TECHNICAL MEMORANDUM

LANDAU ASSOCIATES
ENVIRONMENTAL | GEOTECHNICAL | NATURAL RESOURCES

TO: Andy Kallus, Washington State Department of Ecology

FROM: Larry Beard, P.E., Landau Associates

DATE: July 24, 2014

RE: **CONSTRUCTION DOCUMENTATION**
STORMWATER TRUNK LINE CLEANOUT AND REPAIR EMERGENCY ACTION
NORTH MARINA AMERON/HULBERT SITE
EVERETT, WASHINGTON

This technical memorandum documents the Stormwater Trunk Line Cleanout and Repair Emergency Action (EA) at the North Marina Ameron/Hulbert site (Site). The EA included the cleanout of the existing trunk line located along the north Site boundary, and the replacement of a portion of the existing stormwater trunk line. A Site vicinity map is provided as Figure 1. A site plan showing the location of the trunk line EA in relation to the Site is provided as Figure 2. This work was conducted by the Port of Everett under an Emergency Action directed by the Washington State Department of Ecology (Ecology). Norton Industries, the property owner to the north of the Port's property, also participated in this work during the trunk line replacement phase of the project.

A remedial investigation/feasibility study (RI/FS) was completed for the Site under a Model Toxics Control Act (MTCA) Agreed Order No. 6677 between Port, Ameron International and the Hulberts [the potentially liable parties (PLPs)], and Ecology. This EA was conducted prior to the final RI/FS cleanup action implementation to ensure that the trunk line does not become a conduit for release of contaminated soil or groundwater to marine surface water prior to implementation of the final cleanup action.

EA BACKGROUND

The stormwater trunk line is located near the north property boundary that separates the Site from the Norton Industries property. Portions of the trunk line are located on Port property and portions are located on the Norton Industries property to the north (which includes the TC Systems site). Stormwater from both properties discharges to the trunk line. The trunk line was installed sometime between the mid-1970s and the early 1980s and was constructed of sections of 18- and 24-inch-diameter corrugated metal pipe (CMP). At the time of the EA, the trunk line was in poor condition, likely due to corrosion throughout the years following its installation, and contained a large accumulation of contaminated solids.

The trunk line discharges directly to marine surface water in the Port's 12th Street Marina (a.k.a., 12th Street Yacht Basin) and contained solids with elevated concentrations of a number of hazardous

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substances (see paragraph below). Although sediment quality data indicate that the accumulated solids have not impacted marine sediment since the 12th Street Yacht Basin was dredged in 2006, the trunk line provided a potential conduit for discharge of these solids to surface water and sediment. Additionally, the poor condition of the trunk line at the time of the EA potentially provided a conduit for contaminated soil or groundwater from the Site and the adjacent TC Systems site to the north to impact marine surface water or marine sediment.

It is noted that pre-dredging sediment investigations in the 12th Street Yacht Basin (including the portion of the 12th Street Yacht Basin located south of the Site boundary) found sediment management standard (SMS) exceedances, although not widespread, of heavy metals and phthalates, elevated concentrations of total petroleum hydrocarbons (TPH), and slightly elevated concentrations of dioxins/furans.

Based on factors that included the schedule for final Site cleanup and the potential risk to marine surface water and sediment, the EA was conducted to first clean out the existing trunk line and then construct a new trunk line to replace a portion of the existing trunk line. Because of the poor condition of the trunk line, and because the cleanout work required the use of high pressure water jetting, the cleanout activities were expected to create the risk of further degradation of the pipe and potential pipe collapse. This risk, in addition to the environmental benefit of a watertight stormwater pipe at this cleanup site, was the basis of the need for replacing the trunk line as part of the EA.

Solids samples collected from the former trunk line during the RI contained elevated concentrations of heavy metals; semivolatile organic compounds (SVOCs); polychlorinated biphenyls (PCBs); heavy metals; TPH, and concentrations of dioxins/furans that would be considered a threat to human health or ecological receptors if discharged to marine sediment. In addition to the potential discharge of these accumulated solids to marine surface water, the suspected poor condition of the trunk line posed a potential for contaminated soil and/or groundwater to enter the trunk line. Hazardous substances that were identified as being present in soil and/or groundwater adjacent to the trunk line included heavy metals, petroleum hydrocarbons, PCBs, and SVOCs.

