APPENDIX A

GEOTECHNICAL REPORT AND HYDROGRAPH

associated
earth sciences
incorporated

Subsurface Exploration, Geologic Hazard, and Geotechnical Engineering Report

BOAT HAVEN MARINA STORMWATER IMPROVEMENTS

Port of Port Townsend, Washington

Prepared For:

KENNEDY/JENKS CONSULTANTS, INC.

Project No. 20240057E001
May 17, 2024

Associated Earth Sciences, Inc.

www.aesgeo.com

Kirkland | Mount Vernon | Tacoma

associated earth sciences incorporated

May 17, 2024
Project No. 20240057E001

Kennedy/Jenks Consultants, Inc.
32001 32nd Avenue South, Suite 300
Federal Way, Washington 98001

Attention: Samantha Karpa, P.E.

Subject: Subsurface Exploration, Geologic Hazard,
and Geotechnical Engineering Report
Boat Haven Marina Stormwater Improvements
2601 Washington Street
Port Townsend, Washington

Dear Samantha Karpa:

We are pleased to present our geotechnical engineering report for the proposed Boat Haven Marina Stormwater Improvements project at the Port of Port Townsend, Washington. This report summarizes the results of our subsurface exploration, geologic hazard, and geotechnical engineering studies, and offers design recommendations based on our present understanding of the project. Once project plans are fully developed, we should review the plans and confirm or update the recommendations in this report.

We have enjoyed working with you on this study and are confident that the recommendations presented in this report will aid in the successful completion of your project. If you should have any questions or if we can be of additional help to you, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington

G. Bradford Drew, P.E.
Senior Engineer

BD/ld – 20240057E001-002

SUBSURFACE EXPLORATION, GEOLOGIC HAZARD, AND GEOTECHNICAL ENGINEERING REPORT

BOAT HAVEN MARINA STORMWATER IMPROVEMENTS

Port of Port Townsend, Washington

Prepared for:
Kennedy/Jenks Consultants, Inc.
32001 32nd Avenue South, Suite 300
Federal Way, Washington 98001

Prepared by:
Associated Earth Sciences, Inc.
911 5th Avenue
Kirkland, Washington 98033
425-827-7701

May 17, 2024
Project No. 20240057E001

I. PROJECT AND SITE CONDITIONS

1.0 INTRODUCTION

This report presents the results of Associated Earth Sciences, Inc.'s (AESI's) subsurface exploration, geologic hazard, and geotechnical engineering study for the proposed Boat Haven Marina Stormwater Improvements project at the Port of Port Townsend (Port), Washington. Our understanding of the project is based on our correspondence with Kennedy/Jenks Consultants, Inc. (Kennedy/Jenks), our review of a conceptual site plan dated May 2023, and a set of 60% design submittal plans dated April 2024.

The site location is shown on the "Vicinity Map," Figure 1. The approximate locations of the explorations completed for this study are shown on the "Existing Site and Exploration Plan," Figure 2, and the "Conceptual Site Plan and Exploration Locations," Figure 3. Copies of the exploration logs are included in Appendix A, laboratory test results are included in Appendix B, and the liquefaction analysis results are included in Appendix C.

1.1 Purpose and Scope

The purpose of this study was to provide subsurface data to be used in the design and development of the subject project. Our study included reviewing available geologic literature, completing seven exploration borings with two of the borings completed as groundwater level observation wells, and performing geologic studies to assess the type, thickness, distribution, and physical properties of the subsurface sediments and groundwater conditions. Geotechnical engineering studies were completed to assess geologic hazards and to formulate geotechnical recommendations for site preparation, temporary cut slopes, earthwork and site grading, structural fill, foundation support for stormwater structures, and lateral earth pressures for below-grade walls. This report summarizes our fieldwork and offers recommendations based on our present understanding of the project. We recommend that we be allowed to review the recommendations presented in this report and revise them, if needed, when the project design has been finalized.

1.2 Authorization

Authorization to proceed with this study was granted to AESI by Nathan Ward with Kennedy/Jenks through a Professional Services and Technical Services Agreement dated April 12, 2024. Our study was accomplished in general accordance with our scope of work and cost proposal dated April 12, 2024. This report has been prepared for the exclusive use of Kennedy/Jenks and their agents for specific application to this project. Within the limitations of scope, schedule, and budget, our services have been performed in accordance with generally

accepted geotechnical engineering and engineering geology practices in effect in this area at the time our report was prepared. No other warranty, express or implied, is made.

2.0 PROJECT AND SITE DESCRIPTION

The project site is located at the southwest corner of the Boat Haven Marina at the Port, which is a waterfront property located at 2601 Washington Street in Port Townsend, Washington (see Figure 1). The site is currently occupied by the Boat Haven Marina, which includes several ancillary buildings, material storage, covered/uncovered boat storage, boat lifts, and beach access areas.

The subject site is relatively flat to very gently sloping to the south toward Port Townsend Bay. Overall vertical relief across the site is approximately 6 feet. The site is generally surfaced with gravel, which supports vehicle and boat lift traffic and boat storage. The site is bordered to the south by Port Townsend Bay, to the southwest and west by a wetland buffer area, to the north by West Simms Way, and to the east by industrial buildings. The southern shoreline along the project boundary contains riprap and earthen berms that supports a gravel walking path (Pacific Northwest/Larry Scott Trail). These berms have a maximum height of about 5 feet and are inclined at approximately 2H:1V (Horizontal:Vertical). Beyond the berms to the south, the ground surface slopes down gently toward the bay at roughly 5 to 10 percent inclination. The depression within the wetland buffer area contains a side slope that is roughly 4 feet in height and inclined at about 10 percent.

The project consists of stormwater improvements that will include the addition of three chitosan pre-treatment/detention tanks, a coarse pre-filter tank, biofiltration treatment tank, polishing filter tank, lift station, and associated underground pipe connections and utilities. The approximate locations of the proposed stormwater structures are shown on Figure 3. We understand that all stormwater structures will be constructed of cast-in-place or pre-cast concrete and founded partially below grade by 5 to 6 feet. The various tanks will generally be located within the grass area along the southern edge of the gravel lot, spanning a total distance of roughly 450 feet.

3.0 SITE AND SUBSURFACE EXPLORATION

Our field study for this phase of construction was completed on April 16 and 17, 2024, and included advancing seven exploration borings (EB-1 through EB-7W), with two borings completed as groundwater level observation wells (EB-6W and EB-7W), to define the general soil and shallow groundwater conditions below the area of proposed stormwater improvements. The exploration locations are shown on the "Existing Site and Exploration Plan," Figure 2, and the "Conceptual Site Plan and Exploration Locations," Figure 3. The locations of

our field explorations were approximated by measurements from known site features. The various types of materials, as well as the depths where characteristics of the materials changed, are indicated on the exploration logs presented in Appendix A. The depths indicated on the logs where conditions changed may represent gradational variations between material types in the field.

The conclusions and recommendations presented in this report are based, in part, on our site reconnaissance and the exploration borings completed for this study. The number, locations, and depths of the explorations were completed within site and budgetary constraints. Because of the nature of exploratory work below ground, interpolation of subsurface conditions between field explorations is necessary. It should be noted that subsurface conditions differing from those depicted on the logs may be present at the site due to the random nature of deposition and the alteration of topography by past grading and/or filling. The nature and extent of variations between the field explorations may not become fully evident until construction. If variations are observed at that time, it may be necessary to re-evaluate specific recommendations in this report and make appropriate changes.

3.1 Exploration Borings

The exploration borings were completed by Advance Drill Technologies, Inc., an independent driller working under subcontract to AESI, by advancing a 6-inch outside-diameter, hollow-stem auger with a track-mounted drill rig. An 8-inch outside-diameter hollow-stem auger was used for well installation. During the drilling process, samples were generally obtained at 2½- to 5-foot-depth intervals. The upper 5 feet of each hole was completed with the use of hand tools (4-inch-diameter hand auger and posthole digger) to avoid damaging unmarked utilities, as directed by Kennedy/Jenks. After drilling, each borehole was backfilled with bentonite grout in combination with bentonite chips and the surface was patched with native material.

Below 5 feet, disturbed, but representative samples were obtained by using the Standard Penetration Test (SPT) procedure in accordance with *ASTM International* (ASTM) D-1586. This test and sampling method consists of driving a standard 2-inch, outside-diameter, split-barrel sampler a distance of 18 inches into the soil with a 140-pound hammer free-falling a distance of 30 inches. The number of blows for each 6-inch interval is recorded, and the number of blows required to drive the sampler the final 12 inches is known as the Standard Penetration Resistance (“N”) or blow count. If a total of 50 is recorded within one 6-inch interval, the blow count is recorded as the number of blows for the corresponding number of inches of penetration. The resistance, or N-value, provides a measure of the relative density of granular soils or the relative consistency of cohesive soils; these values are plotted on the attached exploration boring logs.

The borings were continuously observed and logged by a geologist from our firm. The samples obtained from the split-barrel sampler were classified in the field and representative portions

placed in watertight containers. The samples were then transported to our laboratory for further visual classification and laboratory testing. The exploration logs presented in Appendix A are based on the N-values, field observations, and drilling action.

3.2 Exploration Borings Completed as Observation Wells

Two of the exploration borings (EB-6W and EB-7W) were completed as a 2-inch-diameter groundwater level observation wells. These wells were installed to allow for monitoring of seasonal groundwater levels. The wells were constructed with 10 feet of machine-slotted Schedule 40 polyvinyl chloride (PVC) well screen, solid Schedule 40 PVC casing, and a steel flush-mount well cover. The well screen interval and approximately 3 feet of the annular space above each well screen was backfilled with filter sand. The wells were completed with a bentonite surface seal, a flush-mount steel well cover set in concrete, and a locking well cap. Well construction details are presented on the geologic and well construction log for EB-6W and EB-7W in Appendix A. Groundwater levels were measured at approximately 7.5 feet below the ground surface in EB-6W and 7.2 feet below the existing ground surface in EB-7W at the time of installation. The wells were developed on May 2, 2024, and the static water level was measured at approximately 6.2 feet and 5.2 feet below the ground surface in EB-6W and EB-7W, respectively. Site hydrology is discussed in further detail in Section 4.4 of this report.

4.0 SUBSURFACE CONDITIONS

Subsurface conditions at the project site were inferred from the field explorations accomplished for this study, our visual reconnaissance of the site, and review of selected geologic literature. Detailed descriptions of the materials encountered in the explorations are provided on the exploration logs in Appendix A. Our explorations generally encountered a layer of existing fill overlying natural beach (Holocene) sediments. The following section presents more detailed subsurface information organized from the shallowest (youngest) to the deepest (oldest) sediment types.

4.1 Stratigraphy

Sod/Topsoil

Surficial organic topsoil with sod was encountered in EB-1, EB-2, EB-6W, and EB-7W overlying the existing fill. The thickness of the organic topsoil horizon ranged from approximately 2 to 3 inches. The topsoil is not suitable for use as structural fill and should be removed prior to construction in these areas.

Crushed Rock Aggregate (Gravel Lot Fill)

In explorations EB-4 and EB-5, we encountered crushed rock aggregate to a depth of about 8 inches below the ground surface. This material primarily consisted of well-compacted, brown, sandy gravel with some silt. This material serves as the gravel surfacing for boat yard traffic and storage.

Fill

Directly below the sod and topsoil in EB-1, EB-2, EB-6W, and EB-7W, below the crushed rock aggregate in EB-4 and EB-5, and at the ground surface in EB-3, we encountered existing fill soils (those not naturally deposited). The existing fill soils were variable in density and composition, ranging from loose to medium dense, slightly moist to wet, brown to dark brown and black, sand and silty sand with varying amounts of gravel, scattered to abundant organic debris (roots, rootlets, wood fragments, and fine organics), and scattered to abundant construction debris (asphalt and concrete fragments) with quarry spalls. The depth of existing fill ranged from about 4.5 to 9 feet below the existing ground surface.

Holocene Beach Deposits

Directly below the fill at all exploration locations, we encountered loose to medium dense, moist to wet, brownish gray to gray, fine to medium sand with trace to some silt and variable amounts of shell fragments. We interpret these sediments to be representative of Holocene beach deposits. These sediments were deposited in an intertidal environment during the Holocene epoch (less than 11,700 years ago). These sediments extended beyond the maximum depths of our exploration borings, which ranged from 11.5 to 26.5 feet below existing grade.

4.2 Geologic Mapping

Review of the regional geologic map of the project area (*Geologic Map of the Port Townsend South and part of the Port Townsend North 7.5-Minute Quadrangles, Jefferson County, Washington*, Washington Division of Geology and Earth Resources, Geologic Map GM-57, by H.W. Schasse and S.L. Slaughter [2005]), indicates that the site is underlain by a combination of "modified land" (Qml) and fill (Qf) with Vashon advance outwash and Vashon glacial till mapped in the upland area to the north and along the bluffs to the west of the site. The term "modified land" refers to soil, sediment, or other geologic material that was locally reworked by excavation and/or redistribution to modify topography. The term "fill" refers to any material that was placed to elevate and reshape the land surface and includes engineered and non-engineered fills. Our interpretation of the sediments encountered in our explorations is in agreement with the regional geologic map in that we encountered fill soils overlying native beach deposits at all locations explored.

4.3 Soil Mapping

Review of regional soils mapping (*Soil Survey of Jefferson County Area, Washington*, U.S. Department of Agriculture [USDA], Soils Conservation Service [SCS] now referred to as Natural Resources Conservation Service [NRCS]) on the NRCS *Web Soil Survey* indicates that the subject site is predominately underlain by a combination of coastal beach deposits with cut and fill land. Our interpretation of the near-surface sediments encountered in our explorations is generally consistent with the regional soils mapping in that we encountered fill soils overlying native beach deposits at all locations explored.

4.4 Hydrology

Groundwater was encountered near the contact between existing fill and native beach deposits at all locations explored for this study. The approximate depths to groundwater at the time of drilling along with post-development static water levels within the borings completed as wells (EB-6W and EB-7W) are depicted on the subsurface exploration logs in Appendix A and summarized in Table 1 below. The groundwater observed at these boring locations is interpreted to be representative of an unconfined water table aquifer underlying the site, is tidally influenced, and closely correlates to the elevation of water in Port Townsend Bay.

Table 1
Summary of Observed Groundwater Levels
at Time of Drilling and Static Groundwater

Exploration Boring No.	Approximate Ground Surface Elevation(1) (feet)	Depth to Groundwater(2) (feet)	Approximate Groundwater Elevation(1) (feet)	Water-Bearing Unit(s)
EB-1	12	7.3 ATD(3)	4.7	Beach Deposits
EB-2	10	6.4 ATD	3.6	Existing Fill/Beach Deposits
EB-3	10	6.5 ATD	3.5	Beach Deposits
EB-4	12	7.2 ATD	4.8	Beach Deposits
EB-5	11	5.3 ATD	5.7	Existing Fill/Beach Deposits
EB-6W	12	7.5 ATD 6.2 Static(4)	4.5 5.8	Beach Deposits
EB-7W	10	7.2 ATD 5.2 Static	2.8 4.8	Beach Deposits

(1) Elevations estimated from Light Detection and Ranging (LIDAR)-generated topography. Datum is NAVD 88.
(2) Groundwater depths correspond to depth below the existing ground surface.
(3) ATD = At Time of Drilling (April 16 & 17, 2024).
(4) Static groundwater levels correspond to post-well development measurements obtained on May 2, 2024.

The exploration for this study was conducted in mid-April when regional groundwater levels are typically elevated but not at seasonal high levels. Groundwater at this site is tidally influenced. AESI will continue to monitor seasonal groundwater levels within EB-6W and EB-7W through the next wet season. It should be noted that the ground surface elevation at each boring/well and corresponding groundwater elevation shown in Table 1 were estimated from Light Detection and Ranging (LIDAR)-generated topography depicted on Figure 2 and elevation contours shown on the 60% design submittal plans. We recommend the well monuments and top of casing elevations be surveyed to provide confirmation.

Zones of perched groundwater may occur at other locations onsite where vertical infiltration of surface water is impeded by lower-permeability strata such as the silty fill observed overlying the beach deposits in our explorations. Due to the variable nature of the existing fill at the subject site, seepages may be discontinuous and occur at random intervals. The occurrence and level of perched groundwater seepage below the site can be expected to increase in the wetter winter months. Contractors should be prepared to encounter zones of perched groundwater seepage during excavation for shallow utilities and stormwater structures.

It should be noted that the duration and quantity of groundwater seepage will largely depend on the soil grain-size distribution, topography, seasonal precipitation, on- and off-site land usage, tidal fluctuations, and other factors.

4.5 Laboratory Testing

AESI performed three grain-size analyses (sieves) on representative samples of existing fill and beach deposits collected from exploration EB-2 to support soil classification in the field and for use in our liquefaction analysis. The grain-size analyses test results are included in Appendix B and are presented below in Table 2 with soil descriptions based on the ASTM D-2487 Unified Soil Classification System (USCS).

Table 2
Summary of Grain-Size Analyses

Exploration Boring No.	Sample Depth (feet)	Geologic Unit	USCS Soil Description	Fines Content (%)
EB-2	2.5	Fill	Gravelly SAND, trace silt (SP)	4.4
EB-2	15	Beach Deposits	SAND, some silt (SP-SM)	6.2
EB-2	20	Beach Deposits	SAND, some silt (SP-SM)	7.6

USCS = Unified Soil Classification System
Fines Content % = percent of total weight passing the U.S. No. 200 Sieve

II. GEOLOGIC HAZARDS AND MITIGATIONS

The following discussion of potential geologic hazards is based on the geologic conditions as observed and discussed herein.

5.0 LANDSLIDE HAZARDS AND RECOMMENDED MITIGATION

The project site is relatively flat and contains no slopes other than the riprap and earthen berms along the shoreline at the southern margin of the property and a depression within the wetland buffer area near the southwest corner of the proposed improvements. These berms have a maximum height of about 5 feet and are inclined at approximately 2H:1V. Beyond the berms to the south, the ground surface slopes down gently toward the bay at roughly 5 to 10 percent inclination. The depression within the wetland buffer area contains a side slope that is roughly 4 feet in height and inclined at about 10 percent.

Based on our visual observations, the slopes forming the berms and wetland buffer area appeared to be in fair condition at the time of our study with no obvious signs of instability. Since no significant site grading (i.e., mass fills greater than 2 feet thick) or heavy structures will be placed near the top of these slopes, it is our opinion that the risk for landsliding affecting the proposed site improvements is low and that no mitigation measures are warranted at this time.

6.0 SEISMIC HAZARDS AND RECOMMENDED MITIGATION

The following discussion is a general assessment of seismic hazards that is intended to be useful to the project design team in terms of understanding seismic issues, and to the structural engineer for design.

All of Western Washington is at risk of strong seismic events resulting from movement of the tectonic plates associated with the Cascadia Subduction Zone (CSZ), where the offshore Juan de Fuca plate subducts beneath the continental North American plate. The site lies within a zone of strong potential shaking from subduction zone earthquakes associated with the CSZ. The CSZ can produce earthquakes up to magnitude 9.0, and the recurrence interval is estimated to be on the order of 500 years. Geologists infer the most recent subduction zone earthquake occurred in 1700 (Goldfinger et al., 2012[1]). Three main types of earthquakes are typically associated with subduction zone environments: crustal, intraplate, and interplate earthquakes. Seismic records in the Puget Sound region document a distinct zone of shallow crustal

[1] Goldfinger, C., Nelson, C.H., Morey, A.E., Johnson, J.E., Patton, J.R., Karabanov, E., Gutierrez-Pastor, J., Eriksson, A.T., Gracia, E., Dunhill, G., Enkin, R.J., Dallimore, A., and Vallier, T., 2012, *Turbidite Event History—Methods and Implications for Holocene Paleoseismicity of the Cascadia Subduction Zone*: U.S. Geological Survey Professional Paper 1661–F, 170.

seismicity (e.g., the Seattle Fault Zone). These shallow fault zones may include surficial expressions of previous seismic events, such as fault scarps, displaced shorelines, and shallow bedrock exposures. The shallow fault zones typically extend from the surface to depths ranging from 16 to 19 miles. A deeper zone of seismicity is associated with the subducting Juan de Fuca plate. Subduction zone seismic events produce intraplate earthquakes at depths ranging from 25 to 45 miles beneath the Puget Lowland including the 1949, 7.2-magnitude event; the 1965, 6.5-magnitude event; and the 2001, 6.8-magnitude event) and interplate earthquakes at shallow depths near the Washington coast including the 1700 earthquake, which had a magnitude of approximately 9.0. The 1949 earthquake appears to have been the largest in this region during recorded history and was centered in the Olympia area. Evaluation of earthquake return rates indicates that an earthquake of the magnitude between 5.5 and 6.0 is likely within a given 20-year period.

Generally, there are four types of potential geologic hazards associated with large seismic events: 1) surficial ground rupture, 2) seismically induced landslides or lateral spreading, 3) liquefaction, and 4) ground motion. The potential for each of these hazards to adversely impact the proposed project is discussed below.

6.1 Surficial Ground Rupture

The site falls approximately 2.5 miles southwest of the suspected traces of the southeastward extension of the Southern Whidbey Island Fault Zone (SWIFZ). A recent study by the U.S. Geological Survey (USGS) (Sherrod et al., 2005[2]) indicates that "strong" evidence of prehistoric earthquake activity has been observed along two fault strands thought to be part of the southeastward extension of the SWIFZ located about 2.5 miles northeast of the site. The study suggests as many as nine earthquake events along the SWIFZ may have occurred within the last 16,400 years. Understanding of this fault system is somewhat limited with studies still ongoing.

The recurrence interval of movement along this fault system is still unknown, although it is hypothesized to be in excess of one thousand years. Due to the observed distance to suspected fault traces, and the suspected long recurrence interval, the potential for surficial ground rupture along the SWIFZ is considered to be low during the expected life of the proposed structures, in our opinion.

6.2 Liquefaction and Lateral Spreading

Liquefaction is a process through which unconsolidated soil loses strength as a result of vibrations, such as those which occur during a seismic event. During normal conditions, the weight of the soil is supported by both grain-to-grain contacts and by the fluid pressure within

[2] Sherrod et al., 2005, *Holocene Fault Scarps and Shallow Magnetic Anomalies Along the Southern Whidbey Island Fault Zone near Woodinville, Washington*, Open-File Report 2005-1136, March 2005

the pore spaces of the soil below the water table. Extreme vibratory shaking can disrupt the grain-to-grain contact, increase the pore pressure, and result in a temporary decrease in soil shear strength. The soil is said to be liquefied when nearly all of the weight of the soil is supported by pore pressure alone. Liquefaction can result in deformation of the sediment and settlement of overlying structures. Areas most susceptible to liquefaction include those areas underlain by very soft to stiff, non-cohesive silt and very loose to medium dense, non-silty to silty sands with low relative densities, accompanied by a shallow water table.

To evaluate the extent of liquefaction risk and estimated settlement potential during a design-level seismic event, we performed a liquefaction hazard analysis utilizing data obtained from our exploration borings. Our liquefaction analysis was completed with the aid of LiquefyPro computer software Version 5.9a (2015) by CivilTech Corporation. This program accepts input for SPT data, groundwater levels, soil unit weight, and the depth and grain-size distribution of the sediments of concern to calculate seismically induced settlement. The following parameters were used during the analysis:

- Soil unit weights were estimated based on density of soil samples retrieved from representative geologic units during drilling.
- Silt contents were inferred from a combination of visual and laboratory classification of soil samples obtained from the SPT borings.
- The groundwater level was assumed to be 5 feet below the existing ground surface during earthquake shaking.
- We used the Tokimatsu M-Correction method in the LiquefyPro computer software to obtain the liquefaction-induced settlement values.
- A design event is considered a magnitude 7.0 earthquake with a peak horizontal ground acceleration of 0.63g as determined from the ASCE Hazard Tool website at https://ascehazardtool.org.

The results of the liquefaction analysis indicate that the saturated beach deposits are susceptible to liquefaction and are predicted to experience over 4 inches of liquefaction-induced settlement during a design-level seismic event. The design seismic event is based on an exceedance probability of 2 percent over a period of 50 years, which equates to a return period of approximately 2,475 years. The results of our liquefaction analysis are provided in Appendix C.

It should be noted that the entire profile of the beach deposits is expected to be susceptible to liquefaction. The beach deposits extended beyond the maximum depth of our explorations (26.5 feet below existing grade); therefore, the magnitude of predicted settlement may be higher than our current analysis indicates. Nearby explorations completed by AESI for the

neighboring western boat yard expansion project, located approximately 300 to 600 feet to the west of the proposed stormwater improvements and generally in closer proximity to the upland area, encountered non-liquefiable, glacially consolidated sediments underlying the beach deposits at depths of 15 to 20 feet below existing grade. The glacially consolidated sediments are expected to dip to the southeast toward the bay and underlie the beach deposits at some depth within the area of proposed stormwater improvements; however, the depth to these deposits could vary considerably toward the bay and deeper explorations would be required to determine the thickness of beach deposits below the project area.

Conclusions

Based on our liquefaction analysis, there is a risk of damage to the proposed improvements by liquefaction due to the presence of loose to medium dense beach sediments accompanied by a shallow groundwater table. We did not complete a detailed lateral spreading analysis for this study; however, based on our experience with similar subsurface conditions and topographic setting, we anticipate that the site is also susceptible to lateral spreading and flow failure during an extreme earthquake event, and that the ground displacement could be on the order of tens of feet.

Due to the scale of the site and the magnitude of the hazard, the Port may choose to repair and replace damages to the stormwater improvements by liquefaction and lateral spreading, rather than mitigate the hazard. Although no occupied structures are included in this phase of the project, we recommend the design team discuss the above seismic hazards with the Port to determine if seismic mitigation measures are desired for any of the infrastructure elements associated with the stormwater improvements.

6.3 Ground Motion/Seismic Site Class

Should the project include any occupied buildings later in the design phase, structural design should follow the *International Building Code* (IBC) standards. We assume that structural design would follow the 2021 IBC and the American Society of Civil Engineers (ASCE) 7-16 - *Minimum Design Loads for Buildings and Other Structures*. Based on the results of our explorations, we recommend that the project be designed in accordance with Site Class "D" as defined in Table 20.3-1 of ASCE 7-16. Note that Site Class "D" only applies to structures with building periods less than 0.5 seconds. Future buildings at the site that have building periods greater than 0.5 seconds will need to follow Site Class "F" requirements due to liquefaction potential and a site response analysis would be required.

7.0 EROSION HAZARDS AND RECOMMENDED MITIGATION

A properly developed, constructed, and maintained erosion control plan consistent with the City's standards and best management erosion control practices will be required for this project. It will be necessary to make adjustments and provide additional measures to the Temporary Erosion and Sedimentation Control (TESC) plan in order to improve its effectiveness. Ultimately, the success of the TESC plan depends on a proactive approach to project planning and contractor implementation and maintenance.

The near-surface sediments across the site consist of existing fill overlying beach deposits. The existing fill sediments contain significant quantities of silt and fine sand that will be susceptible to erosion and off-site sediment transport when exposed during construction. Therefore, the project should follow best management practices (BMPs) to mitigate erosion hazards and potential for off-site sediment transport. To mitigate the potential for off-site sediment transport, we recommend the following:

- Construction activity should be scheduled or phased as much as possible to avoid earthwork activity during the wet season.

- The winter performance of a site is dependent on a well-conceived plan for control of site erosion and stormwater runoff. The site plan should include ground-cover measures and staging areas. The contractor should be prepared to implement and maintain the required measures to reduce the amount of exposed ground.

- TESC elements and perimeter flow control should be established prior to the start of grading. This should include, but is not limited to, silt fencing, swales with check dams, rocked construction entrance, etc.

- During the wetter months of the year, or when significant storm events are predicted during the summer months, the work area should be stabilized so that if showers occur, it can receive the rainfall without excessive erosion or sediment transport. The required measures for an area to be "buttoned-up" will depend on the time of year and the duration that the area will be left unworked. During the winter months, areas that are to be left unworked for more than 2 days should be mulched or covered with plastic. During the summer months, stabilization will usually consist of seal-rolling the subgrade. Such measures will aid in the contractor's ability to get back into a work area after a storm event. The stabilization process also includes establishing temporary stormwater conveyance channels through work areas to route runoff to the approved treatment/discharge facilities.

- Surface runoff and discharge should be controlled during and following development. Uncontrolled discharge may promote erosion and sediment transport.

- Soils that are to be reused around the site should be stored in such a manner as to reduce erosion from the stockpile. Protective measures may include, but are not limited to, covering stockpiles with plastic sheeting, or the use of silt fences around stockpile perimeters.

It is our opinion that with the proper implementation of the TESC plans and by field-adjusting appropriate erosion mitigation (BMPs) throughout construction, the potential adverse impacts from erosion hazards on the project may be mitigated.

III. DESIGN RECOMMENDATIONS

8.0 INTRODUCTION

Our explorations indicate that, from a geotechnical engineering standpoint, the proposed project is feasible provided the recommendations contained herein are properly followed. The site is generally underlain by existing fill overlying beach deposits and groundwater is shallow. Based on explorations and analyses completed to date, we have identified the following geotechnical considerations that will impact design and construction of the project:

- The existing fill was encountered to depths ranging from about 4.5 and 9 feet below existing grade and was variable in density and composition, ranging from loose to medium dense, slightly moist to wet, brown to dark brown and black, sand and silty sand with varying amounts of gravel, scattered to abundant organic debris (roots, rootlets, wood fragments, and fine organics), and scattered to abundant construction debris (asphalt and concrete fragments) with quarry spalls. The existing fill will require overexcavation/replacement or recompaction within the footprint of the proposed stormwater tanks.

- Groundwater was encountered near the contact between existing fill and native beach deposits at all locations explored for this study. The depth to groundwater at the time of drilling in mid-April ranged from about 5 to 7.5 feet below existing grade. Static water levels within the on-site wells were measured in early May at 6.2 feet in EB-6W and 5.2 feet in EB-7W. Significant dewatering efforts may be required to control groundwater flow into excavations for below-grade structures and utilities deeper than about 5 feet.

The following sections provide our recommendations for site preparation, temporary cut slopes, earthwork and site grading, structural fill, foundation support for stormwater structures, and lateral earth pressures for below-grade walls.

9.0 SITE PREPARATION

Site preparation for stormwater structures and associated utility installation should include removal of all vegetation, topsoil, and any other deleterious materials. Any depressions below planned final grades resulting from demolition activities should be backfilled with structural fill, as discussed under the “Structural Fill” section of this report. All soils disturbed by stripping and demolition of existing stormwater structures should be recompacted as described below for structural fill.

9.1 Site Disturbance

The existing fill and native sediments contain a moderate to high percentage of fine-grained material. These sediments are considered to be highly moisture-sensitive and subject to disturbance when wet. The contractor must use care during site preparation and excavation operations so that the underlying soils are not softened. If disturbance occurs, the softened soils should be removed, and the area brought to grade with structural fill.

9.2 Wet Weather Considerations

The on-site soils consisting of silty sand are considered to be highly moisture-sensitive. If construction takes place in, during, or immediately following the wetter periods of the year, we anticipate the on-site soils will become unsuitable for structural fill applications. For construction immediately following wet periods, significant, but unavoidable effort will be needed to scarify, aerate, and dry site soils to reduce moisture content prior to compaction in structural fill applications. Care should be taken to seal all earthwork areas during mass grading at the end of each workday by grading all surfaces to drain and sealing them with a smooth-drum roller. Stockpiled soils that will be reused in structural fill applications should be covered whenever rain is possible.

Construction during extended wet weather periods could create the need to overexcavate exposed soils if they become disturbed and cannot be recompacted due to elevated moisture content and/or weather conditions. Even during dry weather periods, soft/wet soils may be encountered in some portions of the site that will require overexcavation. If overexcavation is necessary, it should be confirmed through continuous observation and testing by AESI. Soils that have become unstable may require remedial measures in the form of one or more of the following:

1. Drying and recompaction. Selective drying may be accomplished by scarifying or windrowing surficial material during extended periods of dry and warm weather.

2. Removal of affected soils to expose a suitable bearing subgrade and replacement with compacted structural fill.

3. Mechanical stabilization with a coarse crushed aggregate compacted into the subgrade, possibly in conjunction with a geotextile.

4. Soil/cement admixture stabilization.

If areas outside of the existing gravel lot are to be used for equipment access and staging, consideration should be given to protecting the exposed fill soils with an appropriate section of crushed rock. The crushed rock should be underlain by engineering stabilization fabric (such as

Mirafi 500X or approved equivalent) to reduce the potential of fine-grained materials pumping up through the rock during wet weather and turning the area to mud. The fabric will also aid in supporting construction equipment, thus reducing the amount of crushed rock required. We recommend that at least 10 inches of rock be placed over the fabric. Crushed rock used for access and staging areas should be of at least 2-inch size.

9.3 Temporary Cut Slopes

In our opinion, stable construction slopes should be the responsibility of the contractor and should be determined during construction based on the local conditions encountered at that time. For planning purposes, we anticipate that temporary, unsupported cut slopes in areas of existing fill or loose to medium dense beach deposits can be made at a maximum inclination of 1.5H:1V. Flatter slope inclinations on the order of 3H:1V may be required where groundwater seepage is present. Temporary vertical cuts up to 4 feet in height may not be feasible in loose to medium dense sandy material; the contractor should be prepared to lay back slopes or utilize trench boxes as needed for utility trenches. As is typical with earthwork operations, some sloughing and raveling may occur, and cut slopes may have to be adjusted in the field based on the presence of surface water or perched seepage zones. In addition, WISHA/OSHA regulations should be followed at all times.

10.0 STRUCTURAL FILL

Placement of structural fill will be necessary to establish desired grades across the site or to backfill utility trenches and below-grade stormwater structures. All references to structural fill in this report refer to subgrade preparation, fill type, and placement and compaction of materials as discussed in this section. If a percentage of compaction is specified under another section of this report, the value given in that section should be used.

10.1 Subgrade Compaction

After overexcavation/stripping has been performed to the satisfaction of the geotechnical engineer/engineering geologist, the exposed ground should be recompacted to a firm and unyielding condition. If the subgrade contains too much moisture, suitable recompaction may be difficult or impossible to attain and should probably not be attempted. In lieu of recompaction, the area to receive fill should be blanketed with washed rock or quarry spalls to act as a capillary break between the new fill and the wet subgrade. Where the exposed ground remains soft and further overexcavation is impractical, placement of an engineering stabilization fabric may be necessary to prevent contamination of the free-draining layer by silt migration from below. After the exposed ground is approved, or a free-draining rock course is laid, structural fill may be placed to attain desired grades.

10.2 Structural Fill Compaction

Structural fill is defined as non-organic soil, acceptable to the geotechnical engineer, placed in maximum 8-inch loose lifts, with each lift being compacted to at least 95 percent of the modified Proctor maximum dry density using ASTM D-1557 as the standard. Utility trench backfill should be placed and compacted in accordance with applicable municipal codes and standards. The top of the compacted fill should extend horizontally a minimum distance of 3 feet beyond footings or pavement edges before sloping down at an angle no steeper than 2H:1V. Fill slopes should either be overbuilt and trimmed back to final grade or surface-compacted to the specified density.

10.3 Reuse of On-Site Soils as Structural Fill

The existing fill and native beach deposits consisting primarily of sand and silty sand are suitable for reuse in structural fill applications if such reuse is specifically allowed by project plans and specifications, if excessively organic and any other deleterious materials are removed, and if moisture content is adjusted to allow compaction to the specified level and to a firm and unyielding condition. Soils in which the amount of fine-grained material (smaller than the No. 200 sieve) is greater than approximately 5 percent (measured on the minus No. 4 sieve size) should be considered moisture-sensitive. Most of the near-surface fill soils contained significant silt fractions and are considered highly moisture-sensitive. These moisture-sensitive soils are classified as “silty sand” (SM) and “sand, some silt” (SP-SM) on our boring logs in Appendix A. These soils may be difficult to reuse as structural fill during wet weather conditions.

Additionally, construction equipment traversing the site when the silty native sediments are very moist or wet can cause considerable disturbance. During the wetter portion of the year, typically from October to April, we recommend assuming that the on-site soils will not be suitable for reuse in structural fill applications. An alternative would include using only a select import material consisting of a clean, free-draining gravel and/or sand. Free-draining fill consists of non-organic soil with the amount of fine-grained material limited to 5 percent by weight when measured on the minus No. 4 sieve fraction.

10.4 Structural Fill Testing

The contractor should note that any proposed fill soils must be evaluated by AESI prior to their use as structural fill. This would require that we have a sample of the material, approximately 60 pounds, at least 3 business days in advance to perform a Proctor test and determine its field compaction standard.

A representative from our firm should observe the stripped subgrade and be present during placement of structural fill to observe the work and perform a representative number of in-place density tests. In this way, the adequacy of the earthwork may be evaluated as filling

progresses and any problem areas may be corrected at that time. It is important to understand that taking random compaction tests on a part-time basis will not assure uniformity or acceptable performance of a fill. As such, we are available to aid the owner in developing a suitable monitoring and testing frequency.

11.0 STORMWATER TREATMENT FACILITY

We understand that the proposed stormwater conveyance and treatment system will consist of new lift stations near the northern extent of the project area and a series of concrete vaults that make up a new four-stage biofiltration treatment station. This four-stage system will be composed of a set of chitosan pre-treatment/detention vaults, a coarse pre-filter tank, a planted biofiltration treatment cell, a polishing filter cell, and associated underground pipe connections and utilities, all located near the southwestern corner of the project boundary (see Figure 3).

Details of the various stormwater structures were still in development at the time of this report; however, we understand that the tanks and vaults will be embedded up to 5 or 6 feet below existing grade. Our recommendations for foundation support and lateral earth pressures for design of below-grade walls are provided below.

11.1 Foundation Excavation and Allowable Bearing Pressure

Based on our explorations, the base of the vaults are anticipated to be underlain by existing fill or beach deposits depending on the location and depth to the base of the structure. The existing fill and/or beach deposits encountered near a depth of 5 feet generally consisted of loose to medium dense sand and silty sandy with occasional lenses of organic material. Groundwater is anticipated to be encountered near a depth of 5 feet but could be shallower depending on tidal and seasonal influences. Dewatering considerations are discussed further below.

Within the footprint of the various tanks and vaults, we recommend removing the existing fill to expose the native beach deposits at depth and placing crushed rock as needed to reach the bottom of the structure. We recommend that the base of the vaults be supported on at least 6 inches of crushed surfacing base course (CSBC) overlying a minimum of 12 inches of quarry spalls to serve as a working pad during concrete forming. The CSBC should contain less than 5 percent fines.

It should be noted that variability in the existing fill soils can be expected across the footprint of the system and deeper excavations may be required in some areas if there is evidence of significant organics or debris once the subgrade is exposed. Other areas may expose suitable fill at shallow depths in which the excavation could terminate at the planned base of the quarry

spall pad. We would recommend that AESI be present during excavation to confirm/revise the required excavation depths.

We recommend the vaults be designed using a maximum allowable bearing pressure of 3,000 pounds per square foot (psf). Anticipated settlement of the vaults due to static loading when founded as described above should be on the order of 1 inch or less. However, disturbed soil not removed from the vault excavations prior to concrete placement could result in increased settlements.

As requested by the vault structural engineer, we recommend a modulus of subgrade reaction (k) of 50 pounds per square inch per inch (pci). This k value was obtained from published correlations for medium dense sand located near the water table. It should be noted that k values are not a fundamental soil property and can only be determined through field testing such as a plate load test. The magnitude of k also varies with the geometry of the loaded area and position/depth below the loaded area.

11.2 Below-Grade Lateral Wall Pressures

Our recommendations for lateral earth pressures and resisting forces on below-grade vault walls are provided below in Table 3. We assume that the vaults will not be provided with foundation drains and may be partially submerged below the water table; therefore, we have provided undrained values for both static and seismic at-rest pressures.

Table 3
Recommended Soil Parameters for Below-Grade Walls

Static At-Rest Earth Pressure (above water table):	55 pcf
Static At-Rest Earth Pressure (below water table):	90 pcf*
Seismic At-Rest Surcharge Pressure:	13(H) psf
Allowable Static Passive Earth Pressure (above water table):	300 pcf
Allowable Static Passive Earth Pressure (below water table):	150 pcf
Allowable Seismic Passive Earth Pressure:	Increase static value by one third
Coefficient of Friction:	0.30

pcf = pounds per cubic foot
*Combined soil and hydrostatic pressure

The passive earth pressures and coefficient of friction are allowable values and include a factor of safety of 1.5.

All backfill against the below-grade walls should be placed following our recommendations for structural fill.

11.3 Dewatering Considerations

Groundwater was encountered near the contact between existing fill and native beach deposits at all locations explored for this study. The depth to groundwater at the time of drilling in mid-April ranged from about 5 to 7.5 feet below existing grade. Static water levels within the on-site wells were measured in early May at 6.2 feet in EB-6W and 5.2 feet in EB-7W. Significant dewatering efforts may be required to control groundwater flow into excavations for below-grade structures and utilities deeper than about 5 feet. Where relatively shallow excavations on the order of 4.5 to 5 feet or less are required and take place in the drier months of the year, surface and groundwater seepage could be managed during construction with conventional ditches and sumps. Where deeper excavations greater than 5 feet are required and take place during the wet season, more complex dewatering systems may be required to maintain dry working conditions. We recommend that groundwater levels be controlled and/or lowered to a depth of 2 feet below the base of the vault excavations to maintain stable soil conditions during construction of the quarry spall and crushed rock working pad.

12.0 GRAVEL LOT RESURFACING

In areas where the gravel lot will be disturbed/excavated, we understand that the area will be resurfaced with compacted gravel to match the existing gravel section. Prior to placing the compacted gravel, the exposed subgrade should be recompacted to a firm and unyielding condition and proof-rolled using a fully loaded dump truck. Soft or yielding areas observed during proof-rolling should be overexcavated as necessary to provide a suitable subgrade and backfilled with structural fill.

13.0 PROJECT DESIGN AND CONSTRUCTION MONITORING

We recommend that we be allowed to review the final project plans when they are completed and to revise the recommendations presented in this report, where appropriate. We are also available to provide geotechnical engineering and monitoring services during construction. The integrity of earthwork, structural fills, and foundation systems depends on proper site preparation and construction procedures. In addition, engineering decisions may have to be made in the field in the event that variations in subsurface conditions become apparent.

We have enjoyed working with you on this study and are confident these recommendations will aid in the successful completion of your project. If you should have any questions or require further assistance, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington

Brendan C. Young, L.G.
Senior Staff Geologist

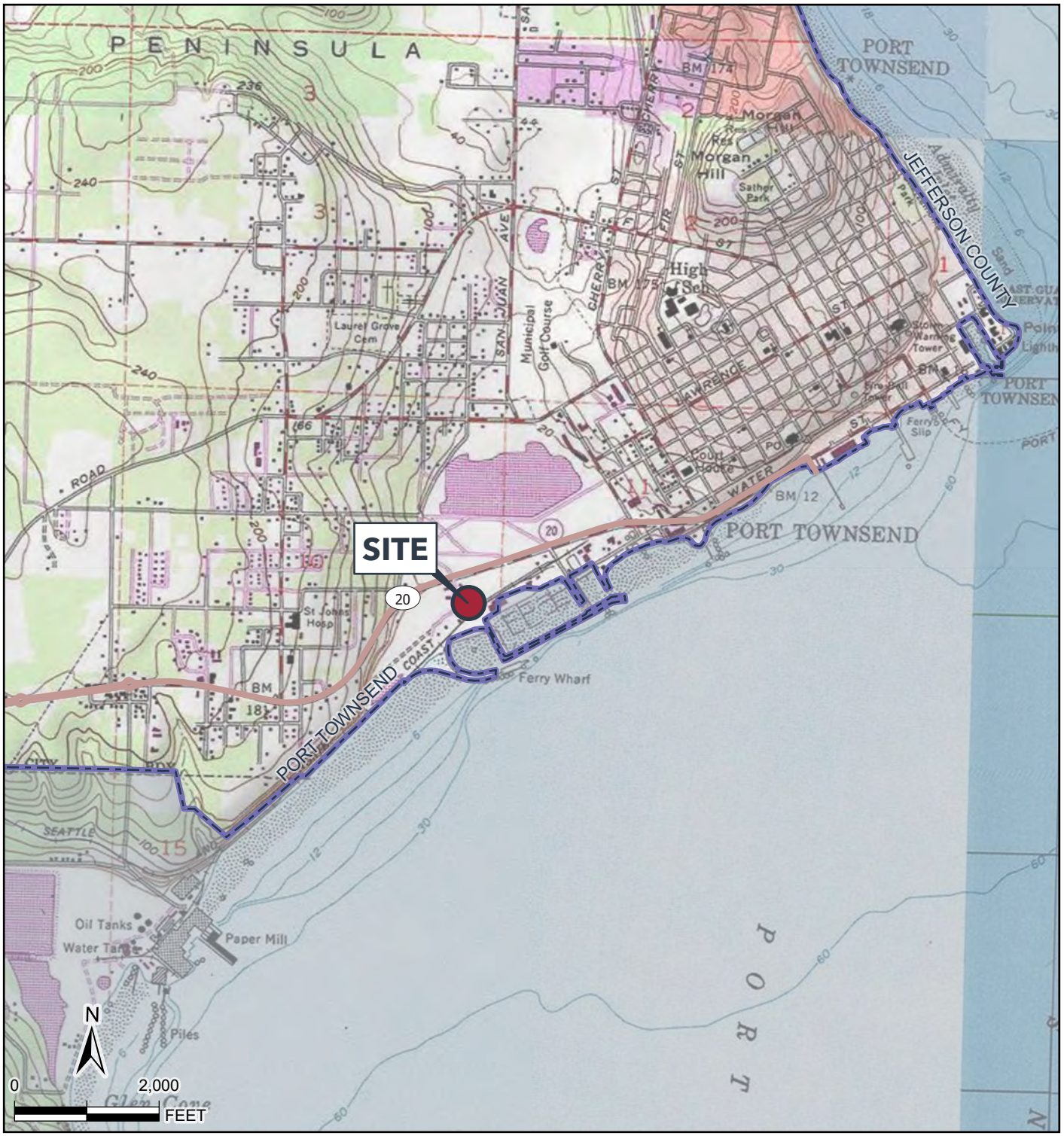
Kurt D. Merriman, P.E.
Senior Principal Engineer

G. Bradford Drew, P.E.
Senior Engineer

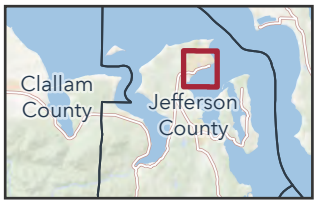
ATTACHMENTS

Figure 1: Vicinity Map
Figure 2: Existing Site and Exploration Plan
Figure 3: Conceptual Site Plan and Exploration Locations

Appendix A: Exploration Logs
Appendix B: Laboratory Test Results
Appendix C: Liquefaction Analysis Results



COUNTY LOCALE



LOCATION

ESRI, USGS, NATIONAL GEOGRAPHIC, DELORME, NATURALVUE, I-CUBED, GEBCO: ARCGIS ONLINE BASEMAP. WADOT STATE ROUTES 24K (12/20). JEFFERSON CO.: PARCELS (4/24), ROADS (4/24).

NOTE: LOCATION AND DISTANCES SHOWN ARE APPROXIMATE. BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION.

associated earth sciences incorporated

VICINITY MAP

BOAT HAVEN MARINA STORMWATER IMPROVEMENTS
PORT TOWNSEND, WASHINGTON

PROJECT NO.	DATE	FIGURE
20240057E001	5/24	1

G:\GIS_Projects\20241240057 Boat Haven Marina_aprx\20240057E001 F1 VM_Boat Haven Marina.aprx | 20240057E001 F1 VM_Boat Haven Marina | 2024-05-03 | mtrop

LEGEND

- SITE
- EXPLORATION BORING
- MONITORING WELL
- CONTOUR 10 FT
- CONTOUR 2 FT
- PARCEL

N

0 200

FEET

DATA SOURCES/REFERENCES:
JEFFERSON COUNTY: ROADS (4/24), PARCELS (4/24), PARKS (4/24). EAGLEVIEW TECHNOLOGIES, INC.: AERIAL IMAGERY (2021). WADOT STATE ROUTES 24K (12/20). WA DNR: OLYMPICS_SOUTH_OPSW_2019 ACQUIRED BETWEEN SEPT 2017 AND APRIL 2019, CELL SIZE 3'. CONTOURS DERIVED FROM LIDAR.

BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION. LOCATION AND DISTANCES SHOWN ARE APPROXIMATE.

associated earth sciences incorporated

EXISTING SITE AND EXPLORATION PLAN

BOAT HAVEN MARINA STORMWATER IMPROVEMENTS
PORT TOWNSEND, WASHINGTON

PROJECT NO.	DATE	FIGURE
20240057E001	5/24	2

G:\GIS_Projects\2024\240057 Boat Haven Marina_aprx\20240057E001 F2 ES_Boat Haven Marina.aprx | 20240057E001 F2 ES_Boat Haven Marina | 2024-05-17 | mtrop

LEGEND

SITE

EXPLORATION BORING
NOTE: EB-4 AND EB-5 ARE NOT SHOWN

MONITORING WELL

N

0 40

FEET

DATA SOURCES/REFERENCES:
BASEMAP: KENNEDY JENKS, PORT OF PORT TOWNSEND BOAT HAVEN MARINA STORMWATER IMPROVEMENTS PHASE 2, 60% SUBMITTAL PRELIMINARY DESIGN PHASE, STORMWATER CONVEYANCE PLAN AND PROFILE, SHEET C-203 AND C-204, APRIL 2024.

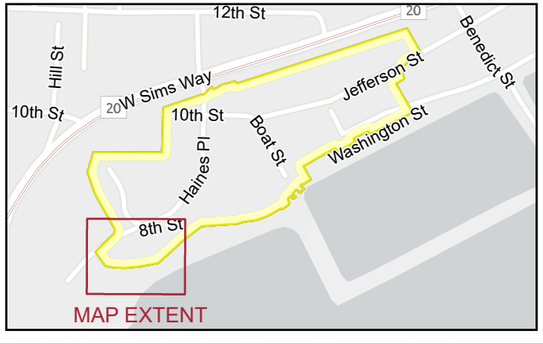
BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION. LOCATION AND DISTANCES SHOWN ARE APPROXIMATE.

associated earth sciences incorporated

CONCEPTUAL SITE PLAN AND EXPLORATION LOCATIONS

BOAT HAVEN MARINA STORMWATER IMPROVEMENTS
PORT TOWNSEND, WASHINGTON

PROJECT NO.	DATE	FIGURE
20240057E001	5/24	3



G:\GIS_Projects\2024\240057 Boat Haven Marina_aprx\20240057E001 F3 ES_Boat Haven Marina.aprx | 20240057E001 F3 SP_Boat Haven Marina | 2024-05-14 | nfink

Exploration Logs

Coarse-Grained Soils - More than 50%[1] Retained on No. 200 Sieve	Gravels - More than 50%[1] of Coarse Fraction Retained on No. 4 Sieve	≤5% Fines[2]	GW	Well-graded gravel and gravel with sand, little to no fines
			GP	Poorly-graded gravel and gravel with sand, little to no fines
		≥12% Fines[2]	GM	Silty gravel and silty gravel with sand
			GC	Clayey gravel and clayey gravel with sand
	Sands - 50%[1] or More of Coarse Fraction Passes No. 4 Sieve	≤5% Fines[2]	SW	Well-graded sand and sand with gravel, little to no fines
			SP	Poorly-graded sand and sand with gravel, little to no fines
		≥12% Fines[2]	SM	Silty sand and silty sand with gravel
			SC	Clayey sand and clayey sand with gravel
Fine-Grained Soils - 50%[1] or More Passes No. 200 Sieve	Silts and Clays Liquid Limit Less than 50		ML	Silt, sandy silt, gravelly silt, silt with sand or gravel
			CL	Clay of low to medium plasticity; silty, sandy, or gravelly clay, lean clay
			OL	Organic clay or silt of low plasticity
	Silts and Clays Liquid Limit 50 or More		MH	Elastic silt, clayey silt, silt with micaceous or diatomaceous fine sand or silt
			CH	Clay of high plasticity, sandy or gravelly clay, fat clay with sand or gravel
			OH	Organic clay or silt of medium to high plasticity
Highly Organic Soils			PT	Peat, muck and other highly organic soils

Terms Describing Relative Density and Consistency

Coarse-Grained Soils	Density	SPT[3] blows/foot
	Very Loose	0 to 4
	Loose	4 to 10
	Medium Dense	10 to 30
	Dense	30 to 50
	Very Dense	>50

Fine-Grained Soils	Consistency	SPT[3] blows/foot
	Very Soft	0 to 2
	Soft	2 to 4
	Medium Stiff	4 to 8
	Stiff	8 to 15
	Very Stiff	15 to 30
	Hard	>30

Test Symbols

G = Grain Size
M = Moisture Content
A = Atterberg Limits
C = Chemical
DD = Dry Density
K = Permeability

Component Definitions

Descriptive Term	Size Range and Sieve Number
Boulders	Larger than 12"
Cobbles	3" to 12"
Gravel	3" to No. 4 (4.75 mm)
Coarse Gravel	3" to 3/4"
Fine Gravel	3/4" to No. 4 (4.75 mm)
Sand	No. 4 (4.75 mm) to No. 200 (0.075 mm)
Coarse Sand	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	Smaller than No. 200 (0.075 mm)

[4] Estimated Percentage

Component	Percentage by Weight
Trace	<5
Some	5 to <12
Modifier (silty, sandy, gravelly)	12 to <30
Very *modifier* (silty, sandy, gravelly)	30 to <50

Moisture Content

Dry - Absence of moisture, dusty, dry to the touch
Slightly Moist - Perceptible moisture
Moist - Damp but no visible water
Very Moist - Water visible but not free draining
Wet - Visible free water, usually from below water table

Symbols

Sampler Type and Description

- 10 / 15 / 20 Blows/6" or portion of 6"
- Split-Spoon Sampler (SPT)
- California Sampler
- Ring Sampler
- Continuous Sampling
- Grab Sample
- Portion not recovered

Groundwater depth

- ATD At time of drilling
- Static water level (date)

- Cement grout surface seal
- Bentonite seal
- Filter pack with blank casing section
- Screened casing or Hydrotip with filter pack
- End cap

Classifications of soils in this report are based on visual field and/or laboratory observations, which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field or laboratory testing unless presented herein. Visual-manual and/or laboratory classification methods of ASTM D-2487 and D-2488 were used as an identification guide for the Unified Soil Classification System.

(1) Percentage by dry weight
(2) Combined USCS symbols used for fines between 5% and 12%
(3) (SPT) Standard Penetration Test (ASTM D-1586)
(4) In General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)

associated earth sciences incorporated

EXPLORATION LOG KEY

FIGURE: A1

associated earth sciences incorporated

Exploration Boring EB-1

Boat Haven Marina Stormwater Improvements — Sheet: 1 of 2

Port Townsend, WA	Start Date: 4/16/24	Logged By: BCY
20240057E001	Ending Date: 4/16/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 6
Groundwater Depth ATD (ft): 7.3

Total Depth (ft): 26.5
Ground Surface Elevation (ft): ≈12
Datum: NAVD 88
Groundwater Depth Post Drilling (ft) (Date): ()

Depth (ft)	Sample Type	Sample	% Recovery	Graphic Symbol	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Other Tests
0		1			**Sod and Topsoil - 2-3 inches**				
					Fill				
					Medium dense, slightly moist, dark brown, silty, fine SAND, some gravel; scattered organics (rootlets); occasional asphalt debris (SM).				
2.5		2			Medium dense, slightly moist, dark brown, silty, fine SAND; abundant asphalt debris/quarry spalls (SM).				
5		3			Moist, brownish gray to gray, fine SAND, some gravel; dark brown to black, organic rich, silty, fine sand at tip of spoon (SP).		3 6 4	10	
					Holocene Beach Deposits	▼			
7.5		4			Wet, gray, fine SAND, trace silt; rare to occasional medium sand; scattered shell fragments throughout (SP).		6 6 8	14	
10		5			As above.		2 1 3	4	
12.5									
15		6			As above; rare shell fragments.		3 6 9	15	
17.5					Driller adding water to limit soil heave.				

5/17/2024

20240057E001

associated earth sciences incorporated

Exploration Boring EB-1

Boat Haven Marina Stormwater Improvements — Sheet: 2 of 2

Port Townsend, WA	Start Date: 4/16/24	Logged By: BCY
20240057E001	Ending Date: 4/16/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 6
Groundwater Depth ATD (ft): 7.3

Total Depth (ft): 26.5
Ground Surface Elevation (ft): ≈12
Datum: NAVD 88
Groundwater Depth Post Drilling (ft) (Date): ()

Depth (ft)	Sample Type	Sample	% Recovery	Graphic Symbol	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Other Tests
20		7			As above; abundant shell fragments.		7 11 13	24	
22.5									
25		8			Wet, gray, fine SAND, trace to some silt; abundant shell fragments (SP-SM).		11 13 17	30	
					Groundwater encountered at 7.3 feet ATD. Top 5 feet advanced with hand tools.				
27.5									
30									
32.5									
35									
37.5									

5/17/2024

20240057E001

associated earth sciences incorporated

Exploration Boring EB-2

Boat Haven Marina Stormwater Improvements — Sheet: 1 of 2

Port Townsend, WA	Start Date: 4/16/24	Logged By: BCY
20240057E001	Ending Date: 4/16/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 6
Groundwater Depth ATD (ft): 6.4

Total Depth (ft): 26.5
Ground Surface Elevation (ft): ≈10
Datum: NAVD 88
Groundwater Depth Post Drilling (ft) (Date): ()

Depth (ft)	Sample Type	Sample	% Recovery	Graphic Symbol	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Other Tests
0					**Sod and Topsoil - 3 inches**				
					Fill				
		1			Loose, dry, brown, fine SAND, some gravel, trace to some silt; scattered organics (rootlets); occasional construction debris (concrete) (SP-SM).				
2.5		2			Loose, dry to slightly moist, brown, gravelly, SAND, trace silt; scattered organics (rootlets); abundant construction debris (concrete) (SP).				
5		3			Very moist to wet, black, silty, SAND; occasional gravel; abundant organics (wood/rootlets, fine organics); strong organic odor (SM).	▼	2 1 3	4	
7.5		4			Wet, gray, fine SAND, trace to some silt; interbed of black to dark gray, silty, fine SAND, abundant organics from 8 to 8.3 feet (SP-SM).		6 8 9	17	
					Holocene Beach Deposits				
10		5			Wet, gray, fine SAND, trace silt; scattered shell fragments at tip of spoon (SP).		4 3 5	8	
12.5									
15		6			Wet, dark gray, fine SAND, some silt; rare shell fragments in upper 2 inches (SP-SM).		6 6 10	16	
17.5					Driller adding water to limit soil heave.				

5/17/2024

20240057E001

associated earth sciences incorporated

Exploration Boring EB-2

Boat Haven Marina Stormwater Improvements — Sheet: 2 of 2

Port Townsend, WA	Start Date: 4/16/24	Logged By: BCY
20240057E001	Ending Date: 4/16/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 6
Groundwater Depth ATD (ft): 6.4

Total Depth (ft): 26.5
Ground Surface Elevation (ft): ≈10
Datum: NAVD 88
Groundwater Depth Post Drilling (ft) (Date): ()

Depth (ft)	Sample Type	Sample	% Recovery	Graphic Symbol	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Other Tests
20		7			Wet, dark gray, fine SAND, some silt; occasional shell fragments throughout (SP-SM).		7 12 15	27	
22.5									
25		8			Wet, gray, fine SAND, trace silt; occasional medium sand; scattered to abundant shell fragments throughout; massive (SP).		6 15 20	35	
					Groundwater encountered at 6.4 feet ATD. Top 5 feet advanced with hand tools.				
27.5									
30									
32.5									
35									
37.5									

5/17/2024

20240057E001

associated earth sciences incorporated

Exploration Boring EB-3

Boat Haven Marina Stormwater Improvements — Sheet: 1 of 2

Port Townsend, WA	Start Date: 4/16/24	Logged By: BCY
20240057E001	Ending Date: 4/16/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 6
Groundwater Depth ATD (ft): 6.5
Total Depth (ft): 26.5
Ground Surface Elevation (ft): ≈10
Datum: NAVD 88
Groundwater Depth Post Drilling (ft) (Date): ()

Depth (ft)	Sample Type	Sample	% Recovery	Graphic Symbol	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Other Tests
0					**Fill**				
		1			Dense, dry to slightly moist, brown, SAND, some gravel, trace silt; gravel thinning with depth; occasional organics (rootlets) (SP).				
2.5		2			Medium dense, slightly moist, brownish gray, fine SAND, trace to some gravel, trace silt; massive; rare organics (rootlets) (SP).				
5		3			Upper 12 inches: As above.		5 3 6	9	
					Holocene Beach Deposits				
					Lower 6 inches: Very moist, brown to grayish brown, fine SAND, some gravel, trace silt (SP).	▼			
7.5		4			Wet, brown and gray, fine to medium SAND, some gravel, trace to some silt (SP-SM).		14 18 8	26	
10		5			Wet, gray, fine SAND, trace silt; occasional medium sand; rare gravel; occasional lens of brown, fine sand (SP).		3 3 4	7	
12.5									
15		6			Wet, gray, fine to medium SAND, trace silt; scattered shell fragments; massive (SP).		4 6 11	17	
17.5					Driller adding water to limit soil heave.				

5/17/2024

20240057E001

associated earth sciences incorporated

Exploration Boring EB-3

Boat Haven Marina Stormwater Improvements — Sheet: 2 of 2

Port Townsend, WA	Start Date: 4/16/24	Logged By: BCY
20240057E001	Ending Date: 4/16/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 6
Groundwater Depth ATD (ft): 6.5

Total Depth (ft): 26.5
Ground Surface Elevation (ft): ≈10
Datum: NAVD 88
Groundwater Depth Post Drilling (ft) (Date): ()

Depth (ft)	Sample Type	Sample	% Recovery	Graphic Symbol	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Other Tests
20		7			As above; rare dark brown fine organics as horizontal laminations (SP).		8 11 12	23	
22.5					Driller notes resistance while drilling at 22 feet.				
25		8			Wet, gray, fine to medium SAND, trace gravel, trace silt; scattered shell fragments; at 26 feet material is dark gray to bluish gray, fine sand, some silt; scattered shell fragments (SP).		7 13 21	34	
27.5					Groundwater encountered at 6.5 feet ATD. Top 5 feet advanced with hand tools.				
30									
32.5									
35									
37.5									

5/17/2024

20240057E001

associated earth sciences incorporated

Exploration Boring EB-4

Boat Haven Marina Stormwater Improvements — Sheet: 1 of 1

Port Townsend, WA	Start Date: 4/16/24	Logged By: BCY
20240057E001	Ending Date: 4/16/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 6
Groundwater Depth ATD (ft): 7.2

Total Depth (ft): 11.5
Ground Surface Elevation (ft): ≈12
Datum: NAVD 88
Groundwater Depth Post Drilling (ft) (Date): ()

Depth (ft)	Sample Type	Sample	% Recovery	Graphic Symbol	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Other Tests
0		1			**Crushed Rock Aggregate (Gravel Lot Fill)** Dense, dry, brown, sandy, GRAVEL, some silt (GW).				
					Fill				
2.5		2			Loose to medium dense, slightly moist, brown, fine SAND, trace to some silt; occasional organics (rootlets) (SP/SP-SM).				
5		3			Moist, brown to brownish gray, fine to medium SAND, some gravel; trace silt; PVC debris (SP).		6 7 8	15	
					Holocene Beach Deposits	▼			
7.5		4			Wet, brownish gray, fine SAND, trace silt; occasional shell fragment (SP).		2 3 9	12	
10		5			Wet, gray, fine to medium SAND, trace silt; scattered shell fragments; rare gravel (SP).		3 5 7	12	
12.5					Groundwater encountered at 7.2 feet ATD. Top 5 feet advanced with hand tools.				
15									
17.5									

5/17/2024

20240057E001

associated earth sciences incorporated

Exploration Boring EB-5

Boat Haven Marina Stormwater Improvements — Sheet: 1 of 1

Port Townsend, WA	Start Date: 4/16/24	Logged By: BCY
20240057E001	Ending Date: 4/16/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 6
Groundwater Depth ATD (ft): 5.3

Total Depth (ft): 11.5
Ground Surface Elevation (ft): ≈11
Datum: NAVD 88
Groundwater Depth Post Drilling (ft) (Date): ()

Depth (ft)	Sample Type	Sample	% Recovery	Graphic Symbol	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Other Tests
0		1			**Crushed Rock Aggregate (Gravel Lot Fill)** Dense, dry, brown, sandy, GRAVEL, some silt; rare construction debris (plastic) (GW).				
					Fill				
2.5		2			Loose to medium dense, dry to slightly moist, brown, fine SAND, some gravel, trace to some silt; rare organics (rootlets) (SP-SM).				
5		3			Moist to very moist, brown, fine SAND, trace to some silt, some gravel; becomes brown, fine to medium sand, trace silt with depth (SP-SM).	▼	4 6 12	18	
					Holocene Beach Deposits				
7.5		4			Wet, gray, fine SAND, trace silt; occasional medium sand throughout; rare gravel; rare shell fragments (SP).		6 8 10	18	
10		5			Wet, gray to brownish gray, fine SAND, some gravel, trace silt; massive; sharp color change at 10.7 feet from gray to brown (SP).		2 6 9	15	
					Groundwater encountered at 5.3 feet ATD. Top 5 feet advanced with hand tools.				
12.5									
15									
17.5									

5/17/2024

20240057E001

associated earth sciences incorporated

Monitoring Well — EB-6W

Boat Haven Marina Stormwater Improvements — Sheet: 1 of 2

Port Townsend, WA	Start Date: 4/17/24	Logged By: BCY
20240057E001	Ending Date: 4/17/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 8
Ground Surface Elevation (ft): ≈12
Water Level Elevation (ft): 5.8
▼ Groundwater Depth ATD (ft): 7.5

Total Depth (ft): 26.5
Well Completion Depth (ft): 20
Well Tag No.: BPQ-290
Top of Well Casing Elevation (ft): 8.5
Datum: NAVD 88
▽ Groundwater Depth Post Drilling (ft) (Date): 6.2 (5/2/24)

Depth (ft)	Sample Type	Sample No.	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Well Construction
0			**Sod/Topsoil - 3 inches**				Flush mount monument Concrete 0 to 2 feet
		1	**Fill** Loose, slightly moist, dark brown, silty, fine SAND, some gravel; abundant organics (roots/rootlets/fine organics); occasional construction debris (asphalt) (SM).				
2.5		2	Loose to medium dense, slightly moist to moist, dark brown transitioning to black, fine SAND, some silt; occasional gravel transitioning to silty, fine SAND; abundant organics (rootlets); strong organic odor; rare construction debris (asphalt) (SM).				Bentonite chips 2 to 7 feet
			Holocene Beach Deposits				
5		3	Moist, brown to dark brown, fine SAND, trace silt; rare gravel in upper 6 inches (SP).	▽	3 2 3	5	2-inch I.D. Sch 40 PVC casing with threaded connections 0 to 10 feet
7.5		4	Wet, gray, fine SAND, trace gravel, trace silt (SP).	▼	2 11 12	23	10x20 sand 7 to 22 feet
10		5	Wet, gray, fine SAND, trace silt; rare shell fragments (SP).		6 6 7	13	2-inch I.D. Sch 40 PVC slotted well screen with threaded connections 0.020-inch slot width 10 to 20 feet
12.5							
15		6	As above; scattered shell fragments.		6 7 10	17	
17.5			Driller adding water to limit soil heave.				

