are not limited by the federal regulations. The following benchmarks apply to each point source discharge of storm water associated with industrial activity:

Parameter	Benchmark
Total Copper	0.1 mg/l
Total Lead	0.4 mg/l
Total Zinc	0.6 mg/l
pH	5.5 – 9.0 SU
Total Suspended Solids	130 mg/l
Total Oil & Grease	10 mg/l
E. coli**	406 counts/100 ml
Floating Solids (associated with industrial activities)	No Visible Discharge
Oil & Grease Sheen	No Visible Sheen

** The benchmark for E. coli applies only to landfills, if septage and sewage biosolids are disposed at the site, and sewage treatment plants.

9. **Review of SWPCP** If benchmarks are not achieved, the permittee must investigate the source of the elevated pollutant levels and review and, if necessary, revise the SWPCP within 60 days of receiving sampling results. The purpose of this review is to determine if the SWPCP is being followed and to identify any additional technically and economically feasible site controls that need to be implemented to further improve the quality of storm water discharges. These site controls include best management practices, spill prevention and response procedures, preventative maintenance, and employee education procedures as described in Schedule A.2.b.

   a) **SWPCP Revision** Any newly identified site controls must be implemented in a timely manner and incorporated into the SWPCP as an update. A new SWPCP is not required. If no additional site controls are identified, the permittee must state as such in an update to the SWPCP.

   b) **SWPCP Revision Submittal** Results of this review must be submitted to the Department in accordance with Schedule B.3 and made available upon request to government agencies responsible for storm water management in the permittee's area.

   c) **Background or Natural Conditions** If the permittee demonstrates that background or natural conditions not associated with industrial activities at the site cause an exceedance of a benchmark, then no further modifications to the SWPCP are required for that parameter. Upon successful demonstration of natural or background conditions through monitoring of the same storm event used to evaluate benchmarks the permittee would be eligible for the monitoring reduction as outlined in Schedule B.2.

SCHEDULE B
MONITORING AND REPORTING REQUIREMENTS

1. **Minimum Monitoring Requirements**
   a) All permittees must monitor storm water associated with industrial activity for the following:

GRAB SAMPLES OF STORM WATER	
Parameter*	**Frequency**
Total Copper	Twice per Year
Total Lead	Twice per Year
Total Zinc	Twice per Year
pH	Twice per Year
Total Suspended Solids	Twice per Year
Total Oil & Grease	Twice per Year
E. coli**	Twice per Year

* Parameters should be analyzed on samples collected from the same storm event.

** The monitoring for E. coli applies only to landfills, if septage and sewage biosolids are disposed at the site, and sewage treatment plants.

VISUAL MONITORING OF STORM WATER	
Parameter	**Frequency**
Floating Solids (associated with industrial activities)	Once a Month (when discharging)
Oil & Grease Sheen	Once a Month (when discharging)

   b) **Grab Samples** Grab samples that are representative of the discharge must be taken at least 60 days apart. It is preferred, but not required, that one sample be collected in the fall and one in the spring. Compositing of samples from different drainage areas is not allowed.

   c) **Multiple Point Source Discharges** The permittee may reduce the number of storm water monitoring points provided the outfalls have substantially identical effluents. Substantially identical effluents are discharges from drainage areas serving similar activities where the discharges are expected to be similar in composition. Outfalls serving areas with no exposure of storm water to industrial activities are not required to be monitored.

   d) **Monitoring Location** All samples must be taken at monitoring points specified in the SWPCP before the storm water joins or is diluted by any other wastestream, body of water or substance unless otherwise approved in writing by the Department.

2. **Monitoring Reduction**
   a) **Visual Observations** There is no reduction allowed of the required visual observations.

   b) **Grab Samples** The permittee is not required to conduct sampling if the benchmarks specified in Schedule A.8 are met, or if the exceedance is due to natural or background conditions for at least four consecutive storm water monitoring events conducted by the permittee over 24 continuous months. Note that there is no reduction in monitoring allowed for facilities subject to limitations under CFR (Schedule A.7).
      i) Results from sampling events cannot be averaged to meet the benchmarks.

ii) Monitoring waivers may be allowed for individual parameters.
iii) Parameters in exceedance or not previously sampled must be monitored as required in Schedule B.1 until the monitoring waiver condition above is met.
iv) Monitoring data from the previous permit period may be used to meet the waiver requirement. This data must be evaluated against the benchmarks specified in this permit.
v) Monitoring data from the same storm event must be used to demonstrate that background or natural conditions not associated with industrial activities at the site are contributing to the exceedance of a benchmark.
vi) The permittee must submit written notification to the Department when exercising the monitoring waiver condition (refer to Schedule B.3.b).

c) **Reinstatement of Monitoring Requirements**
i) The permittee must conduct monitoring as specified in Schedule B.1 if changes to site conditions are expected to affect storm water discharge characteristics.
ii) The Department may reinstate monitoring requirements as specified in Schedule B.1 if prior monitoring efforts were improper or results were incorrect. The Department will notify the permittee of reinstatement in writing.
iii) Monitoring may also be reinstated if future sampling efforts by the permittee or the Department indicate benchmarks are being exceeded.
iv) If no monitoring was performed during the previous permit period, the permittee must reinitiate monitoring as specified in Schedule B.1 to qualify for the monitoring reduction allowed in Schedule B.2.

3. **Reporting Requirements** The permittee must submit the following to the appropriate DEQ regional office (DEQ will provide regional office information when the permittee is notified that permit coverage has been obtained):

a) **Monitoring Data** The permittee must submit by July 15 of each year grab sampling and visual monitoring data for the previous monitoring period (July 1- June 30). If there was insufficient rainfall to collect samples, the permittee must notify the Department by July 15 of each year. The permittee must also report the minimum detection levels and analytical methods for the parameters analyzed.

b) **Monitoring Reduction Notification** The permittee must submit written notification when exercising the monitoring reduction condition in Schedule B.2.b.

c) **Initial Completion or Update of SWPCP** The permittee must prepare or update the SWPCP in accordance with Schedule C of the permit. The permittee must submit an updated or completed SWPCP within 14 days after completion.

d) **SWPCP Revision (when benchmarks are exceeded)** The permittee must submit any revisions to the SWPCP required by Schedule A.9 within 14 days after the SWPCP is revised. If the Department does not review and comment on the revised SWPCP within 30 days, the permittee must implement the revisions as proposed. The permittee may proceed immediately with implementation of the following management practices as described in Schedule A.2.b without waiting for Department comment: waste chemical and materials disposal, debris control, storm water diversion, covering activities, housekeeping, and preventative maintenance.

SCHEDULE C
COMPLIANCE CONDITIONS AND SCHEDULES

1. **Existing Permittee** (for a facility with an NPDES storm water discharge permit assigned prior to June 30,2002):

   a) Not later than 90 days after receiving this permit, the existing permittee must revise and begin implementation of the SWPCP to meet any new permit requirements.

   b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP must be implemented within 90 days after revision of SWPCP. Site control activities that require capital improvements must be completed in accordance with the schedule set forth in the SWPCP.

2. **New Permittee with Existing Facility** (for a facility operating prior to June 30, 2002, without an NPDES storm water discharge permit):

   a) Not later than 90 days after receiving this permit, the new permittee must prepare and begin implementation of the SWPCP.

   b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP must be implemented within 90 days after completion of SWPCP. Site control activities that require capital improvements must be completed in accordance with the schedule set forth in the SWPCP.

3. **New Permittee with New Facility** (for a facility beginning operation after June 30, 2002):

   a) Prior to starting operations, a new permittee must prepare and begin implementation of the SWPCP.

   b) Except for site controls that require capital improvements (see Schedule D.3, Definitions), the SWPCP must be implemented within 90 days after beginning operation. Site control activities that require capital improvements must be completed in accordance with the schedule set forth in the SWPCP.

4. **New Permittee Discharging to Clackamas River, McKenzie River above Hayden Bridge (River Mile 15) or North Santiam River.** Not later than 180 days after receiving this permit, new permittees discharging to Clackamas River, McKenzie River above Hayden Bridge (river mile 15) or North Santiam River must submit to the Department a monitoring and water quality evaluation program. This program must be effective in evaluating the in-stream impacts of the discharge as required by OAR 340-041-0470. Within 30 days after Department approval, the permittee must implement the monitoring and water quality evaluation program. For the purpose of this condition, new permittees include potential or existing dischargers that did not have a permit prior to January 28, 1994, and existing dischargers that have a permit but request an increased load limitation.

SCHEDULE D
SPECIAL CONDITIONS

1. **Releases in Excess of Reportable Quantities.** This permit does not relieve the permittee of the reporting requirements of 40 CFR §117 Determination of Reportable Quantities for Hazardous Substances and 40 CFR §302 Designation, Reportable Quantities, and Notification.

2. **Availability of SWPCP and Monitoring Data.** The Storm Water Pollution Control Plan and/or storm water monitoring data must be made available to government agencies responsible for storm water management in the permittee's area.