Based on the potential risk to marine surface water and sediment, an EA for cleanout and repair of the trunk line was presented in a September 19, 2012 technical memorandum (Landau Associates 2012) and was authorized by Ecology in a September 19, 2012 letter (Ecology 2012). The original plan called for slip-lining the trunk line with Cured-In-Place-Pipe (CIPP) after accumulated stormwater solids were removed from the existing CMP trunk line. Video inspection of the trunk line following its cleaning revealed that the CMP had deteriorated to the point that CIPP could not be used to slip-line the trunk line. It was also discovered that one of the sections of trunk line was 18 inches in diameter instead of 24 inches, which had previously been reported. These conditions significantly limited the implementability and capacity of a slip-line repaired trunk line. Based on these considerations, and a concern that installing the trunk line along the current alignment could threaten the stability of the Bayside Marine building, the EA was modified to construct a new trunk line to the north of the western portion of the existing trunk line as depicted on Figure 2. The new trunk line would be installed using conventional trenching construction methods, as was documented in the EA work plan addendum (Landau Associates 2013). The portion of the existing trunk line located east of the SD-8 lateral connection to catch basin SD-5 is located within Cleanup Area G-2. This portion of the trunk line will be replaced as part of the final cleanup action for the Site and was not addressed as part of this EA, with the exception that accumulated solids were cleaned out as discussed below.

EA IMPLEMENTATION

The EA was implemented in two phases. The first phase consisted of removing solids accumulated in the existing trunk line and the second phase consisted of replacing the portion of the existing trunk line that was not located within or adjacent to the Area G-2 cleanup area. The implementation of the EA is presented in the following sections.

Trunk Line Cleanout

The trunk line cleanout was conducted from April 15, 2013 to May 30, 2013. Accumulated solids were removed from the trunk line by jetting and removing the solids slurry in the closest downstream manhole using a vactor truck. Approximately 13 tons of accumulated sediment were removed from the trunk line and disposed of at Waste Management's Greater Wenatchee Landfill. Following cleanout, the trunk line was video surveyed, to the extent possible. However, because some sections of the pipe were in poor condition, and only a limited number of access locations were available, the video survey could not be completed for large segments of the trunk line. As previously indicted, the video survey that was completed showed that some sections of the CMP were in too poor a condition to be repaired by slip lining.

Following the trunk line cleanout and prior to commencing the trunk line replacement, several sinkholes emerged along the section of pipe located adjacent to the Bayside Marine Dry-Stack building. As a result, the Port of Everett Commission authorized an Emergency Declaration to expedite the pipe replacement.

Trunk Line Replacement

Construction of the new portion of trunk line occurred under the Port's Emergency Declaration between December 1 and December 30, 2013. The new trunk line was completed parallel to, and north of, the existing trunk line between catch basin CB-111 and eastward to the point where the SD-8 lateral connects to the trunk line as depicted in Figure 2. As previously indicated, the portion of the existing trunk line located east of the SD-8 lateral connection to catch basin SD-5 will be replaced as part of the final cleanup action for the Site and was not addressed (with the exception that it was cleaned out) as part of this EA. Construction activities included excavation of a trench for the new trunk line, completion of new sections of trunk line (and associated catch basins), management of excavated soil, backfilling the newly constructed trunk line, and abandonment of the old section of trunk line.

On November 25, 2013, prior to the beginning of trench excavation, a monitoring well was discovered within the trench excavation limits to the west of catch basin CB-103 on Norton Industries property. Jim Schack of Norton Industries Inc. was notified and personnel from Stantec Consulting, on behalf of Norton Industries, notified Ecology and decommissioned the well without incident on November 27, 2013.