5/17/2024

20240057E001

associated earth sciences incorporated

Monitoring Well EB-6W

Boat Haven Marina Stormwater Improvements — Sheet: 2 of 2

Port Townsend, WA	Start Date: 4/17/24	Logged By: BCY
20240057E001	Ending Date: 4/17/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 8
Ground Surface Elevation (ft): ≈12
Water Level Elevation (ft): 5.8
▼ Groundwater Depth ATD (ft): 7.5

Total Depth (ft): 26.5
Well Completion Depth (ft): 20
Well Tag No.: BPQ-290
Top of Well Casing Elevation (ft): 8.5
Datum: NAVD 88
▽ Groundwater Depth Post Drilling (ft) (Date): 6.2 (5/2/24)

Depth (ft)	Sample Type	Sample No.	Graphic Symbol	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Well Construction
20		7		Wet, gray, fine to medium SAND, trace silt; rare gravel; occasional shell fragments and zones of brown, fine sand (SP).		4 8 10	18	Flat end cap
22.5								Slough 22 to 26.5 feet
25		8		As above; predominately fine sand.		4 9 14	23	
				Groundwater encountered at 7.5 feet ATD. Groundwater encountered at 5.7 feet on 5/2/24. Top 5 feet advanced with hand tools.				
27.5								
30								
32.5								
35								

5/17/2024

20240057E001

associated earth sciences incorporated

Monitoring Well — EB-7W

Boat Haven Marina Stormwater Improvements — Sheet: 1 of 2

Port Townsend, WA	Start Date: 4/17/24	Logged By: BCY
20240057E001	Ending Date: 4/17/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 8
Ground Surface Elevation (ft): ≈10
Water Level Elevation (ft): 4.8
Groundwater Depth ATD (ft): 7.2

Total Depth (ft): 26.5
Well Completion Depth (ft): 20
Well Tag No.: BPQ-289
Top of Well Casing Elevation (ft): 9.5
Datum: NAVD 88
Groundwater Depth Post Drilling (ft) (Date): 5.2 (5/2/24)

Depth (ft)	Sample Type	Sample No.	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Well Construction
0			**Sod/Topsoil - 3 inches**				Flush mount monument Concrete 0 to 2 feet
		1	**Fill** Loose, slightly moist, dark brown, silty, fine SAND, some gravel; abundant organics (roots/rootlets); scattered construction debris (asphalt) (SM).				
		2	Medium dense, slightly moist to moist, dark brown to brown, silty, fine to medium SAND; occasional gravel; scattered organics (rootlets) (SM).				Bentonite chips 2 to 7 feet
2.5							
			Holocene Beach Deposits				2-inch I.D. Sch 40 PVC casing with threaded connections 0 to 10 feet
5		3	Wet, gray, fine to medium SAND, some gravel, trace silt; rare shell fragments (SP).	▽	4 5 8	13	
				▼			10x20 sand 7 to 22 feet
7.5		4	Wet, gray, predominately fine SAND, trace silt; occasional medium sand; rare shell fragments (SP).		5 4 5	9	
10		5	Wet, gray, fine SAND, trace silt (SP).		3 3 4	7	2-inch I.D. Sch 40 PVC slotted well screen with threaded connections 0.020-inch slot width 10 to 20 feet
12.5							
15		6	Wet, gray, fine SAND, trace silt; occasional interbed of medium sand; scattered shell fragments throughout (SP).		4 7 18	25	
17.5			Driller adding water to limit soil heave.				

5/17/2024

20240057E001

associated earth sciences incorporated

Monitoring Well — EB-7W

Boat Haven Marina Stormwater Improvements — Sheet: 2 of 2

Port Townsend, WA	Start Date: 4/17/24	Logged By: BCY
20240057E001	Ending Date: 4/17/24	Approved By: JHS

Driller/Equipment: ADT/D-50 Hollow Stem Auger
Hammer Weight/Drop: 140#/30"
Hole Diameter (in): 8
Ground Surface Elevation (ft): ≈10
Water Level Elevation (ft): 4.8
▼ Groundwater Depth ATD (ft): 7.2

Total Depth (ft): 26.5
Well Completion Depth (ft): 20
Well Tag No.: BPQ-289
Top of Well Casing Elevation (ft): 9.5
Datum: NAVD 88
▽ Groundwater Depth Post Drilling (ft) (Date): 5.2 (5/2/24)

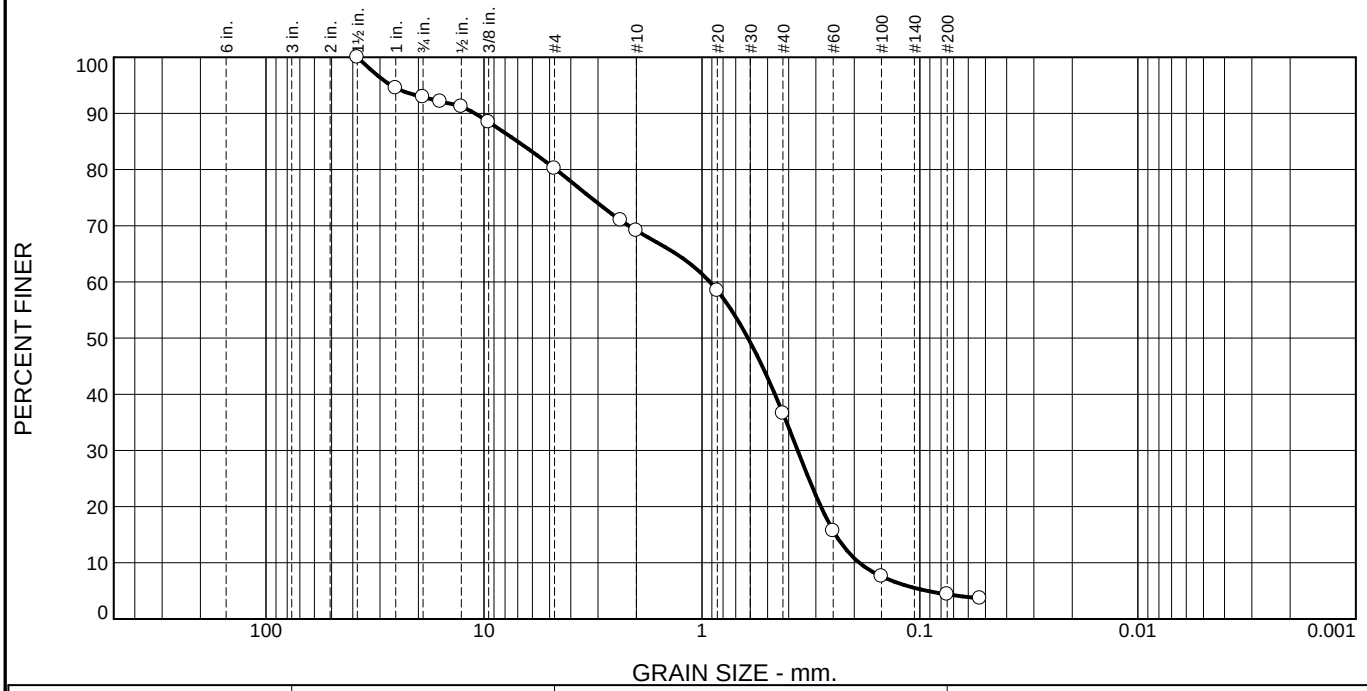
Depth (ft)	Sample Type	Sample No.	Graphic Symbol	Description	Water Level	Blows/6"	Blows/Foot (10 20 30 40 50+)	Well Construction
20		7		Wet, gray, fine SAND, trace to some silt; scattered rounded shell fragments (SP/SP-SM).		6 10 12	22	Flat end cap
22.5								Slough 22 to 26.5 feet
25		8		Wet, gray, fine to medium SAND, trace silt; scattered shell fragments (SP).		9 12 19	31	
27.5				Groundwater encountered at 7.2 feet ATD. Groundwater encountered at 5.2 on 5/2/24. Top 5 feet advanced with hand tools.				
30								
32.5								
35								

5/17/2024

20240057E001

Laboratory Test Results

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	7.1	12.7	11.1	32.5	32.2	4.4	

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
1.5"	100.0		
1"	94.5		
3/4"	92.9		
5/8"	92.1		
1/2"	91.2		
3/8"	88.5		
#4	80.2		
#8	71.0		
#10	69.1		
#20	58.5		
#40	36.6		
#60	15.7		
#100	7.6		
#200	4.4		
#270	3.7		

* (no specification provided)

Material Description

gravelly SAND trace silt

Atterberg Limits (ASTM D 4318)

PL= NP **LL=** NV **PI=**

Classification

USCS (D 2487)= SP **AASHTO (M 145)=** A-1-b

Coefficients

D_{90}= 10.9784 D_{85}= 7.0092 D_{60}= 0.9197
D_{50}= 0.6146 D_{30}= 0.3639 D_{15}= 0.2439
D_{10}= 0.1898 C_u= 4.85 C_c= 0.76

Remarks

Date Received: 5-7-2024 **Date Tested:** 5-9-2024

Tested By: FEW

Checked By: BCY/BD

Title:

Location: Onsite
Sample Number: EB-2 **Depth:** 2.5'

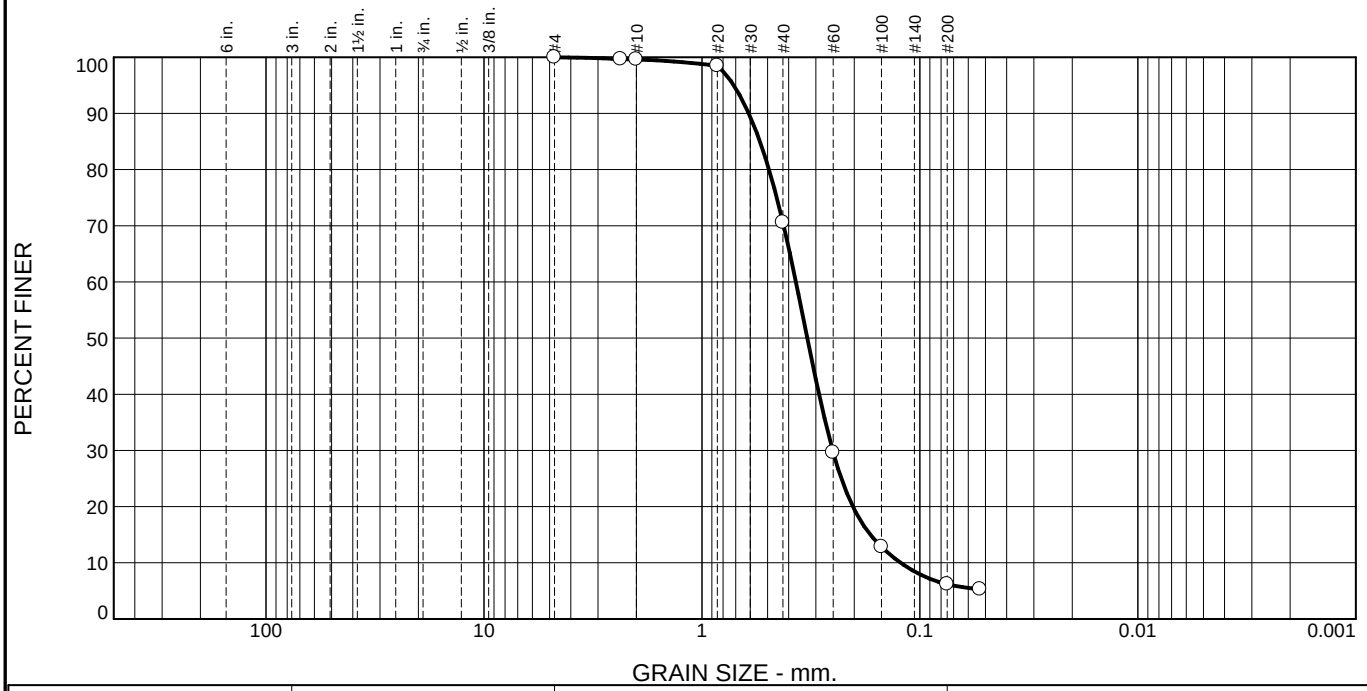
Date Sampled: 4-16-2024

associated earth sciences incorporated

Client: Kennedy Jenks
Project: Boat Haven Marina Stormwater Improvements

Project No: 20240057 E001 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	29.0	64.4	6.2	

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#4	100.0		
#8	99.7		
#10	99.6		
#20	98.5		
#40	70.6		
#60	29.7		
#100	12.8		
#200	6.2		
#270	5.3		

* (no specification provided)

Material Description

SAND some silt

Atterberg Limits (ASTM D 4318)

PL= NP **LL=** NV **PI=**

Classification

USCS (D 2487)= SP-SM **AASHTO (M 145)=** A-3

Coefficients

D_{90}= 0.6095 D_{85}= 0.5421 D_{60}= 0.3706
D_{50}= 0.3284 D_{30}= 0.2514 D_{15}= 0.1688
D_{10}= 0.1226 C_u= 3.02 C_c= 1.39

Remarks

Date Received: 5-7-2024 **Date Tested:** 5-9-2024

Tested By: FEW

Checked By: BCY/BD

Title:

Location: Onsite
Sample Number: EB-2 **Depth:** 15'

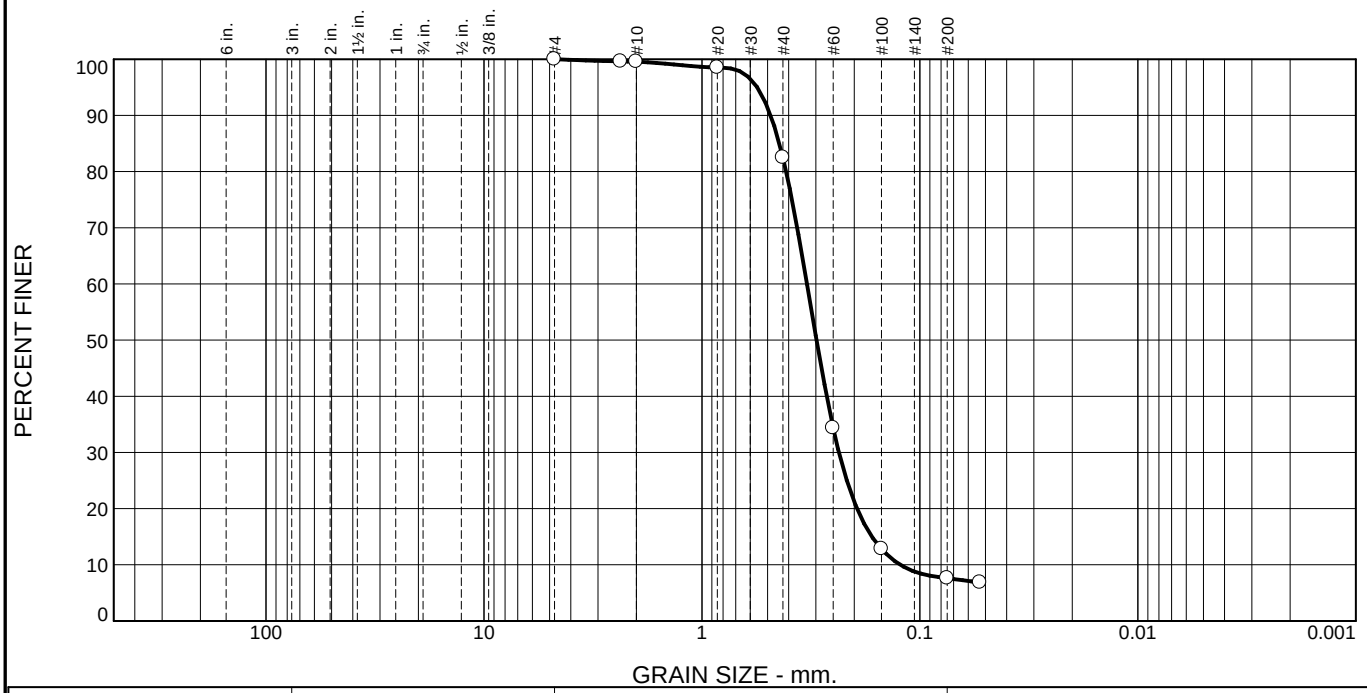
Date Sampled: 4-16-2024

associated earth sciences incorporated

Client: Kennedy Jenks
Project: Boat Haven Marina Stormwater Improvements

Project No: 20240057 E001 **Figure**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	17.1	74.9	7.6	

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#4	100.0		
#8	99.6		
#10	99.6		
#20	98.5		
#40	82.5		
#60	34.4		
#100	12.8		
#200	7.6		
#270	6.8		

* (no specification provided)

Material Description

SAND some silt

Atterberg Limits (ASTM D 4318)

PL= NP **LL=** NV **PI=**

Classification

USCS (D 2487)= SP-SM **AASHTO (M 145)=** A-3

Coefficients

D_{90}= 0.4840 D_{85}= 0.4413 D_{60}= 0.3296
D_{50}= 0.2979 D_{30}= 0.2352 D_{15}= 0.1660
D_{10}= 0.1230 C_u= 2.68 C_c= 1.36

Remarks

Date Received: 5-7-2024 **Date Tested:** 5-9-2024

Tested By: FEW

Checked By: BCY/BD

Title:

Location: Onsite
Sample Number: EB-2 **Depth:** 20'

Date Sampled: 4-16-2024

associated earth sciences incorporated

Client: Kennedy Jenks
Project: Boat Haven Marina Stormwater Improvements

Project No: 20240057 E001 **Figure**

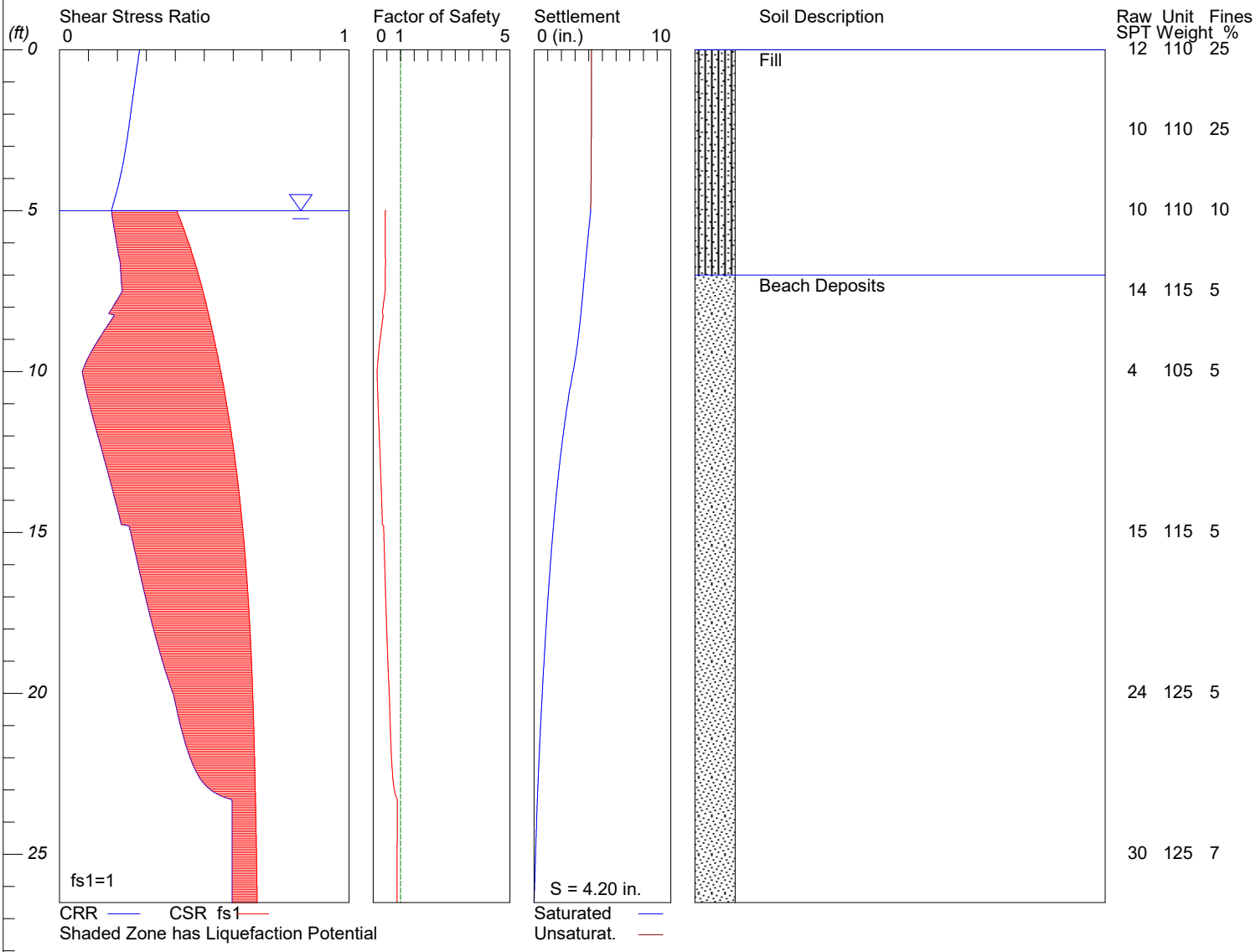
Liquefaction Analysis Results

LIQUEFACTION ANALYSIS

Boat Haven Marina Stormwater Improvements

Hole No.=EB-1 Water Depth=5 ft Surface Elev.=12

Magnitude=7.0
Acceleration=0.63g

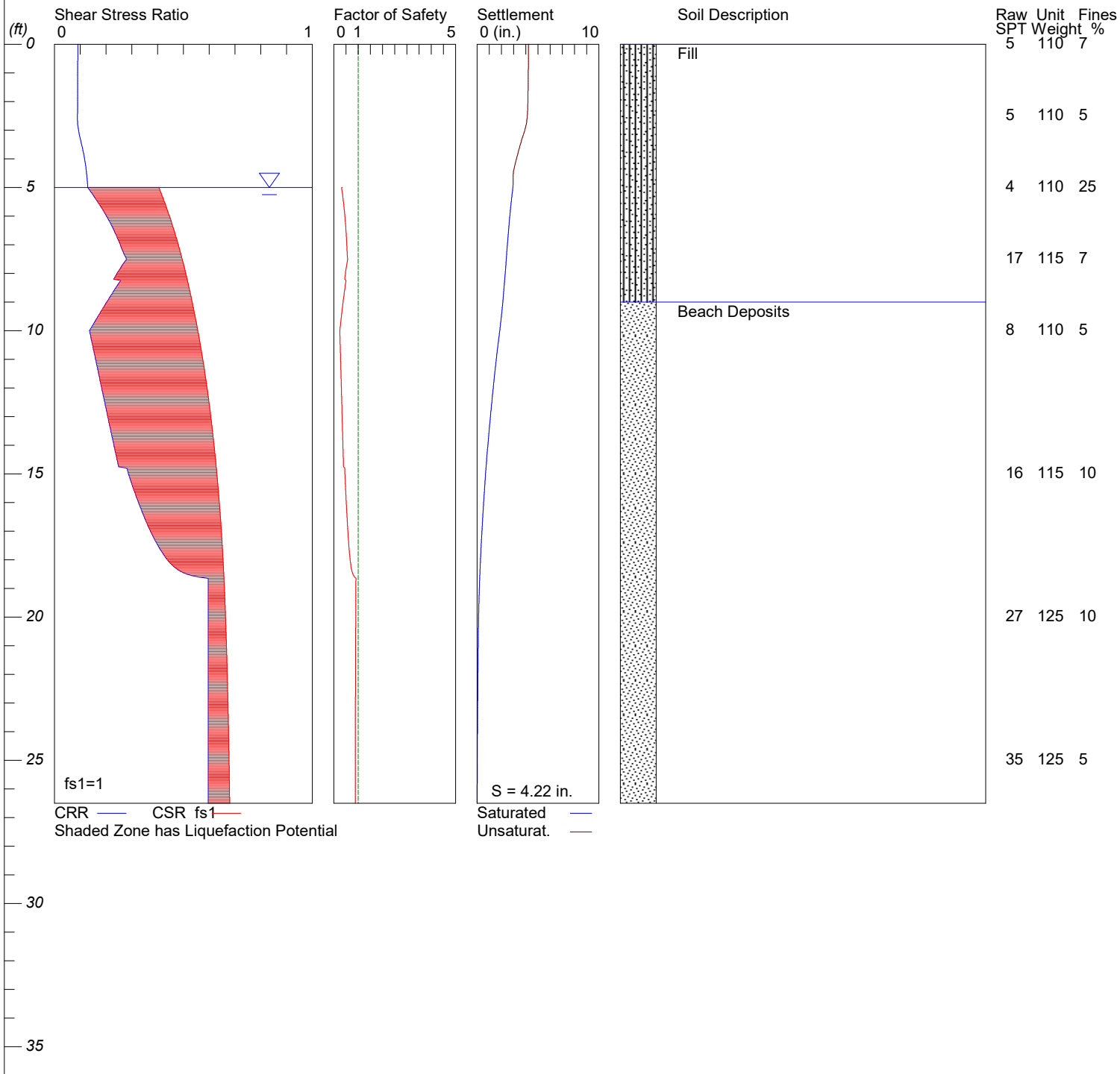


LIQUEFACTION ANALYSIS

Boat Haven Marina Stormwater Improvements

Hole No.=EB-2 Water Depth=5 ft Surface Elev.=10

Magnitude=7.0
Acceleration=0.63g

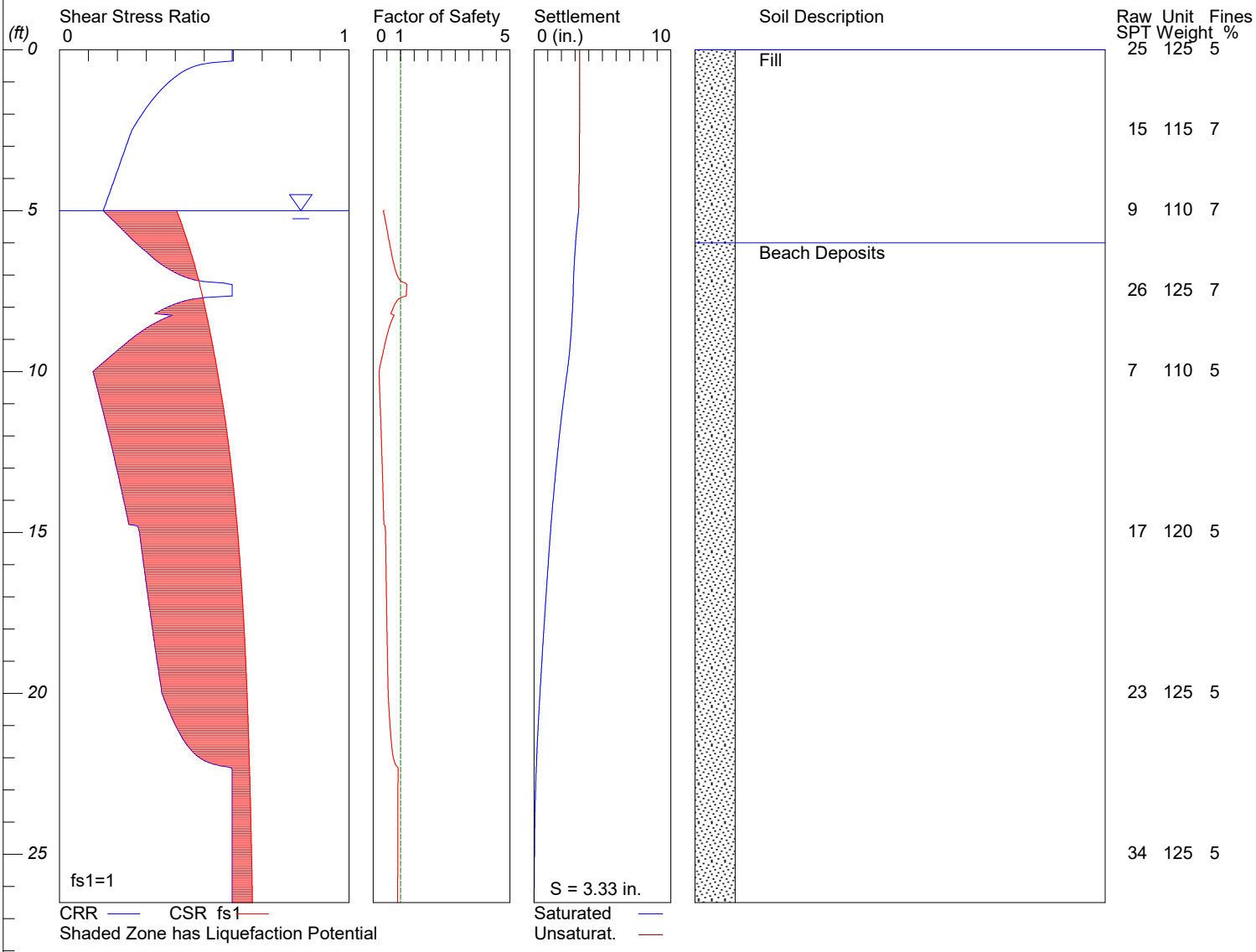


LIQUEFACTION ANALYSIS

Boat Haven Marina Stormwater Improvements

Hole No.=EB-3 Water Depth=5 ft Surface Elev.=10

Magnitude=7.0
Acceleration=0.63g

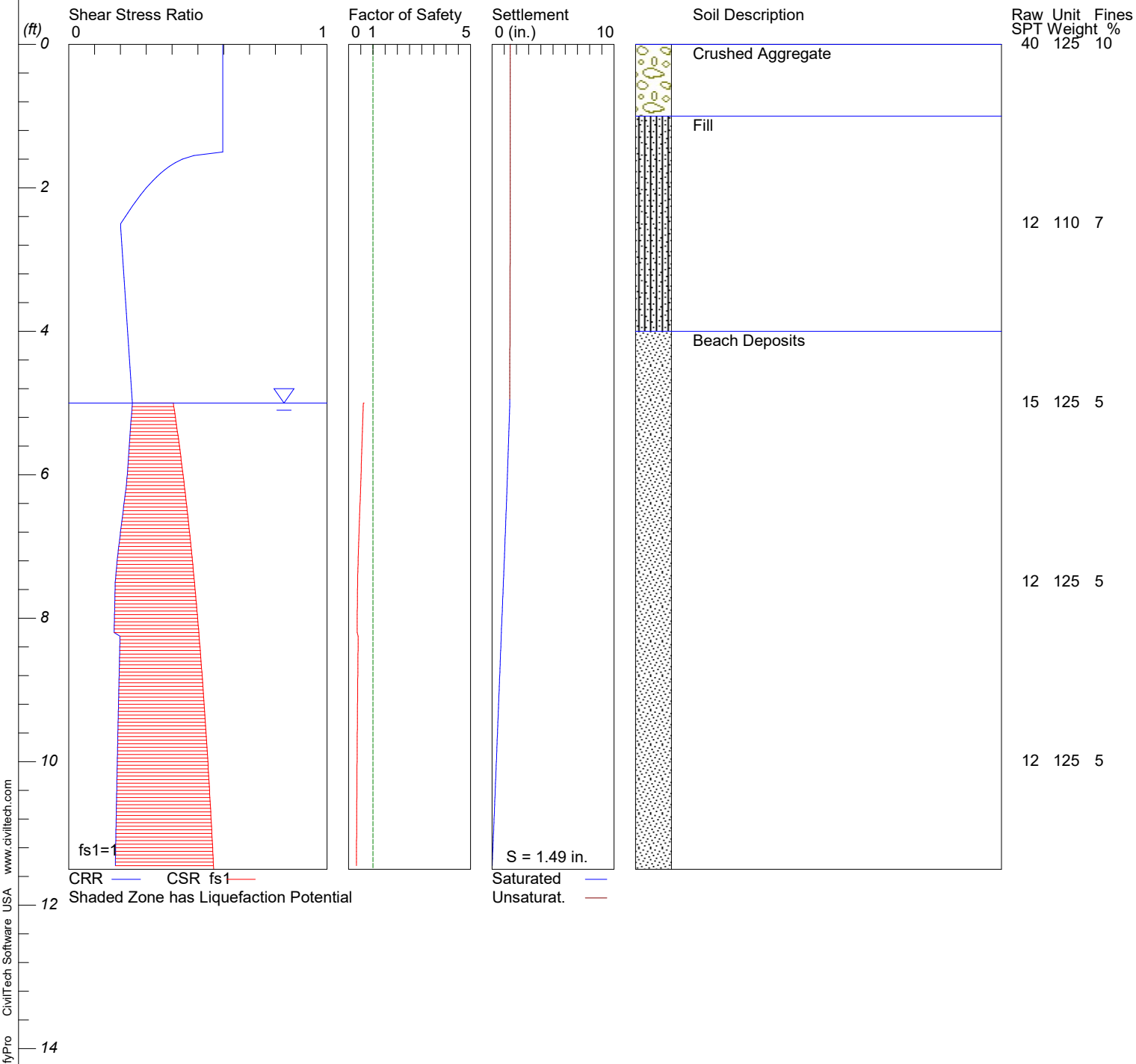


LIQUEFACTION ANALYSIS

Boat Haven Marina Stormwater Improvements

Hole No.=EB-4 Water Depth=5 ft Surface Elev.=12

Magnitude=7.0
Acceleration=0.63g

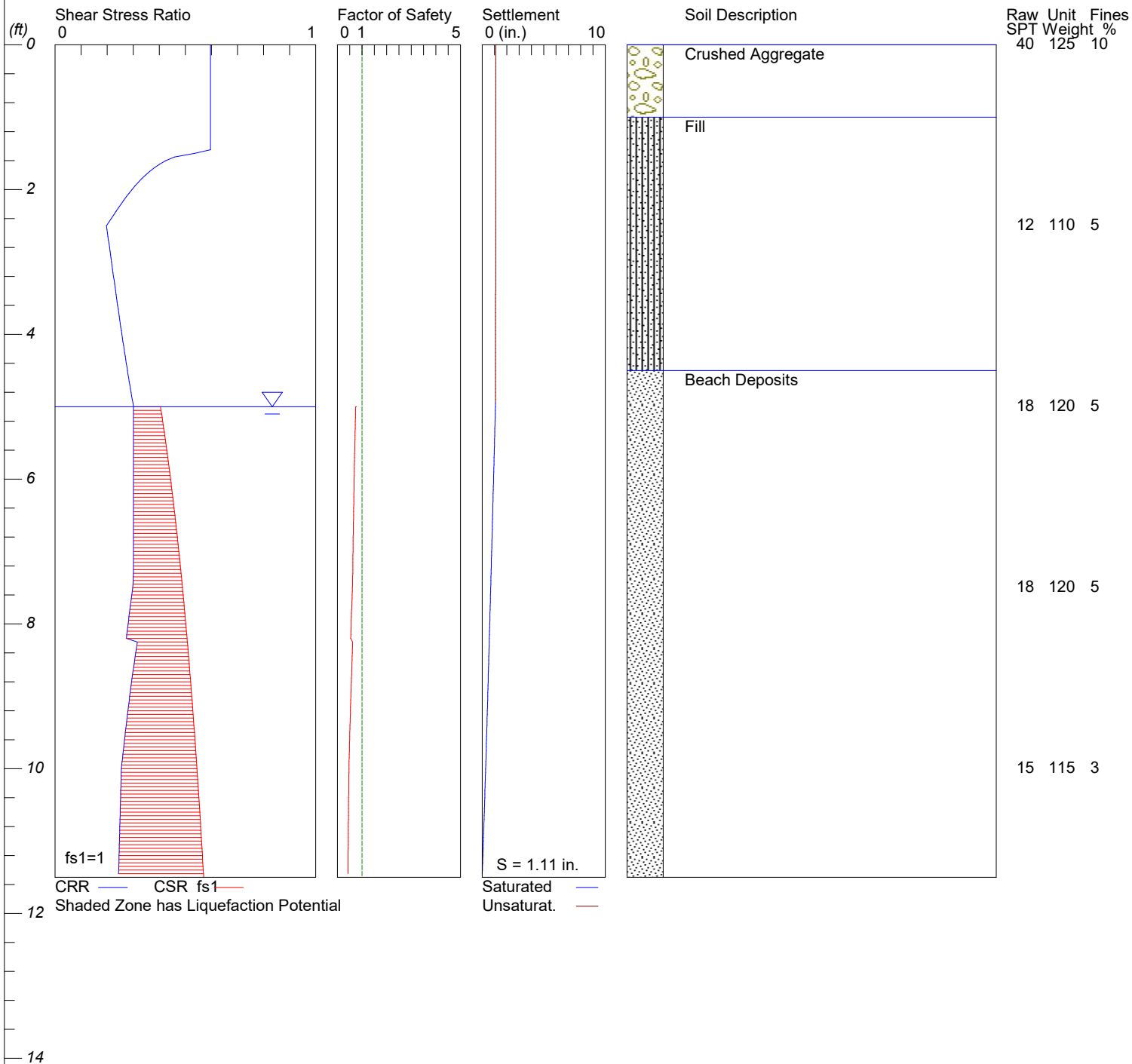


LIQUEFACTION ANALYSIS

Boat Haven Marina Stormwater Improvements

Hole No.=EB-5 Water Depth=5 ft Surface Elev.=11

Magnitude=7.0
Acceleration=0.63g

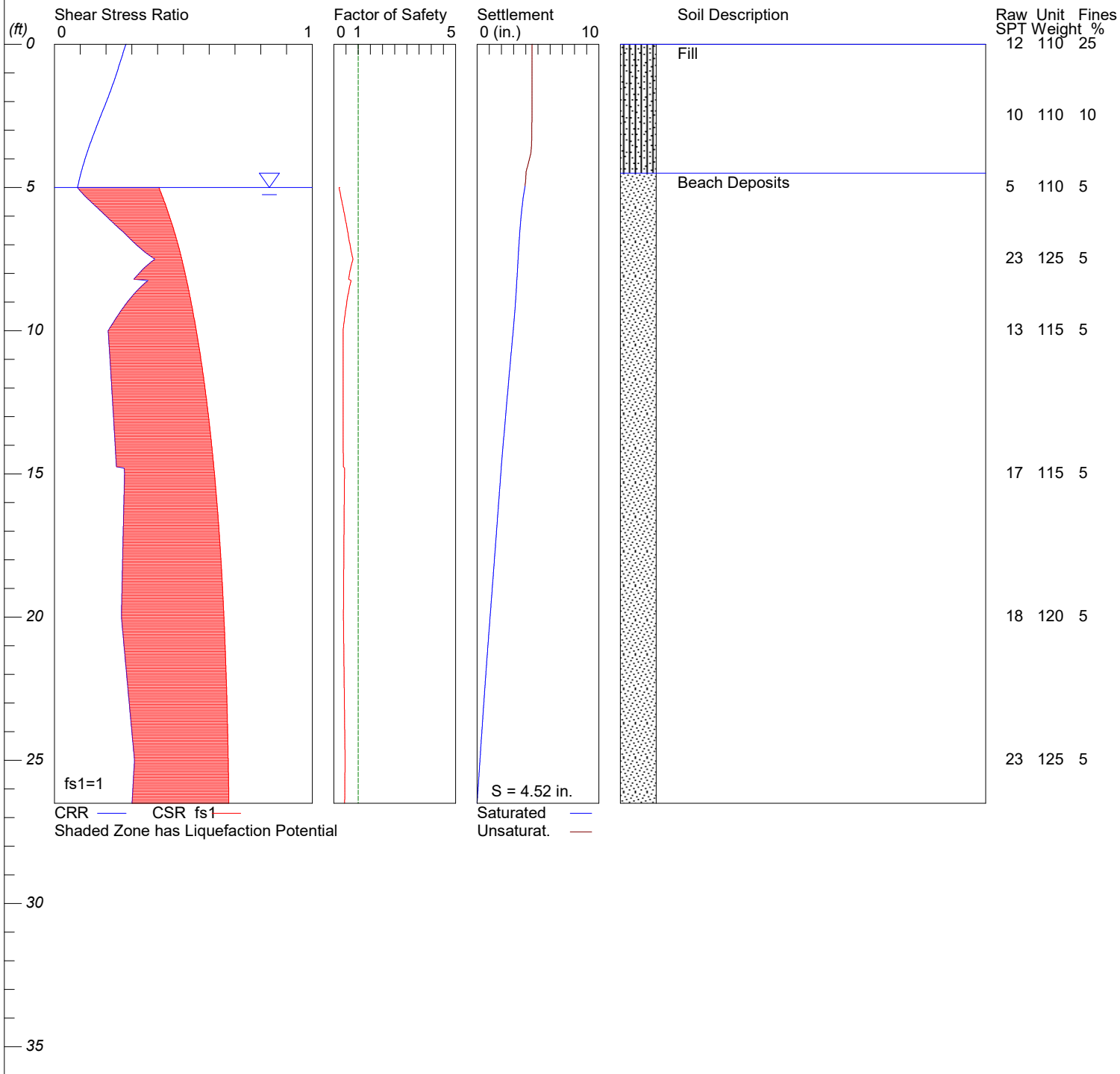


LIQUEFACTION ANALYSIS

Boat Haven Marina Stormwater Improvements

Hole No.=EB-6W Water Depth=5 ft Surface Elev.=12

Magnitude=7.0
Acceleration=0.63g

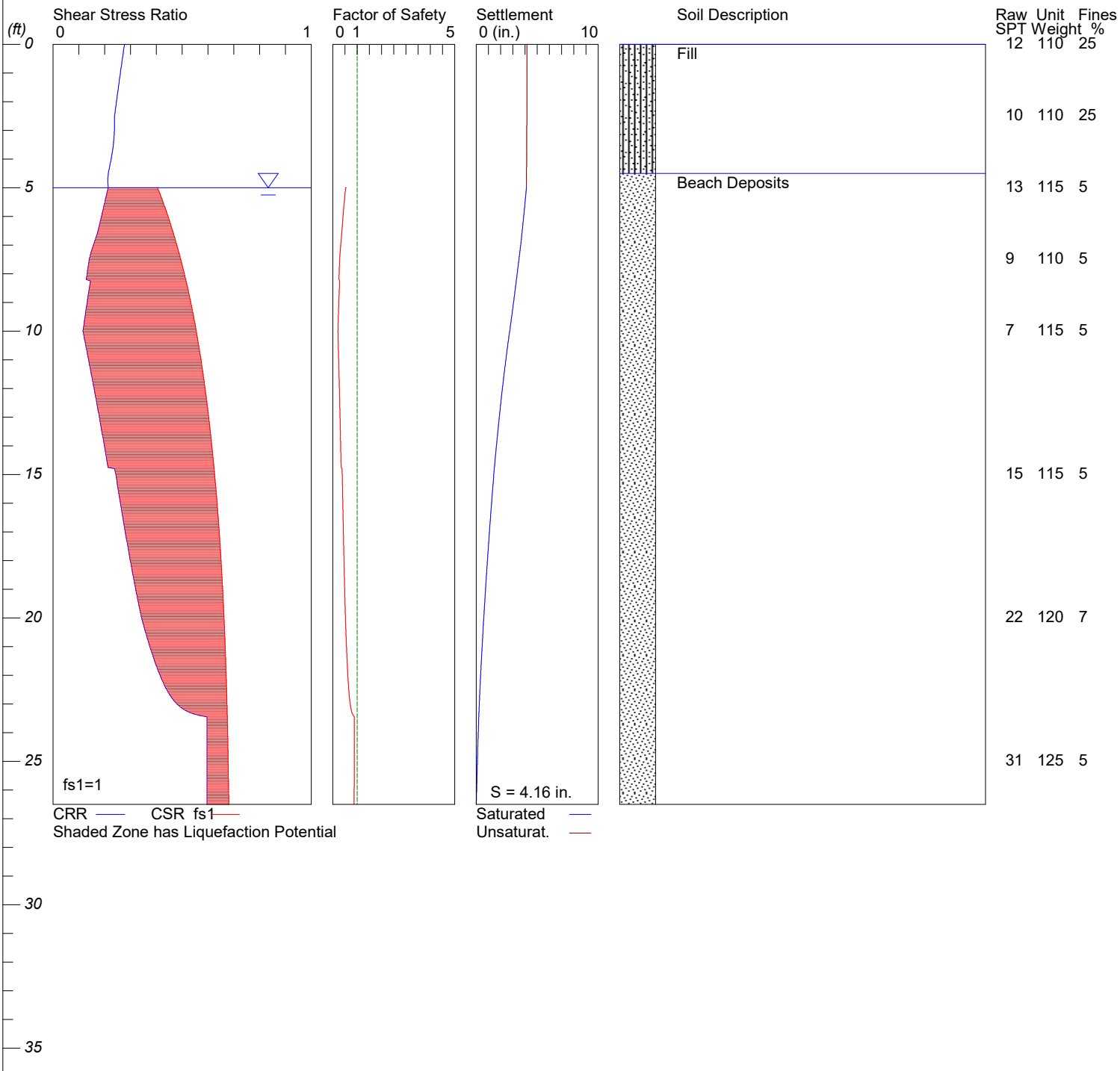


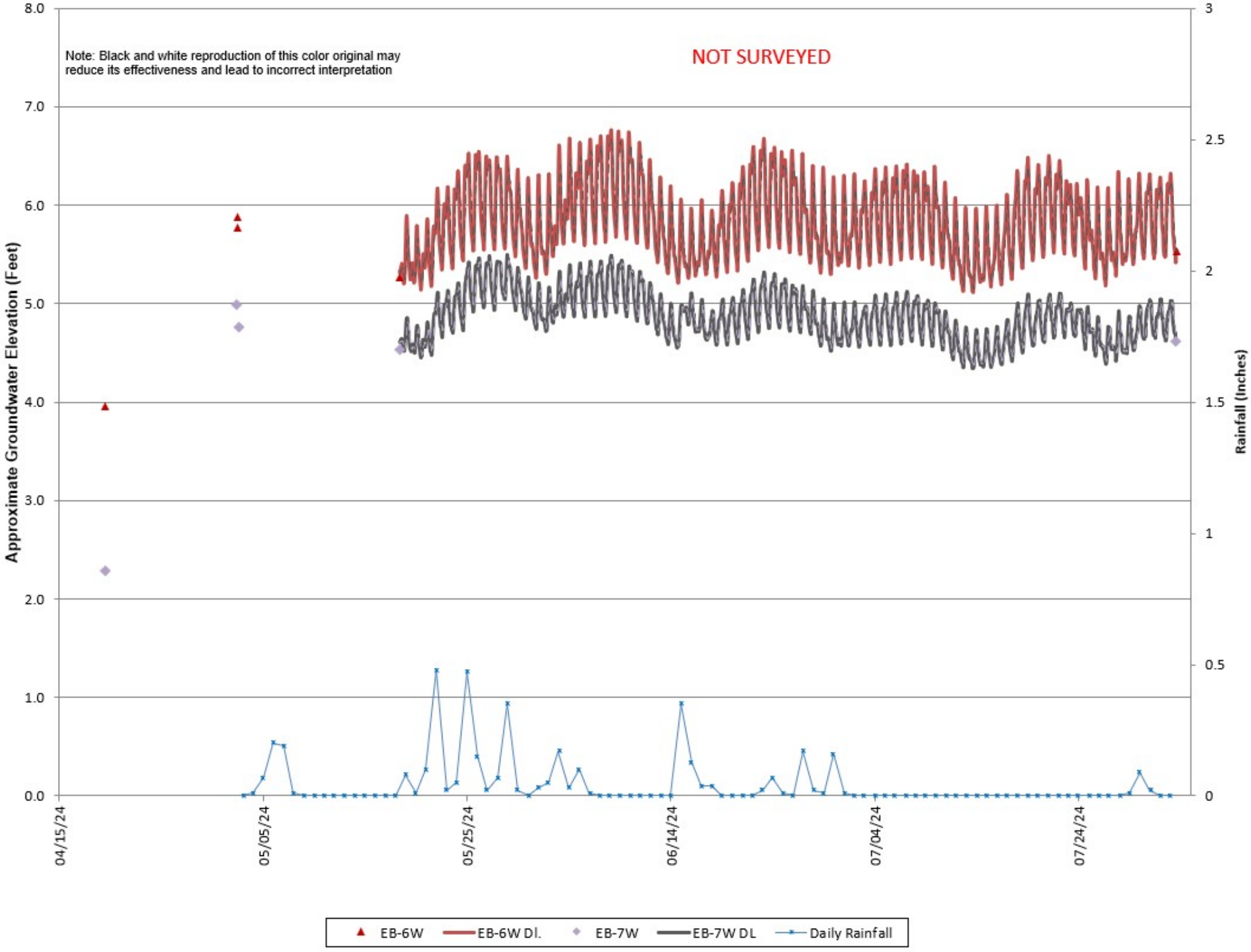
LIQUEFACTION ANALYSIS

Boat Haven Marina Stormwater Improvements

Hole No.=EB-7W Water Depth=5 ft Surface Elev.=10

Magnitude=7.0
Acceleration=0.63g




Note: Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation
NOT SURVEYED
Approximate Groundwater Elevation (Feet)
Rainfall (Inches)
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
3
2.5
2
1.5
1
0.5
0
04/15/24
05/05/24
05/25/24
06/14/24
07/04/24
07/24/24
EB-6W
EB-6W Dl.
EB-7W
EB-7W DL
Daily Rainfall

APPENDIX B

PERMIT DOCUMENTS

Construction Stormwater General Permit (CSWGP)

Stormwater Pollution Prevention Plan (SWPPP)

for

[Insert Project Name]

Prepared for:

Department of Ecology

[Insert Ecology Regional Office Name]

Permittee / Owner	Port Engineer	Operator / Contractor
Port of Port Townsend	Matt Klontz, PE	TBD

2740 Jefferson Street, Port Townsend WA 98368, Jefferson County

Update as necessary.

Certified Erosion and Sediment Control Lead (CESCL)

Name	Organization	Contact Phone Number
TBD	Contractor (TBD)	TBD

SWPPP Prepared By

Name	Organization	Contact Phone Number
Matt Klontz, PE	Port of Port Townsend	360-379-5025

SWPPP Preparation Date

10/14/2024

Project Construction Dates

Activity / Phase	Start Date	End Date
Construction	05 / 27 / 2024	09 / 30 / 2025

GENERAL INSTRUCTIONS AND CAVEATS

This template presents the recommended structure and content for preparation of a Construction Stormwater General Permit (CSWGP) Stormwater Pollution Prevention Plan (SWPPP).

The Department of Ecology's (Ecology) CSWGP requirements inform the structure and content of this SWPPP template; however, **you must customize this template to reflect the conditions of your site.**

A Construction Stormwater Site Inspection Form can be found on Ecology's website. https://www.ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

Using the SWPPP Template

Each section will include instructions and space for information specific to your project. Please read the instructions for each section and provide the necessary information when prompted. This Word template can be modified electronically. You may add/delete text, copy and paste, edit tables, etc. Some sections may be completed with brief answers while others may require several pages of explanation.

INSTRUCTIONS
Instructions are identified by gray shading, and should **be deleted upon SWPPP completion. Delete this entire section upon SWPPP completion.**

Follow this link to a copy of the Construction Stormwater General Permit: https://www.ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

Table of Contents

List of Tables

List of Appendices

List of Acronyms and Abbreviations

Acronym / Abbreviation	Explanation
303(d)	Section of the Clean Water Act pertaining to Impaired Waterbodies
BFO	Bellingham Field Office of the Department of Ecology
BMP(s)	Best Management Practice(s)
CESCL	Certified Erosion and Sediment Control Lead
CO_2	Carbon Dioxide
CRO	Central Regional Office of the Department of Ecology
CSWGP	Construction Stormwater General Permit
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
ERO	Eastern Regional Office of the Department of Ecology
ERTS	Environmental Report Tracking System
ESC	Erosion and Sediment Control
GULD	General Use Level Designation
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Units
NWRO	Northwest Regional Office of the Department of Ecology
pH	Power of Hydrogen
RCW	Revised Code of Washington
SPCC	Spill Prevention, Control, and Countermeasure
su	Standard Units
SWMMEW	Stormwater Management Manual for Eastern Washington
SWMMWW	Stormwater Management Manual for Western Washington
SWPPP	Stormwater Pollution Prevention Plan
TESC	Temporary Erosion and Sediment Control
SWRO	Southwest Regional Office of the Department of Ecology
TMDL	Total Maximum Daily Load
VFO	Vancouver Field Office of the Department of Ecology
WAC	Washington Administrative Code
WSDOT	Washington Department of Transportation
WWHM	Western Washington Hydrology Model

Project Information (1.0)

Project/Site Name: Boat Haven Boatyard Stormwater Improvement
Street/Location: 2740 Jefferson Street
City: Port Townsend State: WA Zip code: 98368
Subdivision: N/A
Receiving waterbody: N/A (Vegetative Infiltration of Stormwater)

Existing Conditions (1.1)

Total acreage (including support activities such as off-site equipment staging yards, material storage areas, borrow areas).

Total acreage: 23.38 acres

Disturbed acreage: 0.41 acres

Existing structures: Buildings, graveled access ways, graveled boatyard surfaces

Landscape topography: Largely flat at an elevation ranging between 10.0 feet to 12.5' NAVD

Drainage patterns: Existing boatyard conveyance system, which is proposed to be rehabilitated through this construction project, consists of underground piping (both gravity and force maines), catch basins, manholes, sand filters, pumps and vaults with outfall into Port Townsend Bay.

Existing Vegetation: The existing boatyard is comprised of impervious surfaces including buildings, gravel, asphalt and concrete. Little vegetation is present in the central portion of the boatyard other than sparse patches of grasses. Some trees, beach grasses and shrubs are present near the southwestern limits of the Boatyard, at the location of the new stormwater treatment system.

Critical Areas (wetlands, streams, high erosion risk, steep or difficult to stabilize slopes): None within project limits

List of known impairments for 303(d) listed or Total Maximum Daily Load (TMDL) for the receiving waterbody: Inner Port Townsend Bay is on the 303(d) list of Category 5 Polluted Waters for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, indeno (1,2,3-c,d)pyrene, and polychlorinated Biphenyls (PCBs) in tissue samples.

Table 1 includes a list of suspected and/or known contaminants associated with the construction activity.

List all known or suspected contaminants associated with this site in Table 1. Include contaminants previously remediated.

Table 1 – Summary of Site Pollutant Constituents

Constituent (Pollutant)	Location	Depth	Concentration
Copper	Boatyard	Surface	NK
Zinc	Boatyard	Surface	NK

Proposed Construction Activities (1.2)

Description of site development (example: subdivision):
The Port of Port Townsend proposes to upgrade the existing stormwater treatment system at the Boat Haven Boatyard to a 4-stage biofiltration treatment system (Appendix C). The proposed treatment system is modeled after the Ecology-approved Port of Port Angeles Marine Terminal 3-stage biofiltration treatment system, which has been operating successfully to remove and reduce stormwater pollutants since 2017. The proposed 4-stage biofiltration treatment process begins by pumping stormwater to the first treatment stage, after which it flows via gravity between the remaining treatment stages. The first treatment stage include the existing passive dosing of chitosan lactate and detention. The second treatment stage consists of pea gravel, a coarse pre-filter anticipated occlude with solids at a slower rate than the existing Aquip ® units. The third treatment stage consists of a planted Bioretention Soil Mix (BSM) as described in the SWMMWW (30% compost, 70% sand by volume). The fourth stage will provide a polishing step consisting of biochar and shale or similar media to provide additional adsorption of dissolved metals.

Description of construction activities (example: site preparation, demolition, excavation):
Site Preparation: Delineation of staging areas, clearing limits, and sensitive areas; mobilization of equipment and materials to the project site; installation of BMPs in accordance with the SWPPP and TESC.
Excavation: Trenching will be required to re-route the existing conveyance and install the new stormwater treatment system and electrical utilities.
Grading: After installation of the stormwater system and utilities, greading will occur to match the existing profile of the Boatyard.

Description of site drainage including flow from and onto adjacent properties. Must be consistent with Site Map in Appendix A:

The existing Boat Haven stormwater conveyance system consists of underground piping (both gravity and pressurized force mains), catch basins, manholes, pumps, vaults and outfalls to Port Townsend Bay. No flow from or onto adjacent properties occurs at the Boatyard.

Description of final stabilization (example: extent of revegetation, paving, landscaping):
The site will be resotred to the existing grade and surface conditions after construction is completed.

Contaminated Site Information:
Proposed activities regarding contaminated soils or groundwater (example: on-site treatment system, authorized sanitary sewer discharge):
N/A

Construction Stormwater Best Management Practices (BMPs) (2.0)

Describe the BMPs identified to control pollutants in stormwater discharges. Depending on the site, multiple BMPs for each element may be necessary. For each element identified:

- Clearly describe the control measure(s).
- Describe the implementation sequence.
- Describe the inspection and maintenance procedures for that specific BMP.
- Identify the responsible party for maintaining BMPs (if your SWPPP is shared by multiple operators, indicate the operator responsible for each BMP).

Categorize each BMP under one of the following elements as listed below:

1. Preserve Vegetation / Mark Clearing Limits
2. Establish Construction Access
3. Control Flow Rates
4. Install Sediment Controls
5. Stabilize Soils
6. Protect Slopes
7. Protect Drain Inlets
8. Stabilize Channels and Outfalls
9. Control Pollutants
10. Control Dewatering
11. Maintain BMPs
12. Manage the Project
13. Protect Low Impact Development

- BMPs must be consistent with the most current approved edition of the Stormwater Management Manual for Western Washington (SWMMWW) at sites west of the crest of the Cascade Mountains; the Stormwater Management Manual for Eastern Washington (SWMMEW) for sites east of the crest of the Cascade Mountains at the time the general permit was issued; or other Ecology-approved manual.
- Note the location of each BMP on your Site Map in Appendix A.
- Include the corresponding Ecology source control BMPs and runoff conveyance and treatment BMPs in Appendix B.
    - SWMMWW Volume II Chapter 4 Sections 4.1 and 4.2 – https://fortress.wa.gov/ecy/publications/SummaryPages/1410055.html or
    - SWMMEW Chapter 7 Section 7.3.1 and 7.3.2 – https://fortress.wa.gov/ecy/publications/summarypages/0410076.html
    - If it can be justified that a particular element does not apply to the project site, include a written justification in lieu of the BMP description in the text for the appropriate element.

The SWPPP is a living document reflecting current conditions and changes throughout the life of the project. These changes may be informal (i.e. hand-written notes and deletions). Update the SWPPP when the CESCL has noted a deficiency in BMPs or deviation from original design.

The 12 Elements (2.1)

Element 1: Preserve Vegetation / Mark Clearing Limits (2.1.1)

Describe the methods (signs, fences, etc,) you will use to protect those areas that should not be disturbed.

Describe natural features identified and how each will be protected during construction. Trees that are to be preserved, as well as all sensitive areas and their buffers, shall be clearly delineated, both in the field and on the plans.

Describe how natural vegetation and native topsoil will be preserved.

Construction will be scheduled to limit site disturbance and preserve natural vegetation for as long as possible during construction. Physical barriers such as high-visibility fence may be used to delineate the clearing limits, sensitive areas and other areas to be preserved as directed in the plans. Silt fences can be used downslope of disturbed areas to reduce the transport of coarse sediment from the project site.

List and describe BMPs: **C103 (High Visibility Fence), C233 (Silt Fence)**

Installation Schedules: Prior to commencement of land disturbing activities.

Inspection and Maintenance plan: BMPs to be inspected once per week and within 24 hours of any discharge from the site.

Responsible Staff: Contractor's CESCL

Element 2: Establish Construction Access (2.1.2)

Describe how you will minimize dust generation and vehicles tracking sediment off-site.

Limit vehicle access to one route, if possible.

Recycled concrete used to establish construction ingress or egress may be a stormwater pollutant source that requires treatment prior to discharge.

Street sweeping, street cleaning, or wheel wash/tire baths may be necessary if the stabilized construction access is not effective. All wheel wash wastewater shall be controlled on-site and CANNOT be discharged into waters of the State.

Install site ingress/egress stabilization BMPs according to BMP C105.

Describe how you will clean the affected roadway(s) from sediment which is tracked off-site.

List and describe BMPs: Construction site is located on the remotest edge of an existing 24-acre graveled boatyard, serving effectively as a construction access pad.

Installation Schedules: Pre-existing

Inspection and Maintenance plan: Daily

Responsible Staff: Contractor's CESCL

Element 3: Control Flow Rates (2.1.3)

Describe how you will protect properties and waterways downstream of the project from increased speed and volume of stormwater discharges due to construction activity.

Construction of stormwater retention and/or detention facilities must be done as one of the first steps in grading.

Assure that detention facilities are functioning properly before constructing site improvements (i.e. impervious surfaces).

If applicable, describe how you will protect areas designed for infiltration from siltation during the construction phase.

Due to site topography (relatively flat), existence of a functional stormwater treatment facility and project purpose of improving system performance and regulatory compliance, flow rate control is not required during construction.

Will you construct stormwater retention and/or detention facilities?
Yes No X

Will you use permanent infiltration ponds or other low impact development (example: rain gardens, bio-retention, porous pavement) to control flow during construction?
Yes No X

List and describe BMPs: N/A

Installation Schedules: N/A

Inspection and Maintenance plan: N/A

Responsible Staff: Contractor's CESCL

Element 4: Install Sediment Controls (2.1.4)

Describe how you will minimize sediment discharges from the site. Construct sediment control BMPs as one of the first steps of grading. These BMPs must be functional before other land disturbing activities – especially grading and filling – take place.

Describe the BMPs identified to filter sediment prior to it being discharged to an infiltration system or leaving the construction site.

Describe how you will direct stormwater for maximum infiltration where feasible.

Describe how you will not interfere with the movement of juvenile Salmonids attempting to enter off-channel areas or drainages.

Describe how you will respond if sediment controls are ineffective and turbid water is observed discharging from the site.

Consider the amount, frequency, intensity and duration of precipitation, soil characteristics, and site characteristics when selecting sediment control BMPs.

List and describe BMPs: C233 (Silt Fence)

Installation Schedules: Installed at the direction of the CESCL prior to earthwork activities or as one of the first steps of grading activities.

Inspection and Maintenance plan: The BMPs will be inspected once per week. Sediment accumulation will be removed, and repairs will be made as needed to maintain functionality and effectiveness. Barriers will be expanded at the discretion of the CESCL if concentrated flows bypass the barriers.

Responsible Staff: Contractor's CESCL

Element 5: Stabilize Soils (2.1.5)

Describe how you will stabilize exposed and unworked soils throughout the life of the project (i.e. temporary and permanent seeding, mulching, erosion control fabrics, etc.).

Describe how you will stabilize soil stockpiles.

Describe how you will minimize the amount of soil exposed throughout the life of the project.

Describe how you will minimize the disturbance of steep slopes.

Describe how you will minimize soil compaction.

Describe how you will stabilize contaminated soil and contaminated soil stockpiles if applicable.

Exposed and unworked soils will be stabilized according to the time period set forth for dry and wet seasons, on the west or east sides of the crest of the Cascade Mountains.

Select your region's table and delete the others.

West of the Cascade Mountains Crest

Season	Dates	Number of Days Soils Can be Left Exposed
During the Dry Season	May 1 – September 30	7 days
During the Wet Season	October 1 – April 30	2 days

East of the Cascade Mountains Crest, except the Central Basin*

Season	Dates	Number of Days Soils Can be Left Exposed
During the Dry Season	July 1 – September 30	10 days
During the Wet Season	October 1 – June 30	5 days

The Central Basin*, East of the Cascade Mountain Crest

Season	Dates	Number of Days Soils Can be Left Exposed
During the Dry Season	July 1 – September 30	30 days
During the Wet Season	October 1 – June 30	15 days

*Note: The Central Basin is defined as the portions of Eastern Washington with mean annual precipitation of less than 12 inches.

Soils must be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast.

Anticipated project dates: Start date: 5/27/2025 End date: 9/30/2025

Will you construct during the wet season?

Yes No X

All disturbed sediment within the project limits that is exposed for 7 days in the dry season or 2 days in the wet season will require stabilization of soils to reduce and prevent erosion in disturbed areas that have reached final grade or that will remain unworked for more than 30 days.

List and describe BMPs: C120 (Temporary and Permanent Seeding), C123 (Plastic Covering) and C140 (Dust Control)

Installation Schedules: Installed at the direction of the CESCL in areas of disturbed and exposed soils, as necessary.

Inspection and Maintenance plan: Weekly to ensure that BMP's are functional and effective. Areas that experience erosion after BMP installation will be re-covered and protected with additional BMPs.

Responsible Staff: Contractor's CESCL

Element 6: Protect Slopes (2.1.6)

West of the Cascade Mountains Crest

Describe how slopes will be designed, constructed, and protected to minimize erosion.

Temporary pipe slope drains must handle the peak 10-minute flow rate from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used.

The hydrologic analysis must use the existing land cover condition for predicting flow rates from tributary areas outside the project limits.

For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates.

If using the Western Washington Hydrology Model (WWHM) to predict flows, bare soil areas should be modeled as “landscaped area”.

Describe how you will reduce scouring within constructed channels that are cut down a slope.

Will steep slopes be present at the site during construction?
Yes No X

Existing topography of the boatyard is flat. No slopes, existing or constructed, will require protection since no slopes exceeding 2:1 and 10 feet in height are proposed or exist.

List and describe BMPs: N/A

Installation Schedules: N/A

Inspection and Maintenance plan: N/A

Responsible Staff: Contractor’s CESCL

Element 7: Protect Drain Inlets (2.1.7)

Describe how you will protect all operable storm drain inlets so that stormwater runoff does not enter the stormwater conveyance system.

Describe how you will remove sediment that enters the stormwater conveyance system (i.e. filtration, treatment, etc.).

Keep in mind inlet protection may function well for coarse sediment but is less effective in filtering finer particles and dissolved constituents. Inlet protection is the last component of a treatment train and protection of drain inlets include additional sediment and erosion control measures. Inlet protection devices will be cleaned (or removed and replaced), when sediment has filled the device by one third (1/3) or as specified by the manufacturer.

Inlets will be inspected weekly at a minimum and daily during storm events.

List and describe BMPs: C220 (Inlet Protection: Catch Basin Filters)

Installation Schedules: Installation to occur prior to commencement of ground disturbing activities.

Inspection and Maintenance plan: Weekly inspection to ensure functionality and effectiveness of BMP. Sediment accumulation will be removed and repairs made as necessary.

Responsible Staff: Contractor's CESCL

Element 8: Stabilize Channels and Outlets (2.1.8)

Describe how you will prevent downstream erosion where site runoff is to be conveyed in channels, discharged to a stream or, discharged to a natural drainage point.

West of the Cascade Mountains Crest

On-site conveyance channels must handle the peak 10-minute flow rate from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used.

The hydrologic analysis must use the existing land cover condition for predicting flow rates from tributary areas outside the project limits.

For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates.

If using the WWHM to predict flows, bare soil areas should be modeled as “landscaped area”.

Provide stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches, will be installed at the outlets of all conveyance systems.

Channels will not be used during this project.

List and describe BMPs: N/A

Installation Schedules: N/A

Inspection and Maintenance plan: N/A

Responsible Staff: Contractor’s CESCL

Element 9: Control Pollutants (2.1.9)

The following pollutants are anticipated to be present on-site:

Table 2 – Pollutants

Pollutant (and source, if applicable)
Vehicle and equipment fluids ((e.g. oil, hydraulic fluid, anti-freeze, etc.)
Copper
Zinc

Describe how you will handle and dispose of all pollutants, including waste materials and demolition debris, in a manner that does not cause contamination of stormwater.

Describe how you will cover, contain, and protect from vandalism all chemicals, liquid products, petroleum products, and other polluting materials.

Describe how you will manage known contaminants to prevent their discharge with stormwater to waters of the State (i.e. treatment system, off-site disposal).

Will maintenance, fueling, and/or repair of heavy equipment and vehicles occur on-site?
Yes X No

If yes, describe spill prevention and control measures in place while conducting maintenance, fueling, and repair of heavy equipment and vehicles.

If yes, also provide the total volume of fuel on-site and capacity of the secondary containment for each fuel tank. Secondary containment structures shall be impervious.

All pollutants including waste materials and demolition debris shall be handled and disposed offsite in a manner that does not cause contamination to water. Good housekeeping and preventative measures will be employed to ensure that the site will be kept clean, well-organized and free of debris and pollutants:

- All vehicles and equipment areas will be inspected regularly to detect any leaks or spills and to identify maintenance needs to prevent leaks and spills.
- Spill prevention measures such as drip pans will be used to maintain and repair vehicles or equipment.
- To perform emergency repairs on-site, temporary plastic will be placed underneath the vehicle.
- Contaminated surfaces shall be cleaned immediately following any discharge or spill incident.

- A spill response kit shall be provided and maintained at the jobsite during the project duration.

List and describe BMPs: C153 Material Delivery, Storage and Containment

Installation Schedules: Pollutant control BMPs such as secondary containment and a Spill Prevention Control and Countermeasure Plan (SPCC) whall be used to minimize or eliminate pollutants from entering Waters of the State.

Inspection and Maintenance plan: Weekly

Responsible Staff: Contractor's CESCL

Will wheel wash or tire bath system BMPs be used during construction?
Yes No X

If yes, provide disposal methods for wastewater generated by BMPs.

If discharging to the sanitary sewer, include the approval letter from your local sewer district under Correspondence in Appendix C.

List and describe BMPs: N/A

Installation Schedules: N/A

Inspection and Maintenance plan: N/A

Responsible Staff: Contractor's CESCL

Will pH-modifying sources be present on-site?
Yes X No If yes, check the source(s).