3. **Definitions**

   a) *Capital Improvements* means the following improvements that require capital expenditures:
      i) Treatment best management practices including but not limited to settling basins, oil/water separation equipment, catch basins, grassy swales, detention/retention basins, and media filtration devices.
      ii) Manufacturing modifications that incur capital expenditures, including process changes for reduction of pollutants or wastes at the source.
      iii) Concrete pads, dikes and conveyance or pumping systems utilized for collection and transfer of storm water to treatment systems.
      iv) Roofs and appropriate covers for manufacturing areas.

   b) *Hazardous Substances* as defined in 40 CFR §302 Designation, Reportable Quantities, and Notification.

   c) *Material Handling Activities* include the storage, loading and unloading, transportation or conveyance of raw material, intermediate product, finished product, by-product or waste product.

   d) *Point Source* means a discharge from any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, or conduit.

   e) *Significant Materials* includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ash, slag, and sludge that have the potential to be released with storm water discharges.

4. **Local Public Agencies Acting as the Department's Agent**
   The Department authorizes local public agencies to act as its Agent in implementing this permit. The Department's Agent may be authorized to conduct the following activities, including but not limited to: application review and approval, inspections, monitoring data review, storm water and wastewater monitoring, SWPCP review, and verification and approval of no-exposure certifications. Where the Department has entered into such an agreement, the Department or its Agent will notify the permittee of where to submit monitoring data, SWPCPs, no-exposure certifications, and other notifications or correspondence associated with this permit.

SCHEDULE F
NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply
The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025 and is grounds for enforcement action; for permit termination, suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Water Pollution and Permit Condition Violations
Oregon Law (ORS 468.140) allows the Director to impose civil penalties up to $10,000 per day for violation of a term, condition, or requirement of a permit.

Under ORS 468.943, unlawful water pollution, if committed by a person with criminal negligence, is punishable by a fine of up to $25,000 or by imprisonment for not more than one year, or by both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, a person who knowingly discharges, places or causes to be placed any waste into the waters of the state or in a location where the waste is likely to escape into the waters of the state, is subject to a Class B felony punishable by a fine not to exceed $200,000 and up to 10 years in prison.

3. Duty to Mitigate
The permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition, upon request of the Department, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply
If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply to have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions
This permit may be modified, suspended, revoked and reissued, or terminated for cause including, but not limited to, the following:

a. Violation of any term, condition, or requirement of this permit, a rule, or a statute;
b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts; or
c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
d. The permittee shall pay the fees required to be filed with this permit application and to be paid annually for permit compliance determination as outlined in the Oregon Administrative Rules, Chapter 340, Division 045.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants
The permittee must comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights
The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

8. Permit References
Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance
The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity
For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities
   a. Definitions
      (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The term "bypass" does not include nonuse of singular or multiple units or processes of a treatment works when the nonuse is insignificant to the quality and/or quantity of the effluent produced by the treatment works. The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation.
      (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes 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.

   b. Prohibition of bypass.
      (1) Bypass is prohibited unless:
         (a) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;
         (b) 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 which occurred during normal periods of equipment downtime or preventative maintenance; and
         (c) The permittee submitted notices and requests as required under General Condition B.3.c.
      (2) The Director may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the Director determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

   c. Notice and request for bypass.
      (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it must submit prior written notice, if possible at least ten days before the date of the bypass.
      (2) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset
   a. Definition. "Upset" means 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. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of General Condition B.4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
(1) An upset occurred and that the permittee can identify the causes(s) of the upset;
(2) The permitted facility was at the time being properly operated;
(3) The permittee submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
(4) The permittee complied with any remedial measures required under General Condition A.3 hereof.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Event
For purposes of this permit, A Single Operational Event which leads to simultaneous violations of more than one pollutant parameter must be treated as a single violation. A single operational event is an exceptional incident which causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational event does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational event is a violation.

6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations
a. Definitions
(1) "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system including pump stations, through a designed overflow device or structure, other than discharges to the wastewater treatment facility.
(2) "Severe property damage" means substantial physical damage to property, damage to the conveyance system or pump station 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 an overflow.
(3) "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure, for example to overflowing manholes or overflowing into residences, commercial establishments, or industries that may be connected to a conveyance system.

b. Prohibition of overflows. Overflows are prohibited unless:
(1) Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;
(2) There were no feasible alternatives to the overflows, such as the use of auxiliary pumping or conveyance systems, or maximization of conveyance system storage; and
(3) The overflows are the result of an upset as defined in General Condition B.4. and meeting all requirements of this condition.

c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.

d. Reporting required. Unless otherwise specified in writing by the Department, all overflows and uncontrolled overflows must be reported orally to the Department within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow
If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the Department, the permittee must take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances
Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling
Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit and must be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points must not be changed without notification to and the approval of the Director.

2. Flow Measurements
Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures
Monitoring must be conducted according to test procedures approved under 40 CFR §136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering
The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit must, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years, or by both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than $20,000 per day of violation, or by imprisonment of not more than four years or both.

5. Reporting of Monitoring Results
Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permittee
If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR §136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value must be recorded unless otherwise specified in this permit.

7. Averaging of Measurements
Calculations for all limitations which require averaging of measurements must utilize an arithmetic mean, except for bacteria which must be averaged as specified in this permit.

8. Retention of Records
Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which must be retained for a period of at least five years (or longer as required by 40 CFR §503), the permittee must retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

9. Records Contents
Records of monitoring information must include:
   a. The date, exact place, time and methods of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) analyses were performed;
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

10. Inspection and Entry
The permittee must allow the Director, or an authorized representative upon the presentation of credentials to:
   a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
   d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes
The permittee must comply with Oregon Administrative Rules (OAR) 340, Division 052, "Review of Plans and Specifications". Except where exempted under OAR 340-052, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers must be commenced until the plans and specifications are submitted to and approved by the Department. The permittee must give notice to the Department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance
The permittee must give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers
This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit must be transferred to a third party without prior written approval from the Director. The permittee must notify the Department when a transfer of property interest takes place.

4. Compliance Schedule
Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting
The permittee must report any noncompliance which may endanger health or the environment. Any information must be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permittee becomes aware of the circumstances. During normal business hours, the Department's Regional office must be called. Outside of normal business hours, the Department must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission must also be provided within 5 days of the time the permittee becomes aware of the circumstances. If the permittee is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, and in which case if the original reporting notice was oral, delivered written notice must be made to the Department or other agency with regulatory jurisdiction within 4 (four) calendar days. The written submission must contain:
   a. A description of the noncompliance and its cause;
   b. The period of noncompliance, including exact dates and times;

c. The estimated time noncompliance is expected to continue if it has not been corrected;
d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
e. Public notification steps taken, pursuant to General Condition B.7.

The following must be included as information which must be reported within 24 hours under this paragraph:
a. Any unanticipated bypass which exceeds any effluent limitation in this permit.
b. Any upset which exceeds any effluent limitation in this permit.
c. Violation of maximum daily discharge limitation for any of the pollutants listed by the Director in this permit.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance
The permittee must report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports must contain:
a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. The estimated time noncompliance is expected to continue if it has not been corrected; and
d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information
The permittee must furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee must also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it must promptly submit such facts or information.

8. Signatory Requirements
All applications, reports or information submitted to the Department must be signed and certified in accordance with 40 CFR §122.22.

9. Falsification of Reports
Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed $100,000 per violation and up to 5 years in prison.

10. Changes to Indirect Dischargers - **[Applicable to Publicly Owned Treatment Works (POTW) only]**
The permittee must provide adequate notice to the Department of the following:
a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants and;
b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
c. For the purposes of this paragraph, adequate notice must include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

11. Changes to Discharges of Toxic Pollutant - **[Applicable to existing manufacturing, commercial, mining, and silvicultural dischargers only]**
The permittee must notify the Department as soon as they know or have reason to believe of the following:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:
(1) One hundred micrograms per liter (100 µg/l);
(2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
(4) The level established by the Department in accordance with 40 CFR §122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
(1) Five hundred micrograms per liter (500 µg/l);
(2) One milligram per liter (1 mg/l) for antimony;
(3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
(4) The level established by the Department in accordance with 40 CFR §122.44(f).

SECTION E. DEFINITIONS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids.
3. mg/l means milligrams per liter.
4. kg means kilograms.
5. m^3/d means cubic meters per day.
6. MGD means million gallons per day.
7. Composite sample means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.
8. FC means fecal coliform bacteria.
9. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR §125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
10. CBOD means five day carbonaceous biochemical oxygen demand.
11. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
12. Quarter means January through March, April through June, July through September, or October through December.
13. Month means calendar month.
14. Week means a calendar week of Sunday through Saturday.
15. Total residual chlorine means combined chlorine forms plus free residual chlorine.
16. The term "bacteria" includes but is not limited to fecal coliform bacteria, total coliform bacteria, and E. coli bacteria.
17. POTW means a publicly owned treatment works.