Placement of the new trunk line occurred as each section of trenching was completed. The new trunk line was constructed of 24-inch-diameter high-density polyethylene (HDPE) pipe and connected to all stormwater laterals served by the former trunk line. Construction of the new line was completed in substantive compliance with all local and state requirements, as described in the *Emergency Action Amendment Stormwater Trunk Line Cleanout and Repair* (Landau Associates 2013). The new trunk line alignment is shown on Figure 2 and in the as-built drawing for this project (Drawing C1.1), included as Attachment 1.

After installation of the new trunk line sections, crushed surfacing base coarse (CSBC) was used to bed around the new trunk line pipe. Base coarse material was analyzed for arsenic by ALS Laboratories, located in Everett, Washington. The arsenic concentration was well below the Site screening level in the base coarse material.

Soil excavated from the trench that passed field screening criteria was used to backfill above the new trunk line pipe. An additional 90 cubic yards of backfill material was required to backfill some areas of the trench, and was taken from surplus structural backfill used for the Everett Shipyard Site upland cleanup. In areas where groundwater was encountered at excavation depth, a layer of quarry spalls was placed 6 to 12 inches deep and then CSBC was placed above it. Groundwater, when encountered, was pumped to the sanitary sewer under permit with the City of Everett.

Decommissioning of the old section of trunk line between the point where the SD-8 lateral connects to the trunk line westward to catch basin CB-111 was completed on December 12, 2013, while the section of the trunk line between CB-111A and CB-111 was decommissioned on December 19, 2013. Decommissioning was accomplished by filling the disconnected section of the trunk line with cement slurry.

Following the completion of the trunkline replacement and trunkline abandonment, the Port's contractor surveyed the foundation of Bayside Marine's Dry-Stack building. The survey results indicated that the cleanout and replacement activities, and the sinkholes mentioned in the previous section, did not damage the building.

The property was fully restored following the trunkline replacement, including replacement of affected fence panels, replacement of demolished asphalt, and other minor site features that were affected by the work.

SOIL MANAGEMENT

Soil excavated during pipeline construction was managed consistent with the Contamination Contingency Plan developed for the North Marina Redevelopment Site (Landau Associates 2008). This included screening excavated soil for visual or olfactory evidence of contamination and segregating potentially contaminated soil for analytical testing.

At the new catch basin CB-102 location on Norton Industries property, dark grey soil and wood material (planks, posts, and other wood debris) were encountered during excavation. This material was segregated into one stockpile and Landau Associates' personnel collected samples to characterize the excavated soil quality. Potentially contaminated soil was also encountered on Norton Industries property between catch basin CB-102 and the location for new catch basin CB-103. This material was segregated into two additional stockpiles based on visual indications of potential contamination (dark grey soil, planks, posts, and other wood debris) and characterized. Analytical results from all three of the stockpiles indicated elevated levels of some SVOCs, as well as arsenic in two of the three stockpiles; 625 tons of contaminated soil was transported to Allied Waste for disposal as solid waste. Analytical results of the stockpile sampling are provided as Attachment 2.

USE OF THIS MEMORANDUM

This technical memorandum has been prepared for the use of the Port of Everett and the Washington State Department of Ecology for specific application to the North Marina Ameron/Hulbert Site. None of the information, conclusions, and recommendations included in this document can be used for any other project without the express written consent of the Port and Landau Associates. Further, the reuse of information, conclusions, and recommendations provided herein for extensions of the project or for any other project, without review and written authorization by Landau Associates, shall be at the user's sole risk. Landau Associates warrants that within the limitations of scope, schedule, and budget, our services have been provided in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions as this project. We make no other warranty, either express or implied.

References

Ecology. 2012. Letter re: *Authorization - Implementation of the Trunk Line Cleanout and Repair Emergency Action*. From Andy Kallus, Washington State Department of Ecology, Land Cleanup Unit, Land and Aquatic Lands Cleanup Section, Olympia, Washington, to Larry Beard, Landau Associates, Inc., Edmonds, Washington. September 19.