Table 3 – pH-Modifying Sources

	None
	Bulk cement
	Cement kiln dust
	Fly ash
	Other cementitious materials
X	New concrete washing or curing waters
X	Waste streams generated from concrete grinding and sawing
	Exposed aggregate processes
	Dewatering concrete vaults
	Concrete pumping and mixer washout waters
	Recycled concrete

	Other (i.e. calcium lignosulfate) [please describe]

Describe BMPs you will use to prevent pH-modifying sources from contaminating stormwater.

List and describe BMPs: C151 (Concrete Handling), C152 (Sawcutting and Surfacing Pollution Prevention, C154 (Concrete Washout Area)

Installation Schedules: Installation prior to commencement of concrete placement and prior to sawcutting (or coring).

Inspection and Maintenance plan: Concrete washout areas to be inspected daily during concrete placement periods. Hardened concrete will be disposed of in an approved manner at an off-site facility.

Responsible Staff: Contractor's CESCL

Adjust pH of stormwater if outside the range of 6.5 to 8.5 su.

Obtain written approval from Ecology before using chemical treatment with the exception of CO_2 or dry ice to modify pH.

Concrete trucks must not be washed out onto the ground, or into storm drains, open ditches, streets, or streams. Excess concrete must not be dumped on-site, except in designated concrete washout areas with appropriate BMPs installed.

Element 10: Control Dewatering (2.1.10)

Describe where dewatering will occur, including source of the water to be removed. State clearly if dewatering water is contaminated or has the potential to be contaminated.

Water from foundations, vaults, and trenches with characteristics similar to stormwater runoff shall be discharged into a controlled conveyance system before discharging to a sediment trap or sediment pond. Clean dewatering water will not be routed through stormwater sediment ponds.

Only clean, non-turbid dewatering water (such as well-point groundwater) may be discharged to systems tributary to, or directly into, surface waters of the State, provided the dewatering flow does not cause erosion or flooding of receiving waters.

Describe how you will manage dewatering water to prevent the discharge of contaminants to waters of the State, including dewatering water that has comingled with stormwater (i.e. treatment system, off-site disposal).

See Erosion and Sediment Control Plan.

Check treatment of disposal option for dewatering water, if applicable:

Table 4 – Dewatering BMPs

X	Infiltration
	Transport off-site in a vehicle (vacuum truck for legal disposal)
	Ecology-approved on-site chemical treatment or other suitable treatment technologies
	Sanitary or combined sewer discharge with local sewer district approval (last resort)
	Use of sedimentation bag with discharge to ditch or swale (small volumes of localized dewatering)

List and describe BMPs: C236 Vegetative Infiltration (Existing vegetated areas)

Installation Schedules: As necessary during excavation or trenching activities.

Inspection and Maintenance plan: Minimum daily, during dewatering operations

Responsible Staff: Contractor's CESCL

Element 11: Maintain BMPs (2.1.11)

This section is a list of permit requirements and does not have to be filled out.

All temporary and permanent Erosion and Sediment Control (ESC) BMPs shall be maintained and repaired as needed to ensure continued performance of their intended function.

Maintenance and repair shall be conducted in accordance with each particular BMP specification (see *Volume II of the SWMMWW or Chapter 7 of the SWMMEW*).

Visual monitoring of all BMPs installed at the site will be conducted at least once every calendar week and within 24 hours of any stormwater or non-stormwater discharge from the site. If the site becomes inactive and is temporarily stabilized, the inspection frequency may be reduced to once every calendar month.

All temporary ESC BMPs shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed.

Trapped sediment shall be stabilized on-site or removed. Disturbed soil resulting from removal of either BMPs or vegetation shall be permanently stabilized.

Additionally, protection must be provided for all BMPs installed for the permanent control of stormwater from sediment and compaction. BMPs that are to remain in place following completion of construction shall be examined and restored to full operating condition. If sediment enters these BMPs during construction, the sediment shall be removed and the facility shall be returned to conditions specified in the construction documents.

Element 12: Manage the Project (2.1.12)

The project will be managed based on the following principles:

- Projects will be phased to the maximum extent practicable and seasonal work limitations will be taken into account.
- Inspection and monitoring:
    - Inspection, maintenance and repair of all BMPs will occur as needed to ensure performance of their intended function.
    - Site inspections and monitoring will be conducted in accordance with Special Condition S4 of the CSWGP. Sampling locations are indicated on the Site Map. Sampling station(s) are located in accordance with applicable requirements of the CSWGP.
- Maintain an updated SWPPP.
    - The SWPPP will be updated, maintained, and implemented in accordance with Special Conditions S3, S4, and S9 of the CSWGP.

As site work progresses the SWPPP will be modified routinely to reflect changing site conditions. The SWPPP will be reviewed monthly to ensure the content is current.

Check all the management BMPs that apply at your site:

Table 5 – Management

X	Design the project to fit the existing topography, soils, and drainage patterns
X	Emphasize erosion control rather than sediment control
X	Minimize the extent and duration of the area exposed
X	Keep runoff velocities low
X	Retain sediment on-site
X	Thoroughly monitor site and maintain all ESC measures
X	Schedule major earthwork during the dry season
	Other (please describe)

Optional: Fill out Table 6 by listing the BMP associated with specific construction activities. Identify the phase of the project (if applicable). To increase awareness of seasonal requirements, indicate if the activity falls within the wet or dry season.

Table 6 – BMP Implementation Schedule

Phase of Construction Project	Stormwater BMPs	Date	Wet/Dry Season
[Insert construction activity]	[Insert BMP]	[MM/DD/YYYY]	[Insert Season]

Phase of Construction Project	Stormwater BMPs	Date	Wet/Dry Season
[Insert construction activity]	[Insert BMP]	[MM/DD/YYYY]	[Insert Season]

Element 13: Protect Low Impact Development (LID) BMPs (2.1.13)

Describe LIDs.

Permittees must protect all Bioretention and Rain Garden facilities from sedimentation through installation and maintenance of erosion and sediment control BMPs on portions of the site that drain into the Bioretention and/or Rain Garden facilities. Restore the facilities to their fully functioning condition if they accumulate sediment during construction. Restoring the facility must include removal of sediment and any sediment-laden Bioretention/Rain Garden soils, and replacing the removed soils with soils meeting the design specification.

Permittees must maintain the infiltration capabilities of Bioretention and Rain Garden facilities by protecting against compaction by construction equipment and foot traffic. Protect completed lawn and landscaped areas from compaction due to construction equipment.

Permittees must control erosion and avoid introducing sediment from surrounding land uses onto permeable pavements. Do not allow muddy construction equipment on the base material or pavement. Do not allow sediment-laden runoff onto permeable pavements.

Permittees must clean permeable pavements fouled with sediments or no longer passing an initial infiltration test using local stormwater manual methodology or the manufacturer's procedures.

Permittees must keep all heavy equipment off existing soils under LID facilities that have been excavated to final grade to retain the infiltration rate of the soils.

Describe how you will protect LID facilities from sedimentation, protect soils from compaction, and maintain the infiltration capabilities.

Describe how you will clean permeable pavements fouled with sediments.

[Insert text here]

Pollution Prevention Team (3.0)

Table 7 – Team Information

Title	Name(s)	Phone Number
Certified Erosion and Sediment Control Lead (CESCL)	TBD	TBD
Resident Engineer	Matt Klontz, PE	360-379-5025
Emergency Ecology Contact	Rob Walls	425-395-5718
Emergency Permittee/ Owner Contact	Matt Klontz, PE	360-379-5025
Non-Emergency Owner Contact	Matt Klontz, PE	360-379-5025

Monitoring Personnel		
Ecology Regional Office	Southwest Regional Office	360-407-6300

Monitoring and Sampling Requirements (4.0)

Monitoring includes visual inspection, sampling for water quality parameters of concern, and documentation of the inspection and sampling findings in a site log book. A site log book will be maintained for all on-site construction activities and will include:

- A record of the implementation of the SWPPP and other permit requirements
- Site inspections
- Stormwater sampling data

Create your own Site Inspection Form or use the Construction Stormwater Site Inspection Form found on Ecology's website. https://www.ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

File a blank form under Appendix D.

The site log book must be maintained on-site within reasonable access to the site and be made available upon request to Ecology or the local jurisdiction.

Numeric effluent limits may be required for certain discharges to 303(d) listed waterbodies. See CSWGP Special Condition S8 and Section 5 of this template.

Complete the following paragraph for sites that discharge to impaired waterbodies for fine sediment, turbidity, phosphorus, or pH:

The receiving waterbody, insert waterbody name, is impaired for: insert impairment. All stormwater and dewatering discharges from the site are subject to an **effluent limit** of 8.5 su for pH and/or 25 NTU for turbidity.

Site Inspection (4.1)

Site inspections will be conducted at least once every calendar week and within 24 hours following any discharge from the site. For sites that are temporarily stabilized and inactive, the required frequency is reduced to once per calendar month.

The discharge point(s) are indicated on the Site Map (see Appendix A) and in accordance with the applicable requirements of the CSWGP.

Stormwater Quality Sampling (4.2)

Turbidity Sampling (4.2.1)

Requirements include calibrated turbidity meter or transparency tube to sample site discharges for compliance with the CSWGP. Sampling will be conducted at all discharge points at least once per calendar week.

Method for sampling turbidity:

Check the analysis method you will use:

Table 8 – Turbidity Sampling Method

	Turbidity Meter/Turbidimeter (required for disturbances 5 acres or greater in size)
X	Transparency Tube (option for disturbances less than 1 acre and up to 5 acres in size)

The benchmark for turbidity value is 25 nephelometric turbidity units (NTU) and a transparency less than 33 centimeters.

If the discharge's turbidity is 26 to 249 NTU **or** the transparency is less than 33 cm but equal to or greater than 6 cm, the following steps will be conducted:

1. Review the SWPPP for compliance with Special Condition S9. Make appropriate revisions within 7 days of the date the discharge exceeded the benchmark.
2. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible. Address the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.
3. Document BMP implementation and maintenance in the site log book.

If the turbidity exceeds 250 NTU **or** the transparency is 6 cm or less at any time, the following steps will be conducted:

1. Telephone or submit an electronic report to the applicable Ecology Region's Environmental Report Tracking System (ERTS) within 24 hours. https://www.ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue
    - Central Region (Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima): (509) 575-2490
    - Eastern Region (Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman): (509) 329-3400
    - Northwest Region (King, Kitsap, Island, San Juan, Skagit, Snohomish, Whatcom): (425) 649-7000
    - Southwest Region (Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, Wahkiakum,): (360) 407-6300
2. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible. Address the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period
3. Document BMP implementation and maintenance in the site log book.
4. Continue to sample discharges daily until one of the following is true:
    - Turbidity is 25 NTU (or lower).

- Transparency is 33 cm (or greater).
- Compliance with the water quality limit for turbidity is achieved.
    - 1 - 5 NTU over background turbidity, if background is less than 50 NTU
    - 1% - 10% over background turbidity, if background is 50 NTU or greater
- The discharge stops or is eliminated.

pH Sampling (4.2.2)

pH monitoring is required for “Significant concrete work” (i.e. greater than 1000 cubic yards poured concrete or recycled concrete over the life of the project).The use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD] or fly ash) also requires pH monitoring.

For significant concrete work, pH sampling will start the first day concrete is poured and continue until it is cured, typically three (3) weeks after the last pour.

For engineered soils and recycled concrete, pH sampling begins when engineered soils or recycled concrete are first exposed to precipitation and continues until the area is fully stabilized.

If the measured pH is 8.5 or greater, the following measures will be taken:

1. Prevent high pH water from entering storm sewer systems or surface water.
2. Adjust or neutralize the high pH water to the range of 6.5 to 8.5 su using appropriate technology such as carbon dioxide (CO_2) sparging (liquid or dry ice).
3. Written approval will be obtained from Ecology prior to the use of chemical treatment other than CO_2 sparging or dry ice.

Method for sampling pH: None required – total concrete work is less than 1000 cubic yards.

Check the analysis method you will use: N/A

Table 8 – pH Sampling Method

	pH meter
	pH test kit
	Wide range pH indicator paper

Discharges to 303(d) or Total Maximum Daily Load (TMDL) Waterbodies (5.0)

303(d) Listed Waterbodies (5.1)

The 303(d) status is listed on the Water Quality Atlas: https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d

Circle the applicable answer, if necessary:

Is the receiving water 303(d) (Category 5) listed for turbidity, fine sediment, phosphorus, or pH?

Yes No

List the impairment(s):

[Insert text here]

The receiving waterbody, insert waterbody name, is impaired for: insert impairment. All stormwater and dewatering discharges from the site are subject to an **effluent limit** of 8.5 su for pH and/or 25 NTU for turbidity.

If yes, discharges must comply with applicable effluent limitations in S8.C and S8.D of the CSWGP.

Describe the method(s) for 303(d) compliance:

List and describe BMPs:

[Insert text here]

TMDL Waterbodies (5.2)

Waste Load Allocation for CWSGP discharges:

[Insert text here]

Describe the method(s) for TMDL compliance:

List and describe BMPs:

[Insert text here]

Discharges to TMDL receiving waterbodies will meet in-stream water quality criteria at the point of discharge.

The Construction Stormwater General Permit Proposed New Discharge to an Impaired Water Body form is included in Appendix F.

Reporting and Record Keeping (6.0)

Record Keeping (6.1)

This section does not need to be filled out. It is a list of reminders for the permittee.

Site Log Book (6.1.1)

A site log book will be maintained for all on-site construction activities and will include:

- A record of the implementation of the SWPPP and other permit requirements
- Site inspections
- Sample logs

Records Retention (6.1.2)

Records will be retained during the life of the project and for a minimum of three (3) years following the termination of permit coverage in accordance with Special Condition S5.C of the CSWGP.

Permit documentation to be retained on-site:

- CSWGP
- Permit Coverage Letter
- SWPPP
- Site Log Book

Permit documentation will be provided within 14 days of receipt of a written request from Ecology. A copy of the SWPPP or access to the SWPPP will be provided to the public when requested in writing in accordance with Special Condition S5.G.2.b of the CSWGP.

Updating the SWPPP (6.1.3)

The SWPPP will be modified if:

- Found ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site.
- There is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the State.

The SWPPP will be modified within seven (7) days if inspection(s) or investigation(s) determine additional or modified BMPs are necessary for compliance. An updated timeline for BMP implementation will be prepared.

Reporting (6.2)

Discharge Monitoring Reports (6.2.1)

Select and retain applicable paragraph.

Cumulative soil disturbance is less than one (1) acre; therefore, Discharge Monitoring Reports (DMRs) will not be submitted to Ecology because water quality sampling is not being conducted at the site.

Or

Cumulative soil disturbance is one (1) acre or larger; therefore, Discharge Monitoring Reports (DMRs) will be submitted to Ecology monthly. If there was no discharge during a given monitoring period the DMR will be submitted as required, reporting "No Discharge". The DMR due date is fifteen (15) days following the end of each calendar month.

DMRs will be reported online through Ecology's WQWebDMR System.

To sign up for WQWebDMR go to:
https://www.ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance

Notification of Noncompliance (6.2.2)

If any of the terms and conditions of the permit is not met, and the resulting noncompliance may cause a threat to human health or the environment, the following actions will be taken:

1. Ecology will be notified within 24-hours of the failure to comply by calling the applicable Regional office ERTS phone number (Regional office numbers listed below).
2. Immediate action will be taken to prevent the discharge/pollution or otherwise stop or correct the noncompliance. If applicable, sampling and analysis of any noncompliance will be repeated immediately and the results submitted to Ecology within five (5) days of becoming aware of the violation.
3. A detailed written report describing the noncompliance will be submitted to Ecology within five (5) days, unless requested earlier by Ecology.

Specific information to be included in the noncompliance report is found in Special Condition S5.F.3 of the CSWGP.

Anytime turbidity sampling indicates turbidity is 250 NTUs or greater, or water transparency is 6 cm or less, the Ecology Regional office will be notified by phone within 24 hours of analysis as required by Special Condition S5.A of the CSWGP.

- Central Region at (509) 575-2490 for Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, or Yakima County
- Eastern Region at (509) 329-3400 for Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, or Whitman County
- Northwest Region at (425) 649-7000 for Island, King, Kitsap, San Juan, Skagit, Snohomish, or Whatcom County
- Southwest Region at (360) 407-6300 for Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, or Wahkiakum

Include the following information:

1. Your name and / Phone number
2. Permit number
3. City / County of project
4. Sample results
5. Date / Time of call
6. Date / Time of sample
7. Project name

In accordance with Special Condition S4.D.5.b of the CSWGP, the Ecology Regional office will be notified if chemical treatment other than CO_2 sparging is planned for adjustment of high pH water.

Appendix/Glossary

A. Site Map

The site map must meet the requirements of Special Condition S9.E of the CSWGP

B. BMP Detail

Insert BMPs specification sheets here.
Download BMPs from the Ecology Construction Stormwater website at:
https://www.ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Stormwater-manuals

C. Correspondence

Ecology
EPA
Local Government

D. Site Inspection Form

Create your own or download Ecology's template:
https://www.ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

E. Construction Stormwater General Permit (CSWGP)

Download CSWGP: https://www.ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit

F. 303(d) List Waterbodies / TMDL Waterbodies Information

Proposed New Discharge to an Impaired Water Body form
SWPPP Addendum addressing impairment

G. Contaminated Site Information

Administrative Order
Sanitary Discharge Permit
Soil Management Plan
Soil and Groundwater Reports
Maps and Figures Depicting Contamination

H. Engineering Calculations

Notice of Termination Form

Construction Stormwater General Permit

Use this form to request termination of permit.

I. Operator/Permittee	**Permit #:** WAR	
Name:	Company:	
Mailing Address:		
City:	State:	Zip:
Phone: Email:		

II. Site Location/Address		
Site name:		
Street address (or location description):		
City (or nearest city):	County:	Zip:

III. Construction Activity: The site is eligible for termination. Select ONE of the following conditions:

- ◯ Construction was never started.
- ◯ Entire site has undergone final stabilization, all temporary BMPs are removed, all stormwater discharges associated with construction activity have been eliminated. (*See Permit Condition S10.A.1.*)
- ◯ All portions of site that have not undergone final stabilization have been sold and/or transferred, and Permittee no longer has operational control of the construction activity. (*Permit Condition S10.A.2.*)

  Will a Transfer of Coverage be completed with the new Owner?

  If yes, please attach a copy of the transfer form (required)

  If no, provide new owner's contact information:
- ◯ For residential construction only, the Permittee has completed temporary stabilization of the entire project and the homeowners have taken possession of the residences *(Permit Condition S10.A.3.)*

IV. Certification of Signature Please read the certification statement carefully before signing.

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. The information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Permittee's printed name _____ Title _____

Permittee's signature (Permittee on record or a VP level officer) _____ Date Signed _____

SEE INSTRUCTIONS ON PAGE 2 FOR SUBMITTING COMPLETED FORM TO THE FEE UNIT

Instructions for Notice of Termination (NOT) Form

ANNUAL PERMIT FEES continue until Ecology terminates permit coverage. Continue complying with permit conditions until notified that coverage has been terminated.

I. Operator/ Permittee	Provide the name, address, and telephone number of the permittee on record.
II. Site Location/ Address	Enter the street address or location description, including the city or nearest city and county for the construction site. Construction sites that do not have a street address must provide a legal description in the space provided, or as an attachment.
III. Construction Activity	***Conditions can also be found on page 32 of the permit itself.*** Indicate that: ➢ The construction project has not started and there are no other sources of construction stormwater. ➢ Final stabilization means established permanent vegetative cover, or equivalent permanent stabilization measures which prevent erosion. You are certifying that: • Soils are no longer being disturbed. • All permanent vegetative cover is fully established and growing. • All exposed soils are permanently stabilized to prevent erosion. • All temporary sediment and erosion control BMPs such as catch basin filters and silt fencing, etc. are removed. • All Low Impact Development (LID) Bioretention and Rain Garden facilities are fully functional and free of sediment accumulated during construction. • All stormwater discharges associated with construction activity are eliminated. ➢ The site has not undergone final stabilization and the permit has been transferred to another responsible party(ies) **(Provide required information from the Transfer of Coverage form).** ➢ All portions of the site that have not undergone final stabilization have been sold. Use this option for residential construction where the permittee has completed temporary stabilization and the homeowners have taken possession of the residences.
IV. Certification of Signature	The permittee, or senior executive in the permittee's company: print name, sign and date form on the lines provided.

Please hand sign and email or mail this document to **wqfeeunit@ecy.wa.gov** to begin the termination process. **The mailing address is:**

Department of Ecology
Water Quality - Permit Fee Unit
PO Box 47600
Olympia, WA 98504-7696

Note: Your site remains under permit and subject to all permit conditions until your termination request is approved. Continue to comply with permit conditions ***until the earlier of the following two dates***:

1) The date you receive written notification from Ecology that termination is effective.
2) 31 days or more have passed since Ecology **received** a completed NOT form.
3) Keep a signed copy of your NOT for your records.

Questions? Contact the Fee Unit at 1 (800) 633-6193, Option 2, or wqfeeunit@ecy.wa.gov

To request an ADA accommodation, contact Ecology at 800-633-6193, option 2, or by email at jackie.lince@ecy.wa.gov, or visit https://ecology.wa.gov/accessibility. For Relay Service or TTY call 711 or 877-833-6341

APPENDIX C

PREVAILING WAGES

(Note for State Journey and Apprentice Rates also see

https://www.lni.wa.gov/licensing-permits/public-works-projects/prevailing-wage-rates/)

State of Washington
Department of Labor & Industries
Prevailing Wage Section - Telephone 360-902-5335
PO Box 44540, Olympia, WA 98504-4540

Washington State Prevailing Wage
The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker's wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

Journey Level Prevailing Wage Rates for the Effective Date: 11/21/2024

Jefferson County

Trade	Job Classification	Wage	Holiday	Overtime	Note	Risk Clas
Asbestos Abatement Workers	Journey Level	$63.87	**5D**	**1H**		**View**
Boilermakers	Journey Level	$81.48	**5N**	**1C**		**View**
Brick Mason	Journey Level	$71.82	**7E**	**1N**		**View**
Brick Mason	Pointer-Caulker-Cleaner	$71.82	**7E**	**1N**		**View**
Building Service Employees	Janitor	$16.28		**1**		**View**

Building Service Employees	Shampooer	$16.28		1		View
Building Service Employees	Waxer	$16.28		1		View
Building Service Employees	Window Cleaner	$16.28		1		View
Cabinet Makers (In Shop)	Journey Level	$28.43		1		View
Carpenters	Acoustical Worker	$78.96	15J	11U		View
Carpenters	Bridge Dock and Wharf Carpenter	$80.50	15J	11U	9L	View
Carpenters	Floor Layer & Floor Finisher	$78.96	15J	11U		View
Carpenters	General Carpenter	$78.96	15J	11U		View
Carpenters	Scaffold Erector	$78.96	15J	11U		View
Cement Masons	Application of all Composition Mastic	$77.30	15J	4U		View
Cement Masons	Application of all Epoxy Material	$76.78	15J	4U		View
Cement Masons	Application of all Plastic Material	$77.30	15J	4U		View

Cement Masons	Application of Sealing Compound	$76.78	**15J**	**4U**	**View**
Cement Masons	Application of Underlayment	$77.30	**15J**	**4U**	**View**
Cement Masons	Building General	$76.78	**15J**	**4U**	**View**
Cement Masons	Composition or Kalman Floors	$77.30	**15J**	**4U**	**View**
Cement Masons	Concrete Paving	$76.78	**15J**	**4U**	**View**
Cement Masons	Curb & Gutter Machine	$77.30	**15J**	**4U**	**View**
Cement Masons	Curb & Gutter, Sidewalks	$76.78	**15J**	**4U**	**View**
Cement Masons	Curing Concrete	$76.78	**15J**	**4U**	**View**
Cement Masons	Finish Colored Concrete	$77.30	**15J**	**4U**	**View**
Cement Masons	Floor Grinding	$77.30	**15J**	**4U**	**View**
Cement Masons	Floor Grinding/ Polisher	$76.78	**15J**	**4U**	**View**
Cement Masons	Green Concrete Saw, self-powered	$77.30	**15J**	**4U**	**View**

Cement Masons	Grouting of all Plates	$76.78	**15J**	**4U**	**View**
Cement Masons	Grouting of all Tilt-up Panels	$76.78	**15J**	**4U**	**View**
Cement Masons	Gunite Nozzleman	$77.30	**15J**	**4U**	**View**
Cement Masons	Hand Powered Grinder	$77.30	**15J**	**4U**	**View**
Cement Masons	Journey Level	$76.78	**15J**	**4U**	**View**
Cement Masons	Patching Concrete	$76.78	**15J**	**4U**	**View**
Cement Masons	Pneumatic Power Tools	$77.30	**15J**	**4U**	**View**
Cement Masons	Power Chipping & Brushing	$77.30	**15J**	**4U**	**View**
Cement Masons	Sand Blasting Architectural Finish	$77.30	**15J**	**4U**	**View**
Cement Masons	Screed & Rodding Machine	$77.30	**15J**	**4U**	**View**
Cement Masons	Spackling or Skim Coat Concrete	$76.78	**15J**	**4U**	**View**
Cement Masons	Troweling Machine Operator	$77.30	**15J**	**4U**	**View**

Cement Masons	Troweling Machine Operator on Colored Slabs	$77.30	**15J**	**4U**		**View**
Cement Masons	Tunnel Workers	$77.30	**15J**	**4U**		**View**
Divers & Tenders	Bell/Vehicle/ Submersible Operator (not under pressure)	$156.25	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Dive Supervisor	$157.75	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Diver	$156.25	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Diver Tender	$86.86	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 0-30.00 PSI	$118.99	**15J**	**11U**		**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 0-30.00 PSI	$109.76	**15J**	**11U**		**View**

Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 44.01 - 54.00 PSI	$128.22	**15J**	**11U**	**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 54.01 - 60.00 PSI	$137.45	**15J**	**11U**	**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 60.01 - 64.00 PSI	$146.67	**15J**	**11U**	**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 64.01 - 68.00 PSI	$155.90	**15J**	**11U**	**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 68.01 - 70.00 PSI	$165.13	**15J**	**11U**	**View**
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 70.01 -	$174.36	**15J**	**11U**	**View**

	72.00 PSI					
Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 72.01 - 74.00 PSI	$183.59	**15J**	**11U**		**View**
Divers & Tenders	Lead Diver (Dive Master)	$101.32	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Manifold Operator (Life Support Technician)	$86.86	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Remote Operated Vehicle Operator/ Technician	$86.86	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Remote Operated Vehicle Operator/ Technician	$86.86	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Remote Operated Vehicle Tender	$80.55	**15J**	**11T**	**9I**	**View**
Divers & Tenders	Stand-by Diver	$96.32	**15J**	**11T**	**9I**	**View**
Dredge Workers	Assistant Engineer	$83.92	**5D**	**3F**		**View**
Dredge Workers	Assistant Mate (Deckhand)	$83.28	**5D**	**3F**		**View**

Dredge Workers	Boatmen	$83.92	**5D**	**3F**	**View**
Dredge Workers	Engineer Welder	$85.53	**5D**	**3F**	**View**
Dredge Workers	Leverman, Hydraulic	$87.24	**5D**	**3F**	**View**
Dredge Workers	Mates	$83.92	**5D**	**3F**	**View**
Dredge Workers	Oiler	$83.28	**5D**	**3F**	**View**
Drywall Applicator	Journey Level	$78.76	**15O**	**11S**	**View**
Drywall Tapers	Journey Level	$78.76	**15O**	**11S**	**View**
Electrical Fixture Maintenance Workers	Journey Level	$38.69	**5L**	**1E**	**View**
Electricians - Inside	Cable Splicer	$109.35	**7C**	**4E**	**View**
Electricians - Inside	Cable Splicer (tunnel)	$117.52	**7C**	**4E**	**View**
Electricians - Inside	Certified Welder	$105.63	**7C**	**4E**	**View**
Electricians - Inside	Certified Welder (tunnel)	$113.43	**7C**	**4E**	**View**
Electricians - Inside	Construction Stock Person	$51.53	**7C**	**4E**	**View**
Electricians - Inside	Journey Level	$101.92	**7C**	**4E**	**View**

Electricians - Inside	Journey Level (tunnel)	$109.35	**7C**	**4E**	**View**
Electricians - Motor Shop	Craftsman	$16.28		**1**	**View**
Electricians - Motor Shop	Journey Level	$16.28		**1**	**View**
Electricians - Powerline Construction	Cable Splicer	$97.76	**5A**	**4D**	**View**
Electricians - Powerline Construction	Certified Line Welder	$89.71	**5A**	**4D**	**View**
Electricians - Powerline Construction	Groundperson	$56.79	**5A**	**4D**	**View**
Electricians - Powerline Construction	Heavy Line Equipment Operator	$89.71	**5A**	**4D**	**View**
Electricians - Powerline Construction	Journey Level Lineperson	$89.71	**5A**	**4D**	**View**
Electricians - Powerline Construction	Line Equipment Operator	$77.13	**5A**	**4D**	**View**

Electricians - Powerline Construction	Meter Installer	$56.79	**5A**	**4D**	**8W**	**View**
Electricians - Powerline Construction	Pole Sprayer	$89.71	**5A**	**4D**		**View**
Electricians - Powerline Construction	Powderperson	$66.84	**5A**	**4D**		**View**
Electronic Technicians	Journey Level	$65.66	**7E**	**1E**		**View**
Elevator Constructors	Mechanic	$111.26	**7D**	**4A**		**View**
Elevator Constructors	Mechanic In Charge	$120.27	**7D**	**4A**		**View**
Fabricated Precast Concrete Products	Journey Level	$16.28		**1**		**View**
Fabricated Precast Concrete Products	Journey Level - In-Factory Work Only	$16.28		**1**		**View**
Fence Erectors	Fence Erector	$54.65	**15J**	**11P**	**8Y**	**View**
Fence Erectors	Fence Laborer	$54.65	**15J**	**11P**	**8Y**	**View**
Flaggers	Journey Level	$54.65	**15J**	**11P**	**8Y**	**View**
Glaziers	Journey Level	$82.16	**7L**	**1Y**		**View**

Heat & Frost Insulators And Asbestos Workers	Journey Level	$91.81	**15H**	**11C**		**View**
Heating Equipment Mechanics	Journey Level	$99.92	**7F**	**1E**		**View**
Hod Carriers & Mason Tenders	Journey Level	$67.38	**15J**	**11P**	**8Y**	**View**
Industrial Power Vacuum Cleaner	Journey Level	$16.28		**1**		**View**
Inland Boatmen	Boat Operator	$61.41	**5B**	**1K**		**View**
Inland Boatmen	Cook	$56.48	**5B**	**1K**		**View**
Inland Boatmen	Deckhand	$57.48	**5B**	**1K**		**View**
Inland Boatmen	Deckhand Engineer	$58.81	**5B**	**1K**		**View**
Inland Boatmen	Launch Operator	$58.89	**5B**	**1K**		**View**
Inland Boatmen	Mate	$57.31	**5B**	**1K**		**View**
Inspection/ Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Cleaner Operator	$51.27	**15M**	**11O**		**View**
Inspection/ Cleaning/Sealing Of Sewer & Water	Foamer Operator	$51.27	**15M**	**11O**		**View**

Systems By Remote Control					
Inspection/ Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Grout Truck Operator	$51.27	**15M**	**110**	**View**
Inspection/ Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Head Operator	$49.20	**15M**	**110**	**View**
Inspection/ Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Technician	$42.99	**15M**	**110**	**View**
Inspection/ Cleaning/Sealing Of Sewer & Water Systems By Remote Control	TV Truck Operator	$46.10	**15M**	**110**	**View**
Insulation Applicators	Journey Level	$78.96	**15J**	**11U**	**View**
Ironworkers	Journeyman	$87.80	**15K**	**11N**	**View**

Laborers	Air, Gas Or Electric Vibrating Screed	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Airtrac Drill Operator	$65.75	**15J**	**11P**	**8Y**	**View**
Laborers	Ballast Regular Machine	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Batch Weighman	$54.65	**15J**	**11P**	**8Y**	**View**
Laborers	Brick Pavers	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Brush Cutter	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Brush Hog Feeder	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Burner	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Caisson Worker	$65.75	**15J**	**11P**	**8Y**	**View**
Laborers	Carpenter Tender	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Cement Dumper-paving	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Cement Finisher Tender	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Change House Or Dry Shack	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Chipping Gun (30 Lbs. And Over)	$64.98	**15J**	**11P**	**8Y**	**View**

Laborers	Chipping Gun (Under 30 Lbs.)	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Choker Setter	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Chuck Tender	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Clary Power Spreader	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Clean-up Laborer	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Concrete Dumper/Chute Operator	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Concrete Form Stripper	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Concrete Placement Crew	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Concrete Saw Operator/Core Driller	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Crusher Feeder	$54.65	**15J**	**11P**	**8Y**	**View**
Laborers	Curing Laborer	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Demolition: Wrecking & Moving (Incl. Charred Material)	$63.87	**15J**	**11P**	**8Y**	**View**

Laborers	Ditch Digger	$63.87	15J	11P	8Y	View
Laborers	Diver	$65.75	15J	11P	8Y	View
Laborers	Drill Operator (Hydraulic, Diamond)	$64.98	15J	11P	8Y	View
Laborers	Dry Stack Walls	$63.87	15J	11P	8Y	View
Laborers	Dump Person	$63.87	15J	11P	8Y	View
Laborers	Epoxy Technician	$63.87	15J	11P	8Y	View
Laborers	Erosion Control Worker	$63.87	15J	11P	8Y	View
Laborers	Faller & Bucker Chain Saw	$64.98	15J	11P	8Y	View
Laborers	Fine Graders	$63.87	15J	11P	8Y	View
Laborers	Firewatch	$54.65	15J	11P	8Y	View
Laborers	Form Setter	$64.98	15J	11P	8Y	View
Laborers	Gabian Basket Builders	$63.87	15J	11P	8Y	View
Laborers	General Laborer	$63.87	15J	11P	8Y	View
Laborers	Grade Checker & Transit Person	$67.38	15J	11P	8Y	View

Laborers	Grinders	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Grout Machine Tender	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Groutmen (Pressure) Including Post Tension Beams	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Guardrail Erector	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Hazardous Waste Worker (Level A)	$65.75	**15J**	**11P**	**8Y**	**View**
Laborers	Hazardous Waste Worker (Level B)	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Hazardous Waste Worker (Level C)	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	High Scaler	$65.75	**15J**	**11P**	**8Y**	**View**
Laborers	Jackhammer	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Laserbeam Operator	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Maintenance Person	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Manhole Builder-Mudman	$64.98	**15J**	**11P**	**8Y**	**View**

Laborers	Material Yard Person	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Mold Abatement Worker	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Motorman-Dinky Locomotive	$67.48	**15J**	**11P**	**8Y**	**View**
Laborers	nozzleman (concrete pump, green cutter when using combination of high pressure air & water on concrete & rock, sandblast, gunite, shotcrete, water blaster, vacuum blaster)	$67.38	**15J**	**11P**	**8Y**	**View**
Laborers	Pavement Breaker	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Pilot Car	$54.65	**15J**	**11P**	**8Y**	**View**
Laborers	Pipe Layer (Lead)	$67.38	**15J**	**11P**	**8Y**	**View**
Laborers	Pipe Layer/Tailor	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Pipe Pot Tender	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Pipe Reliner	$64.98	**15J**	**11P**	**8Y**	**View**

Laborers	Pipe Wrapper	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Pot Tender	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Powderman	$65.75	**15J**	**11P**	**8Y**	**View**
Laborers	Powderman's Helper	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Power Jacks	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Railroad Spike Puller - Power	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Raker - Asphalt	$67.38	**15J**	**11P**	**8Y**	**View**
Laborers	Re-timberman	$65.75	**15J**	**11P**	**8Y**	**View**
Laborers	Remote Equipment Operator	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Rigger/Signal Person	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Rip Rap Person	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Rivet Buster	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Rodder	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Scaffold Erector	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Scale Person	$63.87	**15J**	**11P**	**8Y**	**View**

Laborers	Sloper (Over 20")	$64.98	15J	11P	8Y	View
Laborers	Sloper Sprayer	$63.87	15J	11P	8Y	View
Laborers	Spreader (Concrete)	$64.98	15J	11P	8Y	View
Laborers	Stake Hopper	$63.87	15J	11P	8Y	View
Laborers	Stock Piler	$63.87	15J	11P	8Y	View
Laborers	Swinging Stage/ Boatswain Chair	$54.65	15J	11P	8Y	View
Laborers	Tamper & Similar Electric, Air & Gas Operated Tools	$64.98	15J	11P	8Y	View
Laborers	Tamper (Multiple & Self-propelled)	$64.98	15J	11P	8Y	View
Laborers	Timber Person - Sewer (Lagger, Shorer & Cribber)	$64.98	15J	11P	8Y	View
Laborers	Toolroom Person (at Jobsite)	$63.87	15J	11P	8Y	View
Laborers	Topper	$63.87	15J	11P	8Y	View
Laborers	Track Laborer	$63.87	15J	11P	8Y	View
Laborers	Track Liner (Power)	$64.98	15J	11P	8Y	View

Laborers	Traffic Control Laborer	$58.20	**15J**	**11P**	**9C**	**View**
Laborers	Traffic Control Supervisor	$61.47	**15J**	**11P**	**9C**	**View**
Laborers	Truck Spotter	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Tugger Operator	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Tunnel Work-Compressed Air Worker 0-30 psi	$200.40	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 30.01-44.00 psi	$205.43	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 44.01-54.00 psi	$209.11	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 54.01-60.00 psi	$214.81	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 60.01-64.00 psi	$216.93	**15J**	**11P**	**9B**	**View**

Laborers	Tunnel Work-Compressed Air Worker 64.01-68.00 psi	$222.03	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 68.01-70.00 psi	$223.93	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 70.01-72.00 psi	$225.93	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Compressed Air Worker 72.01-74.00 psi	$227.93	**15J**	**11P**	**9B**	**View**
Laborers	Tunnel Work-Guage and Lock Tender	$67.48	**15J**	**11P**	**8Y**	**View**
Laborers	Tunnel Work-Miner	$67.48	**15J**	**11P**	**8Y**	**View**
Laborers	Vibrator	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Vinyl Seamer	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers	Watchman	$49.97	**15J**	**11P**	**8Y**	**View**
Laborers	Welder	$64.98	**15J**	**11P**	**8Y**	**View**

Laborers	Well Point Laborer	$64.98	**15J**	**11P**	**8Y**	**View**
Laborers	Window Washer/ Cleaner	$49.97	**15J**	**11P**	**8Y**	**View**
Laborers - Underground Sewer & Water	General Laborer & Topman	$63.87	**15J**	**11P**	**8Y**	**View**
Laborers - Underground Sewer & Water	Pipe Layer	$64.98	**15J**	**11P**	**8Y**	**View**
Landscape Construction	Landscape Construction/ Landscaping Or Planting Laborers	$49.97	**15J**	**11P**	**8Y**	**View**
Landscape Construction	Landscape Operator	$83.02	**15J**	**11G**	**8X**	**View**
Landscape Maintenance	Groundskeeper	$16.28		**1**		**View**
Lathers	Journey Level	$78.76	**15O**	**11S**		**View**
Marble Setters	Journey Level	$71.82	**7E**	**1N**		**View**
Metal Fabrication (In Shop)	Fitter	$16.28		**1**		**View**
Metal Fabrication (In Shop)	Laborer	$16.28		**1**		**View**

Metal Fabrication (In Shop)	Machine Operator	$16.28		1		View
Metal Fabrication (In Shop)	Painter	$16.28		1		View
Metal Fabrication (In Shop)	Welder	$16.28		1		View
Millwright	Journey Level	$80.28	15J	4C		View
Modular Buildings	Journey Level	$16.28		1		View
Painters	Journey Level	$51.71	6Z	11J		View
Pile Driver	Crew Tender	$86.81	15J	11U	9L	View
Pile Driver	Journey Level	$80.50	15J	11U	9L	View
Plasterers	Journey Level	$73.54	7Q	1R		View
Plasterers	Nozzleman	$77.54	7Q	1R		View
Playground & Park Equipment Installers	Journey Level	$16.28		1		View
Plumbers & Pipefitters	Journey Level	$105.59	6Z	1G		View
Power Equipment Operators	Asphalt Plant Operators	$84.40	15J	11G	8X	View
Power Equipment Operators	Assistant Engineer	$79.38	15J	11G	8X	View

Power Equipment Operators	Barrier Machine (zipper)	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Batch Plant Operator: concrete	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Boat Operator	$84.12	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Bobcat	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Brokk - Remote Demolition Equipment	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Brooms	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Bump Cutter	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Cableways	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Chipper	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Compressor	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Concrete Finish Machine - Laser Screed	$79.38	**15J**	**11G**	**8X**	**View**

Power Equipment Operators	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Conveyors	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Cranes Friction: 200 tons and over	$86.68	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes, A-frame: 10 tons and under	$79.12	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$84.97	**7A**	**11H**	**8X**	**View**

Power Equipment Operators	Cranes: 20 tons through 44 tons with attachments	$83.38	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: 200 tons-299 tons, or 250' of boom including jib with attachments	$85.84	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: 300 tons and over or 300' of boom including jib with attachments	$86.68	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	$84.12	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: Friction cranes through 199 tons	$85.84	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Cranes: through 19 tons with attachments, a-frame over 10 tons	$82.74	**7A**	**11H**	**8X**	**View**
Power Equipment	Crusher	$83.65	**15J**	**11G**	**8X**	**View**

Operators						
Power Equipment Operators	Deck Engineer/ Deck Winches (power)	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Derricks, On Building Work	$84.12	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Dozers D-9 & Under	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Drill Oilers: Auger Type, Truck Or Crane Mount	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Drilling Machine	$85.25	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Elevator and man-lift: permanent and shaft type	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Forklift: 3000 lbs and over with attachments	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Forklifts: under 3000 lbs. with attachments	$79.38	**15J**	**11G**	**8X**	**View**

Power Equipment Operators	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Gradechecker/ Stakeman	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Guardrail Punch	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Horizontal/ Directional Drill Locator	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Horizontal/ Directional Drill Operator	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Hydralifts/Boom Trucks Over 10 Tons	$82.74	**7A**	**11H**	**8X**	**View**

Power Equipment Operators	Hydralifts/boom trucks: 10 tons and under	$79.12	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Leverman	$86.12	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Loaders, Overhead Under 6 Yards	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Loaders, Plant Feed	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Loaders: Elevating Type Belt	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Locomotives, All	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Material Transfer Device	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Mechanics: All (Leadmen - $0.50 per hour over mechanic)	$85.25	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Motor Patrol Graders	$84.40	**15J**	**11G**	**8X**	**View**

Power Equipment Operators	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Overhead, bridge type Crane: 20 tons through 44 tons	$83.38	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Overhead, bridge type: 100 tons and over	$84.97	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Overhead, bridge type: 45 tons through 99 tons	$84.12	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Pavement Breaker	$79.38	**15J**	**11G**	**8X**	**View**

Power Equipment Operators	Pile Driver (other Than Crane Mount)	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Plant Oiler - Asphalt, Crusher	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Posthole Digger, Mechanical	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Power Plant	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Pumps - Water	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Quad 9, Hd 41, D10 And Over	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Quick Tower: no cab, under 100 feet in height base to boom	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Remote Control Operator On Rubber Tired Earth Moving Equipment	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Rigger and Bellman	$79.12	**7A**	**11H**	**8X**	**View**

Power Equipment Operators	Rigger/Signal Person, Bellman(Certified)	$82.74	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Rollagon	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Roller, Other Than Plant Mix	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Roller, Plant Mix Or Multi-lift Materials	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Roto-mill, Roto-grinder	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Saws - Concrete	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Scraper, Self Propelled Under 45 Yards	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Scrapers - Concrete & Carry All	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Scrapers, Self-propelled: 45 Yards And Over	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Service Engineers: Equipment	$83.02	**15J**	**11G**	**8X**	**View**

Power Equipment Operators	Shotcrete/Gunite Equipment	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	$85.25	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$86.12	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Slipform Pavers	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Spreader, Topsider & Screedman	$84.40	**15J**	**11G**	**8X**	**View**

Power Equipment Operators	Subgrader Trimmer	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Tower Bucket Elevators	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Tower Crane: over 175' through 250' in height, base to boom	$85.84	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Tower crane: up to 175' in height base to boom	$84.97	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Tower Cranes: over 250' in height from base to boom	$86.68	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Transporters, All Track Or Truck Type	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Trenching Machines	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Truck Crane Oiler/ Driver: 100 tons and over	$83.38	**7A**	**11H**	**8X**	**View**
Power Equipment Operators	Truck crane oiler/ driver: under 100 tons	$82.74	**7A**	**11H**	**8X**	**View**

Power Equipment Operators	Truck Mount Portable Conveyor	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Vac Truck (Vactor Guzzler, Hydro Excavator)	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Welder	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Wheel Tractors, Farmall Type	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators	Yo Yo Pay Dozer	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Asphalt Plant Operators	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Assistant Engineer	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Barrier Machine (zipper)	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground	Batch Plant Operator, Concrete	$83.65	**15J**	**11G**	**8X**	**View**

Sewer & Water						
Power Equipment Operators-Underground Sewer & Water	Boat Operator	$84.12	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Bobcat	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Brokk - Remote Demolition Equipment	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Brooms	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Bump Cutter	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cableways	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground	Chipper	$83.65	**15J**	**11G**	**8X**	**View**

Sewer & Water						
Power Equipment Operators-Underground Sewer & Water	Compressor	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Concrete Finish Machine - Laser Screed	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground	Conveyors	$83.02	**15J**	**11G**	**8X**	**View**

Sewer & Water						
Power Equipment Operators-Underground Sewer & Water	Cranes Friction: 200 tons and over	$86.68	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes, A-frame: 10 tons and under	$79.12	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$84.97	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: 20 tons through 44 tons with attachments	$83.38	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: 200 tons-299 tons, or 250' of boom including jib with attachments	$85.84	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: 300 tons and over or 300' of boom including jib with attachments	$86.68	**7A**	**11H**	**8X**	**View**

Power Equipment Operators-Underground Sewer & Water	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	$84.12	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: Friction cranes through 199 tons	$85.84	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Cranes: through 19 tons with attachments, a-frame over 10 tons	$82.74	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Crusher	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Deck Engineer/ Deck Winches (power)	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Derricks, On Building Work	$84.12	**7A**	**11H**	**8X**	**View**
Power Equipment	Dozers D-9 &	$83.02	**15J**	**11G**	**8X**	**View**

Operators-Underground Sewer & Water	Under					
Power Equipment Operators-Underground Sewer & Water	Drill Oilers: Auger Type, Truck Or Crane Mount	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Drilling Machine	$85.25	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Elevator and man-lift: permanent and shaft type	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Forklift: 3000 lbs and over with attachments	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Forklifts: under 3000 lbs. with attachments	$79.38	**15J**	**11G**	**8X**	**View**

Power Equipment Operators-Underground Sewer & Water	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Gradechecker/ Stakeman	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Guardrail Punch	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Horizontal/ Directional Drill Locator	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-	Horizontal/ Directional Drill	$83.65	**15J**	**11G**	**8X**	**View**

Underground Sewer & Water	Operator					
Power Equipment Operators-Underground Sewer & Water	Hydralifts/boom trucks: 10 tons and under	$79.12	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Hydralifts/boom trucks: over 10 tons	$82.74	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Leverman	$86.12	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Loaders, Overhead Under 6 Yards	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Loaders, Plant Feed	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-	Loaders: Elevating Type	$83.02	**15J**	**11G**	**8X**	**View**

Underground Sewer & Water	Belt					
Power Equipment Operators-Underground Sewer & Water	Locomotives, All	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Material Transfer Device	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Mechanics: All (Leadmen - $0.50 per hour over mechanic)	$85.25	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Motor Patrol Graders	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$79.38	**15J**	**11G**	**8X**	**View**

Power Equipment Operators-Underground Sewer & Water	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type Crane: 20 tons through 44 tons	$83.38	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type: 100 tons and over	$84.97	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type: 45 tons through 99 tons	$84.12	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Pavement Breaker	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Pile Driver (other Than Crane Mount)	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Plant Oiler - Asphalt, Crusher	$83.02	**15J**	**11G**	**8X**	**View**

Power Equipment Operators-Underground Sewer & Water	Posthole Digger, Mechanical	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Power Plant	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Pumps - Water	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Quad 9, Hd 41, D10 And Over	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Quick Tower: no cab, under 100 feet in height base to boom	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Remote Control Operator On Rubber Tired Earth Moving Equipment	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground	Rigger and Bellman	$79.12	**7A**	**11H**	**8X**	**View**

Sewer & Water						
Power Equipment Operators-Underground Sewer & Water	Rigger/Signal Person, Bellman(Certified)	$82.74	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Rollagon	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Roller, Other Than Plant Mix	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Roller, Plant Mix Or Multi-lift Materials	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Roto-mill, Roto-grinder	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Saws - Concrete	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground	Scraper, Self Propelled Under 45 Yards	$83.65	**15J**	**11G**	**8X**	**View**

Sewer & Water						
Power Equipment Operators-Underground Sewer & Water	Scrapers - Concrete & Carry All	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Scrapers, Self-propelled: 45 Yards And Over	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Shotcrete/Gunite Equipment	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground	Shovel, Excavator, Backhoes: Over 50 Metric Tons To	$85.25	**15J**	**11G**	**8X**	**View**

Sewer & Water	90 Metric Tons					
Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$86.12	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Slipform Pavers	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Spreader, Topsider & Screedman	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Subgrader Trimmer	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Tower Bucket Elevators	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Tower Crane: over 175' through 250' in height, base to boom	$85.84	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground	Tower crane: up to 175' in height base to boom	$84.97	**7A**	**11H**	**8X**	**View**

Sewer & Water						
Power Equipment Operators-Underground Sewer & Water	Tower Cranes: over 250' in height from base to boom	$86.68	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Transporters, All Track Or Truck Type	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Trenching Machines	$83.02	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Truck Crane Oiler/ Driver: 100 tons and over	$83.38	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Truck crane oiler/ driver: under 100 tons	$82.74	**7A**	**11H**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Truck Mount Portable Conveyor	$83.65	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground	Vac Truck (Vactor Guzzler, Hydro Excavator)	$83.65	**15J**	**11G**	**8X**	**View**

Sewer & Water						
Power Equipment Operators-Underground Sewer & Water	Welder	$84.40	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Wheel Tractors, Farmall Type	$79.38	**15J**	**11G**	**8X**	**View**
Power Equipment Operators-Underground Sewer & Water	Yo Yo Pay Dozer	$83.65	**15J**	**11G**	**8X**	**View**
Power Line Clearance Tree Trimmers	Journey Level In Charge	$61.73	**5A**	**4A**		**View**
Power Line Clearance Tree Trimmers	Spray Person	$58.44	**5A**	**4A**		**View**
Power Line Clearance Tree Trimmers	Tree Equipment Operator	$61.73	**5A**	**4A**		**View**
Power Line Clearance Tree Trimmers	Tree Trimmer	$55.14	**5A**	**4A**		**View**
Power Line Clearance Tree	Tree Trimmer Groundperson	$41.68	**5A**	**4A**		**View**

Trimmers					
Refrigeration & Air Conditioning Mechanics	Journey Level	$98.07	**6Z**	**1G**	**View**
Residential Brick Mason	Journey Level	$71.82	**7E**	**1N**	**View**
Residential Carpenters	Journey Level	$27.58		**1**	**View**
Residential Cement Masons	Journey Level	$23.25		**1**	**View**
Residential Drywall Applicators	Journey Level	$51.52	**15J**	**4C**	**View**
Residential Drywall Tapers	Journey Level	$24.48		**1**	**View**
Residential Electricians	Journey Level	$24.84		**1**	**View**
Residential Glaziers	Journey Level	$20.00		**1**	**View**
Residential Insulation Applicators	Journey Level	$18.03		**1**	**View**
Residential Laborers	Journey Level	$22.63		**1**	**View**
Residential Marble Setters	Journey Level	$71.82	**7E**	**1N**	**View**

Residential Painters	Journey Level	$19.96		1	View
Residential Plumbers & Pipefitters	Journey Level	$62.35	5A	1G	View
Residential Refrigeration & Air Conditioning Mechanics	Journey Level	$62.35	5A	1G	View
Residential Sheet Metal Workers	Journey Level (Field or Shop)	$61.27	7F	1R	View
Residential Soft Floor Layers	Journey Level	$20.00		1	View
Residential Sprinkler Fitters (Fire Protection)	Journey Level	$18.40		1	View
Residential Stone Masons	Journey Level	$71.82	7E	1N	View
Residential Terrazzo Workers	Journey Level	$16.28		1	View
Residential Terrazzo/Tile Finishers	Journey Level	$16.28		1	View
Residential Tile Setters	Journey Level	$16.28		1	View

Roofers	Journey Level	$64.45	**5A**	**3H**	**View**
Roofers	Using Irritable Bituminous Materials	$67.39	**5A**	**3H**	**View**
Sheet Metal Workers	Journey Level (Field or Shop)	$99.92	**7F**	**1E**	**View**
Shipbuilding & Ship Repair	New Construction Boilermaker	$58.93	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Carpenter	$51.85	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Crane Operator	$43.00	**7V**	**1**	**View**
Shipbuilding & Ship Repair	New Construction Electrician	$58.98	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Heat & Frost Insulator	$91.81	**15H**	**11C**	**View**
Shipbuilding & Ship Repair	New Construction Laborer	$58.60	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Machinist	$58.79	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Operating Engineer	$43.00	**7V**	**1**	**View**
Shipbuilding & Ship	New Construction	$58.72	**7X**	**4J**	**View**

Repair	Painter				
Shipbuilding & Ship Repair	New Construction Pipefitter	$59.07	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Rigger	$58.93	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Sheet Metal	$58.68	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Shipwright	$51.85	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	New Construction Warehouse/ Teamster	$43.00	**7V**	**1**	**View**
Shipbuilding & Ship Repair	New Construction Welder / Burner	$58.93	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Boilermaker	$58.93	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Carpenter	$51.85	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Crane Operator	$45.06	**7Y**	**4K**	**View**
Shipbuilding & Ship Repair	Ship Repair Electrician	$58.98	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Heat & Frost Insulator	$91.81	**15H**	**11C**	**View**
Shipbuilding & Ship	Ship Repair	$58.60	**7X**	**4J**	**View**

Repair	Laborer				
Shipbuilding & Ship Repair	Ship Repair Machinist	$58.79	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Operating Engineer	$45.06	**7Y**	**4K**	**View**
Shipbuilding & Ship Repair	Ship Repair Painter	$58.72	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Pipefitter	$59.07	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Rigger	$58.93	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Sheet Metal	$58.68	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Shipwright	$51.85	**7X**	**4J**	**View**
Shipbuilding & Ship Repair	Ship Repair Warehouse / Teamster	$45.06	**7Y**	**4K**	**View**
Sign Makers & Installers (Electrical)	Journey Level	$58.04	**0**	**1**	**View**
Sign Makers & Installers (Non-Electrical)	Journey Level	$37.08	**0**	**1**	**View**

Soft Floor Layers	Journey Level	$78.98	**15J**	**4C**		**View**
Solar Controls For Windows	Journey Level	$16.28		**1**		**View**
Sprinkler Fitters (Fire Protection)	Journey Level	$75.30	**7J**	**1R**		**View**
Stage Rigging Mechanics (Non Structural)	Journey Level	$16.28		**1**		**View**
Stone Masons	Journey Level	$71.82	**7E**	**1N**		**View**
Street And Parking Lot Sweeper Workers	Journey Level	$16.28		**1**		**View**
Surveyors	Assistant Construction Site Surveyor	$82.74	**7A**	**11H**	**8X**	**View**
Surveyors	Chainman	$79.12	**7A**	**11H**	**8X**	**View**
Surveyors	Construction Site Surveyor	$84.12	**7A**	**11H**	**8X**	**View**
Surveyors	Drone Operator (when used in conjunction with survey work only)	$79.12	**7A**	**11H**	**8X**	**View**
Surveyors	Ground Penetrating Radar Operator	$79.12	**7A**	**11H**	**8X**	**View**

Telecommunication Technicians	Journey Level	$65.66	**7E**	**1E**		**View**
Telephone Line Construction - Outside	Cable Splicer	$41.35	**5A**	**2B**		**View**
Telephone Line Construction - Outside	Hole Digger/ Ground Person	$27.31	**5A**	**2B**		**View**
Telephone Line Construction - Outside	Telephone Equipment Operator (Light)	$34.53	**5A**	**2B**		**View**
Telephone Line Construction - Outside	Telephone Lineperson	$39.07	**5A**	**2B**		**View**
Terrazzo Workers	Journey Level	$67.51	**7E**	**1N**		**View**
Tile Setters	Journey Level	$65.51	**7E**	**1N**		**View**
Tile, Marble & Terrazzo Finishers	Finisher	$56.34	**7E**	**1N**		**View**
Traffic Control Stripers	Journey Level	$92.44	**15L**	**1K**		**View**
Truck Drivers	Asphalt Mix Over 16 Yards	$78.65	**15J**	**11M**	**8L**	**View**
Truck Drivers	Asphalt Mix To 16 Yards	$77.81	**15J**	**11M**	**8L**	**View**

Truck Drivers	Dump Truck	$77.81	**15J**	**11M**	**8L**	**View**
Truck Drivers	Dump Truck & Trailer	$78.65	**15J**	**11M**	**8L**	**View**
Truck Drivers	Other Trucks	$78.65	**15J**	**11M**	**8L**	**View**
Truck Drivers - Ready Mix	Transit Mix	$78.65	**15J**	**11M**	**8L**	**View**
Well Drillers & Irrigation Pump Installers	Irrigation Pump Installer	$16.28		**1**		**View**
Well Drillers & Irrigation Pump Installers	Oiler	$16.28		**1**		**View**
Well Drillers & Irrigation Pump Installers	Well Driller	$16.28		**1**		**View**

****

Overtime Codes

Overtime calculations are based on the hourly rate actually paid to the worker. On public works projects, the hourly rate must be not less than the prevailing rate of wage minus the hourly rate of the cost of fringe benefits actually provided for the worker.

1. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

B. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

C. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

D. The first two (2) hours before or after a five-eight (8) hour workweek day or a four-ten (10) hour workweek day and the first eight (8) hours worked the next day after either workweek shall be paid at one and one-half times the hourly rate of wage. All additional hours worked and all worked on Sundays and holidays shall be paid at double the hourly rate of wage.

E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

G. The first ten (10) hours worked on Saturdays and the first ten (10) hours worked on a fifth calendar weekday in a four-ten hour schedule, shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

H. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions or equipment breakdown) shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

I. All hours worked on Sundays and holidays shall also be paid at double the hourly rate of wage.

J. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage.

K. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

M. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

1. N. All hours worked on Saturdays (except makeup days) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

O. The first ten (10) hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays, holidays and after twelve (12) hours, Monday through Friday and after ten (10) hours on Saturday shall be paid at double the hourly rate of wage.

P. All hours worked on Saturdays (except makeup days if circumstances warrant) and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

Q. The first two (2) hours after eight (8) regular hours Monday through Friday and up to ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays (except Christmas day) shall be paid at double the hourly rate of wage. All hours worked on Christmas day shall be paid at two and one-half times the hourly rate of wage.

R. All hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.

U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays (except Labor Day) shall be paid at two times the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

V. All hours worked on Sundays and holidays (except Thanksgiving Day and Christmas day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Thanksgiving Day and Christmas day shall be paid at double the hourly rate of wage.

W. All hours worked on Saturdays and Sundays (except make-up days due to conditions beyond the control of the employer)) shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

X. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage. When holiday falls on Saturday or Sunday, the day before Saturday, Friday, and the day after Sunday, Monday, shall be considered the holiday and all work performed shall be paid at double the hourly rate of wage.

Y. All hours worked outside the hours of 5:00 am and 5:00 pm (or such other hours as may be agreed upon by any employer and the employee) and all hours worked in excess of eight (8) hours per day (10 hours per day for a 4 x 10 workweek) and on Saturdays and holidays (except labor day) shall be paid at one and one-half times the hourly rate of wage. (except for employees who are absent from work without prior approval on a scheduled workday during the workweek shall be paid at the straight-time rate until they have worked 8 hours in a day (10 in a 4 x 10 workweek) or 40 hours during that workweek.) All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and Labor Day shall be paid at double the hourly rate of wage.

Z. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid the straight time rate of pay in addition to holiday pay.

Overtime Codes Continued

2. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

   B. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

   F. The first eight (8) hours worked on holidays shall be paid at the straight hourly rate of wage in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at double the hourly rate of wage.

   M. This code appears to be missing. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.

   R. All hours worked on Sundays and holidays and all hours worked over sixty (60) in one week shall be paid at double the hourly rate of wage.

   U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked over 12 hours in a day or on Sundays and holidays shall be paid at double the hourly rate of wage.

3. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

   F. All hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.

   H. All work performed on Sundays between March 16th and October 14th and all Holidays shall be compensated for at two (2) times the regular rate of pay. Work performed on Sundays between October 15th and March 15th shall be compensated at one and one half (1-1/2) times the regular rate of pay.

   J. All hours worked between the hours of 10:00 pm and 5:00 am, Monday through Friday, and all hours worked on Saturdays shall be paid at a one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   K. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

   After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the eight (8) hours rest period.

Overtime Codes Continued

4. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

A. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage

C. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay. On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay. All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.

D. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturday, Sundays and holidays shall be paid at double the hourly rate of pay. Rates include all members of the assigned crew.

EXCEPTION:
On all multipole structures and steel transmission lines, switching stations, regulating, capacitor stations, generating plants, industrial plants, associated installations and substations, except those substations whose primary function is to feed a distribution system, will be paid overtime under the following rates:

The first two (2) hours after eight (8) regular hours Monday through Friday of overtime on a regular workday, shall be paid at one and one-half times the hourly rate of wage. All hours in excess of ten (10) hours will be at two (2) times the hourly rate of wage. The first eight (8) hours worked on Saturday will be paid at one and one-half (1-1/2) times the hourly rate of wage. All hours worked in excess of eight (8) hours on Saturday, and all hours worked on Sundays and holidays will be at the double the hourly rate of wage.

All overtime eligible hours performed on the above described work that is energized, shall be paid at the double the hourly rate of wage.

E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one and one half (1½) times the regular shift rate for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

G. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

I. The First eight (8) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) per day on Saturdays shall be paid at double the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

4. J. The first eight (8) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) hours on a Saturday shall be paid at double the hourly rate of wage. All hours worked over twelve (12) in a day, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

K. All hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage, so long as Saturday is the sixth consecutive day worked. All hours worked over twelve (12) in a day Monday through Saturday, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

L. The first twelve (12) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on a Saturday in excess of twelve (12) hours shall be paid at double the hourly rate of pay. All hours worked over twelve (12) in a day Monday through Friday, and all hours worked on Sundays shall be paid at double the hourly rate of wage. All hours worked on a holiday shall be paid at one and one-half times the hourly rate of wage, except that all hours worked on Labor Day shall be paid at double the hourly rate of pay.

S. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, work performed in excess of (10) hours shall be paid at one and one half (1-1/2) times the hourly rate of pay. On Monday through Friday, work performed outside the normal work hours of 6:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations).

All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Multiple Shift Operations: When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. Special Shifts: The Special Shift Premium is the basic hourly rate of pay plus $2.00 an hour. When due to conditions beyond the control of the employer or when an owner (not acting as the contractor), a government agency or the contract specifications require more than four (4) hours of a special shift can only be performed outside the normal 6am to 6pm shift then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid the special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday).

U. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. (Except on makeup days if work is lost due to inclement weather, then the first eight (8) hours on Saturday may be paid the regular rate.) All hours worked over twelve (12) hours Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

4. X. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. Work performed outside the normal shift of 6 am to 6pm shall be paid at one and one-half the straight time rate, (except for special shifts or three shift operations). All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. Shifts may be established when considered necessary by the Employer.

   The Employer may establish shifts consisting of eight (8) or ten (10) hours of work (subject to WAC 296-127-022), that shall constitute a normal forty (40) hour work week. The Employer can change from a 5-eight to a 4-ten hour schedule or back to the other. All hours of work on these shifts shall be paid for at the straight time hourly rate. Work performed in excess of eight hours (or ten hours per day (subject to WAC 296-127-022) shall be paid at one and one-half the straight time rate.

   When due to conditions beyond the control of the Employer, or when contract specifications require that work can only be performed outside the regular day shift, then by mutual agreement a special shift may be worked at the straight time rate, eight (8) hours work for eight (8) hours pay. The starting time shall be arranged to fit such conditions of work.

   When an employee returns to work without at a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Overtime Codes Continued

11. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

   B After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

   C The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, and all hours on Sunday shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage. All non-overtime and non-holiday hours worked between 4:00 pm and 5:00 am, Monday through Friday, shall be paid at a premium rate of 15% over the hourly rate of wage.

   D. All hours worked on Saturdays and holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays shall be paid at double the hourly rate of wage.

   After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

   E. The first two (2) hours after eight (8) regular hours Monday through Friday, the first ten (10) hours on Saturday, and the first ten (10) hours worked on Holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, and Sundays shall be paid at double the hourly rate of wage.

   After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

Overtime Codes Continued

11. F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one-half times the hourly rate of wage for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

G. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.

All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of nine (9) hours or more. When an employee returns to work without at least nine (9) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the nine (9) hours rest period.

H. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.

All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of ten (10) hours or more. When an employee returns to work without at least ten (10) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the ten (10) hours rest period.

J. All hours worked on holidays shall be paid at double the hourly rate of wage.

K. On Monday through Friday hours worked outside 4:00 am and 5:00 pm, and the first two (2) hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked over 10 hours per day Monday through Friday, and all hours worked on Saturdays, Sundays, and Holidays worked shall be paid at double the hourly rate of wage.

L. An employee working outside 5:00 am and 5:00 pm shall receive an additional two dollar ($2.00) per hour for all hours worked that shift. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

Overtime Codes Continued

11. M. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.

Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 am to 6:00 pm, then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shift shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten shifts.

On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay. All work performed after 6:00 pm Saturday to 5:00 am Monday, all work performed over twelve (12) hours, and all work performed on holidays shall be paid at double the straight time rate of pay.

Shift Pay Premium: In an addition to any overtime already required, all hours worked between the hours of 6:00 pm and 5:00 am shall receive an additional two dollars ($2.00) per hour.

N. All work performed over twelve hours in a shift and all work performed on Sundays and Holidays shall be paid at double the straight time rate.

Any time worked over eight (8) hours on Saturday shall be paid double the straight time rate, except employees assigned to work six 10-hour shifts per week shall be paid double the straight time rate for any time worked on Saturday over 10 hours.

O. All work performed on Saturdays, Sundays, and Holidays shall be paid at one and one half (1-1/2) times the straight time rate of pay.

Overtime Codes Continued

11. P. Work performed in excess of ten (10) hours of straight time per day when four ten (10) hour shifts are established and all work on Saturdays, except for make-up days shall be paid at time and one-half (1 ½) the straight time rate.

Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 a.m. to 6:00 p.m., then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shifts shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten-hour shifts.

In the event the job is down due to weather conditions, then Saturday may, be worked as a voluntary make-up day at the straight time rate. However, Saturday shall not be utilized as a make-up day when a holiday falls on Friday. All work performed on Sundays and holidays and work in excess of twelve (12) hours per day shall be paid at double (2x) the straight time rate of pay.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Q. All hours worked between the hours of 6:00 pm and 6:00 am, Monday through Saturday, shall be paid at a premium rate of 35% over the hourly rate of wage. Work performed on Sundays shall be paid at double time. All hours worked on holidays shall be paid at double the hourly rate of wage.

R On Monday through Saturday hours worked outside 6:00 am and 7:00 pm, and all hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

When a holiday falls on a Saturday, the Friday before shall be the observed holiday. When a holiday falls on a Sunday, the following Monday shall be the observed holiday.

S. The first ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. In the event the job is down due to weather conditions, or other conditions beyond the control of the Employer, then Saturday may be worked at the straight time rate, for the first eight (8) hours, or the first ten (10) hours when a four day ten hour workweek has been established.

All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

11. T. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.

On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay.

All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.

U. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.

On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay.

All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.

If, due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift, then a Special Shift may be worked, Monday through Friday, at the straight-time rate. The starting time of work for the Special Shift will be arranged to fit such conditions of work. Such Special Shift shall consist of eight (8) hours of work for eight (8) hours of pay or ten (10) hours of work for ten(10) hours of pay on a four-ten workday schedule.

Holiday Codes

5. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, and Christmas Day (7).