APPENDIX B:
SCRAP ACCEPTANCE POLICY

SCRAP ACCEPTANCE GUIDELINES

SCHNITZER STEEL PRODUCTS CO.
12005 N BURGARD RD.
PO BOX 10047
PORTLAND, OR 97296-0047

503-286-5771
FAX 503-286-6948

Dear Customers:

This brochure clarifies our policies for accepting recyclable metals. These requirements reflect our commitment to responsible environmental management. Please be aware that many of our policies are controlled by state and federal environmental regulations which apply both to us and to our customers.

This list is not inclusive; other items not listed may be inappropriate for recycling as scrap metal. Please read this brochure carefully, and contact us at 503/286-5771 if you have questions about specific items. **Remember that any load may be rejected at your cost if these guidelines are not followed.**

The following materials will NOT be accepted at our facility:

- Refrigerants (including CFCs and HCFCs) in refrigerators and air conditioners. Please note that Clean Air Act regulations (§608(b)(1) and §608(c)) prohibit any release of refrigerants to the atmosphere, and require persons handling refrigerants to follow specific procedures. Our customers are REQUIRED to sign a statement certifying that all refrigerants have been properly removed (40 CFR §82).
- Asbestos or asbestos containing materials, such as pipe insulation and surfacing material commonly found on I-beams, tanks, and other structural and demolition debris (40 CFR §61.150).
- Oils, gasoline, other petroleum products and antifreeze. This includes hydraulic fluids, gear oils and grease. Hydraulic equipment must have hydraulic hoses removed and cylinders cut open and drained.
- Lead-acid batteries or battery parts, including automobile batteries (40 CFR §273).
- Items that contain or have contained PCBs, including small capacitors, fluorescent light ballasts and electrical transformers or transformer components (TSCA and 40 CFR §258 and §261).
- Automobile airbags, which contain sodium azide (40 CFR §261).
- Paint cans or other paint containers.
- Acetylene bottles and other sealed containers. Sealed containers are described as air or water tight containers without visible openings.
- Fluorescent lights, neon, high intensity or mercury vapor lights.
- Any material containing hazardous or toxic substances.
- Military scrap of any kind, unless approved in advance.
- Explosives or explosive residues.
- Radioactive materials of any kind.
- Tires, wood, dirt, yard debris, concrete, asphalt, glass, rubber, or other non-metallic materials.
- The following items will be accepted ONLY if prepared as described:
- Appliances: ALL electrical components and compressors must be removed.
- Automobiles: ALL fluids, including refrigerants, must be drained. Tires, batteries, lead wheel weights, mercury switches, and undeployed air bags must be removed.
- Air conditioning compressors: MUST be removed from item, cut in half, and drained.
- Drums, barrels and other containers: MUST be thoroughly cleaned and open for inspection.
- Gas cylinders, including air bottles, shock absorbers, and propane and other gas tanks, must be cut in half or have a hole to allow inspection.
- Cable and wire: MUST be cut in 3-foot lengths, or coiled and banded with 3/4-inch steel banding in at least four places.
- Metal banding: MUST be cut in 1-foot lengths.
- Chain-link fencing: MUST be cut in sections no larger than 18 feet by 4 feet.
- Aerosol cans: MUST be empty and crushed or punctured. Plastic caps must be removed.

APPENDIX C:
SPILL PREVENTION, CONTROL, AND COUNTERMEASURES (SPCC) PLAN

SCHN00240556

INTERNATIONAL TERMINALS
12005 N. BURGARD ROAD
PORTLAND, OREGON

SPILL PREVENTION CONTROL AND COUNTER MEASURES (SPCC) PLAN

A COMPLETE COPY OF THIS SPCC PLAN AND ITS ATTACHMENTS MUST BE MAINTAINED AT THE FACILITY AND MADE AVAILABLE TO THE EPA REGIONAL ADMINISTRATOR OR HIS AUTHORIZED REPRESENTATIVE DURING NORMAL WORKING HOURS

AN EMERGENCY RESPONSE SHEET IS LOCATED IN APPENDIX B

PBS
ENVIRONMENTAL

Prepared by

PBS ENVIRONMENTAL
1220 S.W. Morrison St.
Portland, OR 97205
(503) 248-1939

PBS Project Number
12814.00

February 1999

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SCHN00240559

PLAN APPROVAL

ENGINEER: PBS ENVIRONMENTAL

By means of examination of the International Terminals facility, and being familiar with the requirements of 40 CFR 112, I attest that this SPCC Plan as been prepared in accordance with good engineering practices.

Plan approved by: Guy M. Neal, P.E.

Date: 2-1-99

REGISTERED PROFESSIONAL ENGINEER 16,667 OREGON JULY 20,1993 GUY MARTIN NEAL

EXPIRES: 12-31-00

OWNER/OPERATOR: INTERNATIONAL TERMINALS

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.

Plan approved by: Jim Jakubiak, R.G.

Date: 2-15-99

SCHN00240560

1.0 PRE-EMERGENCY PLANNING

1.1 Purpose of Spill Prevention Control and Countermeasures Plan

This Spill Prevention Control and Countermeasures Plan (SPCC) describes the specific responsibilities, actions and operating procedures required or considered necessary for (1) preventing oil spills, and; (2) mitigating the extent of a spill. Requirements for inspection, training and record keeping are also addressed. The intent of this SPCC is to comply with the requirements of 40 CFR 112 and OAR 340-108, as it relates to oil spills only. Reporting requirements, cleanup standards, and liability relating to spills or releases of oil (or hazardous materials) are required by Oregon Administrative Rules (OAR) 340-108.

Work and environmental conditions at this site may change over time; as such the SPCC is dynamic and may be modified to encompass changes in work conditions or other unanticipated events and hazards.

The following reference sources were used in the preparation of this SPCC:

40 CFR 112.7, Guidelines for the preparation and implementation of a Spill Prevention Control and Countermeasure Plan

29 CFR 1910.120, Hazardous Waste Operations & Emergency Response

40 CFR 302, Designation, Reportable Quantities and Notification

OAR 340-108, Oil and Hazardous Material Spills and Releases

The Chemical Hazard Response Information System (CHRISTINE), produced by the U.S. Coast Guard

The 1996 North American Emergency Response Guidebook

1.2 Introduction

An SPCC is required under Code of Federal Regulations 40 CFR Part 112.3 for "owners or operators of non-transportation-related onshore and offshore facilities engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing or consuming oil and oil products, and which, due to their location, could reasonably be expected to discharge oil in harmful quantities into or upon the navigable waters of the United States or adjoining shorelines. Facilities that are subject to this part are those that i) have an underground buried storage capacity of the facility is 42,000 gallons or more of oil, or ii) the storage capacity, which is not buried, of the facility is 1,320 gallon or mor of oil, or iii) the storage capacity, which is not buried, of a single container is 660 gallons or more of oil.

International Terminals (IT) is an onshore facility that is engaged in the storage of up to 20,000 gallons of oil in aboveground storage tanks (ASTs), underground storage tanks (USTs), transformers, drums and equipment.

Preparation of the SPCC Plan for this facility is to be prepared in accordance with 40 CFR 112.7.

1.3 Implementation of the SPCC Plan

The following scenarios shall require implementation of the SPCC and its requirements:

- A spill or material release with the potential to release flammable, hazardous or toxic liquids/vapors to soil, surface water or groundwater.
- A spill or material release that is contained on-site, but has the potential for groundwater contamination.
- Any incident, that in the opinion of the Environmental Administrator, requires implementation of the SPCC.

1.4 Statement of Commitment

The International Terminals staff are committed to utilizing any and all necessary manpower, equipment and materials to expeditiously control and remove any quantity of oil or hazardous material that may reasonably be considered harmful to human health or the environment. If it is determined that facility staff are incapable of performing appropriate cleanup activities, the Environmental Administrator and/or environmental staff shall make a concerted effort to immediately contact professionals who are capable of adequately performing cleanup activities.

This SPCC document is to be used in conjunction with the provisions of 40 CFR 112. These regulations require that if reasonable engineering controls cannot be constructed, the facility shall produce a 'strong' oil spill contingency plan following the provisions of 40 CFR 109.

2.0 PERSONNEL ROLES, LINES OF AUTHORITY, AND COMMUNICATION

Environmental Administrator ..... Jim Jakubiak
- Office ..... Extension 6976
- Pager ..... (503) 271-0151
- Home ..... (360) 573-9515

2.1 Personnel Roles

During situations involving the spillage of oil products, employees and subcontractors are to report immediately to the Environmental Administrator (designated above, or the senior person present). The Environmental Administrator is to provide security of the affected area, determine if a reportable quantity of an oil product has been released and/or if the requirements of the SPCC are to be implemented. If reportable quantities of an oil product have been released, then this individual shall make necessary spill notification to the Oregon Emergency Management Division.

