via electronic delivery only

December 26, 2023

Mark Pugh, Project Manager
Oregon Department of Environmental Quality
700 NE Multnomah St, Suite #600
Portland, OR 97232

Re: Response to DEQ Comments on the Upland Inspection and Maintenance Plan
Astoria Marine Construction Company
92134 Front Road, Astoria, Oregon
ECSI No. 1898

Dear Mr. Pugh:

On behalf of the Astoria Marine Construction Company (AMCCO), GSI Water Solutions, Inc. (GSI) reviewed the Oregon Department of Environmental Quality (DEQ) comments sent to AMCCO via email on October 2, 2023, regarding the *Upland Inspection and Maintenance Plan (IMP),* dated February 2020. After review of DEQ's comments, the IMP was revised and is attached. Responses to DEQ's comments are provided below.

DEQ Comment 1
1.Introduction and Purpose, 3rd Paragraph.
The status of the dike with respect to residual contamination and engineering controls needs to be updated consistent with the Construction Completion Report. Per the CCR, 5,400 square feet of copper-impacted soil was left in place, equating to a volume of 500 cy. After accounting for cover by the rock surfaced dike crest road, an area of approximately 3,000 square feet of copper-impacted soil were covered by an engineering control of dense vegetative ground cover.

Please update text accordingly and depict this area on a figure, to be consistent with Section 3.2.4 and Figure 3-4 of the CCR. Vegetative cap should be described in Section 3. Updates also are needed in Sections 5 and 9.

GSI Response
The IMP text and Figure 3 were revised accordingly.

DEQ Comment 2
4.2 Visual Monitoring and Inspections
In the event a remedial component is compromised or not functioning, DEQ requests to be notified and provided with the Upland Cap inspection form within five business days. Please include this reporting requirement.

GSI Response
Section 4.2 of the IMP text was revised to reflect this DEQ notification schedule. Additionally, the inspection schedule was further clarified in Section 4.2 to indicate that inspections will be conducted through 2027, and 2024 will be considered year two of the inspection schedule.

DEQ Comment 3
References
Please update the dates for the CMMP.

GSI Response
The CMMP reference date was updated accordingly.

If you have any questions, please feel free to contact me by phone at 503.349.2248 or by email at crhea@gsiws.com.

Sincerely,

Chris Rhea, RG
Supervising Hydrogeologist

Enclosure: *Revised Final Upland Inspection and Maintenance Plan*

UPLAND INSPECTION AND MAINTENANCE PLAN

Astoria Marine Construction Company
92134 Front Road
Astoria, Oregon

ECSI No. 1898

Prepared for:

Astoria Marine Construction Company
Astoria, Oregon

December 2023

Prepared by:

GSI Water Solutions, Inc.
650 NE Holladay Street, Suite 900
Portland, OR 97232
www.gsiws.com

Maul Foster & Alongi, Inc.
2001 NW 19th Avenue, Suite 200
Portland, OR 97209
www.maulfoster.com

This page left intentionally blank

Contents

1. Introduction and Purpose 1
2. Background 1
3. Description of Upland Cap and Stormwater System 2
4. Upland Cap and Stormwater System 3
   4.1. Visual Monitoring Performance Criteria 3
   4.2. Visual Monitoring and Inspections 3
   4.3. Maintenance and Repairs 5
5. Contingency and Emergency Planning and Response 5
6. Record Keeping / Reporting 6
7. Site Access and Institutional Controls 6
8. Diking District 6
9. Contaminated Media Management Plan 6
10. References 7

Figures:

Figure 1: Site Location Map
Figure 2: Site Schematic with 2010 Aerial Photo
Figure 3: Upland Cap Location

Appendices:

Appendix A: Final AMCCO Upland and Sediment Remediation Plan Drawings
Appendix B: Upland Cap Inspection Form

This page left intentionally blank

1. Introduction and Purpose

In February 2017, the Oregon Department of Environmental Quality (DEQ) issued a Record of Decision (ROD) for the Astoria Marine Construction Company (AMCCO) property (referred to herein as the Site or Property) and the adjacent in-water area in accordance with Oregon's Environmental Cleanup Law[1] (DEQ, 2017). The Site location and its layout are shown in Figures 1 and 2, respectively. The ROD documents the selected remedial action for the Site. The following are elements of the selected remedial action:

1) Excavation and off-site disposal of "hot-spot" soil and sediment
2) On-site treatment of selected soils exhibiting U.S. Environmental Protection Agency (EPA) hazardous waste leaching characteristic prior to off-site disposal of "hot-spot" soil
3) Removal and disposal of contaminated offsite ditch sediments
4) Engineering controls involving the installation of an upland cap
5) Placement of a near shore thin sand layer in the Lewis and Clark River for enhanced monitored natural recovery (EMNR)
6) Periodic monitoring of the sediment conditions within the EMNR area
7) Upland institutional controls via an Easement and Equitable Servitudes (EES)

This *Upland Inspection and Maintenance Plan* (IMP) is referenced in the EES that is recorded on title with the Property. The purpose of this IMP is to set forth the procedures that are to be followed by the current and future owners of the Property (Owner) for the monitoring and maintenance of the upland cap and on-site stormwater system, and by the Clatsop County Diking District No. 5 (Diking District) for the dike (Dike) on the Site. The upland cap consists of various Site features intended to ensure residual contaminated soil at the Site poses no unacceptable risks to human health or the environment. The features of the upland cap include vegetated soil, gravel, asphalt pavement, concrete pads, or any other barrier that prevents exposure to soil. The upland cap also serves as a source control measure to prevent erosion and tracking of Site-related soil contaminants and subsequent transport to the Lewis and Clark River, Jeffers Slough, and off-site stormwater drainage ditches. The on-site stormwater system consists of ditches, berms, a stormwater detention pond, and limited piping. The upland cap is illustrated on Figure 3.

The Dike is a compacted earthen berm to an elevation of approximately 15 feet North American Vertical Datum 88 (NAVD 88). Under the remedial action, a significant portion of contaminated soil was removed from the Dike, but some contaminated soil remains below the Dike's vegetative cover and will be inspected as part of this IMP. However, as discussed in Section 8, repair of the Dike is the responsibility of the Diking District, in accordance with the requirements of the Dike easements.

Final upland and sediment remediation plan construction drawings are provided in Appendix A.

2. Background

The Site is located on approximately seven acres at 92134 Front Road outside the eastern boundary of Warrenton and three miles southwest of Astoria, Oregon (Figure 1). The Site is zoned Marine Industrial. Properties immediately to the north and east are zoned Rural Community Residential.

The Property is located on the east shore of the Lewis and Clark River at the confluence with Jeffers Slough, about one mile upstream from Youngs Bay (Figure 1). The Site is generally flat, and a flood-control Dike separates the upland from the adjacent tidal mudflats of the Lewis and Clark River (Figure 2). The approximate ground elevation is 5 to 8 feet (NAVD 88). Earthen levees were constructed in the 1930s along the Lewis and Clark River and Jeffers Slough. The on-site Dike is operated and repaired by the

[1] Oregon Revised Statute (ORS) 465.200 et seq.

Diking District, and protects the Property against the high-water stages of the Lewis and Clark River and extreme tidal fluctuations. Stormwater drainage ditches are located landward of the Dike and drain to on-site stormwater detention pond. Water from the pond then discharges to the Lewis and Clark River through an on-site tide gate.

Contaminants have been documented in Site soil. The chemicals of concern (COC) for human health exposure to on-site upland soil include metals (arsenic and copper), petroleum hydrocarbons, dioxin toxicity equivalent concentration, polychlorinated biphenyls, and benzo(a)pyrene. The COCs for ecological exposure to on-site upland soil include metals (copper, lead, nickel, and zinc). On-site occupational workers, construction workers, and excavation workers have potential exposure through ingestion, dermal contact, and inhalation. The upland cap will function to serve as a physical barrier to prevent human or ecological exposure to residual contaminated soil.

Historically, upland contaminants in surface soil have migrated and would continue to migrate off the Site via stormwater erosion and/or tracking without the remedial action. The upland cap also addresses stormwater source control. As a source control measure, the upland cap limits or eliminates erosion, tracking, and off-site migration of impacted soil to surface water, sediment, and neighboring land parcels.

The upland cap and institutional controls mitigate Site risks to acceptable levels. The upland cap is considered a reliable engineering control that prevents access to residual contamination. Institutional controls, including this IMP, will ensure that the effectiveness of the cap is maintained, that potential risks associated with residual contaminated soil are appropriately managed in the event of future excavation or construction activities, and that human health and the environment are protected.

3. Description of Upland Cap and Stormwater System

The upland cap prevents potential exposure to upland workers (occupational) and ecological receptors, and prevents erosion and tracking of contaminated soil off-site. The upland cap is shown in Figure 3 and consists of the following elements:

- Hardscape. Existing asphalt pavement or concrete in designated traffic areas.
- Soil Cap. A soil cap consists of an approximately 1-foot-deep, clean gravel material or, alternatively, a 2-foot-thick layer of vegetated soil.[2] For the soil cap, clean soil [3] or gravel was placed over a geotextile fabric installed as a demarcation layer on top the graded Site surface.
- Soil and Dense Vegetative Cover on Dike. Copper-impacted soil is present in an approximate area of 3,000 square feet in front of and below a portion of the Dike. Two feet of soil were placed on the copper-impacted soil on the Dike and seeded with a lowland pasture mix. For the portion below the Dike, dense groundcover vegetation serves as an engineering control and is required to be maintained on the face of the Dike by the Diking District, under an agreement between the Diking District and U.S. Army Corps of Engineers. Any repairs to the Dike will be conducted by the Diking District as it is responsible for maintaining the engineering integrity of the Dike.

The post-remedy stormwater system includes ditches, berms, a stormwater detention pond, and limited piping. The detention pond is stabilized with a seed mix designed to survive saturated and submerged conditions. Soil berms are present along the eastern and northern Property boundaries. These berms prevent uncontrolled off-site stormwater discharges and eliminate the potential discharge of contaminants to the Lewis and Clark River via off-site stormwater flow pathways.

[2] DEQ approved a 1-foot-thick layer of vegetated soil along the north property line, for a 50-foot-wide section, to accommodate the County-required landscape buffer.
[3] Imported soil was sampled and screened against DEQ risk-based concentrations and clean fill criteria. Minor exceedances are documented in the Construction Completion Report (MFA, 2023).

Site baseline conditions are documented in the Construction Completion Report (MFA, 2023) by as-built drawings, descriptions (e.g., stormwater system), plans, and photographs. Final construction (as-built) drawings are included in Appendix A. The baseline conditions will be used as the basis for comparison during the monitoring and inspection events described in Section 4.

Disturbances of the upland cap do not require any special handling or health and safety requirements outside of standard construction health and safety protocols, so long as they do not cause disturbance of the contaminated soils below. If the upland cap is fully breached or penetrated, the Owner shall restore the cap to baseline conditions. See Section 4.3 for maintenance and repair requirements.

4. Upland Cap and Stormwater System

4.1. Visual Monitoring Performance Criteria

Each visual monitoring event will be compared to the previous event and the baseline conditions to identify physical changes to the upland cap and stormwater system. The performance criteria described in this section provide a basis for evaluating whether physical changes in the upland cap and stormwater system could reduce the effectiveness and overall performance of the Site features identified in Section 3. Exceedances of the performance criteria described below will trigger further analysis and discussion with DEQ regarding the need for corrective action to repair or amend Site features consistent with the as-built specifications or baseline condition. Modifications that are not part of the baseline or as-built conditions also may be considered.

In terms of visual monitoring, the following general performance criteria exceedances apply to the upland cap and stormwater system:

- Erosion or cap changes that expose demarcation fabric.
- Gullies, rills, or potholes greater than 6 inches in depth.
- Evidence indicating excessive cap thinning or settling.
- Evidence indicating that the stormwater system is not fully functioning (e.g., excess sediment or vegetation impeding flow or function) and requires maintenance and/or repair.
- Other significant abnormalities or physical changes.

4.2. Visual Monitoring and Inspections

The effectiveness of the upland cap is dependent upon limiting exposure to subsurface soils. Site inspections will monitor cap conditions and integrity over time. Routine visual inspections will be the primary method of determining if maintenance actions or repairs to the upland cap, stormwater system, or dike vegetation are needed. Cap surfaces will be monitored for damage and maintained by repairing any damage caused by vandals, animals, erosion, or on-site activities.

The inspection will consist of walking a traverse of the entire Site, including exterior and interior areas, to evaluate the entire upland cap surface and stormwater system. Monitoring and inspections will be performed each spring and fall by qualified personnel (e.g., Oregon-licensed professional engineer or a person familiar with this IMP and Site features) for the first three years after completion of the upland cap. Annual inspections will be conducted by the Site Owner or the Owner's representative for two additional years. The cap was installed in 2022. DEQ conducted an inspection in October 2022, and the Site Owner conducted inspections in April and October 2023. Inspections shall run through 2027, and 2024 will be considered year two of the inspection schedule. Inspections will be documented on an *Upland Cap Inspection Form* presented in Appendix B and will be retained by the Site Owner (see Section 6).

Supplemental inspections will also be conducted by the Site Owner after large storm events. An inspection form will only be filled out after storm events if the cap or stormwater system is found to be compromised or unacceptable.

The Site Owner may periodically need to redistribute gravel from the cap that has been displaced to maintain the cap's uniformity and integrity. This work does not require documentation or other approval so long as the thickness of the cap and cover of the demarcation layer are maintained.

Any areas of the upland cap or stormwater system that are determined during an inspection to be compromised or unacceptable (i.e., do not meet the performance criteria) will be noted on the *Upland Cap Inspection Form* in Appendix B and documented with photographs. Recorded observations must describe the issue and the location to allow others to identify, and recheck the areas during subsequent inspections (e.g., plot location on a base map, obtain global positioning coordinates, or locate the area of concern by obtaining measurements from two fixed points). In the event a remedial component is compromised or not functioning as intended, the Site Owner will notify DEQ and provide the *Upland Cap Inspection Form* within five business days. Upon completion of the repair of the unacceptable area (see Section 4.3), a follow-up confirmatory inspection of the repaired area will be made and documented on the *Upland Cap Inspection Form* with accompanying photograph(s) of the repaired area(s); this form shall also be provided to DEQ to demonstrate that the repair has been made.

General guidelines for conditions that the inspector will record and photograph include:

- General upland cap surface smoothness and visible deviations from the baseline observations.
- Any breach or other significant damage or deterioration in the gravel cap (e.g., pot holes, ruts, erosional changes, areas of exposed demarcation fabric).
- Any breach or other significant damage or deterioration of the pavement surface.
- Localized subsidence (e.g., pot holes, puddles) or heaving of the upland cap with a vertical displacement of greater than about 6 inches.
- Condition and operation of the stormwater system features.
- Erosion in the vegetated/rock-lined swales potentially resulting in damage to the underlying demarcation fabric or rock liner.
- Evidence of unauthorized excavation.
- Areas with excessive growth of plants (e.g., trees, blackberries) or animal burrowing.

The inspector is responsible for evaluating the acceptability of the upland cap, stormwater system, and dike vegetation conditions and the need for additional maintenance or repair. Inspections will be used to determine the need for further analysis and potential repairs or maintenance as described in Section 4.3.

4.3. Maintenance and Repairs

The following activities are required to maintain the integrity of the upland cap and stormwater system.

1. **Upland Cap:** Maintain the upland soil/gravel cap such that the thickness provides a protective barrier, including elimination of rills.
2. **Hardscape**: Maintain existing asphalt pavement such that the integrity of the pavement is not compromised as a protective barrier for underlying soils. Removal of asphalt pavement and concrete will necessitate replacement or construction of a soil/gravel cap similar to that existing on the site. The Site Owner or its contractor will implement all appropriate measures under the Site's Contaminated Media Management Plan (CMMP) for any repair, maintenance, or replacement activities (GSI/MFA, 2023).
3. **Dike Vegetative Cover**: Maintain the Dike's dense vegetative cover in areas covering contaminated soil to act as a protective barrier from underlying soils. The Site Owner will communicate any dike repair needs identified during inspections to the Diking District. Repair of the Dike is the responsibility of the Diking District as identified in the easements with the Diking District. Dike vegetation will be maintained (e.g., mowed, reseeded) with a low-growing, erosion control seed mix, as needed.
4. **Stormwater System**: Maintain the stormwater system such that stormwater is detained on the Site and prevents uncontrolled runoff prior to discharge through the tide gate. The stormwater swale and pond will have the capacity to retain the water quality design storm volume on-site during storm events. This will include:
    A. Removal of excess sediment or vegetation that impedes stormwater system flow or function.
    B. If vegetation is to be planted or removed, excavation for planting and/or removal of plants shall not disturb the geotextile demarcation fabric or lining at the base of the swales or stormwater detention pond.
    C. If significant disturbance of the upland cap is required for maintenance of the stormwater system, the Site Owner will be notified and work will be completed in accordance with the CMMP (GSI/MFA, 2023).
    D. Restoration of the berm at the Property boundary to maintain stormwater control.

5. Contingency and Emergency Planning and Response

Following potentially catastrophic events, the Site Owner or Owner's representative will conduct a visual inspection in accordance with Section 4.2 to observe and record any potential changes that could impact compliance with the remedial action objectives (RAOs). DEQ's ROD identifies the following RAOs for the Site:

1. Prevent or reduce human and ecological exposures to site contaminants at levels of concern.
2. Limit further migration of contaminants from on-site soil to off-site areas, to the extent practicable.
3. Minimize transport of contaminated sediment to other parts of the river.
4. Remove soil and sediment hot spots to the extent feasible and practical.
5. Protect ecological habitat and beneficial uses of surface water near the Site.

6. Remove and/or manage debris related to remediation in a manner consistent with state and federal standards.

Potentially catastrophic events are defined below:

- Site flooding due to conditions in the Lewis and Clark River (e.g., 100-year flood), extreme tidal conditions, or a tsunami that results in overtopping of the Dike (approximate elevation of 15 feet NAVD 88 post-remedial action[4]) or failure of the on-site tide gate.
- A local (within 20 mile radius of the Site) seismic event in excess of 6.0 on the Richter magnitude scale.
- A regional (within 100 mile radius of the Site) seismic event in excess of 8.0 on the Richter magnitude scale.

If the upland cap or the stormwater system have been damaged such that RAOs are compromised, a design to restore the protective remedy will be developed in consultation with DEQ. The Site Owner will secure necessary permits before taking action or starting work.

6. Record Keeping / Reporting

The Site Owner will complete *Upland Cap Inspection Forms* (i.e., reports) consistent with five years of annual monitoring, as described in Section 4.2. Site Owner will maintain copies of the completed *Upland Cap Inspection Forms* pursuant to the recordkeeping requirements in the Consent Judgment.[5] Inspection forms are included in Appendix B.

7. Site Access and Institutional Controls

This IMP is referenced in the EES recorded on the Property. The EES includes provisions for Site access and institutional controls (including this IMP), which will remain in effect until such time that DEQ determines, in writing, that such controls are no longer necessary.

8. Diking District

Repairs of the dike are subject to the Diking District easements. The approximate Dike location is shown in Figure 3. A significant volume of contaminated soil was removed from the Dike during the remedial action, but some contaminated soil remains in the Dike. Contaminated soil remaining in the dike is covered with soil and/or dense vegetative cover, and is subject to this IMP and the CMMP. Any work conducted on the Dike should be coordinated with Diking District and is subject to its standards.

9. Contaminated Media Management Plan

A CMMP has been prepared for the Site (GSI/MFA, 2023) and is referenced in the EES. The CMMP describes appropriate soil excavation, handling, storage, transport, and disposal procedures and includes a description of the engineering controls necessary for protection of workers and receptors in and around the Site. On-Site workers must be informed of the requirements of the CMMP, and the CMMP must be kept at the Site.

---

[4] The Federal Emergency Management Agency (FEMA) Base Flood Elevation (100 year) is 12 feet NAVD 88.

[5] See Section 4.E., Consent Judgment for a Remedial Design and Remedial Action between Oregon Department of Environmental Quality (DEQ) and Astoria Marine Construction Co.: Clatsop County Case No. 19CV13270, Dated March 2019. DEQ, 2019.

10. References

DEQ, 2017. Record of Decision – Selected Remedial Action for Astoria Marine Construction Co. – Astoria Oregon. Prepared by the Oregon Department of Environmental Quality (DEQ) – Northwest Region Office. February 2017.

DEQ, 2019. Consent Judgment for a Remedial Design and Remedial Action between Oregon Department of Environmental Quality (DEQ) and Astoria Marine Construction Co., Clatsop County Case No. 19CV13270. Dated March 2019.

GSI/MFA, 2023. Contaminated Media Management Plan - Astoria Marine Construction Company – ECSI 1898. Prepared by GSI Water Solutions, Inc. (GSI) and Maul Foster and Alongi (MFA). Dated December 2023.

Figures

This page left intentionally blank.

LEGEND

- Site Location
- Cities
- Roads

Date: March 14, 2017
Data Sources: OGIC, USGS, ESRI, Air photo from Microsoft 2010

N

0 0.25 0.5
Miles

MAUL FOSTER ALONGI

GSI Water Solutions, Inc.

FIGURE 1

Site Location Map

Astoria Marine Construction Company (AMCCO)
Astoria, Oregon

File Path: P:\Portland\453-Astoria_Marine\GIS\Project_mxds\RI\Figure1-1_Site_Location.mxd, Date: September 9, 2013 1:27:50 PM

FIGURE 2

Site Schematic with 2010 Aerial Photo

Astoria Marine Construction Company (AMCCO)
Astoria, Oregon

LEGEND

- Building
- Misc Structure
- Dock
- Railway
- Historical Feature
- AMCCO Upland Boundary
- Tax Lot
- Cement Dike
- Levee

NOTES:

- The locations of all features shown are approximate.
- Historical site features were identified using the 'Plant Arrangment' engineering drawing from July 1948.

N

0 50 100 150
Feet

Date: March 14, 2017
Data Sources: OR DEQ, Clatsop County, Air Photo by Microsoft 2010

MAUL FOSTER ALONGI

GSI Water Solutions, Inc.

Document Path: P:\Portland\453-Astoria_Marine\GIS\Project_mxds\CMMP_IMP_EES\Figure2_Site_Schematic_Photo_2010.mxd

FIGURE 3

Upland Cap Location

Astoria Marine Construction Company (AMCCO)
Astoria, Oregon

LEGEND

- Soil Cap with Demarcation Layer[1]
- Dike
- Hardscape (Asphalt Pavement, Concrete)
- Stormwater Detention Pond
- Stormwater Conveyance Ditch
- Berm
- Copper-Impacted Soil Covered by Dike Soil or Dense Vegetative Groundcover[2]
- Building (Concrete Floor)
- Dock

NOTES

1. Soil cap consists of gravel fill or imported soil. Gravel depth is approximately 1 foot, and soil depth is approximately 2 feet. Soil below the buried orange geotextile demarcation layer may be contaminated.
2. Dike extent is approximate. Soil cover is 2 ft thick where covering copper-impacted soil. Outside of the dike, copper-impacted soil is covered with dense vegetative groundcover.
3. All features are approximate.

N

0 40 80 120
Feet

Date: November 20, 2023
Data Sources: MFA, Aerial 2022

GSI Water Solutions, Inc.

Document Path: Y:\0453_Astoria_Marine\Source_Figures\CMMP_IMP_EES_2023\Figure3_CMMP.mxd, npalmer

This page left intentionally blank.

Attachment A

This page left intentionally blank.

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

PREPARED FOR:

ASTORIA MARINE CONSTRUCTION COMPANY

LOCATED IN SEC25, T8N, R10W, W.M., CLATSOP COUNTY, ASTORIA, OR

PROJECT CONTACTS

CLIENT	CIVIL ENGINEER
AMCCO 92134 FRONT RD. ASTORIA, OR 97103 P: 503-325-4121 TIM FASTABEND WALLUSKI@CHARTER.NET	MAUL FOSTER & ALONGI, INC. 3140 NE BROADWAY PORTLAND, OR 97232 P: 503-501-5217 ERIK BAKKOM, PE EBAKKOM@MAULFOSTER.COM
ENVIRONMENTAL	**AGENCY**
GSI ENVIRONMENTAL INC. 55 SW YAMHILL STREET SUITE 300 PORTLAND, OR 97204 P: 971-200-8501 LIBBY SMITH LSMITH@GSIWS.COM	OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY 700 NE MULTNOMAH ST PORTLAND, OR 97232 P: 503-229-5696 ERIN MCDONNELL, PE ERIN.K.MCDONNELL@STATE.OR.US
CONTRACTOR	**SURVEYORS**
CUSTOM EXCAVATING 2060 SE AIRPORT LANE WARRENTON, OREGON 97146 P: 503.861.6030 ALEX RAICHL ALEX_CUSTOMEXCAVATING@HOTMAIL.COM	OTAK (PRE-CONSTRUCTION) 4253-A HIGHWAY 101 N SEASIDE, OR 97138 P: 503-738-3425 ANDY MENDENHALL (POST-CONSTRUCTION) MENDENALL2025@GMAIL.COM P: 503-738-6363

PROJECT SUMMARY

SITE ADDRESS:
92134 FRONT RD.
ASTORIA, OR 97103

WORK DESCRIPTION:
IN ACCORDANCE WITH THE RECORD OF DECISION AND AGREEMENTS WITH THE STATE OF OREGON, AMCCO WILL REMOVE HIGHLY CONTAMINATED SOIL AND SEDIMENT FROM THE SITE, REMOVE SEDIMENT FROM OFFSITE CONVEYANCE DITCHES, CONSTRUCT ONSITE CONVEYANCE DITCHES, CONSTRUCT A SOIL CAP, CONSTRUCT AN ENHANCED NATURAL RECOVERY SAND LAYER, AND RESTORE THE DIKE. THE PROJECT INCLUDES DEMOLITION OF A NUMBER OF UPLAND AND ABOVE WATER STRUCTURES TO ACCOMMODATE ABOVE REFERENCED REMEDIATION ACTIVITIES.

VICINITY MAP

NOT TO SCALE

SHEET INDEX

C0.0	COVER SHEET
C1.0	GENERAL CONSTRUCTION NOTES
C1.1	MASTER LEGEND
C1.2	EXISTING CONDITIONS PLAN
C2.0	EROSION AND SEDIMENT CONTROL NOTES
C2.1	EROSION AND SEDIMENT CONTROL PLAN
C2.2	EROSION AND SEDIMENT CONTROL DETAILS I
C2.3	EROSION AND SEDIMENT CONTROL DETAILS II
C2.4	DEMOLITION PLAN
C3.0	REMEDIATION PLAN
C3.1	REMEDIATION CROSS-SECTIONS I
C3.2	REMEDIATION CROSS-SECTIONS II
C4.0	SEDIMENT DREDGING PLAN
C4.1	SEDIMENT DREDGING NOTES
C4.2	EMNR SAND FILL GRADING PLAN
C5.0	UPLAND EXCAVATION PLAN
C5.1	UPLAND SUBGRADE PLAN
C5.2	UPLAND CAPPING PLAN
C5.3	UPLAND REMEDIATION DETAILS
C6.0	DIKE EXTENSION PLAN
C6.1	DIKE EXTENSION DETAILS
L1.0	LANDSCAPE PLAN

GENERAL NOTES

1. DESIGN SURVEY PERFORMED BY OTAK IN 2013&2017. AS-BUILT SURVEY PERFORMED BY ANDY MENDENHALL IN DECEMBER 2021 AND OCTOBER 2022.
2. HORIZONTAL DATUM: OREGON STATE PLANE COORDINATE SYSTEM SOUTH ZONE, NAD 83/91. ELEVATION DATUM: NAVD 88
3. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND DEPTHS PRIOR TO CONSTRUCTION. A MINIMUM OF TWO FULL BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL CALL 811 (UTILITY NOTIFICATION CENTER) FOR LOCATION MARK-UP OF EXISTING UTILITIES.
4. ALL CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE LATEST STANDARDS AND PRACTICES OF CLATSOP COUNTY AND THE LATEST EDITION OF THE "OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION" PREPARED BY ODOT/APWA.
5. IN CASE OF A CONFLICT BETWEEN THE REGULATORY STANDARDS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL.
6. ANY CHANGES TO THE DESIGN AND/OR CONSTRUCTION SHALL BE APPROVED BY THE OWNER OR ENGINEER.
7. APPROVAL OF THESE PLANS DOES NOT CONSTITUTE AN APPROVAL OF ANY OTHER CONSTRUCTION NOT SPECIFICALLY SHOWN ON THE PLANS. PLANS FOR STRUCTURES SUCH AS BRIDGES, BUILDINGS, TANKS, VAULTS, ROCKERIES, AND RETAINING WALLS MAY REQUIRE A SEPARATE REVIEW AND APPROVAL BY THE BUILDING DEPARTMENT PRIOR TO CONSTRUCTION.
8. A COPY OF THESE APPROVED PLANS SHALL BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL CONSTRUCTION EASEMENTS AND PERMITS NECESSARY TO PERFORM THE WORK.
10. OWNER SHALL PROVIDE OREGON DSL ACCESS AGREEMENT FOR OVER-WATER WORK ACTIVITY.
11. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION STAKING.
12. PUBLIC AND PRIVATE DRAINAGE WAYS SHALL BE PROTECTED FROM POLLUTION. NO MATERIAL IS TO BE DISCHARGED TO OR DEPOSITED IN STORMWATER SYSTEMS THAT MAY RESULT IN VIOLATION OF STATE OR FEDERAL WATER QUALITY STANDARDS.
13. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL HAVE AN APPROVED PUBLIC RIGHT-OF-WAY WORK PERMIT PRIOR TO START OF ANY SUCH WORK.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR. ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST ADOPTED EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION. TWO-WAY TRAFFIC MUST BE MAINTAINED AT ALL TIMES ON THE ADJACENT PUBLIC STREETS.
15. ANY PUBLIC OR PRIVATE CURB, GUTTER, SIDEWALK, OR ASPHALT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO CLATSOP COUNTY STANDARDS AND PRACTICES.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ADJACENT UTILITIES WHICH MAY INCLUDE, BUT ARE NOT LIMITED TO, WATER, SANITARY SEWER, STORMWATER, POWER, TELEPHONE, CABLE TV, GAS, IRRIGATION, AND STREET LIGHTING. THE CONTRACTOR SHALL NOTIFY RESIDENTS AND BUSINESSES 48 HOURS IN ADVANCE OF ANY WORK AFFECTING ACCESS OR SERVICE AND SHALL MINIMIZE INTERRUPTIONS TO DRIVEWAYS FOR RESIDENTS AND BUSINESSES ADJACENT TO THE PROJECT.
17. ALL LAWN AND VEGETATED AREAS DISTURBED WILL BE RESTORED TO ORIGINAL CONDITION. ANY DISTURBANCE OR DAMAGE TO OTHER PROPERTY ON ADJACENT PARCELS OR IN THE PUBLIC RIGHT-OF-WAY SHALL ALSO BE REPAIRED OR RESTORED TO ORIGINAL CONDITION.
18. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION OF THE EROSION AND SEDIMENT CONTROL PLAN AND MAINTAINING OFF-SITE ROADS TO BE FREE OF PROJECT-RELATED SEDIMENTS AND TRACKING.