B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, the day before Christmas, and Christmas Day (8).

C. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).

D. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8).

H. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Day after Thanksgiving Day, And Christmas (6).

Holiday Codes Continued

5. I. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).

K. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9).

L. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (8).

N. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, The Friday After Thanksgiving Day, And Christmas Day (9).

P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday And Saturday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9). If A Holiday Falls On Sunday, The Following Monday Shall Be Considered As A Holiday.

Q. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).

R. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day After Thanksgiving Day, One-Half Day Before Christmas Day, And Christmas Day. (7 1/2).

S. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, And Christmas Day (7).

Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).

Holiday Codes Continued

6. G. Paid Holidays: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Christmas Eve Day (11).

H. Paid Holidays: New Year's Day, New Year's Eve Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, Christmas Day, The Day After Christmas, And A Floating Holiday (10).

T. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Last Working Day Before Christmas Day, And Christmas Day (9).

Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). If a holiday falls on Saturday, the preceding Friday shall be considered as the holiday. If a holiday falls on Sunday, the following Monday shall be considered as the holiday.

Holiday Codes Continued

7. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any Holiday Which Falls On A Sunday Shall Be Observed As A Holiday On The Following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

C. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

D. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Unpaid Holidays: President's Day. Any paid holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any paid holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

E. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

F. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the last working day before Christmas day and Christmas day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

Holiday Codes Continued

7. G. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

J. Holidays: New Year's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

Holiday Codes Continued

7. K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

L. Holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, the Last Work Day before Christmas Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. When Christmas falls on a Saturday, the preceding Friday shall be observed as a holiday.

P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Q. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

S. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, the Day after Christmas, and A Floating Holiday (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

V. Holidays: New Year's Day, President's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, the day before or after Christmas, and the day before or after New Year's Day. If any of the above listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

W. Holidays: New Year's Day, Day After New Year's, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day, Christmas Day, the day after Christmas, the day before New Year's Day, and a Floating Holiday.

X. Holidays: New Year's Day, Day before or after New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day before or after Christmas day. If a holiday falls on a Saturday or on a Friday that is the normal day off, then the holiday will be taken on the last normal workday. If the holiday falls on a Monday that is the normal day off or on a Sunday, then the holiday will be taken on the next normal workday.

Y. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day. (8) If the holiday falls on a Sunday, then the day observed by the federal government shall be considered a holiday and compensated accordingly.

Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, Christmas Eve, and Christmas Day (9). Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday. Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Holiday Codes Continued

15. G. New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, the last scheduled workday before Christmas, and Christmas Day (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

J. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

L. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

M. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

O. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, the day before Christmas day, and Christmas Day (10). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Note Codes

8. D. Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $0.75, Level B: $0.50, And Level C: $0.25.

M. Workers on hazmat projects receive additional hourly premiums as follows: Levels A & B: $1.00, Levels C & D: $0.50.

N. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $1.00, Level B: $0.75, Level C: $0.50, And Level D: $0.25.

S. Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.

T. Effective August 31, 2012 – A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.

U. Workers on hazmat projects receive additional hourly premiums as follows – Class A Suit: $2.00, Class B Suit: $1.50, And Class C Suit: $1.00. Workers performing underground work receive an additional $0.40 per hour for any and all work performed underground, including operating, servicing and repairing of equipment. The premium for underground work shall be paid for the entire shift worked. Workers who work suspended by a rope or cable receive an additional $0.50 per hour. The premium for work suspended shall be paid for the entire shift worked. Workers who do “pioneer” work (break open a cut, build road, etc.) more than one hundred fifty (150) feet above grade elevation receive an additional $0.50 per hour.

8. V. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.

Depth premiums apply to depths of fifty feet or more. Over 50' to 100' - $2.00 per foot for each foot over 50 feet. Over 101' to 150' - $3.00 per foot for each foot over 101 feet. Over 151' to 220' - $4.00 per foot for each foot over 220 feet. Over 221' - $5.00 per foot for each foot over 221 feet.

Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25’ to 300’ - $1.00 per foot from entrance. 300’ to 600’ - $1.50 per foot beginning at 300’. Over 600’ - $2.00 per foot beginning at 600’.

W. Meter Installers work on single phase 120/240V self-contained residential meters. The Lineman/Groundmen rates would apply to meters not fitting this description.

Note Codes Continued

X. Workers on hazmat projects receive additional hourly premiums as follows - Class A Suit: $2.00, Class B Suit: $1.50, Class C Suit: $1.00, and Class D Suit: $0.50. Special Shift Premium: Basic hourly rate plus $2.00 per hour.

When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications requires that work can only be performed outside the normal 5 am to 6pm shift, then the special shift premium will be applied to the basic hourly rate. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in OT or Double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Y. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.

Swinging Stage/Boatswains Chair: Employees working on a swinging state or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

Z. Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

Special Shift Premium: Basic hourly rate plus $2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as a contractor), a government agency or the contract specifications require that more than (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they will be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Note Codes Continued

9. A. Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

Special Shift Premium: Basic hourly rate plus $2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications require that more than four (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Certified Crane Operator Premium: Crane operators requiring certifications shall be paid $0.50 per hour above their classification rate.

Boom Pay Premium: All cranes including tower shall be paid as follows based on boom length:

(A) – 130’ to 199’ – $0.50 per hour over their classification rate.
(B) – 200’ to 299’ – $0.80 per hour over their classification rate.
(C) – 300’ and over – $1.00 per hour over their classification rate.

Note Codes Continued

9. B. The highest pressure registered on the gauge for an accumulated time of more than fifteen (15) minutes during the shift shall be used in determining the scale paid.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

C. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. These classifications are only effective on or after August 31, 2012.

D. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, bridges, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.

E. Heavy Construction includes construction, repair, alteration or additions to the production, fabrication or manufacturing portions of industrial or manufacturing plants, hydroelectric or nuclear power plants and atomic reactor construction. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $1.00, Level B: $0.75, Level C: $0.50, And Level D: $0.25.

F. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.

H. One (1) person crew shall consist of a Party Chief. (Total Station or similar one (1) person survey system). Two (2) person survey party shall consist of a least a Party Chief and a Chain Person. Three (3) person survey party shall consist of at least a Party Chief, an Instrument Person, and a Chain Person.

9. I. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.

Depth premiums apply to depths of fifty feet or more. Over 50' to 100' - $2.00 per foot for each foot over 50 feet. Over 101' to 150' - $3.00 per foot for each foot over 101 feet. Over 151' to 220' - $4.00 per foot for each foot over 220 feet. Over 221' - $5.00 per foot for each foot over 221 feet.

Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25’ to 300’ - $1.00 per foot from entrance. 300’ to 600’ - $1.50 per foot beginning at 300’. Over 600’ - $2.00 per foot beginning at 600’.

Employees may be required to perform any combination of work within the Diving team/crew, (with the exception of dive Supervisor) provided they are paid at the highest rate at which he/she has worked for the shift.

L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $0.75, Level B: $0.50, And Level C: $0.25.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.

Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

Washington State Department of Labor and Industries
Policy Statement
(Regarding the Production of "Standard" or "Non-standard" Items)

Below is the department's (State L&I's) list of criteria to be used in determining whether a prefabricated item is "standard" or "non-standard". For items not appearing on WSDOT's predetermined list, these criteria shall be used by the Contractor (and the Contractor's subcontractors, agents to subcontractors, suppliers, manufacturers, and fabricators) to determine coverage under RCW 39.12. The production, in the State of Washington, of non-standard items is covered by RCW 39.12, and the production of standard items is not. The production of any item outside the State of Washington is not covered by RCW 39.12.

1. Is the item fabricated for a public works project? If not, it is not subject to RCW 39.12. If it is, go to question 2.

2. Is the item fabricated on the public works jobsite? If it is, the work is covered under RCW 39.12. If not, go to question 3.

3. Is the item fabricated in an assembly/fabrication plant set up for, and dedicated primarily to, the public works project? If it is, the work is covered by RCW 39.12. If not, go to question 4.

4. Does the item require any assembly, cutting, modification or other fabrication by the supplier? If not, the work is not covered by RCW 39.12. If yes, go to question 5.

5. Is the prefabricated item intended for the public works project typically an inventory item which could reasonably be sold on the general market? If not, the work is covered by RCW 39.12. If yes, go to question 6.

6. Does the specific prefabricated item, generally defined as standard, have any unusual characteristics such as shape, type of material, strength requirements, finish, etc? If yes, the work is covered under RCW 39.12.

Any firm with questions regarding the policy, WSDOT's Predetermined List, or for determinations of covered and non-covered workers shall be directed to State L&I at (360) 902-5330.

WSDOT's
Predetermined List for
Suppliers - Manufactures - Fabricator

Below is a list of potentially prefabricated items, originally furnished by WSDOT to Washington State Department of Labor and Industries, that may be considered non-standard and therefore covered by the prevailing wage law, RCW 39.12. Items marked with an X in the "YES" column should be considered to be non-standard and therefore covered by RCW 39.12. Items marked with an X in the "NO" column should be considered to be standard and therefore not covered. Of course, exceptions to this general list may occur, and in that case shall be evaluated according to the criteria described in State and L&I's policy statement.

	ITEM DESCRIPTION	YES	NO
1.	Metal rectangular frames, solid metal covers, herringbone grates, and bi-directional vaned grates for Catch Basin Types 1, 1L, 1P, and 2 and Concrete Inlets. See Std. Plans		X
2.	Metal circular frames (rings) and covers, circular grates, and prefabricated ladders for Manhole Types 1, 2, and 3, Drywell Types 1, 2, and 3 and Catch Basin Type 2. See Std. Plans		X
3.	Prefabricated steel grate supports and welded grates, metal frames and dual vaned grates, and Type 1, 2, and 3 structural tubing grates for Drop Inlets. See Std. Plans.		X
4.	Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes smaller than 60 inch diameter.		X
5.	Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes larger than 60 inch diameter.		X
6.	Corrugated Steel Pipe - Steel lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, 1 thru 5.		X
7.	Corrugated Aluminum Pipe - Aluminum lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, #5.		X

	ITEM DESCRIPTION	YES	NO
8.	Anchor Bolts & Nuts - Anchor Bolts and Nuts, for mounting sign structures, luminaries and other items, shall be made from commercial bolt stock. See Contract Plans and Std. Plans for size and material type.		X
9.	Aluminum Pedestrian Handrail - Pedestrian handrail conforming to the type and material specifications set forth in the contract plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).	X	
10.	Major Structural Steel Fabrication - Fabrication of major steel items such as trusses, beams, girders, etc., for bridges.	X	
11.	Minor Structural Steel Fabrication - Fabrication of minor steel Items such as special hangers, brackets, access doors for structures, access ladders for irrigation boxes, bridge expansion joint systems, etc., involving welding, cutting, punching and/or boring of holes. See Contact Plans for item description and shop drawings.	X	
12.	Aluminum Bridge Railing Type BP - Metal bridge railing conforming to the type and material specifications set forth in the Contract Plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).		X
13.	Concrete Piling--Precast-Prestressed concrete piling for use as 55 and 70 ton concrete piling. Concrete to conform to Section 9-19.1 of Std. Spec..	X	
14.	Precast Manhole Types 1, 2, and 3 with cones, adjustment sections and flat top slabs. See Std. Plans.		X
15.	Precast Drywell Types 1, 2, and with cones and adjustment Sections. See Std. Plans.		X
16.	Precast Catch Basin - Catch Basin type 1, 1L, 1P, and 2 With adjustment sections. See Std. Plans.		X

	ITEM DESCRIPTION	YES	NO
17.	Precast Concrete Inlet - with adjustment sections, See Std. Plans		X
18.	Precast Drop Inlet Type 1 and 2 with metal grate supports. See Std. Plans.		X
19.	Precast Grate Inlet Type 2 with extension and top units. See Std. Plans		X
20.	Metal frames, vaned grates, and hoods for Combination Inlets. See Std. Plans		X
21.	Precast Concrete Utility Vaults - Precast Concrete utility vaults of various sizes. Used for in ground storage of utility facilities and controls. See Contract Plans for size and construction requirements. Shop drawings are to be provided for approval prior to casting		X
22.	Vault Risers - For use with Valve Vaults and Utilities X Vaults.		X
23.	Valve Vault - For use with underground utilities. See Contract Plans for details.		X
24.	Precast Concrete Barrier - Precast Concrete Barrier for use as new barrier or may also be used as Temporary Concrete Barrier. Only new state approved barrier may be used as permanent barrier.		X
25.	Reinforced Earth Wall Panels – Reinforced Earth Wall Panels in size and shape as shown in the Plans. Fabrication plant has annual approval for methods and materials to be used. See Shop Drawing. Fabrication at other locations may be approved, after facilities inspection, contact HQ. Lab.	X	
26.	Precast Concrete Walls - Precast Concrete Walls - tilt-up wall panel in size and shape as shown in Plans. Fabrication plant has annual approval for methods and materials to be used	X	

	ITEM DESCRIPTION	YES	NO
27.	Precast Railroad Crossings - Concrete Crossing Structure Slabs.	X	
28.	12, 18 and 26 inch Standard Precast Prestressed Girder – Standard Precast Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
29.	Prestressed Concrete Girder Series 4-14 - Prestressed Concrete Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A .	X	
30.	Prestressed Tri-Beam Girder - Prestressed Tri-Beam Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
31.	Prestressed Precast Hollow-Core Slab – Precast Prestressed Hollow-core slab for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A.	X	
32.	Prestressed-Bulb Tee Girder - Bulb Tee Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
33.	Monument Case and Cover See Std. Plan.		X

	ITEM DESCRIPTION	YES	NO
34.	Cantilever Sign Structure - Cantilever Sign Structure fabricated from steel tubing meeting AASHTO-M-183. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.	X	
35.	Mono-tube Sign Structures - Mono-tube Sign Bridge fabricated to details shown in the Plans. Shop drawings for approval are required prior to fabrication.	X	
36.	Steel Sign Bridges - Steel Sign Bridges fabricated from steel tubing meeting AASHTO-M-138 for Aluminum Alloys. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.	X	
37.	Steel Sign Post - Fabricated Steel Sign Posts as detailed in Std Plans. Shop drawings for approval are to be provided prior to fabrication		X
38.	Light Standard-Prestressed - Spun, prestressed, hollow concrete poles.	X	
39.	Light Standards - Lighting Standards for use on highway illumination systems, poles to be fabricated to conform with methods and materials as specified on Std. Plans. See Specia Provisions for pre-approved drawings.	X	
40.	Traffic Signal Standards - Traffic Signal Standards for use on highway and/or street signal systems. Standards to be fabricated to conform with methods and material as specified on Std. Plans. See Special Provisions for pre-approved drawings	X	
41.	Precast Concrete Sloped Mountable Curb (Single and DualFaced) See Std. Plans.		X

	ITEM DESCRIPTION	YES	NO
42.	Traffic Signs - Prior to approval of a Fabricator of Traffic Signs, the sources of the following materials must be submitted and approved for reflective sheeting, legend material, and aluminum sheeting. **NOTE:** *** Fabrication inspection required. Only signs tagged "Fabrication Approved" by WSDOT Sign Fabrication Inspector to be installed	X	X
		Custom Message	Std Signing Message
43.	Cutting & bending reinforcing steel		X
44.	Guardrail components	X	X
		Custom End Sec	Standard Sec
45.	Aggregates/Concrete mixes	Covered by WAC 296-127-018	
46.	Asphalt	Covered by WAC 296-127-018	
47.	Fiber fabrics		X
48.	Electrical wiring/components		X
49.	treated or untreated timber pile		X
50.	Girder pads (elastomeric bearing)	X	
51.	Standard Dimension lumber		X
52.	Irrigation components		X

	ITEM DESCRIPTION	YES	NO
53.	Fencing materials		X
54.	Guide Posts		X
55.	Traffic Buttons		X
56.	Epoxy		X
57.	Cribbing		X
58.	Water distribution materials		X
59.	Steel "H" piles		X
60.	Steel pipe for concrete pile casings		X
61.	Steel pile tips, standard		X
62.	Steel pile tips, custom	X	

Prefabricated items specifically produced for public works projects that are prefabricated in a county other than the county wherein the public works project is to be completed, the wage for the offsite prefabrication shall be the applicable prevailing wage for the county in which the actual prefabrication takes place.

It is the manufacturer of the prefabricated product to verify that the correct county wage rates are applied to work they perform.

See RCW 39.12.010
(The definition of "locality" in RCW 39.12.010(2) contains the phrase "wherein the physical work is being performed." The department interprets this phrase to mean the actual work site.

WSDOT's List of State Occupations not applicable to Heavy and Highway Construction Projects

This project is subject to the state hourly minimum rates for wages and fringe benefits in the contract provisions, as provided by the state Department of Labor and Industries.
The following list of occupations, is comprised of those occupations that are not normally used in the construction of heavy and highway projects.
When considering job classifications for use and / or payment when bidding on, or building heavy and highway construction projects for, or administered by WSDOT, these Occupations will be excepted from the included "Washington State Prevailing Wage Rates For Public Work Contracts" documents.

- Building Service Employees
- Electrical Fixture Maintenance Workers
- Electricians - Motor Shop
- Heating Equipment Mechanics
- Industrial Engine and Machine Mechanics
- Industrial Power Vacuum Cleaners
- Inspection, Cleaning, Sealing of Water Systems by Remote Control
- Laborers - Underground Sewer & Water
- Machinists (Hydroelectric Site Work)
- Modular Buildings
- Playground & Park Equipment Installers
- Power Equipment Operators - Underground Sewer & Water
- Residential *** ALL ASSOCIATED RATES ***
- Sign Makers and Installers (Non-Electrical)
- Sign Makers and Installers (Electrical)
- Stage Rigging Mechanics (Non Structural)

The following occupations may be used only as outlined in the preceding text concerning "WSDOT's list for Suppliers - Manufacturers - Fabricators"

- Fabricated Precast Concrete Products
- Metal Fabrication (In Shop)

Definitions for the Scope of Work for prevailing wages may be found at the Washington State Department of Labor and Industries web site and in WAC Chapter 296-127.

WAC 296-127-018 Agency filings affecting this section

Coverage and exemptions of workers involved in the production and delivery of gravel, concrete, asphalt, or similar materials.

(1) The materials covered under this section include but are not limited to: Sand, gravel, crushed rock, concrete, asphalt, or other similar materials.

(2) All workers, regardless of by whom employed, are subject to the provisions of chapter 39.12 RCW when they perform any or all of the following functions:

(a) They deliver or discharge any of the above-listed materials to a public works project site:

(i) At one or more point(s) directly upon the location where the material will be incorporated into the project; or

(ii) At multiple points at the project; or

(iii) Adjacent to the location and coordinated with the incorporation of those materials.

(b) They wait at or near a public works project site to perform any tasks subject to this section of the rule.

(c) They remove any materials from a public works construction site pursuant to contract requirements or specifications (e.g., excavated materials, materials from demolished structures, clean-up materials, etc.).

(d) They work in a materials production facility (e.g., batch plant, borrow pit, rock quarry, etc.,) which is established for a public works project for the specific, but not necessarily exclusive, purpose of supplying materials for the project.

(e) They deliver concrete to a public works site regardless of the method of incorporation.

(f) They assist or participate in the incorporation of any materials into the public works project.

(3) All travel time that relates to the work covered under subsection (2) of this section requires the payment of prevailing wages. Travel time includes time spent waiting to load, loading, transporting, waiting to unload, and delivering materials. Travel time would include all time spent in travel in support of a public works project whether the vehicle is empty or full. For example, travel time spent returning to a supply source to obtain another load of material for use on a public works site or returning to the public works site to obtain another load of excavated material is time spent in travel that is subject to prevailing wage. Travel to a supply source, including travel from a public works site, to obtain materials for use on a private project would not be travel subject to the prevailing wage.

(4) Workers are not subject to the provisions of chapter 39.12 RCW when they deliver materials to a stockpile.

(a) A "stockpile" is defined as materials delivered to a pile located away from the site of incorporation such that the stockpiled materials must be physically moved from the stockpile and transported to another location on the project site in order to be incorporated into the project.

(b) A stockpile does not include any of the functions described in subsection (2)(a) through (f) of this section; nor does a stockpile include materials delivered or distributed to multiple locations upon the project site; nor does a stockpile include materials dumped at the place of incorporation, or adjacent to the location and coordinated with the incorporation.

(5) The applicable prevailing wage rate shall be determined by the locality in which the work is performed. Workers subject to subsection (2)(d) of this section, who produce such materials at an off-site facility shall be paid the applicable prevailing wage rates for the county in which the off-site facility is located. Workers subject to subsection (2) of this section, who deliver such materials to a public works project site shall be paid the applicable prevailing wage rates for the county in which the public works project is located.

[Statutory Authority: Chapter 39.12 RCW, RCW 43.22.051 and 43.22.270. 08-24-101, § 296-127-018, filed 12/2/08, effective 1/2/09. Statutory Authority: Chapters 39.04 and 39.12 RCW and RCW 43.22.270. 92-01-104 and 92-08-101, § 296-127-018, filed 12/18/91 and 4/1/92, effective 8/31/92.]

APPENDIX D

STORMWATER PERMITS

Errata

For the Boatyard General Permit Issued on July 20, 2022 and effective on September 1, 2022

August 24, 2022

Ecology corrected two dates and added two clarifications in Table 1. The changes are listed below with deleted text in red ~~strikethrough~~ text and the updated text in blue underlined text.

Table 1: Summary of Permit Submittals and Monitoring Requirements

Permit Section	Submittal (a)	Frequency	Submittal Date
S1	Request for Modification of Permit Coverage	As necessary	As necessary
S1	Transfer of Permit Coverage	As necessary	Thirty days before expected transfer
S2 S9	Discharge Monitoring Report (DMR): Pressure-Wash Wastewater Monitoring Results	Once per month in June, July, August, and September	First DMR: ~~September~~ October 28, 2022 Then, DMR: Twenty-eighth day of the month following the sample collection month
S6 S9	Discharge Monitoring Report (DMR): Stormwater Runoff Monitoring Results	Once per month in October, November, January, March, April, and May	First DMR: ~~October~~ November 28, 2022 Then, DMR: Twenty-eighth day of the month following the sample collection month

March 01, 2023

Ecology corrected the definition for Puget Sound Sediment Cleanup Site. The definition now references the BYGP website. The changes are listed below with deleted text in ~~red strikethrough~~ text and the updated text in blue underlined text.

Puget Sound Sediment Cleanup Site means Category 4B (Sediment) portions of Budd Inlet (Inner), Commencement Bay (Inner), Commencement Bay (Outer), Dalco Passage and East Passage, Duwamish Waterway (including East and West Waterway), Eagle Harbor, Elliot Bay, Hood Canal (North), Liberty Bay, Rosario Strait, Sinclair Inlet, and Thea Foss Waterway; Category 5 (Sediment) portions of the Duwamish Waterway; Category 4A (Sediment) portions of Bellingham Bay (Inner); and the Everett/Port Gardener and Port Angeles Harbor sediment cleanup areas, as mapped on Ecology's ~~ISGP~~ **BYGP** website.

Issuance Date: July 20, 2022
Effective Date: September 1, 2022
Expiration Date: August 31, 2027

BOATYARD GENERAL PERMIT

A National Pollutant Discharge Elimination System (NPDES) and
State Waste Discharge General Permit for Stormwater and Wastewater Discharges
Associated with Boatyards

State of Washington
Department of Ecology
Olympia, Washington

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, § 1251 et seq.

Until this permit expires, is modified, or is revoked, Permittees that have properly obtained coverage by this permit are authorized to discharge in accordance with the special and general conditions which follow.

DEPARTMENT OF ECOLOGY
State of Washington

Vincent McGowan, P.E.
Water Quality Program Manager
Washington State Department of Ecology

This page intentionally left blank.

TABLE OF CONTENTS

LIST OF TABLES

ADA ACCESSIBILITY

The Department of Ecology is committed to providing people with disabilities access to information and services by meeting or exceeding the requirements of the Americans with Disabilities Act (ADA), Section 504 and 508 of the Rehabilitation Act, and Washington State Policy #188.

To request ADA Accommodation, contact Water Quality Reception at 360-407-6600. For Washington Relay Service or TTY call 711 or 877-833-6341. Visit Ecology's accessibility webpage[1] for more information.

For document translation services, call Water Quality Reception at 360-407-6600. Por publicaciones en espanol, por favor llame Water Quality Reception al 360-407-6600.

[1] https://ecology.wa.gov/About-us/Accessibility-equity/Accessibility/

SUMMARY OF PERMIT SUBMITTALS AND MONITORING REQUIREMENTS

Table 1: Summary of Permit Submittals and Monitoring Requirements

Permit Section	Submittal (a)	Frequency	Submittal Date
S1	Request for Modification of Permit Coverage	As necessary	As necessary
S1	Transfer of Permit Coverage	As necessary	Thirty days before expected transfer
S2 S9	Discharge Monitoring Report (DMR): Pressure-Wash Wastewater Monitoring Results	Once per month in June, July, August, and September	First DMR: October 28, 2022 Then, DMR: Twenty-eighth day of the month following the sample collection month
S6 S9	Discharge Monitoring Report (DMR): Stormwater Runoff Monitoring Results	Once per month in October, November, January, March, April, and May	First DMR: November 28, 2022 Then, DMR: Twenty-eighth day of the month following the sample collection month
S7	Level One Response – Operational Source Control BMPs	One or two exceedances of a benchmark or limit value	Along with the corresponding DMR
S7	Level Two Response – Structural Source Control BMPs	Three exceedances of a benchmark or limit value	Three months from DMR due date
S7	Level Three Response – Treatment BMPs	Four exceedances of a benchmark or limit value	Three months from DMR due date
S9	Notification of Non-Compliance	As necessary	Immediately by phone Within 5 days by written report
S9	Additional Monitoring Results	As necessary	Twenty-eighth day of the month following the sample collection month
S9 S10	Notification of Spills or Other Discharges	As necessary	Immediately by phone Within 5 days by written report
S10	Notification of Planned Bypass	As necessary	As necessary
G1	Notice of Change in Signatory Authorization	As necessary	Prior to or upon document submittal
G6	Permit Application Supplement or Notification of Significant Change in Process or Discharge	As necessary	Sixty days prior to the planned change
G14	Application for permit coverage renewal	Once during the permit term	March 5, 2027
G20	Other Information	As necessary	As necessary

(a)Electronic submittal is required via the Water Quality Permitting Portal.
More information is available at Ecology's WQWebPortal guidance web page[2].

[2] https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance

SPECIAL CONDITIONS

S1. PERMIT COVERAGE REQUIRED

This statewide general permit applies to boatyards that discharge stormwater runoff from areas with industrial activity directly to the ground, to a surface waterbody, or to a storm sewer system that drains to a surface waterbody. This general permit also regulates process wastewater from boatyards, unless the wastewater is discharged to a municipal sanitary sewer operated by a sewer authority (POTW) with a delegated pretreatment program. The geographic area covered by this general permit is the entire State of Washington, except for Federal and Tribal lands and waters as specified in Condition S1.B (Exemption from Coverage).

A. Boatyard Activities Requiring Coverage under This Permit

All boatyards in the State of Washington must apply for coverage under this permit and must comply with all conditions specified in this permit, as applicable to their facility, unless exempted by the following section.

A boatyard, as defined for the purpose of this permit, is a facility engaged in the construction, repair, or maintenance of small vessels, where 85% of those vessels are 65 feet or less in length, or the boatyard generates more than 85% of its gross receipts working on those vessels. Services typically provided include, but are not limited to:

(a) pressure washing hulls

(b) painting and coating

(c) engine and propulsion system repair or replacement

(d) hull repair

(e) joinery

(f) bilge cleaning

(g) fuel and lubrication system repair or replacement

(h) welding and grinding of the hull

(i) buffing and waxing

(j) marine sanitation device (MSD) repair and replacement

(k) vessel deconstruction

(l) exterior cleaning activities that produce wastewater containing soaps or other pollutants

(m) other activities necessary to maintain a vessel

All areas of the boatyard where any of these activities or materials have the potential to be exposed to precipitation or stormwater runoff are subject to this permit. For example, any area designated as a boat storage area where occasional boat work is done and exposed to

precipitation or stormwater runoff is subject to all permit controls, Best Management Practices (BMPs), and monitoring. This definition includes mobile and do-it-yourself activities.

B. Exemption from Coverage

1. Limited Services

Facilities that provide only the following services do not require coverage under this permit:

(a) Use of tidal grids solely for emergency repair or for inspection by marine surveyors;

(b) Minor engine repair or maintenance within the engine space without vessel haul-out;

(c) Minor repairs or modifications to the vessel rigging or superstructure (topside) limited to 25% of the topside surface;

(d) Topside cleaning, detailing, and bright work;

(e) Electronics servicing and maintenance; or

(f) MSD servicing and repair without vessel haul-out.

2. Indian Country

Discharges from facilities located on "Indian Country" as defined in 18 U.S.C. §1151, except portions of the Puyallup Reservation as noted below, are not covered by this general permit. Indian Country includes:

(a) All land within any Indian Reservation, including rights-of-way running through the reservation. This includes all Federal, Tribal, and Indian and non-Indian privately-owned land within the reservation.

(b) All off-reservation Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

(c) All off-reservation Federal trust lands held for Native American Tribes.

Puyallup Exception: Following the Puyallup Tribes of Indian Land Settlement Act of 1989, 25 U.S.C. §1773; this general permit does apply to surface water on land held in trust by the Federal Government.

3. Federal Facilities

The following discharges are not covered by this permit:

(a) Discharges from activities operated by any department, agency, or instrumentality of the Federal Government of the United States.

(b) Discharges from activities (i) Located on federally-owned sites; and (ii) Operated by an entity, such as a private contractor performing industrial activity on behalf of or under the direction of any department, agency, or instrumentality of the Federal Government of the United States.

4. Vessel Deconstruction

   This general permit does **not** cover vessel deconstruction activities that take place in the water or on a floating dry dock or barge, **unless** within the boundaries of your facility. For vessel deconstruction activities that take place outside the boundaries of a permittee's facility, the boatyard must obtain either an individual permit or the vessel deconstruction general permit.

5. Coverage Under Another Permit

   Facilities exempted from this permit may require coverage under the Industrial Stormwater General Permit or an individual permit.

C. Conditional "No Exposure" Exemption

A facility engaged in boatyard activity may qualify for a Conditional "No Exposure" Exemption (CNE) if there is no exposure of boatyard materials or activities to rain, snow, snowmelt, and/or runoff. Facilities that discharge wastewater to a non-delegated POTW do not qualify for a Conditional "No Exposure" Exemption. Boatyard materials and activities include, but are not limited to, any boatyard activities listed in S1.A, material handling equipment or activities, industrial machinery, raw materials, intermediate products, byproducts, and final products, or waste products. Material handling activities include storage, loading and unloading, transport, or conveyance of any raw materials, intermediate product, by-product, final products, or waste products. Facilities that conduct boatyard activities exclusively indoors may qualify for a conditional exemption from coverage under this permit in accordance with 40 CFR Part 122.26 (g). To acquire a Conditional No Exposure Exemption, a facility or Permittee must complete the following steps:

(a) Submit a completed Request for a Conditional No Exposure Exemption form to Ecology.

(b) Certify that none of the following materials or activities are, or will be in the foreseeable future, exposed to precipitation or stormwater runoff:

   i. Using, storing, or cleaning industrial machinery or equipment, and areas where residuals from using, storing, or cleaning industrial machinery or equipment remain and are exposed to stormwater.

   ii. Materials or residuals from spills or leaks on the ground or in stormwater inlets.

   iii. Materials or products from past industrial activity.

   iv. Material handling equipment (except adequately maintained vehicles).

   v. Materials or products during loading, unloading, or transporting activities.

   vi. Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to stormwater does not result in the discharge of pollutants).

vii. Materials contained in open, deteriorated, or leaking storage drums, barrels, tanks, and similar containers.

viii. Materials or products handled or stored on roads or railways owned or maintained by the discharger.

ix. Waste material (except waste in covered, non-leaking containers, e.g., dumpsters).

x. Application or disposal of process wastewater (unless otherwise permitted).

xi. Particulate matter or visible deposits of residuals from roof stacks or vents not otherwise regulated, i.e., under an air quality control permit, and evident in the stormwater outflow.

(c) Submit to on-site facility inspection(s) by Ecology to verify compliance with all "no exposure" conditions.

(d) Receive from Ecology written approval of this exemption. Regardless of whether a facility meets all of the conditions to quality for a Conditional No Exposure Exemption, Ecology may require a facility to obtain coverage under this permit if Ecology determines the facility is a significant contributor of pollutants to waters of the State in accordance with Condition S1.D (Significant Contributors of Pollutants).

(e) Facilities that are granted a Conditional No Exposure Exemption must submit a new completed Request for a Conditional No Exposure Exemption form to Ecology once every 5 years, and may again undergo inspection by Ecology.

(f) If, during the term of this general permit, fees are established under Chapter 173-224 WAC for processing applications for this exemption or for administering this exemption, the Permittee must pay the assessed fees by the dates due.

(g) Ecology will automatically terminate permit coverage when it grants a Conditional No Exposure Exemption to a permitted facility.

(h) If a change occurs at an exempt facility that results in the exposure of boatyard activities or industrial materials to precipitation or stormwater runoff, the facility must immediately apply for and obtain a permit.

D. Significant Contributors of Pollutants

Ecology may require a facility to obtain coverage under this permit if Ecology determines the facility:

(a) Is a significant contributor of pollutants to waters of the State, including groundwater;

(b) May reasonably be expected to cause a violation of any water quality standard; or

(c) Conducts boatyard or other related industrial activity, or produces stormwater runoff with characteristics similar to other boatyards or related industrial activities.

E. Obtaining Permit Coverage

Unpermitted facilities that require coverage under this permit shall submit to Ecology, a complete and accurate ***Notice of Intent (NOI)*** using Ecology's Water Quality Permitting Portal – Permit Coverage Notice of Intent form as follows:

(a) Existing Facilities

i. Unpermitted existing facilities that require coverage under this permit shall submit a complete and accurate permit application to Ecology.

ii. Existing facilities means a boatyard facility that begins activities that result in a discharge or a potential discharge to waters of the State prior to the effective date of this general permit, September 1, 2022 and meets the Permit Coverage renewal requirement in WAC 197-11-800 (13) (i).

(b) New Facilities

i. New facilities means a boatyard facility that begins activities that result in a discharge or a potential discharge to waters of the State on or after the effective date of this general permit, September 1, 2022. All unpermitted new facilities shall*:*

(1) Submit a complete and accurate permit application to Ecology at least 60 days before the commencement of stormwater or process wastewater discharge from the facility.

ii. The application shall include certification that the facility has met the applicable public notice and ***State Environmental Policy Act (SEPA)*** requirements in WAC 173-226-200(3)(f).

(c) Electronic Submittal

Use the Water Quality Permitting Portal (WQWebPortal) to submit a complete application for coverage to Ecology. To access the WQWebPortal, you must first register for Secure Access Washington (SAW). For more information about the WQWebPortal or SAW, visit Ecology's WQWebPortal guidance webpage[3].

F. Modification of Permit Coverage

1. Any facility with coverage under this general permit that intends to implement a change in processes from those identified on the application for coverage, change its discharge location, or request an alternate sampling protocol, must request a modification of

[3] https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance

coverage by submitting a revised application for coverage or a supplement to the existing application, clearly indicating the proposed change.

2. The Permittee must give advance notice to Ecology at least 60 days prior to commencement of significant process changes or any facility expansions, production increases, or other planned changes that may result in noncompliance with permit limits or conditions. Significant process changes include a substantially increased discharge of pollutants or a change in the nature of the discharge of pollutants.
3. The applicant must also complete the public notice requirements of WAC 173-226-130(5) before receiving modification of permit coverage.
4. The facility must have its Stormwater Pollution Prevention Plan (SWPPP) updated and implemented to reflect the change before commencement of any process change.
5. The applicant must comply with the State Environmental Policy Act (SEPA) as applicable to the proposed significant process change.

G. Transfer of Permit Coverage

This permit coverage may be transferred to a new Permittee if:

(a) The Permittee notifies Ecology at least 30 days in advance of the proposed transfer date;

(b) The type of industrial activities and practices remain substantially unchanged.

(c) The notice includes a written agreement between the existing and new Permittees containing a specific date transfer of permit responsibility, coverage, and liability between them; and

(d) Ecology does not notify the existing Permittee and the proposed new Permittee of its intent to modify or revoke permit coverage.

S2. DISCHARGE LIMITS

A. Boatyards Discharging Pressure-Wash Wastewater to a Non-Delegated POTW

1. Limits

Permittees are authorized to discharge treated pressure-wash wastewater to a municipal sanitary sewer operated by a sewer authority (POTW), which does not have a delegated pretreatment program, in accordance with the following effluent limits (Table 2), monitoring schedule, and permit conditions, and upon written acceptance of the municipality. These discharges must meet the limits in Table 2 unless the POTW has more stringent limits or monitoring in which case the more stringent limits and monitoring requirements will apply. The Permittee must notify Ecology of the more stringent POTW limits.

Table 2: Limits for Discharges of Treated Pressure-Wash Wastewater or Stormwater Runoff to Non-Delegated POTWs

Parameter	Units	Daily Maximum Value [a]	Analytical Method	Laboratory Quantitation Level	Minimum Sampling Frequency
Copper, Total	mg/L	2.4	EPA 200.8	2.0	Once in each of the months of June, July, August, and September
Lead, Total	mg/L	0.69	EPA 200.8	0.5	Once in each of the months of June, July, August, and September
Zinc, Total	mg/L	2.61	EPA 200.8	2.5	Once in each of the months of June, July, August, and September
pH	Standard Units	Between 5.0 and 9.0	Meter [b]	±0.5	Once in each of the months of June, July, August, and September

a. Maximum daily effluent limit is the highest allowable daily discharge. The daily discharge is the arithmetic average measurement of the pollutant over a day. Averaging does not apply to pH, which must be reported as the highest and lowest values if more than one sample is taken in a day.

b. Permittees shall use either a calibrated pH meter consistent with EPA 9040 or an approved state method.

2. General Prohibitions

(a) The Permittee must not discharge pressure-wash wastewater or other process wastewaters directly to any water of the State through stormwater drainage conveyances or otherwise.

(b) The Permittee must not introduce into the POTW any pollutant(s), which cause pass through, upset, or interference. In addition, any discharges to a POTW must meet the discharge restrictions of 40 CFR 403.

(c) The discharge of dangerous wastes, as defined in Chapter 173-303 WAC, is prohibited.

(d) The Permittee must not dilute the wastewater discharge with stormwater or increase the use of potable water, process wastewater, or non-contact cooling water, or, in any way, attempt to dilute an effluent as a partial or complete substitute for adequate treatment to achieve compliance with the benchmarks or limits contained in this permit.

B. Boatyards Discharging Stormwater Runoff from Areas with Industrial Activity to a Non-Delegated POTW

Permittees may discharge stormwater runoff to a non-delegated POTW only upon special approval by Ecology. The Permittee must submit a request to Ecology demonstrating:

(a) That no other option is feasible;

(b) That the POTW has excess wet season hydraulic capacity (no sanitary sewer overflows or treatment system bypasses);

(c) That the POTW is willing to accept the discharge; and

(d) How it will reduce the amount of stormwater runoff sent to the POTW by separating uncontaminated water and discharging it directly.

The request must also certify that the Permittee routinely practices all BMPs applicable to the boatyard.

The limits, upon approval of the discharge by Ecology, are the same as provided in Condition S2.A (Boatyards Discharging Pressure-Wash Wastewater to a Non-Delegated POTW) unless the POTW has more stringent limits or monitoring in which case the more stringent limits and monitoring requirements will apply. The Permittee must notify Ecology of the more stringent POTW limits. Ecology may impose additional requirements in the approval for this discharge, such as flow equalization and characterization of any uncontaminated water discharges.

C. Boatyards Discharging Treated Pressure-Wash Wastewater or Stormwater Runoff to a Delegated POTW

Permittees may discharge pressure-wash wastewater or stormwater runoff to a sanitary sewer system operated by a municipality with a delegated pretreatment program provided they receive a discharge authorization from the delegated municipality and authorization from all other applicable local sewerage authorities. Limits and monitoring and reporting requirements will be determined by the municipality. All Permittees discharging pressure-wash wastewater or stormwater runoff to a delegated municipal sanitary sewer system must comply with any applicable sewer use ordinances adopted by the municipality and/or local sewerage authority operating the sewer system.

The applicable limits and monitoring schedules for discharges to a POTW to which Ecology has delegated the authority to issue discharge permits are those limits and schedules specified in the permit issued by that POTW to cover the individual boatyard.

D. Boatyards Discharging Stormwater Runoff to Waters of the State

The Permittee is authorized to discharge stormwater runoff from areas with industrial activity and conditionally approved non-stormwater discharges listed in Condition S5 (Non-Stormwater Miscellaneous Discharges) to waters of the State. All discharges and activities authorized by this permit must be consistent with the terms and conditions of this permit.

1. General Prohibitions:

   All facilities must manage stormwater discharges to prevent each of the following:

   (a) The discharge of synthetic, natural, or processed oil, or oil-containing products;

   (b) The discharge of floating materials;

   (c) The discharge of process wastewater, and

   (d) A visible change in turbidity or color in the receiving water.

2. Benchmarks

The benchmarks in Table 3 apply to facilities discharging stormwater runoff from areas with industrial activity to any surface water bodies in the State. If the Permittee's discharge exceeds a benchmark, the Permittee must take the actions specified in Condition S7 (Response to Monitoring Results that Exceed Benchmarks).

Table 3: Stormwater Benchmarks and Sampling Requirements for discharges to Surface Waters of the State

Parameter	Units	Benchmark Value	Analytical Method	Laboratory Quantitation Level [a]	Minimum Sampling Frequency
Turbidity	NTU	25	EPA 180.1 /Meter	0.5	Once in each of the months of October, November, January, March, April, and May
pH	Standard Units	Between 6.0 and 9.0	Meter/Paper [b]	±0.5	Once in each of the months of October, November, January, March, April, and May
Oil Sheen	Yes/No	No Visible Oil Sheen	N/A	N/A	Once in each of the months of October, November, January, March, April, and May
Copper, Total	µg/L	Marine Water: 44 Tidally Influenced Streams: 36 Western Streams: 45 Eastern Streams: 60 Lakes: 32	EPA 200.8	2.0	Once in each of the months of October, November, January, March, April, and May
Zinc, Total	µg/L	90	EPA 200.8	2.5	Once in each of the months of October, November, January, March, April, and May
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.25	Once in each of the months of October, November, January, March, April, and May

a The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method, it must report the test method and QL on the discharge monitoring report.

b. Permittees shall use either a calibrated pH meter or narrow-range pH indicator paper with a resolution not greater than ± 0.5 SU.

Facilities discharging stormwater runoff from areas with industrial activity to an infiltration basin or trench lined with absorptive media must comply with the applicable limits in Table 4. The discharge point to ground and all parts of the basin or trench must be located at least 200 feet from the water's edge.

Table 4: Stormwater Limits and Sampling Requirements for discharges to Ground

Parameter	Units	Maximum Daily Value	Analytical Method	Laboratory Quantitation Level [a]	Minimum Sampling Frequency
Copper, Total	µg/L	Ground: 1000	EPA 200.8	2.0	Once in each of the months of October, November, January, March, April, and May
Zinc, Total	µg/L	Ground: 1020	EPA 200.8	2.5	Once in each of the months of October, November, January, March, April, and May

a The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method, it must report the test method and QL on the discharge monitoring report.

E. Boatyards Discharging to Impaired Waters

1. General Requirements for Discharges to Impaired Waters

   Permittees that discharge to a 303(d)-listed waterbody (Category 5), or an impaired waterbody with an applicable TMDL (Category 4A), or a pollution control program for sediment cleanup (i.e., a Category 4B sediment-impaired waterbody), either directly or indirectly through a stormwater drainage system, shall conduct sampling and inspections in accordance with Conditions S6, S7, and S8.

   Existing facilities that discharge to an impaired waterbody on the current U.S. EPA-approved 303(d) list must not cause further permanent impairment of any 303(d)-listed water body for any listed parameter.

2. Eligibility for Coverage of New Discharges to Impaired Waters

   Facilities that meet the definition of new discharger and discharge to a 303(d)-listed waterbody (Category 5), or an impaired waterbody with an applicable TMDL (Category 4A), or a pollution control program for sediment cleanup (i.e., a Category 4B sediment-impaired waterbody) are not eligible for coverage under this permit unless the facility:

   (a) Prevents all exposure to stormwater of the pollutant(s) for which the waterbody is impaired, and retains documentation of procedures taken to prevent exposure onsite with its SWPPP; or

   (b) Documents that the pollutant(s) for which the waterbody is impaired is not present at the facility, and retains documentation of this finding with the SWPPP; or

   (c) Provides Ecology with data showing that the discharge is not expected to cause or contribute to an exceedance of a water quality standard, and retain such data onsite with its SWPPP. The facility must provide data and other technical information to Ecology sufficient to demonstrate:

i. For discharges to waters without an EPA approved or established TMDL, that the discharge of the pollutant for which the water is impaired will meet instream water quality criteria at the point of discharge to the waterbody; or

ii. For discharges to waters with an EPA approved or established TMDL, that there are sufficient remaining wasteload allocations in an EPA approved or established TMDL to allow industrial stormwater discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards.

Facilities are eligible for coverage under this permit if Ecology issues permit coverage based upon an affirmative determination that the discharge will not cause or contribute to the existing impairment.

3. Additional Sampling Requirements and Effluent Limits for Discharges to Certain Impaired Waters and Puget Sound Sediment Cleanup Sites

(a) Permittees discharging to a 303(d)-listed waterbody (Category 5), either directly or indirectly through a stormwater drainage system, shall comply with the applicable sampling requirements and numeric effluent limits in Table 5. If a discharge point is subject to an impaired waterbody effluent limit for a parameter that also has a benchmark, the effluent limit supersedes the benchmark, unless a compliance schedule is in effect. Permittees discharging to a 303(d) – listed waterbody (Category 5) or Puget Sound Sediment Cleanup Site who were not assigned an 303(d) list impaired waterbody or Puget Sound Sediment Cleanup Site limit, at the time of 2016 permit coverage shall comply with the applicable sampling requirements and numeric effluent limits in Table 5 as soon as possible, but no later than July 1, 2025, when the compliance schedule expires.

i. For purposes of this condition, “applicable sampling requirements and effluent limits” means the sampling and effluent limits in Table 5 that correspond to the specific parameter(s) the receiving water is 303(d)-listed for at the time of permit coverage, and/or total suspended solids (TSS) if the waterbody is 303(d)-listed (Category 5) for sediment quality at the time of permit coverage.

ii. Permittees discharging to a Puget Sound Sediment Cleanup Site, either directly or indirectly through a stormwater drainage system, shall comply with this section:

(1) Permittees shall sample the discharge for total suspended solids (TSS) in accordance with the limits in Table 5.

(2) Permittees shall remove accumulated solids from storm drain lines (including inlets, catch basins, sumps, conveyances lines, and oil/water separators) on or beneath your facility at least once in the term of the permit.

Permittees shall conduct line cleaning operations (e.g., jetting, vacuuming, removal, loading, storage, and/or transport) using BMPs to prevent discharges of storm drain solids to surface waters of the State.

Removed storm drain solids and liquids shall be disposed of in accordance with applicable laws and regulations and documented in the SWPPP.

(b) If a Permittee can demonstrate, based on video inspection, in-line storm drain solids sampling, or other documentation, that storm drain line cleaning is not necessary to prevent downstream sediment contamination or recontamination, Ecology may waive this requirement by approving a modification of permit coverage. The Permittee shall record the results of each storm drain line cleaning in a report or checklist and keep the records on-site for Ecology review. The Permittee shall ensure each report documents cleaning and includes:

i. Time and date of the cleaning.

ii. Locations cleaned.

iii. Company or personnel who performed the cleaning.

iv. Name, title, and signature of the person conducting the line cleaning; and the following statement: "*I certify that this report is true, accurate, and complete, to the best of my knowledge and belief*."

Table 5: Sampling and Effluent Limits Applicable to Discharges to 303(d)-listed Waters and Puget Sound Sediment Cleanup Sites that are not Category 5 for Sediment Quality

Parameter	Units	Maximum Daily[a] Freshwater	Maximum Daily[a] Marine	Analytical Method [b]	Laboratory Quantitation Level [c]	Minimum Sampling Frequency
pH	SU	[g]	Between 7.0 and 8.5	Meter [d]	±0.1	Once in each of the months of October, November, January, March, April and May
TSS [e]	mg/L	30	30	SM2540-D	5	Once in each of the months of October, November, January, March, April and May
Copper, Total	µg/L	[f]	5.8	EPA 200.8	2.0	Once in each of the months of October, November, January, March, April and May
Lead, Total	µg/L	[f]	220.8	EPA 200.8	0.5	Once in each of the months of October, November, January, March, April and May
Zinc, Total	µg/L	[f]	95.1	EPA 200.8	2.5	Once in each of the months of October, November, January, March, April and May

a. Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day; this does not apply to pH.

b. Or other equivalent method with the same reporting level.

c The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method it must report the test method and QL on the discharge monitoring report.

d. Permittees shall use either a calibrated pH meter consistent with EPA 9040 or an approved state method.

e Permittees who discharge to a 303(d)-listed waterbody (Category 5) for sediment quality or to a Puget Sound Sediment Cleanup Site shall sample discharge for TSS.

f. Site-specific effluent limitation will be set at water quality standard in Chapter 173-201A-240 WAC at the time of permit coverage.

- Copper = ((0.960)(e(0.9422[ln(hardness)] - 1.464))).
- Lead = 0.791)(e(1.273[ln(hardness)] - 1.460)) at hardness = 100. Conversion factor (CF) of 0.791 is hardness dependent. CF is calculated for other hardness's as follows: CF = 1.46203 - [(ln hardness)(0.145712)].
- Zinc = (0.978)(e(0.8473[ln(hardness)] + 0.8604))

g. The effluent limit for a Permittee who discharges to a freshwater body 303(d)-listed for pH is: Between 6.0 and 8.5, if the 303(d)-listing is for high pH only; Between 6.5 and 9.0, if the 303(d)-listing is for low pH only; and Between 6.5 and 8.5 if the 303(d)-listing is for both low and high pH. All pH effluent limits are applied end-of-pipe.

F. Boatyards Discharging to Lined Evaporative Pond or Above Ground Tanks

Permittees east of the crest of the Cascade Mountains may discharge pressure-wash wastewater or process wastewater to an Ecology-approved lined evaporative pond or pre-manufactured above ground tank.

At a minimum, the Permittee must comply with the following Best Management Practices:

(a) Constructed wastewater ponds must maintain a minimum setback distance of 100 feet from surface waters of the State.

(b) Prior to construction and operation of the pond or tank, the Permittee must submit an Engineering Report and Operation and Maintenance Manual, in accordance with Chapter 173-240 WAC. The Permittee must notify Ecology at the time the pond or tank is in place and operational. The submittal must include:

i. The design and construction data for all devices and structures that are to be installed, including a characterization of the wastewater influent and the sizing calculations of the evaporation pond or tank.

ii. A description of the evaporation structure process and operation, including a flow diagram.

iii. The types and amounts of chemicals used in the treatment process, if any.

iv. A proposed schedule for construction and implementation.

v. A statement expressing sound engineering justification (through the use of pilot plant data, results from similar installations, and/or scientific evidence) that the proposed structure is not reasonably expected to discharge wastewater to waters of the State.

vi. The Engineering Report must be prepared and certified by a licensed professional engineer.

(c) Ensure that the pond or tank does not overflow, leak, or otherwise escape containment at any time. Permittees shall take all necessary actions to prevent overflow. All above ground tanks shall comply with the requirements in S8.B3.f – Spill Prevention and Emergency Cleanup Plan (SPECP).

(d) Conduct inspections of the pond or tank and in accordance with the Operation and Maintenance Manual and all requirements in S6. E – Visual Inspection Requirements.

(e) Replace or repair the liner or tank if substantial deterioration or leaks are found.

(f) The Permittee must ensure any evaporation pond or tank complies with all applicable sections of this permit. This includes but is not limited to Monitoring (S8.B.2), Preventative Maintenance (S8.B.3.e), and all Reporting and Recordkeeping Requirements (S10).

S3. MANDATORY BEST MANAGEMENT PRACTICES

Permittees must prepare a handout describing these best management practices (BMPs) and provide copies to all employees, contractors, boat owners, and other customers, as appropriate. The Permittee must post these BMPs conspicuously within the work areas and incorporate them into the facility's SWPPP, as required by Condition S8 (Stormwater Pollution Prevention Plan).

A. Vacuum Sander Required

1. Permittees must use a vacuum sander or rotary tool meeting minimum performance standards for all antifouling paint removal. The Permittee may petition Ecology for use of an alternative to this requirement for vacuum sanding/grinding.
2. The process for approval of alternatives is:
   (a) The Permittee must request consideration of an alternative by a letter to Ecology with a conceptual proposal and justification that the proposal will be equivalent to vacuum sanding/grinding. Ecology will respond with an approval to proceed or a denial.
   (b) After Ecology approves the conceptual proposal, the Permittee must submit details of the proposal including size, construction materials, equipment specifications, site plan with location, operational procedures, and any evidence that the proposal will be equivalent to vacuum sanding/grinding. Ecology may

require a site visit by an Ecology inspector prior to a decision on the proposed alternative. Ecology will then again respond with approval or denial for construction.

B. Tidal Grids

Permittees may use tidal grids only for emergency repair and marine surveying. Tidal grids must not be used for surface preparation, painting, routine maintenance, or other non-emergency uses.

C. In-Water Vessel Maintenance and Repair

1. Cleaning, repair, modifications, and surface preparation, coating, or finishing of any portion of a vessel's hull while the vessel is afloat is prohibited. If this work is necessary, then the Permittee must haul the vessel out onto a dry dock, the upland portion of a facility covered by this general permit, or another facility covered by an individual permit issued in accordance with the provisions of Chapter 173-220 WAC.
2. Only minor in-water repair, modification, surface preparation, or coating of topside or superstructure is allowed, limited to 25% of the topside surface. When stripping, sanding, scraping, sandblasting, painting, coating and/or varnishing any deck or superstructure of a vessel in-water, Permittees must collect all particles, oils, grits, dusts, flakes, chips, drips, sediments, debris, and other solids to prevent their release into the environment and entry into waters of the State.
3. Permittees must securely fasten drop cloths, tarpaulins, drapes, shrouding, or other protective devices between various portions of the vessel or between the vessel and the dock, pier, boathouse, bulkhead, or shoreline to collect all such materials. No work from a float, a barge, or another boat is allowed. The Permittee must clean up all collected materials daily to prevent their release into the environment and entry into waters of the State.

D. Upland Vessel Maintenance and Repair

1. When cutting, welding, stripping, sanding, scraping, sandblasting, painting, coating, and/or varnishing any portion of a vessel, Permittees must collect and manage all particles, oils, grits, dusts, flakes, chips, overspray, drips, sediments, debris, and other solids to prevent their release into the environment and entry into waters of the State.
2. Permittees must securely anchor or fasten drop cloths, tarpaulins, structures, drapes, shrouding or other protective devices around the vessel, as necessary, to collect all such materials. These protective devices should be secured in such a way that they remain in place during all weather conditions. The Permittee must routinely cleanup all collected materials or wastes and manage them appropriately to prevent their release into the environment and entry into waters of the State.

E. Solids Management

1. The Permittee must control and collect all particles, oils, grits, dusts, flakes, chips, overspray, drips, sediments, debris, and other solids from work, service, and storage areas of the boatyard to prevent their release into the environment and entry into waters of the State. When solids-generating activity is occurring, the minimum collection frequency is once per day and prior to tidal inundation. The Permittee must avoid wetting the solids during collection and must not wash solids into any surface water or into a stormwater collection system. Hull recoating work conducted on a marine railway should occur only if the boat is positioned at least one boat length from the high water level. In any case, the Permittee must ensure that all debris from working on the boat while it is on the marine railway structure is contained by or at the structure and may not escape to the environment.
2. The Permittee must clean marine railways and dry docks of all solids and garbage prior to submergence to prevent such materials from washing into waters of the State. The Permittee must install sediment traps in all storm drains to intercept and retain solids prior to their discharge into waters of the State. The Permittee must visually inspect sediment traps, storm drains, and catch basins weekly and clean these devices, either manually or with a vacuum device, on a routine basis to prevent the entry of solids into waters of the State.

F. Paint and Solvent Use

1. The Permittee must use all paints and solvents in such a manner as to prevent their release into the environment and entry into waters of the State.
   (a) The Permittee must use appropriate spill kits, drip pans, drop cloths, tarpaulins, or other protective devices during surface preparation, paint and solvent transfer, paint mixing, and application unless those activities are completely enclosed in a building. Painting of the hull surface over or near water is prohibited except for minor touchup, such as the vessel numbers, with non-metallic paints.
   (b) When painting decks or superstructure, the Permittee must place paint cans in a drip pan on top of a drop cloth or tarpaulin.
   (c) The Permittee must mix paints and solvents only at secure locations onshore or onboard a vessel.
   (d) Solvent and paint containers must be kept securely closed at all times when not in use.
2. Paints containing tributyltin are prohibited from use on any vessel less than 25 meters in length (82 feet) except as applied by a licensed applicator for the painting of aluminum hulls of a vessel that is less than 25 meters in length, and for the painting of outboard motors and out drives of vessels less than 25 meters in length.
3. Only persons with a current Washington State Department of Agriculture pesticide applicator's license may purchase, handle, and apply tributyltin.

G. Oils, Bilge Water, and Engine/Motor Cooling Water Management

1. The Permittee must not discharge hydraulic fluids, oily wastes, and petroleum products to waters of the State.
2. Bilge water and engine/motor cooling water discharges must not cause any visible sheen in waters of the State.
3. The Permittee must not discharge bilge or engine/motor cooling water to waters of the State if it has solvents, detergents, emulsifying agents, or dispersants.
4. If a vessel is moved prior to pumping out the bilge, the Permittee must use absorbent pads to prevent the discharge of oils to waters of the State.
5. The Permittee must use drip pans or other containment devices during all petroleum product transfer operations to catch incidental leaks and spills. Absorbent pads and/or booms must be available during petroleum transfer operations occurring over water.

H. Sacrificial Anode (Zincs) Management

The Permittee must not dispose of zincs used as sacrificial anodes into waters of the State. The Permittee must store spent zincs in a covered container and properly dispose of or recycle them.

I. Chemical Management

1. The Permittee must store all of the following under cover on an impervious surface: solid chemical products, chemical solutions, paints, oils, solvents, acids, caustic solutions, and waste materials, including used batteries and lead and copper waste.
2. The Permittee must securely close lids on all chemical containers including solid chemical products, chemical solutions, paints, oils, solvents, acids, caustic solutions, and waste materials at all times when not in use.

J. Wash Pad Decontamination

Prior to actively pumping or passively discharging any stormwater from the pressure-wash pad to waters of the State, the Permittee must clean the pad of all debris, paint waste, sludge, and other solids. The Permittee must then pressure wash the entire pad into the collection sump and clean the pad and sump of all debris, wastewater, and other solids before the next high tide that would inundate any part of the wash pad or sump. The Permittee must document the procedures, personnel, and equipment used to meet this requirement in the facility's SWPPP in accordance with S8.B.3(k).

No Permittee may construct a new wash pad in any area of the facility subject to inundation due to tides.

K. Sewage and Gray Water Discharges

The Permittee must notify all owners of vessels moored for repair or under repair at a permitted facility in writing that this permit prohibits the discharge of sewage (including

discharges from the vessel's galley) into waters of the State. Sanitary waste must be discharged to either the sanitary sewer or into a holding tank. The Permittee must make available to customers a list of contractors providing holding tank pump-out services.

L. Oversight of Do-It-Yourselfers and Independent Contractors

The Permittee must ensure that all individuals who service marine vessels or any other motor-driven vehicle or otherwise conduct boatyard activities at its facility, whether employed by the boatyard or not, implement all of the mandatory BMPs described in Condition S3 (Mandatory Best Management Practices). Whether through signage and education, denial of access, or some other means, the Permittee must exercise control over all potential sources of pollutants at its facility. Do-it-yourselfers and independent contractors who fail to implement all the required or appropriate BMPs must be prohibited from working at the boatyard. The Permittee must document its compliance with this BMP by:

(a) Describing in the SWPPP the Permittee's procedures for communicating the required practices to non-boatyard individuals;

(b) Describing in the SWPPP the Permittee's procedures for providing oversight of non-boatyard individuals, e.g., by conducting regularly scheduled inspections of their work area(s) and activities;

(c) Maintaining written agreements with those non-boatyard individuals that they will implement all of the mandatory BMPs; and

(d) Describing in the SWPPP the process for excluding repeat offenders from its facilities.

M. Dry Docks and Graving Docks

1. When performing boatyard activities on vessels in a dry dock or graving dock, permittees shall comply with all requirements in S3.D.
2. The Permittee must not conduct any boatyard activities on a dry dock that is located outside their facility, unless covered by another permit such as the Vessel Deconstruction General Permit.
3. Prior to actively pumping or passively discharging any stormwater from a dry dock to waters of the State, the Permittee must clean the dock of all debris, paint waste, sludge, and other solids. The Permittee must pressure-wash the entire dry dock into a wastewater collection system and clean the dry dock and collection system of all debris, wastewater, and other solids before the permittee sinks or floods any part of the dock.
4. Permittees must not flood docks with any particles, oils, grits, dusts, flakes, chips, overspray, drips, sediments, debris, or other solids the dock floor.
5. Prior to flooding, the Permittee must remove floatable and low density waste, such as wood, plastic, and miscellaneous trash, such as paper, insulation, and packaging, from the dock floors.
6. The Permittee must document the procedures, personnel, and equipment used to meet this requirement in the facility's SWPPP in accordance with S8.B.3(k).

S4. COMPLIANCE WITH WATER QUALITY STANDARDS

1. Permittees must comply with Washington State surface water quality standards (Chapter 173-201A WAC), sediment management standards (Chapter 173-204 WAC), ground water quality standards (Chapter 173-200 WAC), and human health-based water quality criteria in the National Toxics Rule (40 CFR 131.36). Compliance with water quality standards means that stormwater discharges by a facility with permit coverage must not cause or contribute to a violation of water quality standards in the receiving water.
2. Prior to discharging stormwater and non-stormwater to waters of the State, the Permittee must apply all known, available, and reasonable methods of prevention, control, and treatment (AKART). To comply with this condition, the Permittee must prepare and implement an adequate SWPPP, with all applicable and appropriate BMPs, including the BMPs necessary to meet the standards identified here in this condition, and must install and maintain the BMPs in accordance with the SWPPP, applicable stormwater technical manuals, and the terms and conditions of this permit.

S5. NON-STORMWATER MISCELLANEOUS DISCHARGES

The categories and sources of non-stormwater discharges identified below are conditionally approved, provided the non-stormwater discharge complies with all applicable discharge limits in Condition S2 (Discharge Limits), including compliance with State water quality standards. The Permittee must address the following discharges (except from fire-fighting activities) in the facility SWPPP, as described in Condition S8 (Stormwater Pollution Prevention Plan).

(a) Discharges from fire-fighting activities;

(b) Fire protection system flushing, testing, and maintenance;

(c) Discharges of potable water including water line flushing, provided that the Permittee de-chlorinates the water line flushing wastewater prior to discharge;

(d) Uncontaminated air conditioning or compressor condensate;

(e) Landscape watering and irrigation drainage;

(f) Uncontaminated groundwater or spring water; and

(g) Uncontaminated discharges associated with dewatering of foundations, footing drains, or utility vaults.

S6. MONITORING REQUIREMENTS

Samples and measurements taken to meet the requirements of this general permit must represent the volume and nature of the monitored discharge within the monthly monitoring period, including representative sampling during bypasses, upsets, and maintenance-related conditions that may affect effluent quality.

A. General Sampling Requirements

1. Sample Timing and Frequency

   (a) The Permittee shall sample the discharges from each designated location at least as frequently as is required in S2.

   (b) During a given sampling period, Permittees shall collect stormwater samples within the first 12 hours of stormwater discharge events. If it is not possible to collect a sample within the first 12 hours of a stormwater discharge event, the Permittee must collect the sample as soon as practicable after the first 12 hours, and keep documentation with the sampling records (Condition S9.C) explaining why they could not collect samples within the first 12 hours; or if it is unknown (e.g., discharge was occurring during start of regular business hours).

   (c) The Permittee shall obtain representative samples, which may be a single grab sample, a time-proportional sample, or a flow-proportional sample.

   (d) Permittees need not sample outside of regular business hours, during unsafe conditions, or during months where there is no discharge, but shall submit a Discharge Monitoring Report each reporting period (Condition S9.A).

   (e) Permittees monitoring more than once per month shall average all of the monitoring results for each parameter (except pH and visible oil sheen) and compare the average value to the benchmark value. However, if Permittees collect more than one sample during a 24-hour period, they must first calculate the daily average of the individual grab sample results collected during that 24-hour period; then use the daily average to calculate a monthly average.

2. Sample Location(s)

   (a) The Permittee shall designate sampling location(s) at the point(s) where it discharges stormwater or wastewater associated with boatyard activities off-site.

   (b) Ecology may require that sampling points which are located in areas where unsafe conditions prevent regular sampling, be moved to areas where regular sampling can occur.

   (c) The Permittee shall notify Ecology of any changes or updates to sample locations, discharge points, and/or outfalls by submitting a “Boatyard General Permit Discharge/Sample Point Update Form” to Ecology. The Permittee may be required to provide additional information to Ecology prior to changing sampling locations.

3. Substantially Identical Stormwater Discharge Points

   The Permittee shall sample each distinct point of discharge off-site except as otherwise exempt from monitoring as a substantially identical stormwater discharge point. If applicable, the Permittee is only required to monitor applicable parameters at one of the substantially identical discharge points.

B. Pressure Wash Effluent to Sanitary Sewer

See Condition S2.A (Boatyards Discharging Pressure-Wash Wastewater to a Non-Delegated POTW) or Condition S2.C (Boatyards Discharging Treated Pressure-Wash Wastewater or Stormwater Runoff to a Delegated POTW) as applicable for the required monitoring frequency.

C. Discharges to Waters of the State (including surface and ground)

The Permittee must monitor discharges of stormwater runoff from the areas of the facility where industrial activity has the potential to be exposed to precipitation or stormwater runoff. Non-industrial areas of the facility may be excluded from discharge monitoring ***only*** if:

(a) The area is used solely for the dry storage of boats, the Permittee certifies in the facility SWPPP that no boatyard or any other industrial activities occur there; and no possibility exists for stormwater runoff to flow from an industrial area onto the storage area; **or**

(b) The Permittee certifies in the facility SWPPP that, within the area, none of the following materials or activities are, or will be in the foreseeable future, exposed to precipitation or stormwater runoff:

i. Boatyard materials and activities, including, but are not limited to, any boatyard activities listed in S1.A.

ii. Material handling equipment or activities, industrial machinery, raw materials, intermediate products, byproducts, and final products, or waste products. Material handling activities include storage, loading and unloading, transport, or conveyance of any raw materials, intermediate product, by-product, final products, or waste products.

iii. Using, storing, or cleaning industrial machinery or equipment, and areas where residuals from using, storing, or cleaning industrial machinery or equipment remain and are exposed to stormwater.

iv. Materials or residuals from spills or leaks on the ground or in stormwater inlets.

v. Materials or products from past industrial activity.

vi. Material handling equipment (except adequately maintained vehicles).

vii. Materials or products during loading, unloading, or transporting activities.

viii. Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to stormwater does not result in the discharge of pollutants).

ix. Materials contained in open, deteriorated, or leaking storage drums, barrels, tanks, and similar containers.

x. Materials or products handled or stored on roads or railways owned or maintained by the discharger.

xi. Waste material (except waste in covered, non-leaking containers, e.g., dumpsters).

xii. Application or disposal of process wastewater.

xiii. Particulate matter or visible deposits of residuals from roof stacks or vents not otherwise regulated, i.e., under an air quality control permit, and evident in the stormwater outflow.

The Permittee must collect samples from a location or locations affected by boatyard related activities and as noted on the application for coverage. If stormwater runoff from the industrial areas of a facility occurs as sheet flow, then the Permittee must construct a collection point to collect an adequate sample volume. If stormwater runoff discharges do not occur during the sampling period, then the Permittee must indicate that on the Discharge Monitoring Report (DMR) for that monitoring period. Stormwater runoff must be monitored in accordance with the monitoring schedule listed in Tables 3-5.

D. Analytical Procedures

Monitoring data required by Ecology in this general permit or by order must be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*.