A spill or material release that meets or exceeds reportable quantity limits, as detailed in OAR 340-108-0010. Pertinent items include:

- If spilled into waters of the state, or escape into waters of the state is likely, any quantity of oil that would produce a visible oily slick, oily solids, or coat aquatic life, habitat or property with oil.
- If spilled on the surface of the land, any quantity of oil over one barrel (42 gallons).

2.2 Communication

The responsible individual at the time of an oil product spill or discovery of an unknown and/or potentially hazardous material shall immediately notify the Environmental Administrator of the situation. This individual shall be equipped with a two-way radio or have other means to make the necessary notification. The Environmental Administrator shall in-turn make necessary notifications to other facility personnel. In the event that an evacuation greater than the immediate affected area is required, the Environmental Administrator or other authorized person shall personally direct employees to a designated meeting location.

3.0 FACILITY DESCRIPTION AND LOCATION

3.1 Facility Location

The International Terminals property is located at 12005 N. Burgard Road, Portland, Oregon. A Site Location Map for the facility is presented in Figure 1; the Site Plan is in Figure 2.

3.2 Description of Facility Site

The International Terminals property occupies approximately 3,500 lineal feet (0.66 miles) of riverbank along the eastside of the Willamette River. The ground surface at the site gently slopes to the north/northwest with elevations on the order of 30 feet above mean sea level (MSL). According to water well logs on file at the Oregon Water Resource Department, the general subsurface description for International Terminals fluvial deposits of sand and gravel up to approximately 175 feet below ground surface. Groundwater is unconfined to the Troutdale Formation, at depth.

Two different operations occur at the International Terminals site. Schnitzer Steel Industries manages a scrap metal processing operation. Bulk quantities of scrap metal are shredded and/or sheared into small pieces of metal for shipment to offsite metal recycling facilities. International Terminals operates a transfer operation onsite, including bulk cargo handling from the shipping/port area located onsite. Oil products are currently stored in bulk quantities throughout the International Terminals site. Table 3-1 identifies the current storage. The numbered locations correspond to the facility Site Plan (Figure 2).

Table 3-1: Oil Storage at International Terminals

Location	Storage Type	Size (gallons)/Contents
#1) Building B	AST	250/Diesel
#2) Building B	Transformers	210 (6-35 gallon containers)/Dielectric Fluid
#3) Aboveground Oil/Fuel Storage Area	AST	500/Recyclable Oil
	AST	250/Recyclable Oil
	AST	500/Hydraulic Oil (Mobile DTE 25)
	AST	500/Motor Oil (Mobile 1300 Super-15W-40)
	AST	500/Hydraulic Oil (Mobiletrans HD 30)
	AST	250/Motor Oil
	Drums	770 (14 total of 55 gallon drums)/Misc. Oil
	Drums	120 (4 total of 30 gallon drums)/Misc. Oil
#4) Shear	Equipment	5,000/Hydraulic Oil
	AST	250/Lubricant Oil
	AST	480/Oil
#5) Shear Transformer/Diesel AST	AST	250/Diesel
	Transformer	730/Dielectric Fluid
#6) Shredder	Transformer	1000/Dielectric Fluid
	AST	305/Pump Hydraulic Oil
	Drum	110 (2 total of 55 gallon drums)/Motor Oil
#7) Shredder Transformers	Transformer	6,495 (3 total of 2,165 gallons)/Dielectric Fluid

SCHN00240564

3.3 Recent Spill Events

According to historical information, no spill events from underground or aboveground storage tanks have been reported within the last 12 months. On October 14, 1998, an unrecoverable amount of hydraulic oil, as determined by the U.S. Coast Guard, was released into the Willamette River. The released hydraulic oil was a result of a broken hydraulic line on a front-end loader.

If a spill occurs in the future, the SPCC shall be amended to include a written description of each such spill, corrective action taken and plans for preventing recurrence.

4.0 IN-PLACE CONTAINMENT CONTROL MEASURES/PREDICTIONS OF SPILL CONDITIONS

As described in 40 CFR 112.7 (e), appropriate containment and/or diversionary structures or equipment to prevent discharged oil from reaching navigable waters are required, as practicable. The following section describes the existing containment control measures and the predicted conditions of a spill.

4.1 Aboveground Storage Tanks

In the event of an aboveground storage tank release, there is potential for spilled materials to permeate into the subsurface or flow into the stormwater treatment system. Each aboveground storage location for International Terminals is discussed below.

4.1.1 (#1) Diesel AST

Concrete protective barriers have been placed around this AST. These barriers will act to detain some portion of spilled fuel. The diesel AST rests on a flat concrete floor, with no stormwater catchbasins or floor drains within the immediate vicinity. An oil spill kit has been placed within approximately50 feet of this AST. In the event of a spill, fluids will likely remain within the immediate area of the tank for cleanup with the nearby spill kit.

4.1.2 (#2) Building B Transformers

Both transformer locations within Building B have been protected with secondary containment, in the form of concrete-block structures built around the dielectric vessels. The transformers have each been set on a concrete pad, of which there is no apparent deterioration. In the event of a spill, all materials will likely remain within the immediate area of the vessels. There are no catchbasins or floor drains within the immediate vicinity.

4.1.3 (#3) Aboveground Storage Area

At this time, there are approximately 2,500 gallons of oil products stored in six ASTs at this location, as well as numerous drums of oil products. The ASTs and drums reside within a secondary containment spill pad. The capacity of this secondary containment is approximately 1,683 gallons. The local ground surface slopes to the north, towards a stormwater catchbasin located approximately 45 feet north. An oil spill kit is located approximately 350 feet east of this location.

4.1.4 (#4) Shear

Within the Shear building there are two oil-containing vessels. The shear pump reservoir contains approximately 4,500 gallons of hydraulic oil. Around the reservoir is a secondary containment weir and sump trench to catch leaking oil. According to International Terminal staff, this sump is pumped out as necessary by an environmental contractor and disposed offsite. The capacity of this sump is approximately 2,900 gallons. Near the reservoir is a reserve oil AST of 250 gallons. Facility staff utilize a spill pan when operating this tank. On the roof of the Shear building is a 480 gallon reserve oil tank.

The Shear building resides on an elevated concrete pad and has sheet metal walls. The ground around the Shear building is a combination of asphalt and native soils, and slopes towards the west. A significant spill from any of the oil-containing vessels at the Shear building would be expected to collect at the west side of the Shear, and permeate into the native soils of the site.

4.1.5 (#5) Shear Transformer/Diesel AST

The Shear Transformer and Reserve ASTs are located directly south of the shear. The ground is asphalt, and the transformer is mounted on a concrete pad. The immediate area slopes towards a stormwater catchbasin located approximately 300 feet west of the transformer. A spill of dielectric fluid from the transformer is expected to be insignificant, with minimal potential for contact with nearby surface waters.

Three (3) reserve ASTs are also located in this area. At the time of inspection, the ASTs were not in use.

4.1.6 (#6) Shredder

A 1,000 gallon transformer is located on the north side of the shredder building. The transformer is mounted on a concrete pad, and protected by a chain link fence. There are no stormwater catchbasins or floor drains within the immediate vicinity. An oil spill kit is located approximately 150 feet south of the transformer. The ground surface near this transformer is a combination of impervious surface (concrete) and native soil. A spill of dielectric fluid would be expected to remain within the immediate vicinity of the transformer, and possibly permeate into the native soil.

Within the shredder building is a 305 gallon AST, containing pump hydraulic oil. Near the shredder is a maintenance shed, containing 2-55 gallon drums of motor oil.

4.1.7 (#7) Shredder Transformers

At the southwest corner of the International Terminals property are three (3) transformers. According to International Terminals documentation, each of these transformers holds 2,165 gallons of dielectric fluid. The transformers have been mounted on concrete pads. Secondary containment curbing and a sump have been constructed to contain any spills. A manually operated pump rests in the sump and is operated only to remove contained stormwater. The capacity of the secondary containment curbing is approximately 13,466 gallons. A spill of dielectric fluid from these transformers would be adequately detained by the existing secondary containment.

5.0 PREVENTION STANDARDS

5.1 Work Practices

The Environmental Administrator and environmental staff shall require the following measures be implemented to reduce the likelihood of: (1) a spill occurring; (2) of contaminated soils or liquids being contacted by unauthorized employees, or; (3) any spills that may result in an offsite release via surface runoff or underground piping.

- Any fueling and routine maintenance of equipment shall be accomplished utilizing containment pans and pumps to recover engine fluids during service. Spill kits, at a minimum, shall consist of absorbent pads and booms. Any spilled oil, engine lubricants, etc., shall be cleaned with absorbent materials; washing of oils into sanitary sewer shall be eliminated.

- Store spill protection materials in accessible locations near applicable areas. Items such as sand bags, sand, Had-sorb pillows, etc.

- All fuel oil valves, process units and electrical transformers are to be periodically inspected for leaks. If staining or a spill is observed, record observations. Periodic inspections should be performed by the responsible person for the respective location. Any observed leaks shall be documented and reported to the Environmental Administrator within 24 hours of discovery.