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN
ASTORIA MARINE CONSTRUCTION CO.
ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/06/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
DRAWING NOT TO SCALE
SHEET TITLE
COVER
SHEET
C0.0

PLOTTED ON: 2022-12-29 6:23 PM PLOTTED BY: Gianca Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\2018\1653-AMCCO\PLANS\A-Bath\C0.0 COVER.dwg

CONSTRUCTION NOTES

EROSION AND SEDIMENT CONTROL

1. ALL GRADING AND EROSION CONTROL MATERIALS, WORKMANSHIP AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE CURRENT EDITION OF THE "EROSION AND SEDIMENT CONTROL MANUAL" PREPARED BY THE OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY AND THE EXISTING PROJECT NPDES 1200-C PERMIT, EPA NO. ORR10F773, FILE NO. 33212, ISSUED 06-21-19. EROSION CONTROL SHALL BE PER THE SPECIFICATIONS AND DETAILS CONTAINED THEREIN AND SHALL TAKE PRECEDENCE OVER OTHER STANDARDS AND SPECIFICATIONS.

2. THE CONTRACTOR SHALL MAINTAIN AN ON-SITE WRITTEN DAILY LOG OF EROSION CONTROL AND MAINTENANCE.

3. DURING THE PERIOD FROM OCTOBER 1ST TO APRIL 30TH, NO SOIL SHALL BE EXPOSED FOR MORE THAN TWO (2) DAYS, FROM MAY 1ST TO SEPTEMBER 30TH, NO SOILS SHALL REMAIN EXPOSED FOR MORE THAN SEVEN (7) DAYS.

4. THE CONSTRUCTION ENTRANCE MAY BE REDUCED TO LESS THAN 100' WITH APPROVAL OF THE EROSION CONTROL INSPECTOR.

5. INLET PROTECTION FABRIC SHALL BE INSTALLED UNDER GRATES FOR INLETS IN LANDSCAPED AREAS.

6. THE CONTRACTOR WILL PROVIDE APPROPRIATE PROACTIVE EROSION CONTROL DURING CONSTRUCTION TO PREVENT THE EROSION CONTROL SYSTEMS FROM FAILING DUE TO SILT. THE CONTRACTOR SHALL ENSURE THAT SEDIMENT DOES NOT IMPACT THE ADJACENT PROPERTIES OR THE SURROUNDING PUBLIC ROADS DURING CONSTRUCTION.

7. THE IMPLEMENTATION OF THESE EROSION AND SEDIMENT CONTROL (ESC) PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED, AND VEGETATION IS ESTABLISHED.

8. CARE SHOULD BE TAKEN TO NOT DISTURB MORE AREA THAN NEEDED FOR CONSTRUCTION REQUIREMENTS. ALL DISTURBED SOILS SURFACES ARE TO BE STABILIZED. STABILIZATION OF DISTURBED SOIL AREAS SHALL CONSIST OF: HYDROSEEDING OR HANDSEEDING, MULCHING, PLACING OF EROSION CONTROL BLANKETS OR PLASTIC IN LANDSCAPING SOIL AREAS. IT WILL ALSO CONSIST OF PAVING AND CONCRETE WORK IN DRIVING, PARKING, AND SIDEWALK AREAS. ALL SEEDED AREAS ARE TO BE FERTILIZED, WATERED, AND MAINTAINED TO ENHANCE THE IMMEDIATE REGROWTH OF VEGETATION.

9. MATERIAL STOCKPILES ARE TO BE PROTECTED FROM PRECIPITATION BY THE FOLLOWING MEANS:

   - TEMPORARY - COVER PILES WITH TARPS OR PLASTIC SHEETING WEIGHTED WITH TIRES, LUMBER, OR CONCRETE BLOCKS.

   - PERMANENT - COVER PILES WITH TARPS OR PLASTIC, OR RESEED. PERIMETER AREAS AROUND PILES ARE TO BE SURROUNDED WITH EROSION CONTROL FILTER FABRIC FENCES UNTIL SOILS SURFACE IS STABILIZED WITH RESEEDING.

10. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE CONTINUOUS FUNCTIONING. INSPECTION AND MAINTENANCE SHALL INCLUDE, BUT NOT BE LIMITED TO:

    - VERIFYING THAT ALL AREAS ARE GRADED SUCH THAT ALL RUNOFF IS DIRECTED TO A SEDIMENTATION TRAP FACILITY BEFORE BEING DISCHARGING TO SURFACE.

    - REMOVAL OF TRAPPED SILTS AT SILT BARRIERS, SILT TRAPS, OR POINTS OF ACCUMULATION.

    - ADDITIONAL PROTECTIVE MEASURES, AS REQUIRED, DUE TO JOB SITE CONDITIONS.

    - STABILIZED CONSTRUCTION ENTRANCES INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. MONITORING OF VEHICLES LEAVING THE SITE TO MINIMIZE TRANSMISSION OF LOOSE SOILS TO THE PUBLIC ROADWAYS.

    - IF SEDIMENT IS TRANSPORTED ONTO A ROAD SURFACE, THE SURFACE IS TO BE CLEANED THOROUGHLY AT THE END OF EACH DAY.

11. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 24 HOURS FOLLOWING A STORM EVENT.

12. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.

13. THIS SEDIMENTATION AND EROSION CONTROL PLAN IS INTENDED TO BE UTILIZED AS A GUIDE TO CONTROL THE TRANSPORTATION OF LOOSE SOILS FROM THE PROPERTY THAT CAUSE WATER QUALITY AND NUISANCE PROBLEMS OUTSIDE OF THE CONSTRUCTION AREA.

14. DEPENDING ON THE CONTRACTOR'S CONSTRUCTION PRACTICES, SOME PORTIONS OF THE PROPOSED EROSION CONTROL PLAN MAY BE VARIED ACCORDING TO THE JOB SITE CONDITION. ALL CHANGES TO THE PLAN MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ADJUSTMENT.

SITE GRADING

15. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE GEOTECHNICAL REPORT PREPARED BY GEODESIGN, INC. FOR THE SITE. THE CONTRACTOR SHALL FOLLOW ALL RECOMMENDATIONS REGARDING EARTHWORK AS DETAILED IN THE REPORT.

16. ALL PORTIONS OF THE SITE WITHIN THE LIMITS OF THE WORK SHALL BE MOWED AND STRIPPED TO REMOVE ALL GRASS, ROOTS, ORGANIC SOIL, AND CONSTRUCTION FILL DEBRIS PRIOR TO THE BEGINNING OF ANY GRADING OPERATIONS. THE CONTRACTOR SHALL SALVAGE AND STOCKPILE ENOUGH SELECT TOPSOIL TO ACCOMMODATE LANDSCAPING NEEDS.

17. FOLLOWING STRIPPING AND GRUBBING, THE EXPOSED SOILS SHALL BE PROOF ROLLED TO REVEAL WEAK, ORGANIC, OR OTHER UNSUITABLE SOILS. UNSUITABLE SOILS SHALL BE EXCAVATED TO FIRM GROUND AND FILLED TO GRADE WITH SUITABLE NATIVE OR IMPORTED STRUCTURAL FILL.

18. EXPOSED SUBGRADE SOILS ON AREAS TO RECEIVE STRUCTURAL FILL SHALL BE SCARIFIED TO A DEPTH OF 8 INCHES.

19. IF FILLS ARE NEEDED FOR STRUCTURAL SUPPORT, THEY SHALL BE INSTALLED IN NO MORE THAN 8-INCH LIFTS, AND SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY FOR FINE GRAINED NATIVE SOILS UNLESS OTHERWISE SPECIFIED ON THE PLAN. THE TOP LIFT OF FILL SHALL BE COMPACTED TO 92%. ALL OTHER SOILS SHALL BE COMPACTED TO NO LESS THAN 85%.

20. COMPACTION TESTING SHALL BE DONE IN ACCORDANCE WITH ASTM D 698 (STANDARD PROCTOR).

21. AT THE END OF THE GRADING OPERATION, THE STOCKPILED STRIPPINGS SHALL BE DISTRIBUTED ON THE LANDSCAPED AREAS IN A COMPACTED DEPTH NOT TO EXCEED 12".

22. ALL SURFACES SHALL BE GRADED SMOOTH AND FREE OF IRREGULARITIES THAT MIGHT ACCUMULATE SURFACE WATER.

23. ALL GRADING OPERATIONS AND DISTURBED SURFACE STABILIZATION SHALL BE IN ACCORDANCE WITH THE PROJECT EROSION CONTROL PLAN.

TRANSPORTATION

24. THE MOST CURRENT EDITIONS OF THE OREGON DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS AND STANDARD DETAILS AND THE MOST CURRENT EDITIONS OF THE CITY OF ASTORIA DESIGN STANDARDS SHALL BE UTILIZED IN THE CONSTRUCTION OF TRANSPORTATION ELEMENTS OF THESE PLANS.

25. STREET SIGNING AND STRIPING SHALL BE INSTALLED BY THE DEVELOPER. ALL STREET SIGNS AND STRIPING SHALL BE INSTALLED PER THE LATEST ADOPTED EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) PUBLISHED BY THE U.S.DEPARTMENT OF TRANSPORTATION AND LATEST ADOPTED EDITION OF THE STATE OF OREGON SUPPLEMENT TO THE MUTCD.

26. ALL CONSTRUCTION WITHIN THE RIGHT-OF-WAY SHALL HAVE AN APPROVED TRAFFIC CONTROL PLAN AND RIGHT-OF-WAY PERMIT PRIOR TO ANY ON-SITE CONSTRUCTION ACTIVITY.

27. PAVING WITHIN THE PUBLIC RIGHT-OF-WAY WILL NOT BE ALLOWED DURING WET OR COLD WEATHER, PER DOT SPECIFICATIONS.

28. ALL PAVEMENT SHALL BE STRAIGHT CUT PRIOR TO PAVING. EXISTING PAVEMENT SHALL BE REMOVED AS NECESSARY TO PROVIDE A SMOOTH TRANSITION FOR BOTH RIDE AND DRAINAGE.

29. ALL ADA PEDESTRIAN RAMPS SHOWN ON THE PLANS AND ON THE DETAIL SHEETS SHALL BE CONSTRUCTED WITH THE PROJECT.

30. CONTRACTOR SHALL REPORT ALL DAMAGES IMMEDIATELY TO THE CITY'S PUBLIC WORKS DEPARTMENT OR CONTACT THE INSPECTOR ON THE JOB.

31. PUBLIC RIGHTS-OF-WAY SHALL BE KEPT IN A CLEAN AND SERVICEABLE CONDITION AT ALL TIMES. IN THE EVENT MATERIALS ARE INADVERTENTLY DEPOSITED ON ROADWAYS, THE MATERIAL SHALL BE PROMPTLY REMOVED. MATERIALS ARE TO BE SWEPT AND REMOVED WITH A VACUUM SWEEPER.

STORM SEWER CONSTRUCTION

32. ALL MATERIALS AND INSTALLATION OF STORM SEWERS AND DRAINAGE SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS IN THE LATEST EDITION OF THE "OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION" BY THE AMERICAN PUBLIC WORKS ASSOCIATION AND THE OREGON DEPARTMENT OF TRANSPORTATION. WHEREVER THE STANDARD SPECIFICATIONS REFER TO THE "STATE", "SECRETARY", OR WHEN REFERENCE IS MADE TO THE DEPARTMENT OF TRANSPORTATION IT SHALL BE UNDERSTOOD THAT THE STANDARD SPECIFICATIONS SHOULD READ THE "OWNER". ADDITIONALLY, ALL MATERIALS AND INSTALLATION OF STORM SEWERS AND DRAINAGE SYSTEMS IN THE RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS IN THE MOST CURRENT EDITIONS OF THE CITY OF ASTORIA DESIGN STANDARDS.

33. PIPE LENGTHS SHOWN ON THE PLANS ARE TO THE CENTER OF THE STRUCTURE.

34. PRE-PAVING AS-BUILTS ARE REQUIRED FOR STORMWATER, WATER, AND SANITARY FACILITIES. PROVIDE AS-BUILT INFORMATION TO THE CONSTRUCTION INSPECTOR AND CONSTRUCTION ENGINEER FOR APPROVAL PRIOR TO ANY PAVING.

35. MATERIALS FOR STORM SEWER INLET LATERALS AND MAINS SHALL BE DUAL-WALLED, SMOOTH INTERIOR, CORRUGATED POLYETHYLENE STORM SEWER PIPE, UNLESS OTHERWISE SPECIFIED ON PLANS.

36. SEE THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION SECTION 00445 FOR STORM SEWER PIPE MATERIALS AND PLANS.

37. PERFORATED PIPE MATERIALS SHALL BE PERFORATED CORRUGATED POLYETHYLENE STORM SEWER PIPE.

38. CATCH BASINS SHALL BE TYPE 1 H-20 OR PROJECT APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED ON PLANS.

39. TRENCH EXCAVATION SHALL MEET THE REQUIREMENTS OF OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION BY THE AMERICAN PUBLIC WORKS ASSOCIATION AND THE OREGON DEPARTMENT OF TRANSPORTATION SECTION 00405.41.

40. STORM SEWER PIPE BEDDING AND BACKFILL SHALL MEET THE REQUIREMENTS OF SECTIONS 00405.12-14, AND SECTIONS 00405.45-46. PIPE BEDDING MATERIALS SHALL BE $\frac{3}{4}$" - 0 AGGREGATE BEDDING PER SECTION 00405.12 AND PIPE BACKFILL MATERIALS SHALL BE CLASS A OR CLASS B PER SECTION 00405.14 AS APPROVED BY THE INSPECTOR. BACKFILL MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM RELATIVE DENSITY PER ASTM D 698 (STANDARD PROCTOR). NATIVE BACKFILL MAY BE USED UPON APPROVAL FROM THE INSPECTOR. STORM SEWER PIPE SHALL BE INSTALLED IN THE RIGHT OF WAY IN ACCORDANCE TO THE "UTILITY TRENCH" CITY OF ASTORIA STANDARD DETAIL.

41. STORM SEWER INLETS, AS NOTED ON THE PLANS, SHALL BE FITTED WITH AN APPROVED TRAP.

SANITARY SEWER CONSTRUCTION

42. SANITARY SEWER LATERALS SHALL BE 6" IN SIZE, INSTALLED AT A MINIMUM SLOPE OF 0.01 FT/FT UNLESS OTHERWISE SPECIFIED ON THE PLAN.

43. MATERIALS FOR SANITARY SEWER PIPE SHALL BE PVC PIPE CONFORMING TO ASTM D3034 OR GREEN COLORED PVC-C900 DR 14, HDPE PIPE DR 21, OR DUCTILE IRON, AS NOTED ON THE PLANS.

44. PIPE LENGTHS SHOWN ON THE PLANS ARE TO THE CENTER OF THE STRUCTURE.

45. SANITARY SEWER PIPE BEDDING AND BACKFILL SHALL MEET THE REQUIREMENTS OF SECTIONS 00405.12-14, AND SECTIONS 00405.45-46. PIPE BEDDING MATERIALS SHALL BE $\frac{3}{4}$" - 0 AGGREGATE BEDDING PER SECTION 00405.12 AND PIPE BACKFILL MATERIALS SHALL BE CLASS A OR CLASS B PER SECTION 00405.14 AS APPROVED BY THE INSPECTOR. BACKFILL MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM RELATIVE DENSITY PER ASTM D 698 (STANDARD PROCTOR). NATIVE BACKFILL MAY BE USED UPON APPROVAL FROM THE INSPECTOR. SANITARY SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE TO THE "TRENCH BACKFILL, BEDDING, PIPE ZONE, AND MULTIPLE INSTALLATIONS" STANDARD DETAIL. SANITARY SEWER PIPE SHALL BE INSTALLED IN THE RIGHT OF WAY IN ACCORDANCE TO THE "UTILITY TRENCH" CITY OF ASTORIA STANDARD DETAIL.

46. CONTRACTOR TO MAINTAIN A MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN ALL EXISTING AND PROPOSED WATER AND SANITARY SEWER MAINS.

47. ALL SANITARY MANHOLES SHALL BE 48" Ø UNLESS OTHERWISE SPECIFIED ON PLANS.

48. LOCATOR TAPE TO BE LOCATED EIGHTEEN (18) INCHES ABOVE A SEWER MAIN AND TWELVE (12) INCHES ABOVE A SERVICE LINE.

49. THE LOCATOR TAPE SHALL BE MARKED WITH CONTINUOUS THREE (3) INCH WIDE GREEN SIX (6) MIL THICK LOCATOR TAPE THREE (3) INCH HIGH BLACK LETTERS EVERY THREE (3) FEET WITH "WARNING - BURIED SANITARY SEWER".

50. A CONTINUOUS TONING WIRE SHALL BE ATTACHED TO THE TOP OF THE SANITARY SEWER SERVICE LINE. THE TONING WIRE SHALL BE COATED #14 AWG (MIN.) SOLID COPPER WIRE, OR APPROVED EQUAL. THE TONING WIRE SHALL END IN THE VALVE BOX WITH A MINIMUM OF ONE (1) FOOT COILED OF WIRE. THE TONING WIRE SHALL BE TESTED FOR CONTINUITY PRIOR TO ACCEPTANCE. ALL SPLICES WILL BE SOLDERED A MINIMUM OF TWO (2) INCHES IN LENGTH AND ENCASED WITH 3M SCOTCH #220 VINYL MASTIC PADS (3 ½" BY 4 ½") OR 3M SCOTCH 33 ELECTRICAL TAKE AND COATED WITH SCOTCHKOTE ELECTRICAL COATING #1485 (REPEAT PROCESS AFTER FIRST COATING DRIES), OR APPROVED EQUAL.

WATER SYSTEM CONSTRUCTION

51. MATERIALS FOR WATER PIPE SHALL BE DUCTILE IRON CL-52 OR PVC PIPE CONFORMING TO PVC-C900 DR 25, UNLESS OTHERWISE SPECIFIED ON PLANS.

52. PIPE BEDDING MATERIALS SHALL BE $\frac{3}{4}$" - 0 AGGREGATE BEDDING PER SECTION 00405.12. COMPACTED TO 95% OF THE MAXIMUM RELATIVE DENSITY PER ASTM D 698 (STANDARD PROCTOR). BACKFILL FOR WATER TRENCHES SHALL BE CLASS A OR CLASS B PER SECTION 00405.14 AS APPROVED BY THE DIRECTOR, UNLESS OTHERWISE SPECIFIED ON THE PLANS. NATIVE BACKFILL MAY BE USED UPON APPROVAL FROM THE INSPECTOR. BACKFILL MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM RELATIVE DENSITY PER ASTM D 698 (STANDARD PROCTOR). WATER PIPE SHALL BE INSTALLED IN THE RIGHT OF WAY IN ACCORDANCE WITH THE CITY OF ASTORIA STANDARD DETAIL.

53. CONTRACTOR TO MAINTAIN A MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN ALL EXISTING AND PROPOSED WATER AND SANITARY SEWER MAINS.

54. ANY SIGNIFICANT DEVIATION FROM THE PLANS WILL REQUIRE A REQUEST FROM THE APPLICANT'S ENGINEER AND APPROVAL FROM THE CITY'S ENGINEER AND CITY INSPECTOR.

BACKFLOW PREVENTION DEVICE NOTES

55. ALL COMMERCIAL WATER METERS SHALL BE PROTECTED WITH A STATE-APPROVED BACKFLOW DEVICE.

56. STATE APPROVED BACKFLOW PROTECTION SHALL BE REQUIRED ON FIRE SPRINKLER AND IRRIGATION SYSTEMS. ALL HOSEBIBS SHALL BE PROTECTED WITH VACUUM BREAKERS. FURTHER BACKFLOW PREVENTION SHALL BE REQUIRED DEPENDING ON WATER USAGE IE - BOILERS, CHILLERS, CHEMICAL ADDITIONS, BOOSTER PUMPS, WELLS, ETC.

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN
ASTORIA MARINE CONSTRUCTION CO.
ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/04/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE

SHEET TITLE
GENERAL CONSTRUCTION NOTES

SHEET
C1.0

PLOTTED ON: 2022-12-29 6:24 PM PLOTTED BY: Garrick Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\1298.04.03-AMCCO\PLANS\As-built\C1.0 GENERAL CONSTRUCTION NOTES.dwg

ABBREVIATIONS

AC	ACRE, ASPHALT CONCRETE PAVEMENT
ACOE	ARMY CORPS OF ENGINEERS
AD	AREA DRAIN
AGG	AGGREGATE
AIR	AIR RELIEF
AMSL	ABOVE MEAN SEA LEVEL
AP	ANGLE POINT
APN	APPARENT PARCEL NUMBER
APPD	APPROVED
APPROX, ±	APPROXIMAT(-E, -LY)
ASPH	ASPHALT
ASSY	ASSEMBLY
BCR	BEGIN CURB RETURN
BF	BUTTERFLY
BGS	BELOW GROUND SURFACE
BLDG	BUILDING
BLVD	BOULEVARD
BM	BENCHMARK
BMP	BEST MANAGEMENT PRACTICE
BO	BLOW-OFF
BOC	BACK OF CURB
BOT, BTM	BOTTOM
B.O.W.	BOTTOM OF WALL
BVC	BEGING VERTICAL CURVE
CB	CATCH BASIN
CDF	CONTROLLED DENSITY FILL
CEM	CEMENT
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
CIP	CAST IRON PIPE
CIR	CIRCLE
CK	CHECK
CL, ℄	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COMP	COMPACTION
CONC	CONCRETE
CPE	CORRUGATED POLYETHYLENE
CPL	COUPLING
CT	COURT
CTR	CENTER
CULV	CULVERT
CY	CUBIC YARD
D	DEPTH
DEG	DEGREE(-S)
DI	DUCTILE IRON
DIA	DIAMETER
DIM.	DIMENSION(-S)
DIP, D.I.P.	DUCTILE IRON PIPE
DOT	DEPARTMENT OF TRANSPORTATION
DR	DIMENSION RATIO
DTL	DETAIL
DWG(S)	DRAWING(-S)
E	EAST
EA	EACH
ECR	END CURB RETURN
EG	EXISTING GROUND
EL, ELEV	ELEVATION
ELB, ELL	ELBOW
ELEC	ELECTRIC(-AL)
ENGR	ENGINEER
ENTR	ENTRANCE
EP, EOP	EDGE OF PAVEMENT
EQ	EQUAL(-LY)
ESC	EROSION CONTROL
ESMT	EASEMENT
EST	ESTIMATE(-D)
EVC	END VERTICAL CURVE
EXC	EXCAVATE
EX., EXTG.	EXISTING
EW	EACH WAY
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FLG	FLANGE
FM	FORCE MAIN
FT	FEET, FOOT
GAL	GALLON(-S)
GM	GAS METER
GND	GROUND
GP	GUARD POST
GPM	GALLONS PER MINUTE
GRD	GRADE
GV	GAS VALVE, GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HGT, HT	HEIGHT
HP	HORSEPOWER
HORZ	HORIZONTAL
HYD	HYDRANT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH(-ES)
INTX	INTERSECTION
INV	INVERT
IP	IRON PIPE
L	LENGTH
LAT	LATERAL
LB	POUND(-S)
LF	LINEAR FEET
LONG.	LONGITUDINAL
LT	LEFT
MAX	MAXIMUM
MFA	MAUL FOSTER & ALONGI, INC.
MFR	MANUFACTURER
MH	MANHOLE
MIC	MONUMENT (IN CASE)
MIN	MINIMUM; MINUTE
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MON	MONUMENT (SURFACE)
MW	MONITORING WELL
N	NORTH
N/A	NOT APPLICABLE
NAT G, NG	NATURAL GAS
NE	NORTHEAST
NO.	NUMBER
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHP	OVERHEAD POWER
OT	OWNERSHIP TIE
P	PIPE
P TRAN	PAD MOUNTED TRANSFORMER
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE
PEN.	PENETRATION
PERF	PERFORAT(-E, -ED, -ES, -ION)
P.L., PL	PROPERTY LINE, PLACE
POW V	POWER VAULT
PP	POWER POLE
PROP.	PROPOSED
PS	PUMP STATION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENT
PV	PLUG VALVE
PVI	POINT OF VERTICAL INTERSECTION
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
R, RAD	RADIUS
RC	REINFORCED CONCRETE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RED	REDUCER
REQD	REQUIRED
REQT	REQUIREMENT
REV	REVISION
R/W, ROW	RIGHT OF WAY
RT	RIGHT
S	SOUTH, SLOPE
SB	SOIL BORING
SCH	SCHEDULE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SE	SOUTHEAST
SF	SQUARE FEET
SHT	SHEET
SL	SLOPE
SPEC	SPECIFICATIONS
SQ	SQUARE
SQ IN	SQUARE INCHES
SRF	SURFACE
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
STRM	STORM
STRUCT	STRUCTUR(-E, -AL)
SSWR	SANITARY SEWER
SW,S/W	SIDEWALK, SOUTHWEST
TB	THRUST BLOCK
TBM	TEMPORARY BENCHMARK
TC	TOP OF CURB
TEL, TELE	TELEPHONE
TEMP	TEMPORARY
TP	TOP OF PAVEMENT, TEL POLE, TURNING POINT
TW	TOP OF WALL
TYP	TYPICAL
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UTIL	UTILITY
VC	VERTICAL CURVE
VERT	VERTICAL
VOL	VOLUME
W	WIDTH; WIDE; WEST
W/	WITH
WATR	WATER
WM	WATER METER
W/O	WITHOUT
WSE	WATER SURFACE ELEVATION
WV	GATE/GENERAL WATER VALVE
YD	YARD
YR	YEAR

GENERAL LEGEND

GAS/POWER/TELEPHONE SYMBOLS

SYMBOL EXIST.	SYMBOL PROP.	DESCRIPTION
		GAS METER
		GAS VALVE
		PAD MOUNTED TRANSFORMER
		POWER VAULT
		TRANSMISSION TOWER
		UTILITY POLE
		UTILITY POLE ANCHOR
		TELEPHONE RISER
		TELEPHONE VAULT
		LIGHT POLE

SURVEY SYMBOLS

SYMBOL THEOR./ EXIST.	SYMBOL FOUND/ PROP.	DESCRIPTION
		ANGLE POINT
		BENCH MARK
		BLOCK CORNER
		IRON PIPE
		MONUMENT
		OWNERSHIP TIE
		SECTION DATA:
		SECTION CENTER
		SECTION CORNER
		QUARTER CORNER
		SIXTEENTH CORNER
		CLOSING CORNER
MC	MC	MEANDER CORNER
WC	WC	WITNESS CORNER
		SOIL BORING
		SPOT ELEVATION
27		EXISTING GRADE MAJOR CONTOUR
27		EXISTING GRADE MINOR CONTOUR
SD_x		EXISTING STORM DRAIN PIPE
W_x		EXISTING WATER PIPE
SS_x		EXISTING SANITARY SEWER PIPE
		EXISTING AC PAVEMENT
		EXISTING CONCRETE SURFACING
		EXISTING GRAVEL SURFACING
		EXISTING BUILDING
		EXISTING FENCE LINE
		EXISTING ROAD CENTERLINE
		EXISTING RIGHT-OF-WAY
PL		EXISTING PROPERTY LINE

WATER SYMBOLS

SYMBOL EXIST.	SYMBOL PROP.	DESCRIPTION
		CAP/PLUG
		COUPLING
		GUARD POST / BOLLARD
		REDUCER
		THRUST BLOCK
		WATER METER
		DOUBLE CHECK VALVE ASSEMBLY
		FIRE HYDRANT
		AIR RELIEF
		BLOW-OFF VALVE
		CHECK VALVE
		GATE VALVE
		BENDS:
		90 DEGREE BEND
		45 DEGREE BEND
		22.5 DEGREE BEND
		11.25 DEGREE BEND
		VERTICAL BEND
		TEE
		CROSS

SANITARY/STORM SEWER SYMBOLS

SYMBOL EXIST.	SYMBOL PROP.	DESCRIPTION
		SAN. SEWER CLEAN OUT
		SAN. SEWER MANHOLE
		STORM DRAIN CATCH BASIN
		STORM DRAIN CULVERT
		STORM DRAIN MANHOLE
		DRY WELL
		AREA DRAIN
27		PROPOSED GRADE MAJOR CONTOUR (5.0' INTERVAL)
27		PROPOSED GRADE MINOR CONTOUR (1.0' INTERVAL)
		PROPOSED STORM DRAIN PIPE
		PROPOSED WATER PIPE
		PROPOSED SANITARY SEWER PIPE
		PROPOSED AC PAVEMENT
		PROPOSED CONCRETE SURFACING
		PROPOSED GRAVEL SURFACING
		PROPOSED BUILDING
		PROPOSED FENCE LINE
		PROPOSED ROAD CENTERLINE
		PROPOSED RIGHT-OF-WAY
	PL	PROPOSED PROPERTY LINE