Sampling and analytical methods used to meet the water and wastewater monitoring requirements specified in this general permit must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136. The required detection and quantitation levels are listed in Tables 2-5.

The Permittee must ensure laboratory results comply with the detection limit and quantitation level specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results for the effluent, the Permittee may use that method for analysis. If the Permittee uses an alternative method, it must report the test method and quantitation level on the DMR. If the Permittee is unable to obtain the required quantitation level due to matrix effects, the Permittee must report the matrix-specific method detection limit and quantitation level on the DMR.

E. Visual Inspection Requirements

1. Inspection Frequency and Personnel

   (a) The Permittee must conduct and document a visual inspection of the entire site once per week when boatyard activities are occurring at the site. These visual inspections must occur at both the industrial areas and any dry boat storage or non-industrial areas as defined in S6.C within or areas contiguous with an industrial area.

   (b) The Permittee must ensure that inspections are conducted by qualified personnel.

2. Inspection Components

(a) Each inspection must include:

i. Observations made at stormwater runoff sampling locations and areas where stormwater runoff associated with boatyard activity is discharged off-site; to waters of the State, or to a storm sewer system that drains to waters of the State.

ii. Observations for the presence of floating materials, visible oil sheen, discoloration, turbidity, odor, etc. in the stormwater runoff discharge(s). If these pollutants are observed, the source must be found and the pollutant discharge stopped. The observation and source control efforts must be recorded in the inspection report.

iii. Observations for the presence of illicit discharges such as domestic wastewater or process wastewater (including leachate).

(1) If an illicit discharge is discovered, the Permittee must notify Ecology within 24 hours.

(2) The Permittee must eliminate the illicit discharge as soon as practicable, but in no case later than within 30 days of its discovery. The Permittee must also follow all of the applicable requirements of Condition S9.E (Noncompliance Notification).

iv. An assessment of any dry boat storage areas or non-industrial areas for whether any industrial operations had occurred there since the last inspection. Such operations include, but may not be limited to, any of the activities listed in Special Condition S1.A or S6.C, fueling, and/or exterior cleaning activities that produce wastewater containing soaps or other pollutants. If the Permittee finds that industrial activities have occurred in the storage or non-industrial area, the Permittee must cause those activities to cease immediately and report the occurrence to Ecology as soon as practicable, but in no case later than within 30 days of its discovery.

v. A verification that the descriptions of potential pollutant sources required under this permit are accurate.

vi. A verification that the site map in the SWPPP reflects current conditions.

vii. An assessment of all BMPs that have been implemented, noting all of the following:

(1) Probable effectiveness of the inspected BMPs in controlling pollutants.

(2) Locations of BMPs that need maintenance.

(3) The reason(s) maintenance is needed and a schedule for maintenance.

(4) Locations where additional or different BMPs are needed and the rationale for the additional or different BMPs.

viii. An assessment of all stormwater or wastewater conveyances including ditches, pipes, catch basins, vaults, evaporation ponds or tanks, swales, etc.

3. Inspection Results

(a) The Permittee shall record the results of each inspection in an inspection report or checklist and keep the records on-site for Ecology review. The Permittee shall ensure each inspection report documents the observations, verifications, and assessments required in Condition S6.E (Visual Inspection Requirements) and includes:

i. Time and date of the inspection

ii. Locations inspected

iii. Certification that the facility is in compliance with the SWPPP and the permit, identification of any incidents of non-compliance found during the inspection, and a schedule for implementing the remedial actions that the Permittee plans to take to resolve those non-compliance issues and to prevent future occurrences. Name, title, and signature of the person conducting the site inspection; and the following statement: "*I certify that this report is true, accurate, and complete, to the best of my knowledge and belief*."

iv. Certification and signature of the person described in Condition G17.A or a duly authorized representative of the facility, in accordance with Condition G17.B (Signatory Requirements).

4. Reports of Non-Compliance

(a) The Permittee shall prepare reports of non-compliance identified during an inspection in accordance with the requirements of Condition S9.E.

S7. RESPONSE TO MONITORING RESULTS THAT EXCEED BENCHMARKS

A. Benchmark Responses

The following responses are required when any monitoring result exceeds a benchmark value in a sampling period. Benchmark exceedances are counted during a calendar year. Benchmark exceedances counted under the prior Boatyard General Permit do not count as exceedances during the effective term of this permit.

1. Level One Response – Operational Source Control BMPs

Permittees that exceed an applicable benchmark value(s) in Table 3, for any one or two required sampling months, during a calendar year shall complete a Level One Corrective Action for each parameter exceeded in accordance with the following actions. For example, if a single sample for a monitoring period yields analytical results exceeding benchmarks for total copper and total zinc, then a Level One Response is required for each

parameter. A Level One Response is not required after three or four monthly exceedances for the same benchmark.

(a) Conduct an inspection of the permitted facility as promptly as possible after the monitoring results become available;

(b) In addition to the elements identified in Condition S6.D (Visual Inspection Requirements), the inspection must:

i. Identify and evaluate possible sources of the exceeding parameter in the discharge,

ii. Review the SWPPP and ensure that it fully complies with Permit Condition S3, and contains the applicable BMPs from the appropriate Stormwater Management Manual.

iii. Identify source/operational control methods by which the contamination can be reduced, and

iv. Evaluate which improvements or changes to the SWPPP are necessary to control the exceeding parameter;

v. Make appropriate revisions to the SWPPP to include additional operational source control BMPs with the goal of achieving the applicable benchmark value(s) in future discharges.

(c) Summarize the inspection results in a Level One Response Form, including remedial actions taken or planned, place them in the SWPPP, described in Condition S8 (Stormwater Pollution Prevention Plan), and Submit a copy of the completed Level One Response Form to Ecology at the same time as submitting the corresponding DMR.

2. Level Two Response – Structural Source Control BMPs

Permittees that exceed an applicable benchmark value in Table 3 (for a single parameter), for any three required sampling months during a calendar year shall complete a Level Two Response for each parameter exceeded, at any stormwater monitoring location (e.g., two copper exceedances from one monitoring location and one copper exceedance from another monitoring location), must perform the following actions. Alternatively, the Permittee may skip the Level Two Response and complete a Level Three Response instead in accordance with Condition S7.A.3.

(a) Review the SWPPP and ensure that it fully complies with Permit Condition S8.

(b) Make appropriate revisions to the SWPPP to include additional structural source control BMPs with the goal of achieving the applicable benchmark value(s) in future discharges.

(c) Investigate all available and applicable stormwater treatment BMPs to reduce contaminant levels below the permit benchmark values.

(d) Prepare a Level Two Structural Source Control Report outlining potential stormwater control structures that may be appropriate at that location.

(e) Submit the Level Two Structural Source Control Report to Ecology within three months of reporting the third value above a benchmark.

(f) Fully implement the Level Two Structural Control Report within 6 months of reporting the third value above a benchmark. If installation of necessary structural source control BMPs is not feasible by the 6 month deadline, Ecology may approve additional time, by approving a Modification of Permit Coverage.

During the 6 month reporting and implementation period, or while a time extension is in effect, benchmark exceedances (for the same parameter) do not count towards additional Level Two or Three Responses.

3. Level Three Response – Treatment BMPs

Permittees that exceed an applicable benchmark value in Table 3 (for any single parameter), for any four required sampling months, at any stormwater monitoring location, shall complete a level Three Response for each parameter exceeded.

(a) Treatment

i. The Permittee must prepare an Engineering Report that includes the following items, at a minimum:

(1) Brief summary of the treatment alternatives considered and the reasons the proposed option was selected. The report must include cost estimates of ongoing operation and maintenance, including disposal of any spent media.

(2) The basic design and construction data for all treatment devices and structures that are to be installed, including a characterization of the stormwater runoff influent and the sizing calculations of the treatment units.

(3) A description of the treatment process and operation, including a flow diagram.

(4) The types and amounts of chemicals used in the treatment process, if any.

(5) A proposed schedule for implementation of the preferred option.

(6) Results expected from the treatment process, including the predicted characteristics of the stormwater runoff discharge.

(7) A statement expressing sound engineering justification (through the use of pilot plant data, results from similar installations, and/or scientific evidence) that the proposed treatment is reasonably expected to meet the permit benchmarks and limits.

(8) The Engineering Report must be prepared and certified by a licensed professional engineer.

ii. The Permittee must submit the Engineering Report to Ecology within three months of reporting the fourth monitoring result above a benchmark. Failure to submit an acceptable Engineering Report may result in an order, penalty, or both. The Permittee must notify Ecology at the time the new or

modified treatment BMP is in place and operational. Level One and Level Two Reports are not required for benchmark exceedances for the same parameter(s) that may occur during the period the preferred option is being put into place and started up.

iii. Full implementation of the Engineering Report must be completed within 12 months of the time when Ecology accepts the Engineering Report.

iv. Starting at 15 months after the date of the fourth exceedance, the next benchmark exceedance for that parameter shall count as the first level 1 benchmark exceedance. The Permittee shall then complete the appropriate responses for all future benchmark value exceedances as defined in S7.

(b) Demonstration that Treatment is Not Feasible or Not Necessary

If installation of necessary treatment BMPs is not feasible by the Level 3 deadline, Ecology may approve additional time by approving a Modification of Permit Coverage. If installation of treatment BMPs is not feasible or necessary to prevent discharges that may cause or contribute to violation of a water quality standard, Ecology may waive the requirement for treatment BMPs by approving a Modification of Permit Coverage. Ecology may subsequently approve modification of the permit in accordance with Condition S1.C (Modification of Permit Coverage) if the Permittee:

i. Requests such a modification,

ii. Fulfills all the requirements specified in Condition S1.C, and

iii. Demonstrates to Ecology's satisfaction that one or more of the following conditions apply:

(1) Installation of necessary treatment BMPs is not feasible by the Level Three deadline, up to a maximum of 15 months following reporting the fourth monitoring results above a benchmark.

(2) Installation of treatment BMPs is not feasible or not necessary to prevent discharges that may cause or contribute to violation of a water quality standard.

In this context, "not necessary" means that even without the installation of additional treatment BMP(s), the permitted discharges would not cause or contribute to a violation of water quality standards. Likewise, "not feasible" means that specific local conditions would prevent the Permittee from installing the BMP(s), such as the Permittee's landlord or the local fire marshal refusing to allow the installation. "Not feasible" does not include a Permittee's financial limitations. RCW 90.48.520 states, "*In no event shall the discharge of toxicants be allowed that would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria*."

B. Implementation of Source Control and Treatment BMPs from Previous Permit

In addition to the Corrective Action Requirements of S7, Permittees shall implement any applicable Level 1, 2 or 3 Responses required by the previous Boatyard General Permit(s). Permittees shall continue to operate and/or maintain any BMPs related to benchmark responses implemented prior to the effective date of this permit.

S8. STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

Every facility covered by this permit must prepare and maintain a Stormwater Pollution Prevention Plan (SWPPP), which is developed specifically for its facility. The SWPPP must be consistent with requirements defined in this permit, and be fully implemented and updated as necessary to maintain compliance with permit conditions. The SWPPP must include those BMPs necessary to achieve the limits and benchmarks in Condition S2 (Discharge Limits).

New facilities must develop and implement a SWPPP before beginning operation. However, some components of a SWPPP are added over time and cannot be included in the first SWPPP. The Permittee must update the SWPPP as required by the general permit and as needed to reflect significant process changes before those changes occur.

The Permittee must document the technical basis for the selection of all stormwater BMPs within the SWPPP. The SWPPP must document how stormwater BMPs were selected, the pollutant removal performance expected from the selected BMPs and the technical basis which supports the performance claims for the selected BMPs. Ecology assumes this documentation is a demonstration the selected BMP will comply with water quality standards and satisfy the State AKART requirements and the Federal technology-based treatment requirements under 40 CFR Part 125.3. See Condition S8.A.3 (Proper Selection and Use of Stormwater Management Manuals) for an exception to the requirements of this paragraph.

A. General Requirements

1. Public Access and Signature

   (a) The Permittee must retain the SWPPP and permit on site or within reasonable access to the site and, upon request, make it immediately available to Ecology or the local jurisdiction.

   (b) A copy of the SWPPP must be provided to Ecology within 14 days of receipt of a written request for the SWPPP from Ecology.

   (c) A copy of the SWPPP or access to the SWPPP must be provided to the public when requested in writing. Upon receiving a written request from the public for the Permittee's SWPPP, the Permittee must either:

      i. Provide a copy of the SWPPP to the requestor within 14 days of receipt of the written request; or

      ii. Provide access to the SWPPP within 14 days of receipt of the written request at a mutually agreed upon location for viewing and/or copying of

the SWPPP. The Permittee will provide reasonable access to copying services for which a reasonable fee may be charged; or

iii. Provide a URL in your NOI where your SWPPP can be found, and maintain your current SWPPP at this URL, you will have complied with the public availability requirements for the SWPPP. To remain current, you must post any SWPPP modifications, records, and other reporting elements required for the permit term at the same URL as the main body of the SWPPP.

The responsible party as identified in Condition G17 (Signatory Requirements) must sign the SWPPP and all of its modifications.

2. Enhanced/Additional Best Management Practices

The Permittee must provide in the SWPPP an implementation schedule of any additional or enhanced BMPs required due to an Ecology notice, facility changes, self-inspection, or monitoring results that exceed benchmark values for one to three times, as described in Condition S7 (Response to Monitoring Results that Exceed Benchmarks). The Permittee must complete and enter a schedule for implementation (plan) into the SWPPP within 30 days of a determination of necessary improvements or exceedance of benchmark values. BMPs identified in the plan must be implemented with diligence. The Permittee must complete non-capital BMPs within 2 weeks after completing the plan and capital BMPs within 6 months. Enhanced/additional BMPs must comply with Condition S8.A.3 (Proper Selection and Use of Stormwater Management Manuals). This paragraph does not apply to a Level Two or a Level Three Response triggered by four or more exceedances of the same benchmark. Complying with this provision does not limit the potential liability for enforcement action where the Permittee has failed to implement required BMPs or where discharges of stormwater runoff violate water quality standards.

Ecology may notify the Permittee when the SWPPP does not meet one or more of the minimum requirements of this Condition or when the SWPPP is not adequate to assure compliance with standards. The Permittee must modify the SWPPP and the BMPs to correct the deficiencies identified in the notice within 30 days of the notice or receipt of the inspection report.

The Permittee must modify the SWPPP whenever there is a change in design, construction, operation, or maintenance of any BMP which cause(s) the SWPPP to be less effective in controlling the pollutants.

This permit requires the Permittee to conduct visual monitoring. This monitoring may identify BMPs that are inadequate or pollutant sources that are not identified or poorly described in the SWPPP. When visual monitoring identifies inadequacies in the SWPPP, due to the actual discharge of or potential to discharge a significant amount of any pollutant, the Permittee must modify the SWPPP and adjust the BMPs to correct the deficiency.

3. Proper Selection and Use of Stormwater Management Manuals

Permittees who select BMPs from an Ecology-approved stormwater management (Stormwater manuals - Washington State Department of Ecology[4]) manual must clearly specify the stormwater management manual in their SWPPP. Permittees who choose to use BMPs from approved stormwater management manuals do not have to demonstrate the technical basis for the BMPs as set forth in the introductory paragraphs of this section.

4. Other Pollution Control Plans

   The Permittee may incorporate by reference applicable portions of plans prepared for other purposes at their facility. Plans or portions of plans incorporated into a SWPPP become enforceable requirements of this permit and must meet the availability requirements of the SWPPP, described in Condition S8.A.1 (Public Access and Signature). A Pollution Prevention Plan prepared under the Hazardous Waste Reduction Act, Chapter 70A.214 RCW, is an example of such a plan.

B. SWPPP Contents and Requirements

The SWPPP must contain a detailed assessment of the entire facility and a detailed description of the BMPs. The Permittee must clearly identify in the plan any parts of the SWPPP which it wants to claim as Confidential Business Information. At a minimum, the SWPPP must include the following:

1. Facility Assessment

   The facility assessment must include a description of the entire facility, a detailed site map, and an inventory of facility activities, equipment, and materials that contribute to or have the potential to contribute pollutants to stormwater. The assessment must be as complete as possible (including incidental sources such as tire wear or equipment leaks) and must be updated to reflect substantive changes at the facility. The SWPPP must address each potentially significant pollutant source with BMPs that will eliminate or reduce the potential to contaminate stormwater through source control or treatment.

   (a) Facility Description: The facility description must describe the activities conducted at the site, the general layout of the facility, including buildings and storage of raw materials, and the flow of goods and materials through the facility. It must include seasonal variations, including peaks in production and any changes in work based on season or weather.

   (b) Site Map: The site map must be drawn to an identified scale that indicates the relative distances between significant structures and drainage systems. It must be of sufficient size and identify the following significant features:

      i. The scale or include relative distances between significant structures and drainage systems.

      ii. The size of the property in acres.

[4] https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Stormwater-manuals

iii. The location and extent of all buildings, structures and all impervious surfaces.

iv. Direction of stormwater flow (use arrows).

v. Locations of all structural source control BMPs.

vi. Locations of all receiving water (including wetlands and drainage ditches) in the immediate vicinity of the facility.

vii. Locations of all stormwater conveyances including ditches, pipes, catch basins, vaults, ponds, swales, etc.

viii. Locations of actual and potential pollutant sources.

ix. Locations of all stormwater monitoring points.

x. The stormwater drainage areas for each stormwater discharge point off site (including discharges to groundwater).

xi. Locations of stormwater inlets and outfalls with a unique identification number for each sampling point and discharge point, indicating any that are identified as substantially identical, and identify, by name, any other party other than the Permittee that owns any stormwater drainage or discharge structures.

(c) Industrial Activities: The inventory of industrial activities must identify all areas associated with industrial activities which have been or may potentially be sources of significant amounts of pollutants, including the following:

i. Loading and unloading of dry bulk materials or liquids.

ii. Outdoor storage or staging of materials or products.

iii. Outdoor work and repair areas, including any do-it-yourself areas.

iv. Dust- or particulate-generating processes.

v. Roofs or other surfaces exposed to air emissions from an enclosed vessel repair or a process area.

vi. On-site waste treatment, storage, or disposal.

vii. Vehicle and vessel fueling, maintenance, and/or cleaning (includes washing).

viii. Roofs or other surfaces composed of materials that may be mobilized by stormwater (e.g., galvanized or copper roofs).

(d) Inventory of Materials: The inventory of materials must include the following:

i. A list of all the types of materials handled at the site that potentially may be exposed to precipitation or runoff and could result in stormwater pollution of a significant amount.

ii. A short narrative for each material describing the potential of the pollutant to be present in stormwater discharges.

iii. A narrative description of any potential sources of pollutants of a significant amount from past activities; significant materials that were previously handled, treated, stored, or disposed of in a manner to allow ongoing exposure to stormwater. The Permittee must update this narrative when data become available to verify the presence or absence of these pollutants.

iv. The method and location of any on-site storage or disposal; and a list of significant spills and significant leaks of toxic or hazardous pollutants.

(e) Non-Stormwater Miscellaneous Discharges, identified in Condition S5 (Non-Stormwater Miscellaneous Discharges): These discharges must be specified as to volume, frequency of discharge, expected duration of discharge, and BMPs to assure they are uncontaminated. Visual monitoring must be included in the plan described in Condition S8.B.2 (Monitoring Plan).

2. Monitoring Plan

The SWPPP must include a monitoring plan. The plan must identify all the points of discharge of pressure-wash wastewater, process wastewater, and stormwater runoff to the sanitary sewer, to surface water, to an infiltration basin or trench, or to a storm drain system. If there is more than one point where stormwater runoff discharges, then the plan must include a discussion of how the Permittee has determined which point(s) of discharge are to be monitored and which substantially identical discharge point(s) will not be monitored.

(a) The SWPPP must contain the following documentation of why specified parameters are not to be monitored at each discharge point, if applicable:

i. General industrial activities conducted in the drainage area of each discharge point.

ii. Exposed materials located in the drainage area of each discharge point that are likely to be significant contributors of pollutants to stormwater runoff discharges.

iii. Impervious surfaces in the drainage area that could affect the percolation of stormwater runoff into the ground (e.g., asphalt, crushed rock, grass).

iv. Best management practices conducted in the drainage area of each discharge point.

v. Location(s) of the discharge point(s) the Permittee will not monitor because the pollutant concentrations are substantially identical to another discharge point that is being monitored.

vi. Reasons why the Permittee expects the discharge points to discharge substantially identical effluents.

(b) The plan must identify who is responsible for monitoring and how monitoring will be conducted to comply with permit conditions. The monitoring plan must address stormwater sampling requirements and visual inspections. Records of these inspections must be kept as attachments to the SWPPP. The plan must include the following:

i. Identification of all points of discharge;

ii. The checklist to be used for visual monitoring;

iii. The person (or position) who conducts stormwater sampling;

iv. Where samples will be taken;

v. Parameters for analysis and the analytical methods to be employed;

vi. Procedures for sample collection and handling;

vii. Procedures for sending samples to lab; and

viii. Procedure for submitting monitoring results to Ecology.

3. Best Management Practices

The SWPPP must include a description of the best management practices (BMPs) in addition to those specified in Condition S3 (Mandatory Best Management Practices) that are necessary for the facility to eliminate or reduce the potential to contaminate stormwater. BMPs must be considered to regulate peak flow and volume of stormwater discharge**.**

The SWPPP must document how the Permittee selected stormwater treatment BMPs, the pollutant removal performance expected from each treatment BMP, the technical basis that supports the performance claims for the selected treatment BMPs, and an assessment of how the selected treatment BMPs will comply with State water quality standards and satisfy the technology-based treatment requirements of 40 CFR Part 125.3 and Chapter 90.48 RCW.

Permittees who choose to follow the stormwater management practices, or their functional equivalents, contained in approved stormwater management manuals(Stormwater manuals - Washington State Department of Ecology[5]), including the proper selection, implementation, and maintenance of appropriate BMPs, are presumed to have satisfied the demonstration requirement of the previous paragraph.

Many BMPs are common to all facilities. The categories listed below must be included in the SWPPP. The Permittee must identify in the SWPPP the BMP categories listed below and implement those BMPs to meet the following requirements:

(a) Operational Source Control BMPs

[5] https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Stormwater-manuals

The SWPPP must include those Operational Source Control BMPs listed as "applicable" in Ecology's Stormwater Management Manual (SWMM), approved stormwater technical manuals chosen per Condition S8.A.3 (Proper Selection and Use of Stormwater Management Manuals), or other guidance documents or manuals approved in accordance with Condition S8.A.3.

(b) Structural Source Control BMPs

The SWPPP must include the Structural Source Control BMPs listed as "applicable" in Ecology's SWMM, approved stormwater technical manuals chosen per Condition S8.A.3 (Proper Selection and Use of Stormwater Management Manuals), or other guidance documents or manuals approved in accordance with Condition S8.A.3.

(c) Pollution Prevention Team

The SWPPP must include a BMP that identifies specific individual(s) by name or by title within the plant organization responsible for developing the SWPPP and assisting the plant manager in its implementation, maintenance, and modification. The activities and responsibilities of the team must address all aspects of the facility's SWPPP.

(d) Good Housekeeping

The SWPPP must include a BMP(s) that defines ongoing maintenance and cleanup, as appropriate, of areas which may contribute pollutants to discharges of stormwater runoff. The SWPPP must include the schedule/frequency for completing each housekeeping task.

(e) Preventive Maintenance

The SWPPP must include a BMP(s) to inspect and maintain the stormwater drainage and treatment systems (if any), and equipment and systems that could fail and result in contamination of stormwater runoff. The SWPPP must include the schedule and frequency for completing each maintenance task and the person(s) or position(s) responsible for preventive maintenance. The Permittee must:

i. Clean catch basins when the depth of debris reaches 60% of the sump depth. In addition, the Permittee must keep the debris surface at least 6 inches below the outlet pipe. Records of this maintenance shall be kept as described in S9.B.

ii. Maintain ponds, tanks/vaults, catch basins, swales, filters, oil/water separators, drains, and other stormwater drainage/treatment facilities in accordance with the maintenance standards set forth in the applicable Stormwater Management Manual.

iii. Inspect all equipment and vehicles during weekly site inspections for leaking fluids such as oil, antifreeze, etc. Take leaking equipment and vehicles out of service or prevent leaks from spilling on the ground until repaired.

iv. Clean up spills and leaks immediately (e.g., using absorbents, vacuuming, etc.) to prevent the discharge of pollutants.

(f) Spill Prevention and Emergency Cleanup Plan (SPECP)

The SWPPP must include a BMP(s) to identify areas where potential spills can contribute pollutants to discharges of stormwater runoff. The BMP(s) must specify material handling procedures, storage requirements, and cleanup equipment and procedures, as appropriate. The SWPPP may include excerpts of plans prepared for other purposes (e.g., Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the CWA), where those excerpts meet the intent of this requirement. This section must include:

i. A description of the reporting system which the Permittee plans to use to immediately alert facility managers and all appropriate legal authorities, in the event of a spill or unpermitted discharge which may endanger health or the environment. Condition S9 (Reporting and Recordkeeping Requirements) provides the contact information for those authorities.

(1) A description of preventive measures and facilities, including an overall facility plot plan showing drainage patterns, which prevent, contain, or treat spills or unpermitted discharges. The use of dispersants and emulsifiers is prohibited without specific approval from the Director of the Department of Ecology.

(2) A list of all oils and chemicals used, processed, or stored at the facility which may be spilled or discharged into waters of the State.

ii. The SPECP shall specify BMPs for material handling procedures, storage requirements, cleanup equipment and procedures, and spill logs, as appropriate. The Permittee shall:

(1) Store all hazardous substances, petroleum/oil liquids, and other chemical solid or liquid materials that have potential to contaminate stormwater on an impervious surface that is surrounded with a containment berm or dike that is capable of containing 10% of the total enclosed container volume or 110% of the volume contained in the largest container, whichever is greater, or use double-walled tanks.

(2) Prevent precipitation from accumulating in containment areas by using a roof or equivalent structure or include a plan on how it will manage and dispose of accumulated water if a containment area cover is not practical.

(3) Locate spill kits within 25 feet of all stationary fueling stations, fuel transfer stations, mobile fueling units, and used oil storage/transfer stations. At a minimum, spill kits shall include:

- Oil absorbents capable of absorbing 15 gallons of fuel. Facilities with a Spill Prevention, Control, and Countermeasures Plan (SPCCP) must have enough oil absorbents capable of absorbing the minimum anticipated spill amount or potential discharge volume identified in that plan if more than 15 gallons.
- A storm drain plug or cover kit.

- A non-water containment boom, a minimum of 10 feet in length with a 12-gallon absorbent capacity.
- A non-metallic shovel.
- Two 5-gallon buckets with lids.

(4) Not lock shut-off fueling nozzles in the open position. Do not "top-off" tanks being refueled.

(5) Block, plug or cover storm drains that receive runoff from areas where fueling, during fueling.

(6) Use drip pans or equivalent containment measures during all petroleum transfer operations.

(7) Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas).

(8) Use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible. Drain fluids from equipment and vehicles prior to on-site storage or disposal.

(9) Maintain a spill log that includes the following information for chemical and petroleum spills: date, time, amount, location, and reason for spill; date/time cleanup completed, notifications made and staff involved.

iii. Employee Training: The SWPPP shall include BMPs to provide SWPPP training for employees who have duties in areas of industrial activities subject to this permit. At a minimum, the training plan shall include:

(g) The content of the training.

i. An overview of what is in the SWPPP.

ii. How employees make a difference in complying with the SWPPP and preventing contamination of stormwater.

iii. Spill response procedures, good housekeeping, maintenance requirements, and material management practices.

iv. How the Permittee will conduct training.

v. The frequency/schedule of training. The Permittee shall train employees annually, at a minimum.

vi. A log of the dates on which specific employees received training.

(h) Oversight of Do-It-Yourselfers and Independent Contractors

The SWPPP must include a BMP(s) that describes how the Permittee will ensure that all individuals ***not*** employed by the boatyard who service marine vessels or any other

motor-driven vehicle or otherwise conduct boatyard activities at its facility have been educated about required practices to control and prevent the release of pollutants to waters of the State, including at a minimum all the mandatory BMPs listed in Section S3 (Mandatory Best Management Practices). The Permittee must prohibit do-it-yourselfers and independent contractors who fail to implement all the required practices and BMPs from working at the boatyard.

The Permittee must document its compliance with this BMP by

i. Describing in the SWPPP the Permittee's procedures for communicating the required practices to non-boatyard individuals;

ii. Describing in the SWPPP the Permittee's procedures for providing oversight of non-boatyard individuals, e.g., by conducting regularly scheduled inspections of their work area(s) and activities;

iii. Maintaining written agreements with those non-boatyard individuals that they will implement all of the mandatory BMPs; and

iv. Describing in the SWPPP the process for excluding repeat offenders from its facilities.

(i) Inspections and Recordkeeping

The SWPPP must include documentation of procedures to assure compliance with permit requirements for inspections and recordkeeping. At a minimum, it must include all of the following:

i. Identify personnel who inspect designated equipment and areas as required in Condition S6 (Monitoring Requirements);

ii. Provide a tracking or follow-up procedure to ensure that a report is prepared and any appropriate action taken in response to visual monitoring;

iii. Define how the Permittee will comply with signature requirements and records retention identified in Condition S9 (Reporting and Recordkeeping Requirements); and

iv. Include certification of compliance with the SWPPP.

(j) Decontamination Documentation

The SWPPP must include documentation of procedures used to assure compliance with permit requirement S3.J (Wash Pad Decontamination) and S3.M (Dry Docks and Graving Docks). At a minimum the SWPPP must:

i. Identify personnel who are responsible for decontamination of wash pads, dry docks, or graving docks.

ii. Describe the procedure(s) used to thoroughly clean the pad, sump, dry docks, or graving docks.

iii. Identify equipment and materials to be used in the decontamination process.

(k) Illicit Discharges

The SWPPP must include measures to identify and eliminate the discharge of process wastewater, domestic wastewater, and other illicit discharges, to stormwater sewers, or to waters of the State. The Permittee can find BMPs to identify and eliminate the discharge of process wastewater, domestic wastewater, and other illicit discharges in Volume IV of Ecology's SWMM for Western Washington and Chapter 8 of the SWMM for Eastern Washington.

(l) Vessel Deconstruction BMPs

For facilities that deconstruct vessels, the SWPPP must include a description of the BMPs used when deconstructing vessels. This must include BMPs for in accordance with the requirements of the permit, beginning with initial deconstruction activity until all deconstruction activity is complete. For any deconstruction activity that takes place on a dry dock or barge, the SWPPP must include BMPs that demonstrate compliance with Condition S3.M.

S9. REPORTING AND RECORDKEEPING REQUIREMENTS

The Permittee must report in accordance with the following conditions. False reporting is a violation of this permit.

A. Reporting

Unless otherwise specified in this permit, the Permittee must use the on-line, "Water Quality Permitting Portal" to submit all permit-required reports by the specified due dates (more information is located at Ecology's WQWebPortal guidance webpage[6] Permittees unable to submit electronically (e.g., those who do not have an Internet connection) must contact their Washington State Department of Ecology regional permit administrator at the locations provided in Condition S9.E (Noncompliance Notification) to request a waiver and to obtain instructions on how to provide hardcopy paper versions of the required reports and documentation.

Where another condition of this permit requires submission of hardcopy paper documentation, the Permittee must ensure that the submission is postmarked or received by Ecology no later than the specified due date. The Permittee must submit hardcopy paper documentation to the water quality permit coordinator at the appropriate address provided in Condition S9.E (Noncompliance Notification).

The Permittee must submit a discharge monitoring report (DMR) for each calendar month during which monitoring is required, whether or not a discharge occurred. If the facility did not discharge during a given monitoring period, the Permittee must submit a completed DMR with

[6] https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance

"No Discharge" entered as the DMR Reporting Code. Submission of DMRs must be completed by no later than the 28th day of the month following the completed monitoring period.

All DMRs must contain the following information:

(a) Include data for each of the parameters for which monitoring is required by Condition S6 (Monitoring Requirements) and as required by the DMR entry screen or hardcopy paper form. Report a value for each day sampling occurred and for the monthly values.

(b) If the Permittee did not discharge wastewater or stormwater runoff during a given monitoring period, enter the "No Discharge" reporting code.

(c) Record onto the DMR those analytical values reported as "less than the detection limit" by entering "**<**" followed by the numeric value of the detection limit (e.g., **<** 2.0). If the method used did not achieve the detection limit or quantitation level identified in Condition S6.C (Analytical Procedures), report the actual detection limit and quantitation level in the DMR comments section or other location provided.

(d) Report the analytical test method used in the DMR comments section or other location provided if the laboratory used an alternate method not specified in the permit and as allowed in Condition S6.D (Analytical Procedures).

The Permittee must submit monitoring results in accordance with the minimum sampling frequencies specified in Conditions S2 (Discharge Limits) and S6 (Monitoring Requirements) and must submit all data collected to Ecology. If the permittee discharges process wastewater or stormwater runoff to a POTW and the POTW wishes to receive monitoring data, then DMRs must also be provided to the POTW at the same time they are sent to Ecology. The Permittee must summarize and report monitoring data collected during the previous month or sample period on a form provided, or otherwise approved, by Ecology. The Permittee must ensure that the report is postmarked or received by Ecology no later than the 28th day of the month following the sample collection month. Hardcopy written report(s) must be sent to the appropriate regional office of Ecology.

B. Records Retention

1. The Permittee shall retain the following documents onsite for a minimum of five years:

(a) A copy of this permit.

(b) A copy of the permit coverage letter.

(c) Records of all sampling information specified in Condition S9.C.

(d) Inspection reports including documentation specified in Condition S6. E.

(e) Any other documentation of compliance with permit requirements.

(f) All equipment calibration records.

(g) All BMP maintenance records.

(h) All original recordings for continuous sampling instrumentation.

(i) Copies of all laboratory reports as described in Condition S6.D.

(j) Copies of all reports required by this permit.

(k) Records of all data used to complete the application for this permit.

2. The Permittee shall extend the period of records retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee, or when requested by Ecology.
3. The Permittee shall make all plans, documents, and records required by this permit immediately available to Ecology or the local jurisdiction upon request; or within 14 days of a written request from Ecology.

C. Recording Results

For each measurement or sample taken, the Permittee must record all of the following information:

(a) Date, exact place, method, and time of sampling;

(b) Name of the individual who performed the sampling or measurement;

(c) Dates the analyses were performed;

(d) Name of the person(s) who performed the analyses;

(e) Analytical techniques or methods used; and

(f) Results of all analyses.

D. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant at a designated sampling point (addressed in Condition S6 (Monitoring Requirements)) more frequently than required by this general permit using test procedures specified by Condition S6.C (Analytical Procedures), then it must include the results of this monitoring along with the data submitted in its monthly DMRs, as an electronic attachment or submittal to the Ecology Water Quality Permitting Portal. A Permittee with a waiver due to its inability to submit electronically must submit the additional monitoring data on a paper hardcopy to the appropriate address provided in Special Condition S9.E (Noncompliance Notification).

E. Noncompliance Notification

In the event of a spill or a discharge not authorized by this general permit which may endanger health or the environment, the Permittee must immediately notify:

(a) The appropriate Ecology regional office,

(b) The Washington Military Department, Emergency Management Division, at (800) 258-5990, and

(c) The United States Coast Guard, National Response Center, at (800) 424-8802.

This notification procedure must be included in the SWPPP as noted in Condition S8.B.3(f) (Spill Prevention and Emergency Cleanup Plan). The phone numbers of Ecology regional permit administrators are provided below.

Table 6: Ecology Office Locations

Ecology Office Location	Counties
Ecology Central Regional Office Water Quality Program 1250 West Alder Street Union Gap, WA 98903-0009 509-575-2490 TDY: 711 or 1-800-833-6341	Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, and Yakima
Ecology Eastern Regional Office Water Quality Program North 4601 Monroe Spokane, WA 99205-1295 509-329-3400 TDY: 711 or 1-800-833-6341	Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman
Ecology Northwest Regional Office Water Quality Program 15700 Dayton Ave. N. Shoreline, WA 98133 206-594-0000 TDY: 711 or 1-800-833-6341	Island, King, Kitsap, San Juan, Skagit, Snohomish, and Whatcom
Ecology Southwest Regional Office Water Quality Program P.O. Box 47775 Olympia, WA 98504-7775 360-407-6300 TDY: 711 or 1-800-833-6341	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, and Wahkiakum

In addition to a spill or unauthorized discharge, in the event the Permittee is unable to comply with any of the other permit terms and conditions due to any cause, the Permittee must:

(a) Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the violation, correct the problem and, if applicable, repeat sampling and analysis of any noncompliance and submit the results to Ecology within 5 days after becoming aware of the violation;

(b) Notify the regional Ecology facility inspector orally of the failure to comply within 24 hours from the time the Permittee becomes aware of the noncompliance; and

(c) Submit a detailed written report electronically via the Water Quality Permitting Portal to Ecology within 5 days from the time the Permittee becomes aware of the noncompliance. The report should describe the nature of the violation, including exact dates and times, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of the additional sampling, and any other pertinent information. Permittees who are unable to submit electronically (e.g., those who do not have an Internet connection) must contact their Ecology regional permit administrator at the locations provided above to request a waiver. Permittees with waivers must submit hardcopy paper reports to be

received by Ecology no later than within 5 days of the time the Permittee became aware of the noncompliance.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

F. Discharges to a Delegated Municipal Sanitary Sewer System

Permittees who discharge treated pressure-wash wastewater to a delegated municipal sanitary sewer system must maintain records of their contractual agreement with the municipality, including the conditions of discharge. These records must be available for Ecology inspection.

S10. BYPASS

A. Bypass Procedures

This permit prohibits a bypass which is the intentional diversion of waste streams from any portion of a treatment facility. Ecology may take enforcement action against a Permittee for a bypass unless one of the following circumstances (1, 2, or 3) applies.

1. Bypass for Essential Maintenance without the Potential to Cause Violation of Permit Limits or Conditions.

   Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limits or other conditions of this general permit, or adversely impact public health as determined by Ecology prior to the bypass. The Permittee must submit prior notice, if possible, at least 10 days before the date of the bypass.

2. Bypass which is unavoidable, unanticipated, and results in noncompliance with this general permit.

   This bypass is permitted only if all three of the following conditions are met:

   (a) Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which would cause 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.

   (b) No feasible alternatives to the bypass exist, such as:

      i. The use of auxiliary treatment facilities.

      ii. Retention of untreated wastes.

      iii. Stopping production.

iv. Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup equipment in the exercise of reasonable engineering judgment to prevent a bypass.

v. Transport of untreated wastes to another treatment facility.

(c) Ecology is properly notified of the bypass as required in Condition S9E (Noncompliance Notification).

3. If bypass is anticipated and has the potential to result in noncompliance with this general permit.

(a) The Permittee must notify Ecology at least 30 days before the planned date of bypass. The notice must contain:

i. A description of the bypass and its cause.

ii. An analysis of all known alternatives that would eliminate, reduce, or mitigate the need for bypassing.

iii. A cost-effectiveness analysis of alternatives, including comparative resource damage assessment.

iv. The minimum and maximum duration of the bypass under each alternative.

v. A recommendation as to the preferred alternative for conducting the bypass.

vi. The projected date of bypass initiation.

vii. A statement of compliance with SEPA.

viii. A request for modification of water quality standards as provided for in WAC 173-201A-410, if an exceedance of any water quality standard is anticipated.

ix. Details of the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

(b) For probable construction bypasses, the Permittee must notify Ecology of the need to bypass as early in the planning process as possible. The Permittee must consider the analysis required above during the project planning and design process. The project-specific engineering report, facility plan, and plans and specifications must include details of probable construction bypasses to the extent practical. In cases where the Permittee determines the probable need to bypass early, the Permittee must continue to analyze conditions up to and including the construction period in an effort to minimize or eliminate the bypass.

(c) Ecology will consider the following prior to approving or denying the request:

i. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.

ii. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.

iii. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve or deny the request. The public must be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by Ecology under RCW 90.48.120.

B. Duty to Mitigate

The Permittee is required to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

S11. SOLID WASTE MANAGEMENT

The Permittee must manage all solid waste materials to prevent the release of leachate into waters of the State.

S12. REPORTING FOR INVASIVE SPECIES CONTROL

The Permittee must quarantine a boat/vessel identified as a carrier of any prohibited invasive species (level 1, 2, or 3) listed under Chapter 220-640 WAC or quarantined plants listed in Chapter 16-752 WAC. This list includes zebra mussels and quagga mussels, which represent a significant threat to the integrity of Waters of the State. The permittee must notify the appropriate Washington Fish and Wildlife Regional Office within 24 hours when these species are identified on a vessel. The boat/vessel must not be released, re-launched, pressure washed, or have its bilge pumped until it has been cleared by the U.S. Fish and Wildlife Service or the Washington State Department of Fish and Wildlife.

S13. TERMINATION OF COVERAGE UNDER THIS PERMIT

A. Conditions Required for Ecology Approval

Ecology may approve a Permittee's request for termination of its coverage under this permit when the Permittee meets either condition 1 or 2:

1. All discharges of process wastewater, including pressure-wash wastewater, have been eliminated because the facility no longer generates process wastewater, or the facility has

redirected its process wastewater to a sanitary sewer system operated by a municipality with a delegated pretreatment program, provided the Permittee has received a discharge authorization from the delegated municipality and authorization from all other applicable local sewerage authorities.

AND

All discharges of stormwater runoff from areas with industrial activity have been eliminated because the facility has redirected that stormwater runoff to a sanitary sewer system operated by a municipality with a delegated pretreatment program, provided the Permittee has received a discharge authorization from the delegated municipality and authorization from all other applicable local sewerage authorities.

2. The Permittee sells or otherwise legally transfers responsibility for the industrial activity at the boatyard.

B. Procedure for Obtaining Termination of Coverage

1. The Permittee shall complete a Notification of Termination (NOT) request form provided by Ecology or available from the website at Notice of Termination Request Boatyard General Permit (wa.gov)[7].

   (d) The Permittee shall sign the NOT Request form in accordance with the signatory requirements specified in General Condition G17 (Signatory Requirements).

2. The Permittee shall submit the completed NOT request form to Ecology either:

   (a) Electronically through the Ecology Water Quality Permitting Portal; or

   (b) If Ecology has issued a waiver due to the Permittee's inability to submit electronically, on a paper hardcopy sent to the appropriate address provided in Special Condition S9.E (Noncompliance Notification).

[7] https://apps.ecology.wa.gov/publications/SummaryPages/ECY070549.html

GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this general permit must be consistent with the terms and conditions of this general permit. The discharge of any pollutant more frequently than, or at a concentration in excess of that authorized by this general permit, must constitute a violation of the terms and conditions of this general permit.

G2. PROPER OPERATION AND MAINTENANCE

The Permittee must, at all times, properly operate and maintain all facilities or systems of treatment and control (and related appurtenances) which are installed to achieve compliance with the terms and 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 this permit.

G3. RIGHT OF ENTRY

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

(a) To enter upon the premises where a discharge is located or where any records must be kept under the terms and conditions of this permit;

(b) To have access to and copy at reasonable times any records that must be kept under the terms of this permit;

(c) To inspect at reasonable times any monitoring equipment or method of monitoring required in this permit;

(d) To inspect at reasonable times any collection, treatment, pollution management, or discharge facilities; and

(e) To sample at reasonable times any discharge of pollutants.

G4. PERMIT COVERAGE REVOKED

Pursuant with Chapter 43.21B RCW and Chapter 173-226 WAC, the Director of Ecology may require any discharger authorized by this permit to apply for and obtain coverage under an individual permit or another more specific and appropriate general permit. Cases where revocation of coverage may be required include, but are not limited to, the following:

(a) Violation of any term or condition of this permit;

(b) Obtaining coverage under this permit by misrepresentation or failure to disclose fully all relevant facts;

(c) Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090;

(d) A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations;

(e) Nonpayment of permit fees or penalties assessed pursuant to RCW 90.48.465 and Chapter 173-224 WAC; or

(f) Failure of the Permittee to satisfy the public notice requirements of WAC 173-226-130(5), when applicable; or Permittees who have their coverage revoked for cause according to WAC 173-226-240 may request temporary coverage under this permit during the time an individual permit is being developed, provided the request is made within 90 days from the time of revocation and is submitted along with a complete individual permit application form.

G5. GENERAL PERMIT MODIFICATION AND REVOCATION

This permit may be modified, revoked and reissued, or terminated in accordance with the provisions of Chapter 173-226 WAC. Grounds for modification or revocation and reissuance include, but are not limited to, the following:

(a) When a change which occurs in the technology or practices for control or abatement of pollutants applicable to the category of dischargers covered under this permit;

(b) When effluent limitation guidelines or standards are promulgated pursuant to the Federal Water Pollution Control Act or Chapter 90.48 RCW, for the category of dischargers covered under this permit;

(c) When a water quality management plan containing requirements applicable to the category of dischargers covered under this permit is approved; or

(d) When information is obtained which indicates that cumulative effects on the environment from dischargers covered under this permit are unacceptable.

G6. REPORTING A CAUSE FOR MODIFICATION

A Permittee who knows, or has reason to believe, that any activity has occurred or will occur which would constitute cause for modification or revocation under Condition G5 (General Permit Modification and Revocation) or 40 CFR 122.62, must report such plans, or such information, to Ecology so that a decision can be made on whether action to modify coverage or revoke coverage under this permit will be required. Ecology may then require submission of a new application for coverage under this, or another general permit, or an application for an individual permit. Submission of a new application does not relieve the Permittee of the duty to comply with all the terms and conditions of the existing permit until the new application for coverage has been approved and corresponding permit has been issued.

G7. TOXIC POLLUTANTS

The Permittee must comply with 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 this permit has not yet been modified to incorporate the requirement.

G8. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this general permit by reference.

G9. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit excuses the Permittee from compliance with any applicable Federal, State, or local statutes, ordinances, or regulations.

G10. ADDITIONAL MONITORING

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G11. PAYMENT OF FEES

The Permittee must submit payment of fees associated with this permit as assessed by Ecology. Ecology may revoke this permit coverage or take enforcement, collection, or other actions, if the permit fees established under Chapter 173-224 WAC are not paid.

G12. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of stormwater must not be re-suspended or reintroduced for discharge to State waters.

G13. REQUESTS TO BE EXCLUDED FROM COVERAGE UNDER A GENERAL PERMIT

Any discharger authorized by this general permit may request to be excluded from coverage under this general permit by applying for an individual permit. The discharger must submit to the Director of Ecology an application as described in WAC 173-220-040 or WAC 173-216-070,

whichever is applicable, with reasons supporting the request. These reasons must fully document how an individual permit will apply to the applicant in a way that the general permit cannot. Ecology may make specific requests for information to support the request. The Director will either issue an individual permit or deny the request with a statement explaining the reason for the denial. When an individual permit is issued to a discharger otherwise subject to this general permit, the applicability of this general permit to that Permittee is automatically terminated on the effective date of the individual permit.

G14. DUTY TO REAPPLY

All Permittees covered by this general permit who wish to continue their permitted activities and discharges beyond the expiration date of this general permit must submit a new application for coverage under this general permit, or an application for an individual permit, at least 180 days prior to the expiration date of this general permit. When a Permittee has submitted a timely and sufficient application for the renewal of coverage under this general permit, the expiring general permit remains in effect and enforceable until Ecology:

(a) Denies the application;

(b) Issues a replacement permit; or

(c) Cancels the expired general permit.

Coverage under an expired general permit for Permittees who fail to submit a timely and sufficient application expires on the expiration date of the general permit.

G15. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit will be deemed guilty of a crime, and upon conviction be punished by a fine of up to ten thousand dollars and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation. Any person who violates the terms and conditions of a waste discharge permit incurs, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars for every such violation. Each and every such violation is considered a separate and distinct offense, and in case of a continuing violation, every day's continuance will be deemed to be a separate and distinct violation.

G16. SIGNATORY REQUIREMENTS

(a) All permit applications and requests for permit modification, transfer, or termination must be signed and certified when submitted to Ecology by:

i. In the case of a municipal, State, or other public facility, by either a principal executive officer or ranking elected official.

ii. In the case of a corporation, by a responsible corporate officer of at least the level of vice president.

iii. In the case of a partnership, by a general partner.

iv. In the case of a sole proprietorship, by the proprietor.

(b) All reports required by this permit and other information requested by Ecology must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

i. The authorization is made in writing by a person described above and submitted to Ecology.

ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

(c) Changes to authorization. If an authorization under Paragraph B.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Paragraph B.2 above must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) Certification. Any person signing a document under this section must make the following 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 information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

G17. APPEALS

The terms and conditions of the boatyard general permit are subject to appeal. There are two different appeal categories.

(a) The permit terms and conditions as they apply to the appropriate class of dischargers are subject to appeal within 30 days of issuance of this general permit in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC; and

(b) The applicability of the permit terms and conditions to an individual discharger are subject to appeal in accordance with Chapter 43.21B RCW within 30 days of the effective date of coverage of that discharger. An appeal of the coverage of the boatyard general permit to an individual discharger is limited to the applicability or non-applicability of the boatyard general permit to that same discharger. Appeal of permit coverage of an individual discharger will not affect the coverage of any other individual dischargers. If the terms and conditions of the boatyard general permit are found to be inapplicable to any discharger(s), the matter will be remanded to Ecology for consideration of issuance of an individual permit or permits.

G18. SEVERABILITY

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

G19. REPORTING 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 in any report to Ecology, the Permittee must promptly submit such facts or information.

G20. DUTY TO COMPLY

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and may be grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of permit renewal.

DEFINITIONS

When used in this permit, the following terms have the meanings as given below.

303(d) list means the list of Category 5 waterbodies periodically prepared by Ecology and approved by the U.S. EPA. This list specifies the waters of the State of Washington that are not meeting the water quality standards as given in Chapter 173-201A. This list is available at Assessment of state waters 303d - Washington State Department of Ecology [8]. The list applicable to discharges covered by this permit is the list approved by the U.S. EPA at the time of facility coverage under this permit.

Approved Stormwater Management Manual means a stormwater manual produced by Ecology or the U.S. EPA that contains best management practices appropriate for the discharges covered by this permit. Manuals produced by trade organizations may be approved if reviewed by Ecology, subjected to public comment, and posted on the appropriate Ecology web site.

AKART is an acronym for "all known, available, and reasonable methods of prevention, control, and treatment." AKART represents the most current methods of preventing, controlling, or abating the pollutants associated with a discharge that can be installed or used at a reasonable cost. AKART is a process of engineering and economic decision-making.

Arithmetic average means the sum of a list of numbers divided by the number of numbers in the list.

Benchmark means a pollutant concentration based on performance of source control best management practices (BMPs), treatment BMPs, or water quality criteria. Benchmarks are set to achieve AKART and meet water quality standards. Benchmark as used in this permit allows a period of adaptive management with increasing levels of effort or treatment to comply with the permit values.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural, and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: facility site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage. In this permit BMPs are further categorized as operational source control, structural source control, and treatment BMPs.

Bilge water means water from a boat's bilge spaces, whether single- or double-hulled.

Clean Water Act (CWA) means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117, and 100-4; and 33 USC 1251 et seq.

Composite sample means a homogenous mixture of material that reasonably characterizes the nature or quality of a monitored discharge or environmental medium that varies over time or space. Creation of the sample from a temporally varying source (e.g., a wastewater stream) may involve continuous sampling or collection of discrete samples and their combination on a

[8] https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d.

"time-composited" or "flow-proportional" basis. A time-composited sample consists of identical volumes of wastewater collected from constant time intervals. A flow-proportional sample may consist of a combination of either variable sample volumes, collected over constant time intervals, or constant sample volumes, collected over variable sampling intervals, proportional to the stream flow.

Daily discharge means the "discharge of a pollutant" measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants with limits expressed as concentration, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Date of coverage means the date that an individual boatyard is authorized to discharge under the conditions of this general permit.

Deconstruction activity means dismantling of a vessel so that no part is left intact or undisturbed or otherwise not impacted, to the extent that it cannot be reconstructed or readily identified as an existing portion of the original hull or superstructure. The vessel is reduced such that it has no value except for its basic material content. Deconstruction Activity does not include disturbance incidental to vessel retrieval.

Discharge [of a pollutant] means any addition of any pollutant or combination of pollutants to waters of the State of Washington from any point source. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

Discharge Monitoring Report (DMR) is the report that the Permittee must send to Ecology on a periodic basis set by the permit to report on the monitoring requirements of the permit.

Ecology means the Washington State Department of Ecology.

Existing facility means a facility that is not a "new facility."

Grab sample means a single sample or measurement taken at a specific time or over as short period of time as is feasible.

Groundwater means water in a saturated zone or stratum beneath the land surface or a surface waterbody.

Hazardous substance means any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical, or biological properties described in WAC 173-303-090 or 173-303-100.

Hot work means riveting, welding, burning or fire or spark producing operations (29 CFR 1915.4).

Hull means the body or frame of a ship or boat. It is a central concept in water vessels. The hull is essentially what keeps the water from entering the boat and acts as the walls and floor of the vessel.

Illicit discharge means any discharge that is not composed entirely of stormwater except; (1) discharges authorized pursuant to a separate NPDES permit, or (2) conditionally authorized non-stormwater discharges identified in Condition S5.

Industrial activity means any of the activities among (1) The ten categories of industrial activities identified in 40 CFR 122.26 (b) (14) (i to ix; and xi); or (2) any activities identified by Ecology as significant contributors of pollutants. Industrial activities include, but are not limited to: manufacturing; processing; and raw, intermediate, and finished materials handling and storage areas at an industrial plant.

Interference means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

(a) Inhibits or disrupts a publicly-owned treatment works (POTW), its treatment processes or operations, or its sludge processes, use, or disposal; and

(b) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act; the Solid Waste Disposal Act (SWDA), including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SWDA); the Clean Air Act; the Toxic Substances Control Act; and the Marine Protection, Research, and Sanctuaries Act. (40 CFR 403.3)

Leachate means water or other liquid that has been contaminated by dissolved or suspended materials due to contact with a solid material or a gas.

Maximum daily discharge limit means the highest allowable "daily discharge."

Method detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure set forth in Appendix B of 40 CFR Part 136.

Minimum performance standards [for vacuum sanding] means:

(a) Sander or Rotary Tool–

i. 98% dust extraction

i. Suitable for lead abatement work

ii. Electric or air powered

(b) Vacuum –

i. Static water lift = 60 inches minimum

ii. Air flow = 116 cfm minimum

iii. Power = 900 watts minimum

iv. Filter = 1-micron cartridge minimum

(1) Recommended = 5-micron bag filter, plus a 1-micron cartridge filter, plus a 0.5-micron filter

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking, and reissuing, terminating, and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the State from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington State Department of Ecology.

New discharge(r) means a facility from which there is a discharge, that did not commence the discharge at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.

New facility means a boatyard facility that begins activities that result in a discharge or a potential discharge to waters of the State on or after the effective date of this general permit.

Non-delegated POTW means a publicly-owned treatment works (POTW) for which Ecology authorizes the industrial discharges to the POTW.

Operational source control BMP means schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the pollution of waters of the State. Not included are BMPs that require construction of pollution control devices.

Pass through means a discharge to a publicly-owned treatment works (POTW) which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement
of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation). (40 CFR 403.3)

Permittee means a boatyard facility that has obtained coverage under this general permit.

Pollutant means discarded dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste. This term does not include dredged or fill material discharged in accordance with a permit issued under Section 404 of the Federal Water Pollution Control Act.

Pollution means contamination or other alteration of the physical, chemical, or biological properties of waters of the State; including change in temperature, taste, color, turbidity, or odor of the waters; or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the State as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety, or welfare; or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish, or other aquatic life.

Pressure washing means the use of a water pressure washer to remove paint, grime, or biological growth from the hull of a vessel. Pressure washing includes the practice of mechanical or hand scrubbing and rinsing with low-pressure water from a hose.

Pressure-wash wastewater means the wastewater resulting from pressure washing.

Process wastewater means any water which during manufacturing or processing comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. Stormwater that commingles with process wastewater becomes process wastewater. This definition of process wastewater does not include non-stormwater discharges conditionally approved under Condition S5 (Non-Stormwater Miscellaneous Discharges).

Publicly-Owned Treatment Works (POTW) means a treatment works as defined by Section 212 of the Clean Water Act (CWA), which is owned by a state or municipality (as defined by Section 502(4) of the CWA). This definition includes any devices and systems used in the storage, treatment, recycling, or reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes, and other conveyances only if they convey wastewater to a POTW. The term also means the municipality, as defined in Section 502(4) of the CWA, which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

Puget Sound Sediment Cleanup Site means Category 4B (Sediment) portions of Budd Inlet (Inner), Commencement Bay (Inner), Commencement Bay (Outer), Dalco Passage and East Passage, Duwamish Waterway (including East and West Waterway), Eagle Harbor, Elliot Bay, Hood Canal (North), Liberty Bay, Rosario Strait, Sinclair Inlet, and Thea Foss Waterway; Category 5 (Sediment) portions of the Duwamish Waterway; Category 4A (Sediment) portions of Bellingham Bay (Inner); and the Everett/Port Gardener and Port Angeles Harbor sediment cleanup areas, as mapped on Ecology's BYGP website.

Reasonable potential means a process in which an effluent is projected or calculated to cause an excursion of a water quality criterion at the point of compliance in the receiving water based on a number of factors including, as a minimum, the four factors listed in 40 CFR 122.44(d)(1)(ii).

Receiving water means the waterbody at the point of discharge. If the discharge is to a stormwater conveyance system, either surface or subsurface, the receiving water is the waterbody into which the stormwater conveyance system discharges.

Representative [sample] means a sample of the discharge that accurately characterizes stormwater runoff generated in the designated drainage area of the facility.

Responsible Corporate Officer means either:

(a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

(b) The manager of one or more manufacturing, production, or operating facilities, provided:

i. The manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations and initiating

and directing other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations;

ii. The manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and

iii. Where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 CFR 122.22)

Runoff means that portion of rainfall or snowmelt water not absorbed into the ground that becomes surface flow.

Sediment means the fragmented material that originates from the weathering and erosion of rocks, unconsolidated deposits, or unpaved yards, and is transported by, suspended in, or deposited by water.

Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

Significant amount means an amount of a pollutant in a discharge that is amenable to AKART; or an amount of a pollutant that has a reasonable potential to cause a violation of surface or groundwater quality standards or sediment management standards.

Significant contributor of pollutant(s) means a facility determined by Ecology to be a contributor of a significant amount of pollutant(s) to waters of the State.

Significant process change means any modification of the facility that would:

(a) Add different pollutants of a significant amount to the discharge; or

(b) Increase the pollutants in the stormwater discharge by a significant amount; or

(c) Add a new industrial activity (SIC) that was not previously covered; or

(d) Add additional impervious surface or acreage such that stormwater discharge volume would be increased by 25% or more; or

(e) Change significantly the frequency of an activity from that specified on the application for coverage of this permit.

Source control BMP means operational activities, or physical, structural, or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater.

Sheet flow means runoff which flows over the ground surface as a thin, even layer, and not concentrated in a channel.

SIC means the U.S. Standard Industrial Classification code assigned to businesses by the U.S. Department of Labor. SIC codes are being replaced by the NAICS code system.

Site means the location of the activity that is defined as a boatyard (see Condition S1.A).

Solid waste means all putrescible and non-putrescible solid and semisolid wastes, including but not limited to garbage, rubbish, ashes, industrial wastes, swill, demolition and construction wastes, abandoned vehicles or parts thereof, and discarded commodities. This includes all liquid, solid, or semisolid materials which are not the primary products of public, private, industrial, commercial, mining, or agricultural operations. Solid waste includes but is not limited to sludge from wastewater treatment plants, septage from septic tanks, wood waste, dangerous waste, and problem wastes.

Staging area means an industrial area where materials, including trucks, boats, autos, and other heavy equipment, are temporarily placed for convenience before or immediately following work activities.

Storm drain means an engineered opening for stormwater to enter a storm sewer system.

Storm sewer means a sewer that is specifically designed to carry stormwater.

Stormwater runoff means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface waterbody or a constructed infiltration facility.

Superstructure means the structure consisting of the part of a vessel above the main deck.

SWMM means Ecology's *Stormwater Management Manual for Western Washington* (July 2019, Ecology Publication Number 19-10-021) and *Stormwater Management Manual for Eastern Washington* (August 2019, Ecology Publication Number 18-10-044).

Stormwater Pollution Prevention Plan (SWPPP) means a written plan to implement measures to identify, prevent, and control the contamination from point source discharges of stormwater.

Structural source control BMPs means physical, structural, or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater.

Substantially identical discharge point means a discharge point that shares all the following characteristics with another discharge point:

(a) The same general industrial activities conducted in the drainage area of the discharge point.

(b) The same type of exposed materials located in the drainage area of the discharge point that are likely to be significant contributors of pollutants to stormwater discharges.

(c) The same type of impervious surfaces in the drainage area that could affect the percolation of stormwater runoff into the ground (e.g., asphalt, crushed rock, grass).

(d) The same best management practices conducted in the drainage area of the discharge point.

Topside means that part of a vessel above the wales (horizontal members that aid in wall/form reinforcement and distribution of forces).

Tidal grid means a series of wooden or concrete beams laid on tidal land near the high tide line. The grid is used with blocking to support the boat during low tide. Tidal grids should be used only for emergency work on the hull or steering mechanism, and not for refinishing hull paint.

Treatment BMP means best management practices that are intended to remove pollutants from stormwater.

Turbidity means the optical property that causes light to be scattered and absorbed rather than transmitted in straight lines through a water sample. Turbidity in water is caused by suspended matter, such as clay, silt, finely divided organic and inorganic matter, soluble colored organic compounds, and plankton and other microscopic organisms.

Upset means:

(a) An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits due to factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive 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 limits if the requirements of Paragraph (3) of this definition are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is a 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:

i. An upset occurred and that the Permittee can identify the cause(s) of the upset;

ii. The permitted facility was at the time being properly operated;

iii. The Permittee submitted notice of the upset as required in 40 CFR 122.41(1)(6)(ii)(B)
(24-hour notice); and

iv. The Permittee complied with any remedial measures required in the permit.

(d) Burden of proof. In any enforcement proceeding the Permittee seeking to establish the occurrence of an upset has the burden of proof. (40 CFR 122.41(n))

Vacuum sanding means:

(a) Sander or Rotary Tool

i. 98% dust extraction

ii. Suitable for lead abatement work

iii. Electric or air powered

(b) Vacuum

i. Static water lift = 60 inches minimum

ii. Air flow = 116 cfm minimum

iii. Power = 900 watts minimum

iv. Filter = 1-micron cartridge minimum

(1) Recommended filtration = 5-micron bag filter, plus a 1-micron cartridge filter, plus a 0.5-micron filter

Visual monitoring means an inspection by the Permittee of the permitted facility to determine, to the extent that can be determined visually, that BMPs are in place and effective at controlling pollutants in stormwater runoff. Visual monitoring includes observations to detect the presence of an oil sheen in stormwater runoff.

Water quality standards means the Water Quality Standards for Surface Waters of the State of Washington, Chapter 173-201A WAC; Ground Water Quality Standards (Chapter 173-200 WAC); Sediment Management Standards (Chapter 173-204 WAC); and human health-based criteria in the National Toxics Rule (40 CFR 131.36).

Water's edge means the ordinary high water mark (freshwater), or the mean higher high tide level (marine water).

Waters of the State means lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the State of Washington.

APPENDIX E

PROJECT ADMINISTRATION FORMS

Washington State Department of Transportation

Request for Approval of Material

Contract Number	FA Number	SR	Date
BH-01-008	N/A	N/A	

Section / Title of Project	County
Boat Haven Boatyard Stormwater Improvement Project	Jefferson

Contractor	Subcontractor

This form shall be completed prior to submittal. If this form is not complete at time of submittal it may be returned for information that was omitted.

For WSDOT Use Only
RAM #
Unifier Submittal #

PE Use	Bid Item and Sub-Item No.	Material Type, Product Name & Model Number	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference	PE/QPL Code	Hdqtr./QPL Code	HQ Use

Project Engineer/Representative	Date	State Materials Engineer/Representative	Date

Acceptance Action Codes for use by Project Engineer and State Materials Laboratory

1. Acceptance Criteria: Acceptance based upon “Satisfactory” Test Report for samples of materials to be incorporated into project.
2. Acceptance Criteria: Mfg. Cert. of Compliance for ‘Acceptance’ prior to use of material.
3. Acceptance Criteria: Catalog Cuts for ‘Acceptance’ prior to use of material. Catalog Cut Approved ☐ Yes ☐ No
4. Acceptance Criteria: Submit Shop Drawings for ‘Approval’ prior to fabrication of material.
5. Acceptance Criteria: Only ‘Approved for Shipment’, ‘WSDOT Inspected’ or ‘Fabrication Approved Decal’ material shall be used.
6. Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
7. Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
8. Source Approved:
9. Approval Withheld: Submit samples for preliminary evaluation.
10. Approval Withheld:
11. Miscellaneous Acceptance Criteria.

Remarks (PE):

Remarks (HQ):

Project Engineer Distribution
☐ Contractor ☐ Region Operations Engineer ☐ Fabrication Inspection ☐ Region Materials ☐ State Materials Lab - MS 47365

Washington State Department of Transportation

Certification of Materials Origin

(Required for Acceptance of Steel or Iron Materials)

Project Title	Contract #
Contractor	
Subcontractor	
Manufacturer/Supplier	
Materials: Bid Item No. / Bid Item Description	Quantity
Material Description	

The following Certification of Materials Origin is made for the purposes of establishing materials acceptance under Contract Provisions entitled "Buy America." and "Build America/Buy America." Materials as described above are furnished for use in compliance with the certification as noted in 1 or 2 below. Manufacturing processes for the materials are defined on the back of this form.

☐ 1. The materials covered by this certification are American-Made with all manufacturing processes entirely within the United States of America.

☐ 2. The materials furnished for this project under this certification contain steel or iron manufactured, all or in part, outside the United States of America, as indicated below.

The Description of these materials and the Country of Origin of these materials is as follows:

The Invoice Cost for the above described foreign-made materials is:

I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Select One: ☐ Contractor ☐ Subcontractor ☐ Manufacturer ☐ Supplier _____

Company Name

_____ _____ _____

Authorized Corporate Official Signature | Printed Name | Date

DOT Form 350-109
Revised 11/2023

The following items are considered to be Steel or Iron Manufacturing Processes

1. Any process from the original reduction from ore to the finished product constitutes a manufacturing process for iron. Foreign source steel ingots or foreign source steel billets used in any manufacturing process of a steel product is considered foreign steel under the Buy America or Build America/Buy America Provisions.

2. Production of Steel by any of the following processes:
   a. Open Hearth Furnace.
   b. Basic Oxygen.
   c. Electric Furnace.
   d. Direct Reduction.

3. Rolling, heat treating, and any other similar processing.

4. Fabrication of the products:
   a. Spinning wire into cable or strand.
   b. Corrugating and rolling into culverts.
   c. Shop fabrication.

5. Protective coatings such as zinc, aluminum, epoxy, paint, or any other coating that protects or enhances the value of steel or iron.

6. Due to a nationwide waiver, Buy America does not apply to raw materials (iron ore and alloys), scrap (recycled steel or iron), and pig iron or processed, pelletized, and reduced iron ore.

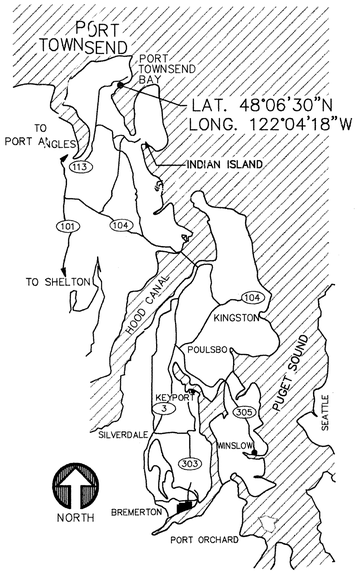
APPENDIX F

RECORD DRAWINGS

PORT OF PORT TOWNSEND

ENHANCED HAULOUT AND STORMWATER FACILITIES

VICINITY MAP



PORT COMMISSIONERS

HERB BECK
BOB SOKOL
CONRAD PIRNER

PORT STAFF

LLOYD CAHOON – PORT MANAGER
BOB MIULLI – ASSISTANT PORT MANAGER

CIVIL/STRUCTURAL ENGINEER

REID MIDDLETON

GEOTECHNICAL AND WASHDOWN FACILITY ENGINEER

LANDAU ASSOCIATES, INC.