- When not in use, equipment will be parked away from stormwater catch basins or drainage channels where runoff could easily occur. When feasible, equipment will be parked on an impervious surface.

- When temporary or mobile ASTs are in use, temporary secondary containment (e.g., oil booms) shall be placed around the tank to contain an spills. Use practical discretion to determine the appropriate distance at which to place temporary containment so as to provide maximum area of fluid containment.

- Store empty and enclosed drums in readily accessible locations of secondary containment curbing. These drums should be designated specifically for transfer of spilled oils from the secondary containment.

5.2 Recommended Engineering Controls

5.2.1 General

Specific recommended engineering controls are made based on a reasonable likelihood that spilled oil products will contact nearby surface waters of the Willamette River.

At the present time, the International Terminals facility is preparing a plan to have upaved areas of the site paved, with the intention of constructing a completely impervious area for the whole site. The following recommended engineering controls, including the construction of containment curbing, should be included in the project design.

5.2.2 Aboveground Storage Tanks

Recommended engineering controls for ASTs include secondary containment. Secondary containment may be inherent in the tank design, or may be constructed in the form of spill pads, curbing, and spill sumps. Specific areas of concern are discussed below:

(a) (#3) Aboveground Storage Area

The existing secondary containment is of adequate capacity to detain a worst-case oil spill. It is recommended that bollards be installed around this area to reduce the potential for vehicle impact to the tanks.

(b) (#4) Shear

The quantity of stored oil in the shear building is approximately 5,730 gallons. The secondary containment for the shear equipment has a capacity of 2,900 gallons. If feasible, a secondary curbing should be constructed around the shear building to contain this quantity of oil. The design of the curbing should consider the impervious surface area required to contain 5,730 gallons of oil (i.e., six-inch curb surrounding approximately 1,550 square feet of impervious surface around the Shear). This engineering control may be performed during upcoming paving projects onsite.

(c) (#7) Shredder

During upcoming paving projects, the surface area within the immediate vicinity of the transformer should be completely paved.

5.3 Training

Instruction in the operation and maintenance of equipment to prevent the discharge of oil and applicable pollution control laws, rules and regulations is required for all operating personnel. Training is to occur at intervals frequent enough to assure adequate understanding of this SPCC. Training shall include a description of known spill events or failures, malfunctioning components and recently developed precautionary measures. A record of persons receiving initial and refresher training shall be maintained by the Environmental Administrator or safety trainer.

6.0 SITE SECURITY AND CONTROL

The following section recommends measures and procedures for maintaining site security. Site security is an essential component in the implementation of the SPCC.

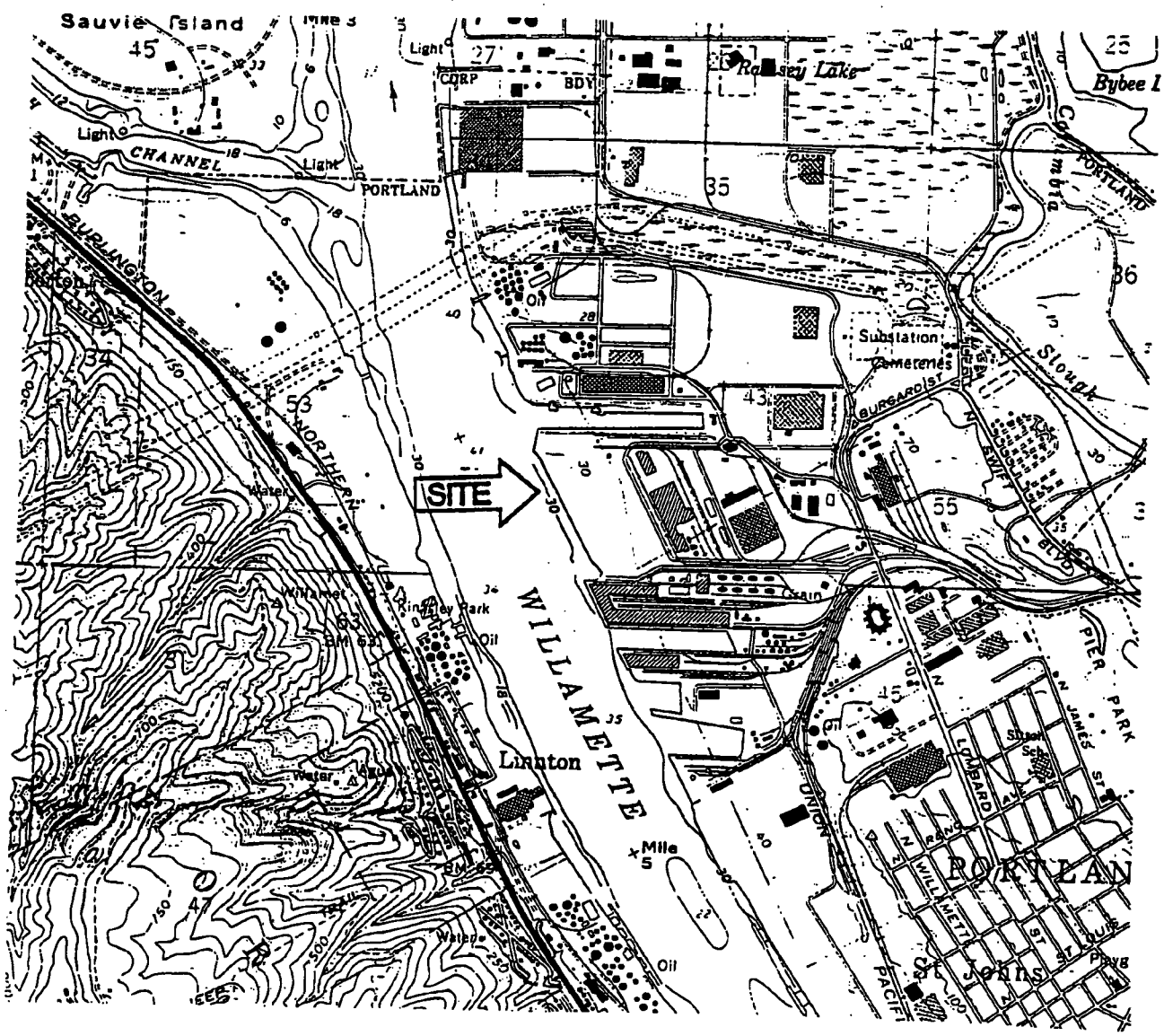
- Ensure all valves that will permit direct outward flow of the tank's content to the surface are securely set (locked if practical) in the closed position when out of operation.
- Ensure adequate site lighting is installed to discover spills and prevent spills occurring through acts of vandalism during hours of darkness.
- Equipment should be parked in a secured area to prevent vandalism.

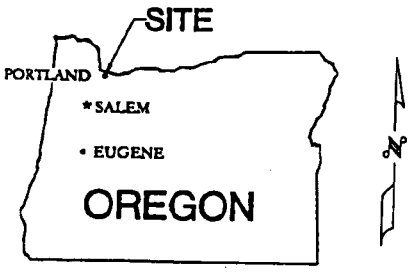
7.0 PLAN REVIEW, AMENDMENT AND CERTIFICATION

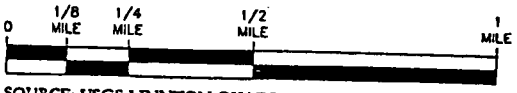
This SPCC is to be reviewed and evaluated once every three years by the Environmental Administrator or the environmental staff. If required, the SPCC is to be amended within six months of the review.

Amendment of the SPCC occurs whenever there is a change in facility design, construction, operation or maintenance procedure that affects the facility's potential for a spill or release. The SPCC is to be amended within six months of the change.

All amendments to the SPCC will be reviewed and certified by a Professional Engineer. Through this certification, the engineer attests that the SPCC has been prepared in accordance with good engineering practices.