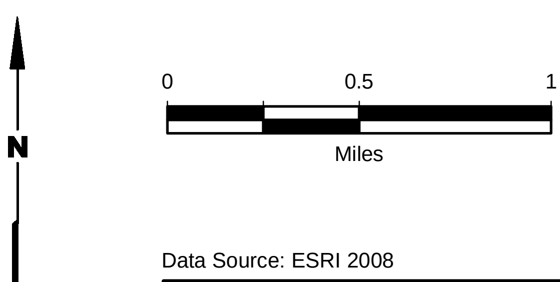
Landau Associates. 2013. Technical Memorandum to Andy Kallus, Washington State Department of Ecology, re: *Emergency Action Amendment Stormwater Trunk Line Cleanout and Repair, North Marina Ameron/Hulbert Site, Everett, Washington.* Larry Beard, Landau Associates. November 15.

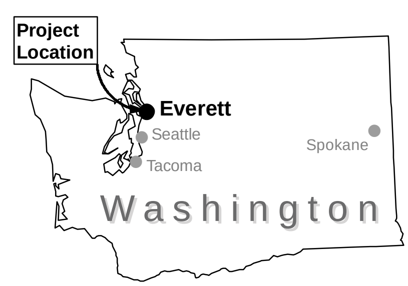
Landau Associates. 2012. Technical Memorandum to Andy Kallus, Washington State Department of Ecology, re: *Emergency Action Cleanup Plan, Stormwater Trunk Line Cleanout and Repair, North Marina Ameron/Hulbert Site, Everett, Washington.* Larry Beard, Landau Associates. September 19.

Landau Associates. 2008. *Contamination Contingency Plan, North Marina Redevelopment Site, Everett, Washington*. Prepared for the Port of Everett. January 30.

Attachments

Figure 1: Vicinity Map
Figure 2: Site Plan
Attachment 1: Trunk Line Replacement As-Built Drawing
Attachment 2: Stockpile Analytical Results





Data Source: ESRI 2008

Y:\Projects\147029\Mapdocs\Ameron Hulbert Site\2012 RIFS Report\Fig1-Vicinity Map.mxd 9/19/2012

Landau Associates

North Marina Ameron/Hulbert Site Port of Everett, Washington	**Vicinity Map**	Figure 1

Legend

- New Catch Basin
- New Trunk Line Segment
- Stormwater Infrastructure
- Trunk Line Segment Cleaned. To be Removed and Replaced as Part of Cleanup Area G-2
- Trunk Line Segment Cleaned, Abandoned, and Replaced
- Stormwater Infrastructure Not Connected to Trunk Line
- Stormwater Infrastructure No Longer in Service
- Approximate Ameron/Hulbert Site Boundary
- G - Area Designation
- Asphalt Berms
- Trench Drains
- Approximate Location of Previous Trunk Line Repair
- Depression

Notes

1. Data for the storm system alignment was obtained from a variety of sources including Reid Middleton plans dated 1996, information provided by Aspect Consulting, plans provided by the Port of Everett and a binding site plan for Norton Industries dated 1992.
2. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Data Source: Google Earth Pro (2011 Image)

0 150 300

Scale in Feet

G:\Projects\147\029\500\650\Stormwater Trunkline Specs TM\Figure 2 Site Plan.mxd 7/10/2014 NAD 1983 StatePlane Washington North FIPS 4601 Feet