CHANNELIZATION SYMBOLS

SYMBOL EXIST.	SYMBOL PROP.	DESCRIPTION
		BIKE PATH
		HANDICAP SYMBOL
STOP	STOP	STOP
		RAISED MARKERS:
		LANE MARKERS TYPE I
		LANE MARKERS TYPE II
		SIGN

MISCELLANEOUS SYMBOLS

SYMBOL EXIST.	SYMBOL PROP.	DESCRIPTION
		MONITORING WELL
		INLET PROTECTION PILLOW
		CONSTRUCTION ENTRANCE
FG 83.88		PROPOSED SPOT SHOT

TYPICAL SECTION CALLOUT

TYPICAL DETAIL CALLOUT

SF	PROPOSED SEDIMENT FENCE
OR OR	PROPOSED FLOW DIRECTION
	PROPOSED GRADE BREAK
	PROPOSED DITCH FLOW LINE
	PROPOSED COMPOST SOCK
	PROPOSED PAINT STRIPE
	PROPOSED TRUNCATED DOMES
	EXISTING FLOW DIRECTION
P	EXISTING OVERHEAD POWER
E_x	EXISTING UNDERGROUND POWER
T	EXISTING UNDERGROUND TELEPHONE
G	EXISTING UNDERGROUND GAS

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/04/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE

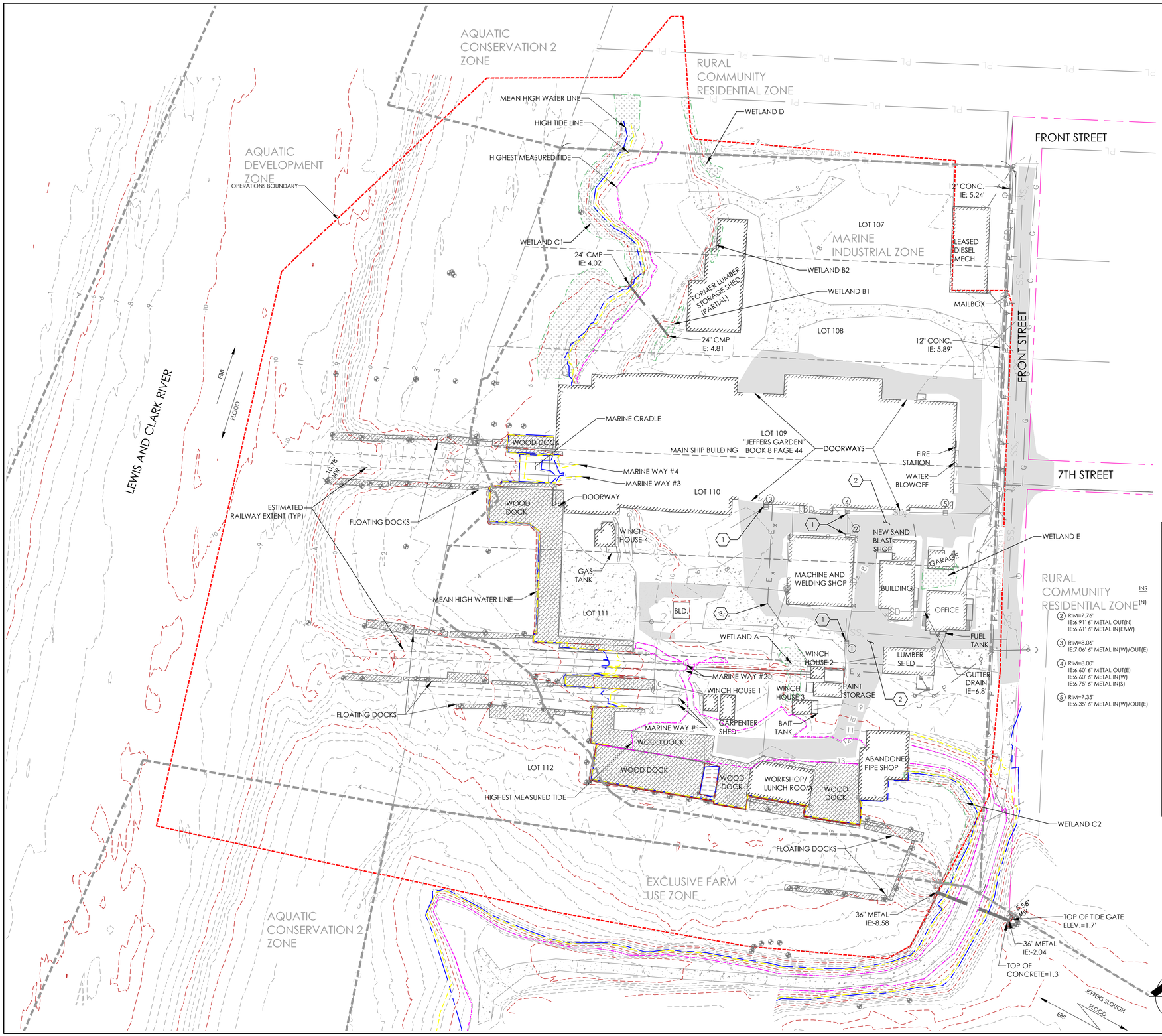
SHEET TITLE

MASTER LEGEND

SHEET

C 1.1

PLOTTED BY: Garrick Kalmeta RENAME: G:\00_MFA Civil 3D\00_PROJECTS\1298.04.03-AMCCO\PLANS\As-built\C1.1 MASTER LEGEND.dwg
PLOTTED ON: 2022-12-29 4:24 PM



EXISTING CONDITIONS LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- WETLAND
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE - 7.93' (NAVD 88)
- HIGH TIDE LINE - 8.63' (NAVD 88)
- HIGHEST MEASURED TIDE - 11.9' (NAVD 88)

EXISTING CONDITIONS NOTES

CONSTRUCTION NOTES

1. APPROXIMATE LOCATIONS OF KNOWN OR LOCATED BURIED UTILITIES AND SUBSURFACE FEATURES, AS WELL AS OVERHEAD POWER LINES WITHIN THE SITE ARE PRESENTED ON THE DRAWINGS. HOWEVER, THE CONTRACTOR SHALL ASSUME OTHER BURIED UTILITIES AND SUBSURFACE FEATURES COULD EXIST.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AVOIDANCE AND PROTECTION OF ALL UTILITIES AND OTHER SUBSURFACE FEATURES. CALL THE OREGON UTILITY NOTIFICATION CENTER AT 1-800-332-2344 AT LEAST SEVEN (7) BUSINESS DAYS BEFORE PERFORMING ANY SUBSURFACE WORK.
3. THE CONTRACTOR SHALL MAINTAIN A RECORD DRAWING SHOWING THE APPROXIMATE LOCATION OF ALL UTILITIES MARKED BY THE UTILITY LOCATING SERVICES FOR REFERENCE DURING THE COMPLETION OF WORK.
4. THE CONTRACTOR SHALL MAINTAIN MARKERS SHOWING THE GROUND LOCATION OF UTILITIES DURING THE EXECUTION OF WORK.
5. THE CONTRACTOR SHALL MARK THE LOCATION OF IN-WATER UTILITIES BY PLASTIC BUOYS.
6. THE CONTRACTOR SHALL NOTIFY ALL UTILITY PROVIDERS TWO WEEKS IN ADVANCE OF PERFORMING WORK NEAR UTILITIES OR WITHIN A UTILITY EASEMENT (IN PARTICULAR, THE HIGH PRESSURE WATER AND GAS LINES), AS IT IS ANTICIPATED THAT REPRESENTATIVES FROM UTILITY PROVIDERS MAY REQUEST TO BE PRESENT DURING THE WORK.
7. THE EXTENTS OF IN-WATER UTILITIES/FEATURES (I.E. RAILWAYS) ARE SHOWN APPROXIMATELY ON THIS PLAN, AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO START OF WORK.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY FIELD LOCATE AND PREVENT DAMAGE TO ALL UTILITIES AND SUBSURFACE FEATURES. IF ANY UTILITY OR SUBSURFACE FEATURES ARE DAMAGED, THEY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

KEYED NOTES

1. EXISTING STORMWATER SYSTEM CLOGGED AND NOT FUNCTIONING.
2. EXISTING FAILING PAVEMENT AREA
3. APPROXIMATE LOCATION OF 440V UNDERGROUND POWER.

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/06/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02

DESIGNED: C. GOKCORA

DRAWN: G. KALMETA

CHECKED: E. BAKKOM

SCALE

0 50' 100

NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE

EXISTING CONDITIONS PLAN

SHEET

C1.2

PLOTTED ON: 2022-12-29 6:24 PM PLOTTED BY: Gernick Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0298.04.03-AMCCO\PLANS\As-Built\C1.2 EXISTING CONDITIONS PLAN.dwg

DEQ 1200-C STANDARD NOTES

1. HOLD A PRE-CONSTRUCTION MEETING OF PROJECT CONSTRUCTION PERSONNEL THAT INCLUDES THE INSPECTOR TO DISCUSS EROSION AND SEDIMENT CONTROL MEASURES AND CONSTRUCTION LIMITS. (SCHEDULE A.8.C.I.(3))
2. ALL INSPECTIONS MUST BE MADE IN ACCORDANCE WITH DEQ 1200-C PERMIT REQUIREMENTS. (SCHEDULE A.12.B AND SCHEDULE B.1)
3. INSPECTION LOGS MUST BE KEPT IN ACCORDANCE WITH DEQ'S 1200-C PERMIT REQUIREMENTS. (SCHEDULE B.1.C AND B.2)
4. RETAIN A COPY OF THE ESCP AND ALL REVISIONS ON SITE AND MAKE IT AVAILABLE ON REQUEST TO DEQ, AGENT, OR THE LOCAL MUNICIPALITY. DURING INACTIVE PERIODS OF GREATER THAN SEVEN (7) CONSECUTIVE CALENDAR DAYS, THE ABOVE RECORDS MUST BE RETAINED BY THE PERMIT REGISTRANT BUT DO NOT NEED TO BE AT THE CONSTRUCTION SITE. (SCHEDULE B.2.C)
5. ALL PERMIT REGISTRANTS MUST IMPLEMENT THE ESCP. FAILURE TO IMPLEMENT ANY OF THE CONTROL MEASURES OR PRACTICES DESCRIBED IN THE ESCP IS A VIOLATION OF THE PERMIT. (SCHEDULE A 8.A)
6. THE ESCP MUST BE ACCURATE AND REFLECT SITE CONDITIONS. (SCHEDULE A.12.C.I)
7. SUBMISSION OF ALL ESCP REVISIONS IS NOT REQUIRED. SUBMITTAL OF THE ESCP REVISIONS IS ONLY UNDER SPECIFIC CONDITIONS. SUBMIT ALL NECESSARY REVISION TO DEQ OR AGENT WITHIN 10 DAYS. (SCHEDULE A.12.C.IV. AND V)
8. PHASE CLEARING AND GRADING TO THE MAXIMUM EXTENT PRACTICAL TO PREVENT EXPOSED INACTIVE AREAS FROM BECOMING A SOURCE OF EROSION. (SCHEDULE A.7.A.III)
9. IDENTIFY, MARK, AND PROTECT (BY CONSTRUCTION FENCING OR OTHER MEANS) CRITICAL RIPARIAN AREAS AND VEGETATION INCLUDING IMPORTANT TREES AND ASSOCIATED ROOTING ZONES, AND VEGETATION AREAS TO BE PRESERVED. IDENTIFY VEGETATIVE BUFFER ZONES BETWEEN THE SITE AND SENSITIVE AREAS (E.G., WETLANDS), AND OTHER AREAS TO BE PRESERVED, ESPECIALLY IN PERIMETER AREAS. (SCHEDULE A.8.C.I.(1) AND (2))
10. PRESERVE EXISTING VEGETATION WHEN PRACTICAL AND RE-VEGETATE OPEN AREAS. RE-VEGETATE OPEN AREAS WHEN PRACTICABLE BEFORE AND AFTER GRADING OR CONSTRUCTION. IDENTIFY THE TYPE OF VEGETATIVE SEED MIX USED. (SCHEDULE A.7.A.V)
11. MAINTAIN AND DELINEATE ANY EXISTING NATURAL BUFFER WITHIN THE 50-FEET OF WATERS OF THE STATE. (SCHEDULE A.7.B.I.AND (2(A)(B))
12. INSTALL PERIMETER SEDIMENT CONTROL, INCLUDING STORM DRAIN INLET PROTECTION AS WELL AS ALL SEDIMENT BASINS, TRAPS, AND BARRIERS PRIOR TO LAND DISTURBANCE. (SCHEDULE A.8.C.I.(5))
13. CONTROL BOTH PEAK FLOW RATES AND TOTAL STORMWATER VOLUME, TO MINIMIZE EROSION AT OUTLETS AND DOWNSTREAM CHANNELS AND STREAMBANKS. (SCHEDULE A.7.C)
14. CONTROL SEDIMENT AS NEEDED ALONG THE SITE PERIMETER AND AT ALL OPERATIONAL INTERNAL STORM DRAIN INLETS AT ALL TIMES DURING CONSTRUCTION, BOTH INTERNALLY AND AT THE SITE BOUNDARY. (SCHEDULE A.7.D.I)
15. ESTABLISH CONCRETE TRUCK AND OTHER CONCRETE EQUIPMENT WASHOUT AREAS BEFORE BEGINNING CONCRETE WORK. (SCHEDULE A.8.C.I.(6))
16. APPLY TEMPORARY AND/OR PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY ON ALL DISTURBED AREAS AS GRADING PROGRESSES. TEMPORARY OR PERMANENT STABILIZATIONS MEASURES ARE NOT REQUIRED FOR AREAS THAT ARE INTENDED TO BE LEFT UNVEGETATED, SUCH AS DIRT ACCESS ROADS OR UTILITY POLE PADS.(SCHEDULE A.8.C.II.(3))
17. ESTABLISH MATERIAL AND WASTE STORAGE AREAS, AND OTHER NON-STORMWATER CONTROLS. (SCHEDULE A.8.C.I.(7))
18. PREVENT TRACKING OF SEDIMENT ONTO PUBLIC OR PRIVATE ROADS USING BMPS SUCH AS: CONSTRUCTION ENTRANCE, GRAVELED (OR PAVED) EXITS AND PARKING AREAS, GRAVEL ALL UNPAVED ROADS LOCATED ONSITE, OR USE AN EXIT TIRE WASH. THESE BMPS MUST BE IN PLACE PRIOR TO LANDDISTURBING ACTIVITIES. (SCHEDULE A 7.D.II AND A.8.C.I(4))
19. WHEN TRUCKING SATURATED SOILS FROM THE SITE, EITHER USE WATER-TIGHT TRUCKS OR DRAIN LOADS ON SITE. (SCHEDULE A.7.D.II.(5))
20. CONTROL PROHIBITED DISCHARGES FROM LEAVING THE CONSTRUCTION SITE, I.E., CONCRETE WASH-OUT, WASTEWATER FROM CLEANOUT OF STUCCO, PAINT AND CURING COMPOUNDS. (SCHEDULE A.6)
21. USE BMPS TO PREVENT OR MINIMIZE STORMWATER EXPOSURE TO POLLUTANTS FROM SPILLS; VEHICLE AND EQUIPMENT FUELING, MAINTENANCE, AND STORAGE; OTHER CLEANING AND MAINTENANCE ACTIVITIES; AND WASTE HANDLING ACTIVITIES. THESE POLLUTANTS INCLUDE FUEL, HYDRAULIC FLUID, AND OTHER OILS FROM VEHICLES AND MACHINERY, AS WELL AS DEBRIS, FERTILIZER, PESTICIDES AND HERBICIDES, PAINTS, SOLVENTS, CURING COMPOUNDS AND ADHESIVES FROM CONSTRUCTION OPERATIONS. (SCHEDULE A.7.E.I.(2))
22. IMPLEMENT THE FOLLOWING BMPS WHEN APPLICABLE: WRITTEN SPILL PREVENTION AND RESPONSE PROCEDURES, EMPLOYEE TRAINING ON SPILL PREVENTION AND PROPER DISPOSAL PROCEDURES, SPILL KITS IN ALL VEHICLES, REGULAR MAINTENANCE SCHEDULE FOR VEHICLES AND MACHINERY, MATERIAL DELIVERY AND STORAGE CONTROLS, TRAINING AND SIGNAGE, AND COVERED STORAGE AREAS FOR WASTE AND SUPPLIES. (SCHEDULE A. 7.E.III.)
23. USE WATER, SOIL-BINDING AGENT OR OTHER DUST CONTROL TECHNIQUE AS NEEDED TO AVOID WIND-BLOWN SOIL. (SCHEDULE A 7.A.IV)
24. THE APPLICATION RATE OF FERTILIZERS USED TO REESTABLISH VEGETATION MUST FOLLOW MANUFACTURER'S RECOMMENDATIONS TO MINIMIZE NUTRIENT RELEASES TO SURFACE WATERS. EXERCISE CAUTION WHEN USING TIME-RELEASE FERTILIZERS WITHIN ANY WATERWAY RIPARIAN ZONE. (SCHEDULE A.9.B.III)
25. IF AN ACTIVE TREATMENT SYSTEM (FOR EXAMPLE, ELECTRO-COAGULATION, FLOCCULATION, FILTRATION, ETC.) FOR SEDIMENT OR OTHER POLLUTANT REMOVAL IS EMPLOYED, SUBMIT AN OPERATION AND MAINTENANCE PLAN (INCLUDING SYSTEM SCHEMATIC, LOCATION OF SYSTEM, LOCATION OF INLET, LOCATION OF DISCHARGE, DISCHARGE DISPERSION DEVICE DESIGN, AND A SAMPLING PLAN AND FREQUENCY) BEFORE OPERATING THE TREATMENT SYSTEM. OBTAIN PLAN APPROVAL BEFORE OPERATING THE TREATMENT SYSTEM. OPERATE AND MAINTAIN THE TREATMENT SYSTEM ACCORDING TO MANUFACTURER'S SPECIFICATIONS. (SCHEDULE A.9.D)
26. TEMPORARILY STABILIZE SOILS AT THE END OF THE SHIFT BEFORE HOLIDAYS AND WEEKENDS, IF NEEDED. THE REGISTRANT IS RESPONSIBLE FOR ENSURING THAT SOILS ARE STABLE DURING RAIN EVENTS AT ALL TIMES OF THE YEAR. (SCHEDULE A 7.B)
27. AS NEEDED BASED ON WEATHER CONDITIONS, AT THE END OF EACH WORKDAY SOIL STOCKPILES MUST BE STABILIZED OR COVERED, OR OTHER BMPS MUST BE IMPLEMENTED TO PREVENT DISCHARGES TO SURFACE WATERS OR CONVEYANCE SYSTEMS LEADING TO SURFACE WATERS. (SCHEDULE A 7.E.II.(2))
28. CONSTRUCTION ACTIVITIES MUST AVOID OR MINIMIZE EXCAVATION AND BARE GROUND ACTIVITIES DURING WET WEATHER. (SCHEDULE A.7.A.I)
29. SEDIMENT FENCE: REMOVE TRAPPED SEDIMENT BEFORE IT REACHES ONE THIRD OF THE ABOVE GROUND FENCE HEIGHT AND BEFORE FENCE REMOVAL. (SCHEDULE A.9.C.I)
30. OTHER SEDIMENT BARRIERS (SUCH AS BIOBAGS): REMOVE SEDIMENT BEFORE IT REACHES TWO INCHES DEPTH ABOVE GROUND HEIGHT AND BEFORE BMP REMOVAL. (SCHEDULE A.9.C.I)
31. CATCH BASINS: CLEAN BEFORE RETENTION CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT. SEDIMENT BASINS AND SEDIMENT TRAPS: REMOVE TRAPPED SEDIMENTS BEFORE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT AND AT COMPLETION OF PROJECT. (SCHEDULE A.9.C.III & IV)
32. WITHIN 24 HOURS, SIGNIFICANT SEDIMENT THAT HAS LEFT THE CONSTRUCTION SITE, MUST BE REMEDIATED. INVESTIGATE THE CAUSE OF THE SEDIMENT RELEASE AND IMPLEMENT STEPS TO PREVENT A RECURRENCE OF THE DISCHARGE WITHIN THE SAME 24 HOURS. ANY IN-STREAM CLEAN-UP OF SEDIMENT SHALL BE PERFORMED ACCORDING TO THE OREGON DIVISION OF STATE LANDS REQUIRED TIMEFRAME. (SCHEDULE A.9.B.I)
33. THE INTENTIONAL WASHING OF SEDIMENT INTO STORM SEWERS OR DRAINAGE WAYS MUST NOT OCCUR. VACUUMING OR DRY SWEEPING AND MATERIAL PICKUP MUST BE USED TO CLEANUP RELEASED SEDIMENTS. (SCHEDULE A.9.B.II)
34. THE ENTIRE SITE MUST BE TEMPORARILY STABILIZED USING VEGETATION OR A HEAVY MULCH LAYER, TEMPORARY SEEDING, OR OTHER METHOD SHOULD ALL CONSTRUCTION ACTIVITIES CEASE FOR 30 DAYS OR MORE. (SCHEDULE A.7.F.I)
35. PROVIDE TEMPORARY STABILIZATION FOR THAT PORTION OF THE SITE WHERE CONSTRUCTION ACTIVITIES CEASE FOR 14 DAYS OR MORE WITH A COVERING OF BLOWN STRAW AND A TACKIFIER, LOOSE STRAW, OR AN ADEQUATE COVERING OF COMPOST MULCH UNTIL WORK RESUMES ON THAT PORTION OF THE SITE. (SCHEDULE A.7.F.II)
36. DO NOT REMOVE TEMPORARY SEDIMENT CONTROL PRACTICES UNTIL PERMANENT VEGETATION OR OTHER COVER OF EXPOSED AREAS IS ESTABLISHED. ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED, ALL TEMPORARY EROSION CONTROLS AND RETAINED SOILS MUST BE REMOVED AND DISPOSED OF PROPERLY, UNLESS DOING SO CONFLICTS WITH LOCAL REQUIREMENTS. (SCHEDULE A.8.C.III(1) AND D.3.C.II AND III)

GENERAL EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE DEQ EROSION & SEDIMENT CONTROL MANUAL (2013) PRIOR TO THE START OF CONSTRUCTION AND INSTALLATION OF EROSION CONTROL BMPs.
2. THE CONTRACTOR SHALL PROVIDE AN EROSION AND SEDIMENT CONTROL INSPECTOR, A PROFESSIONAL WHO MEETS THE INSPECTOR QUALIFICATION REQUIREMENTS AS IDENTIFIED IN SCHEDULE A.12.b.iii.(1) and(2) OF 1200-C PERMIT.
3. ALL EROSION CONTROL BMPs SHALL BE INSTALLED AND MAINTAINED PER THE DEQ EROSION & SEDIMENT CONTROL MANUAL (JANUARY 2013).
4. APPROVAL OF THIS EROSION, SEDIMENT AND POLLUTION CONTROL PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES)
5. THE IMPLEMENTATION OF THIS ESPCP AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESPCP FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND LANDSCAPING IS ESTABLISHED AND INSPECTED.
6. THE ESPCP FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
7. THE ESPCP FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESPCP FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.
8. THE ESPCP FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
9. THE ESPCP FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF EVERY TWO WEEKS OR WITHIN THE 24 HOURS FOLLOWING A STORM EVENT AS DEFINED IN THE CITY OF PORTLAND EROSION CONTROL MANUAL.
10. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

STANDARD NOTES FOR SEDIMENT FENCES

1. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO MINIMIZE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST, OR OVERLAP 2 INCH X 2 INCH POSTS AND ATTACH AS SHOWN ON DETAIL SHEET 4.3-A.
2. THE FILTER FABRIC FENCE SHALL BE INSTALLED TO FOLLOW THE CONTOURS. THE FENCE POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND A MINIMUM OF 12 INCHES.
3. THE FILTER FABRIC SHALL HAVE A MINIMUM VERTICAL BURIAL OF 6 INCHES. ALL EXCAVATED MATERIAL FROM FILTER FABRIC FENCE INSTALLATION, SHALL BE BACKFILLED AND COMPACTED, ALONG THE ENTIRE DISTURBED AREA.
4. STANDARD OR HEAVY DUTY FILTER FABRIC FENCE SHALL HAVE MANUFACTURED STITCHED LOOPS FOR 2 INCH X 2 INCH POST INSTALLATION. STITCHED LOOPS SHALL BE INSTALLED ON THE UP HILL SIDE OF THE SLOPED AREA.
5. FILTER FABRIC FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY PROTECTED AND STABILIZED.
6. FILTER FABRIC FENCES SHALL BE INSPECTED BY AN OWNER APPROVED INSPECTOR IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

RECORD DRAWING

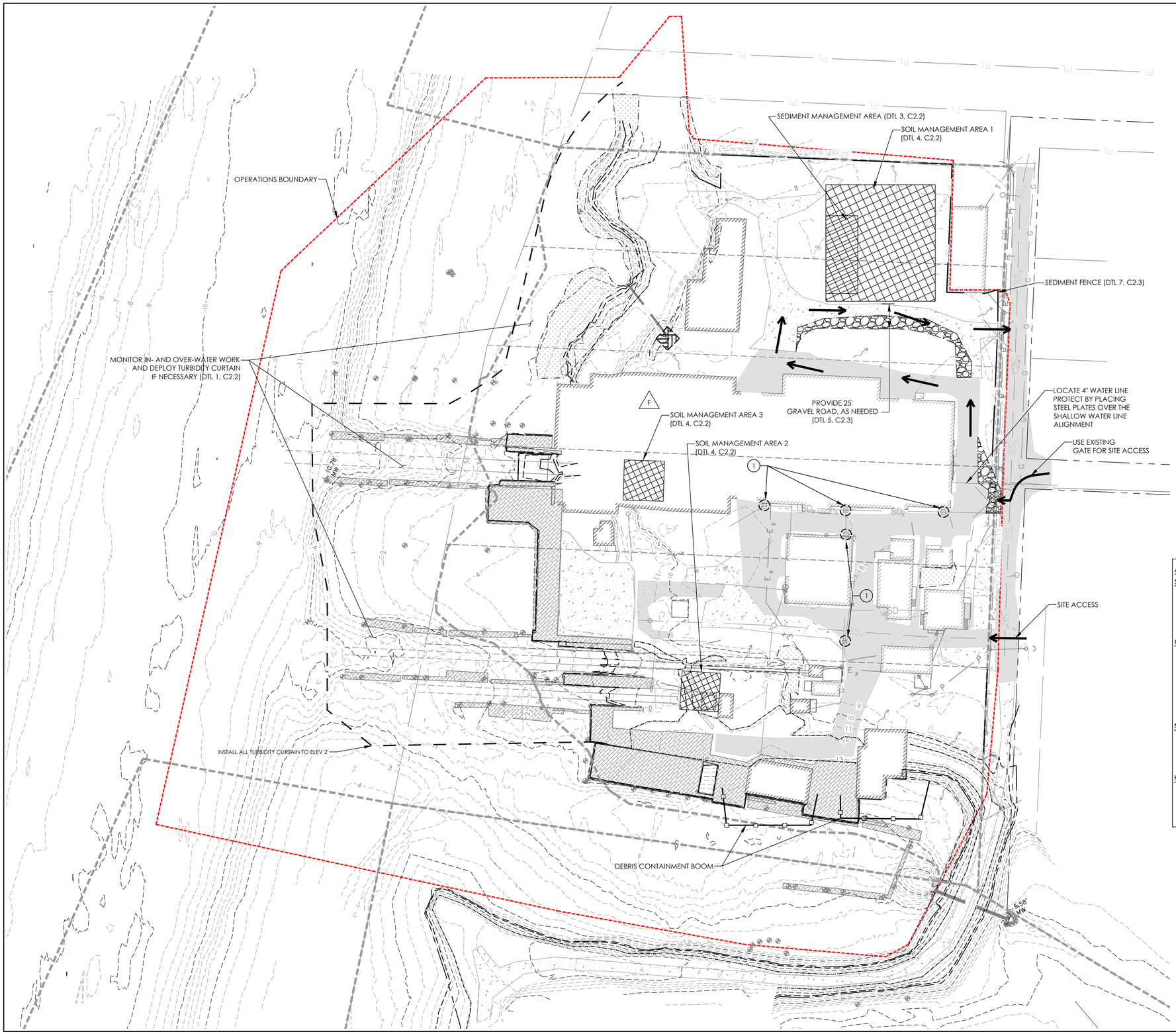
MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN
ASTORIA MARINE CONSTRUCTION CO.
ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/04/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
DRAWING NOT TO SCALE
SHEET TITLE
EROSION AND SEDIMENT CONTROL NOTES
SHEET
C2.0

PLOTTED ON: 2022-12-29 4:25 PM PLOTTED BY: Gerrick Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0298.04.03-AMCCO\PLANS\As-built\C2.0 EROSION AND SEDIMENT CONTROL NOTES.dwg



EROSION AND SEDIMENT CONTROL LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE
- MATERIAL STOCKPILE & STAGING AREA
- SEDIMENT MANAGEMENT CELL
- ACCESS ROAD
- IN-WATER WORK BOUNDARY
- CONTAINMENT BOOM
- FLOW DIRECTION ARROW
- SF — PROPOSED SEDIMENT FENCE
- PLUG INLET (5)
- INLET PROTECTION (1)

AMCCO EROSION AND SEDIMENT CONTROL NOTES

SEQUENCING

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO DEMOLITION OR EXCAVATION.
2. IN- AND OVER-WATER WORK WILL BE MONITORED BY THE PROJECT EROSION AND SEDIMENT CONTROL LEAD. IF NECESSARY, IN- AND OVER-WATER WORK STOPPAGE MAY BE REQUIRED IN ORDER TO DEPLOY A TURBIDITY CURTAIN.