ELECTRICAL ENGINEER

HELMER ELECTRICAL

VERTICAL DATUM

MEAN LOWER LOWER WATER BENCHMARK:
NATIONAL OCEAN SURVEY STANDARD DISK
STAMPED "NO 14 1974" SET IN SE BRICK WALL AT THE
NORTHERN CORNER OF THE INTERSECTION OF WATER
AND ADAMS STREETS. ELEVATION = 16.45 FT.

HORIZONTAL DATUM

NAD 83 1986 ADJUSTMENT
FROM JEFFERSON COUNTY 1991 GPS PHOTO CONTROL SURVEY.

AERIAL PREMARK PANEL POINTS

POINT #	ELEVATION	NORTHING	EASTING
1206	14.63	408556.841	1163916.804
1207	97.42	408934.418	1163414.840
1210	14.92	410456.416	1164087.720
1211	16.97	410001.807	1164338.222
1212	10.04	409427.509	1164598.537
1213	12.50	408720.642	1164828.475
1214	17.71	408937.724	1165424.799
1215	12.81	409334.705	1164867.090
1216	11.48	409912.437	1165105.034
1218	11.80	410447.003	1165905.323
1219	12.37	409988.441	1166069.910
1220	15.89	409775.846	1167034.830
1222	13.31	410500.969	1166997.021
1228	11.87	409744.012	1165612.222

SHANNON M. KINSELL — STATE OF WASHINGTON — 30262 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 9/29/98

JOHN O. OLSEN — STATE OF WASHINGTON — 7860 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/16/97

CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555

"L"

NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\COVR-3AE.DWG

NO. | DATE | BY | REVISION

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES
COVER SHEET

SCALE	AS SHOWN
DES. SMK	SHEET NO. T1
DR. WMB	
CH. HCT	
F.B. --	OF 83 SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022

I:\24\93\022\COVR-3AE 8-9-96 3:03:47 PM PST

LEGEND:

	EXISTING	PROPOSED
STORM DRAIN MANHOLE	SDMH	
SANITARY SEWER MANHOLE	SSMH	SSMH
CATCH BASIN	CB	CB
GAS VALVE	GV	
GATE VALVE	WV	
SPRINKLER CONTROL VALVE	SCV	
ELECTRICAL JUNCTION BOX	EJB	
LIGHT POLE		
ELECTRICAL	E	
GAS	G	
POWER	P	
SANITARY SEWER	SS	SS
SANITARY SEWER FORCE MAIN	SSFM	SSFM
STORM DRAIN	SD	SD
TELEPHONE	UT	
WATER	W	W
TIDE LINE	TL	
CAP		
REDUCER		
FIRE HYDRANT	FH	FH
YARD HYDRANT		YH
DOUBLE HOSE BIB		
SANITARY SEWER CLEANOUT		CO
PRESSURE CLEANOUT		PCO
WATER METER	WM	
REDUCED PRESSURE BACKFLOW PREVENTER		
SPOT ELEVATION		18.21
BUILDING		
SLOPE DIRECTION		
EXTRUDED CURB		
SAWCUT		
ASPHALT TO BE REMOVED		
CATCH BASIN SEDIMENT TRAP,		
SILT FENCE		F F
FENCE	X	X X
CONSTRUCTION BARRIER FENCE		O O
VALVE BOX	VB	
HOSE BIB	HB	
YARD DRAIN	YD	
ELECRIC SERVICE PANEL	ESP	
ELECTRICAL JUNCTION BOX	EJB	
UTILITY POLE		
SERVICE POLE	SP	
TELEPHONE JUNCTION BOX	TJB	
GAS FILLER	GF	
GAS METER	GM	
TEST HOLE	TH	
MONITOR WELL	MON. WELL	
SIGN	S	
AERIAL PREMARK PANEL POINT	1215	
PROPERTY LINE		
GROUND WATER MONITOR WELL	GWMW	
CONTOUR	12.0	

TIDAL RANGE

	ELEVATION REFERRED TO M.L.L.W.
HIGHEST RECORDED TIDE: ESTIMATED	12.00
MEAN HIGHER HIGH WATER	8.6
MEAN HIGH WATER	7.9
MEAN TIDE LEVEL	5.25
MEAN SEA LEVEL, 1952–1953	4.74
MEAN LOW WATER	2.60
MEAN LOWER LOW WATER	0.00
LOWEST RECORDED TIDE : ESTIMATED	−4.50

ABBREVIATIONS

ABS	ACRYLONITRILE–BUTADIENE–STYRENE
ASPH	ASPHALT
AL	ALUMINUM
BOT.	BOTTOM
BOV	BLOW–OFF–VALVE
BVC	BEGIN VERTICAL CURVE
CB	CATCH BASIN
CI	CAST IRON
CL, ℄	CENTERLINE
CLR.	CLEAR
CMP	CORRUGATED METAL PIPE
COL	COLUMN
COMP.	COMPACTED
CONC.	CONCRETE
CONT.	CONTINUOUS
CU. YD.	CUBIC YARD
CWR	CONTINUOUS WELDED RAIL
△	INTERSECTION ANGLE
Dc	DEGREE OF CURVATURE, CHORD
DEMO	DEMOLISH
D.I., D.I.P.	DUCTILE IRON PIPE
DIA., ø	DIAMETER
DWG.	DRAWING
e	VERTICAL OFFSET DISTANCE
EA.	EACH
EL., ELEV.	ELEVATION
ELEC.	ELECTRICAL
EVC	END VERTICAL CURVE
EXIST.	EXISTING
FT.	FEET
FTG.	FOOTING
FL	FLOWLINE
GALV.	GALVANIZED
GB	GRADE BREAK
GFI	GROUND FAULT INTERRUPT
HK.	HOOK
HORIZ.	HORIZONTAL
I.E.	INVERT ELEVATION
K	KIP (1,000 LBS)
LAT.	LATITUDE
LONG.	LONGITUDE
LT	LEFT
LB	POUND
LF	LINEAR FEET
MH	MANHOLE
MAX	MAXIMUM
MECH	MECHANICAL
MNF	MANUFACTURER
M.L.L.W.	MEAN LOWER LOW WATER
MTL	METAL
NIC	NOT IN CONTRACT
NOM	NOMINAL
NO	NUMBER
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OPP	OPPOSITE
PVMT.	PAVEMENT
PL.	PLATE
PLY	PLYWOOD
PT	POINT, POINT OF TANGENCY
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE CONDUIT
PCF	POUNDS PER CUBIC FOOT
PSF	POUNDS PER SQUARE FOOT
PRE–FAB	PREFABRICATED
PPT	PRESSURE PRESERVATIVE TREATED
R	RADIUS
RR	RAILROAD
REC.	RECOMMENDED
REF.	REFER
REQ'D	REQUIRED
RT	RIGHT
SAN	SANITARY
SWALK	SIDEWALK
ST	STEEL
STA.	STATION
SQ. FT.	SQUARE FOOT
SQ. IN.	SQUARE INCHES
T	TANGENT DISTANCE
TEMP	TEMPORARY
T.E.	TOP ELEVATION
THRU	THROUGH
TS	TUBE STEEL
TYP.	TYPICAL
UBC	UNIFORM BUILDING CODE
VERT.	VERTICAL
VC	VERTICAL CURVE
VPI	VERTICAL POINT OF INTERSECTION
WD	WOOD

SEE SHEET S1 AND WASHDOWN FACILITY SHEETS FOR ADDITIONAL ABBREVIATIONS

JOHN O. OLSEN STATE OF WASHINGTON 7860 REGISTERED PROFESSIONAL ENGINEER

EXPIRES 4/16/97

"L"

NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\T3.DWG

NO.	DATE	BY	REVISION

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036–6638
206/775–3434

REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES
LEGEND AND GENERAL NOTES

SCALE	AS SHOWN
DES. SMK	SHEET NO.
DR. WMB	T3
CH. HCT	
F.B. — —	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24–93–022

I:\24\93\022\T3 8-9-96 3:19p PST

SHEET INDEX

SHANNON M. KINSMAN — STATE OF WASHINGTON — 20262 — REGISTERED PROFESSIONAL ENGINEER — EXPIRES 9/29/96

JOHN O. OLSEN — STATE OF WASHINGTON — 7860 — REGISTERED PROFESSIONAL ENGINEER — EXPIRES 4/16/97

"L"

NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\T2.DWG

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

NO.	DATE	BY	REVISION

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

SHEET INDEX

SCALE	AS SHOWN
DES. SMK	SHEET NO. T2
DR. WMB	
CH. HCT	
F.B. --	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022

I:\24\93\022\T2 9-2-96 2:47:19 PM PST

NOTES:

1. ALL DIMENSIONS ARE TO THE FACE OF CURB, EDGE OF PAVEMENT, OR CENTER OF PAINT STRIPE.
2. REUSE EXISTING WHEEL STOPS. ESTIMATED NUMBER OF WHEEL STOPS TO BE PROVIDED: 60.
3. SEE SHEET NO. PS1 FOR PAVING LIMITS.
4. ARROWS, HANDICAP SYMBOL, LETTERING AND OTHER MARKINGS PER THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

LEGEND:

- SKIP YELLOW STRIPE
- ALIGNMENT
- WHITE PAINT STRIPE

SIGN SCHEDULE

1. STOP SIGN
2. THROUGH TRAFFIC / BOAT RAMP
3. HANDICAP PARKING ONLY

MATCH LINE SEE THIS SHEET

MATCH LINE SEE THIS SHEET

JEFFERSON ST. N59°28'28"W

BENEDICT ST.

WASHINGTON ST.

MARINE EXCHANGE

KC NOMURA BLDG.

SK BUILDING

OFFICE

REST

14'x18" PLASTIC STOP BAR, TYP

4" WHITE PAINT STRIPE, TYP

4" YELLOW STRIPE, 2' SPACING

5'x12', 2' SPACING—PLASTIC STRIPING WALKWAY

SKIP STRIPE, TYP

EXTRUDED CURB, SEE E PS5 PS6

PLASTIC CROSSWALK STRIPE, TYP., SEE 1 PS5 PS6

CURB AND GUTTER, SEE D PS5 PS6

CONCRETE SIDEWALK

HANDICAP CURB RAMP

CONC. PAVEMENT FOR 300 TON LOADING

BOAT RAMP

SCALE IN FEET 30 0 30 60

"L"

NOTE: IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

SHANNON M. KINSEL — STATE OF WASHINGTON — 30262 — REGISTERED PROFESSIONAL ENGINEER — EXPIRES 9/29/98

JOHN O. OLSEN — STATE OF WASHINGTON — 7860 — REGISTERED PROFESSIONAL ENGINEER — EXPIRES 4/16/97

I:\24\93\022\PS5.DWG

I:\24\93\022\PS5 8-9-96 5:18:24 PM PST

NO.	DATE	BY	REVISION

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

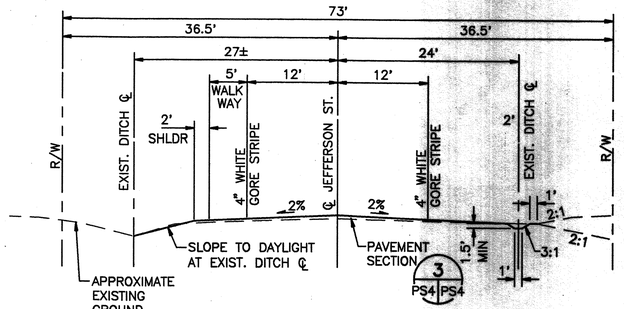
REID MIDDLETON

PORT OF PORT TOWNSEND

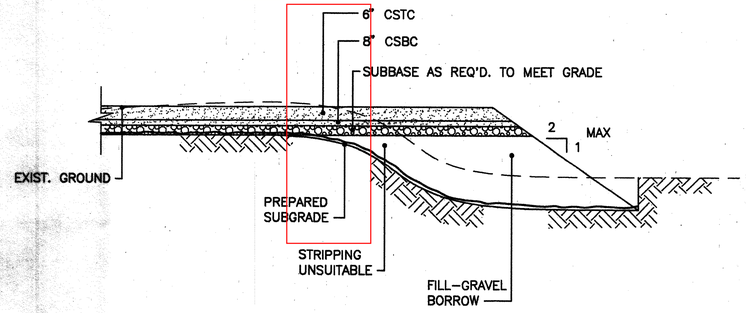
ENHANCED HAULOUT/STORMWATER FACILITIES

STRIPING PLAN

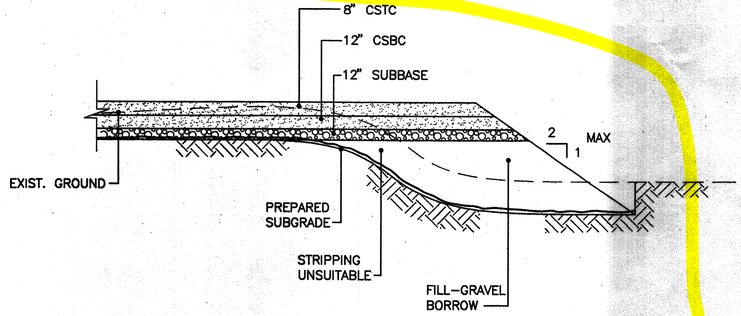
SCALE	1" = 30'
DES. SMK	SHEET NO.
DR. CSJ	PS5
CH. HCT	
F.B. --	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022



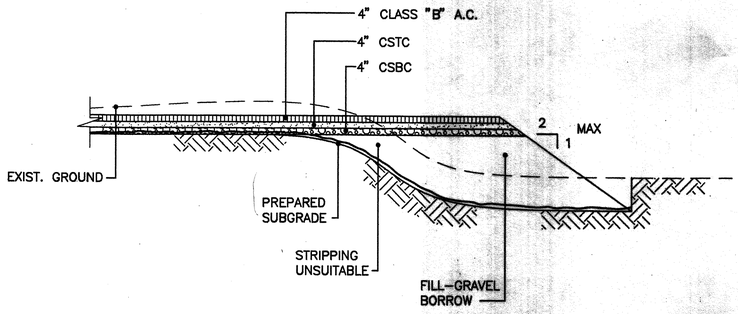
A G1 PS4 **JEFFERSON STREET SECTION**
1"=10' H, 1"=2' V



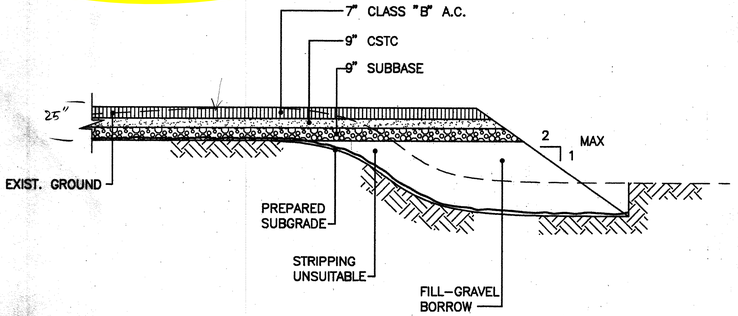
1 PS1 PS4 **HEAVY GRAVEL SURFACING "A" FOR 70 TON MOBILE HOIST**
NOT TO SCALE



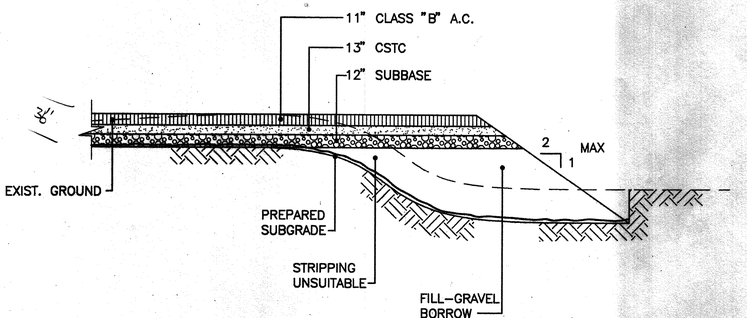
2 PS2 PS4 **HEAVY GRAVEL SURFACING "B" FOR 300 TON MOBILE HOIST**
NOT TO SCALE



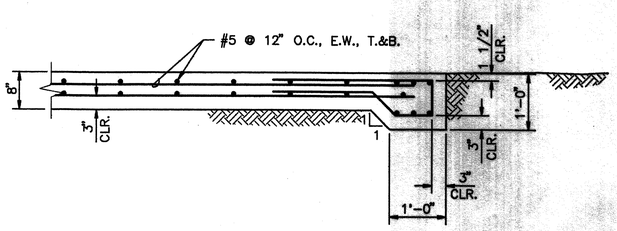
3 PS1 PS4 **STANDARD PAVEMENT FOR HS–20 LOADING**
NOT TO SCALE



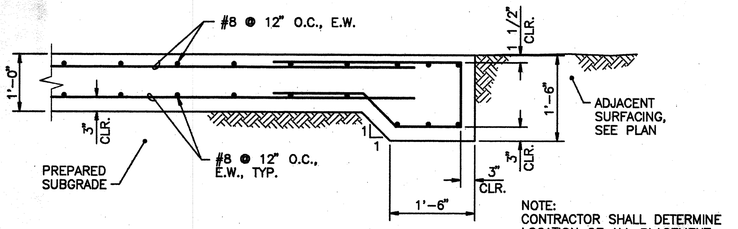
4 PS1 PS4 **HEAVY PAVEMENT "A" FOR 70 TON MOBILE HOIST**
NOT TO SCALE



5 PS2 PS4 **HEAVY PAVEMENT "B" FOR 300 TON MOBILE HOIST**
NOT TO SCALE



6 PS1 PS4 **SECTION–CONCRETE PAVEMENT @ EDGE FOR 70 TON HOIST**
SCALE: 3/4"=1'–0"



NOTE:
CONTRACTOR SHALL DETERMINE LOCATION OF ALL PLACEMENT JOINTS AND SUBMIT TO OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL.

7 PS3 PS4 **SECTION–CONCRETE PAVEMENT AND WASHDOWN PAD @ EDGE FOR 300 TON HOIST**
SCALE: 3/4"=1'–0"

SHANNON M. KINSMAN — STATE OF WASHINGTON — 30282 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 9/29/98

JOHN O. OLSEN — STATE OF WASHINGTON — 7860 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/16/97

"L"
NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.
I:\24\93\022\ROAD–SEC.DWG

I:\24\93\022\ROAD-SEC 8-9-96 5:13:54 PM PST

NO.	DATE	BY	REVISION

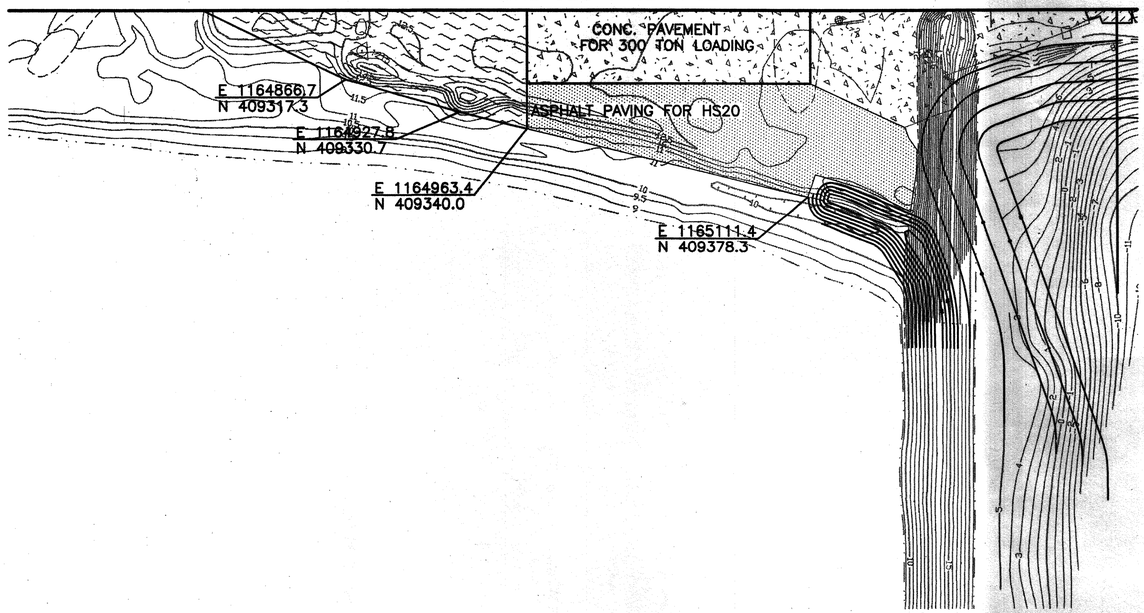
REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036–6638
206/775–3434

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

ROADWAY SECTIONS AND DETAILS

SCALE	AS SHOWN
DES. DBS	SHEET NO.
DR. DJO	PS4
CH. HCT	
F.B. — —	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24–93–022

MATCH LINE SEE SHEET PS2



SHANNON M. KINGSLEY
STATE OF WASHINGTON
16262
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 9/29/96

JOHN O. OLSEN
STATE OF WASHINGTON
15960
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 4/16/97

SCALE IN FEET
40 0 40 80

CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555

"L"

NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\PS1-2-3.DWG

I:\24\93\022\PS1-2-3 8-9-96 5:04:52 PM PST

NO.	DATE	BY	REVISION

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

SURFACING AND PAVING
PLAN - SOUTHWEST

SCALE	1" = 40'
DES.	SMK
DR.	SRS
CH.	HCT
F.B.	--
SHEET NO.	PS3
	of X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022

E 1164097.7
N 409690.2

E 1164085.3
N 409582.5

E 1164129.4
N 409464.0

E 1164162.8
N 409423.5

E 1164234.3
N 409291.9

E 1164185.9
N 409223.1

E 1164258.6
N 409108.8

E 1164411.0
N 409135.8

E 1164473.7
N 409165.6

E 1164553.0
N 409238.9

E 1164654.5
N 409308.0

E 1164928.6
N 409404.5

E 1165134.4
N 409557.5

E 1165095.1
N 409534.8

E 1165159.5
N 409542.8

E 1165141.0
N 409589.1

E 1165130.6
N 409583.0

E 1164943.8
N 409599.9

E 1164990.2
N 409848.7

E 1164712.5
N 409887.8

E 1164886.6
N 410054.5

E 1164952.6
N 409967.3

E 1164712.5
N 409887.8

TLAND D1

HEAVY GRAVEL SURFACING "B" FOR 300 TON LOADING

CURB AND GUTTER, TYP., SEE D PS2|PS6

R=118.5'

R=35' TYP.

N 0°52'41" E

EP

MATCH EXISTING ASPHALT RAMP AT EDGE OF EXISTING SIDEWALK

SAWCUT & MATCH EXISTING ASPH. TYP.

WHITE STRIPE

YELLOW ℄ STRIPE

ASPHALT PVMT. FOR HS-20 LOADING

5' TYP.

2% TYP.

SAWCUT AND MATCH EXIST. PAVEMENT

4" WHITE STRIPE 1' FROM EDGE OF ASPHALT, EA. SIDE OF STREET, TYP.

R=72'

300 TON SURFACING

300 TON PAVING

R=35'

CONC. PAVEMENT FOR 300 TON LOADING

MATCH LINE SEE SHEET PS1

MATCH LINE SEE SHEET PS3

SCALE IN FEET
40 0 40 80

CALL 48 HOURS BEFORE YOU DIG
1-800-424-5555

"L"

NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\PS1-2-3.DWG

SHANNON M. KING — STATE OF WASHINGTON — 30269 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 9/29/96

JOHN O. OLSEN — STATE OF WASHINGTON — 7860 — REGISTERED PROFESSIONAL ENGINEER — 9/5/96
EXPIRES 4/16/97

I:\24\93\022\PS1-2-3 8-9-96 5:04:52 PM PST

REVISION

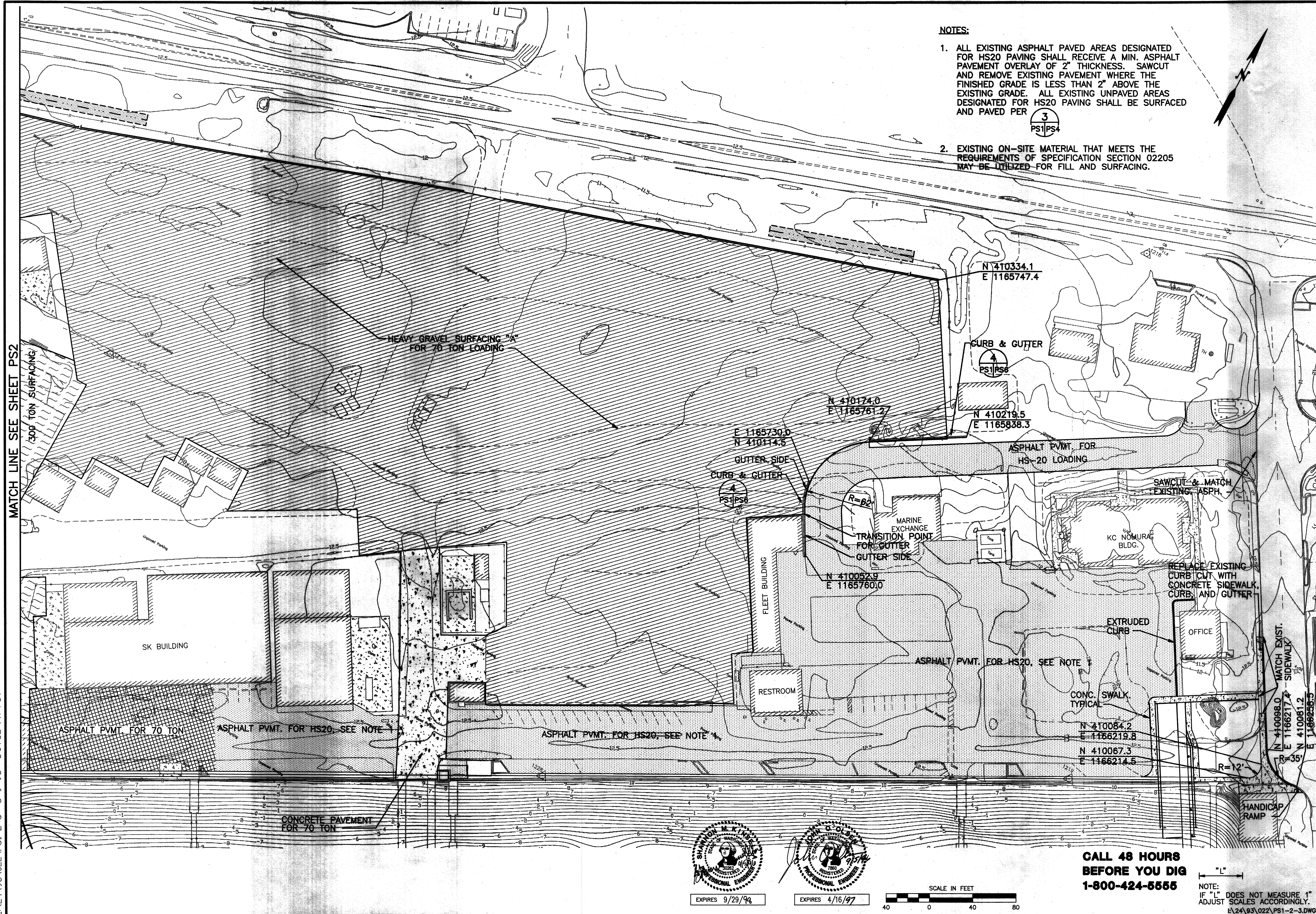
NO.	DATE	BY

REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

SURFACING AND PAVING
PLAN — WEST

SCALE	1" = 40'
DES.	SMK
DR.	WMB
CH.	HCT
F.B.	— —
SHEET NO.	PS2
OF X SHEETS	
DATE	AUGUST 1996
FILE NO.	24-93-022


NOTES:
1. ALL EXISTING ASPHALT PAVED AREAS DESIGNATED FOR HS20 PAVING SHALL RECEIVE A MIN. ASPHALT PAVEMENT OVERLAY OF 2" THICKNESS. SAWCUT AND REMOVE EXISTING PAVEMENT WHERE THE FINISHED GRADE IS LESS THAN 2" ABOVE THE EXISTING GRADE. ALL EXISTING UNPAVED AREAS DESIGNATED FOR HS20 PAVING SHALL BE SURFACED AND PAVED PER 3 PS1 PS4
2. EXISTING ON-SITE MATERIAL THAT MEETS THE REQUIREMENTS OF SPECIFICATION SECTION 02205 MAY BE UTILIZED FOR FILL AND SURFACING.
MATCH LINE SEE SHEET PS2
300 TON SURFACING
HEAVY GRAVEL SURFACING "A" FOR 70 TON LOADING
N 410334.1
E 1165747.4
CURB & GUTTER
4
PS1 PS6
N 410174.0
E 1165761.2
N 410219.5
E 1165838.3
E 1165730.0
N 410114.5
GUTTER SIDE
CURB & GUTTER
ASPHALT PVMT. FOR HS-20 LOADING
SAWCUT & MATCH EXISTING ASPH.
R=62'
MARINE EXCHANGE
TRANSITION POINT FOR GUTTER
GUTTER SIDE
KC NOMURA BLDG.
N 410052.9
E 1165760.0
FLEET BUILDING
REPLACE EXISTING CURB CUT WITH CONCRETE SIDEWALK, CURB, AND GUTTER
EXTRUDED CURB
OFFICE
SK BUILDING
ASPHALT PVMT. FOR HS20. SEE NOTE 1
MATCH EXIST. SIDEWALK
RESTROOM
CONC. SWALK. TYPICAL
N 410084.2
E 1166219.8
N 410067.3
E 1166214.5
N 410098.0
E 1166217.4
N 410081.2
E 1166258.5
R=35'
R=12'
ASPHALT PVMT. FOR 70 TON
ASPHALT PVMT. FOR HS20, SEE NOTE 1
ASPHALT PVMT. FOR HS20, SEE NOTE 1
HANDICAP RAMP
CONCRETE PAVEMENT FOR 70 TON
Unpaved Parking
EXPIRES 9/29/96
EXPIRES 4/16/97
SCALE IN FEET
40 0 40 80
CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555
"L"
NOTE: IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.
I:\24\93\022\PS1-2-3.DWG

I:\24\93\022\PS1-2-3 8-9-96 5:04:52 PM PST

REVISION | NO. | DATE | BY

REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

SURFACING AND PAVING
PLAN - EAST

SCALE 1" = 40'	SHEET NO.
DES. SMK	PS1
DR. WMB	
CH. HCT	
F.B. --	OF X SHEETS
DATE AUGUST 1996	
FILE NO. 24-93-022	

FROM	TO	LF	PIPE TABLE SIZE (inches)	TYPE	SLOPE
OUTFALL "A"	TIDE GATE #1	56 /2	18	CONC. CLASS 2	0.25%
TIDE GATE #1	CB#2	16	18	CONC. CLASS 2	0.25%
CB#2	CB#3 F.S.	72	18	CONC. CLASS 2	0.25%
CB#3 F.S.	CB#4	34	24	CONC. CLASS 2	0.25%
CB#4	CB#5	83	18	CONC. CLASS 2	0.25%
CB#5	CB#6	96	12	CONC. CLASS 5	0.25%
CB#4	CB#7	33	18	CONC. CLASS 2	0.25%
CB#7	CB#7A	33	18	CONC. CLASS 2	0.25%
CB#7A	CB#9	130	18	CONC. CLASS 2	0.25%
CB#9	CB#10	171	18	CONC. CLASS 2	0.25%
CB#10	CB#11	203	12	CONC. CLASS 5	0.25%
CB#11	CB#12	130	8	CONC. CLASS 4	0.25%
CB#12	CB#13	23	8	/2 DI	0.25%
CB#8	CB#9	24	8	CONC. CLASS 2	4.25%
CB#10	CB#10A	24	8	CONC. CLASS 2	4.75%
CB#11	CB#11A	24	8	/2 DI	0.50%
CB#5	CB#14	64	18	CONC. CLASS 2	0.25%
CB#14	CB#15	120	18	CONC. CLASS 2	0.25%
CB#15	CB#16	134	12	CONC. CLASS 5	0.25%
CB#15	CB#83	144	12	CONC. CLASS 5	0.25% /2
INLET "B"	CB#17	70	12	D.I.P. – CLASS 52	0.50%
OUTFALL "B"	TIDE GATE 2	55	42	CONC. CLASS 2	0.25%
TIDE GATE 2	CB#18	32	42	CONC. CLASS 2	0.25%
CB#18	CB#19	143	30	CONC. CLASS 4	0.25%
CB#19	CB#20	271	30	CONC. CLASS 4	0.25%
CB#20	CB#21	160	30	CONC. CLASS 4	0.25%
CB#21	CB#22	20 /2	12	CONC. CLASS 5	0.25%
CB#22	CB#23	70	12	CONC. CLASS 5	0.25%
CB#23	CB#24	327	12	CONC. CLASS 5	0.00%
CB#24	CB#25	79	12	CONC. CLASS 5	0.18% /2
CB#25	CB#26	101	12	CONC. CLASS 5	0.25%
CB#21	CB#21A	76	30	CONC. CLASS 4	0.25%
CB#21A	CB#21B F.S.	14	30	CONC. CLASS 4	0.25%
CB#21B F.S.	CB#27	10	30	CONC. CLASS 2	0.25%
CB#27	CB#28	20	24	CONC. CLASS 2	0.25%
CB#28	CB#29A	16	18	CONC. CLASS 4	0.25%
CB#29A	CB#29B	84	12	CONC. CLASS 5	0.25%
CB#29B	CB#29C	74	12	CONC. CLASS 5	0.25%
CB#29A	CB#30	14	24	CONC. CLASS 4	0.25% /2
CB#28	CB#28A	186	18	CONC. CLASS 4	0.25%
CB#27	CB#27A	114	12	CONC. CLASS 5	0.25%
CB#27A	CB#27B	66 /2	12	CONC. CLASS 5	0.25%
CB#27B	CB#27C	23	12	CONC. CLASS 5	0.25%
CB#27B	CB#27D	40	12	CONC. CLASS 5	0.25%
CB#19	CB#32	105	12	CONC. CLASS 5	0.25%
CB#32	CB#33	349	12	CONC. CLASS 5	0.25%
CB#33	CB#33A	41	18	CONC. CLASS 5	0.25%
CB33A	CB#34	56	18	CONC. CLASS 5	0.25%
CB#42	CB#46	64	18	CONC. CLASS 5	0.25%
CB#46	CB#47	76	18	CONC. CLASS 5	0.25%
CB#47	CB#48	87	18	CONC. CLASS 5	0.25%
CB#18	CB#55	197	36	CONC. CLASS 4	0.25%
CB#55	TIDE GATE 3	130	24	CONC. CLASS 4	0.30%
TIDE GATE 3	CB#40	9	24	CONC. CLASS 3	0.25%
CB#40	CB#41 F.S.	13	24	CONC. CLASS 4	0.25%
CB#41 F.S.	CB#42	11	24	CONC. CLASS 4	0.25%
CB#42	CB#43	76	18	CONC. CLASS 4	0.67%
CB#43	CB#44	55	12	CONC. CLASS 5	0.25%
CB#44	CB#45	64	12	CONC. CLASS 5	0.25%

FROM	TO	LF	PIPE TABLE SIZE (inches)	TYPE	SLOPE
CB#49	CB#40	58	12	CONC. CLASS 5	0.25%
CB#55	CB#56	395	36	CONC. CLASS 4	0.25%
CB#56	CB#57	306 /2	36	CONC. CLASS 4	0.25%
CB#57	CB#58 F.S.	40	36	CONC. CLASS 5	0.25%
CB#58 F.S.	CB#58A	13	24	CONC. CLASS 4	0.25%
CB#58A	CB#59	195	24	CONC. CLASS 4	0.25%
CB#59	CB#60A	168	18	CONC. CLASS 4	0.25%
CB#60A	CB#60	8 /2	18	CONC. CLASS 5	0.25%
CB#58A	CB#61	246	18	CONC. CLASS 5	0.25%
CB#59	CB#61A	171	18	CONC. CLASS 5	0.25%
CB#58 F.S.	CB#63	97	6	DI	0.50%
CB#63	VAULT 4	142	6	DI	0.50%
SAND FILTER	CB#62	50	6	DI	0.90%
CB#62	CB#63	170	6	DI	0.90%
CB#57	CB#65	183	6	DI	0.50%
CB#57	CB#57B	138	18	CONC. CLASS 5	0.25%
CB#57B	CB#57A	5	18	CONC. CLASS 5	0.25%
CB#19	CB#37 F.S.	35	18	CONC. CLASS 5	0.25%
CB#37 F.S.	CB#71	68	18	CONC. CLASS 5	0.25%
CB#71	CB#72	211	18	CONC. CLASS 5	0.55%
CB#72	CB#73	152 /2	12	CONC. CLASS 5	0.25%
CB#71	CB#74	119	12	CONC. CLASS 5	0.25%
CB#74	CB#74A	86	12	CONC. CLASS 5	0.25%
/2 CB#80	CB#80A	113	18	CONC. CLASS 5	1.3%
CB#80	CB#81	231	18	CONC. CLASS 5	0.25%
CB#81	CB#82	174	12	CONC. CLASS 5	0.25%
CB#83	CB#84	22	12	CONC. CLASS 2	0.25%

/2

NO.	DATE	BY	REVISION
/2	11-15-96	SRS	REVISED PIPE LENGTHS.
/1			NOT USED

REID MIDDLETON

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND

ENHANCED HAULOUT/STORMWATER FACILITIES

PIPE TABLE

JOHN O. OLSEN
STATE OF WASHINGTON
18860
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 4/16/

"L"

NOTE:
IF "L" DOES NOT MEASURE 1"
ADJUST SCALES ACCORDINGLY.

SCALE	AS SHOWN
DES.	SMK
DR.	SRS
CH.	HCT
F.B.	--
SHEET NO.	SD9 REVISED
OF X SHEETS	
DATE	JULY 1996
FILE NO.	24-93-022

I:\24\93\022\SD9.DWG

STRUCTURE TABLE

CB#	CB TYPE & SIZE	LOAD RATING	FRAME & GRATE	TOP ELEV.	INVERTS W/DIRECTION	NORTHING	EASTING
CB#10	TYPE 2-54"	HS-20	GRATE	12.16	7.26 - N,E,W	409764.37	1165601.44
CB#10A	TYPE 1	HS-20	GRATE	12.16	8.40 - S	409785.57	1165590.19
CB#11	TYPE 1	HS-20	GRATE	11.32	9.37 - N,E,W	409669.49	1165421.60
CB#11A	TYPE 1	HS-20	GRATE	11.32	9.45 - S (2)	409690.63	1165410.24
CB#12	TYPE 1	HS-20	GRATE	11.71	9.80 - E,N	409609.14	1165306.18
CB#13	TYPE 1	HS-20	GRATE	11.71	9.90 - S	409629.24	1165295.37
CB#14	TYPE 2-54"	HS-20	GRATE	11.73	6.71 - E,W	410060.98	1165849.19
CB#15	TYPE 2-54"	HS-20	GRATE	12.02	7.01 - E,W, 8.59 - SE (2)	410117.31	1165955.45
CB#16	TYPE 1	HS-20	GRATE	11.00	7.35 - W	410174.15	1166077.17
CB#17	TYPE 1	HS-20	GRATE	12.00	9.90 - NW, SE	410124.76	1165772.44
CB#18	TYPE 2-96"	300 TON	SOLID	12.10	5.93 - NW, 4.64 - SE,SW	409559.08	1165169.52
CB#19	TYPE 2-72"	300 TON	SOLID	12.3	6.66 - E, 7.95 - W, 6.29 - NW,SE	409674.37	1165101.80
CB#2	TYPE 2-72"	HS-20	SOLID	13.00	9.02 - W,SE, 9.17 - S	410009.93	1165928.24
CB#20	TYPE 2-60"	70 TON	SOLID	12.7	7.34 - E,W (2)	409841.05	1165319.15
CB#21	TYPE 2-72"	70 TON	SOLID	12.6	7.74 - W,E 7.74 - NW. EMERGENCY SHUT *	409907.83	1165464.57
CB#21A	TYPE 2-72"	70 TON	SOLID	12.7	7.92 - N,W	409965.91	1165519.46
CB#21B F.S.	SEE DETAIL	70 TON	SOLID	12.7	7.96 - S, 8.40 - W, 6.93 - E	409977.36	1165512.32
CB#22	TYPE 2-54"	70 TON	SOLID	12.5	8.67 - E, 7.83 - SE, 9.53 - NW (2)	409937.16	1165447.82
CB#23	TYPE 2-54"	70 TON	SOLID	13.6	9.71 - NE,S	409996.67	1165410.73
CB#24	TYPE 2-54"	70 TON	SOLID	14.2 (2)	9.71 - N,W	410222.71	1165647.48
CB#25	TYPE 2-54"	HS-20	SOLID-BOTH	14.7	9.85 - E,S. EMERGENCY SHUT *	410298.04	1165622.74
CB#26	SEE DETAIL	70 TON	SOLID-BOTH	13.5	11.50 - N, 10.10 - W	410329.50	1165718.51
CB#27	TYPE 2-60"	70 TON	SOLID	12.5	6.95 - W,N, S	409982.65	1165520.81
CB#27A	TYPE 2-54"	70 TON	GRATE	12.4	7.24 - S,NW,W	409881.68	1165573.20
CB#27B	TYPE 1	70 TON	GRATE	12.5	7.41 - SE,N,SW	409817.88	1165555.56
CB#27C	TYPE 1	70 TON	GRATE	12.1	7.46 - NW	409797.28	1165566.24
CB#27D	TYPE 1	70 TON	GRATE	12.4 (2)	7.51 - E	409799.66	1165520.42
CB#28	TYPE 2-60"	70 TON	SOLID	13.2	7.00 - S,W,E	409999.96	1165511.83
CB#28A	TYPE 2-54"	70 TON	SOLID	12.6	7.47 - E,S	409909.72	1165349.66
CB#29A	TYPE 2-54"	70 TON	SOLID	12.3	8.16 - E,SE, 7.4 - W	410073.59	1165653.73
CB#29B	TYPE 1	70 TON	GRATE	11.7	8.37 - N,E (2)	410112.33	1165728.39
CB#29C	TYPE 1	70 TON	GRATE	11.9	8.55 - S	410177.37	1165762.71
CB#3 F.S.	SEE DETAIL	70 TON	SOLID	13.21	6.26 - W 9.20 E 6.26 S	409975.84	1165864.82
CB#30	TYPE 1	70 TON	SOLID	13.0	10.2 E,W, 8.28 - NW	410031.86	1165675.39
CB#32	TYPE 2-54"	300 TON	SOLID	11.7	6.55 - N,SE,SW	409764.88	1165049.42
CB#33	TYPE 2-54"	70 TON	SOLID	12.2	7.42 - S,N	410064.45	1165045.75
CB#33A	TYPE 2-54"	HS-20	SOLID	12.8	7.47 - N,S,W. EMERGENCY SHUT *	410103.48	1165032.88
CB#34	SEE DETAIL	HS-20	SEE DETAIL	12.2	7.61 - E, 10.0 - N	410085.83	1164979.35
CB#37 FS	TYPE 2-72"	300 TON	SOLID	12.20	8.04 - E, 7.33 - S, 7.40 - N. EMERGENCY SHUT *	409660.60	1165078.02
CB#4	TYPE 2-54"	HS-20	GRATE	12.88	6.35 - N,E 6.35 - S	409959.69	1165834.77
CB#40	TYPE 2-54"	HS-20	SOLID	13.7	5.55 - S,E, N. EMERGENCY SHUT *	409574.46	1164907.38
CB#41 F.S.	TYPE 2-54"	HS-20	SOLID	9.2	4.52 - W,N 5.59 - E	409574.64	1164894.38
CB#42	TYPE 2-54"	HS-20	GRATE	9.1	4.80 - E,W, 5.28 - N	409574.80	1164883.39
CB#43	TYPE 1	HS-20	GRATE	9.5	4.99 - E,W	409566.08	1164807.90
CB#44	TYPE 1	300 TON	GRATE	10.1	5.13 - E,W	409551.20	1164754.58
CB#45	TYPE 1	300 TON	GRATE	10.1	5.29 - E	409552.34	1164690.13
CB#46	TYPE 2-54"	HS-20	GRATE	9.0	5.44 - E,S	409638.99	1164884.32
CB#47	TYPE 2-54"	300 TON	SOLID	10.9	5.63 - N,W	409644.95	1164959.62
CB#48	TYPE 2-54"	300 TON	GRATE	9.9	5.85 - S	409728.98	1164980.90
CB#49	TYPE 2-48"	HS-20	SOLID	13.5	5.8 - W,S	409621.72	1164908.24
CB#5	TYPE 2-54"	HS-20	GRATE	11.75	6.55 - N,E 6.55 - S	410031.03	1165792.71
CB#55	TYPE 2-72"	300 TON	SOLID	13.2	5.15 - E,W,NW	409466.50	1164995.39
CB#56	TYPE 2-72"	300 TON	SOLID	13.3 (2)	6.69 - W 6.14 - E 6.14 - N	409284.14	1164644.62
CB#57	TYPE 2-60"	300 TON	SOLID	13.2	7.91 - N, 7.45 - W, 6.65 - E, 7.45 S (1)	409258.59	1164339.56
CB#57A	SEE DETAIL	HS-20	SOLID	12.0	8.26 - W, 11.3 - S	409123.55	1164378.24
CB#57B	TYPE 2-54"	HS-20	SOLID	13.2	8.31 - E, N. EMERGENCY SHUT. *		
CB#58 F.S.	SEE DETAIL	300 TON	SEE DETAIL	13.4	8.01 - S, 6.31 - N, 6.70 - W	409302.31	1164334.59
CB#58A	TYPE 2-54"	300 TON	SOLID	13.3	6.13 - E,S 6.35 - NW	409315.15	1164333.13
CB#59	TYPE 2-54"	300 TON	SOLID	12.7	6.83 - SE, NW	409480.52	1164224.47
CB#6	TYPE 1	HS-20	SOLID	8.8 (2)	6.79 - S	410125.21	1165767.97
CB#60	SEE DETAIL	HS-20	SEE DETAIL	13.0	7.28 - S, 10.75 - W	409580.55	1164080.82
CB#60A	TYPE 2-54"	HS20	SOLID	13.0 (2)	7.26 - N,SE. EMERGENCY SHUT *		
CB#61	TYPE 2-54"	300 TON	GRATE	11.5	6.52 - E,W,N,S	409440.27	1164544.37
CB#61A	TYPE 2-54"	300 TON	GRATE	11.2	7.25 - W	409519.61	1164390.94
CB#62	TYPE 1	HS-20	SOLID	14.0	7.75 - N,S	409419.44	1164155.25
CB#63	TYPE 1	300 TON	SOLID	13.5	6.22 - N,S, E	409273.12	1164242.16
CB#65	TYPE 1	HS-20	SOLID	13.4	8.37 - E,S	409121.53	1164218.82
CB#7	TYPE 2-54"	HS-20	GRATE	12.36	6.42 - N,S,W	409931.00	1165851.69
CB#71	TYPE 2-54"	300 TON	GRATE	11.7 (2)	7.50 - N,W, 8.69 - S (2)	409582.62	1165061.18
CB#72	TYPE 2-54"	300 TON	GRATE	12.9	8.66 - E,W	409431.20	1164914.35
CB#73	TYPE 1	300 TON	GRATE	12.5	9.10 - E	409350.81	1164759.23
CB#74	TYPE 1	300 TON	GRATE	12.3	8.99 - SE,NW	409477.93	1165117.45
CB#74A	TYPE 1	300 TON	GRATE	12.30 (2)	9.20 - NW	409402.12	1165158.21
CB#7A	TYPE 2-54"	70 TON	GRATE	12.36	6.51 - N,W	409902.37	1165868.57
CB#8	TYPE 1	HS-20	GRATE	11.60	7.85 - E,S	409865.46	1165740.87
CB#80	TYPE 2- 54"	300 TON	SOLID	12.0	7.22 - N,S (2)	409415.75	1164695.89
CB#81	TYPE 2- 54"	300 TON	SOLID	10.4	7.80 - N,S	409646.32	1164709.98
CB#82	TYPE 1	HS-20	SOLID	12.0	8.24 - S	409821.83	1164711.50
CB#9	TYPE 2-54"	HS-20	GRATE	11.60	6.83 - N,W,E	409845.80	1165751.43
INLET "A"					8.8 - E		
INLET "B"					10.2 - SW		
INLET "C"					10.7 - W		
OUTFALL "A"					7.09 (2)		
OUTFALL "B"					4.50		
PUMP STATION		HS-20		13.10	1.85 - E		
TIDE GATE #1	SEE DETAIL	HS-20	SOLID	13.00 (2)	7.23 - N,S	409995.84	1165935.81
TIDE GATE #2	SEE DETAIL	300 TON	SOLID	12.50	4.42 - N,S	409549.90	1165200.44
TIDE GATE #3	SEE DETAIL	HS-20	SOLID	13.80	5.83 - S,W	409567.27	1164913.24
CB 80A	TYPE 2-54"	300 TON	SOLID	13.10	5.74 (2)	409362.65	1164795.64
CB#83	TYPE 1	HS-20	GRATE	12.8	8.95 - S	409931.00	1165804.69
CB#84	TYPE 1	HS-20	GRATE	12.4	9.00 - N,W (2)	409902.37	1166101.57

SEE DETAIL 'A', SHEET SD3

1:\24\93\022\SD8 9-3-96 1:46:51 PM PST

JOHN O. OLSEN STATE OF WASHINGTON 7860 REGISTERED PROFESSIONAL ENGINEER

EXPIRES 4/16/

"L"

NOTE:
IF "L" DOES NOT MEASURE 1"
ADJUST SCALES ACCORDINGLY.

I:\24\93\022\SD8.DWG

NO.	DATE	BY	REVISION
2	11-13-96	SRS	REVISED INVERT ELEVATIONS AND TOP ELEVATIONS.
1			NOT USED

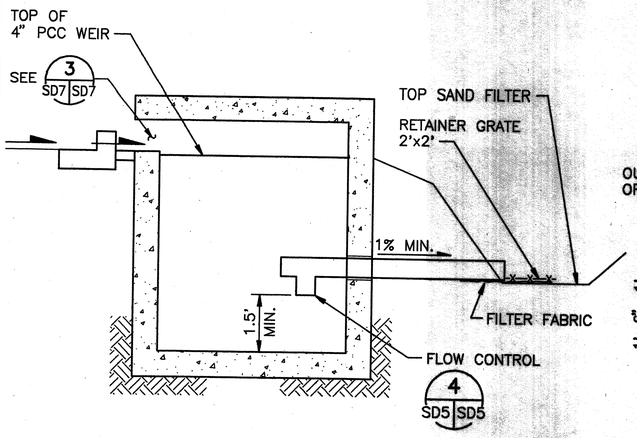
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

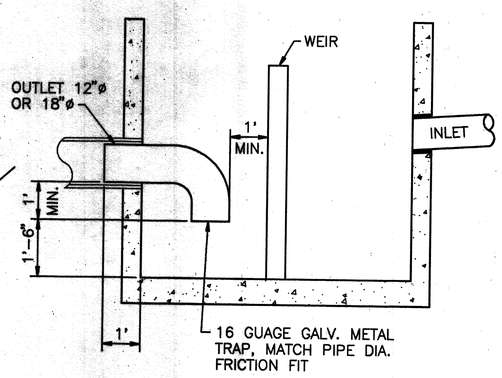
PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

STRUCTURE TABLE

SCALE	AS SHOWN
DES.	SMK
DR.	SRS
CH.	HCT
F.B.	---
DATE	JULY 1996
FILE NO.	24-93-022
SHEET NO.	SD8 REVISED
OF	X SHEETS



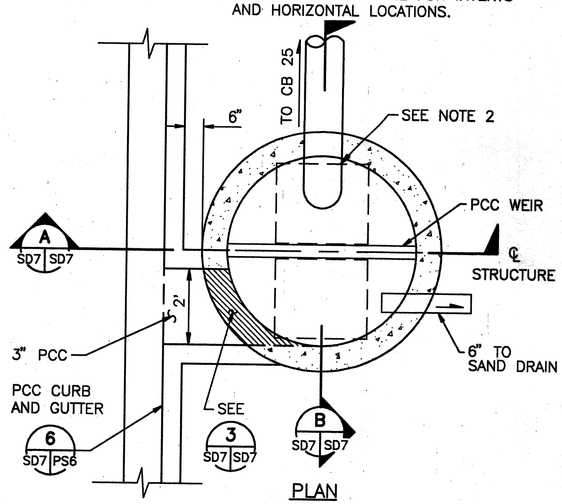
A SD7 SD7 SECTION—CB26, CB34, CB57A & CB60 FLOW SPLITTER SCALE: 1/2"=1'-0"



B SD7 SD7 SECTION—CB3, CB26, CB34, CB37, CB41, CB57A & CB60 (SCHEMATIC)

NOTES:

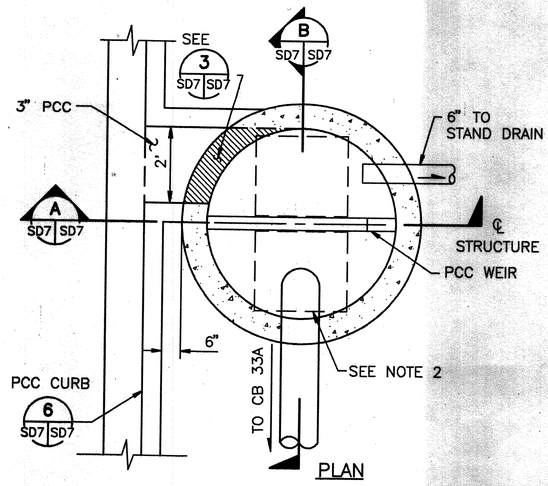
1. TYPE 2, 60" CATCH BASIN MANHOLE.
2. FRAME AND GRATE PER WSDOT STANDARD PLANS B2-A AND B-2.
3. SEE STRUCTURE TABLE FOR INVERTS AND HORIZONTAL LOCATIONS.



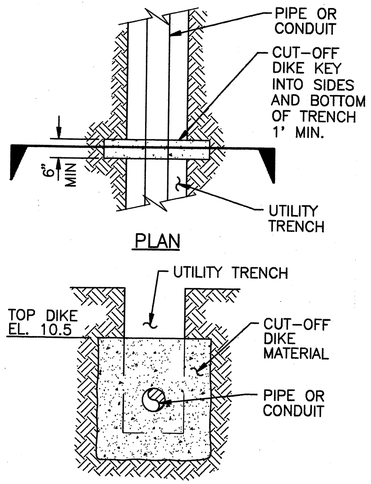
1 SD1 SD7 PLAN—CB26 FLOW SPLITTER SCALE: 1/2"=1'-0"

NOTES:

1. TYPE 2, 72" CATCH BASIN MANHOLE.
2. FRAME AND GRATE PER WSDOT STANDARD PLANS B2-A AND B-2.
3. SEE STRUCTURE TABLE FOR INVERTS AND HORIZONTAL LOCATIONS.



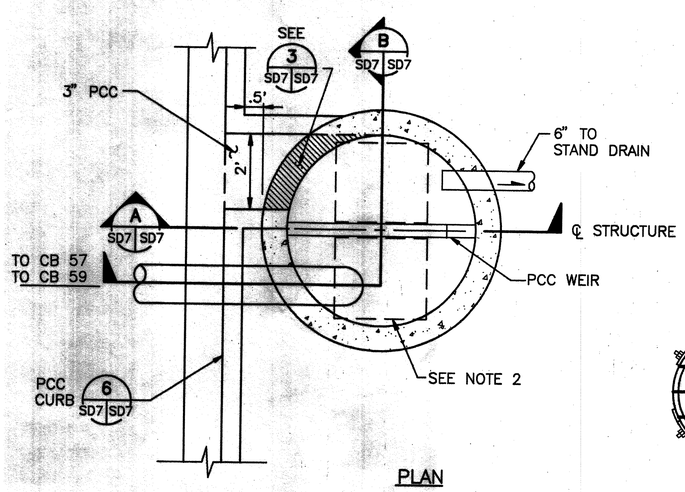
2 SD1 SD7 PLAN—CB34 FLOW SPLITTER SCALE: 1/2"=1'-0"



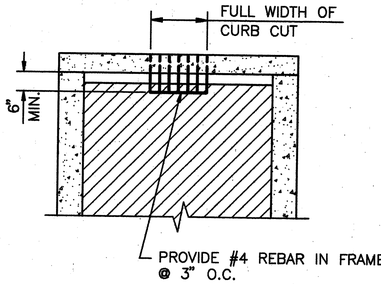
3 SD1 SD7 UTILITY TRENCH CUT-OFF DIKE NOT TO SCALE

NOTES:

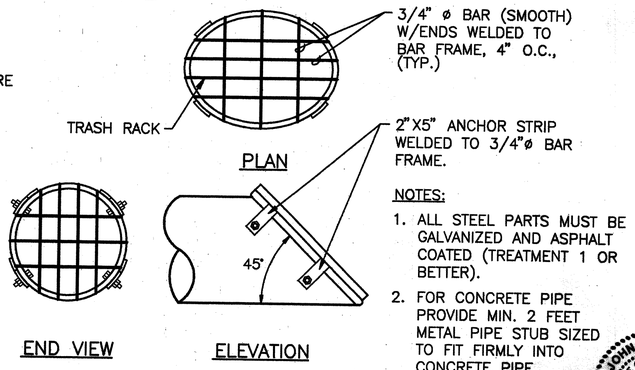
1. TYPE 2, CB57A: 60" DIA., CB60: 72" DIA. CATCH BASIN MANHOLE
2. FRAME AND GRATE PER WSDOT STANDARD PLANS B2-A AND B-2.
3. SEE STRUCTURE TABLE FOR INVERTS AND HORIZONTAL LOCATIONS.



4 SD7 SD7 PLAN—CB57A & CB60 SCALE: 1/2"=1'-0"



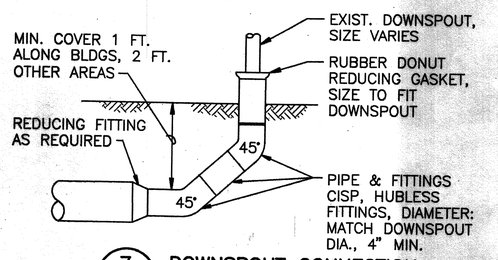
5 SD1 SD7 INLET GRATE DETAIL SCALE: 1/2"=1'-0"



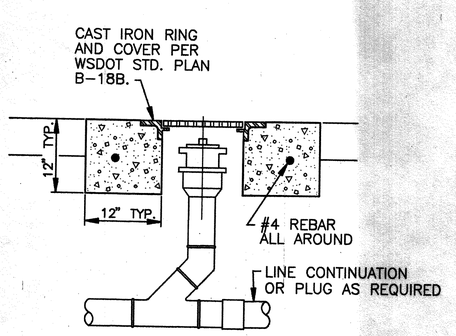
NOTES:

1. ALL STEEL PARTS MUST BE GALVANIZED AND ASPHALT COATED (TREATMENT 1 OR BETTER).
2. FOR CONCRETE PIPE PROVIDE MIN. 2 FEET METAL PIPE STUB SIZED TO FIT FIRMLY INTO CONCRETE PIPE.

6 SD7 SD7 TRASH INLET AND RACK DETAIL SCALE: 1"=1'-0"



7 SD7 SD7 DOWNSPOUT CONNECTION NOT TO SCALE



8 SD7 SD7 STORM DRAIN CLEANOUT NOT TO SCALE

"L"

NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

JOHN O. OLSEN STATE OF WASHINGTON 7660 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/16/97

I:\24\93\022\SD7.DWG

NO.	DATE	BY	REVISION

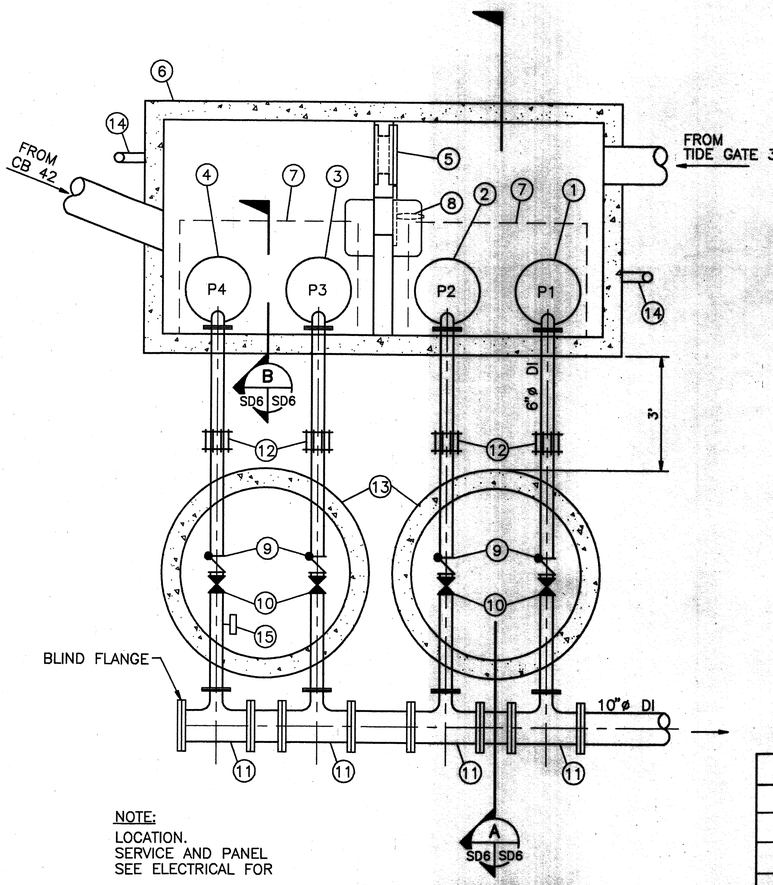
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES
STORM DRAINAGE DETAILS

SCALE	AS SHOWN
DES. DBS	SHEET NO. SD7
DR. CSJ	
CH. HCT	
F.B. --	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022

I:\24\93\022\SD7 8-9-96 4:56:13 PM PST



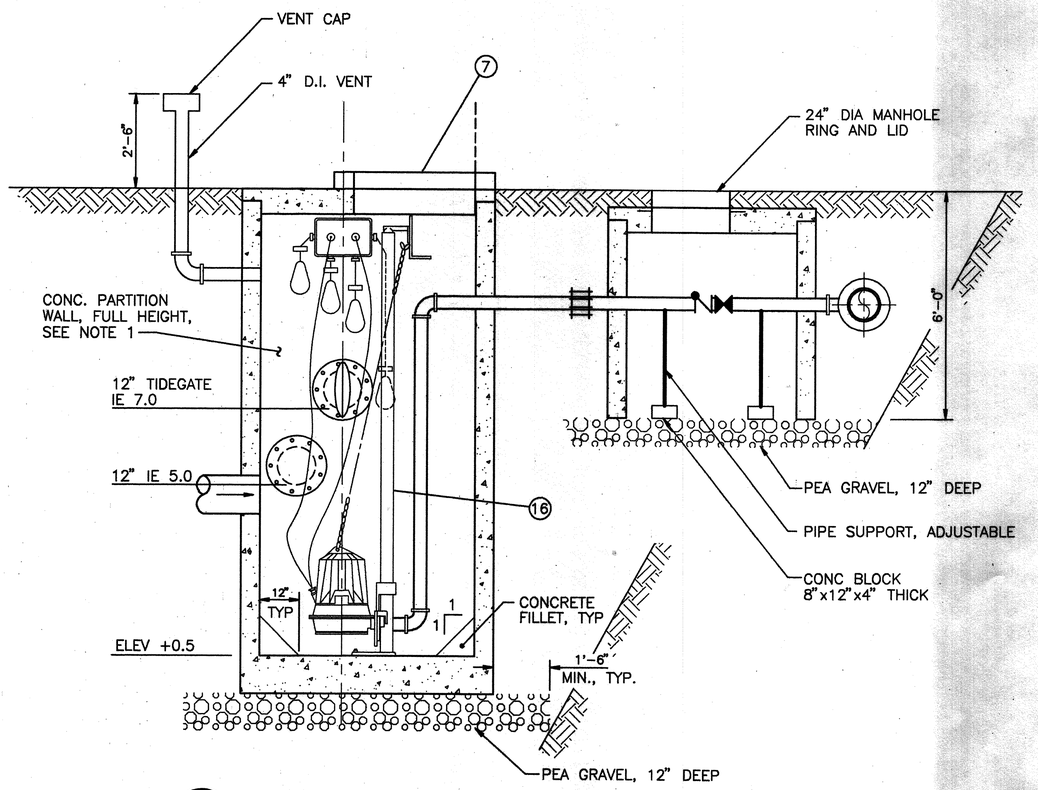
NOTE:
LOCATION.
SERVICE AND PANEL
SEE ELECTRICAL FOR

PLAN

1 SD6 SD6 PLAN – STORM DRAIN PUMP STATION
SCALE: 1/2"=1'-0"

SCHEDULE OF MATERIALS	
1	PUMP P1
2	PUMP P2
3	PUMP P3
4	PUMP P4
5	12" DI WALL SPOOL, FL WITH BLIND FLANGE
6	PRE-CAST CONCRETE VAULT, 6'x12'
7	HATCH 2'-6"X4'-0"
8	12" TIDE VALVE
9	6" CHECK VALVE, LEVER AND WEIGHT
10	6" GATE VALVE
11	10"x6" TEE, FL
12	FLEXIBLE COUPLING
13	54" DIA MANHOLE BARREL SECTION, TYPE III TOP, 24" DIA RING AND COVER, VALVE VAULT
14	4" VENT PIPE & VENT CAP
15	GAUGE ASSEMBLY (SEE SPECIFICATIONS)
16	GUIDE RAIL

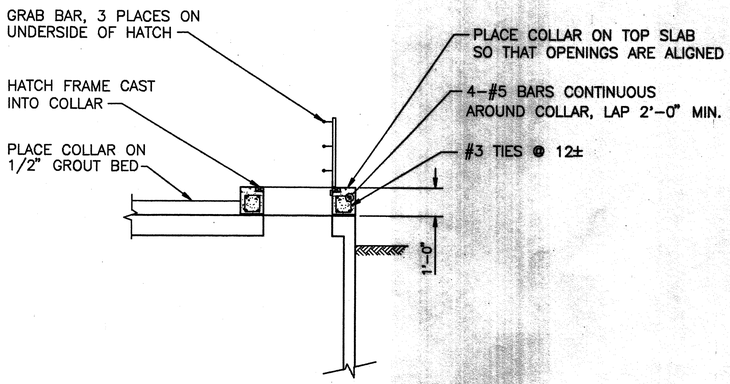
FLOAT SWITCH SETTINGS		
	PUMPS 1/2	PUMPS 3/4
BOTTOM SUMP	0.5	0.5
PUMPS OFF	7.0	6.0
LEAD PUMP ON	9.0	8.0
LAG PUMP ON	9.5	8.5
ALARM	10.0	9.0



A SD6 SD6 SECTION – STORM DRAIN PUMP STATION
SCALE: 1/2"=1'-0"

NOTE:

1. VAULT SHALL BE SUPPLIER DESIGNED FOR H-20 LOADING. PARTITION WALL SHALL BE DESIGNED FOR UNBALANCED HYDROSTATIC LOADING IN EITHER DIRECTION WITH ONE CHAMBER FULL AND ADJACENT CHAMBER EMPTY.