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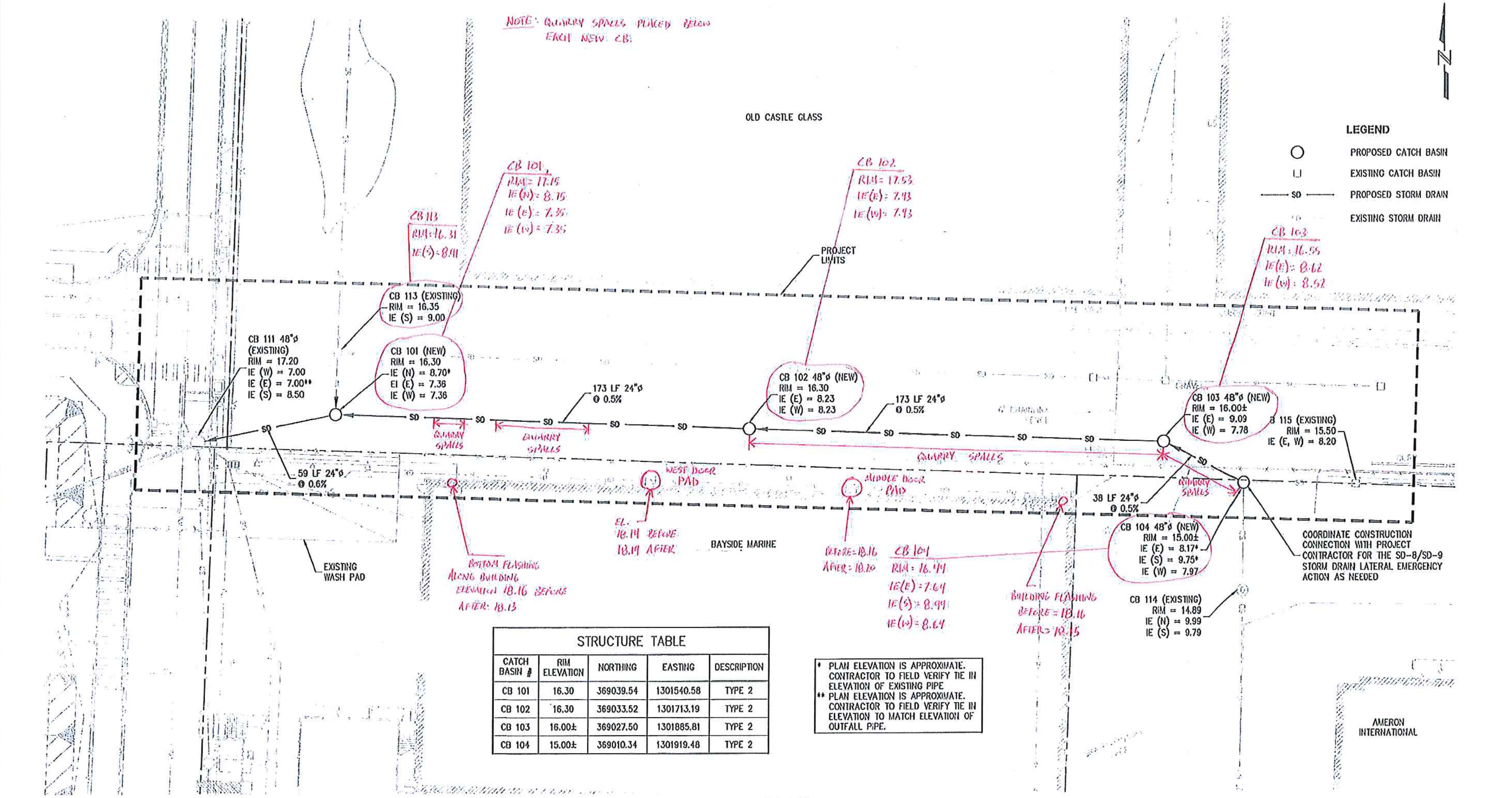
North Marina Ameron/Hulbert Site Port of Everett, Washington	Site Plan	Figure 2

ATTACHMENT 1

Trunk Line Replacement As-Built Drawing



STRUCTURE TABLE

CATCH BASIN #	RIM ELEVATION	NORTHING	EASTING	DESCRIPTION
CB 101	16.30	369039.54	1301540.58	TYPE 2
CB 102	16.30	369033.52	1301713.19	TYPE 2
CB 103	16.00±	369027.50	1301885.81	TYPE 2
CB 104	15.00±	369010.34	1301919.48	TYPE 2

* PLAN ELEVATION IS APPROXIMATE. CONTRACTOR TO FIELD VERIFY TIE IN ELEVATION OF EXISTING PIPE

** PLAN ELEVATION IS APPROXIMATE. CONTRACTOR TO FIELD VERIFY TIE IN ELEVATION TO MATCH ELEVATION OF OUTFALL PIPE.

PLAN

0 5 10 20 40 60 FT.