CONSTRUCTION NOTES

1. ALL EROSION CONTROL MEASURES AND BEST MANAGEMENT PRACTICES (BMPS) SHALL MEET THE REQUIREMENTS OF THE DEQ 1200-C NPDES GENERAL PERMIT.
2. REFER TO SHEET C2.0 FOR DEQ STANDARD EROSION CONTROL PRACTICES.
3. OFF-SITE STREET SWEEPING WILL BE REQUIRED DAILY WHEN TRUCKS ARE ENTERING AND EXITING THE SITE IF THERE IS OBSERVABLE TRACKING OF MUD FROM THE SITE.
4. INLET PROTECTION SHALL BE PERIODICALLY INSPECTED FOR SEDIMENT ACCUMULATION AND REPLACED WHEN SEDIMENT ACCUMULATION EXCEEDS HALF OF THE CONE DEPTH.

MATERIALS (AND EQUIPMENT)

1. DEBRIS CONTAINMENT BOOM TO BE 10" BOOM WITH 22 OZ. PVC FABRIC.
2. STOCKPILE COVERS SHALL BE IMPLEMENTED FOR ALL ON SITE STORAGE OF SOIL, LONG- OR SHORT-TERM, AND SHALL BE, AT A MINIMUM, 6 MIL THICK U.V. PROTECTED BLACK PLASTIC SHEETING.

KEYED NOTES

1. ABANDON STORMWATER INLETS. CONTRACTOR TO REMOVE STRUCTURE AND FILL WITH CRUSHED ROCK. ALTERNATIVELY, CONTRACTOR MAY CUT, CAP, AND GROUT THE STORMWATER FACILITIES. GRATES SHOULD BE REMOVED AND CAPPED IN ACCORDANCE WITH THE PLANS.

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

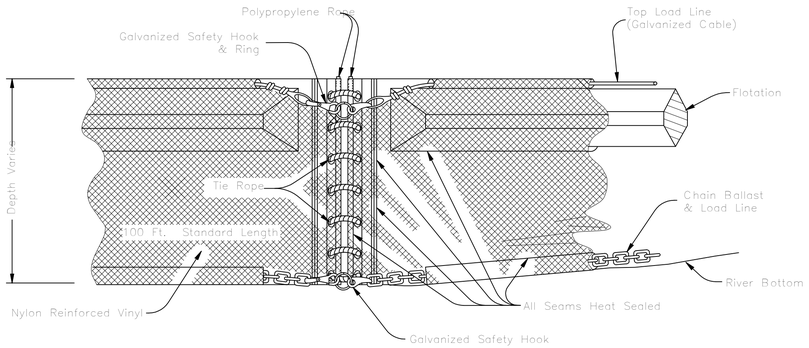
ISSUE	DATE	DESCRIPTION
B	01/04/2023	RECORD DRAWING DOCUMENT
A	03/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
0 50' 100
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
EROSION AND SEDIMENT CONTROL PLAN

SHEET
C2.1

PLOTTED ON: 2022-12-29 4:23 PM PLOTTED BY: Gianca Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0298\04.03-AMCCO\PLANS-A-Builts\C2.1 EROSION AND SEDIMENT CONTROL PLAN.dwg

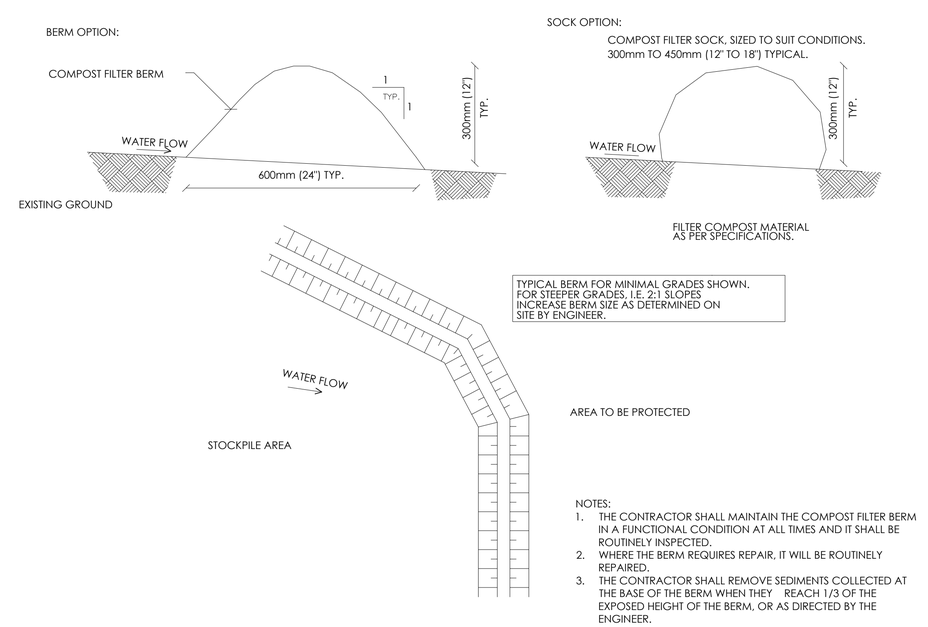


1 / C2.1 TURBIDITY CURTAIN DETAIL

NOT TO SCALE

NOTE:

1. TURBIDITY CURTAIN SHALL BE USED AS APPROVED IN THE SECTION 401 CERTIFICATION.
2. TURBIDITY CURTAIN SHALL BE INSTALLED 50' NORTH AND 50' SOUTH FROM THE EXCAVATION WORK AREA, (AS SHOWN IN DETAIL 2 ON THIS SHEET).
3. AS THE EXCAVATION AREA MOVES ALONG THE BANK, THE TURBIDITY CURTAIN SHALL MOVE AND BE INSTALLED AS SHOWN IN THE FIGURE.
4. CONTRACTOR SHALL MAINTAIN CURTAIN DEPLOYMENT CONFIGURATION DURING WORK ACTIVITIES AS OFTEN AS NECESSARY.

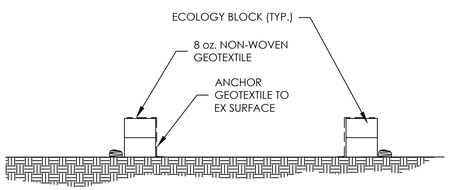


NOTES:

1. THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTER BERM IN A FUNCTIONAL CONDITION AT ALL TIMES AND IT SHALL BE ROUTINELY INSPECTED.
2. WHERE THE BERM REQUIRES REPAIR, IT WILL BE ROUTINELY REPAIRED.
3. THE CONTRACTOR SHALL REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE BERM WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OF THE BERM, OR AS DIRECTED BY THE ENGINEER.

2 / C2.1 COMPOST SOCK DETAIL

NOT TO SCALE

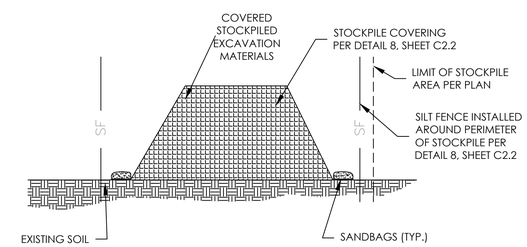


3 / C2.1 SEDIMENT MANAGEMENT CELL DETAIL

NOT TO SCALE

SEDIMENT MANAGEMENT CELL NOTES

1. SEDIMENT MANAGEMENT CELL TO BE USED SOLELY FOR STORING OF WET SEDIMENT EXCAVATED FROM SATURATED AREAS.
2. SEDIMENT MANAGEMENT CELL SHALL BE CONSTRUCTED WITH AN ECOLOGY BLOCK PERIMETER.
3. ECOLOGY BLOCKS ARE TO BE STACKED 2-3 COURSES HIGH.
4. TOTAL SEDIMENT VOLUME TO BE MANAGED IS ROUGHLY 1,350 CY. DEPENDENT ON STAGING AND RATE OF EVAPORATION 2 TO 3 COURSES SHALL BE USED AS NEEDED.
5. AS SEDIMENT SETTLES, SUPERNATANT WATER MAY BE SPRAYED ONTO NEARBY STOCKPILES FOR DUST CONTROL. REMAINING SEDIMENT TO DEWATER PRIOR TO OFF-SITE DISPOSAL OF SEDIMENT.



STOCKPILE AREA NOTES

1. INSTALL SEDIMENT FENCING, COMPOST SOCKS AND OTHER BMPs AS NECESSARY TO PREVENT SEDIMENT LADEN RUNOFF FROM EXITING THE STOCKPILE AREA.
2. STOCKPILE COVER TO BE DEPLOYED DURING HEAVY RAIN/WIND AND WHEN STOCKPILE WILL NOT BE USED FOR MORE THAN 48 HOURS. COVER MATERIAL SHALL BE DEPLOYED AS SHOWN ON DETAIL 8, SHEET C2.2.
3. PERIMETER SILT FENCING REMOVED FOR ACCESS TO THE STOCKPILE AREA SHALL BE REPLACED AT THE END OF EACH WORKING DAY, THE PERIMETER SHALL REMAIN COMPLETELY ENCLOSED DURING NON-WORKING HOURS.
4. STOCKPILES PLACED OUTSIDE OF THE PRIMARY STOCKPILE AREA SHALL BE PLACED ON 6 MIL (MINIMUM THICKNESS) PLASTIC SHEETING.
5. SEE SHEET C7.1 FOR SOIL HANDLING NOTES AND DETAILS.

4 / C2.1 CROSS SECTION VIEW FOR PERVIOUS SURFACE

NOT TO SCALE

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

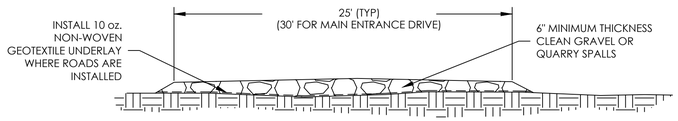
ISSUE	DATE	DESCRIPTION
B	01/06/2023	RECORD DRAWING DOCUMENT
A	03/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
DRAWING NOT TO SCALE

SHEET TITLE
EROSION AND SEDIMENT CONTROL DETAILS I

SHEET
C2.2

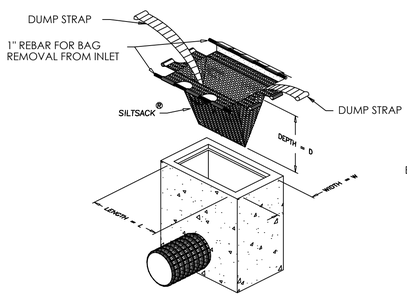
PLOTTED ON: 2022-12-29 4:23 PM PLOTTED BY: Gianca Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0298\04\03-AMCCO\PLANS\As-Builts\C2.2 EROSION AND SEDIMENT CONTROL DETAILS I.dwg

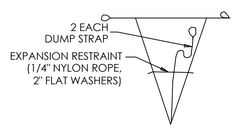


ACCESS / CIRCULATION ROAD NOTES

1. ACCESS AND INTERNAL CIRCULATION ROADS SHALL BE CLEARED OF VEGETATION OR OTHER DEBRIS PRIOR TO PLACEMENT OF GRAVEL SURFACE.
2. GRAVEL SHALL BE KEPT REGULARLY WETTED TO PREVENT AIRBORNE DUST FROM DEVELOPING DURING CONSTRUCTION.
3. GRAVEL MAY BE USED TO BACKFILL HOT SPOT EXCAVATIONS AS WORK PROGRESSES AND HAUL ROADS ARE NO LONGER REQUIRED.
4. HAUL ROADS SHALL BE INSTALLED AS NEEDED TO PREVENT SITE SOIL DUST OVER CONSTRUCTION AREAS.

5 / C2.1 TEMPORARY GRAVEL ACCESS ROAD
NOT TO SCALE

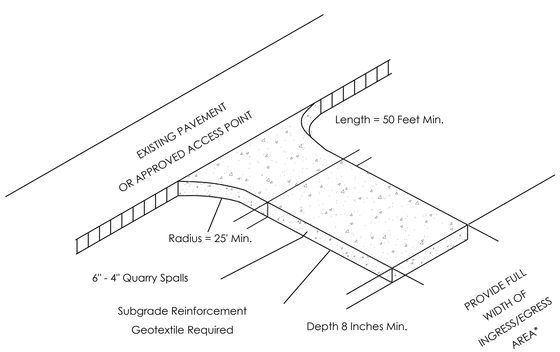




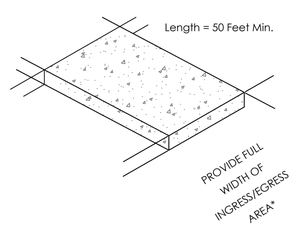
BAG DETAIL

Regular Flow Only
Do not use High Flow Insert Bags.

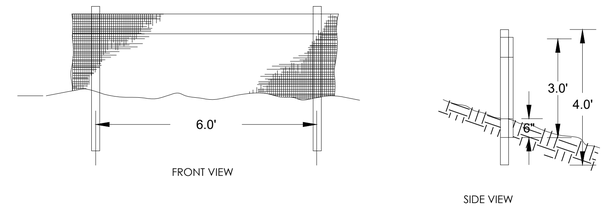
6 / C2.1 STORMWATER INLET PROTECTION
NOT TO SCALE

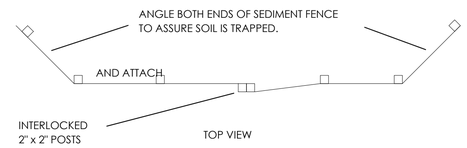


CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE



CONSTRUCTION EXIT DETAIL

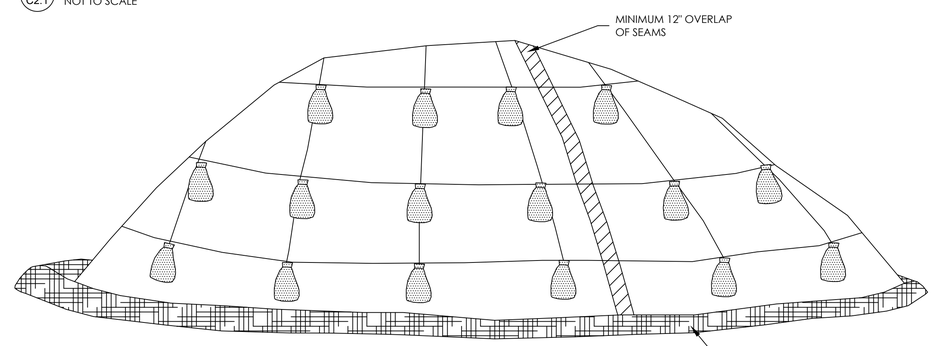




NOTES:
1. BURY BOTTOM OF FILTER FABRIC 6" MIN. VERTICALLY BELOW GRADE.
2. 2" x 2" FIR, PINE, OR STEEL FENCE POSTS.
3. STITCHED LOOPS TO BE INSTALLED UPHILL SIDE OF SLOPE.
4. COMPACT NATIVE FILL IN ALL AREAS OF FILTER FABRIC TRENCH.

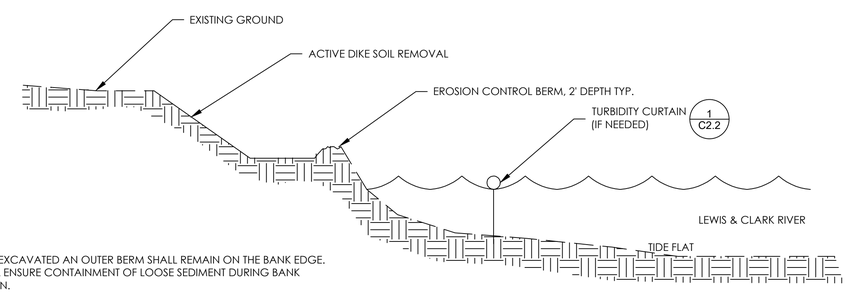
4. SEDIMENT FENCING SHALL BE INSTALLED ON CONTOUR.

7 / C2.1 SEDIMENT FENCE DETAIL
NOT TO SCALE



1. MINIMUM 12" OVERLAP OF ALL SEAMS REQUIRED.
2. BARRIER REQUIRED AT TOE OF STOCKPILE AREA.
3. COVERING SHALL BE MAINTAINED TIGHTLY IN PLACE BY USING SAND BAGS OR TIRES ON ROPES WITH A MAXIMUM OF 10' GRID SPACING IN ALL DIRECTIONS.
4. STOCKPILE COVERING SHALL BE BLACK PLASTIC WITH U.V. PROTECTION

8 / C2.1 STOCKPILE COVER DETAIL
NOT TO SCALE



NOTES:

1. AS BANK IS EXCAVATED AN OUTER BERM SHALL REMAIN ON THE BANK EDGE. BERM SHALL ENSURE CONTAINMENT OF LOOSE SEDIMENT DURING BANK EXCAVATION.

10 / C2.1 EROSION CONTROL BERM DETAIL
NOT TO SCALE

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

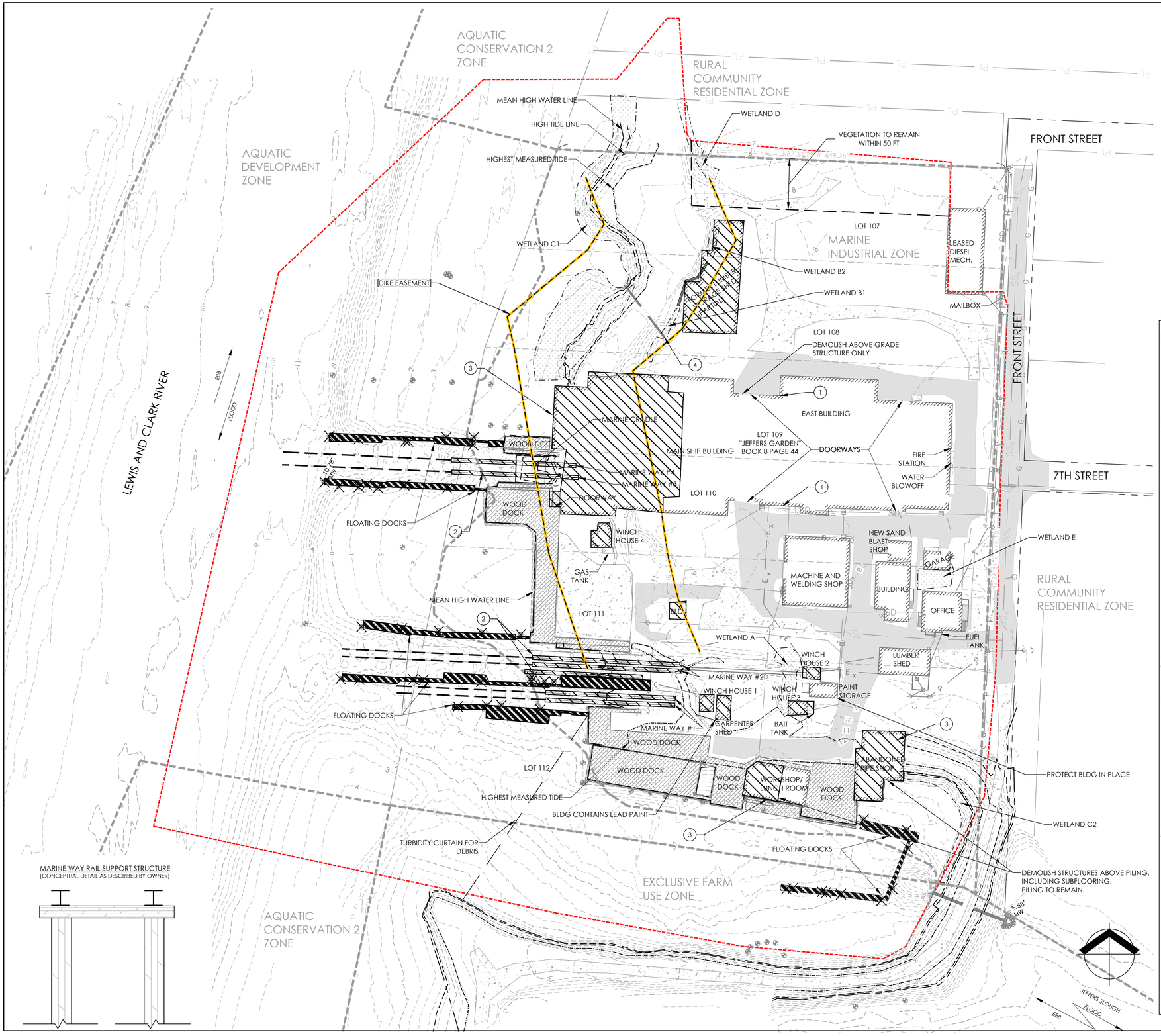
SSUE	DATE	DESCRIPTION
B	01/06/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
DRAWING NOT TO SCALE

SHEET TITLE
EROSION AND SEDIMENT CONTROL DETAILS II

SHEET
C2.3

PLOTTED BY: Garrick Kalmeta FILENAME: G:\10_MFA Civil 3D\10_PROJECTS\1653\01.AMCCO\1.AR\1.As-built\C2.3 EROSION AND SEDIMENT CONTROL DETAILS II.dwg
PLOTTED ON: 2022-12-29 4:26 PM



DEMOLITION LEGEND

- REMOVE DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- DEMOLISH EXISTING STRUCTURE
- DEMOLISH EXISTING DIKES AND PILE
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE - 7.93' NAVD88
- HIGH TIDE LINE - 8.63' NAVD88
- HIGHEST MEASURED TIDE - 11.9' NAVD88
- DIKE EASEMENT
- TURBIDITY CURTAIN

DEMOLITION NOTES

SEQUENCING

1. ALL APPROPRIATE EROSION CONTROL BMPS, AS IDENTIFIED ON SHEET C2.1 SHALL BE IN PLACE AND APPROVED BY THE ENGINEEER, PRIOR TO START OF DEMOLITION WORK.
2. CONTRACTOR, ENGINEER AND OWNER SHALL ATTEND A PRE-DEMOLITION MEETING TO REVIEW THE CONDITION OF ALL STRUCTURES TO BE DEMOLISHED.
3. DEMOLITIONS AND TEMPORARY STRUCTURE RELOCATION SHALL OCCUR PRIOR TO OTHER SITE REMEDIATION ACTIVITIES.

CONSTRUCTION NOTES

1. CONTRACTOR SHALL CONDUCT A HAZARDOUS BUILDING MATERIALS SURVEY PRIOR TO DEMOLITION OF STRUCTURES.
2. CONTRACTOR SHALL SALVAGE OR DISPOSE OF ALL MATERIAL REMAINING IN BUILDINGS TO BE DEMOLISHED AND LOOSE WITHIN THE CONSTRUCTION YARD.
3. CONTRACTOR MAY SALVAGE MATERIALS FROM DEMOLISHED STRUCTURES TO THE EXTENT PRACTICAL.
4. POTENTIALLY CONTAMINATED MATERIALS OR THOSE THAT CANNOT BE SALVAGED SHALL BE DISPOSED OF OR MANAGED IN ACCORDANCE WITH OREGON STATE LAW.
5. CONTRACTOR SHALL DEMOLISH STRUCTURES IN A SAFE MANNER CONSISTENT WITH INDUSTRY STANDARD PRACTICES.
6. CONTRACTOR SHALL REMOVE MARINE WAY FLOATS DURING REMEDIATION WORK. FLOATS SHALL BE DISPOSED OF WITH DEMOLITION DEBRIS.
7. CONTRACTOR SHALL REMOVE MARINE WAY RAILS WITHIN THE SEDIMENT EXCAVATION AREAS AND INSIDE THE MAIN SHIP BUILDING. RAILS EXTENDING OUTSIDE OF THESE LIMITS MAY BE REMOVED AT THE CONTRACTOR'S OPTION.
8. CONTRACTOR SHALL REMOVE THE MARINE WAY RAIL SUPPORT STRUCTURE WITHIN THE SEDIMENT EXCAVATION AREAS. THE OWNER REPORTS THAT THE STRUCTURE CONSISTS OF A CROSS TIE SITTING ON TOP OF A SINGLE PILE. THE CONTRACTOR SHALL REMOVE THE OVERLYING STEEL RAIL FROM THE SITE. CROSS TIMBERS AND AT LEAST THE UPPER 5 FEET OF SUPPORT RAILS SHALL BE PULLED TO FACILITATE SEDIMENT EXCAVATION TO A MAXIMUM DEPTH OF 4.0' BELOW MUDLINE.
9. PILINGS IDENTIFIED FOR REMOVAL SHALL BE PULLED IN A MANNER CONSISTENT WITH THE SLOPES IV IN-WATER OVER-WATER STRUCTURES MANUAL.

MATERIALS (AND EQUIPMENT)

1. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND MATERIALS NECESSARY TO SAFELY DEMOLISH STRUCTURES AND MANAGE THE RESULTING DEBRIS.

SUBMITTALS

1. PRECONSTRUCTION SUBMITTALS

   THE CONTRACTOR SHALL PROVIDE A DESCRIPTION OF THE STRUCTURE REMOVAL APPROACH(ES) THAT WILL BE UTILIZED AND THE METHOD OF VERIFYING THAT A NEAT SURFACE HAS BEEN LEFT. THE PLAN SHALL INCLUDE A DESCRIPTION OF THE MEASURES TO BE IMPLEMENTED TO CONTROL THE RELEASE OF STRUCTURE DEBRIS AND OTHER SMALL WOOD FRAGMENTS THAT MAY RESULT.

2. CONSTRUCTION SUBMITTALS

   THE CONTRACTOR SHALL PROVIDE RECEIPTS OF DISPOSAL FROM THE DISPOSAL FACILITY TO THE ENGINEER WITHIN THIRTY (30) DAYS OF THE REMOVAL AND DISPOSAL ACTIVITIES. THE RECEIPT SHALL SHOW THE MEASURED NET WEIGHT OF MATERIAL DISPOSED OF. UPON COMPLETION OF REMOVAL AND DISPOSAL ACTIVITIES, THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER, IN WRITING, THAT ALL MATERIALS WERE EITHER DISPOSED OF AT A DEQ-APPROVED DISPOSAL FACILITY OR APPROPRIATELY SALVAGED/RECYCLED.

KEYED NOTES

1. THE OWNER INTENDS TO KEEP THE LANDWARD PORTION OF THE MAIN SHIP BUILDING. CONTRACTOR SHALL TAKE NECESSARY STEPS TO SEPARATE THE RIVERWARD PORTION OF THE BUILDING, ALLOWING FOR ITS CONTROLLED REMOVAL. OWNER SHALL BE RESPONSIBLE FOR MAKING REPAIRS TO THE REMAINING LANDWARD PORTION OF THE BUILDING. EXTENTS OF THE STRUCTURE DEMOLITION WILL BE EVALUATED BY THE STRUCTURAL CONSULTANT PRIOR TO START OF CONSTRUCTION.
2. IF DEEMED NECESSARY BY THE ENGINEER, A CONTAINMENT BOOM SHALL BE EMPLOYED DURING ALL PILING REMOVAL ACTIVITIES. THE BOOM SHALL ENCIRCLE THE AREAS WHERE PILINGS ARE BEING REMOVED. THIS BOOM SHALL ALSO SERVE TO COLLECT ANY FLOATING DEBRIS. OIL ABSORBENT MATERIALS SHALL BE EMPLOYED IF VISIBLE PRODUCT IS OBSERVED. THE BOOMS SHALL REMAIN IN PLACE UNTIL ALL OILY MATERIAL AND FLOATING DEBRIS HAVE BEEN COLLECTED AND THE SHEENS HAVE DISSIPATED.
3. CONTRACTOR SHALL PROVIDE A MEANS TO CONTAIN DEBRIS RESULTING FROM THE DEMOLITION OF OVER-WATER STRUCTURES, AND PREVENT ITS DISCHARGE TO THE SHORELINE UNDER THE STRUCTURE. CONTAINMENT METHODS SHOULD BE CONSISTENT WITH STANDARD INDUSTRY PRACTICES, AND MAY INCLUDE CONTAINMENT BOOM, DEBRIS NETTING, OR OTHER APPROPRIATE MEASURES.
4. CONTRACTOR SHALL CLEARLY MARK THE EXISTING TIDE GATE TO PROTECT IT FROM ANY DAMAGE DURING CONSTRUCTION. THE TIDE GATE SHALL BE RESTORED TO THE PRE-CONSTRUCTION CONDITIONS IMMEDIATELY, IF DAMAGED.