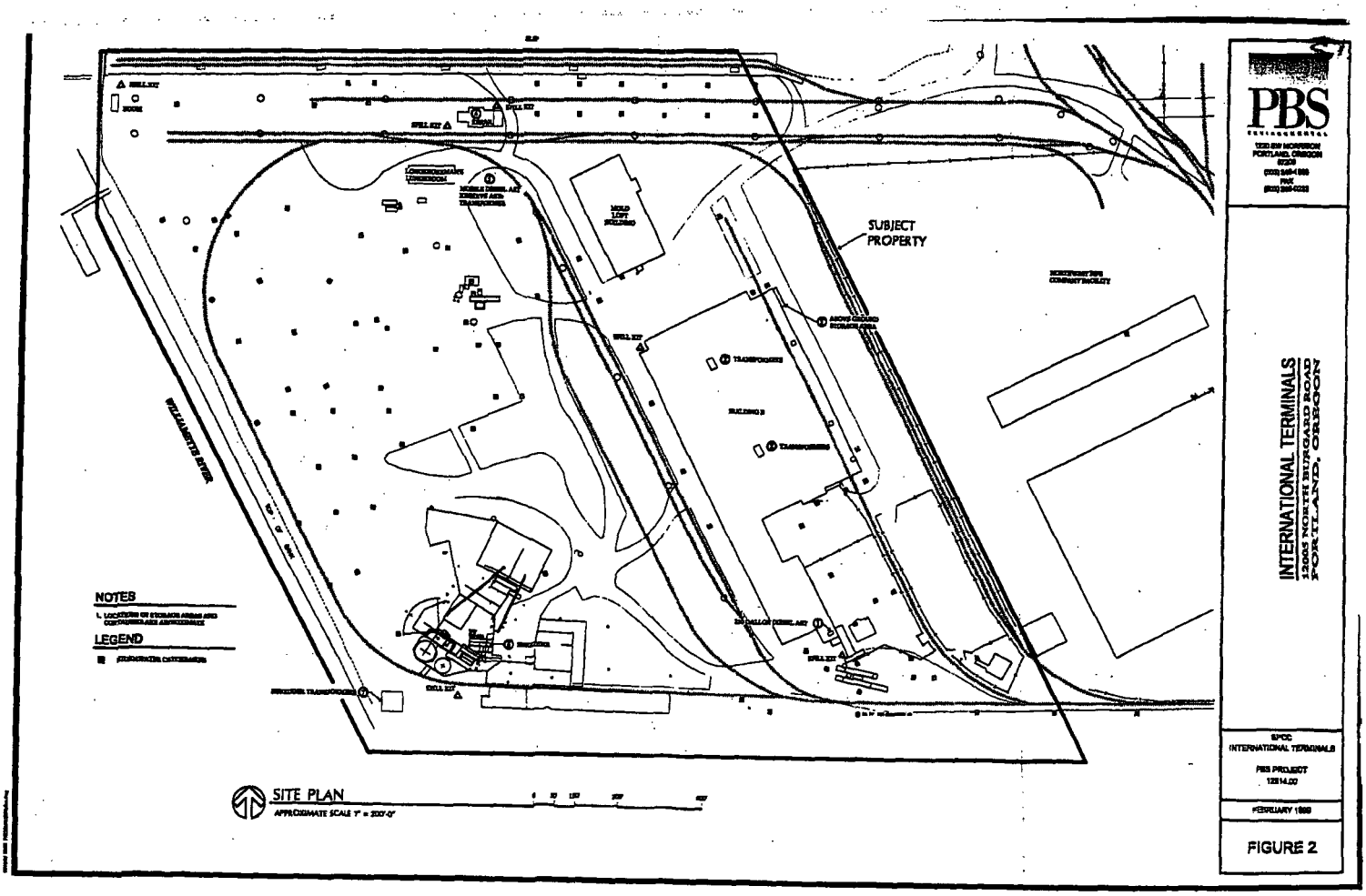




SOURCE: USGS LINNTON QUADRANGLE, ORE. 1961 PHOTOREVISED 1970 AND 1975.

12814.00 FEB 1999	SITE LOCATION MAP 12005 N BURGARD ROAD PORTLAND, OREGON	PBS 1220 SW MORRISON PORTLAND, OREGON 97205 (503) 248-1939 FAX (503) 248-0223	FIGURE 1