B SD6 SD6 SECTION
SCALE: 3/8" = 1'-0"

JOHN O. OLSEN STATE OF WASHINGTON 7850 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/16/97

"L"
NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\SD6.DWG

I:\24\93\022\SD6 9-2-96 3:01:10 PM PST

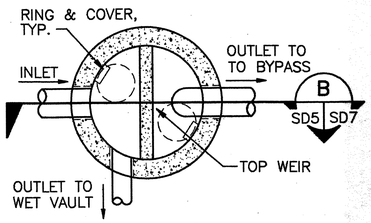
REVISION
NO. DATE BY

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

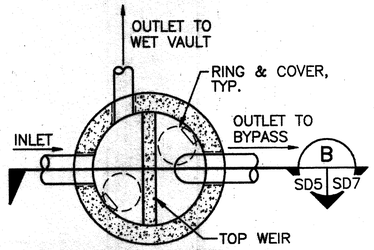
REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES
PUMP SYSTEM DETAILS

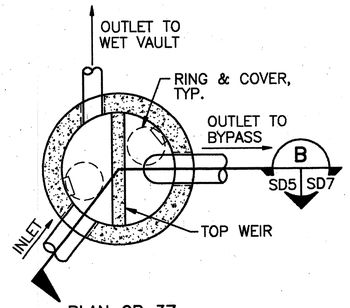
SCALE	AS SHOWN
DES. JHW	SHEET NO.
DR. CSJ	SD6
CH. JOO	
F.B. --	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022



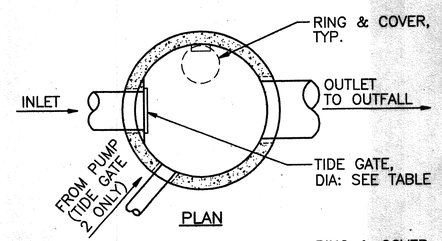
PLAN CB 3



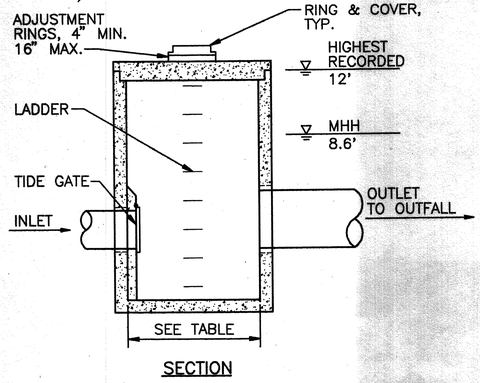
PLAN CB 41



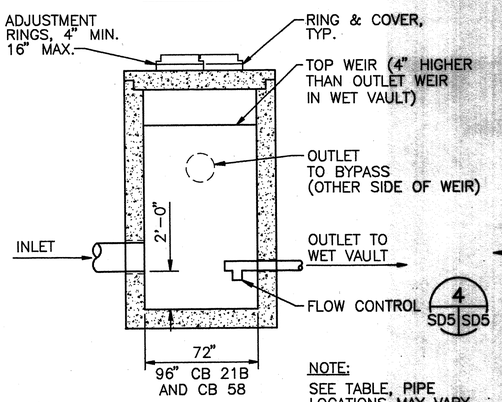
PLAN CB 37



PLAN

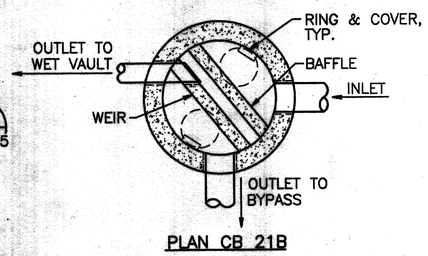


SECTION

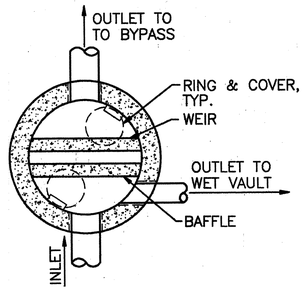


NOTE:
SEE TABLE, PIPE LOCATIONS MAY VARY

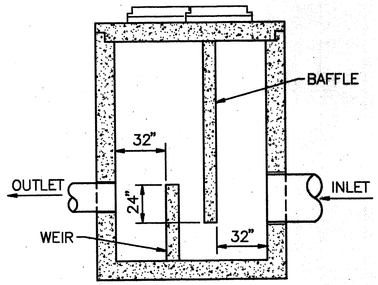
SCHEMATIC SECTION



PLAN CB 21B



PLAN CB 58

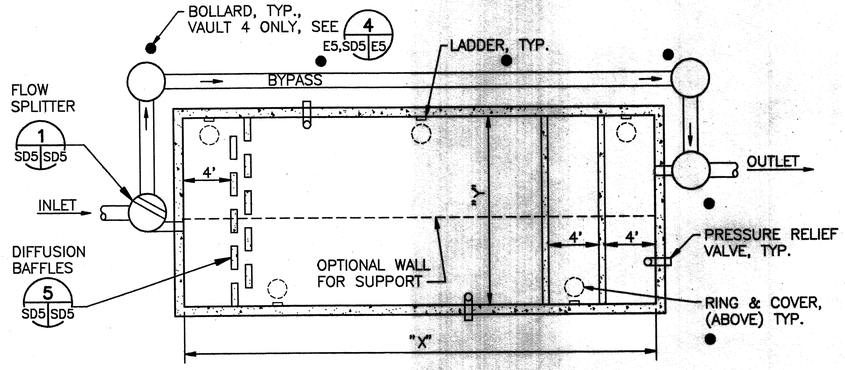


SCHEMATIC SECTION WITH BAFFLE CB 21B AND CB 58 ONLY

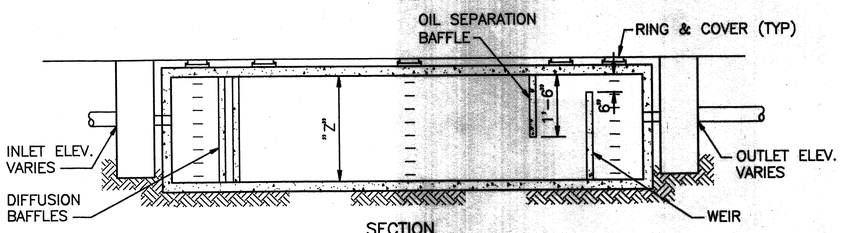
1 SD5 SD5 **DETAIL—FLOW SPLITTERS**
SCALE: 1/4" = 1'-0"

STRUCTURE	TIDE GATE DIA.	STRUCTURE DIA.	LOAD RATING
TIDE GATE 1	18"	54"	HS 20
TIDE GATE 2	42"	96"	300 TON
TIDE GATE 3	18"	54"	HS 20

2 SD5 SD5 **DETAIL—TIDE GATE**
SCALE: 1/4" = 1'-0"



PLAN

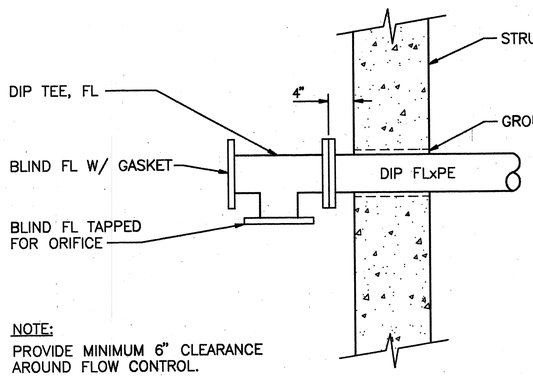


SECTION

NOTES:
1. PROVIDE MINIMUM 6" CLEARANCE BETWEEN VAULT, PIPE AND STRUCTURES.
2. CONFIGURATION OF INLET, OUTLET AND BYPASS MAY VARY, SEE PLAN.

3 SD5 SD5 **DETAIL—WET VAULT**
NOT TO SCALE

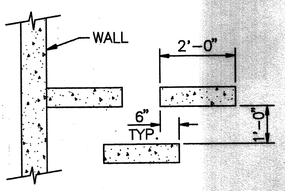
WET VAULT No.	"X"	"Y"	"Z"	FIN. FLOOR BOTTOM	LOAD RATING	PIPE DIA. IN & OUT	PIPE TYPE	IE IN	IE OUT
A	60.0	18.5	6	4.25	HS 20	6"	DIP	7.90	9.20
1	34.5	10	6	3.80	70 TON	6"	DIP	8.00	8.80
2	31.5	9	6	2.50	300 TON	6"	DIP	6.60	7.00
3	31.5	9	6	0.9	HS 20	6"	DIP	4.00	5.85
4	36	10.5	6	4.0	HS 20	6"	DIP	5.50	9.00



NOTE:
PROVIDE MINIMUM 6" CLEARANCE AROUND FLOW CONTROL.

4 SD5 SD5 **DETAIL—FLOW CONTROL**
SCALE: 1" = 1'-0"

STRUCTURE No.	DRAINS TO	ORIFICE DIA.
3	VAULT A	4-23/32"
26	SIMS E. SAND FILTER	17/32"
34	SIMS W. SAND FILTER	18/32"
27	VAULT 1	1-18/32"
37	VAULT 2	1-18/32"
41	VAULT 3	1-9/32"
57A	B5 SAND FILTER	11/16"
58	VAULT 4	1-18/32"
60	B6 SAND FILTER	25/32"



5 SD5 SD5 **DETAIL—DIFUSION BAFFLE**
SCALE: 1/2" = 1'-0"

EXPIRES 4/16/97

"L"

NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\SD5.DWG

I:\24\93\022\SD5 9-2-96 25927 PM PST

REVISION

NO.	DATE	BY

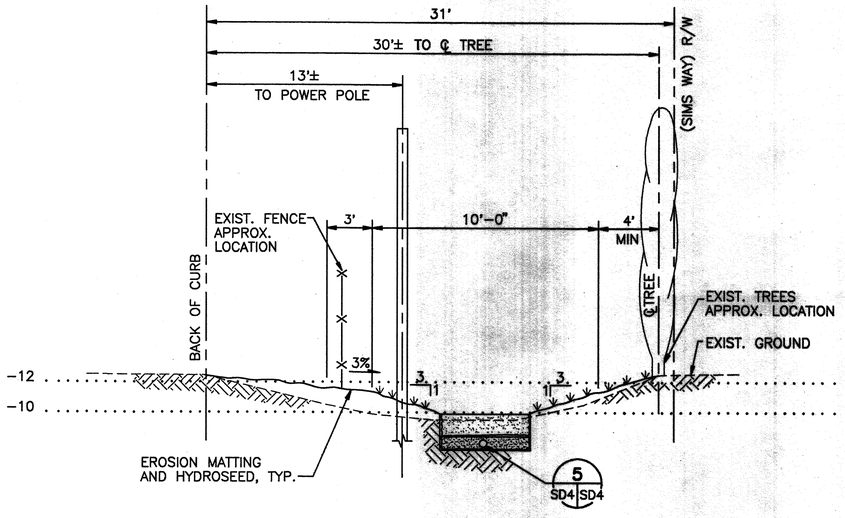
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

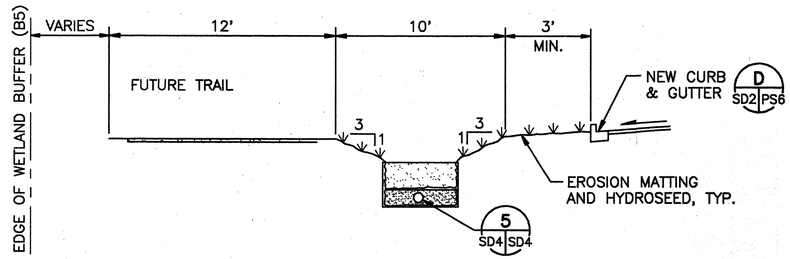
PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

WET VAULT DETAILS

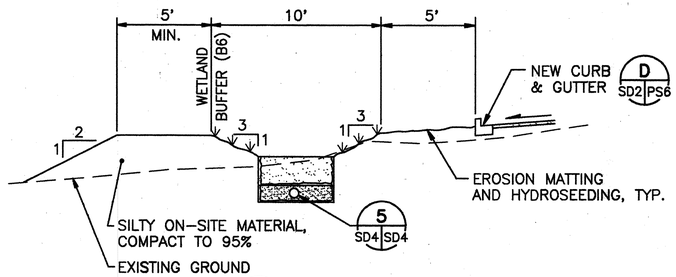
SCALE	AS SHOWN
DES. DBS	SHEET NO. SD5
DR. CSJ	
CH. HCT	
F.B. — —	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022



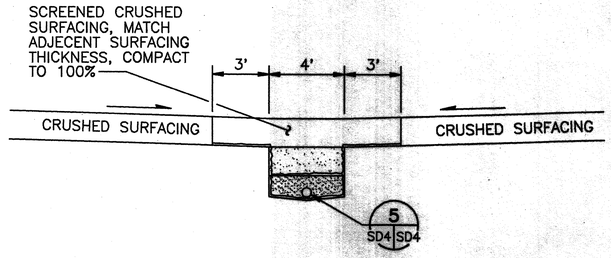
A SIMS WAY DITCH SECTION
SD1 SD4 NOT TO SCALE



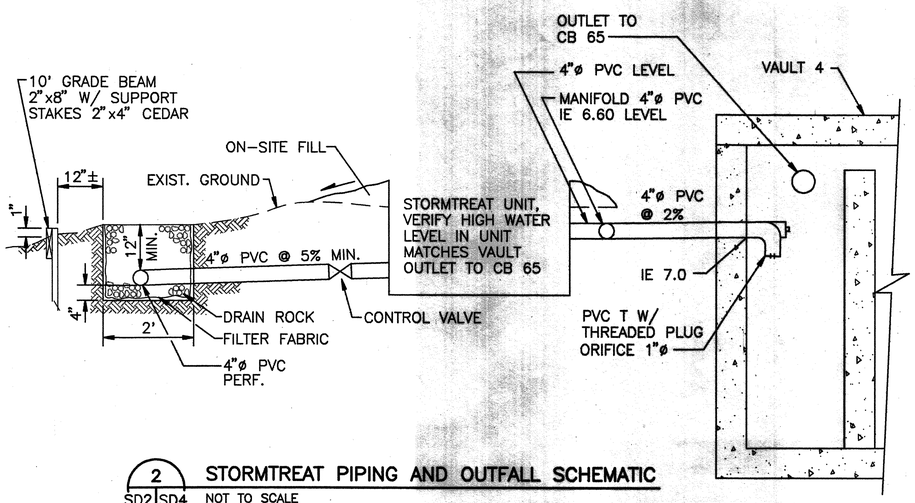
3 DETAIL-SAND FILTER B5
SD2 SD4 NOT TO SCALE



4 DETAIL-SAND FILTER B6
SD2 SD4 NOT TO SCALE



1 DETAIL-SAND FILTER IN TRAFFIC AREA
SD1 SD4 NOT TO SCALE



2 STORMTREAT PIPING AND OUTFALL SCHEMATIC
SD2 SD4 NOT TO SCALE

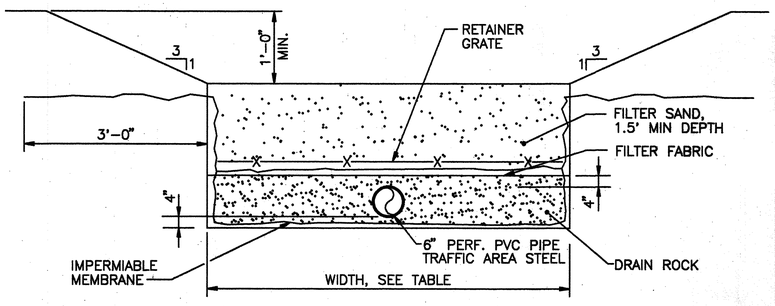


TABLE			
SAND FILTER	TOP SAND ELEV.	WIDTH	LENGTH
SIMS EAST	11.10	4'	100
SIMS WEST	9.80	4'	130
B5	10.55	4'	200
B6	11.10	4'	150

5 TRENCH SECTION
SD4 SD4 NOT TO SCALE

JOHN O. OLSEN
STATE OF WASHINGTON
7860
REGISTERED
PROFESSIONAL ENGINEER
4/5/96
EXPIRES 4/16/97

"L"
NOTE:
IF "L" DOES NOT MEASURE 1"
ADJUST SCALES ACCORDINGLY.

i:\24\93\022\SD4.DWG

I\24\93\022\SD4 9-2-96 2:57:28 PM PST

NO.	DATE	BY	REVISION

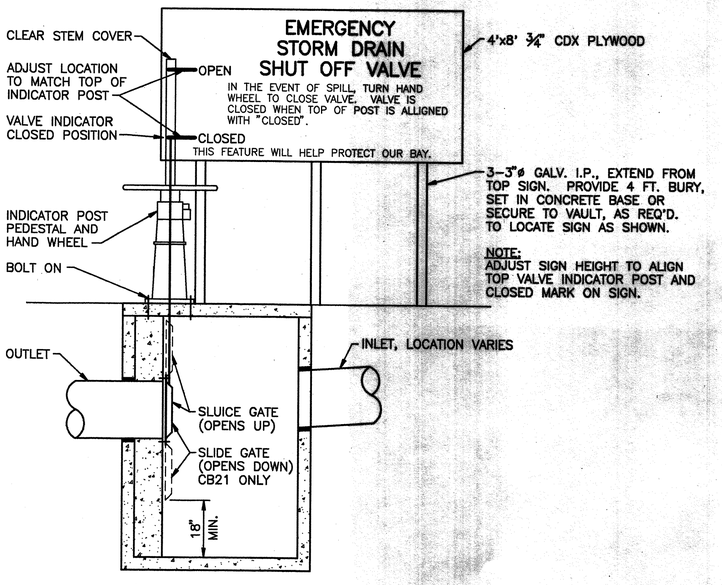
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

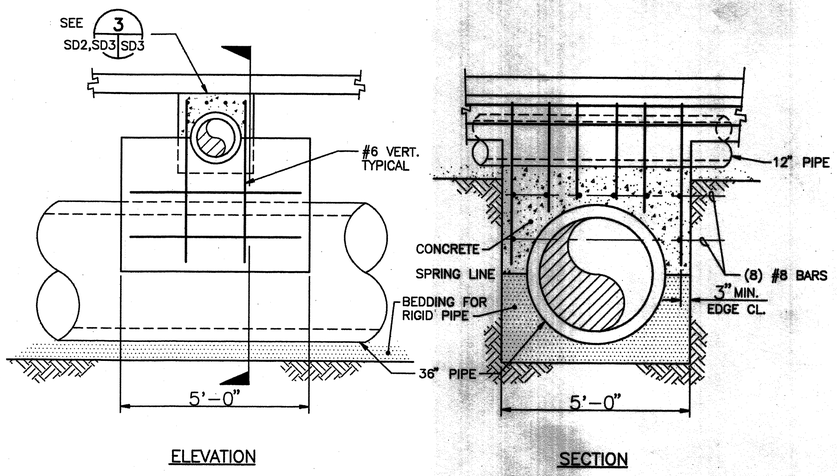
INFILTRATION SYSTEM DETAILS

SCALE	AS SHOWN
DES. DBS	SHEET NO.
DR. CSJ	SD4
CH. HCT	
F.B. --	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022



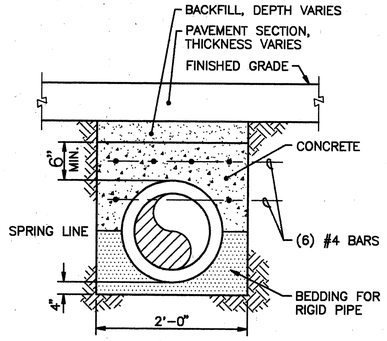
1 SD2 SD3 STORM MANHOLE EMERGENCY SHUT OFF

NOT TO SCALE



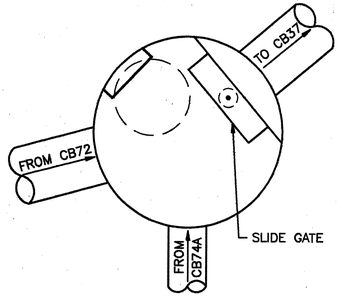
2 SD2 SD3 PIPE CROSSING WITH CONCRETE ENCASEMENT

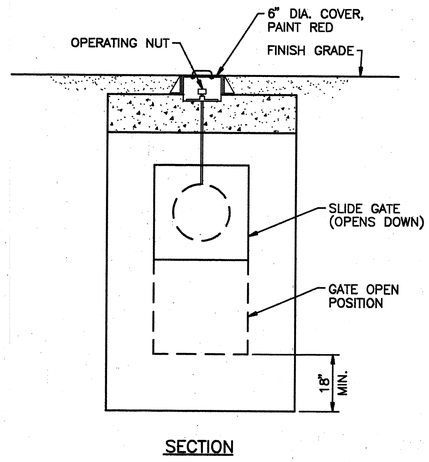
SCALE: 1/2"=1'-0"



3 SD2,SD3 SD3 CONCRETE BEDDING FOR 12 INCH DIAMETER PIPE

SCALE: 1/2"=1'-0"

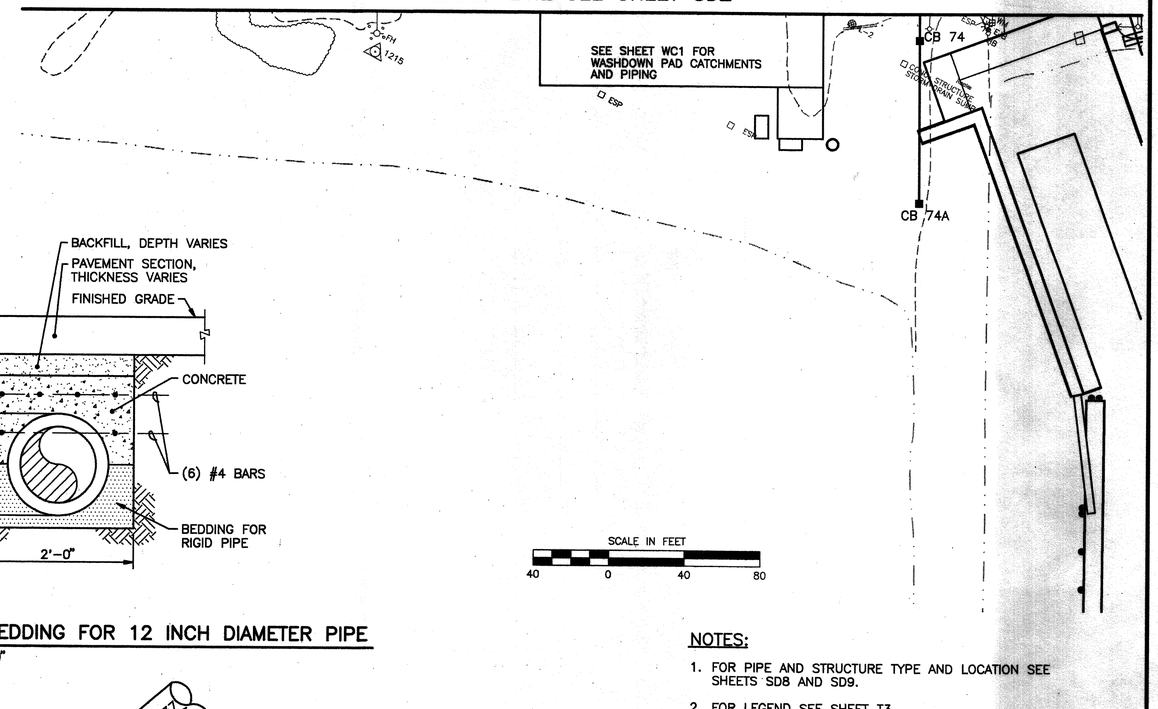




4 SD2 SD3 EMERGENCY SHUT OFF FLUSH MOUNT (CB 71 ONLY)

NOT TO SCALE

MATCH LINE SEE SHEET SD2



NOTES:

1. FOR PIPE AND STRUCTURE TYPE AND LOCATION SEE SHEETS SD8 AND SD9.
2. FOR LEGEND SEE SHEET T3.

JOHN G. OLSEN — STATE OF WASHINGTON — 11848 — REGISTERED PROFESSIONAL ENGINEER

EXPIRES 4/16/97

CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555

"L"

NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\SD1-2-3.DWG

REVISION

NO.	DATE	BY

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

PORT OF PORT TOWNSEND

ENHANCED HAULOUT/STORMWATER FACILITIES

STORM DRAINAGE PLAN - SOUTHWEST

SCALE	1" = 40'
DES. SMK	SHEET NO. SD3
DR. WMB	
CH. JHW	
F.B. ---	OF X SHEETS
DATE AUGUST 1996	
FILE NO. 24-93-022	

I:\24\93\022\SD1-2-3 9-2-96 25146 PM PST

SIMS WAY (HWY. 20)

HAINES ST.

BOAT ST.

SAND FILTER B5

SAND FILTER B6

CB 60

CB 60A EMERGENCY SHUT-OFF, SEE 1 SD2 SD3

CB 59

CB 62

CB 61A

CB 63

CB 58A

CB 58 F.S.

CB 61

CB 57

CB 65

VAULT 4

PACKAGE STORM TREATMENT UNITS

10 LF SHEET FLOW SPREADER

CB 57B EMERGENCY SHUT-OFF, SEE 1 SD2 SD3

CB 57B

CB 57A

CB 56

FOR DETAIL IN THIS AREA SEE 2 SD2 SD4

BREAK CONNECTION REMOVE AND CAP FROM ROOF DRAIN

CONNECT EXISTING TO NEW CAP EXISTING

CB 82

CB 81

CB 45

CB 44

CB 43

CB 42

CB 41 FLOW SPLITTER

CB 40

TIDE GATE 3

VAULT 3

CB 80

STORM DRAIN PUMP STATION, SEE SHT. SD6

VALVE VAULTS

CB 48

CB 49

CB 47

CB 46

VAULT 2

CB 37 FLOW SPLITTER

CB 32

CB 19

DOWNSPOUT CONNECTION TYP., SEE 7 SD7 SD7

CB 71 EMERGENCY SHUT-OFF, SEE 4 SD2 SD3

CONC. BEDDING FROM CB 74 TO CB 71, SEE 3 SD2,SD3 SD3

CB 73

CB 72

CB 55

CB 18

PIPE CROSSING W/ CONC. ENCASEMENT, SEE 2 SD2 SD3

TIDE GATE 2

12" DIP

MATCH LINE SEE SHEET SD3

MATCH LINE SEE SHEET SD1

NOTES:

1. FOR PIPE AND STRUCTURE TYPE AND LOCATION SEE SHEETS SD8 AND SD9.
2. FOR LEGEND SEE SHEET T3.
3. ROOF DRAIN COLLECTION PIPE: 6" PVC, UNLESS NOTED OTHERWISE.

JOHN O. OLSEN — STATE OF WASHINGTON — 7880 — REGISTERED PROFESSIONAL ENGINEER — 9/5/96

EXPIRES 4/16/97

SCALE IN FEET: 40 0 40 80

CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555

"L"

NOTE: IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\SD1-2-3.DWG

I:\24\93\022\SD1-2-3 9-2-96 2:51:46 PM PST

NO.	DATE	BY	REVISION

REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND

ENHANCED HAULOUT/STORMWATER FACILITIES

STORM DRAINAGE PLAN - WEST

SCALE	1" = 40'
DES. SMK	SHEET NO. SD2
DR. SRS	
CH. JHW	
F.B. ---	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022

MATCH LINE SEE SHEET SD2

SIMS WAY (HWY. 20)

SAN JUAN AVE.

JEFFERSON ST.

BENEDICT ST.

WASHINGTON ST.

WEST SIMS SAND FILTER

EAST SIMS SAND FILTER

SAND FILTER IN TRAFFIC AREA, TYP., SEE 1/SD1/SD4

CB 34 — 2/SD1/SD7

CB 33A

CB 33

CB 28A

CB 28

CB 29A

CB 29B

CB 29C

CB 30

CB 27

CB 22

CB 21B F.S.

VAULT 1

CB 21A

CB 21

CB 20

CB 21 — 4/SD1/SD3

CB 27A

CB 27D

CB 27B

CB 27C

CB 26 — 1/SD1/SD7

CB 25

CB 24

CB 23

CB 11A

CB 11

CB 12

CB 13

CB 10A

CB 10

CB 8

CB 9

CB 7A

CB 7

CB 4

CB 3 FLOW SPLITTER SEE TABLE

CB 2

CB 2A

CB 83

CB 84

CB 5

CB 14

CB 15

CB 16

CB 17

INLET A — 5/SD1/SD7

INLET B — 5/SD1/SD7

INLET C — 5/SD1/SD7

SEE NOTE 4 (2)

SEE WASHDOWN PLANS FOR CONNECTION POINT

SEE NOTE 6 (2)

REMOVE & RESET LIGHT AND GUY

CUT-OFF DIKE, SEE 3/SD1/SD7

CUT-OFF DIKE, SEE 3/SD1/SD7

RESET EXIST. SERVICE PIPE, PROVIDE 6" CLEARANCE

OUTFALL "B" SEE SHEET DG2

OUTFALL "A"

TIDE GATE

LIFT STATION

VAULT "A"

RESTROOM

WATER VAULT

FLEET BUILDING

MARINE EXCHANGE

KC NOMURA BLDG.

SK BUILDING

OFFICE

TELEPHONE BOOTH

PV DUMP

ANTENNA

MON. WELL

CONC. VAULT SPRINKLER SYSTEM

EXIST. FUEL LINE

Dense Brush

Unpaved Parking

Paved Parking

Boat Storage

NOTES:

1. FOR PIPE AND STRUCTURE TYPE AND LOCATION SEE SHEETS SD8 AND SD9.
2. FOR LEGEND SEE SHEET T3.
3. ROOF DRAIN COLLECTION PIPE: 6" PVC, UNLESS NOTED OTHERWISE.
4. REVISE EXISTING WATER LINE PROFILE TO AVOID CONFLICT WITH STORM DRAIN, SEE 3/SD1/U5 (2)
5. REVISE EXISTING SANITARY SEWER FORCE MAIN PROFILE TO AVOID CONFLICT WITH STORM DRAIN, SEE 3/SD1/U5 (2)
6. REVISE EXISTING FUEL LINE PROFILE TO AVOID CONFLICT WITH STORM DRAIN. (2)

JOHN O. OLSEN — STATE OF WASHINGTON — 7860 — REGISTERED PROFESSIONAL ENGINEER

EXPIRES 4/16/

SCALE IN FEET: 40 0 40 80

CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555

"L"

NOTE: IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\SD1-2-3.DWG

I:\24\93\022\SD1-2-3 9-2-96 2:51:46 PM PST

NO.	DATE	BY	REVISION
2	11-12-96	MJC	NOTE STORM DRAIN CONFLICTS WITH EXISTING UTILITIES. DELETE CULVERT FROM CB #7A TO CB #84, AND ADD CULVERT FROM CB #15 TO CB #83.
1			NOT USED

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

PORT OF PORT TOWNSEND

ENHANCED HAULOUT/STORMWATER FACILITIES

STORM DRAINAGE PLAN - EAST

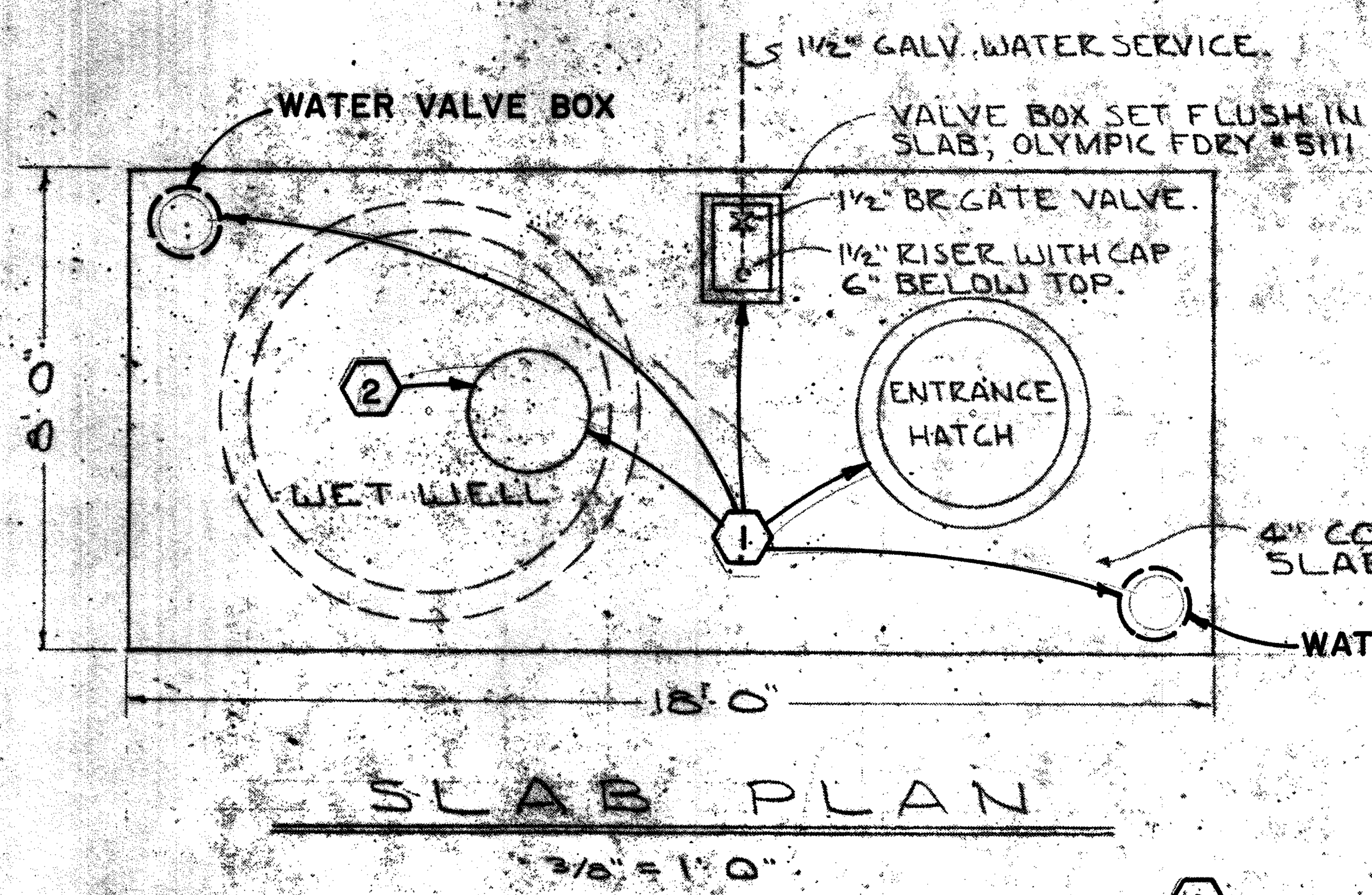
SCALE	1" = 40'
DES.	SMK
DR.	SRS
CH.	JHW
F.B.	--
SHEET NO.	SD1 REVISED OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022

GENERAL NOTES

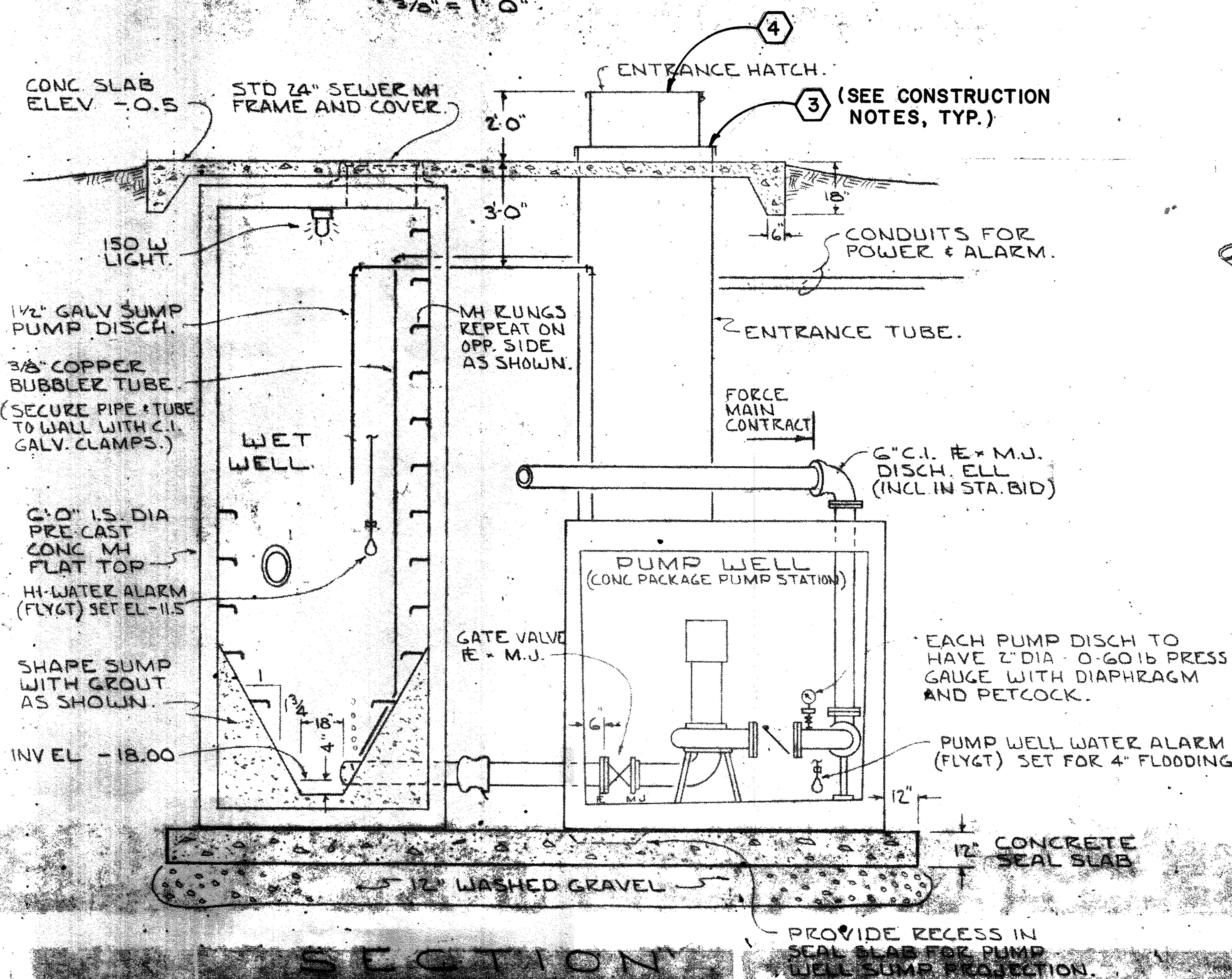
1. ELEVATIONS SHOWN ON 1972 CONSTRUCTION DRAWINGS BASED ON "CITY OF PORT TO VNS END DATUM ELEV 0.0 EQUALS 11.6 MLLW", AS NOTED ON 1972 SEWER PLAN AND PROFILE DRAWINGS CONSTRUCTED WITH SEWER PUMP STATION.
2. TOP OF 24-INCH DIA MANHOLE ACCESS TO SEWAGE PUMP STATION WET WELL SURVEYED AT ELEV 12.35 BY REID MIDDLETON, 1996. REFER TO GRADING DRAWINGS FOR PROPOSED FINISH GRADE, ELEV 14.0+/-.
3. ELECTRICAL ONE-LINE DIAGRAM REMOVED FROM THIS AS-BUILT DRAWING TO PROVIDE SPACE FOR THESE NOTES.
4. BOLD TEXT INDICATES CONSTRUCTION PROPOSED WITH THE PORT OF PORT TOWNSEND "ENHANCED HAULOUT AND STORMWATER FACILITIES".

CONSTRUCTION NOTES

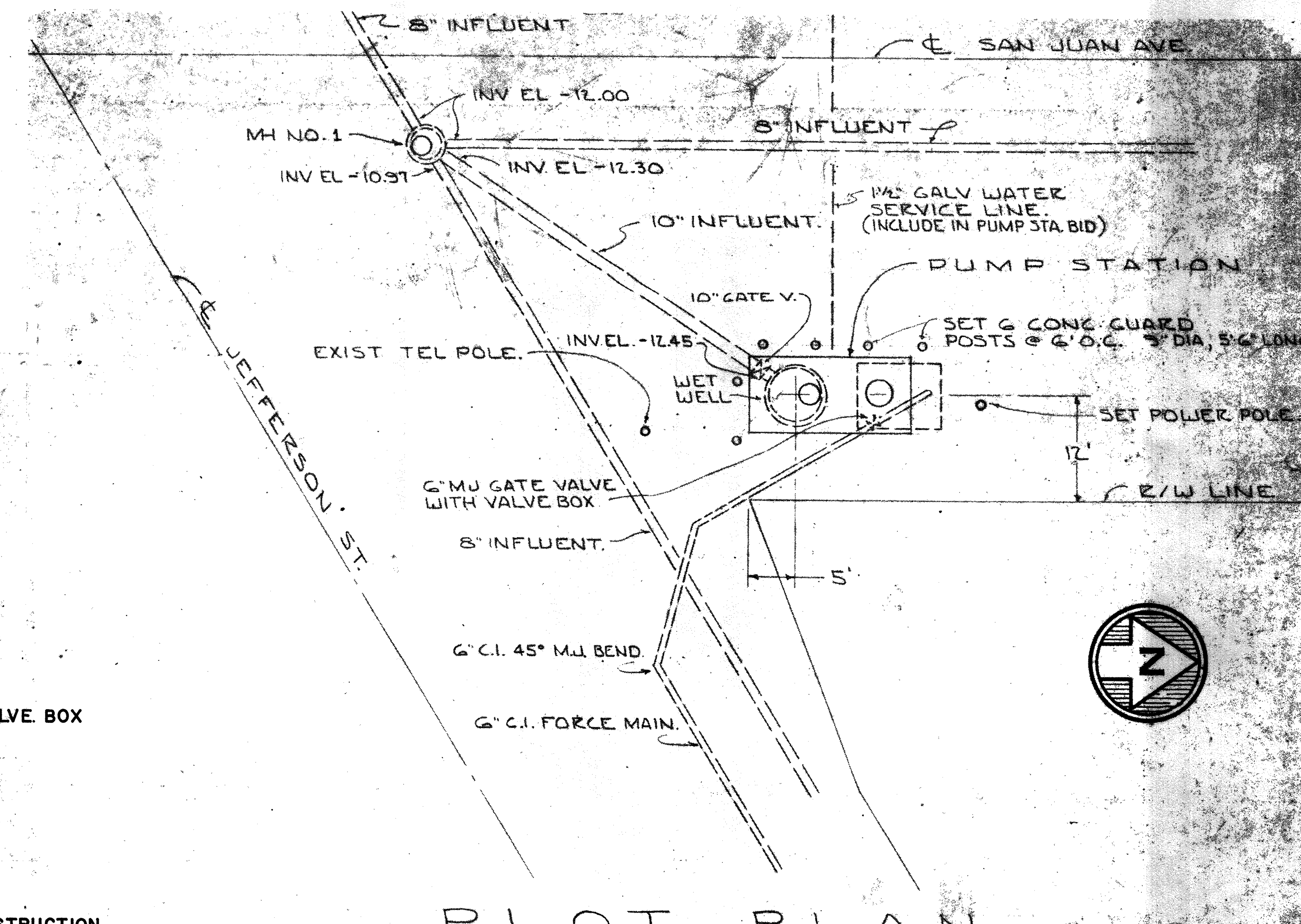
1. RAISE GRADE OF EXISTING FACILITIES EXPOSED IN PUMP STATION TOP SLAB. EXISTING SLAB TO REMAIN IN PLACE. CONSTRUCTION OF NEW SLAB AT PROPOSED FINISH GRADE NOT REQUIRED.
2. RAISE WETWELL MANHOLE USING 24-INCH DIAMETER ADJUSTMENT RINGS. SET RINGS IN GROUT BED AND GROUT FINISH INTERIOR SURFACE OF RISER ASSEMBLY. FURNISH AND INSTALL MANHOLE RUNGS IN RISER ASSEMBLY AT 12-INCHES ON CENTER.
3. RAISE DRYWELL ACCESSWAY AS FOLLOWS:
   A. REMOVE EXISTING DRYWELL METAL COVER.
   B. FURNISH AND INSTALL (F&I) 36-INCH DIA CONCRETE PLAIN END RISER PIPE, CLASS V,18-INCH LENGTH. CONTRACTOR CONFIRM PIPE DIAMETER IN FIELD PRIOR TO FABRICATING MATERIALS.
   C. F&I 12-INCH WIDE 16 GAGE GALV STEEL SMOOTH COUPLING BAND BETWEEN EXISTING CONCRETE ACCESSWAY AND PROPOSED CONCRETE RISER. TIGHTENING ANGLES SHALL BE WELDED TO BAND AND USE A MINIMUM OF FOUR ea 1/2-INCH DIA ZINC PLATED BOLTS. COUPLING BAND SHALL BE ASPHALT COATED TREATMENT 1. F&I 3/8-INCH THICK BY 12-INCH WIDE CLOSED CELL NEOPRENE SPONGE CULVERT GASKET.
   D. ENCASE COUPLING BAND WITH MINIMUM 12-INCH THICKNESS CAST-IN-PLACE CONCRETE.
   E. REINSTALL EXISTING DRYWELL METAL COVER.
4. ADJUST APPURTENANCES THAT INCLUDE BUT ARE NOT LIMITED TO: EXTEND LADDER; RELOCATE: BLOWER SWITCH, LIGHT SWITCH AND POWER/TELEMETRY CONDUIT. MODIFY BLOWER DISCHARGE PIPE.
5. COORDINATE CONSTRUCTION WITH CITY OF PORT TOWNSEND. INTERRUPTION OF SEWAGE PUMP STATION OPERATION SHALL NOT EXCEED ONE HOUR DURING NON-PEAK HOURS.



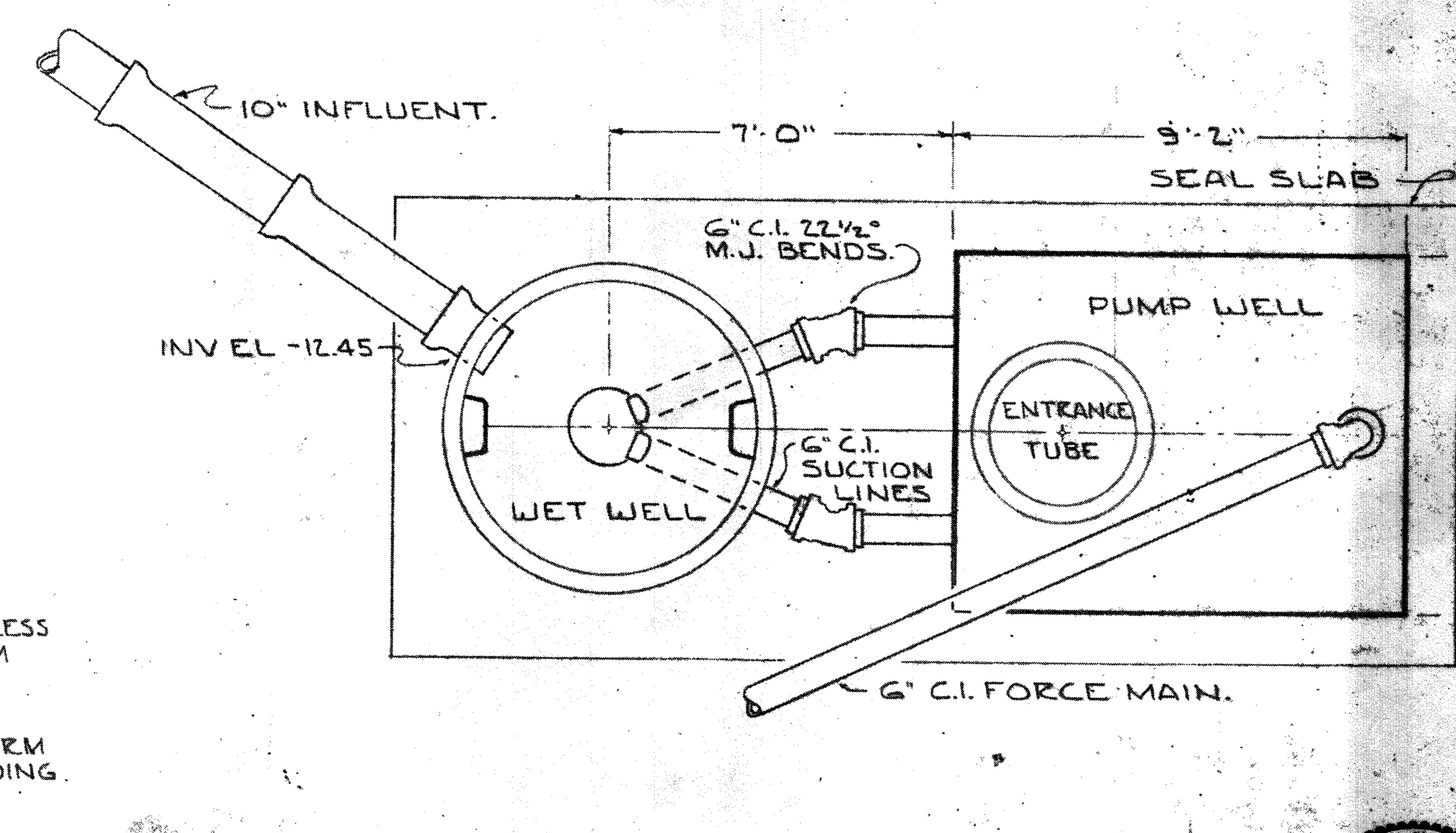
SLAB PLAN
3/16" = 1'-0"



SECTION



PLOT PLAN
1" = 10'



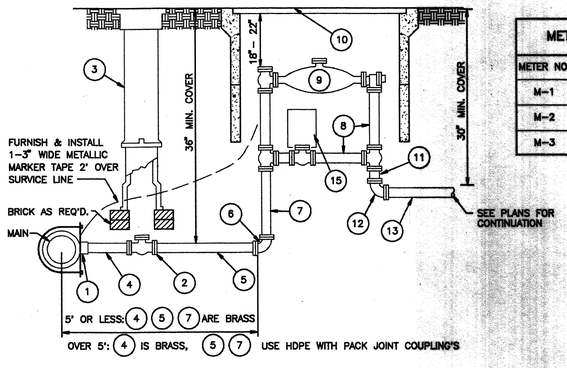
PLAN
3/8" = 1'-0"

NOTE: SCREENED PORTION OF THIS DRAWING IS "AS BUILT" INFORMATION DATED JULY 27, 1972 BY REID MIDDLETON & ASSOC. INC. THIS AS-BUILT DRAWING DOES NOT REFLECT CHANGES MADE SINCE DATE OF AS-BUILT.

REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES
MODIFY GRADE
EXISTING SEWAGE PUMP STATION

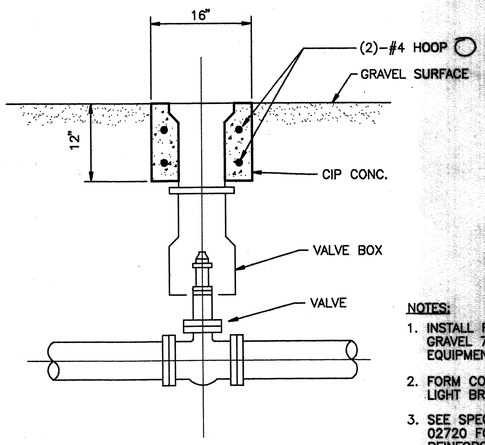
SCALE	AS SHOWN
DES.	JW
DR.	WAC
CH.	JW
SHEET NO.	U7
DATE	AUGUST 1996
FILE NO.	24-93-022



METER SCHEDULE		
METER NO.	SIZE	SHEET NO.
M–1	2"	U2
M–2	2"	U3
M–3	2"	U1

NO.	ITEM
1.	ROMAC STYLE 202S STAINLESS STEEL DOUBLE STRAP TYPE SADDLE
2.	2" RESILIENT WEDGE GATE VALVE WITH 2" OPERATING NUT
3.	STANDARD CAST–IRON VALVE BOX (10" X 30")
4.	BRASS NIPPLE (3" MIN., 6" MAX.)
5.	NIPPLE (SEE NOTE ABOVE)
6.	BRASS SWING JOINT
7.	NIPPLE (SEE NOTE ABOVE)
8.	METER SETTER, 2" FORD VBH77–12B WITH METER SPACER (LENGTH DETERMINED BY CITY PRIOR TO INSTALLATION)
9.	METER (FURNISHED BY CITY) (1½" OR 2")
10.	METER BOX, NO.2 FOG TITE OR BROOKS NO. 65, WITH STEEL TRAFFIC COVER AND HINGED INSPECTION LID (FURNISH 2 BOXES).
11.	2" BRASS NIPPLE
12.	2" BRASS 90° EL
13.	2" X 12" BRASS NIPPLE
14.	(NOT USED)
15.	6" PVC PIPE OVER BY–PASS VALVE.

1 / U6 U6 — **2" METER SERVICE INSTALLATION**
NOT TO SCALE



NOTES:
1. INSTALL REINFORCED VALVE BOX IN GRAVEL 70 TON AND 300 TON EQUIPMENT OPERATING AREAS.
2. FORM CONCRETE WITH SONOTUBE OR EQUAL, LIGHT BROOM FINISH SURFACE.
3. SEE SPECIFICATION SECTION 02607 AND 02720 FOR DESIGN–BUILD REQUIREMENTS FOR REINFORCEMENT AT MANHOLE AND CATCH BASIN STRUCTURES.

2 / – – **REINFORCED VALVE BOX DETAIL**
NOT TO SCALE

JAMES H. WEBER — STATE OF WASHINGTON — 15468 — REGISTERED PROFESSIONAL ENGINEER — 9-4-96
EXPIRES 11/13/97

JOHN O. OLSEN — STATE OF WASHINGTON — 19801 — REGISTERED PROFESSIONAL ENGINEER — 9/5/96
EXPIRES 4/16/96

"L"
NOTE:
IF "L" DOES NOT MEASURE 1"
ADJUST SCALES ACCORDINGLY.

I:\24\93\022\U6.DWG

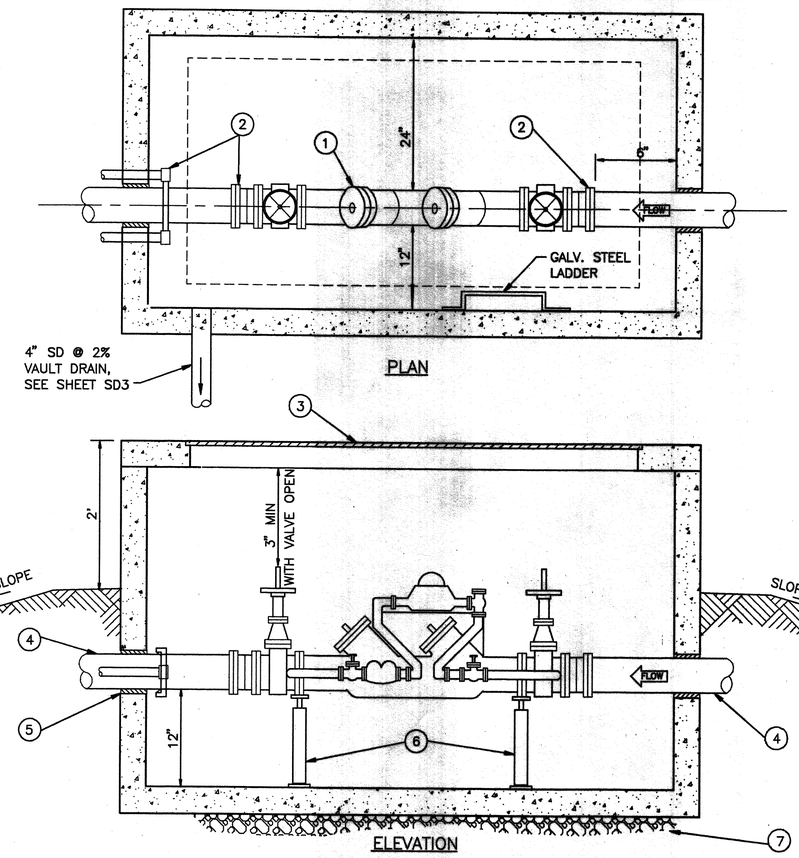
I:\24\93\022\U6 9-4-96 3:24:57 PM PST

NO.	DATE	BY	REVISION

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036–6638
206/775–3434
REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES
WATER AND SANITARY SEWER DETAILS

SCALE	AS SHOWN
DES. SS/JW	SHEET NO. U6
DR. CSJ	
CH. JHW	
F.B. – –	OF SHEETS
DATE	AUGUST 1996
FILE NO.	24–93–022



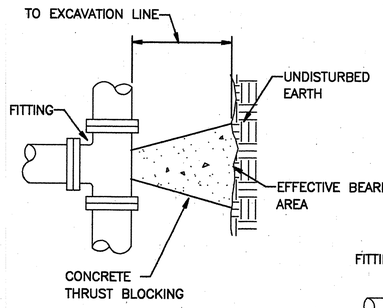
LEGEND:

1. UL–FM LISTED SOFTSEATED STATE APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY INCLUDING: 2–O.S. & Y RESILIENT SEATED GATE VALVES AND TEST COCKS.
2. UNI–FLANGE WITH SET SCREWS OR MJ X FL ADAPTER WITH MEGALUG OR GALVANIZED SHACKLE TO MAIN WITH 2–3/4" RODS, OR MJ RETAINER GLANDS.
3. PRECAST CONCRETE VAULT WITH STEEL ACCESS HATCH (AS MANUFACTURED BY UTILITY VAULT CO. OR AN APPROVED EQUAL). ABOVE GROUND INSTALLATIONS WILL BE PROVIDED WITH 6'x3' STEEL DOOR FOR ACCESS. BELOW GROUND INSTALLATIONS WILL BE PROVIDED WITH OSHA APPROVED LADDER INSTALLED IN SUCH A WAY AS TO NOT INTERFERE WITH INSTALLED EQUIPMENT MAINTENANCE.
4. DUCTILE IRON PIPE (SIZED AS REQUIRED) CLASS 52.
5. WATER TIGHT GROUT SHALL BE USED IN ALL VAULT PENETRATIONS.
6. 2 – GALVANIZED ADJUSTABLE PIPE SUPPORTS FOR 2–1/2" DIAM AND LARGER PIPE.
7. GRAVEL FOUNDATION AS REQUIRED.

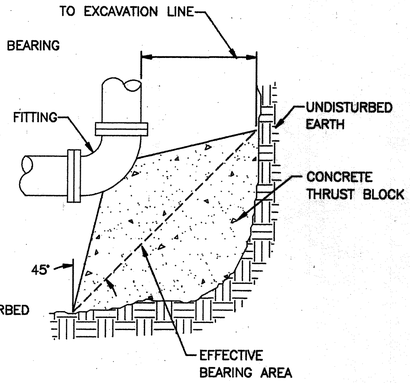
NOTES:

1. TEE AND GATE VALVE REQUIRED ON MAIN.
2. TEST COCKS ARE REQUIRED TO BE PLUGGED IF ASSEMBLY IS INSTALLED UNDERGROUND.
3. MAXIMUM HEIGHT OF ASSEMBLY IS 5' UNLESS AN OSHA APPROVED PLATFORM IS PROVIDED.
4. MINIMUM INSIDE VAULT HEIGHT IS 78" FOR 3" SERVICE AND LARGER.
5. METER SHALL BE INSTALLED SUCH THAT IT CAN BE READ WITHOUT ENTERING VAULT WITH ACCESS HATCH OPEN.
6. ALL DIMENSIONS ARE MINIMUM CLEARANCE REQUIREMENTS.
7. ASSEMBLY REQUIRES CERTIFICATION UPON INSTALLATION AND RECERTIFICATION ANNUALLY.

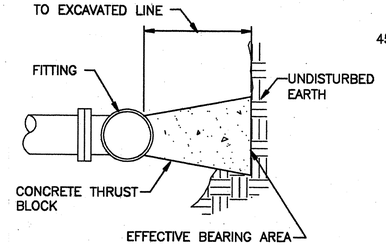
1 U3 U5 **REDUCED PRESSURE BACKFLOW PREVENTER**
NTS



TEE PLAN



90° EL PLAN



TYPICAL SECTION

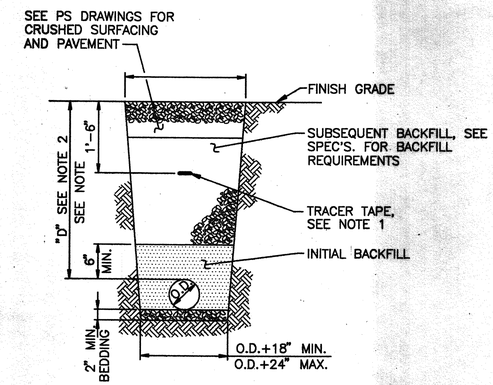
EFFECTIVE BEARING AREA REQUIRED

PIPE SIZE	90° EL	45° EL	22 1/2° EL	TEE
8"	7 SQ. FT.	4 SQ. FT.	2 SQ. FT.	5 SQ. FT.
12"	16 SQ. FT.	9 SQ. FT.	4 SQ. FT.	11 SQ. FT.

TYPICAL FOR SANDY SOIL WITH 2,000 P.S.I. BEARING STRENGTH

NOTES:
1. BLOCKING WILL BE TO SOLID BEARING SURFACE AS DIRECTED.
2. ALL BLOCKS ON TEES MUST BE SEPARATED FOR DIRECTION OF THRUST.
3. SEE STANDARD SPEC'S. FOR ADDITIONAL REQUIREMENTS.

2 U2 U5 **THRUST BLOCKING**
NTS



NOTES:
1. INSTALL TRACER TAPE FOR NON–METALLIC WATER LINE (2" AND LARGER) AND NON–METALLIC SEWER FORCE MAIN.
2. MINIMUM COVER FOR UTILITY LINES SHALL BE AS NOTED BELOW, EXCEPT WHERE GREATER DEPTH IS NOTED ON DRAWINGS.

UTILITY	MINIMUM COVER "D" (FEET)
WATER MAIN	3'–6"
WATER SERVICE	3'–0"
SEWER	3'–6"
SEWER FORCE MAIN	3'–0"
STORM DRAIN	SEE PLANS

A U1,U2,U3 U5 **TYPICAL TRENCH SECTION**
NTS

JAMES H. WEBER — STATE OF WASHINGTON — 16468 — REGISTERED PROFESSIONAL ENGINEER — 9.4.96
EXPIRES 11/13/97

JOHN O. OLSEN — STATE OF WASHINGTON — 7550 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/16/97

"L"
NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\U5.DWG

I:\24\93\022\U5 9-4-96 3:22:18 PM PST

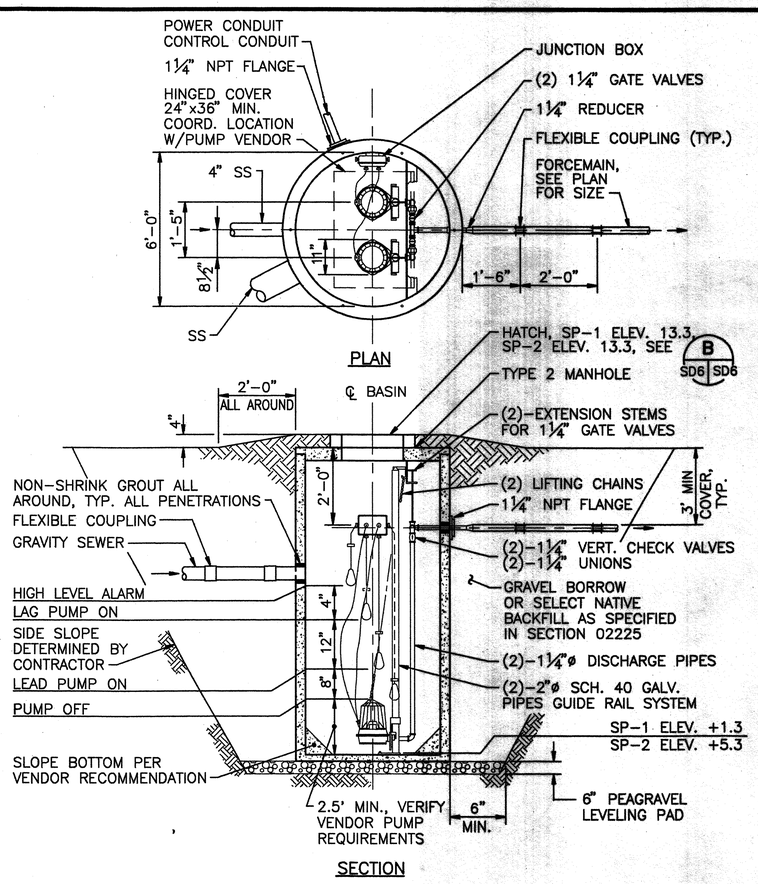
NO. | DATE | BY | REVISION

REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036–6638
206/775–3434

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

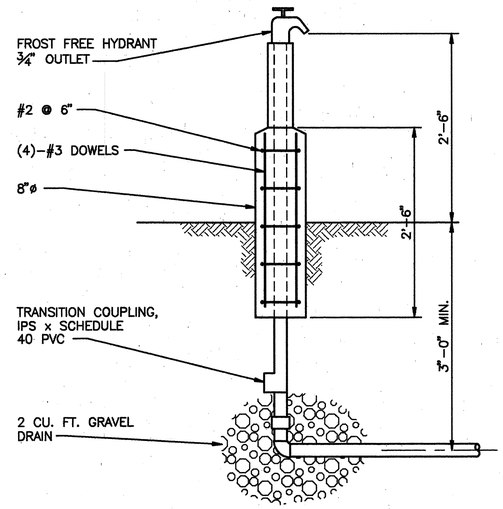
WATER AND SANITARY SEWER DETAILS

SCALE	AS SHOWN
DES.	SS/JW
DR.	CSJ
CH.	HCT
F.B.	— —
SHEET NO.	U5
OF SHEETS	
DATE	AUGUST 1996
FILE NO.	24–93–022



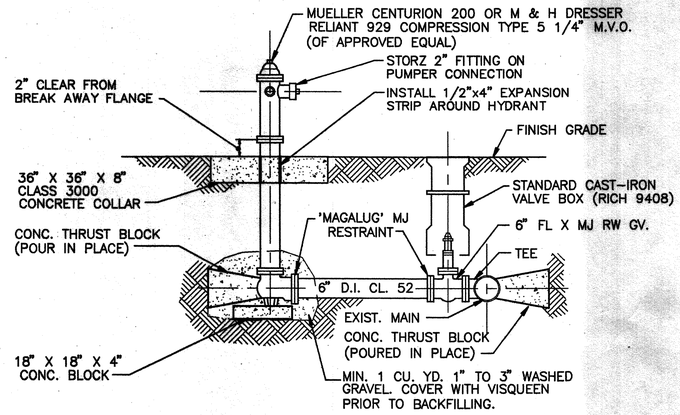
A U3 U4 SEWAGE PUMP STATION, SP-1/SP-2

NTS



1 U2 U4 YARD HYDRANT

SCALE: 1"=1'-0"

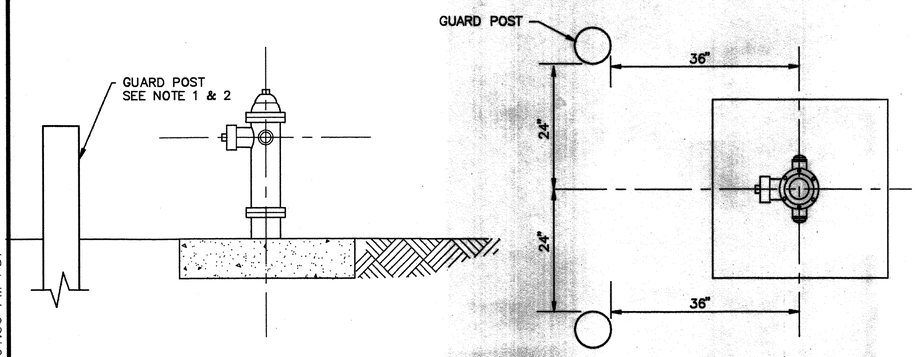


2 U2 U4 TYPICAL FIRE HYDRANT ASSEMBLY DETAIL

NTS

NOTES:

1. AFTER INSTALLATION HYDRANT SHALL BE WIRE BRUSHED, PRIMED WITH CHLORO-CHEM PRIMER & FIELD PAINTED WITH 2 COATS OF "STEELCOTE FEDERAL YELLOW."
2. WHEN HYDRANT SPOOL EXCEEDS 18' USE FULL CIRCLE MJ REPAIR SLEEVE WITH 'MEGALUGS.'
3. RESTRAIN ALL JOINTS ON 6" HYDRANT LEAD (SPOOL) WITH MEGALUGS; USE MJ SLEEVES AS REQUIRED. VENT AIR TO MAIN BY SLOPING 6" UP TOWARDS MAIN.
4. GUARD POSTS REQUIRED AT ALL HYDRANTS SUBJECT TO TRAFFIC DAMAGE. CONFIGURATION OF POST WILL BE DETERMINED BY THE LOCAL JURISDICTION. SEE "TYPICAL HYDRANT GUARD POST DETAIL' FOR ADDITIONAL REQUIREMENTS.