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN
ASTORIA MARINE CONSTRUCTION CO.
ASTORIA, OREGON

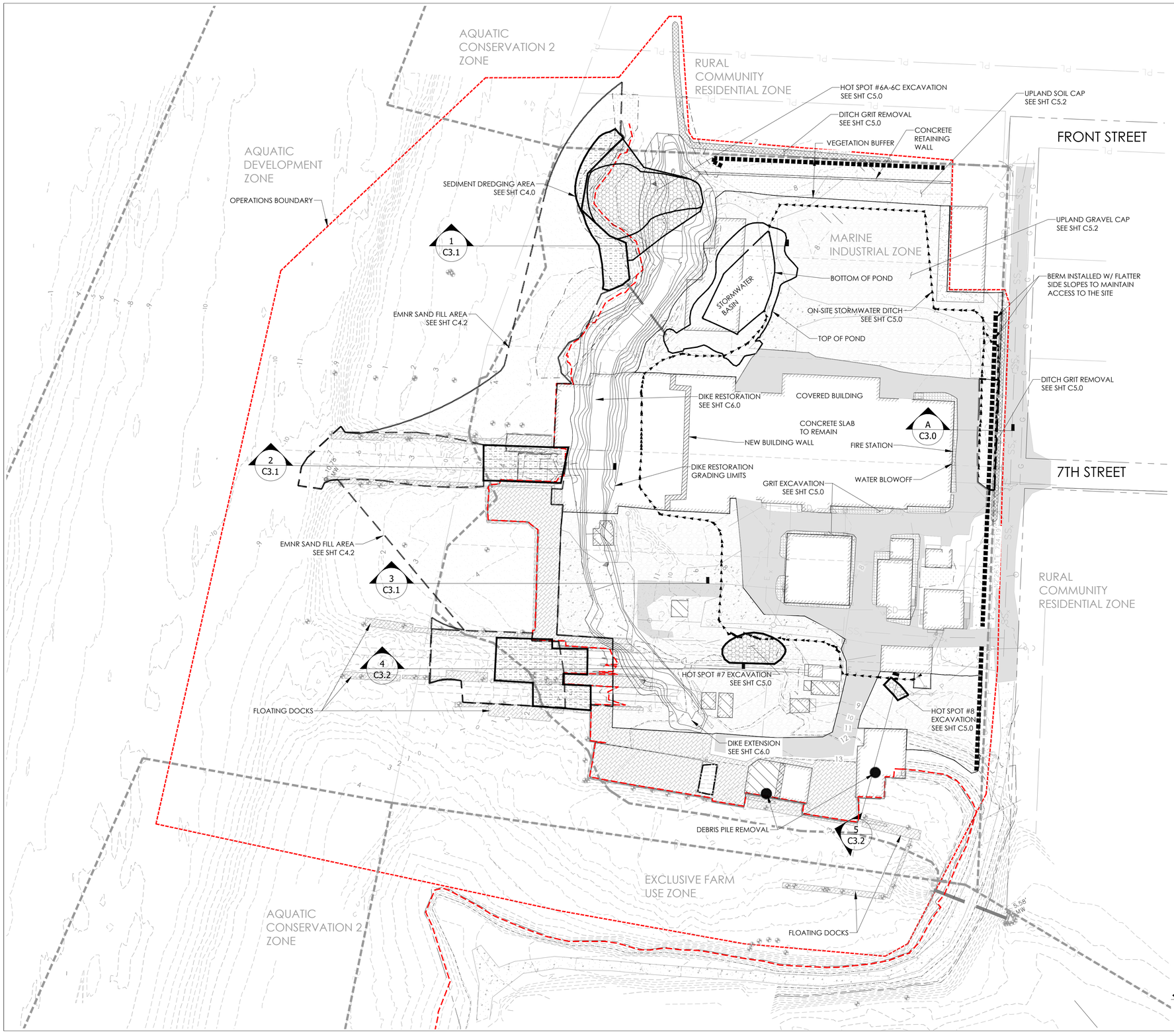
ISSUE	DATE	DESCRIPTION
B	01/06/2023	RECORD DRAWING DOCUMENT
A	03/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE: 0 50' 100
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
DEMOLITION PLAN

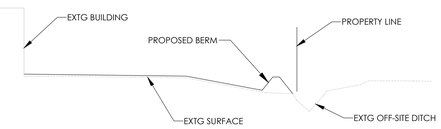
SHEET
C2.4

PLOTTED ON: 2020-12-29 4:26 PM PLOTTED BY: Garrick Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\02981\04\03-AMCCO\PLANS\A-Builds\C2.4 DEMOLITION PLAN.dwg



REMEDIATION PLAN LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- UPLAND GRAVEL CAP
- UPLAND SOIL CAP
- HOT SPOT EXCAVATION
- GRIT EXCAVATION
- EMNR SAND FILL
- SEDIMENT DREDGING
- BERM
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE - 7.93' (NAVD 88)
- HIGH TIDE LINE - 8.63' (NAVD 88)
- HIGHEST MEASURED TIDE - 11.9' (NAVD 88)



A C3.0 CROSS SECTION VIEW
NOT TO SCALE

REMEDIATION NOTES

SEQUENCING

1. INSTALL EROSION CONTROL MEASURES PRIOR TO EARTH DISTURBING ACTIVITIES (SHEETS C2.0 THROUGH C2.3)
2. DEMOLITION OF SITE STRUCTURES/FEATURES (SHEET C2.4)
   a. PERFORM HAZARDOUS BUILDING MATERIALS (HBM) ASSESSMENT
   b. ISOLATE/CONTAIN AREA UNDER OVER-WATER STRUCTURES
   c. ABATE MATERIALS AS DETERMINED IN HBM
   d. DISPOSE OF DEMOLITION WASTE OFFSITE AS DEBRIS
3. COMPLETE SEDIMENT EXCAVATION/BACKFILL (SHEET C4.0), PRIOR TO INSTALLATION OF EMNR SAND LAYER (SHEET C5.1).
   a. STOCKPILE/DEWATER SATURATED SEDIMENT
4. EXCAVATE UPLAND HOT-SPOTS (SHEET C5.0).
   a. STOCKPILE HOT-SPOT SOIL
   b. TREAT DESIGNATED SOIL
   c. DISPOSE OF EXCAVATED/TREATED SOIL/SEDIMENT AT OFFSITE SUBTITLE D LANDFILL
5. BACKFILL EXCAVATION #6A-6C TO MATCH EXISTING GRADE (SHEET C5.0) AND VEGETATE
6. PREPARE SUBGRADE AND ESTABLISH DRAINAGE PATTERNS (SHEET C5.1)
   a. EXCAVATION OF STORMWATER BASIN
   b. STORMWATER DITCHES
   c. BACKFILL OF EXCAVATIONS #7 AND #8 USING ON-SITE MATERIALS
7. CONSTRUCT DIKE EXTENSION/IMPROVEMENTS (SHEETS C6.0 AND C6.1)
8. CONSTRUCT UPLAND CAPS (SHEET C4.2)
   a. CLEAN SOIL CAP AT LANDSCAPE BUFFER
   b. PAVEMENT OVERLAY
   c. GRAVEL CAP
9. VEGETATE SITE
   a. DIKE EXCAVATION AREA
   b. DIKE CONSTRUCTION AREA
   c. LANDSCAPE BUFFER.

CONSTRUCTION NOTES

1. SEQUENCING LISTED ON THIS SHEET IS ENGINEER'S RECOMMENDATION, WILL BE DISCUSSED WITH THE CONTRACTOR AND CAN BE ADJUSTED/MODIFIED PER CONTRACTOR'S RECOMMENDATIONS.
2. EXCAVATION #6A-6C SHALL BE BACKFILLED WITH CLEAN MATERIAL MEETING DIKE FILL REQUIREMENTS.
3. EXCAVATIONS #7 AND #8 SHOULD BE BACKFILLED USING SOILS GENERATED ON SITE DURING SUB-GRADE PREPARATION.
4. LIMITS OF ASPHALT OVERLAY TO BE CONFIRMED.

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

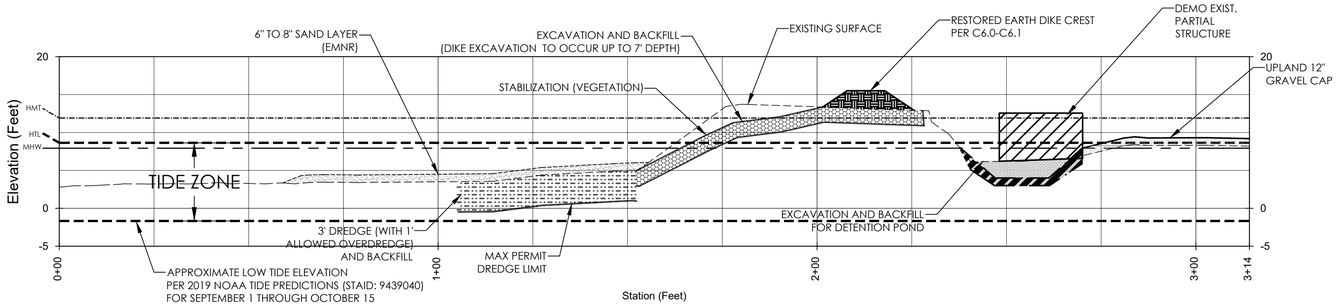
ISSUE	DATE	DESCRIPTION
B	01/06/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE 0 50' 100'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

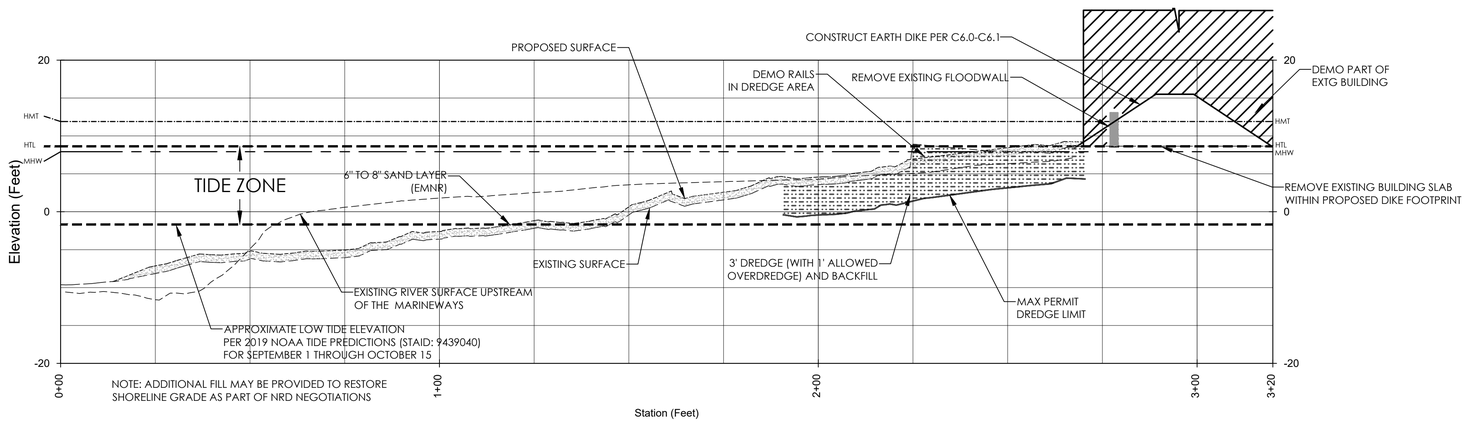
SHEET TITLE
REMEDIATION PLAN

SHEET
C3.0

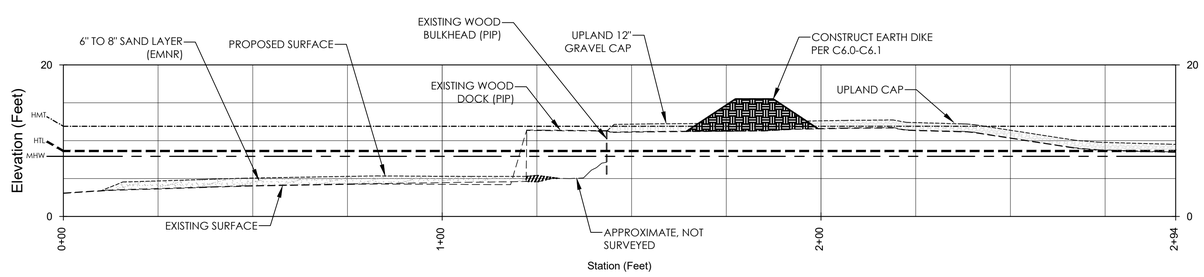
PLOTTED ON: 2023-01-05 8:52 AM PLOTTED BY: Cem Gokcora FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0298.04.03-AMCCO\PLANS\A-Bulb\C3.0 REMEDIATION PLAN.dwg



1 C3.0 HORIZONTAL SCALE 1" = 20' VERTICAL SCALE 1" = 10'
VERTICAL EXAGGERATION: 2



2 C3.0 HORIZONTAL SCALE 1" = 20' VERTICAL SCALE 1" = 10'
VERTICAL EXAGGERATION: 2



3 C3.0 HORIZONTAL SCALE 1" = 20' VERTICAL SCALE 1" = 10'
VERTICAL EXAGGERATION: 2

LEGEND

- MEAN HIGH WATER LINE - 7.93' (NAVD 88)
- HIGH TIDE LINE - 8.63' (NAVD 88)
- HIGHEST MEASURED TIDE - 11.9' (NAVD 88)

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN
ASTORIA MARINE CONSTRUCTION CO.
ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/06/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

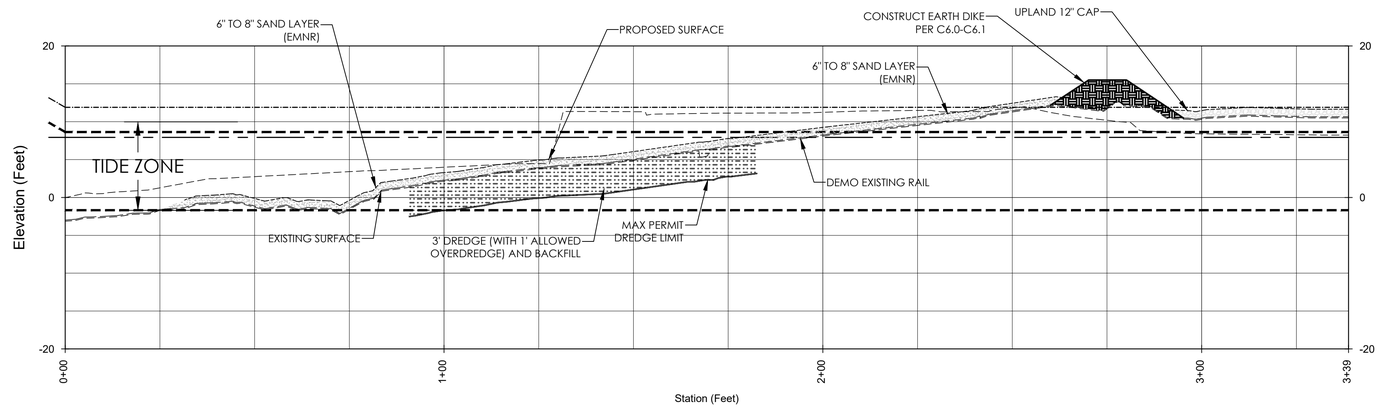
PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
0 20' 40'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
REMEDIATION CROSS-SECTIONS

SHEET
C3.1

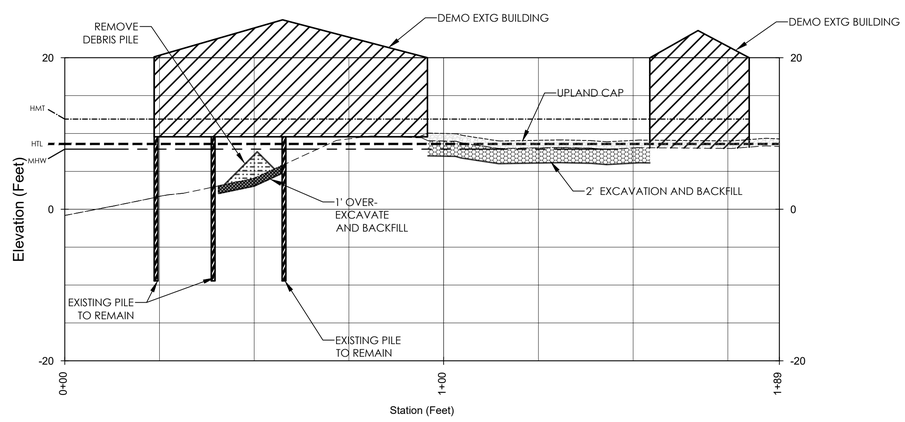
RECORD DRAWING

PLOTTED ON: 2020-12-29 6:27 PM PLOTTED BY: Gianck Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0298.04.03-AMCCO\PLANS\A-Built\C3.1 REMEDIATION CROSS-SECTIONS.dwg



4
C3.0

HORIZONTAL SCALE 1" = 20' VERTICAL SCALE 1" = 10'
VERTICAL EXAGGERATION: 2



5
C3.0

HORIZONTAL SCALE 1" = 20' VERTICAL SCALE 1" = 10'
VERTICAL EXAGGERATION: 2

LEGEND

- MEAN HIGH WATER LINE - 7.93' (NAVD 88)
- HIGH TIDE LINE - 8.63' (NAVD 88)
- HIGHEST MEASURED TIDE - 11.9' (NAVD 88)

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/04/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

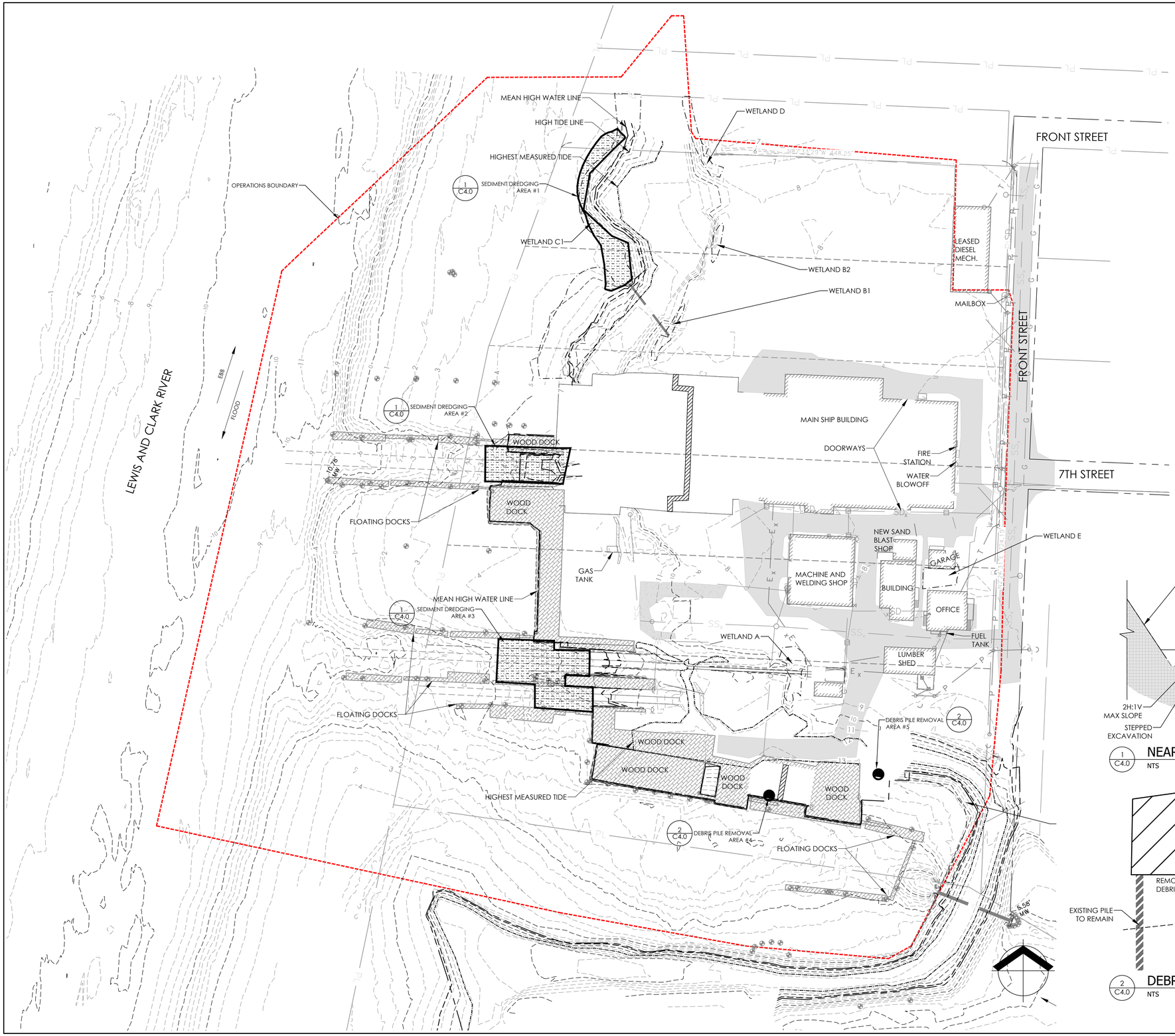
PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
0 20' 40'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
REMEDIATION CROSS SECTIONS II

SHEET
C3.2

RECORD DRAWING

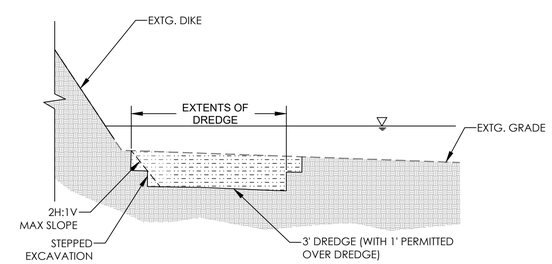
PLOTTED ON: 2022-12-29 4:28 PM PLOTTED BY: Garrick Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0298.04.03-AMCCO\PLANS\As-built\C3.2 REMEDIATION CROSS SECTIONS II.dwg



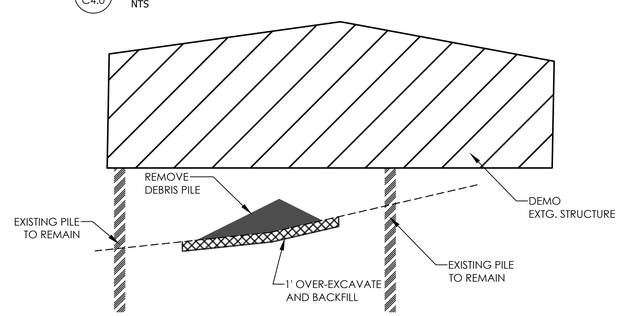
SEDIMENT DREDGING PLAN LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- SEDIMENT DREDGING
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE - 7.93' (NAVD88)
- HIGH TIDE LINE - 8.63' (NAVD88)
- HIGHEST MEASURED TIDE - 11.9' (NAVD88)

SEE SHEET C4.1 FOR SEDIMENT DREDGING NOTES



1 / C4.0 NEAR SHORE SEDIMENT DREDGE
NTS



2 / C4.0 DEBRIS PILE REMOVAL
NTS

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN
ASTORIA MARINE CONSTRUCTION CO.
ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/6/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
0 50' 100
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
SEDIMENT DREDGING PLAN

SHEET
C4.0

PLOTTED BY: Gianna Kalmeta FILENAME: G:\05_MFA Civil 3D\00_PROJECTS\0298.03-AMCCO\PLANS\As-built\C4.0 SEDIMENT DREDGING PLAN.dwg
PLOTTED ON: 2022-12-29 4:29 PM

SEDIMENT DREDGING NOTES

SEQUENCING

1. SEDIMENT EXCAVATION/DREDGING SHALL ONLY BE PERFORMED AFTER COMPLETING DEMOLITION OF MARINE WAY RAIL STRUCTURES AND OVER-WATER STRUCTURES (FORMER WORKSHOP AND ABANDONED PIPE SHOP).
2. A SHORELINE DEBRIS SURVEY SHALL BE CONDUCTED BY THE FIELD ENGINEER AND CONTRACTOR SUPERINTENDENT PRIOR TO THE START OF DREDGE ACTIVITIES IN EACH AREA. THE SURVEY WILL BE CONDUCTED AT LOW TIDE WHEN THE ENTIRE EXTENT OF THE DREDGE AREA IS NOT SUBMERGED. OTHER DEBRIS, IF ENCOUNTERED WITHIN THE DREDGE PRISM, WILL BE REMOVED BY THE CRANE DERRICK AND PLACED ON THE MATERIALS BARGE FOR DISPOSAL.
3. SEDIMENT EXCAVATION/DREDGING SHALL ONLY BE CONDUCTED DURING LOW TIDE CONDITIONS, AND BACKFILLED IMMEDIATELY TO MINIMIZE THE POTENTIAL RELEASE OF TURBIDITY ASSOCIATED WITH DISTURBED FINE SEDIMENTS. THE DAILY PROGRESS OF MUDFLAT EXCAVATION MUST BE LIMITED TO THE AREA THAT CAN REASONABLY BE EXCAVATED AND BACKFILLED DURING A SINGLE TIDAL CYCLE.
4. EXCAVATED SEDIMENT MUST BE STAGED IN A DEWATERING CELL FOR THE PERIOD OF TIME THAT IS NECESSARY TO ALLOW ENTRAINED WATER TO DRAIN, AND TO ALLOW THE CONTAMINATED MATERIAL TO PASS THE PAINT-FILTER TEST FOR LANDFILL DISPOSAL.

DREDGING NOTES

1. DREDGING IS ANTICIPATED TO BE PERFORMED WITH STRICT ADHERENCE TO A SET OF OPERATIONAL BMPS TO BE DEVELOPED BY THE CONTRACTOR AND THE ENGINEER TO REDUCE THE POTENTIAL FOR GENERATION OF TURBIDITY AND RELEASE FROM THE WORK AREA IN EXCESS OF THE WATER QUALITY CERTIFICATION LIMITS. THE USE OF WORK AREA ISOLATION (I.E. TURBIDITY CURTAIN) IS NOT CURRENTLY RELIED IN THE CONCEPTUAL DESIGN UPON BECAUSE OF THE SIGNIFICANT EFFORT THAT WOULD BE REQUIRED TO MAINTAIN THE CURTAIN IN THE TIDAL ENVIRONMENT IN SHALLOW WATERS.
2. DREDGING OF NEAR-SHORE HIGHLY CONTAMINATED SEDIMENTS WITHIN THE LEWIS AND CLARK RIVER IS REQUIRED TO BE PERFORMED TO A DEPTH OF 3-FEET BELOW THE EXISTING MUDLINE, WITH A 1-FOOT OVERDREDGE.
3. REMOVAL OF DEBRIS PILES FROM THE SHORELINE UNDER THE FORMER PIPE-SHOP AND MAINTENANCE SHOP IS EXPECTED TO BE CONDUCTED FOLLOWING THE REMOVAL OF THE OVERLYING STRUCTURES. REMOVAL OF THE DEBRIS PILE IS ANTICIPATED TO A DEPTH OF APPROXIMATELY 1-FOOT BELOW THE SURROUNDING GRADE OF SEDIMENT. ADDITIONAL DEBRIS THAT IS OBSERVED BELOW THE DEFINED DREDGE TARGET SHALL ALSO BE REMOVED.
4. LEWIS AND CLARK NEAR SHORE SEDIMENTS HAVE BEEN CLASSIFIED AS SILTS AND CLAYS WITH LOW TO MEDIUM PLASTICITY.
5. DEBRIS PILE MATERIALS HAVE BEEN CLASSIFIED AS WOOD AND METALLIC DEBRIS UNDERLAIN BY SILT.
6. THE DREDGING LIMITS HAVE BEEN AGREED TO WITH DEQ WITH THE UNDERSTANDING THAT WORK CAN BE PERFORMED WITH LAND BASED EQUIPMENT FROM THE SHORELINE. WATER BASED EQUIPMENT MAY BE USED, HOWEVER TIDE CYCLES AND DREDGE/BACKFILL SEQUENCE MUST BE ANTICIPATED IN PROPOSALS.
7. ENGINEERING OVERSIGHT WILL BE CONTINUOUS DURING DREDGING TO CONFIRM THAT BMPS ARE IMPLEMENTED AND TO VERIFY CONFORMANCE WITH THE DREDGING DESIGN.
8. ESTIMATED QUANTITIES FOR EACH SEDIMENT EXCAVATION AREA ARE AS FOLLOWS:

	Sed Excavation #1 (Burn Pit)	Sed Excavation #2 (MW #3)	Sed Excavation #3 (MW #1-2)	Sed Excavation #4 (Coffee Shop Debris Pile)	Sed Excavation #5 (Pipe Shop Debris Pile)
Area (SF)	2630	3375	4850	100 (EST)	100(EST)
Target Depth Below Existing (ft)	3	3	3	1	1
Overdredge Depth Below Existing (ft)	4	4	4	N/A	N/A
Target Volume (cy)	370	420	610	15	10
Max Volume (w/ Overdredge) (cy)	520	580	840	N/A	N/A
Wetlands (Y/N)	Y	N	N	N	N

9. WATER QUALITY
   a. WATER QUALITY REQUIREMENTS SPECIFIED IN THE WATER QUALITY CERTIFICATION MUST BE SATISFIED WHILE WORKING IN WATER.
   b. CONTRACTOR SHALL EMPLOY OPERATIONAL AND ENGINEERING CONTROLS AS NECESSARY TO MEET DOWNGRADIENT LIMITS THAT ARE ESTABLISHED IN THE CERTIFICATION.
   c. OPERATIONAL WATER QUALITY BMPS MAY INCLUDE:
   i. CONDUCTING EXCAVATION WORK ONLY IN THE DRY, I.E. AT LOW WATER CONDITIONS.
   ii. TO THE EXTENT POSSIBLE, THE DAILY EXCAVATION SHALL BE FULLY BACKFILLED PRIOR TO BEING SUBMERGED BY INCOMING TIDE.
   iii. FOR WORK IN SUBMERGED CONDITIONS, UTILIZE CRANE DERRICK WITH ENVIRONMENTAL CLAMSHELL BUCKETS (SEE MATERIALS AND EQUIPMENT NOTES) TO LIMIT THE GENERATION OF TURBIDITY AND POTENTIALLY CONTAMINATED SUSPENDED RESIDUALS.
   iv. FIXED-ARM EXCAVATORS TO PERFORM WORK FROM THE SHORELINE.
   v. RTK-GPS ON THE EXCAVATOR FOR BUCKET POSITIONING IS PREFERRED.
   vi. INDIVIDUAL GRABS SHALL BE LIMITED IN DEPTH TO PREVENT OVERFILLING OF THE BUCKET AND SPILLAGE OF EXCAVATED MATERIAL ONTO THE SHORELINE.
   vii. EXCAVATION SHALL BE COMPLETED IN LIFTS CORRESPONDING TO THE CAPABILITIES OF THE PROPOSED BUCKET. ALL EXCAVATIONS SHALL UTILIZE STAIR-STEPPING (AS SHOWN IN DETAIL ON THIS SHEET) AT THE EDGES TO PREVENT HIGH SIDEWALL CONDITIONS (>1-FOOT) WHICH MAY LEAD TO LOCALIZED SLOPE FAILURE.
   d. ENGINEERING WATER QUALITY BMPS MAY INCLUDE:
   i. TURBIDITY CURTAIN MAY BE DEPLOYED AND MAINTAINED AS NECESSARY TO SATISFY DOWNGRADIENT TURBIDITY REQUIREMENTS AND PREVENT DISPERSAL OF WORK AREA TURBIDITY WHEN EXCAVATIONS ARE COMPLETED IN SUBMERGED CONDITIONS (I.E. DREDGING), OR WHEN OPERATIONAL BMPS ARE NOT ACHIEVING DESIRED RESULTS.
   ii. IF TURBIDITY CURTAIN IS DEPLOYED, THE CONTRACTOR SHALL MANAGE THE CURTAIN EXTENTS DURING THE INCOMING AND OUTGOING TIDE TO PREVENT SIGNIFICANT BILLOWING AND DISTURBANCE OF UNDERLYING RIVERBED SEDIMENT.