IF THIS DRAWING IS NOT 22"x34" SCALE ACCORDINGLY.

ISSUED FOR CONSTRUCTION

Port of EVERETT
P.O. BOX 538
EVERETT, WA 98206
(425) 259-3164

PND ENGINEERS, INC.
1736 Fourth Avenue S, Suite A
Seattle, Washington 98134
Phone: 206-624-1387
Fax: 206-624-1388

NO.	DATE	BY	REVISION
0	10/22/13	GRW	ISSUED FOR CONSTRUCTION

GARY ROBERT WATTERS 32244 PROFESSIONAL ENGINEER 10/22/2013

PROJECT ENGINEER: G. WATTERS	SCALE: NOTED
DESIGNED BY: C. WEST	DATE: OCTOBER 2013
DRAWN BY: G. DEAN	CHECKED BY: S. ROBERT
APPROVED BY:	

PORT OF EVERETT

AMERON – HULBERT SITE TRUNKLINE STORM DRAIN REPAIR DRAINAGE REPAIR PLAN

DWG. NO. C1.1

CIP NO. 3-0-0-12-03

PROJECT NO. PD-NM-2013-09

SHEET NO. 7 OF 8

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ATTACHMENT 2

Stockpile Analytical Results

ATTACHMENT 2
STOCKPILE ANALYTICAL RESULTS
NORTH MARINE REDEVELOPMENT SITE

	Preliminary Screening Levels (a)	SP-1 EV13120036-01 12/05/2013	SP-3 EV13120059-01 12/09/2013	SP-5 EV13120059-03 12/09/2013
TOTAL PETROLEUM HYDROCARBONS (mg/kg)				
Method NWTPH-DX				
Diesel	2,000	**330**	25 U	**51**
Oil	2,000	**220**	**51**	**89**
Method NWTPH-GX				
Gasoline	30/100 (b)			**7.6**
VOLATILES (µg/kg)				
Method SW8260C				
Dichlorodifluoromethane				10 U
Chloromethane				10 U
Vinyl Chloride				10 U
Bromomethane				10 U
Chloroethane				10 U
Carbon Tetrachloride				10 U
Trichlorofluoromethane				10 U
Carbon Disulfide				10 U
Acetone				50 U
1,1-Dichloroethene				10 U
Methylene Chloride				20 U
Acrylonitrile				50 U
Methyl T-Butyl Ether				10 U
Trans-1,2-Dichloroethene				10 U
1,1-Dichloroethane				10 U
2-Butanone				50 U
Cis-1,2-Dichloroethene				10 U
2,2-Dichloropropane				10 U
Bromochloromethane				10 U
Chloroform				10 U
1,1,1-Trichloroethane				10 U
1,1-Dichloropropene				10 U
1,2-Dichloroethane				10 U
Benzene	0.29			5.0 U
Trichloroethene				10 U
1,2-Dichloropropane				10 U
Dibromomethane				10 U
Bromodichloromethane				10 U
Trans-1,3-Dichloropropene				10 U
4-Methyl-2-Pentanone				50 U
Toluene	110			10 U
Cis-1,3-Dichloropropene				10 U
1,1,2-Trichloroethane				10 U
2-Hexanone				50 U
1,3-Dichloropropane				10 U
Tetrachloroethylene				10 U
Dibromochloromethane				10 U
1,2-Dibromoethane				5.0 U
Chlorobenzene				10 U
1,1,1,2-Tetrachloroethane				10 U
Ethylbenzene	18			10 U
m,p-Xylene	16,000			20 U
Styrene				10 U
o-Xylene	16,000			10 U
Bromoform				10 U
Isopropylbenzene				10 U
1,1,2,2-Tetrachloroethane				10 U
1,2,3-Trichloropropane				10 U
Bromobenzene				10 U
N-Propyl Benzene				10 U
2-Chlorotoluene				10 U
1,3,5-Trimethylbenzene				10 U
4-Chlorotoluene				10 U
T-Butyl Benzene				10 U
1,2,4-Trimethylbenzene				10 U