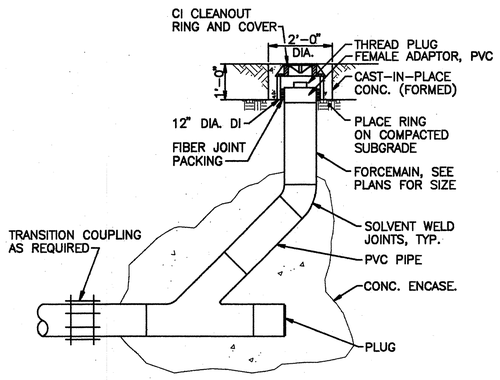


NOTES:

1. GUARD POSTS SHALL BE 6' LONG, 6" DIAMETER SCHEDULE 40, CONCRETE FILLED STEEL PIPE. PAINT WITH TWO COATS OF "RUST-O-LEUM" NO. 2766, HIGH GLOSS YELLOW PAINT.
2. TOP OF GUARD POST SHALL BE LEVEL WITH TOP OF PUMPER PORT.

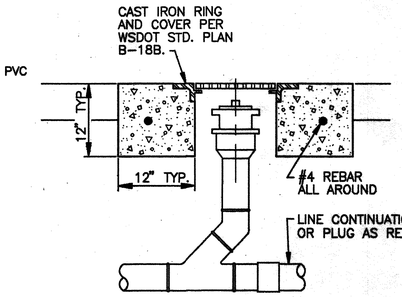
3 U4 U4 TYPICAL FIRE HYDRANT GUARD POST DETAIL

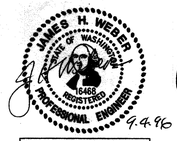
NTS



4 U1,U3 U4 PRESSURE CLEAN-OUT (PCO)

NTS





EXPIRES 11/13/97

EXPIRES 4/16/97

"L"

NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\U4.DWG

I:\24\93\022\U4 9-4-96 3:01:36 PM PST

REVISION

NO.	DATE	BY

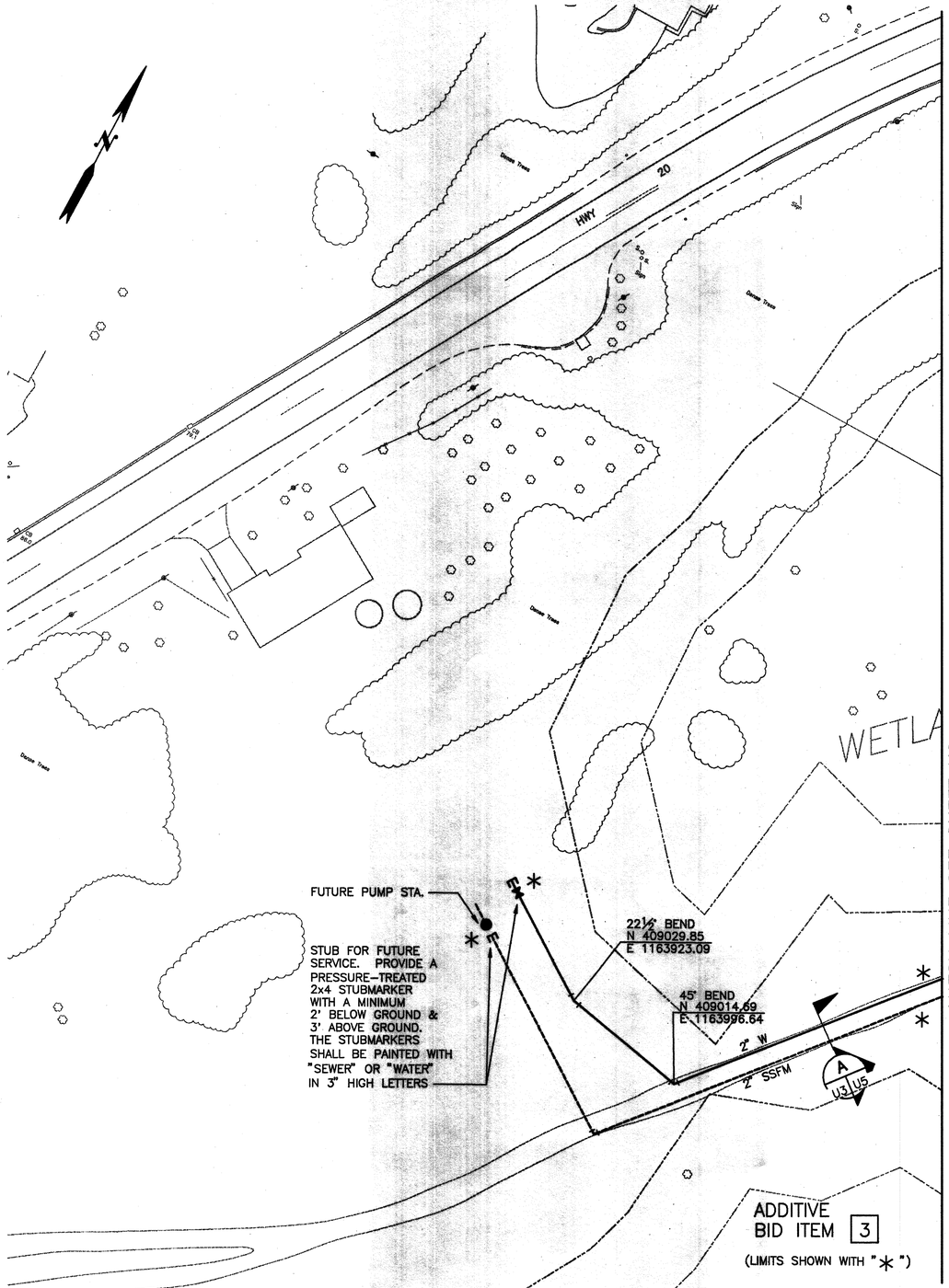
REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

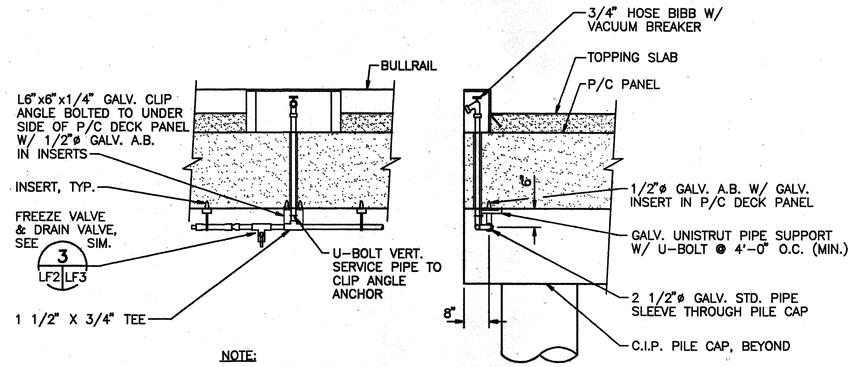
PORT OF PORT TOWNSEND

ENHANCED HAULOUT/STORMWATER FACILITIES

WATER AND SANITARY SEWER DETAILS

SCALE	AS SHOWN
DES.	SS/JW
DR.	CSJ
CH.	JHW
F.B.	--
SHEET NO.	U4
OF X SHEETS	
DATE	AUGUST 1996
FILE NO.	24-93-022





1 U3 U3 DETAIL-SHIP WATER SERVICE
SCALE: 1/2" = 1'-0"

JOHN O. OLSEN STATE OF WASHINGTON 7860 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/16/97

SCALE IN FEET
40 0 40 80

CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555

"L"
NOTE: IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\U1-2-3.DWG

I\24\93\022\U1-2-3 9-4-96 2:34:46 PM PST

NO.	DATE	BY	REVISION

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

WATER AND SEWER PLAN - SOUTHWEST

SCALE	1" = 40'
DES.	SS/JW
DR.	WMB
CH.	JW
F.B.	---
DATE	AUGUST 1996
FILE NO.	24-93-022
SHEET NO.	U3
	OF X SHEETS

MATCH LINE SEE SHEET U3

MATCH LINE SEE SHEET U1

SIMS WAY (HWY. 20)

HAINES ST.

BOAT ST.

N 409487.55
E 1164130.67

SEE 1 U2|U4 TYP.

SEE 2 U2|U4 TYP.

N 409483.31
E 1164128.84

WATER LEVEL MONITORING WELL

FH

YH

4"x4" TEE
N 409424.69
E 1164286.42

N 409418.73
E 1164363.13

4"x4" TEE
N 409423.65
E 1164370.02

22½° BEND

4"x4" TEE, PLUG RUN, PLUG OUTLET AND TAP 2" IPT

90° BEND
N 409417.47
E 1164464.27

METER M-1

STUB 5' OUTSIDE BLDG. LINE, 4" BELOW EXIST. FLOOR ELEV.

12"x8" TAPPING SLEEVE, WET TAP EXIST. MAIN

CONNECT TO EXIST. 6" SS

REMOVE EXIST. 2" SSFM

REMOVE EXIST. FH AND RELOCATE AS SHOWN

12"x8" TAPPING SLEEVE, WET TAP EXIST. MAIN
N 409411.91
E 1164712.02

8"x6" REDUCER

N 409219.18
E 1164360.63

8" STUB AND AND PLUG
IE 5.0

N 409211.93
E 1164388.16

N 409230.67
E 1164391.30

SEWAGE PUMP STATION SP-1

6" STUB AND AND PLUG
IE 7.0

BOLLARDS, TYP. SEE 3 U2|U6

IE 9.0

6" SS DI
S=2%

CO, SEE 5 U1,U2|U4

N 409304.28
E 1164566.93

SSMH
N 409879.67
E 1164951.17

ADDITIVE BID ITEM 3
(LIMITS SHOWN WITH "*")

NOTE:
FOR THRUST BLOCKING SEE 2 U2|U5

MATCH LINE SEE SHEET U3

JAMES H. WEBER — STATE OF WASHINGTON — 16468 — REGISTERED PROFESSIONAL ENGINEER — 9-4-96
EXPIRES 11/13/97

JOHN Q. OLSEN — STATE OF WASHINGTON — 7860 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/16/97

SCALE IN FEET
40 0 40 80

CALL 48 HOURS BEFORE YOU DIG
1-800-424-5555

"L"
NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\U1-2-3.DWG

I:\24\93\022\U1-2-3 9-4-96 2:34:46 PM PST

NO.	DATE	BY	REVISION

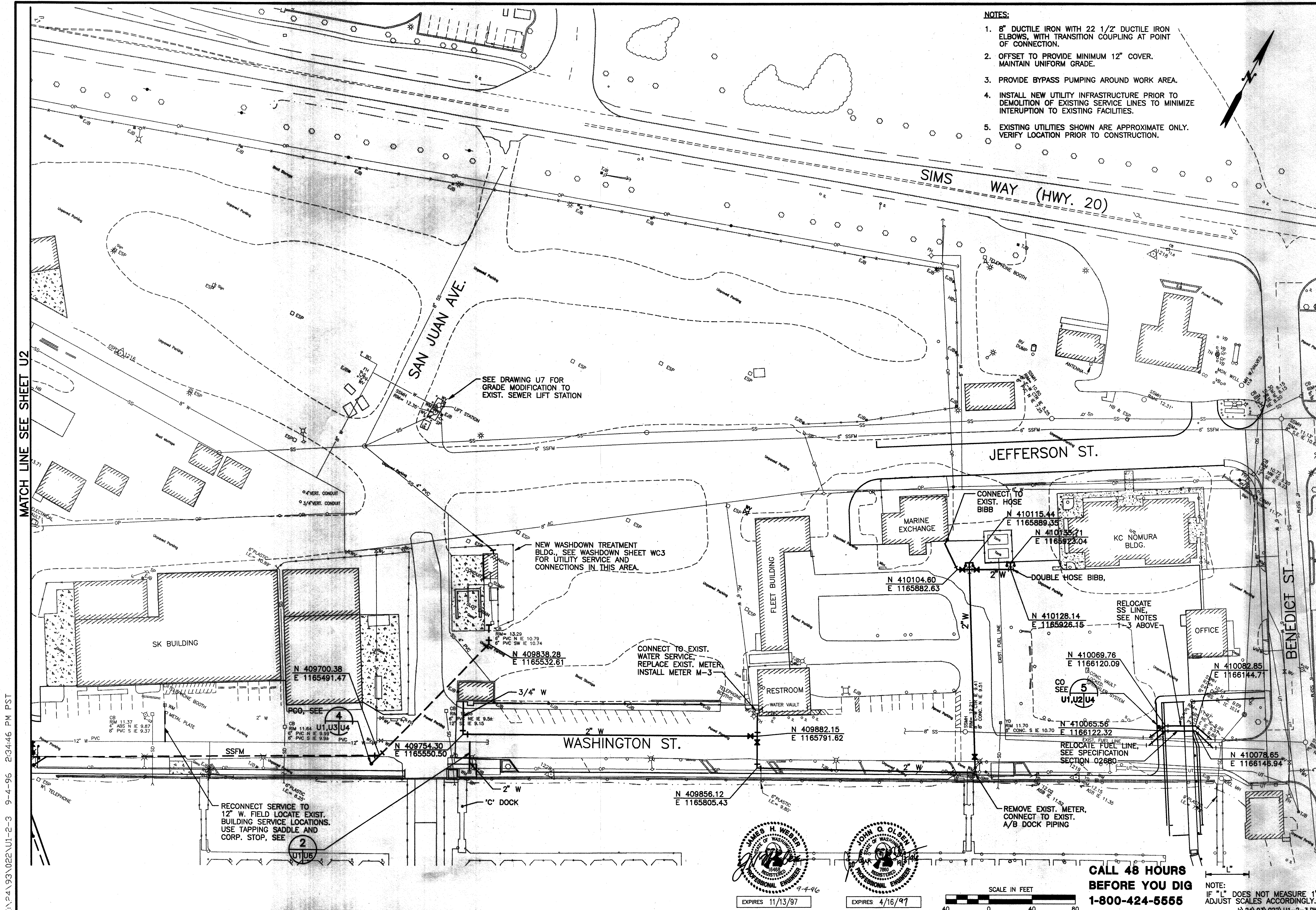
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

WATER AND SEWER PLAN - WEST

SCALE	1" = 40'
DES.	SS/JW
DR.	WMB
CH.	JW
F.B.	---
DATE	AUGUST 1996
FILE NO.	24-93-022
SHEET NO.	U2
OF X SHEETS	



NOTES:
1. 8" DUCTILE IRON WITH 22 1/2" DUCTILE IRON ELBOWS, WITH TRANSITION COUPLING AT POINT OF CONNECTION.
2. OFFSET TO PROVIDE MINIMUM 12" COVER. MAINTAIN UNIFORM GRADE.
3. PROVIDE BYPASS PUMPING AROUND WORK AREA.
4. INSTALL NEW UTILITY INFRASTRUCTURE PRIOR TO DEMOLITION OF EXISTING SERVICE LINES TO MINIMIZE INTERUPTION TO EXISTING FACILITIES.
5. EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY. VERIFY LOCATION PRIOR TO CONSTRUCTION.
SIMS WAY (HWY. 20)
SAN JUAN AVE.
JEFFERSON ST.
WASHINGTON ST.
BENEDICT ST.
MATCH LINE SEE SHEET U2
SEE DRAWING U7 FOR GRADE MODIFICATION TO EXIST. SEWER LIFT STATION
LIFT STATION
NEW WASHDOWN TREATMENT BLDG., SEE WASHDOWN SHEET WC3 FOR UTILITY SERVICE AND CONNECTIONS IN THIS AREA.
SK BUILDING
FLEET BUILDING
RESTROOM
MARINE EXCHANGE
KC NOMURA BLDG.
OFFICE
CONNECT TO EXIST. HOSE BIBB
N 410115.44
E 1165889.35
N 410135.71
E 1165923.04
DOUBLE HOSE BIBB,
N 410104.60
E 1165882.63
2" W
N 410128.14
E 1165926.15
RELOCATE SS LINE, SEE NOTES 1-3 ABOVE
N 410069.76
E 1166120.09
N 410082.85
E 1166144.71
N 410065.56
E 1166122.32
RELOCATE FUEL LINE, SEE SPECIFICATION SECTION 02680
N 410078.65
E 1166146.94
REMOVE EXIST. METER, CONNECT TO EXIST. A/B DOCK PIPING
CONNECT TO EXIST. WATER SERVICE, REPLACE EXIST. METER, INSTALL METER M-3
N 409838.28
E 1165532.61
N 409700.38
E 1165491.47
N 409754.30
E 1165550.50
N 409882.15
E 1165791.62
N 409856.12
E 1165805.43
3/4" W
2" W
'C' DOCK
SSFM
RECONNECT SERVICE TO 12" W. FIELD LOCATE EXIST. BUILDING SERVICE LOCATIONS. USE TAPPING SADDLE AND CORP. STOP, SEE 2 U1 U6
PCO, SEE 4 U1,U3 U4
CO SEE 5 U1,U2 U4
EXPIRES 11/13/97
EXPIRES 4/16/97
CALL 48 HOURS BEFORE YOU DIG 1-800-424-5555
SCALE IN FEET
40 0 40 80
NOTE: IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.
I:\24\93\022\U1-2-3.DWG

I:\24\93\022\U1-2-3 9-4-96 2:34:46 PM PST

REVISION

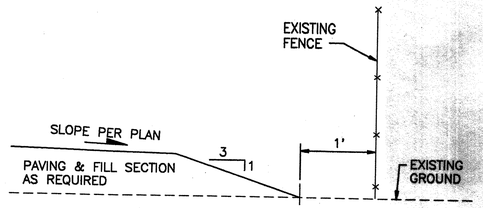
NO. | DATE | BY

REID MIDDLETON

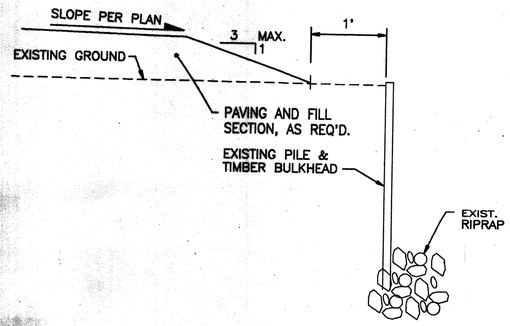
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES
WATER AND SEWER PLAN - EAST

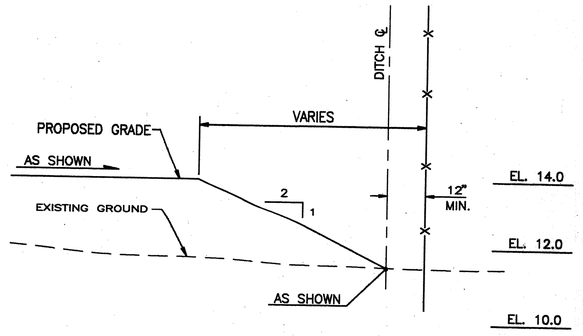
SCALE 1" = 40'
DES. SS/JW
DR. WMB
CH. JW
F.B. --
SHEET NO. U1 OF X SHEETS
DATE AUGUST 1996
FILE NO. 24-93-022



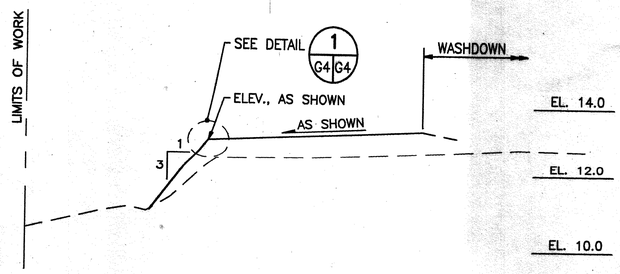
A G1,G2|G4 EDGE SECTION AT EXISTING FENCE
NOT TO SCALE



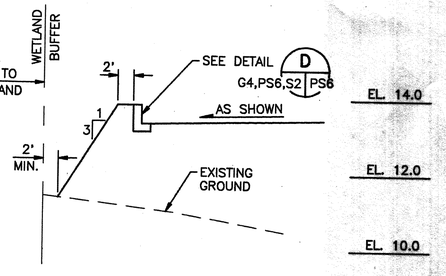
B G1|G4 EDGE SECTION AT EXISTING BULKHEAD
NOT TO SCALE



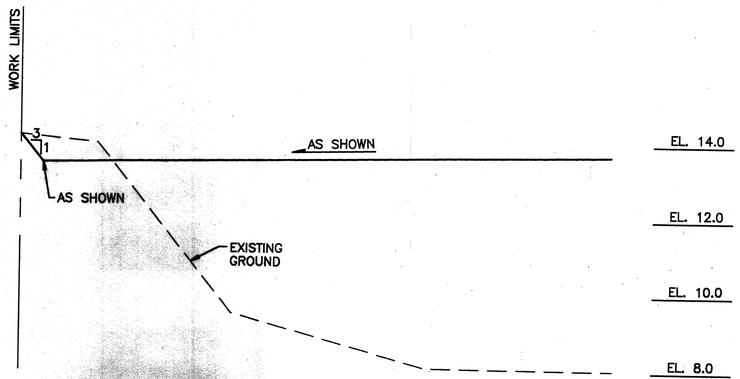
C G2|G4 EDGE SECTION
SCALE: HORIZ. 1" = 2'
VERT. 1" = 2'



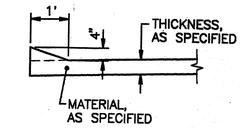
D G3|G4 EDGE SECTION
SCALE: 1"=10' HORIZ.
1"=2' VERT.



E G2|G4 EDGE SECTION
SCALE: 1"=10' HORIZ.
1"=2' VERT.



F G2|G4 EDGE SECTION
SCALE: 1"=10' HORIZ.
1"=2' VERT.



1 G4|G4 THICKENED EDGE
NOT TO SCALE

SHANNON M. KINSEL — STATE OF WASHINGTON — 30262 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 9/29/98

JOHN O. OLSEN — STATE OF WASHINGTON — 7860 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/16/97

"L"
NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\G4.DWG

I:\24\93\022\G4 9-4-96 2:29:50 PM PST

NO.	DATE	BY	REVISION

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

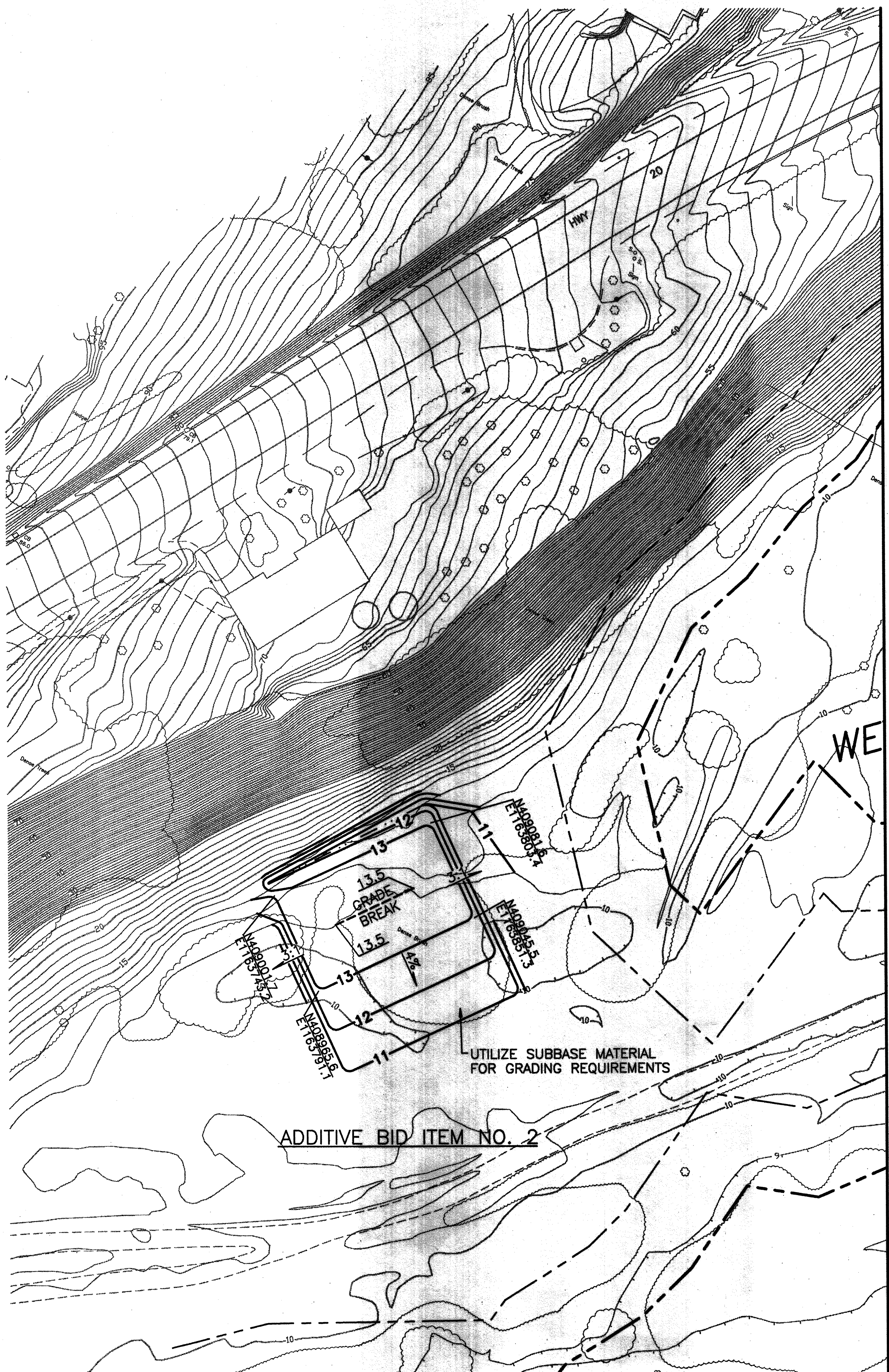
REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

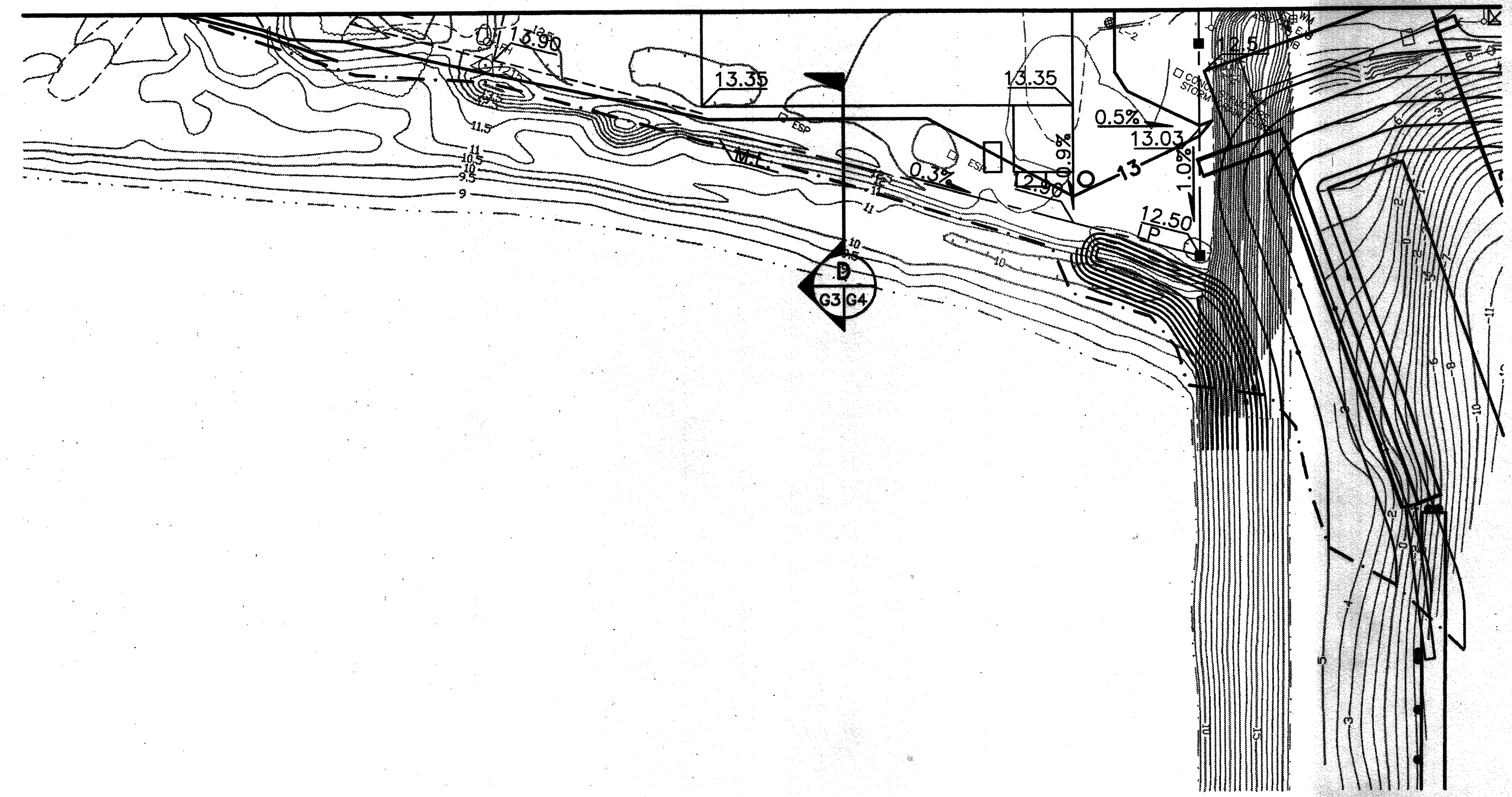
GRADING SECTIONS AND DETAILS

SCALE	AS SHOWN
DES. SMK	SHEET NO. G4
DR. CSJ	
CH. HCT	
F.B. --	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022

MATCH LINE SEE SHEET G2



MATCH LINE SEE SHEET G2



EXPIRES 9/29/44

EXPIRES 4/16/97

SCALE IN FEET

40 0 40 80

NOTES

1. ADJUST EXIST. UTILITIES TO FINISHED GRADE.
2. GRADE AROUND EXIST. STRUCTURES SLOPING AWAY FROM BUILDING.
3. SPOT ELEVATIONS SHOWN ARE PROPOSED ELEVATONS.
4. FOR LEGEND SEE SHEET T3.

"L"

NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\G1-2-3.DWG

I:\24\93\022\G1-2-3 8-28-96 4:35:16 PM PST

REVISION | NO. | DATE | BY

REID MIDDLETON

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND

ENHANCED HAULOUT/STORMWATER FACILITIES

GRADING PLAN - SOUTHWEST

SCALE 1" = 40'

DES. SMK
DR. SRS
CH. HCT
F.B. --

SHEET NO. G3 OF X SHEETS

DATE AUGUST 1996

FILE NO. 24-93-022

MATCH LINE SEE SHEET G3

NOTES

1. ADJUST EXIST. UTILITIES TO FINISHED GRADE.
2. GRADE AROUND EXIST. STRUCTURES SLOPING AWAY FROM BUILDING.
3. SPOT ELEVATIONS SHOWN ARE FINISHED ELEVATONS.
4. FOR LEGEND SEE SHEET T3.

SCALE IN FEET: 40 0 40 80

"L"
NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.
I:\24\93\022\G1-2-3.DWG

SHANNON M. KINSEL — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — EXPIRES 9/29/98

JOHN O. OLSEN — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — EXPIRES 4/16/97

I:\24\93\022\G1-2-3 8-28-96 4:35:16 PM PST

REVISION | NO. | DATE | BY

REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

GRADING PLAN – WEST

SCALE 1" = 40'	
DES. SMK	SHEET NO.
DR. SRS	G2
CH. HCT	
F.B. — —	OF X SHEETS
DATE AUGUST 1996	
FILE NO. 24-93-022	

MATCH LINE SEE SHEET G2

SEE SHEET G2

RAMP TO MATCH EXIST
INSTALL NEW GATE AT
FINISHED GRADE

FINISHED CONTOUR, TYP

LIMITS OF WORK

SIMS WAY (HWY. 20)

SAN JUAN AVE.

BENEDICT ST

WASHINGTON ST.

JEFFERSON ST.

N 410002.79
E 1165007.04

N 410105.23
E 1165318.93

N 410130.20
E 1165394.94

N 410245.85
E 1165747.04

N 410351.03
E 1165714.93

N 409959.86
E 1165820.73

N 410081.26
E 1166033.44

MATCH EXIST PAVEMENT AROUND THE MODERATE RISK WASTE FACILITY

ADJUST TO GRADE, SEE 3 G1 U6

GRADE BREAK (GB)

SK BUILDING

MATCH PERIMETER

FLEET BUILDING

MARINE EXCHANGE

SEE NOTE BELOW
KC NOMURA BLDG.

OFFICE

RESTROOM
WATER VAULT

LIFT STATION

TELEPHONE BOOTH

PV DUMP

ANTENNA

MONITORING WELL

4" VERT. CONDUIT

3/4" VERT. CONDUIT

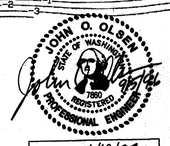
SEE NOTE 1

A G1.02 G4

B G1.02 G4

G1 PS4

EXPIRES 9/29/98



EXPIRES 4/16/97

NOTES
1. EXIST. GRADES AROUND THE KC NOMURA BUILDING AND ALONG WASHINGTON STREET MAY VARY FROM THOSE SHOWN. CONTRACTOR SHALL FIELD VERIFY MATCH POINT ELEVATIONS.
2. ADJUST EXISTING UTILITIES INCLUDING BUT NOT LIMITED TO MANHOLES, CB'S AND VALVE BOXES TO FINISHED GRADE.
3. FOR LEGEND SEE SHEET T3.
4. GRADE AROUND EXIST. STRUCTURES SLOPING AWAY FROM BUILDINGS.
5. SPOT ELEVATIONS SHOWN ARE PROPOSED ELEVATONS.

SCALE IN FEET
40 0 40 80

"L"

NOTE:
IF "L" DOES NOT MEASURE 1"
ADJUST SCALES ACCORDINGLY.

I:\24\93\022\G1-2-3.DWG

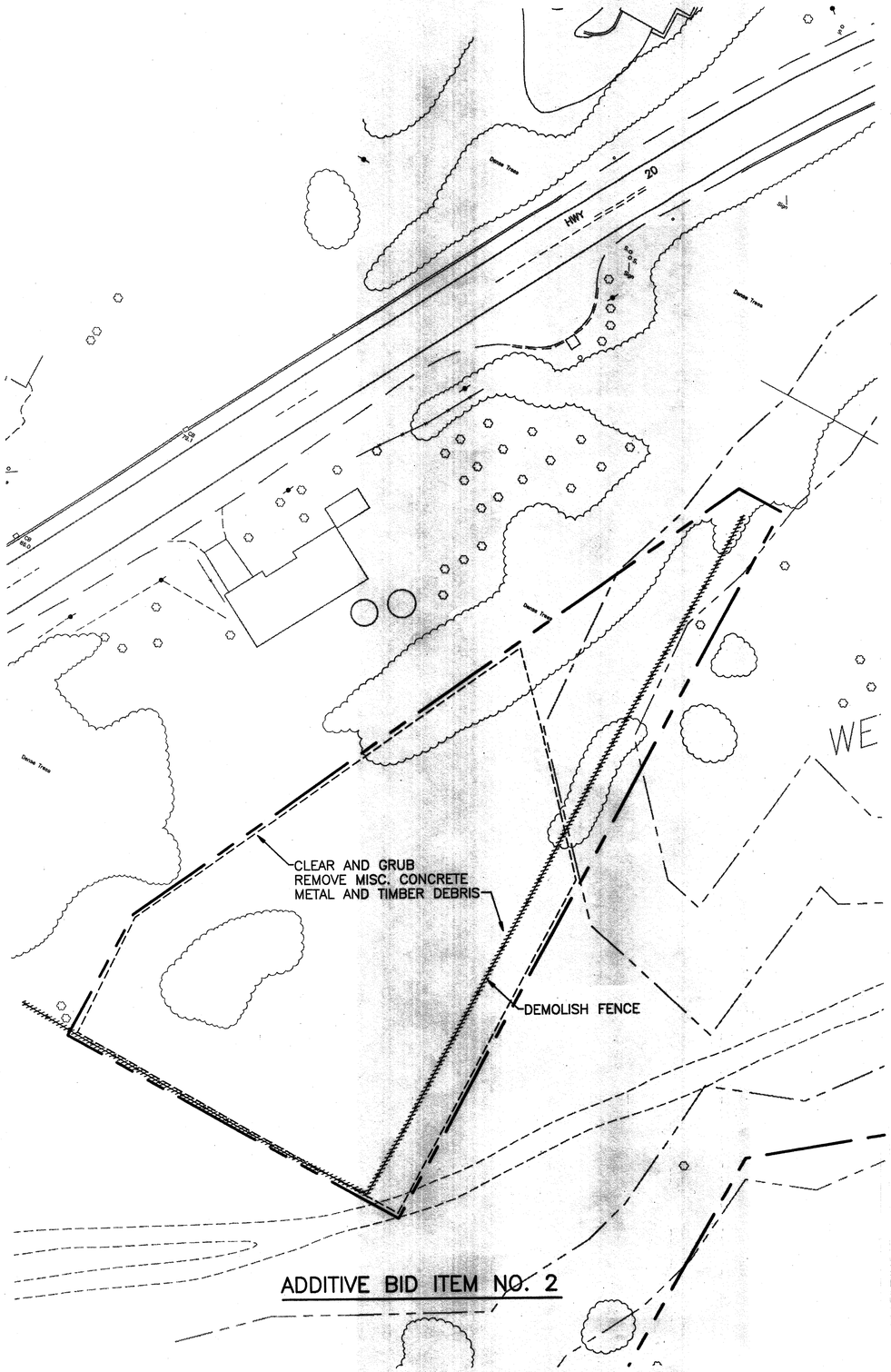
NO.	DATE	BY	REVISION

REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

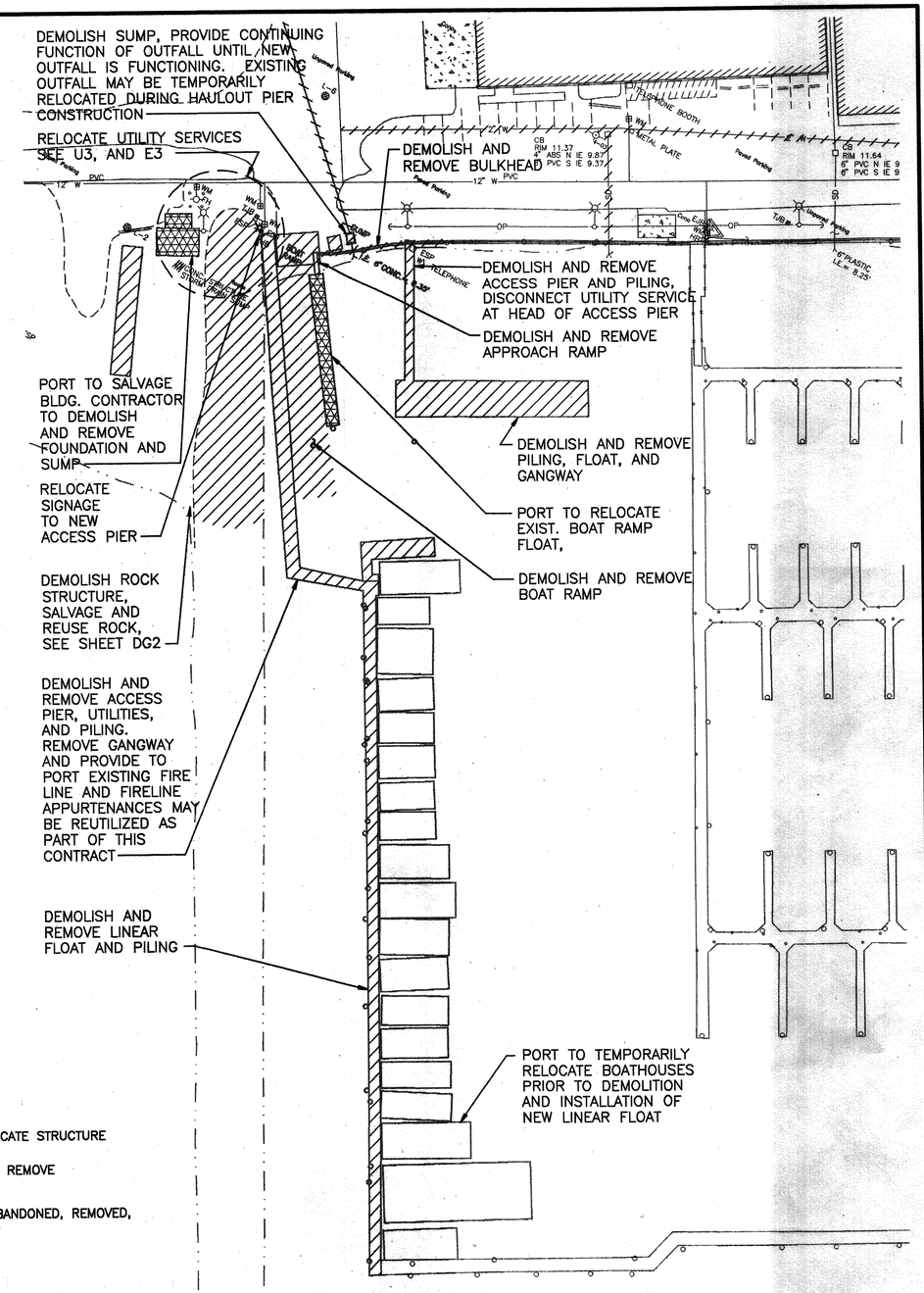
PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES
GRADING PLAN - EAST

SCALE	1" = 40'
DES. SMK	SHEET NO.
DR. SRS	G1
CH. HCT	
F.B. --	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022

I:\24\93\022\G1-2-3 8-28-96 4:35:16 PM PST



ADDITIVE BID ITEM NO. 2



LEGEND

- PORT TO RELOCATE STRUCTURE
- DEMOLISH AND REMOVE
- LINE TO BE ABANDONED, REMOVED, OR RELOCATED

SCALE IN FEET
40 0 40 80

"L"
NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\D3.DWG

SHANNON M. KING — STATE OF WASHINGTON — 20282 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 9/29/96

JOHN O. OLSEN — STATE OF WASHINGTON — 7860 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/16/97

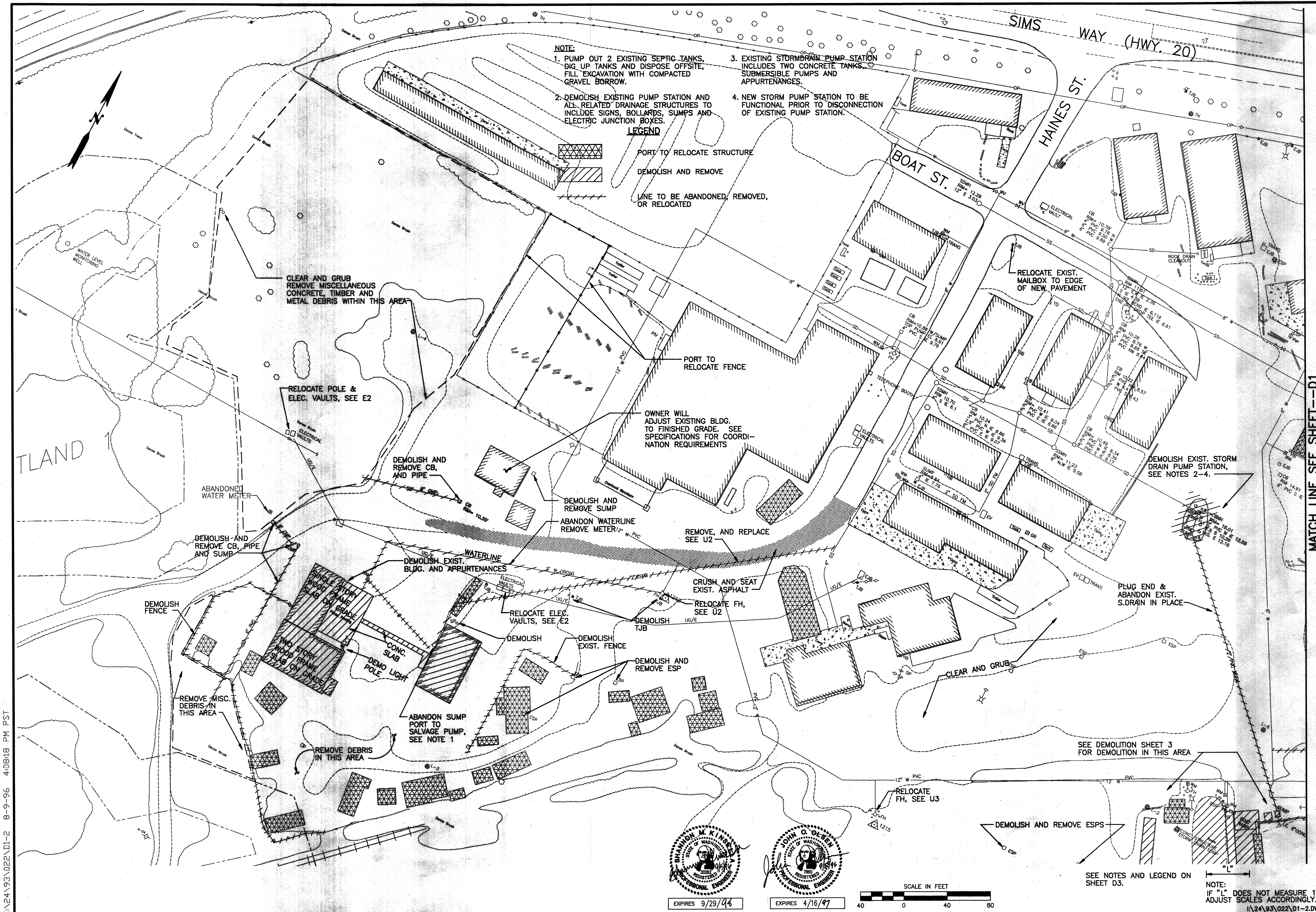
NO.	DATE	BY	REVISION

REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES
DEMOLITION PLAN – SOUTHWEST AND NOTES

SCALE	1" = 40'
DES.	SMK
DR.	WMB
CH.	HCT
F.B.	— —
DATE	AUGUST 1996
FILE NO.	24-93-022
SHEET NO.	D3
	OF X SHEETS

I:\24\93\022\D3 8-9-96 4:19:18 PM PST


NOTE:
1. PUMP OUT 2 EXISTING SEPTIC TANKS, DIG UP TANKS AND DISPOSE OFFSITE, FILL EXCAVATION WITH COMPACTED GRAVEL BORROW.
2. DEMOLISH EXISTING PUMP STATION AND ALL RELATED DRAINAGE STRUCTURES TO INCLUDE SIGNS, BOLLARDS, SUMPS AND ELECTRIC JUNCTION BOXES.
3. EXISTING STORMDRAIN PUMP STATION INCLUDES TWO CONCRETE TANKS, SUBMERSIBLE PUMPS AND APPURTENANCES.
4. NEW STORM PUMP STATION TO BE FUNCTIONAL PRIOR TO DISCONNECTION OF EXISTING PUMP STATION.
LEGEND
PORT TO RELOCATE STRUCTURE
DEMOLISH AND REMOVE
LINE TO BE ABANDONED, REMOVED, OR RELOCATED
SIMS WAY (HWY. 20)
HAINES ST.
BOAT ST.
CLEAR AND GRUB REMOVE MISCELLANEOUS CONCRETE, TIMBER AND METAL DEBRIS WITHIN THIS AREA
WATER LEVEL MONITORING WELL
RELOCATE POLE & ELEC. VAULTS, SEE E2
PORT TO RELOCATE FENCE
OWNER WILL ADJUST EXISTING BLDG. TO FINISHED GRADE. SEE SPECIFICATIONS FOR COORDINATION REQUIREMENTS
RELOCATE EXIST. MAILBOX TO EDGE OF NEW PAVEMENT
TELEPHONE BOOTH
ELECTRICAL VAULTS
TLAND 1
ABANDONED WATER METER
DEMOLISH AND REMOVE CB, AND PIPE
DEMOLISH AND REMOVE SUMP
ABANDON WATERLINE REMOVE METER
REMOVE, AND REPLACE SEE U2
DEMOLISH EXIST. STORM DRAIN PUMP STATION, SEE NOTES 2-4.
DEMOLISH AND REMOVE CB, PIPE AND SUMP
DEMOLISH EXIST. BLDG. AND APPURTENANCES
WATERLINE
CRUSH AND SEAT EXIST. ASPHALT
RELOCATE FH, SEE U2
PLUG END & ABANDON EXIST. S.DRAIN IN PLACE
DEMOLISH FENCE
SINGLE STORY WOOD FRAME SLAB ON GRADE
TWO STORY WOOD FRAME SLAB ON GRADE
CONC. SLAB
DEMO LIGHT POLE
RELOCATE ELEC. VAULTS, SEE E2
DEMOLISH TJB
DEMOLISH
DEMOLISH EXIST. FENCE
DEMOLISH AND REMOVE ESP
CLEAR AND GRUB
REMOVE MISC. DEBRIS IN THIS AREA
ABANDON SUMP PORT TO SALVAGE PUMP, SEE NOTE 1
REMOVE DEBRIS IN THIS AREA
SEE DEMOLITION SHEET 3 FOR DEMOLITION IN THIS AREA
RELOCATE FH, SEE U3
DEMOLISH AND REMOVE ESPS
MATCH LINE SEE SHEET—D1
SHANNON M. KINSELLA STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
EXPIRES 9/29/96
JOHN O. OLSEN STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
EXPIRES 4/16/97
SCALE IN FEET
40 0 40 80
SEE NOTES AND LEGEND ON SHEET D3.
NOTE: IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.
I:\24\93\022\D1-2.DWG

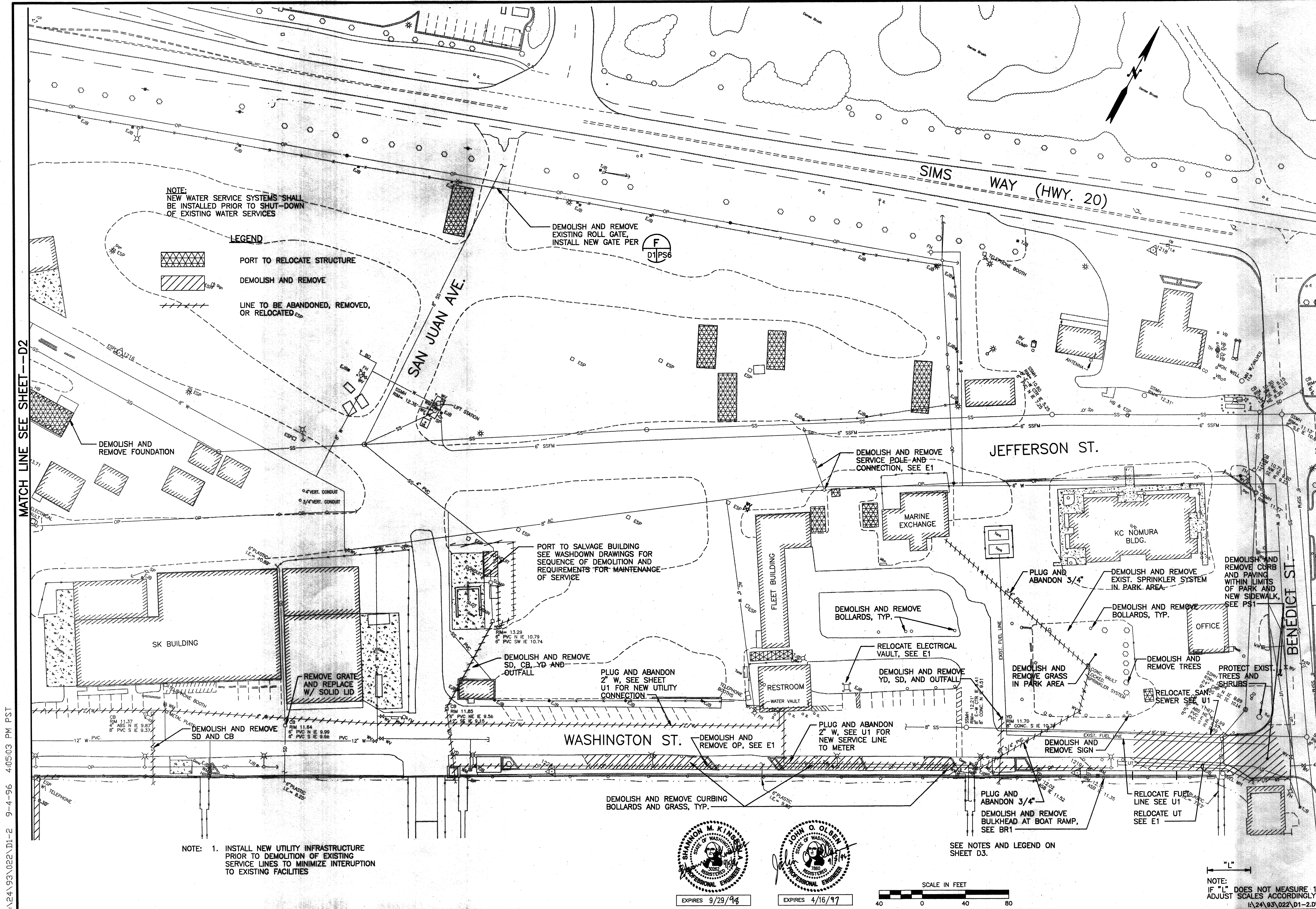
I:\24\93\022\D1-2 8-9-96 4:08:18 PM PST

REVISION | NO. | DATE | BY

REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES
DEMOLITION PLAN – WEST

SCALE 1" = 40'	SHEET NO.
DES. SMK	D2
DR. SRS	
CH. HCT	
F.B. — —	OF X SHEETS
DATE AUGUST 1996	
FILE NO. 24-93-022	


SIMS WAY (HWY. 20)
SAN JUAN AVE.
JEFFERSON ST.
WASHINGTON ST.
BENEDICT ST.
MATCH LINE SEE SHEET--D2
NOTE:
NEW WATER SERVICE SYSTEMS SHALL BE INSTALLED PRIOR TO SHUT-DOWN OF EXISTING WATER SERVICES
LEGEND
PORT TO RELOCATE STRUCTURE
DEMOLISH AND REMOVE
LINE TO BE ABANDONED, REMOVED, OR RELOCATED
DEMOLISH AND REMOVE EXISTING ROLL GATE, INSTALL NEW GATE PER
F
D1 PS6
DEMOLISH AND REMOVE FOUNDATION
LIFT STATION
DEMOLISH AND REMOVE SERVICE POLE AND CONNECTION, SEE E1
MARINE EXCHANGE
KC NOMURA BLDG.
PORT TO SALVAGE BUILDING SEE WASHDOWN DRAWINGS FOR SEQUENCE OF DEMOLITION AND REQUIREMENTS FOR MAINTENANCE OF SERVICE
SK BUILDING
FLEET BUILDING
RESTROOM
WATER VAULT
OFFICE
TELEPHONE BOOTH
PLUG AND ABANDON 3/4"
DEMOLISH AND REMOVE EXIST. SPRINKLER SYSTEM IN PARK AREA
DEMOLISH AND REMOVE BOLLARDS, TYP.
DEMOLISH AND REMOVE CURB AND PAVING WITHIN LIMITS OF PARK AND NEW SIDEWALK, SEE PS1
RELOCATE ELECTRICAL VAULT, SEE E1
DEMOLISH AND REMOVE YD, SD, AND OUTFALL
DEMOLISH AND REMOVE GRASS IN PARK AREA
DEMOLISH AND REMOVE TREES
PROTECT EXIST. TREES AND SHRUBS
RELOCATE SAN. SEWER SEE U1
DEMOLISH AND REMOVE SD, CB, YD AND OUTFALL
PLUG AND ABANDON 2" W, SEE SHEET U1 FOR NEW UTILITY CONNECTION
REMOVE GRATE AND REPLACE W/ SOLID LID
DEMOLISH AND REMOVE SD AND CB
DEMOLISH AND REMOVE OP, SEE E1
PLUG AND ABANDON 2" W, SEE U1 FOR NEW SERVICE LINE TO METER
DEMOLISH AND REMOVE SIGN
EXIST. FUEL LINE
DEMOLISH AND REMOVE CURBING BOLLARDS AND GRASS, TYP.
PLUG AND ABANDON 3/4"
DEMOLISH AND REMOVE BULKHEAD AT BOAT RAMP, SEE BR1
RELOCATE FUEL LINE SEE U1
RELOCATE UT SEE E1
NOTE: 1. INSTALL NEW UTILITY INFRASTRUCTURE PRIOR TO DEMOLITION OF EXISTING SERVICE LINES TO MINIMIZE INTERUPTION TO EXISTING FACILITIES
SEE NOTES AND LEGEND ON SHEET D3.
EXPIRES 9/29/98
EXPIRES 4/16/97
SCALE IN FEET
40 0 40 80
"L"
NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.
I:\24\93\022\D1-2.DWG

I:\24\93\022\D1-2 9-4-96 4:05:03 PM PST

NO.	DATE	BY	REVISION

REID MIDDLETON

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

DEMOLITION PLAN - EAST

SCALE 1" = 40'	
DES. SMK	SHEET NO.
DR. SRS	D1
CH. HCT	
F.B. --	OF X SHEETS
DATE AUGUST 1996	
FILE NO. 24-93-022	

MATCH LINE SEE SHEET T5

MATCH LINE SEE SHEET T4

MATCH LINE SEE SHEET T6

NOTES: SEE SHEET T4

SCALE IN FEET

40 0 40 80

"L"

NOTE:
IF "L" DOES NOT MEASURE 1"
ADJUST SCALES ACCORDINGLY.

I:\24\93\022\T4-5-6-7.DWG

JOHN O. OLSON
STATE OF WASHINGTON
1899
REGISTERED
PROFESSIONAL ENGINEER
4/15/97
EXPIRES 4/16/97

I:\24\93\022\T4-5-6-7 8-9-96 3:14:43 PM PST

NO.	DATE	BY	REVISION

REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND

ENHANCED HAULOUT/STORMWATER FACILITIES

EXISTING CONDITIONS AND CONTROL PLAN - SOUTH

SCALE	1" = 40'
DES. SMK	SHEET NO.
DR. SRS	T7
CH. HCT	
F.B. --	OF X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022

MATCH LINE SEE SHEET T5

WETLAND 2

50' WETLAND BUFFER

WATER LEVEL MONITORING WELL

MATCH LINE SEE SHEET T5

MATCH LINE SEE SHEET T7

NOTES: SEE SHEET T4

SCALE IN FEET

40 0 40 80

"L"

NOTE:
IF "L" DOES NOT MEASURE 1"
ADJUST SCALES ACCORDINGLY.

I:\24\93\022\T4-5-6-7.DWG

JOHN O. OLSEN
STATE OF WASHINGTON
1859
REGISTERED
PROFESSIONAL ENGINEER

EXPIRES 4/16/97

I:\24\93\022\T4-5-6-7 8-9-96 3:14:43 PM PST

NO.	DATE	BY	REVISION

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

EXISTING CONDITIONS AND CONTROL PLAN - SOUTHWEST

SCALE	1" = 40'
DES.	SMK
DR.	SRS
CH.	HCT
F.B.	--
SHEET NO.	T6
OF	X SHEETS
DATE	AUGUST 1996
FILE NO.	24-93-022

MATCH LINE SEE SHEET T6

MATCH LINE SEE SHEET T6

SIMS WAY (HWY. 20)

HAINES ST.

BOAT ST.

GWMW "A"

GWMW "B"

GWMW "C"

AND 1

WETLAND BOUNDARY, TYPICAL

50' WETLAND BUFFER, TYP.

WETLAND BOUNDARY

50' WETLAND BUFFER

NOTES: SEE SHEET T4

MATCH LINE SEE SHEET T6

MATCH LINE SEE SHEET T4

"I"

JOHN O. OLSEN
STATE OF WASHINGTON

NO.	DATE	BY	REVISION

19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

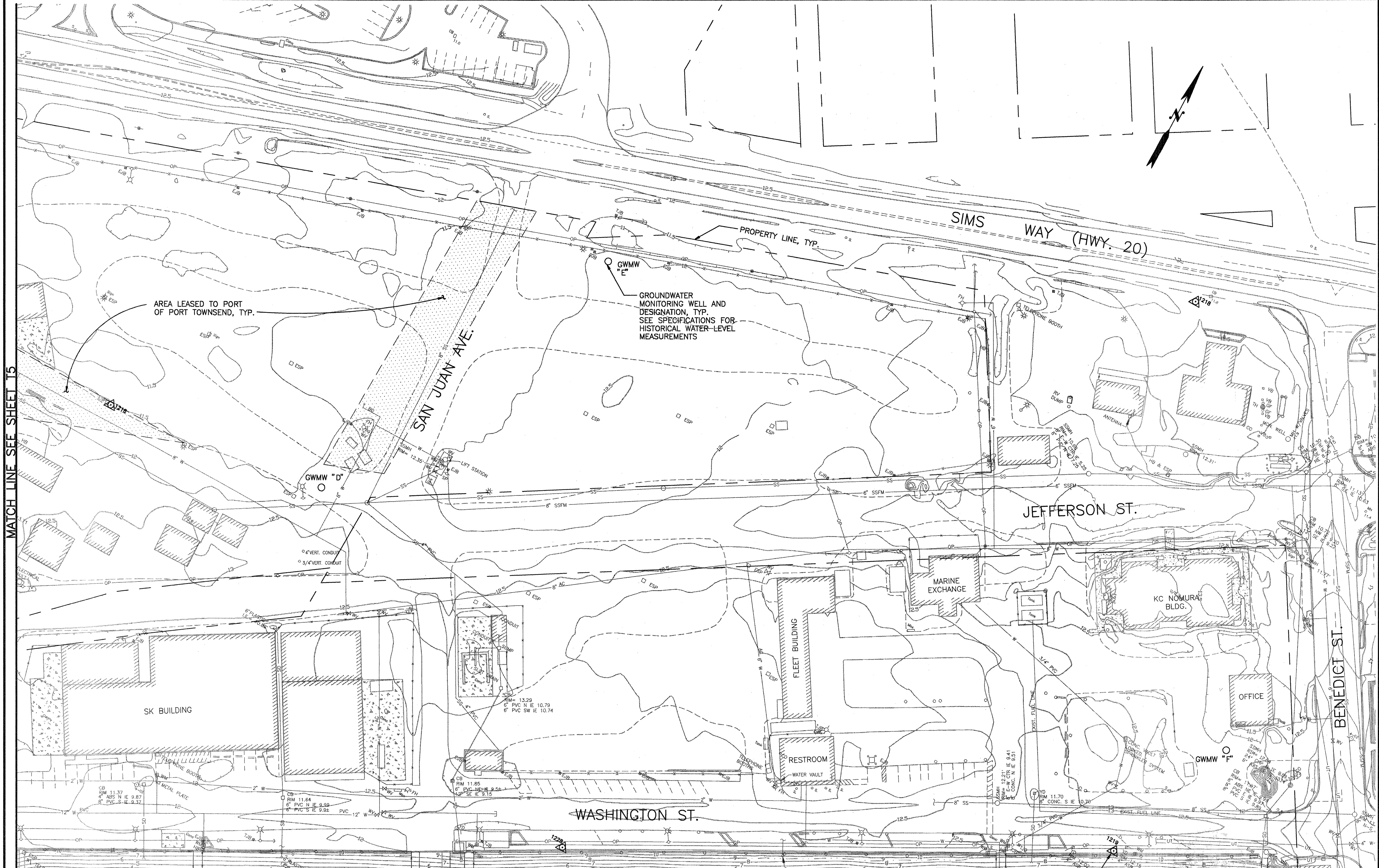
REID MIDDLETON

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

EXISTING CONDITIONS AND CONTROL PLAN - WEST

SCALE	1" = 40'
DES. SMK	SHEET NO. T5
DR. SRS	
CH. HGT	

8-5-6-7 8-9-96 31443 PM PST



MATCH LINE SEE SHEET T7

NOTES:
1. BASE SURVEY WAS COMPILED USING PHOTOGRAMMETRIC METHODS FROM PHOTOGRAPHY DATED DECEMBER 3, 1994.
2. THE PRESENCE OF DASHED CONTOURS INDICATE THE GROUND IS OBSCURED BY BUILDINGS, VEGETATION OR SHADOWS AND DOES NOT MEET NATIONAL MAP ACCURACY STANDARDS.
3. CONTROL SURVEY, BUILDING CORNER ELEVATIONS AND HYDROGRAPHIC SURVEY COMPLETED BY REID MIDDLETON, INC.
4. AERIAL MAPPING BY WALKER AND ASSOCIATES, INC.

AERIAL PREMARK PANEL POINT AND POINT #, TYPICAL

MATCH LINE SEE SHEET T7

SCALE IN FEET
40 0 40 80

"L"

NOTE:
IF "L" DOES NOT MEASURE 1" ADJUST SCALES ACCORDINGLY.

I:\24\93\022\T4-5-6-7.DWG

REVISION

NO. | DATE | BY

REID MIDDLETON
19031 33rd Ave. W., Suite 301
Lynnwood, WA 98036-6638
206/775-3434

PORT OF PORT TOWNSEND
ENHANCED HAULOUT/STORMWATER FACILITIES

EXISTING CONDITIONS AND CONTROL PLAN – EAST

SCALE 1" = 40'
DES. SMK
DR. SRS
CH. HCT
F.B. --
SHEET NO. T4
OF X SHEETS
DATE AUGUST 1996
FILE NO. 24-93-022

I:\24\93\022\T4-5-6-7 8-9-96 3:14:43 PM PST

APPENDIX G

INADVERTENT DISCOVERY PLAN (IDP)

Appendix G – Inadvertent Discovery Plan (IDP)

Boat Haven Stormwater Improvement

Port of Port Townsend, Jefferson County, Washington

The Port of Port Townsend plans to construct the Boat Haven Stormwater Improvement project. The Project aims to make significant, proactive improvements to its stormwater conveyance and treatment system to treat runoff from the entire Boatyard and voluntarily reduce pollutant loading to Port Townsend Bay in Puget Sound. This Inadvertent Discovery Plan (IDP) has been prepared to outline the procedures to follow if archeological materials or human remains are discovered in accordance with state and federal laws.

A. Recognizing Cultural Resources

The project archeologist will monitor excavation outside of the vertical and horizontal limits of previous disturbance for the presence of cultural resources.

A cultural resource discovery could be prehistoric or historic. Examples include:

- an accumulation of shell, fragmented bone, burned rocks, or other food/cooking-related materials,
- an area of charcoal or very dark stained or reddened soil with artifacts,
- stone tools or waste flakes (e.g. an arrowhead, or stone chips),
- clusters of tin cans, bottles, and/or broken ceramics that appear to be older than 50 years,
- logging or agricultural equipment that appears to be older than 50 years,
- buried railroad tracks, decking, or other industrial materials.

The encountered material will be assumed to be a cultural resource when in doubt.

B. Archeological Resources

If archeological materials are encountered during the development of the property, work shall be halted in the vicinity of the find until the discovery can be inspected and assessed. The project archeologist will be immediately contacted to review the discovery and notify the relevant parties. An assessment of the discovery and consultation with government and tribal cultural resources staff is required by law. After evaluation and consultation, the next steps will be determined.

C. Human Burials, Remains, or Unidentified Bone(s)

In the event of the inadvertent discovery of human remains or indeterminate bones, any activity that may cause further disturbance will immediately cease, the area shall be protected from further disturbance, and the presence and location of the remains shall be immediately reported to the coroner and Port Townsend Police, pursuant to RCW 68.50.645. Communication should be established with the State Physical Anthropologist at DAHP to coordinate with interested Native Tribe(s). DAHP will provide authorization when the work may proceed.

APPENDIX H

APPRENTICE UTILIZATION PLAN

Washington State Department of Transportation

Apprentice Utilization Plan

To be submitted no later than thirty (30) days following Execution

Contract Title	Contract Number	Today's Date

Prime Contractor	Apprentice Utilization Requirement

*Include all labor hours for all trades (including apprentice hours), including those performed by Subcontractors. Use additional sheets if needed.

				Estimated	
Start Date (mm/dd/yy)	Contractor or Subcontractor	Trade/Craft	Trade/Craft Other Description	Total Labor* (Hours)	Apprentice (Hours)
Comments (Other)		**Project Percent is the apprentice hours (right column) divided by the total labor hours (left column)	Subtotal This Page	0	0
			Additional Sheet(s) Total		
			Grand Total	0	0
			**Project Percent	0.0%	

Completed By	Email
Title	Phone