10. METHODS

SEDIMENT EXCAVATION (IN THE DRY) WILL BE PERFORMED USING THE FOLLOWING METHODS:

- LONG REACH EXCAVATOR (60-FOOT BOOM)
- FLAT-LIP EXCAVATION BUCKET WITH 3 CUBIC YARD CAPACITY
- PLACEMENT OF A SURVEY STAKE AND FLOAT TO INDICATE THE LIMITS OF THE SEDIMENT DREDGE PRISM
- EXCAVATION WITHIN AN AREA WILL ONLY BE CONDUCTED ON DAYS WHERE THE LOW TIDE IS PREDICTED TO BE WITHIN 1-FOOT OF THE LOWEST ELEVATION IN THE EXCAVATION.
- THE EXCAVATION EDGES WILL BE SLOPED AT A 1H:1V OR STAIR STEPPED IN 1-FOOT INCREMENTS (OR OTHER NECESSARY INCREMENT) TO MINIMIZE DESTABILIZATION OF THE REMAINING SAND AND PREVENT SATURATED SAND FROM FLOWING INTO THE EXCAVATION TO THE EXTENT POSSIBLE.
- THE EXCAVATOR WILL BE LOCATED ON A STABLE PLATFORM SO THAT IT WILL BE ABOVE WATER AT HIGH-TIDE.
- THE EXCAVATION WILL BE ALLOWED TO BE CONDUCTED IN AN AREA THAT CAN BE BACKFILLED WITH CLEAN SAND BEFORE THE RETURNING TIDE.
- THE EXCAVATION DEPTH WILL BE VERIFIED USING A CONSTRUCTION LEVEL OR GPS EQUIPMENT WITH A BASE-STATION.
- BACKFILL SAND WILL BE BUCKET PLACED INTO THE EXCAVATION BY THE EXCAVATOR FROM THE LOWEST ELEVATION WORKING TOWARD THE SHORE.
- IN AN EMERGENCY SITUATION, THE OPEN EXCAVATION FOOTPRINT SHOULD BE COVERED WITH AT LEAST 1-FOOT OF SAND.
- TURBIDITY CURTAIN WILL BE MAINTAINED AT THE WORK SITE FOR USE IN THE EVENT THAT THE TIDE RETURNS BEFORE THE EXCAVATION CAN BE BACKFILLED.

   a. SEDIMENT DREDGING
   i. THE TARGET ELEVATION IDENTIFIED WITHIN A SEDIMENT EXCAVATION AREA IS THE MINIMUM ELEVATION TO WHICH THE EXCAVATION MUST BE COMPLETED. THE OVERDREDGE ELEVATION IS THE MAXIMUM DEPTH OF EXCAVATION WHICH MAY BE COMPLETED IN ACCORDANCE WITH PROJECT PERMITS.
   ii. THE CONTRACTOR SHALL NOT VIOLATE THE OVERDREDGE ELEVATION THAT IS APPROVED WITHIN THE PERMITS.
   iii. THE CONTRACTOR SHALL DREDGE SEDIMENTS USING THE OPERATIONAL BMPS THAT ARE DEFINED ABOVE.
   iv. THE ENGINEER DOES NOT ANTICIPATE THE NEED TO OBTAIN SAMPLES OF THE DREDGED SURFACE PRIOR TO BACKFILL PLACEMENT.
   b. DEBRIS PILES
   i. THE CONTRACTOR SHALL REMOVE THE CONTENTS OF THE DEBRIS PILES TO AN ELEVATION THAT IS APPROXIMATELY 1-FOOT BELOW THE SURROUNDING SEDIMENTS.
   ii. DEBRIS PILE CONTENTS SHALL BE KEPT SEGREGATED FROM OTHER DREDGE SPOILS AND CONTAINERIZED FOR DISPOSAL AFTER FREE WATER HAS BEEN ELIMINATED.

11. DEWATERING
   a. SEDIMENTS SHALL BE DEWATERED ONSITE PRIOR TO DISPOSAL IN A DEWATERING CELL. DISPOSAL MATERIALS MUST SATISFY LANDFILL REQUIREMENTS (INCLUDING PAINT-FILTER) PRIOR TO TRUCKING.
   b. DEWATERING SHALL BE CONDUCTED VIA GRAVITY AND CONSOLIDATION WITHIN A CELL CONSISTING OF CONCRETE BLOCK WALLS AND LINED WITH 6-OZ NON-WOVEN GEOTEXTILE FABRIC (BOTTOM & SIDES). DECANT WATER IS CURRENTLY ANTICIPATED TO INFILTRATE AND/OR DISCHARGE THROUGH THE CONTAINMENT WALL TO THE STORMWATER CONVEYANCE DITCH. INSTALL A GABION BASKET FILLED WITH OYSTER SHELL IN THE DRAINAGE DITCH ON THE UPGRADIENT SIDE OF THE STORMWATER DETENTION FACILITY. DECANT WATER MAY BE DISCHARGED TO THE ONSITE SURFACE WATER MANAGEMENT SYSTEM AND THROUGH THE TIDE GATE.
   c. FOR SEDIMENT THAT IS DREDGED TO A BARGE TO OVER-WATER TRANSPORT, CONSTRUCT STRAWBALE "MAZE" INCLUDING STRAWBALE CHECK DAMS TERMINATING WITH A FILTER BASKET FILLED WITH OYSTER SHELL PRIOR TO FLOWING OFF THE BARGE THROUGH THE SCUPPERS.
   d. THE CONTRACTOR SHALL PROVIDE DETAILS OF THE DEWATERING CELL CONSTRUCTION AND MANAGEMENT IN THE CONSTRUCTION WORK PLAN.

BACKFILL NOTES

1. SEDIMENT EXCAVATIONS SHALL BE FULLY BACKFILLED TO THE PRE-EXISTING GRADE BEFORE INUNDATION BY THE RETURNING TIDE.
2. SEDIMENT EXCAVATIONS SHALL BE BACKFILLED WITH CLEAN IMPORTED DREDGE SAND SATISFYING IMPORT CRITERIA.

MATERIALS AND EQUIPMENT

1. FIXED-ARM EXCAVATOR CAPABLE OF REACHING THE DEFINED EXTENTS OF DREDGING FROM THE SHORELINE.
2. WORK IN DRY CONDITIONS MAY BE CONDUCTED WITH STANDARD OPEN BUCKETS, WITH A FLAT FACE (NO TEETH).
3. WORK THAT MUST BE CONDUCTED IN WET CONDITIONS MUST USE AN ENVIRONMENTAL CLAMSHELL BUCKET. CLAMSHELL BUCKET SHALL FULLY CONTAIN CONTENTS WHEN CLOSED (FULLY ENCLOSED), AND PROVIDE ADEQUATE VENTING. BUCKETS WITH TEETH SHALL BE AVOIDED, UNLESS APPROVED BY THE ENGINEER.
4. BACKFILL AND EMNR SAND SHOULD BE
   a. DREDGE SAND WITH LOW FINES CONTENT
   b. SATISFY IMPORT REQUIREMENTS FOR CONTAMINANT LEVELS.
   i. SEE SEDIMENT CLEAN FILL CRITERIA AS LISTED IN THE DESIGN MEMO.

SUBMITTALS

1. A PORTION OF THE REQUIRED CONTRACTOR'S WORK PLAN SHALL OUTLINE MATERIALS, EQUIPMENT, AND METHODS TO BE USED DREDGE CONTAMINATED NEAR-SHORE SEDIMENT AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THESE SPECIFICATIONS. DESCRIPTIONS SHALL INCLUDE:
   a. LIST OF ALL EQUIPMENT (NAMES, TYPE, SIZE, ETC.).
   b. LIST OF ALL POTENTIAL DREDGE OPERATORS (NAMES, EXPERIENCE, ETC.).
   c. SUMMARY OF DREDGING PROCEDURES.
   d. SUMMARY OF UPLAND SEDIMENT HANDLING PROCEDURES.
   e. SUMMARY OF UPLAND SEDIMENT DEWATERING FACILITIES AND PROCEDURES.
   f. OPERATIONAL BMPS TO BE IMPLEMENTED DURING DREDGING, INCLUDING ALTERNATIVE BMPS TO BE CONSIDERED.
2. THE CONTRACTOR'S WORK PLAN SHALL DESCRIBE SEDIMENT PROCESSING TO ENSURE THAT ALL SEDIMENTS MEET LANDFILL CRITERIA FOR PAINT-FILTER.

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

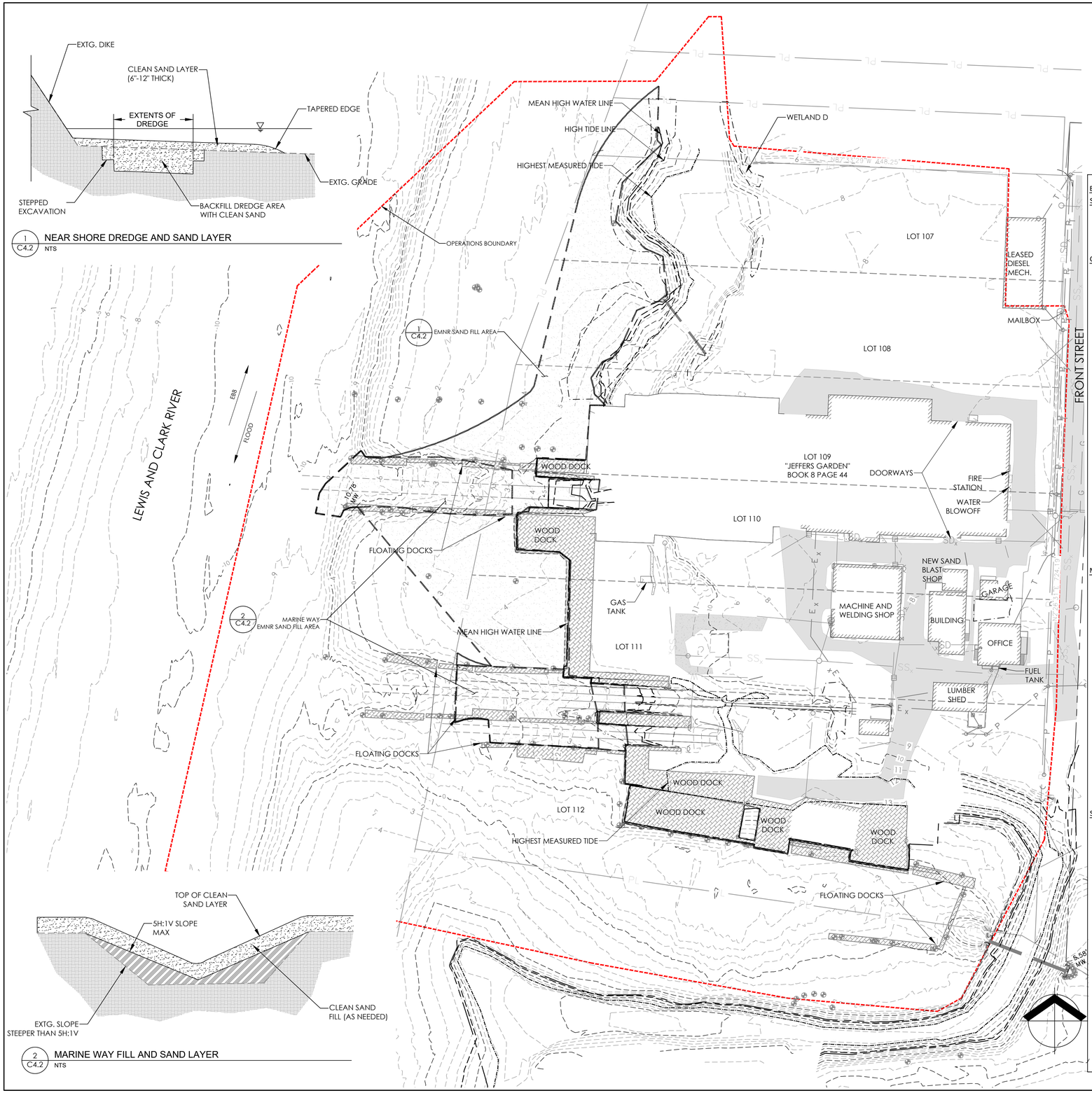
ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/04/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
DRAWING NOT TO SCALE
SHEET TITLE
SEDIMENT DREDGING NOTES
SHEET
C4.1

PLOTTED ON: 2022-12-29 6:29 PM PLOTTED BY: Garrick Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\1298.04.03-AMCCO\PLANS\As-built\C4.1 SEDIMENT DREDGING NOTES.dwg



REMEDIATION PLAN LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- EMNR SAND FILL
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE
- HIGH TIDE LINE
- HIGHEST MEASURED TIDE

ENMR SAND FILL NOTES

SEQUENCING

1. SEDIMENT EXCAVATION AND BACKFILL IN THE LEWIS AND CLARK RIVER WORK AREA SHALL BE COMPLETE PRIOR TO PLACEMENT OF THE EMNR MATERIALS.
2. EMNR SAND SHOULD GENERALLY BE PLACED FROM UPSTREAM TO DOWNSTREAM.
3. EMNR SAND SHOULD BE PLACED STARTING AT THE GREATEST DEPTH IN THE PLACEMENT AREA, MOVING TO THE SHALLOWEST LOCATION.

CONSTRUCTION NOTES

1. EMNR SAND IS REQUIRED TO BE PLACED IN AREAS OF THE LEWIS AND CLARK RIVER WHERE VEGETATION MAY OR MAY NOT EXIST. EMNR SAND SHOULD BE PLACED USING A METHOD THAT WILL GRADUALLY SPREAD THE SAND OVER AN AREA WITHOUT SIGNIFICANT DAMAGE TO VEGETATION THAT MAY REMAIN IN PLACE. THE ENGINEER ANTICIPATES THESE METHODS TO UTILIZE AN AERIAL BROADCASTING APPROACH, SUCH AS TELEBELT CONVEYOR, THIN LAYER CLAMSHELL SPREAD, SLURRY SPRAY.
2. SAND SHOULD BE PLACED BY MECHANICAL MEANS - UNLESS HYDRAULIC PLACEMENT METHODS ARE DEMONSTRATED TO NOT DISPLACE OR SUSPEND THE EXISTING SEDIMENT BED.
3. PROVIDE CLEAN EQUIPMENT FOR THE PLACEMENT AND TRANSPORT OF ALL EMNR MATERIALS.
4. PRIOR TO EMNR SAND PLACEMENT ACTIVITIES, OBTAIN VERIFICATION FROM ENGINEER THAT DREDGING IN AN AREA IS COMPLETE.
5. DEMONSTRATE THE PROPOSED EMNR PLACEMENT METHOD IN A PILOT TEST, WITH EVIDENCE PROVIDED TO THE ENGINEER CONSISTING OF RAIN BUCKETS OR SEDIMENT CORES (CLAM GUN), OR OTHER APPROVED METHOD. CORRECTIONS TO APPLICATION METHODOLOGY SHALL BE MADE AND VERIFIED PRIOR TO GOING FULL SCALE.
6. ESTIMATE THE VOLUME OR TONNAGE OF SAND MATERIAL REQUIRED TO BE PLACED IN EACH GRID APPROVAL UNIT AREA TO SATISFY THE DESIGN REQUIREMENT. CONTRACTOR SHALL MONITOR THE PLACEMENT OF EMNR SAND QUANTITY TO DEMONSTRATE THAT THE REQUIRED THICKNESS OF SAND HAS BEEN PLACED.
7. PRIOR TO START OF CONSTRUCTION, THE ENGINEER AND CONTRACTOR SHALL AGREE ON A MEANS OF DEMONSTRATING SUCCESSFUL PLACEMENT TO THE THICKNESS AND LIMITS DESCRIBED IN THE DRAWINGS FOR PURPOSES OF CERTIFYING COMPLETION FOR DEQ. THESE MEANS MAY INCLUDE A COMBINATION OF THE FOLLOWING: DOCUMENTATION OF TONNAGE/VOLUME OF EMNR DELIVERED TO THE SITE, ENGINEER OBSERVATION OF PLACEMENT, PHYSICAL MEASUREMENT (SEDIMENT CORES/RAIN BUCKETS), AND/OR BATHYMETRY.
8. THE MATERIAL SHALL BE PLACED EVENLY AND METHODICALLY IN ORDER TO ACHIEVE THE SAND THICKNESS SPECIFIED BELOW:
   a. THE DESIRED EMNR SAND LAYER IN VEGETATED AREAS IS 6 TO 8 INCHES.
   b. THE DESIRED EMNR SAND LAYER IN NON-VEGETATED AREAS IS 6 TO 12 INCHES.
9. PLACEMENT OF THE EMNR SAND MATERIAL SHALL BE CONDUCTED IN A CONTROLLED AND ACCURATE MANNER IN SUCH A WAY AS TO CONTROL TURBIDITY TO THE REQUIRED LEVELS SPECIFIED IN THE WATER QUALITY PLAN.
10. EMNR SAND SHOULD BE PLACED STARTING AT THE GREATEST DEPTH IN THE PLACEMENT AREA AND MOVING TO THE SHALLOWEST LOCATION.
11. SUDDEN DISCHARGES OF LARGE VOLUMES OF SAND THAT RESULT IN LARGE DISPLACEMENTS OR "BOMBING" OF THE UNDERLYING SEDIMENT OR AN EMNR SAND THICKNESS THAT EXCEEDS THE ALLOWABLE TOLERANCES SHALL BE AVOIDED.
12. PROVIDE ADVANCE NOTICE TO ALLOW ENGINEER'S PERSONNEL TO OBSERVE EMNR PLACEMENT ACTIVITIES FOR THE PURPOSES OF PLACEMENT VERIFICATION.

MATERIALS (AND EQUIPMENT)

1. EMNR SAND
   a. THE MATERIAL TO BE USED FOR CONSTRUCTION OF THE EMNR LAYER SHALL BE AN IMPORTED, CLEAN, GRANULAR MATERIAL FREE OF ROOTS, LARGE ORGANIC MATERIAL, CONTAMINANTS, AND ALL OTHER DELETERIOUS AND OBJECTIONABLE MATERIAL.
   b. THE MATERIAL SHOULD BE MAIN STEM COLUMBIA RIVER MID-CHANNEL DREDGE SPOILS SUPPLIED BY VARIOUS COMMERCIAL SOURCES.
      i. COORDINATE DREDGING ACTIVITIES WITH THE USACE IN ORDER TO COMPLY WITH THEIR FEDERAL NAVIGATION PROJECT PERMIT. ADDITIONAL PERMIT INFORMATION IS AVAILABLE AT HTTPS://WWW.NWP.USACE.ARMY.MIL/OP/N/.
   c. GRAIN SIZE:

% PASSING	U.S. SIEVE
100	1/2 INCH
80-100	NO. 10
<5	NO. 200

   d. PHYSICAL CHARACTERISTICS: WELL-GRADED, SUBANGULAR TO SUBROUNDED SAND.
   e. SAND SHALL BE FREE FROM CHEMICAL CONTAMINANTS PER TESTING DEFINED IN THE REMEDIAL DESIGN REPORT
2. EMNR SAND PLACEMENT EQUIPMENT: PROPOSE EQUIPMENT THAT HAS THE ABILITY TO MEET THE FOLLOWING CRITERIA:
   a. MINIMIZATION OF THE GENERATION OF SUSPENDED SEDIMENTS DURING SAND PLACEMENT OPERATIONS.
   b. CONSISTENT PLACEMENT OF MATERIAL TO THE ALIGNMENTS, GRADES, AND CROSS SECTIONS SHOWN ON THE DRAWINGS AND DETAILED IN THE SPECIFICATIONS.
   c. CAPABLE OF PROCESSING NECESSARY VOLUMES OF MATERIAL TO ACHIEVE THE PROJECT DELIVERY SCHEDULE.

SUBMITTALS

1. PRE-CONSTRUCTION SUBMITTALS:
   a. SUMMARY OF EQUIPMENT OPERATORS' EXPERIENCE SHOWING THAT THE OPERATORS HAVE A MINIMUM OF 3 YEARS OF EXPERIENCE WITH THE PROPOSED EQUIPMENT FOR EMNR SPREADING.
   b. TWO WEEKS PRIOR TO DELIVERY TO THE SITE, THE CONTRACTOR SHALL CONDUCT ONE GRADATION TEST ACCORDING TO ASTM D422 FOR EMNR SAND FROM EACH SOURCE THAT IS PROPOSED FOR THE PROJECT. THE TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO MATERIAL DELIVERY TO THE SITE.
   c. A PORTION OF THE REQUIRED CONTRACTOR'S WORK PLAN SHALL OUTLINE MATERIALS, EQUIPMENT, AND METHODS TO BE USED TO PLACE EMNR SAND AND FISH MIX ROCK AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THESE SPECIFICATIONS. DESCRIPTIONS SHALL INCLUDE:
      i. EQUIPMENT AND PROCEDURES TO BE USED TO PLACE MATERIALS AND DEMONSTRATE THAT THEY ARE APPROPRIATE TO DESCRIBED SCOPE OF WORK.
      ii. EQUIPMENT AND TEMPORARY FACILITY REQUIREMENTS AND PROCEDURES TO BE USED TO STAGE, STORE, AND TRANSPORT MATERIALS PRIOR TO PLACEMENT.
      iii. PROPOSED METHODS TO SYSTEMATICALLY EXECUTE THE MATERIAL PLACEMENT IN REQUIRED LIFT THICKNESSES (E.G. SWING PATTERN, BUCKET SIZE, ETC.).
   d. USACE DREDGE PERMIT FOR EMNR SAND, AS APPLICABLE TO PROPOSED SOURCE.
   e. THE CONTRACTOR SHALL SUBMIT ALL FILL MATERIAL SOURCE INFORMATION INCLUDING A CONTACT NAME, ADDRESS, PHONE NUMBER FOR EACH PRODUCT AND/OR SOURCE TO THE ENGINEER FOR APPROVAL.
2. CONSTRUCTION SUBMITTALS:
   a. PROVIDE THE ENGINEER WITH A DAILY SAND PLACEMENT PROGRESS SUMMARY IN THE DAILY FIELD REPORT.
   b. PROVIDE EVIDENCE OF PLACED EMNR SAND LAYER THICKNESS FINAL (I.E. BATHYMETRY, RAIN BUCKETS, SEDIMENT CORES, OR OTHER ENGINEER APPROVED METHOD) PRIOR TO DEMOBILIZING SPREADING EQUIPMENT FROM THE SITE.

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN
ASTORIA MARINE CONSTRUCTION CO.
ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/04/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
0 50' 100'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

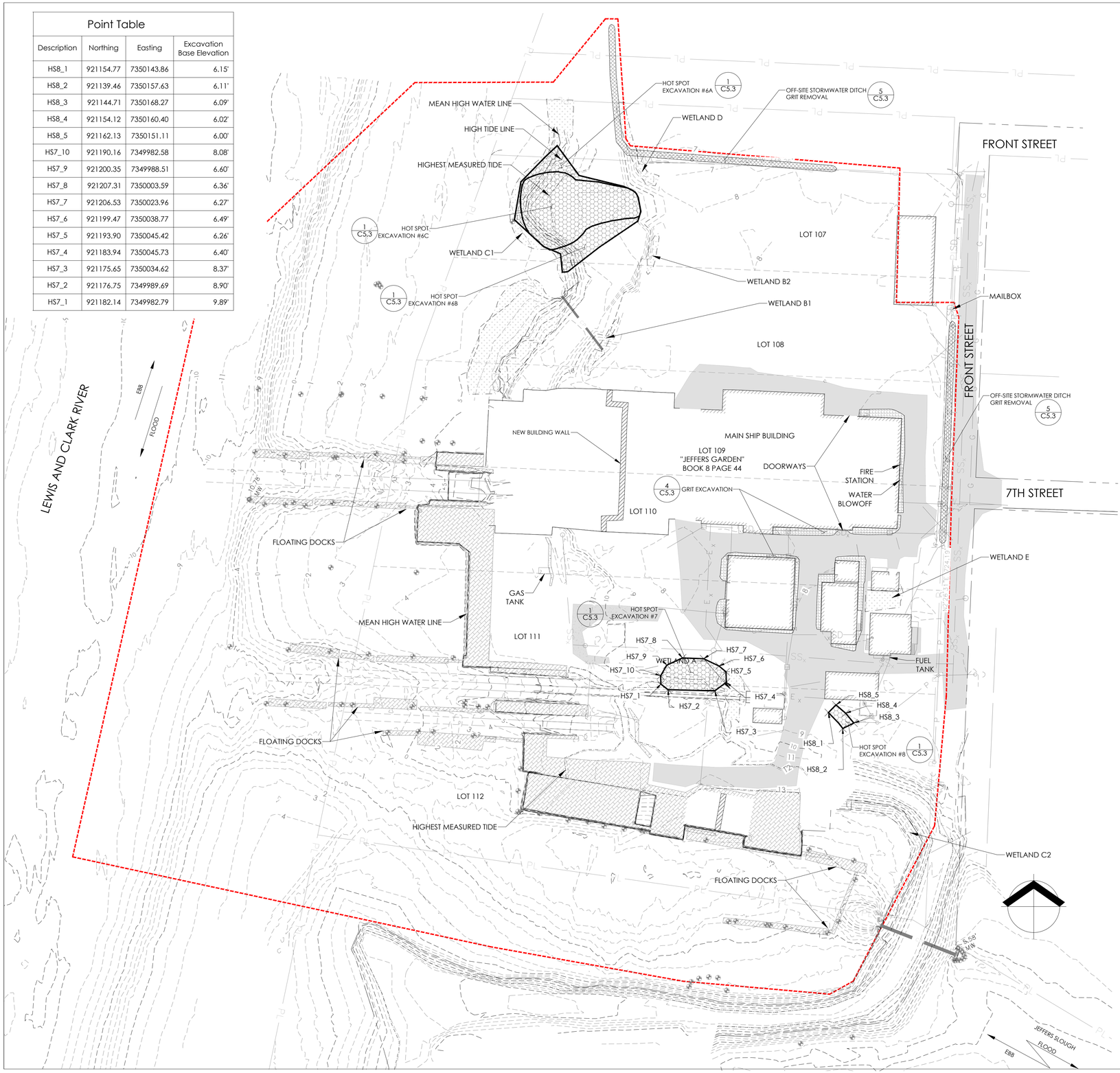
SHEET TITLE
EMNR SAND PLACEMENT

SHEET
C4.2

PLOTTED BY: Gianna Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\2018\1653 AMCCO\PLANS\As-built\C4.2 EMNR SAND FILL GRADING PLAN.dwg
PLOTTED ON: 2022-12-29 4:29 PM

Point Table

Description	Northing	Easting	Excavation Base Elevation
HS8_1	921154.77	7350143.86	6.15'
HS8_2	921139.46	7350157.63	6.11'
HS8_3	921144.71	7350168.27	6.09'
HS8_4	921154.12	7350160.40	6.02'
HS8_5	921162.13	7350151.11	6.00'
HS7_10	921190.16	7349982.58	8.08'
HS7_9	921200.35	7349988.51	6.60'
HS7_8	921207.31	7350003.59	6.36'
HS7_7	921206.53	7350023.96	6.27'
HS7_6	921199.47	7350038.77	6.49'
HS7_5	921193.90	7350045.42	6.26'
HS7_4	921183.94	7350045.73	6.40'
HS7_3	921175.65	7350034.62	8.37'
HS7_2	921176.75	7349989.69	8.90'
HS7_1	921182.14	7349982.79	9.89'



UPLAND EXCAVATION PLAN LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- WETLAND
- HOT SPOT EXCAVATION
- GRIT EXCAVATION
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE - 7.93' (NAVD88)
- HIGH TIDE LINE - 8.63' (NAVD88)
- HIGHEST MEASURED TIDE - 11.9' (NAVD88)

UPLAND EXCAVATION NOTES

SEQUENCING

1. UPLAND HOT SPOT EXCAVATIONS SHALL FOLLOW NEAR SHORE DREDGING AND SEDIMENT DEWATERING OPERATIONS.
2. CONTRACTOR TO STAKE HOT SPOT AREAS PER COORDINATE TABLE (TO BE PROVIDED AT TIME OF CONSTRUCTION) AND START EXCAVATION WORK AFTER ENGINEER'S APPROVAL OF THE HOT SPOT BOUNDARIES.
3. CONTRACTOR TO COORDINATE ENGINEER'S EVALUATION AND SAMPLING OF EXCAVATED HOT SPOT AREAS, AND START BACKFILL UPON APPROVAL FROM ENGINEER.
4. EXCAVATE OFFSITE DITCHES AND PERFORM ONSITE GRIT REMOVAL.