SCHN00240570



SCHN00240571

APPENDIX A: SITE PHOTOGRAPHS

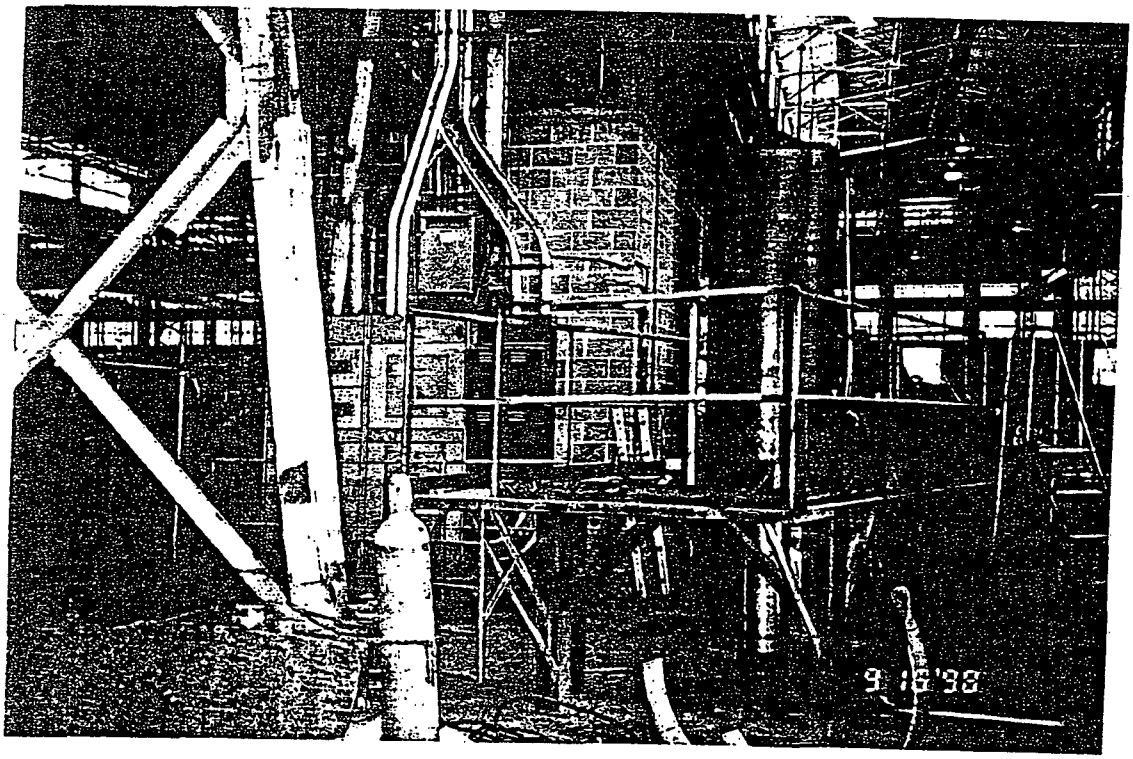


PHOTO 1: (#2) BUILDING B TRANSFORMER

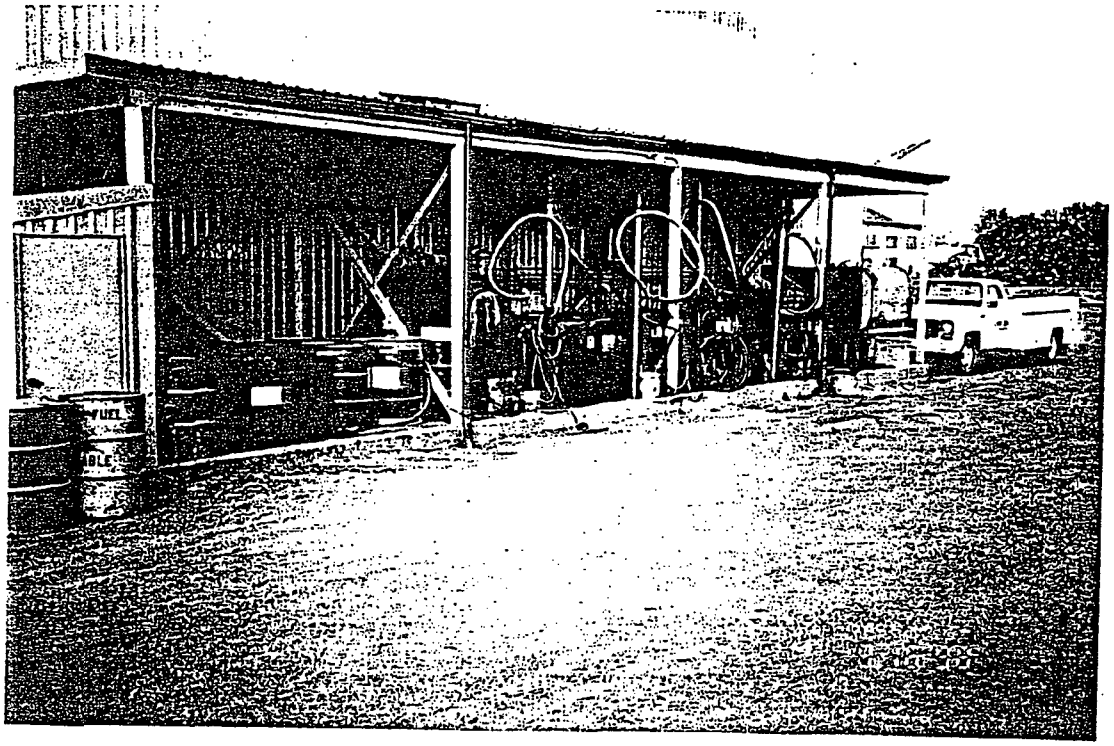


PHOTO 2: (#3) ABOVEGROUND STORAGE AREA

SCHN00240572

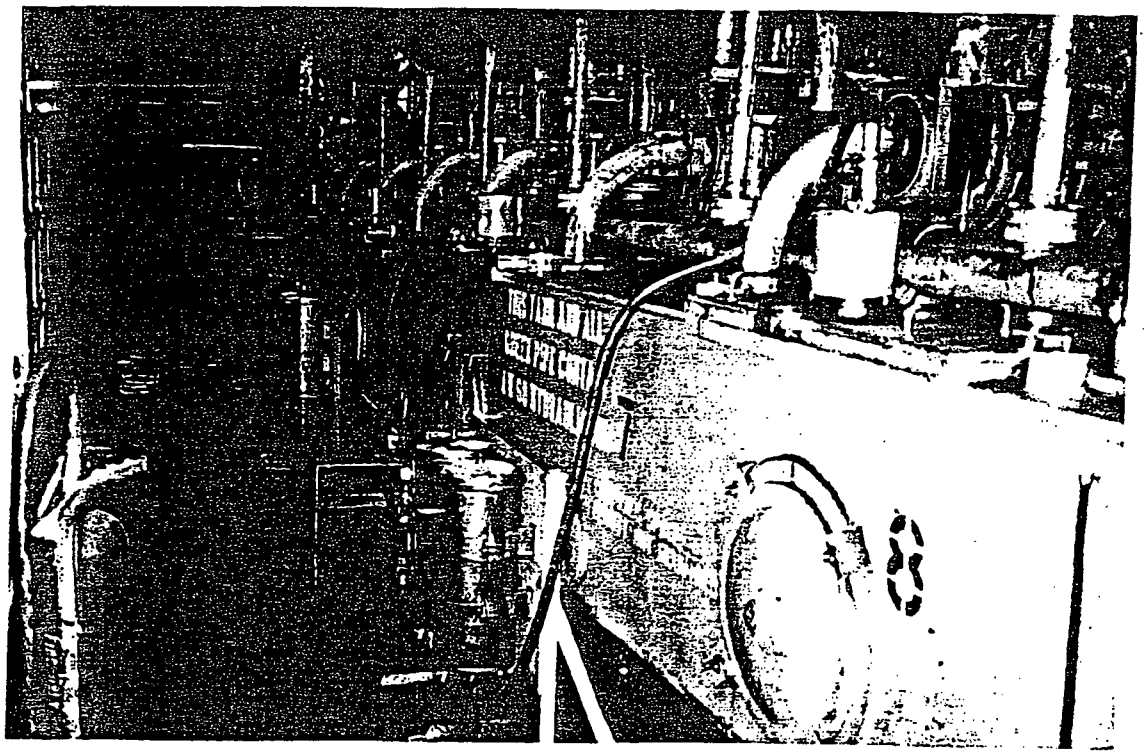


PHOTO 3: (#4) SHEAR EQUIPMENT HYDRAULIC OIL VESSEL

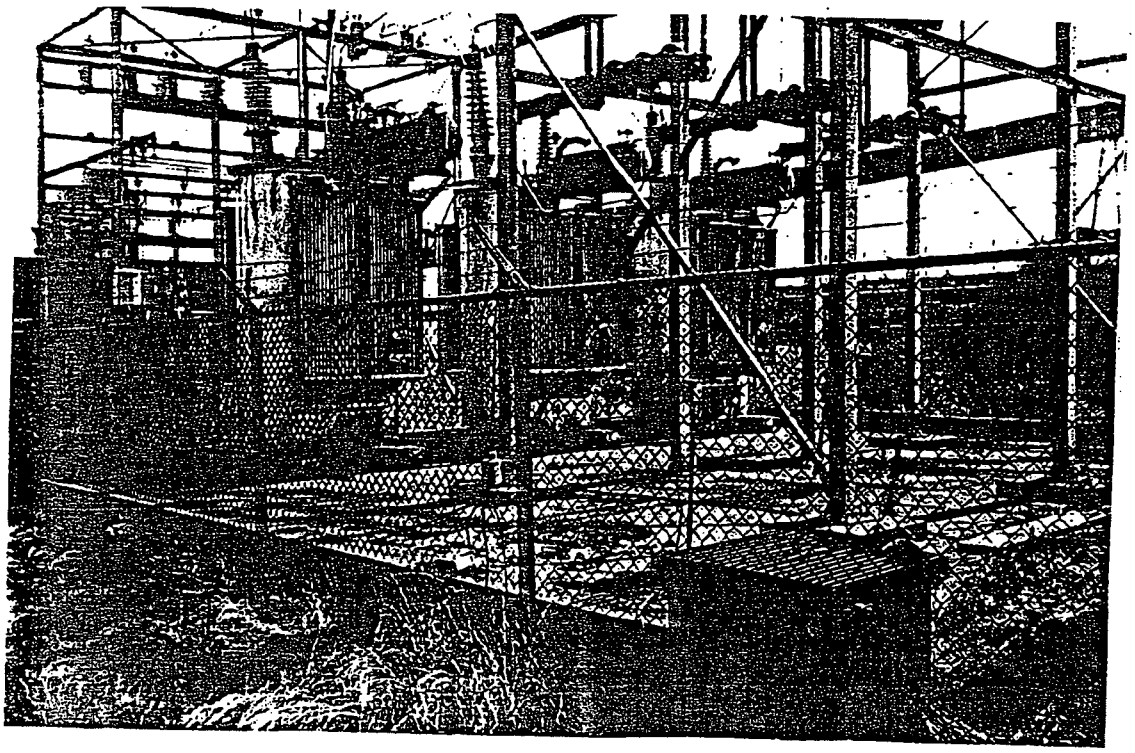


PHOTO 4: (#9) SHREDDER TRANSFORMERS

APPENDIX B

EMERGENCY RESPONSE SHEET

Facility: International Terminals
Project Location: 12005 N. Burgard Road, Portland, Oregon

Environmental Administrator ..... Jim Jakubiak/Extension 6976; Pager 271-0151; Home (360)573-9515

Environmental Staff ..... Larry Snodgrass/Extension 6903; Cell 209-9649; Home 692-4188
Environmental Staff ..... Dave Aydelott/Extension 6904; Cell 519-5983; Home (360) 573-8343
Environmental Staff ..... Harvey Witham/Extension 6908; Cell 793-0024; Home 256-5272

EMERGENCY NUMBERS:

Ambulance: **911**
Fire: **911**
Police: **911**

Spill Reporting (for quantities greater than 42 gallons or that may create an oily sheen)

1. Oregon Emergency Management Division 1-800-452-0311
2. National Response Center: 1-800-424-8802
3. EPA Environmental Response Team: 1-201-321-6600
4. Coast Guard 240-9300/240-9338/240-9370
5. Marine Fire and Safety 220-2055

NEED TO KNOW:

- **Reporting Party**
- **Contact Phone(s)**
- **Responsible Party**
- **Material Released**
- **Resource Damages (e.g., dead fish)**
- **Quantity**
- **Concentration**
- **Location**
- **Cleanup Status**

The Environmental Administrator and/or the environmental staff is are be notified immediately of all spills of known hazardous materials or discovery of unknown and potentially hazardous materials. In case of hazard exposure during and/or prior to a medical situation, the hospital and any emergency response personnel shall be notified that patient's clothing may be contaminated.

FOLLOW-UP ACTIONS

1. Identify the source of the spill. If directed by the site safety officer or emergency response staff, control or eliminate the source. This may require notifying vessel commanders and/or agents. Assistance with notification may be provided by Marine Fire and Safety at 220-2055. Follow up calls will be required. Consult with the emergency response coordinator(s).

2. If directed by the Environmental Administrator and/or environmental staff, deploy oil booms to contain the spill. This may require surrounding a vessel or placing a boom across the mouth of the slip. If the spill is on the ground surface, you may be required to cover the nearest storm drain grates, or place booms around them.

3. If directed by the Environmental Administrator and/or environmental staff, conduct cleanup or removal measures.

4. If directed by the Environmental Administrator and/or environmental staff, contact Foss Environmental at (800) 334-0004.

5. If the Coast Guard, Fire Department, other agencies, or contractors are required to respond, arrange for staff to meet them at an appropriate gate or landmark and guide them to the spill area.