ATTACHMENT 2
STOCKPILE ANALYTICAL RESULTS
NORTH MARINE REDEVELOPMENT SITE

	Preliminary Screening Levels (a)	SP-1 EV13120036-01 12/05/2013	SP-3 EV13120059-01 12/09/2013	SP-5 EV13120059-03 12/09/2013
S-Butyl Benzene				10 U
P-Isopropyltoluene				10 U
1,3 Dichlorobenzene				10 U
1,4-Dichlorobenzene				10 U
N-Butylbenzene				10 U
1,2-Dichlorobenzene				10 U
1,2-Dibromo 3-Chloropropane				50 U
1,2,4-Trichlorobenzene				10 U
Hexachlorobutadiene				10 U
Naphthalene				10 U
1,2,3-Trichlorobenzene				10 U
SEMIVOLATILES (µg/kg)				
Method SW8270D				
Pyridine		200 U	200 U	200 U
N-Nitrosodimethylamine		100 U	100 U	100 U
Phenol		**530**	100 U	100 U
Aniline		100 U	100 U	100 U
Bis(2-Chloroethyl)Ether		250 U	250 U	250 U
2-Chlorophenol		250 U	250 U	250 U
1,3-Dichlorobenzene		100 U	100 U	100 U
1,4-Dichlorobenzene		100 U	100 U	100 U
Benzyl Alcohol		100 U	100 U	100 U
1,2-Dichlorobenzene		100 U	100 U	100 U
o-Cresol		100 U	100 U	100 U
Bis(2-chloroisopropyl) ether		250 U	250 U	250 U
m,p-Cresol (2:1 ratio)		**7200**	100 U	**170**
N-Nitrosodi-n-propylamine		250 U	250 U	250 U
Hexachloroethane		100 U	100 U	100 U
Nitrobenzene		100 U	100 U	100 U
Isophorone		100 U	100 U	100 U
2-Nitrophenol		100 U	100 U	100 U
2,4-Dimethylphenol		100 U	100 U	100 U
Benzoic Acid	320,000	1000 U	1000 U	1000 U
Bis(2-Chloroethoxy)Methane		250 U	250 U	250 U
2,4-Dichlorophenol		500 U	500 U	500 U
1,2,4-Trichlorobenzene		100 U	100 U	100 U
Naphthalene	140	**1600**	**220**	**220**
4-Chloroaniline		1000 U	1000 U	1000 U
2,6-Dichlorophenol		250 U	250 U	250 U
Hexachlorobutadiene		500 U	500 U	500 U
4-Chloro-3-Methylphenol		500 U	500 U	500 U
2-Methylnaphthalene	320	250 U	250 U	250 U
1-Methylnaphthalene		250 U	250 U	250 U
Hexachlorocyclopentadiene		100 U	100 U	100 U
2,4,6-Trichlorophenol		100 U	100 U	100 U
2,4,5-Trichlorophenol		100 U	100 U	100 U
2-Chloronaphthalene		100 U	100 U	100 U
2-Nitroaniline		100 U	100 U	100 U
Acenaphthylene		**140**	100 U	100 U
Dimethyl phthalate		100 U	100 U	100 U
2,6-Dinitrotoluene		100 U	100 U	100 U
Acenaphthene	66	100 U	100 U	100 U
m-Nitroaniline		1000 U	1000 U	1000 U
2,4-Dinitrophenol		100 U	100 U	100 U
4-Nitrophenol		100 U	100 U	100 U
Dibenzofuran		100 U	100 U	100 U
2,4-Dinitrotoluene		100 U	100 U	100 U
2,3,4,6-Tetrachlorophenol		100 U	100 U	100 U
Diethyl phthalate		100 U	100 U	100 U
Fluorene	553	**120**	100 U	100 U
4-Chlorophenyl-Phenylether		100 U	100 U	100 U
4-Nitroaniline		250 U	250 U	250 U
4,6-Dinitro-2-Methylphenol		100 U	100 U	100 U
N-Nitrosodiphenylamine		100 U	100 U	100 U
Azobenzene		100 U	100 U	100 U