EXCAVATION NOTES

1. PROVIDE SHORING IN ACCORDANCE WITH SECTION 15.3.26 AND OTHER APPLICABLE SECTIONS OF THE MOST CURRENT VERSION OF THE ODOT GEOTECHNICAL DESIGN MANUAL (GDM).
2. EXCAVATION LIMITS SHALL BE STAKED BY SURVEYOR, AND TO BE CONFIRMED WITH CQA OFFICER.
3. PROTECT SURVEY BENCH MARKS AND MONUMENTS, FENCES, PAVING, AND STRUCTURES TO REMAIN FROM EQUIPMENT AND VEHICULAR TRAFFIC.
4. PROTECT ABOVE- AND BELOW-GRADE UTILITIES THAT ARE TO REMAIN, IF APPLICABLE.
5. NOTIFY ENGINEER OF UNEXPECTED SUBSURFACE CONDITIONS (SUCH AS VISIBLE CONTAMINATION) AND DISCONTINUE AFFECTED WORK IN AREA UNTIL NOTIFIED TO RESUME WORK.
6. ALL EARTHWORK ACTIVITIES SHALL BE DONE IN STRICT COMPLIANCE WITH ALL FEDERAL, STATE, AND LOCAL STANDARDS AND REGULATIONS FOR EXCAVATION, TRENCHES, AND EARTHWORK, AND IN ACCORDANCE WITH THE PROVISIONS OF THE SAFETY AND HEALTH REGULATIONS OF THE DEPARTMENT OF LABOR, BUREAU OF LABOR STANDARDS.
7. HOT SPOT EXCAVATIONS SHALL BE LIMITED TO AREAS IDENTIFIED ON THIS PLAN SHEET.
8. NOTIFY THE ENGINEER OF HOT SPOT STAKING FOR APPROVAL PRIOR TO COMMENCING EXCAVATION.
9. EXCAVATION SHALL BE PERFORMED IN A MANNER THAT WILL CONTROL DUST GENERATION, LIMIT SPILLS, AND PREVENT CONTAMINATED MATERIAL FROM MIXING WITH UNCONTAMINATED MATERIAL.
10. SOIL EXCAVATION SHALL BE CONDUCTED IN A MANNER THAT WILL NOT RESULT IN SPILLS TO THE LEWIS AND CLARK RIVER.
11. EXCAVATED HOT-SPOT SOIL, OFFSITE DITCH SOIL, AND GRIT REMOVAL SHALL BE STOCKPILED AT THE SOIL MANAGEMENT AREA.
12. STOCKPILED SOILS SHALL BE COVERED WITH EROSION CONTROL MATTING OR PLASTIC AT THE END OF EACH WORKING DAY TO PREVENT OR MINIMIZE WIND EROSION OR STORMWATER CONTACT.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING THE OFF-SITE MOVEMENT OF ALL WASTE MATERIALS, SPILLS, ETC., RESULTING FROM THE CONSTRUCTION PROCESS, AND SHALL BE RESPONSIBLE FOR ANY CONSEQUENCES OF ANY SUCH OFF-SITE MOVEMENT OF THE MATERIAL.
14. EXCAVATIONS SHALL BE COMPLETED TO THE DEPTH OR ELEVATION SHOWN IN THE TABLE BELOW:

	Excavation #6A (Burn Pit)	Excavation #6B (Burn Pit)	Excavation #6C (Burn Pit)	Excavation #7 (PCB)	Excavation #8 (TPH)
Area (SF)	8070	3685	930	1560	252
Target Depth Below Existing (ft) or Elevation (EL- ft)	2	4	El-5.10	2	2
Target Volume (cy)	600	550	250	94	11
Wetlands (Y/N)	Y	Y	N	Y	N

15. EXCAVATION TOLERANCE IS BETWEEN +0.1 FT (ABOVE) TO -0.25 FT (BELOW) THE DEPTH INDICATED ON THIS PLAN SHEET.
16. NOTIFY ENGINEER WHEN EXCAVATION HAS REACHED REQUIRED ELEVATIONS FOR EVALUATION.
17. EXCAVATED MATERIALS FROM HOT SPOT #6A-6C SHALL BE TREATED BY PHOSPHATE LIQUIDS (ADT ENVIRONMENTAL) OR BY MIXING WITH 3% (BY WEIGHT) CEMENT UNTIL LEACHING CHARACTERISTICS HAVE BEEN STABILIZED.
18. ALL EXCAVATED HOT SPOT SOIL SHALL BE DISPOSED AT A SUBTITLE D LANDFILL THAT HAS BEEN APPROVED BY THE OWNER AND ENGINEER.

BACKFILL NOTES

1. OBTAIN SURVEY OF FINAL EXCAVATION SUBGRADE LIMITS PRIOR TO DEMARCATION AND BACKFILLING.
2. AFTER EVALUATION AND CONFIRMATION (BY THE ENGINEER) OF THE EXCAVATED HOT SPOT AREAS, THE CONTRACTOR SHALL INSTALL THE APPROPRIATE DEMARCATION MATERIAL TO COVER THE FULL EXTENT OF HOT SPOTS #7 AND #8 PRIOR TO BACKFILL. HOT SPOTS 6A-6C SHALL NOT BE DEMARCATED.
3. BACKFILL FOR HOT SPOTS #7 AND #8: BACKFILL AND COMPACT SITE SPOILS AND IMPORTED CLEAN FILL TO THE SURROUNDING GRADES IN LAYERS NOT EXCEEDING 8-INCH THICKNESS, FOLLOWED BY A MINIMUM OF 5 PASSES WITH A VIBRATORY ROLLER OR HEAVY PLATE COMPACTOR.
4. BACKFILL FOR HOT SPOTS #6A THROUGH #6C: BACKFILL AND COMPACT DIKE CONSTRUCTION MATERIAL TO THE EXISTING GRADE PER DIKE BACKFILL REQUIREMENTS AS IDENTIFIED ON SHEET C6.0.

MATERIALS (AND EQUIPMENT)

1. SHORING MATERIALS TO BE CONSISTENT WITH APPROVED SHORING SUBMITTALS, AS IDENTIFIED IN SUBMITTALS SECTION.
2. DEMARCATION MATERIAL - BELTECH 1696, 3 OZ/SY WOVEN POLYPROPYLENE, ORANGE OR APPROVED EQUAL
3. SITE SPOILS FROM STORMWATER SYSTEM ASSOCIATED EXCAVATIONS
4. IMPORTED CLEAN BACKFILL SATISFYING OREGON DEQ CLEAN FILL CRITERIA FOR SOIL
5. DIKE CONSTRUCTION MATERIAL - SEE DIKE EXTENSION PLAN
6. VIBRATORY ROLLER OR HEAVY PLATE COMPACTOR FOR COMPACTING BACKFILL.
7. SHEEPSFOOT ROLLER FOR COMPACTING DIKE BACKFILL SOIL, OR AS APPROVED IN THE DIKE EXTENSION PLAN.

SUBMITTALS

1. SD-01 (PRECONSTRUCTION SUBMITTALS):
   a. COPIES OF LICENSES AND CERTIFICATIONS AS REQUIRED BY ALL APPLICABLE JURISDICTIONS TO COMPLETE THE SPECIFIED WORK INCLUDING ALL APPROPRIATE HAZWOPER CERTIFICATIONS.
   b. A WRITTEN STATEMENT INDICATING THE SOURCE, CHARACTER, AND PROPOSED USE OF ALL IMPORTED MATERIALS WITH THE SAMPLES. A 50-LB SAMPLE OF EACH PROPOSED SOURCE SHALL BE SUBMITTED TO THE ENGINEER FOR EVALUATION. ONCE PRELIMINARY APPROVAL IS PROVIDED, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE ENGINEER TO OBTAIN SAMPLES TO VERIFY THAT OREGON DEQ CLEAN FILL CRITERIA ARE MET.
   c. SUBMIT A SHORING DESIGN SUMMARY PREPARED BY THE SHORING DESIGN ENGINEER, TO ACCOMPANY THE WORKING DRAWINGS AND CALCULATIONS. INCLUDE THE FOLLOWING IN THE SUMMARY:
   i. A LIST OF SHORING MEMBERS WITH THEIR CAPACITIES AND DESIGN STRESSES
   ii. DESIGN LOADING ASSUMPTIONS FOR EACH MEMBER
   iii. DESIGN SPECIFICATIONS
   iij. SUBSURFACE MATERIALS AND CONDITIONS USED IN DESIGN
2. SD-02 (CONSTRUCTION SUBMITTALS):
   a. DISPOSAL RECEIPTS FOR ALL MATERIALS DISPOSED OFF SITE.
   b. DAILY FIELD REPORTS AND WEEKLY SUMMARIES (LOCATION, PERCENT COMPLETE, STOCKPILES GENERATED)
   c. RECEIPTS FOR ANY MATERIALS RECYCLED OR SALVAGED AT AN OFF-SITE FACILITY.

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

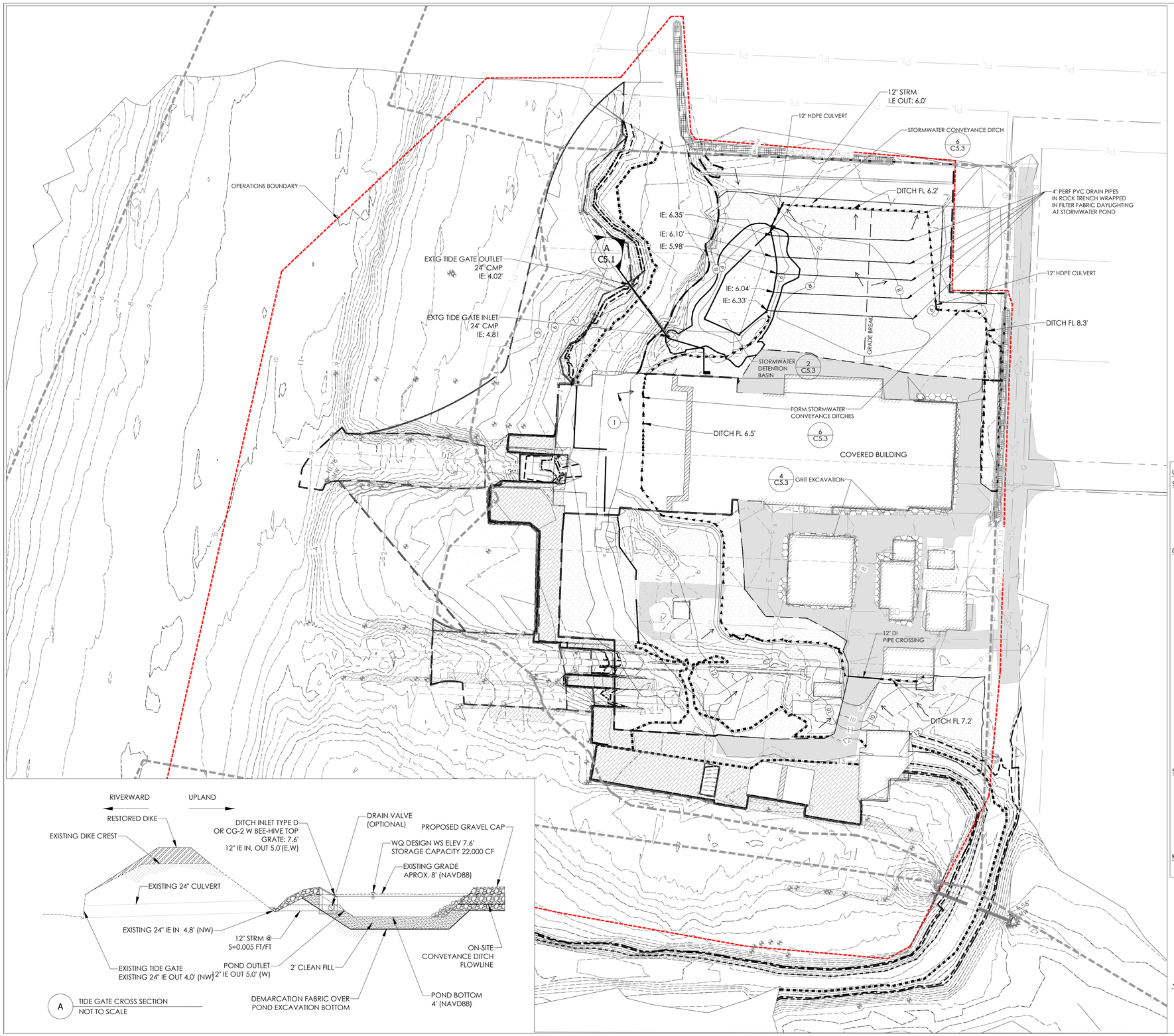
ISSUE	DATE	DESCRIPTION
B	01/04/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
0 50' 100'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
UPLAND EXCAVATION PLAN

SHEET
C5.0

PLOTTED ON: 2023-01-06 5:19 PM PLOTTED BY: Cem Gokcora FILENAME: G:\ID_MFA Civil 3D\ID_PROJECTS\2018.04.03 AMCCO\PLANS\As-builts\C5.0 UPLAND EXCAVATION PLAN.dwg



UPLAND EXCAVATION PLAN LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- WETLAND
- PROPOSED FLOW DIRECTION
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE

UPLAND SUBGRADE NOTES

SEQUENCING

1. SUBGRADE GRADING EFFORT TO FOLLOW COMPLETION OF UPLAND HOT SPOT EXCAVATION ACTIVITIES
2. EXCAVATE STORMWATER BASIN
3. EXCAVATION OF NEW ON-SITE STORMWATER CONVEYANCE DITCHES
4. GRADE SUBGRADE TOWARD ON-SITE STORMWATER FACILITIES

CONSTRUCTION NOTES

1. CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO ENSURE NO DAMAGE OCCURS TO EXISTING STRUCTURES TO BE PRESERVED, THE EXISTING CLEAN SOIL CAP, AND ACTIVE UTILITIES.
2. DAMAGE TO EXISTING STRUCTURES, AND ACTIVE UTILITIES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
3. SUBGRADE SPOILS SHALL BE MANAGED ONSITE TO ESTABLISH DESIRED DRAINAGE PATTERNS AND SHALL NOT BE DISPOSED OFFSITE.
4. EXCAVATE ON-SITE STORMWATER DITCHES TO THE GRADES SHOWN ON THE PLAN.
5. STOCKPILE SPOILS FROM DITCH AND BASIN EXCAVATION FOR USE IN GRADING ACTIVITIES.
6. CAST SPOILS DURING SUBGRADE ESTABLISHMENT OUT THE SITE AS NEEDED TO ASSURE POSITIVE DRAINAGE.
7. CONTRACTOR TO SLOPE SUBGRADE TO PROVIDE POSITIVE DRAINAGE, A MINIMUM ONE HALF (0.5) PERCENT SLOPE, TOWARD THE ON-SITE STORMWATER FACILITIES (DITCHES AND BASIN).
8. BREAKLINE LOCATION(S) SHOWN ON THIS SHEET ARE APPROXIMATE, AND CAN BE MODIFIED BY THE CONTRACTOR TO OPTIMIZE THE SUBGRADE GRADING EFFORT, PROVIDING POSITIVE DRAINAGE TOWARD THE ON-SITE STORMWATER FACILITIES.
9. PROVIDE AN EVEN SUBGRADE SURFACE WITH NO OBJECTS PROTRUDING THAT MAY IMPEDE DEMARCATION LAYER INSTALLATION
10. COORDINATE SUBGRADE EVALUATION WITH ENGINEER.
11. DEMARCATION FABRIC MAY BE INSTALLED AFTER SUBGRADE APPROVAL BY THE ENGINEER.
12. PLACED SUBGRADE SHALL MAINTAIN A MINIMUM OF 0.5% SLOPE.

SUBMITTALS

1. SD-01 (PRECONSTRUCTION SUBMITTALS)
2. SD-02 (CONSTRUCTION SUBMITTALS):
   - 2.1. GEOTEXTILE SUBGRADE SURVEY: ONE COMPLETE SUBGRADE SURVEY AND TRIANGULATED IRREGULAR NETWORK (TIN) SURFACE, PREPARED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF OREGON, WITH X,Y,Z COORDINATES AT MAXIMUM GRID SPACING OF 10 FEET AND RECORDING GRADE BREAKS AND OTHER FEATURES OF INTEREST (STRUCTURES, PAVING, DITCHES, ETC). THIS SURVEY SHALL BE PROVIDED TO AND APPROVED BY THE ENGINEER PRIOR TO CONTRACTOR PLACING DEMARCATION FABRIC.

KEYED NOTES

1. DIKE DRAINAGE TO FIELD ROUTED TO STORMWATER SWALE.

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/06/2023	RECORD DRAWING DOCUMENT
A	03/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02

DESIGNED: C. GOKCORA

DRAWN: G. KALMETA

CHECKED: E. BAKKOM

SCALE

0 50' 100'

NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

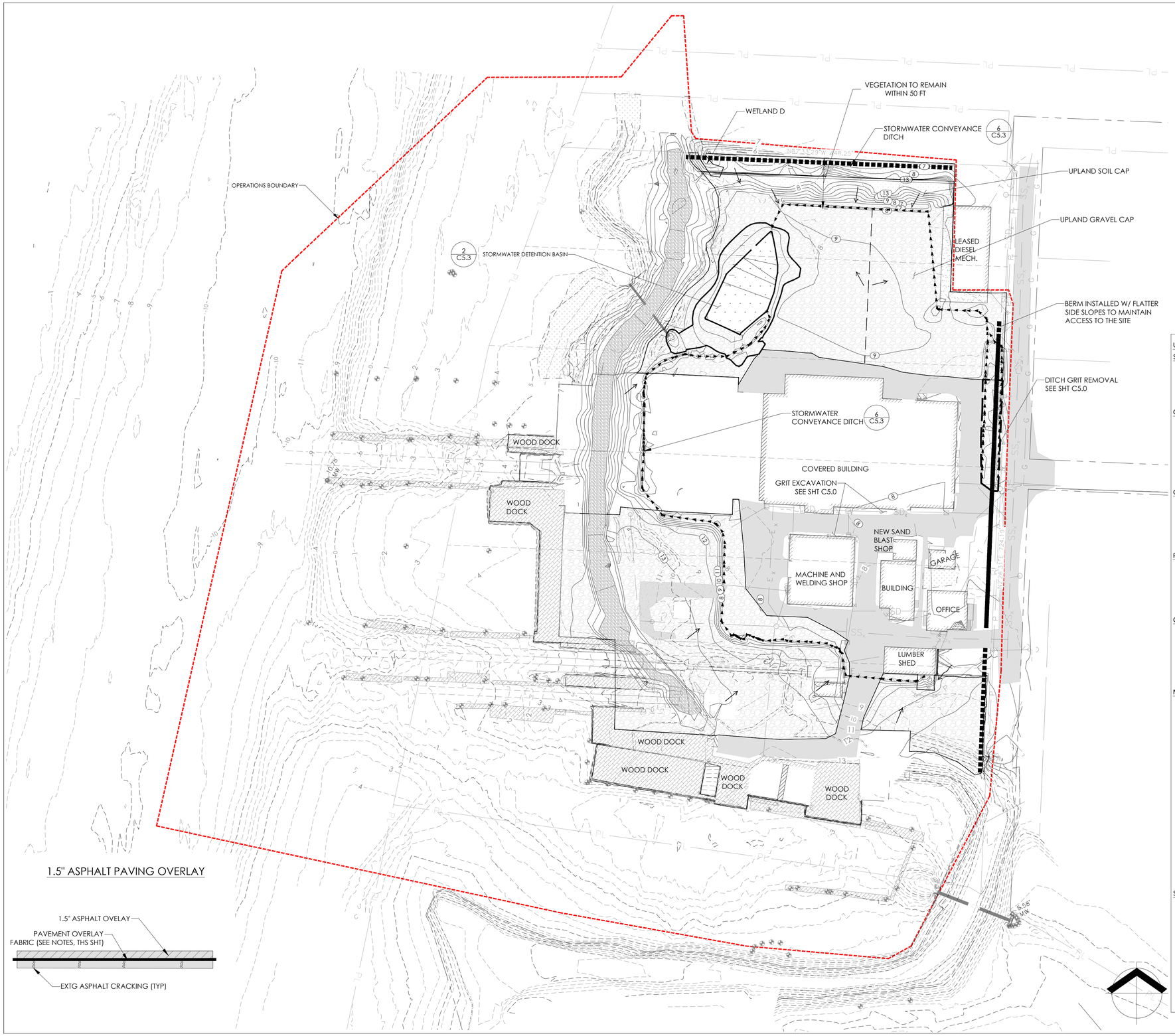
SHEET TITLE

UPLAND SUBGRADE PLAN

SHEET

C5.1

PLOTTED ON: 2023-01-10 12:15 AM PLOTTED BY: Cem Gokcora FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\02981\04\03-AMCCO\UPLAN\A-Pu\Rv\C5.1 UPLAND SUBGRADE PLAN.dwg



UPLAND EXCAVATION PLAN LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- ACCESS ROAD ABOVE LEVEE
- UPLAND GRAVEL CAP
- SOIL CAP
- TOPSOIL
- WETLAND
- STORMWATER CONVEYANCE DITCH
- BERM
- PROPOSED FLOW DIRECTION
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE

1.5" ASPHALT PAVING OVERLAY

UPLAND CAPPING NOTES

SEQUENCING

1. OBTAIN SUBGRADE APPROVAL, INCLUDING UPLAND HOT SPOTS BACKFILLING APPROVAL, FROM ENGINEER
2. PLACE DEMARCATION LAYER
3. CONSTRUCT SOIL CAPS PRIOR TO GRAVEL CAP

GENERAL CAPPING NOTES

1. A DEMARCATION LAYER SHALL BE INSTALLED OVER THE ENTIRE AREA OF THE SITE EAST OF THE DIKE.
2. DEMARCATION FABRIC INSTALLATION SHALL EXCLUDE HOT SPOT EXCAVATION AREAS WHERE DEMARCATION MATERIALS HAVE ALREADY BEEN INSTALLED.
3. DEMARCATION FABRIC SHALL BE PLASTIC MESH FENCE WITHIN THE LANDSCAPE BUFFER AND STORMWATER SWALE TO PROVIDE DELINEATION BETWEEN THE CLEAN MATERIAL AND POTENTIALLY CONTAMINATED MATERIALS UNDERNEATH.

GRAVEL CAP NOTES

1. CAP MATERIAL SHALL BE PLACED AND COMPACTED IN A SINGLE 12-INCH LIFT.
2. GRAVEL CAP MATERIAL SHALL BE ROLLED OR PLATE COMPACTED UNTIL A FIRM UNYIELDING SURFACE HAS BEEN ESTABLISHED.
3. CAP THICKNESS SHALL BE FIELD VERIFIED BY THE ENGINEER AT GRADE STAKE LOCATIONS AND BY TEST PITTING AT A MINIMUM OF FIVE LOCATIONS SELECTED AT RANDOM.

PAVING CAP NOTES

1. SAWCUT OR GRIND TRANSITION BETWEEN EXISTING ASPHALT AND OVERLAY
2. ASPHALT, TACK COAT AND PAVEMENT OVERLAY GEOTEXTILE PER 2018 ODOT STANDARD SPECIFICATIONS.
3. PREPARE SURFACE, APPLY SEALANT, PLACE GEOTEXTILE AND PLACE OVERLAY PAVEMENT AS SPECIFIED IN 2018 ODOT STANDARD SPECIFICATIONS SECTIONS 00350.41 (F), AND 00748.

CLEAN SOIL CAP AT LANDSCAPE BUFFER

1. SOIL CAP MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8-INCH THICKNESS AND LOOSELY TRACKED INTO PLACE USING TRACKED EQUIPMENT. HAND PLACEMENT AROUND ESTABLISHED VEGETATION IS REQUIRED.
2. CAP THICKNESS SHALL BE FIELD VERIFIED BY THE ENGINEER AT GRADE STAKE LOCATIONS AND AT A MINIMUM OF FIVE LOCATIONS SELECTED AT RANDOM.
3. THE CAPPED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE LANDSCAPE PLAN.

MATERIALS (AND EQUIPMENT)

1. GRAVEL CAP DEMARCATION FABRIC - BELTECH 1696, 3 OZ/SY WOVEN POLYPROPYLENE, ORANGE OR APPROVED EQUAL
2. VEGETATIVE BUFFER DEMARCATION FABRIC - MESH PLASTIC FENCING, ORANGE OR GREEN
3. GRAVEL CAPPING MATERIAL - 3/4" TO 1-1/2" MINUS CRUSHED ROCK (OR EQUIVALENT TO SUPPORT STORAGE AND PERIODIC TRUCK DELIVERY)
4. CLEAN SOIL CAPPING MATERIAL -
   a. IMPORTED CAP MATERIAL SHALL CONSIST OF SANDY-LOAM FROM APPROVED SOURCES, AND SHALL BE FREE OF PARTICLES GREATER THAN 1-INCH IN DIAMETER, ADMIXTURES OF SUBSOIL, CLAY, NOXIOUS WEEDS AND GRASSES (SUCH AS HORSETAIL, QUACKGRASS, JOHNSON GRASS, AND THEIR ROOTS), AND OTHER MATERIAL DELETERIOUS TO PLANT GROWTH OR THAT HINDER GRADING, PLANTING, OR MAINTENANCE OPERATIONS. IMPORTED TOPSOIL SHALL NOT BE DELIVERED IN A FROZEN OR MUDDY CONDITION. PROTECT FROM EROSION AT ALL TIMES DURING TRANSPORT, STOCKPILING, AND PLACEMENT.
   b. CONTRACTOR SHALL PROVIDE AN ANALYSIS OF ORGANIC CONTENT FROM EACH BORROW SITE. ACCEPTABLE ORGANIC CONTENT RANGE: 2 TO 10% (AS DETERMINED BY ASTM D 2974)
   c. CLEAN FILL SOILS FOR THE VEGETATED SOIL BUFFER MUST HAVE NO MORE THAN 15% CLAY AND OTHER POORLY DRAINING SOIL MATERIALS.
5. PAVEMENT OVERLAY GEOTEXTILE - GEOTEXTILE MEETING PROPERTY VALUES FOR PAVEMENT OVERLAY GEOTEXTILE AS SPECIFIED IN 2018 ODOT STANDARD SPECIFICATIONS TABLE 02320-6.

SUBMITTALS

1. SD-01 (PRECONSTRUCTION SUBMITTALS)
   a. A 50-LB SAMPLE OF EACH PROPOSED SOURCE SHALL BE SUBMITTED TO THE ENGINEER FOR EVALUATION. ONCE PRELIMINARY APPROVAL IS PROVIDED, THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THE ENGINEER TO OBTAIN SAMPLES TO VERIFY THAT OREGON DEQ CLEAN FILL CRITERIA ARE MET.
   b. TESTING REPORTS FOR FINAL CAP MATERIAL. REPORTS SHALL HAVE GRAIN SIZE DISTRIBUTION (SIEVE ANALYSIS) PER ASTM C 136. CERTIFICATION OF TEST RESULTS, SOURCE, AND SAMPLES OF IMPORTED MATERIALS. MATERIAL TO BE USED AS TOPSOIL SHOULD ALSO INCLUDE SOIL ANALYSIS RESULTS FROM AN APPROVED SOIL TESTING LABORATORY INDICATING THAT IMPORT TOPSOIL MEETS ORGANIC CONTENT REQUIREMENTS.
   c. LIST OF PROPOSED PLACEMENT EQUIPMENT.