6. Complete the Spill Response Report Form.

INTERNATIONAL TERMINALS
SPILL RESPONSE REPORT FORM

Name of person reporting spill: _____ Date: _____

Area of facility where spill occurred: _____

Source of spill: _____

Date and time of spill: _____

Type and amount of material spilled: _____

Approximate size of the spill: _____

Impacts to fish or wildlife: _____

Name of Schnitzer staff notified: _____

Date and time Coast Guard notified: _____

Name of Coast Guard staff notified: _____

Date and time NRC notified: _____

Name of NRC staff notified: _____

NRC Incident Number: _____

Date and time EMD notified: _____

Name of EMD staff notified: _____

EMD Incident Number: _____

Weather conditions/wind direction: _____

Comments: _____

_____

_____

_____

APPENDIX C

RESPONSIBILITIES OF THE ENVIRONMENTAL ADMINISTRATOR AND ENVIRONMENTAL STAFF

The Environmental Administrator and the environmental staff have the responsibility and authority to initiate all spill response measures and hazardous waste operations. These individuals will be responsible for securing areas where a spill or discovery of oil has occurred and safeguarding all exposure until professional spill response personnel have arrived at the incident. In the absence of the Environmental Administrator and/or environmental staff, these responsibilities will fall to another individual knowledgeable in the requirements of the SPCC. This individual shall:

- Verify that the requirements of the SPCC plan are adhered to by employees and subcontractors;
- Verify that the personnel responsible for the identification of hazardous material spills or unknown hazardous and contaminated substances are properly trained (29 CFR 1910.120 - First Responder, Awareness Level);
- Inform all personnel of the specific hazards and safety precautions required at the work area;
- Verify that onsite and offsite emergency communications systems are operational;
- Take the lead in all emergency situations in the source area until a professional emergency response team arrives;
- Establish and maintain site control measures such as work zones;
- Complete and submit records and forms, as necessary;
- Implement the SPCC when site conditions warrant such action;
- Correct any work practices or conditions that may result in a release of hazardous substances to the environment.

The Environmental Administrator is responsible for arranging properly trained personnel to carry out spill response measures or to identify unknown and potentially hazardous substances discovered during site activities. In the absence of the Environmental Administrator and/or the environmental staff, facility staff may elect to notify professional spill response personnel to assist with the incident. This individual shall:

- Be accessible to staff if necessary, to assist in the identification and evaluation of potential hazards and the development of appropriate procedures for addressing known or suspected hazardous materials;
- Plan and supervise technical and administrative aspects of tasks associated with hazardous and/or contaminated substances;
- Determine personnel protection levels and necessary clothing and equipment. This information shall be provided to subcontractors and visitors. Appropriate compliance by these individuals shall be expected;
- Authorize workers to initiate tasks in areas under his control in accordance with the SPCC and the facility's incident response plan.

APPENDIX D

SPCC AMENDMENTS

(Next Page)

Amendment Required:

The Owner shall amend the SPCC Plan in accordance with 40 CFR 112 whenever there is a change in facility design, construction, operation or maintenance which materially affects the facility's potential for the discharge of oil into or upon the navigable water of the Unite States or adjoining shore lines.

Such amendments shall be fully implemented as soon as possible, but not later than six months after such change occurs.

For purposes of this Appendix D, the Owner may elect to revise the entire SPCC Plan, or attach applicable information in this section. In either case, the amended information must be reviewed and certified by a Registered Professional Engineer to be in accordance with good engineering practices.

Periodic Review Required:

Notwithstanding amendments described in the preceding section, the Owner shall complete a review and evaluation of the SPCC Plan at least once every three years.

As a result of this review and evaluation, the Owner shall amend the SPCC Plan withing six months of the review to include more effective prevention and control technology if:

1) Such technology will significantly reduce the likelihood of a spill event from the facility; and

2) Such technology has been field-proven at the time of review.

APPENDIX D:
SITE INSPECTION CHECKLIST

SCHN00240579

SITE INSPECTION CHECKLIST
SCHNITZER STEEL PRODUCTS CO. - INTERNATIONAL TERMINALS
Stormwater Pollution Prevention Plan

Inspector Signature _____ Date _____

MONTHLY INSPECTION ITEMS

Inspection Items	Status Acceptable	/ Unacceptable	Comments	Recommended Corrective Action	Date Completed	Initials
Catch Basins						
Unobstructed/operative						
Filters present						
Grates in good condition						
Other						
Vehicles/Equipment						
Oil leaks						
Drip pans in place						
Pavement						
Condition/repair						
Swept/free of buildup						
Evidence of spill or leakage						
Debris, refuse						
Trailer sweep-off bins						
Trash dumpsters						
Other						
Spill response kits						
Unnacceptable or suspect materials						
Containers						
Kept closed						
Properly labeled						
In good condition						
No signs of leakage or spillage						
Outfalls						
Floating solids						
Oil&Grease sheen						
Oil/Water Separators						
Sediment buildup						

APPENDIX E:
TRAINING RECORD FORM

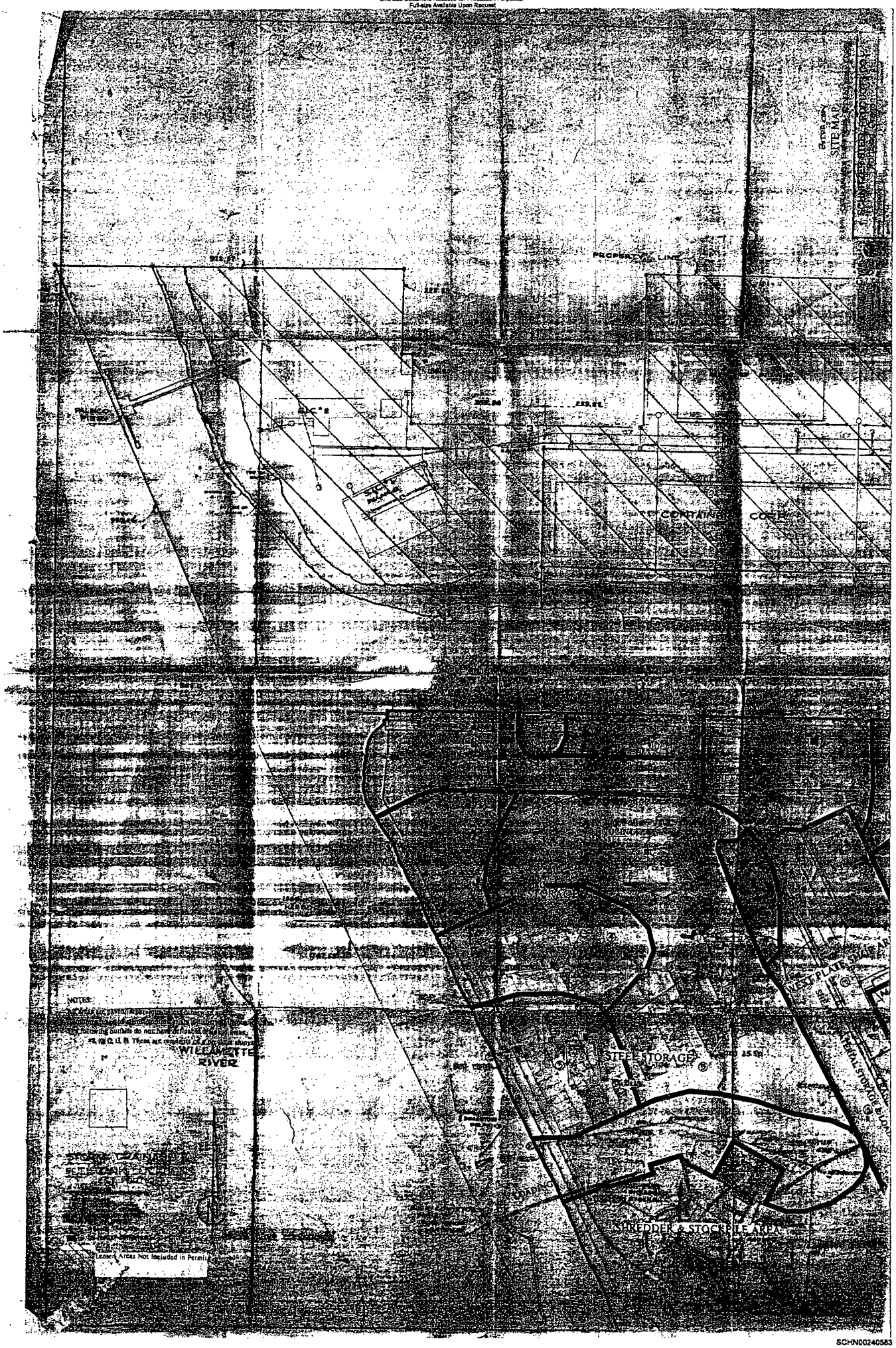
SCHN00240581

TRAINING RECORD

DATE: _____ INSTRUCTORS NAME: _____

The training included a discussion of each section of the SWPPP and highlighted spill response, good housekeeping, and proper operation and maintenance of equipment. Other topics and discussion items included:		
Instructor's Signature:		
Participant's Name:	Participant's Job Function:	Participant's Signature:

DATE: _____ INSTRUCTORS NAME: _____

The training included a discussion of each section of the SWPPP and highlighted spill response, good housekeeping, and proper operation and maintenance of equipment. Other topics and discussion items included:		
Instructor's Signature:		
Participant's Name:	Participant's Job Function:	Participant's Signature:

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Full-size Available Upon Request