ATTACHMENT 2
STOCKPILE ANALYTICAL RESULTS
NORTH MARINE REDEVELOPMENT SITE

	Preliminary Screening Levels (a)	SP-1 EV13120036-01 12/05/2013	SP-3 EV13120059-01 12/09/2013	SP-5 EV13120059-03 12/09/2013
4-Bromophenyl phenyl ether		100 U	100 U	100 U
Hexachlorobenzene		100 U	100 U	100 U
Pentachlorophenol		500 U	500 U	500 U
Phenanthrene	12,000	**250**	**160**	**180**
Anthracene	12,000	100 U	100 U	100 U
Carbazole		250 U	250 U	250 U
Dibutyl phthalate	100	100 U	100 U	100 U
Fluoranthene	89	**150**	100 U	**140**
Pyrene	2,400	**490**	100 U	**140**
Butyl benzyl phthalate	530	100 U	100 U	100 U
3,3'-Dichlorobenzidine		250 U	250 U	250 U
Benz[a]anthracene	TEQ	100 U	100 U	100 U
Chrysene	TEQ	100 U	100 U	100 U
Bis(2-Ethylhexyl) Phthalate	4.9	**920**	100 U	100 U
Di-N-Octyl Phthalate		100 U	100 U	100 U
Benzo(b)fluoranthene	TEQ	100 U	100 U	100 U
Benzo(k)fluoranthene	TEQ	100 U	100 U	100 U
Benzo(a)pyrene	0.14	100 U	100 U	100 U
Indeno(1,2,3-cd)pyrene	TEQ	100 U	100 U	100 U
Dibenzo(a,h)anthracene	TEQ	100 U	100 U	100 U
Benzo(ghi)perylene		100 U	100 U	100 U
cPAH TEQ	0.14	ND	ND	ND
PCBs (mg/kg)				
Method SW8082				
Aroclor 1016		0.50 U	0.10 U	0.10 U
Aroclor 1221		0.50 U	0.10 U	0.10 U
Aroclor 1232		0.50 U	0.10 U	0.10 U
Aroclor 1242		0.50 U	0.10 U	0.10 U
Aroclor 1248		0.50 U	0.10 U	0.10 U
Aroclor 1254		0.50 U	0.10 U	0.10 U
Aroclor 1260		0.50 U	0.10 U	0.10 U
Aroclor 1268		0.50 U	0.10 U	0.10 U
Total PCBs	1.0	ND	ND	ND
TOTAL METALS (mg/kg)				
Methods SW6020/SW7471				
Arsenic	20	**11**	**34**	**37**
Barium	1,650	**69**	**45**	**80**
Cadmium	80	0.62 U	0.50 U	0.50 U
Chromium	120,000	**20**	**35**	**38**
Lead	250	**28**	**37**	**54**
Mercury	24	**0.053**	**0.048**	**0.067**
Selenium	400	8.8 U	5.0 U	5.0 U
Silver	400	0.63 U	0.50 U	0.50 U
TCLP METALS (mg/L)				
Methods SW6020/SW7470				
Arsenic	5	0.025 U	**0.028**	0.025 U
Barium	100	**0.21**	**0.52**	**0.42**
Cadmium	1	0.025 U	0.025 U	0.025 U
Chromium	5	0.025 U	0.025 U	0.025 U
Lead	5	0.025 U	0.025 U	**0.031**
Mercury	0.2	0.00020 U	0.00020 U	0.00020 U
Selenium	1	0.025 U	0.025 U	0.025 U
Silver	5	0.025 U	0.025 U	0.025 U

U = Indicates the compound was not detected at the reported concentration.
Bold = Detected compound.
Box = Exceedance of Preliminary Screeing Level.

(a) Preliminary Cleanup Screening Level based on lowest soil criteria corrected for PQL and background.
(b) MTCA Method A Cleanup Screening Level is 30 mg/kg when benzene is present and 100 mg/kg when benzene is not present.