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/04/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
0 50' 100'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

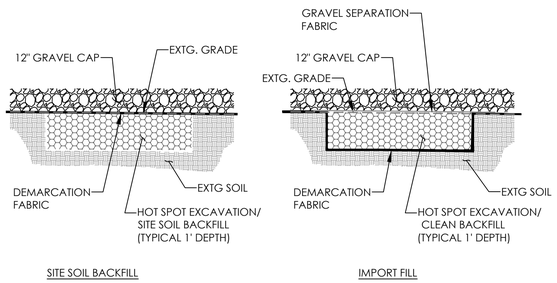
SHEET TITLE

UPLAND CAPPING PLAN

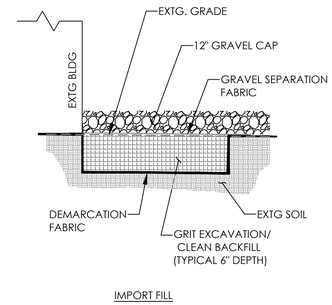
SHEET

C5.2

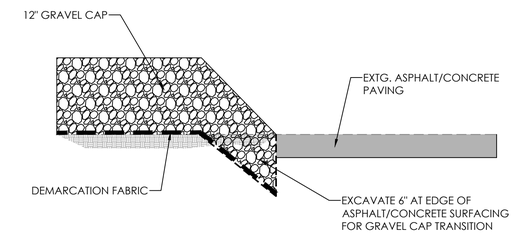
PLOTTED ON: 2023-01-09 11:51 PM PLOTTED BY: Cem Gokcora FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0298.04.03-AMCCO\PLANS\Ver.bu\Rev\C5.2 UPLAND CAPPING PLAN.dwg



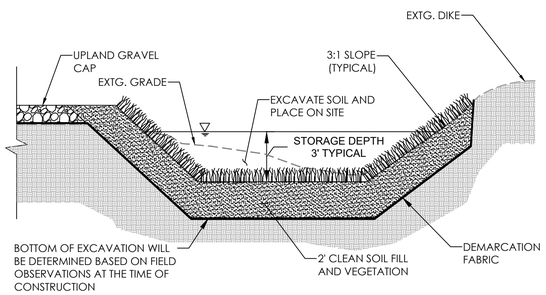
1 HOT SPOT EXCAVATION
NOT TO SCALE



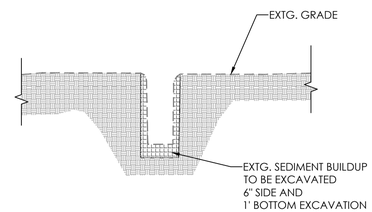
4 GRIT EXCAVATION AND BACKFILL
NOT TO SCALE



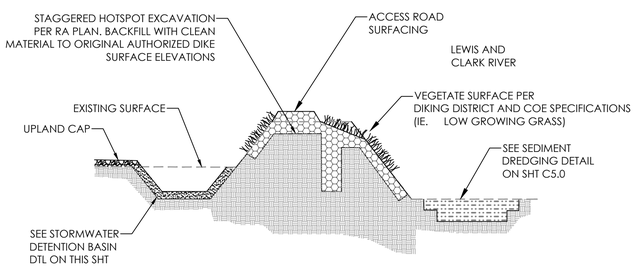
7 GRAVEL CAP TRANSITION
NOT TO SCALE



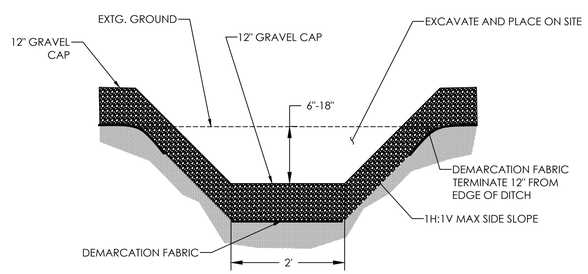
2 STORMWATER DETENTION BASIN
NOT TO SCALE



5 OFFSITE STORMWATER DITCH
NOT TO SCALE



3 DIKE HOT SPOT EXCAVATION
NOT TO SCALE



6 ONSITE STORMWATER CONVEYANCE DITCH
NOT TO SCALE

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/06/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

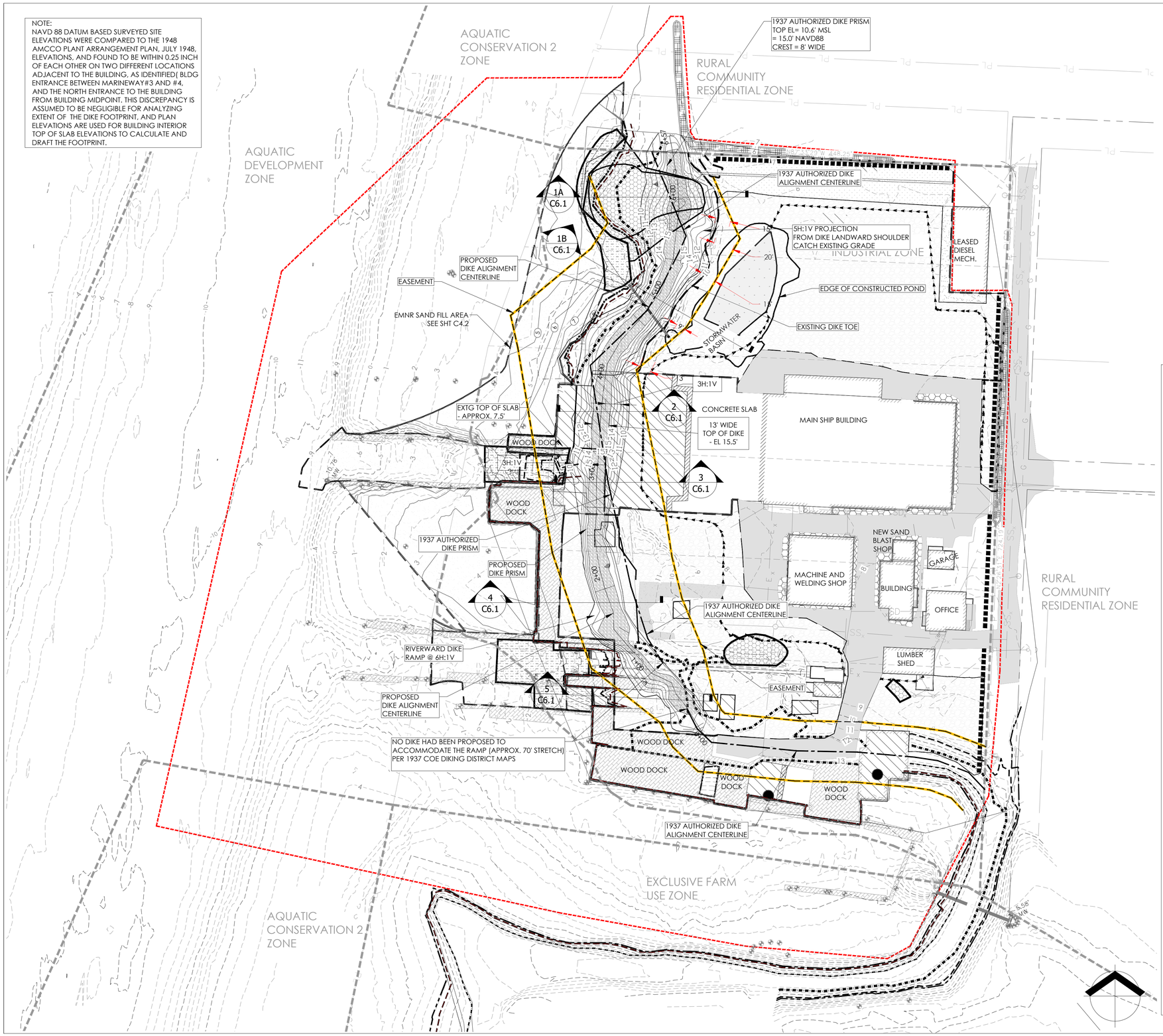
PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
DRAWING NOT TO SCALE

SHEET TITLE
UPLAND REMEDIATION DETAILS

SHEET
C5.3

PLOTTED ON: 2022-12-29 4:32 PM PLOTTED BY: Garrick Kalmeta FILENAME: G:\10_MFA Civil 3D\10_PROJECTS\1653\01.AMCCO\PLANS\As-built\C5.3 UPLAND REMEDIATION DETAILS.dwg

NOTE:
NAVD 88 DATUM BASED SURVEYED SITE ELEVATIONS WERE COMPARED TO THE 1948 AMCCO PLANT ARRANGEMENT PLAN, JULY 1948. ELEVATIONS, AND FOUND TO BE WITHIN 0.25 INCH OF EACH OTHER ON TWO DIFFERENT LOCATIONS ADJACENT TO THE BUILDING, AS IDENTIFIED(BLDG ENTRANCE BETWEEN MARINEWAY#3 AND #4, AND THE NORTH ENTRANCE TO THE BUILDING FROM BUILDING MIDPOINT. THIS DISCREPANCY IS ASSUMED TO BE NEGLIGIBLE FOR ANALYZING EXTENT OF THE DIKE FOOTPRINT, AND PLAN ELEVATIONS ARE USED FOR BUILDING INTERIOR TOP OF SLAB ELEVATIONS TO CALCULATE AND DRAFT THE FOOTPRINT.



REMEDIATION PLAN LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- ACCESS ROAD ABOVE LEVEE
- UPLAND GRAVEL CAP
- HOT SPOT EXCAVATION
- GRIT EXCAVATION
- EMNR SAND FILL
- SEDIMENT DREDGING
- BERM
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE - 7.93' (NAVD)
- HIGH TIDE LINE - 8.63' (NAVD)
- HIGHEST MEASURED TIDE - 11.9' (NAVD)
- INTERIOR WALL TO BE PARTIALLY DEMOLISHED
- DIKE EASEMENT

DIKE EXTENSION NOTES

SEQUENCING

1. DIKE EMBANKMENT SHOULD PROCEED UPON COMPLETION OF ALL IN-WATER WORKS (DEMOLITION OF IN-WATER STRUCTURES, SEDIMENT DREDGING, AND PLACEMENT OF EMNR SAND LAYER) AND EXCAVATION AND BACKFILL OF DIKE HOT SPOT.
2. CONSTRUCT DIKE EMBANKMENT
3. CONSTRUCT TOP OF DIKE ROAD

DIKE CONSTRUCTION NOTES

1. REMOVAL OF EXISTING FLOODWALL BETWEEN MARINE WAYS NO. 3 AND 4 SHOULD BE SCHEDULED FOR A PERIOD WHEN THE PROJECTED HIGH TIDE OVER FIVE SUCCESSIVE DAYS IS NOT IN EXCESS OF 8.0 FEET (NAVD 88), UNLESS ALTERNATIVE MEASURES ARE INSTALLED TO PROTECT THE DIKING DISTRICT FROM FLOODING.
2. SAWCUT CONCRETE SLAB AND REMOVE CONCRETE SLAB/FOUNDATION STRUCTURES WITHIN THE FOOTPRINT OF THE PROPOSED EARTHEN DIKE, TO THE LIMITS SHOWN ON THIS PLAN SHEET.
3. CONDUCT DEFLECTION TESTING IN ACCORDANCE WITH ODOT TM 158 TO EVALUATE SUBGRADE CONDITIONS ALONG DIKE EXTENSION ALIGNMENT.
4. REMOVE UNACCEPTABLE (SUBGRADE THAT YIELDS OVER 1-INCH AFTER 5 PASSES WITH A MINIMUM 13-TON WATER TRUCK) SUBGRADE MATERIAL (ORGANICS, GRAVEL, ETC), SCARIFY THE TOP OF THE SUBGRADE AND EACH SUBSEQUENT SOIL LIFT PRIOR TO COMPACTION OF THE NEXT SOIL LIFT TO ENSURE CONTINUITY OF THE COMPACTED SOIL STRUCTURE.
5. COORDINATE (NOTIFY 72 HRS IN ADVANCE) SUBGRADE EVALUATION WITH ENGINEER PRIOR TO PLACEMENT OF FIRST LIFT.
6. PLACE DIKE EMBANKMENT MATERIAL IN LAYERS NOT EXCEEDING 8-INCH PER LIFT.
7. MOISTURE CONDITION AND COMPACT EACH LIFT WITH SHEEPSFOOT ROLLER (BY A MINIMUM 5 PASSES). VERIFY COMPACTION TO 95% STANDARD PROCTOR PER ASTM D698
8. CONSTRUCT EARTHEN DIKE TO ELEVATION OF 15.0 FEET WITH RIVERWARD SLOPE AT 3H:1V (HORIZONTAL TO VERTICAL) AND LANDWARD SLOPE AT 3H:1V.
9. COORDINATE TOP OF DIKE EVALUATION WITH ENGINEER PRIOR TO START OF DIKE ROAD CONSTRUCTION.
10. UPON ENGINEER'S APPROVAL OF DIKE EMBANKMENT CONSTRUCTION, PLACE SEPARATION FABRIC TO SUPPORT MAINTENANCE VEHICLES, CONSISTENT WITH CURRENT CONSTRUCTION STANDARDS.
11. CONSTRUCT 10--FOOT-WIDE, 6-INCH CRUSHED ROCK FOR TOP OF DIKE ROAD AND COMPACT BY MINIMUM OF 5 PASSES WITH A DRUM ROLLER, SETTING THE TOP OF DIKE ROAD ELEVATION TO APPROXIMATELY 15.5 FEET.
12. VEGETATE EXPOSED EARTHEN FACES OF CONSTRUCTED DIKE WITH DIKE SEED MIX.

MATERIALS (AND EQUIPMENT)

1. DIKE EMBANKMENT MATERIAL: LOCAL CLAY LOAM MATERIAL (OR EQUAL) TO MATCH EXISTING DIKE CONSTRUCTION.
2. DIKE ROAD WOVEN SEPARATION GEOTEXTILE.
3. CRUSHED ROCK FOR TOP OF DIKE ROAD: AGGREGATE BASE IN ACCORDANCE WITH ODOT SPECIFICATIONS SECTION 00640. ALTERNATIVELY, 3 TO 4 INCH PIT RUN AS BASE COURSE, OVERLAIN BY 2 TO 3 INCH $\frac{3}{4}$" MINUS OR 1.5 INCH MINUS CRUSHED ROCK.
4. DIKE SEED MIX: DIKING DISTRICT'S SPECIFIED SEED MIX FOR DIKE MAINTENANCE PROJECTS (TO BE APPLIED WITH HYDROMULCH).
5. SHEEPSFOOT ROLLER FOR EMBANKMENT PLACEMENT.
6. VIBRATORY DRUM ROLLER FOR GRAVEL ROAD PLACEMENT.

SUBMITTALS

1. SD-01 (PRECONSTRUCTION SUBMITTALS):
   a. DIKE CONSTRUCTION WORK PLAN DESCRIBING THE PROPOSED METHODS OF CONSTRUCTION, SEQUENCING, FLOOD PROTECTION MEASURES, MATERIAL SOURCES, AND SCHEDULE.
   b. FIFTY-POUND SAMPLES OF IMPORTED MATERIAL PROPOSED FOR USE AS DIKE EMBANKMENT AND DIKE ROAD MATERIAL TO THE ENGINEER IDENTIFIED BY THE OWNER AT LEAST 10 DAYS PRIOR TO USE. THE CONTRACTOR SHALL NOT USE MATERIALS UNTIL APPROVED BY THE ENGINEER.
   c. A WRITTEN STATEMENT INDICATING THE SOURCE, CHARACTER, AND PROPOSED USE OF ALL IMPORTED MATERIALS WITH THE SAMPLES. BY SUBMITTING SAMPLES, THE CONTRACTOR AGREES THAT THE FILL MATERIAL WILL CONFORM WITH THE MATERIAL SAMPLES SUPPLIED TO THE GEOTECHNICAL ENGINEER.
   d. CERTIFICATION OF TEST RESULTS, SOURCE, AND SAMPLES OF IMPORTED MATERIALS.
   e. LIST OF PROPOSED EQUIPMENT.
   f. MOISTURE-CONDITIONING METHODOLOGY (INCLUDING, BUT NOT LIMITED TO, AERATION) AND CONTRACTOR'S EXPERIENCE WITH THE METHOD(S).

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/04/2023	RECORD DRAWING DOCUMENT
A	05/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
0 50' 100'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

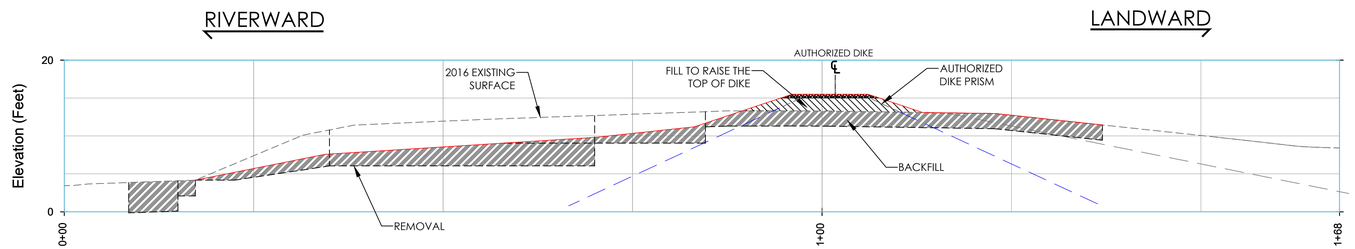
SHEET TITLE

DIKE RESTORATION PLAN

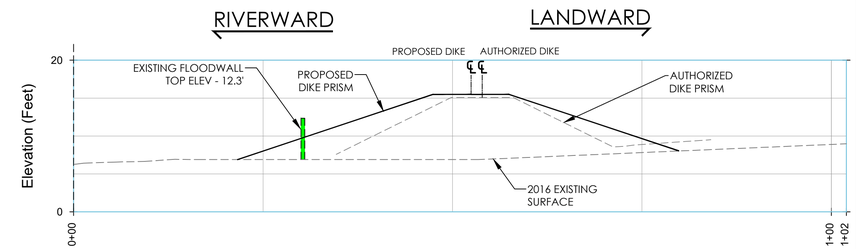
SHEET

C6.0

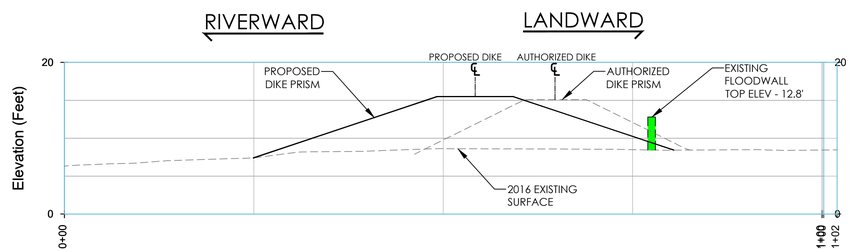
PLOTTED ON: 2023-01-06 7:58 AM PLOTTED BY: Cem Gokcora FILENAME: G:\00_MFA CAD 3D\00_PROJECTS\02981\04.03 AMCCO\PLANS\Ver-Both\C6.0 DIKE EXTENSION PLAN.dwg



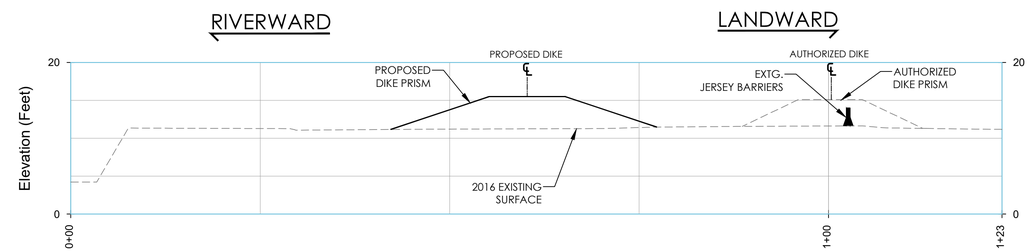
1A BURN PIT
H:1"=10', V:1"=10'



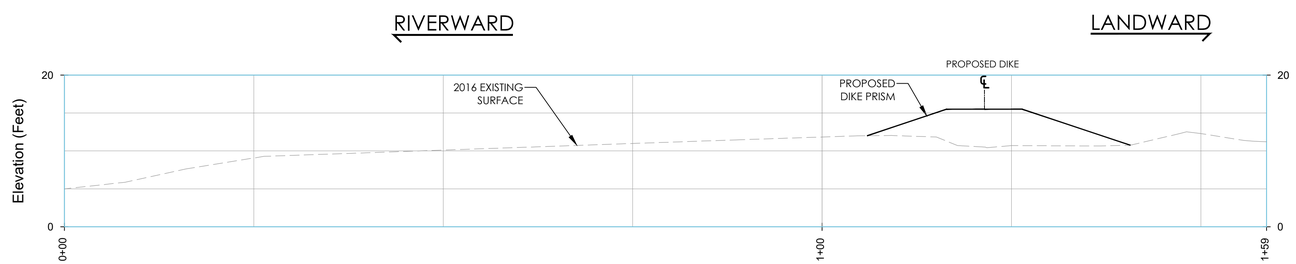
2 MARINEWAY#4
H:1"=10', V:1"=10'



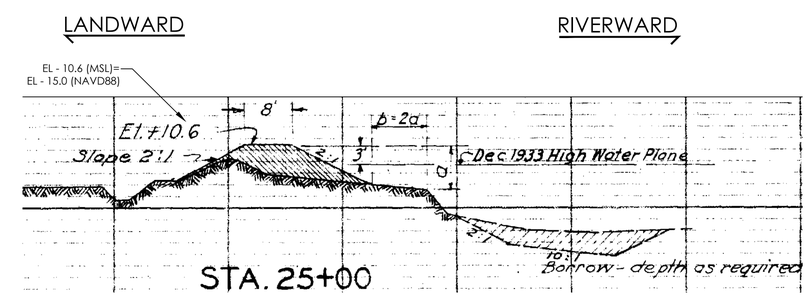
3 MARINEWAY#3
H:1"=10', V:1"=10'



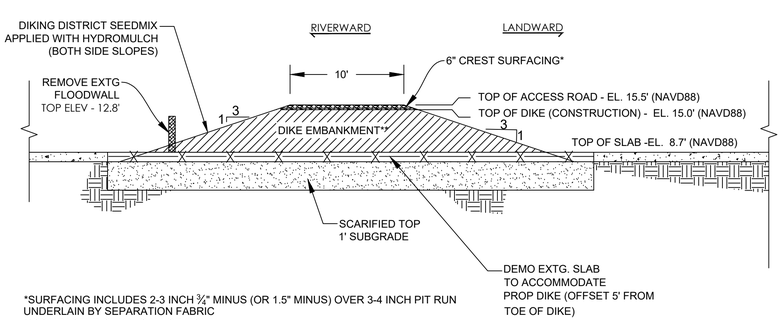
4 DOCK AREA
H:1"=10', V:1"=10'



5 MARINEWAY#1
H:1"=10', V:1"=10'

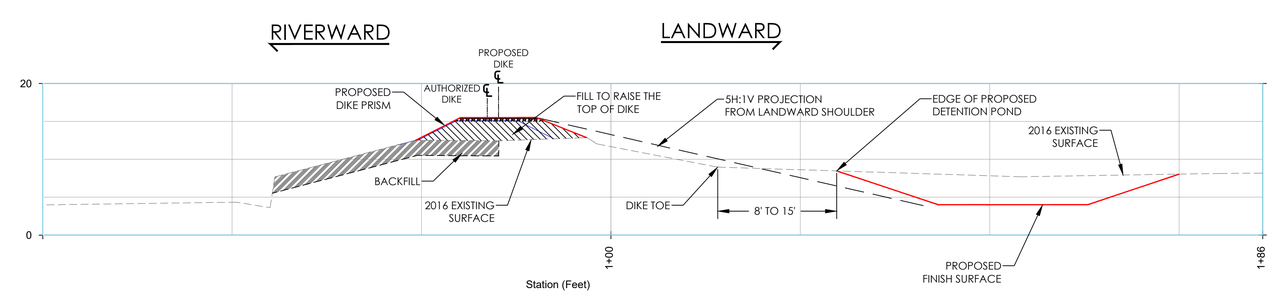


1937 AUTHORIZED DIKE CROSS SECTION (TYPICAL)
NOT TO SCALE



*SURFACING INCLUDES 2-3 INCH ¾" MINUS (OR 1.5" MINUS) OVER 3-4 INCH PIT RUN UNDERLAIN BY SEPARATION FABRIC
**COMPACTED CLAY LOAM OR EQUAL

PROPOSED DIKE CROSS SECTION
NOT TO SCALE



1B DIKE RECONSTRUCTION WITH PROPOSED DETENTION POND
H:1"=10', V:1"=10'

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN
ASTORIA MARINE CONSTRUCTION CO.
ASTORIA, OREGON

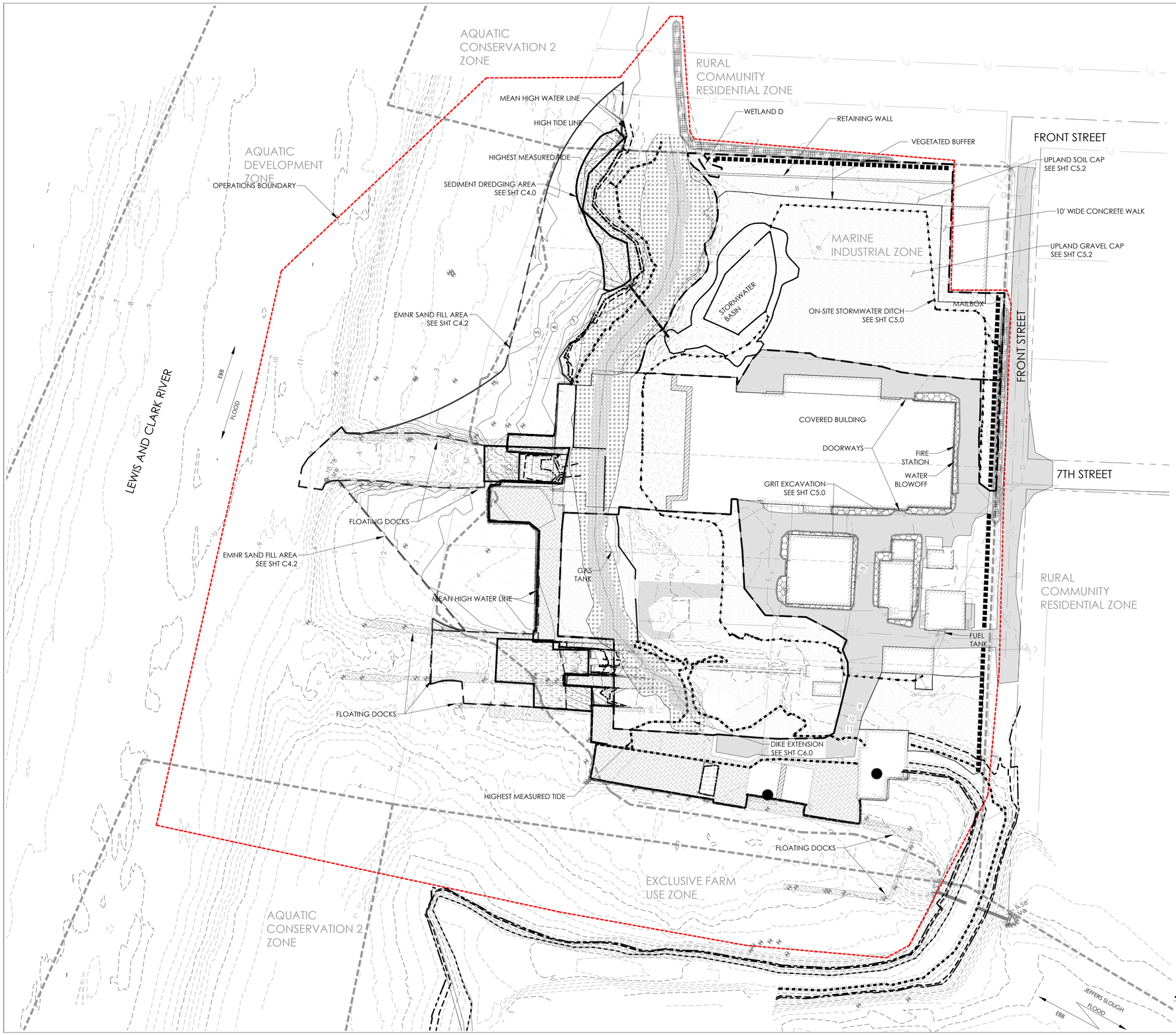
ISSUE	DATE	DESCRIPTION
B	01/06/2023	RECORD DRAWING DOCUMENT
A	10/07/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE

SHEET TITLE
DIKE CROSS SECTIONS

SHEET
C6.1

PLOTTED BY: Gianna Kalmeta FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\1298.04.03 AMCCO VPLAN\X-sub\VC6.1 DIKE CROSS SECTIONS.dwg
PLOTTED ON: 2022-12-29 6:38 PM



LANDSCAPE LEGEND

- DOCK PILING
- EXISTING ASPHALT
- EXISTING DOCK
- EXISTING GRAVEL SURFACE
- UPLAND GRAVEL CAP
- GRIT EXCAVATION
- EMNR SAND FILL
- SEDIMENT DREDGING
- 1.5" ASPHALT OVERLAY (OR CONCRETE SURFACING)
- BERM
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- LOT LINE
- MEAN HIGH WATER LINE - 7.93' (NAVD 88)
- HIGH TIDE LINE - 8.63' (NAVD 88)
- HIGHEST MEASURED TIDE - 11.9' (NAVD 88)

- DIKE SLOPE NON-VEGETATIVE AREA SEED MIX: LOWLAND PASTURE MIX
- ACCESS ROAD SURFACING: ¾" MINUS CRUSHED ROCK
- STORMWATER POND SEED MIX: PRO TIME PT 406 NATIVE MIX FOR WET AREAS
- VEGETATIVE BUFFER CAP: 12" TOPSOIL
- EXISTING SLAB TO REMAIN
- UPLAND GRAVEL CAP: 3/4" TO 1-1/2" MINUS CRUSHED ROCK OR EQUAL SURFACING
- ROCK LINED CONVEYANCE DITCH: QUARRY SPALLS OR EQUAL

RECORD DRAWING

MAUL FOSTER ALONGI
3140 NE BROADWAY STREET
PORTLAND, OR 97232
PHONE: 971.544.2139
www.maulfoster.com

AMCCO UPLAND & SEDIMENT REMEDIATION PLAN

ASTORIA MARINE CONSTRUCTION CO.

ASTORIA, OREGON

ISSUE	DATE	DESCRIPTION
B	01/06/2023	RECORD DRAWING DOCUMENT
A	03/27/2020	100% DESIGN DOCUMENTS

PROJECT: 1653.01.02
DESIGNED: C. GOKCORA
DRAWN: G. KALMETA
CHECKED: E. BAKKOM
SCALE
0 50' 100'
NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

SHEET TITLE
LANDSCAPE PLAN

SHEET
L1.0

PLOTTED ON: 2023-01-06 7:55 AM PLOTTED BY: Cem Gokcora FILENAME: G:\00_MFA Civil 3D\00_PROJECTS\0298\04.03 AMCCO UPLAND\A-Build\L1.0 LANDSCAPE PLAN.dwg

Attachment **B**

This page left intentionally blank.

UPLAND CAP INSPECTION FORM

Use this inspection form to document cap inspections. If unacceptable conditions are observed, complete this form again immediately after repairs are completed.

Inspection Date: _____ Inspected By: Name:_____

Company:_____

Address:_____

Phone:_____

Email:_____

1. *Soil Cap* – Observe soil cap surface for erosion, ruts, pot holes, subsidence, hydraulic pumping, unauthorized excavation, and other damage.

Is soil cap in acceptable condition? ☐ YES ☐ NO

If so, attach photographs documenting acceptable conditions. ☐

If no, attach photograph ☐ and describe unacceptable condition:

Location: _____

Condition: _____

_____

_____

Describe any repairs to soil cap conducted since previous inspection:

_____

_____

_____

All repairs adequate? ☐ YES ☐ NO — Photograph of repair attached

2. *Asphalt and Concrete Pavement* – Observe asphalt and concrete paving for unauthorized excavation and other damage.

Does pavement maintain a protective barrier for underlying soils? ☐ YES ☐ NO

If so, attach photographs (if any) documenting acceptable conditions. ☐

If no, attach photograph ☐ and describe unacceptable condition:

Location: _____

Condition: _____

_____

_____

Describe any repairs to pavement conducted since previous inspection:

_____

_____

_____

All repairs adequate? ☐ YES ☐ NO — Photograph of repair attached

3. *Dike Vegetative Cover* – Where contaminated soil remains, inspect the Dike vegetative cover for erosion, ruts, pot holes, subsidence, unauthorized excavation, and other damage.

Does the Dike vegetative cover maintain a protective barrier for underlying soils? ☐ YES ☐ NO

If so, attach photographs (if any) documenting acceptable conditions. ☐

If no, attach photograph ☐ and describe unacceptable condition:

Location: _____

Condition: _____

_____

_____

Describe any repairs to pavement conducted since previous inspection:

_____

_____

_____

All repairs adequate? ☐ YES ☐ NO — Photograph of repair attached

4. *Post-Remedy Stormwater System* – Observe stormwater swale(s), detention pond, property boundary berms, and other stormwater features for erosion, animal holes, unauthorized excavation, excess sediment or vegetation, and other concerns that could potentially damage the underlying demarcation fabric or lining and/or impede stormwater flow or function.

All stormwater swale areas, detention pond, and berms in acceptable condition? ☐ YES ☐ NO

If so, attach photographs (if any) documenting acceptable conditions. ☐

If no, attach photograph ☐ and describe unacceptable condition:

Location: _____

Condition: _____

_____

_____

Describe any repairs to stormwater system conducted since previous inspection:

_____

_____

_____

All repairs adequate? ☐ YES ☐ NO — Photograph of repair attached

5. *Areas Not Inspected*: _____

Reason: _____

_____

Additional Notes: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Signed: _____ Date:_____