

PORTER TRACT ESTUARY RESTORATION PROJECT
TILLAMOOK COUNTY, OREGON



RENEWS: 6/30/2019

CONSTRUCTION SPECIFICATIONS

SPECIAL PROVISIONS

February 2019

FINAL DESIGN



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Table of Contents

STANDARD SPECIFICATIONS	1
INTRODUCTION.....	1
AMENDMENTS NOT RELATED TO PROJECT SCOPE OF WORK	1
AMENDMENTS TO THE STANDARD SPECIFICATIONS	4
SECTION 00100 – GENERAL CONDITIONS.....	4
SECTION 00220 – ACCOMMODATIONS FOR PUBLIC TRAFFIC	4
SECTION 00280 – EROSION AND SEDIMENT CONTROL.....	4
SECTION 00225 – WORK ZONE TRAFFIC CONTROL.....	5
SECTION 00290 – ENVIRONMENTAL PROTECTION.....	5
SECTION 00310 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS	5
SECTION 00320 – CLEARING AND GRUBBING.....	6
SECTION 00330 – EARTHWORK	6
SECTION 00390 – STREAMBED MATERIAL.....	7
SECTION 00510 – STRUCTURE EXCAVATION AND BACKFILL	8
SECTION 00570 – TIMBER STRUCTURES	8
SECTION 01030 – SEEDING	9
SPECIAL PROVISIONS.....	10
INTRODUCTION TO THE SPECIAL PROVISIONS	10
PART 00100 – GENERAL CONDITIONS	10
DESCRIPTION OF WORK	10
SECTION 00110.20 - DEFINITIONS.....	10
SECTION 00120 – BID REQUIREMENTS AND PROCEDURES.....	12
SECTION 00170 – LEGAL RELATIONS AND RESPONSIBILITIES.....	13
SECTION 00180 – PROSECUTION AND PROGRESS.....	13
PART 00200 – TEMPORARY FEATURES AND APPURTENANCES.....	14
SECTION 00245 – TEMPORARY WATER MANAGEMENT	14
SECTION 00250 – TEMPORARY ACCESSS ROADS.....	16
PART 00500 – BRIDGES	17
SECTION 00575 – PREFABRICATED BRIDGE AND ABUTMENT SYSTEM	17
PART 01000 – RIGHT OF WAY DEVELOPMENT AND CONTROL	19
SECTION 01041 – BRUSHPILES AND SALVAGED LOGS.....	20
SECTION 01042 – WOOD HABITAT STRUCTURES	20

STANDARD SPECIFICATIONS

INTRODUCTION

The following Amendments and Special Provisions shall be used in conjunction with the 2018 Oregon Department of Transportation (ODOT) Oregon Standard Specifications for Construction, hereafter “Standard Specifications”.

AMENDMENTS NOT RELATED TO PROJECT SCOPE OF WORK

The following is a list of current Amendments to the Standard Specifications which do not relate to any items in this project’s scope of work and have not been included in this document. If any of these amendments do become necessary for the progress of the work, the Contracting Agency will provide a copy to the Contractor. Copies of all current amendments are also available at the Oregon Department of Transportation internet web site at

http://www.oregon.gov/ODOT/HWY/SPECS/Pages/2018_Standard_Specifications.aspx

Section 00205 – Field Laboratory, Weight house, Etc.

Section 00335 - Blasting Methods and Protection of Excavation Backslopes

Section 00396 - Shotcrete Slope Stabilization

Section 00398 - Rock Slope Stabilization and Reinforcement

Section 00406 - Tunneling, Boring, and Jacking

Section 00410 - Common Provisions for Pipe Lining

Section 00411 - Pipe Bursting and Slip lining

Section 00412 - Cured in Place Pipe lining

Section 00415 - Video Pipe Inspection

Section 00430 - Subsurface Drains

Section 00432 - Wearing Surface Drains

Section 00435 - Prefabricated Vertical Drains

Section 00440 - Commercial Grade Concrete

Section 00450 - Structural Plate Shaped Structures

Section 00460 - Paved Culvert End Slopes

Section 00470 - Manholes, Catch Basins, and Inlets

Section 00475 - Drain Wells

Section 00480 - Drainage Curbs

Section 00490 - Work on Existing Sewers and Structures

Section 00495 - Trench Resurfacing

Section 00501 - Bridge Removal

Section 00503 - Bridge Deck Cold Plane Pavement Removal

Section 00512 - Drilled Shafts

Section 00535 - Resin Bonded Anchor Systems

Section 00536 - Internal Shear Anchors

Section 00538 - Crack Injecting Existing Bridges

Section 00550 - Precast Prestressed Concrete Members

Section 00555 - Post-Tensioning
Section 00556 - Multi-Layer Polymer Concrete Overlay
Section 00559 - Silica Fume and Latex Modified Concrete Overlays
Section 00581 - Bridge Drainage Systems
Section 00582 - Bridge Bearings
Section 00583 - Electrical Conduit In Structures
Section 00584 - Elastomeric Concrete Nosing
Section 00585 - Expansion Joints
Section 00586 - Expansion Joints, Modular
Section 00587 - Bridge Rails
Section 00591 - Spray Waterproofing Membrane
Section 00593 - Powder Coating Metal Structures
Section 00594 - Preparing and Coating Metal Structures
Section 00595 - Reinforced Concrete Box Culverts
Section 00597 - Sound Walls
Section 00599 - Concrete Slope Paving
Section 00620 - Cold Plane Pavement Removal
Section 00622 - Grinding Concrete Pavement
Section 00635 - Grid-Rolled Aggregate Subbase
Section 00640 - Aggregate Base and Shoulders
Section 00641 - Aggregate Subbase, Base, and Shoulders
Section 00705 - Emulsified Asphalt Prime Coat and Emulsified Asphalt Fog Coat
Section 00706 - Emulsified Asphalt Slurry Seal Surfacing
Section 00710 - Single Application Emulsified Asphalt Surface Treatment
Section 00711 - Pre-Coated Aggregate Asphalt Surface Treatment
Section 00715 - Multiple Application Emulsified Asphalt Surface Treatment
Section 00730 - Emulsified Asphalt Tack Coat
Section 00735 - Emulsified Asphalt Concrete Pavement
Section 00740 - Commercial Asphalt Concrete Pavement (CACP)
Section 00743 - Porous Asphalt Concrete (PAC)
Section 00744 - Asphalt Concrete Pavement
Section 00745 - Asphalt Concrete Pavement - Statistical Acceptance
Section 00746 - Crack Sealing Flexible Pavements
Section 00748 - Asphalt Concrete Pavement Repair
Section 00749 - Miscellaneous Asphalt Concrete Structures
Section 00754 - Plain Concrete Pavement Repair
Section 00755 - Continuously Reinforced Concrete Pavement
Section 00756 - Plain Concrete Pavement
Section 00758 - Reinforced Concrete Pavement Repair
Section 00759 - Miscellaneous Portland Cement Concrete Structures
Section 00810 - Metal Guardrail
Section 00811 - Cable Barrier
Section 00812 - Adjusting and Repairing Guardrail

Section 00815 – Bollards
Section 00820 - Concrete Barrier
Section 00822 - Glare Shields
Section 00830 - Impact Attenuators
Section 00840 - Delineators and Milepost Marker Posts
Section 00842 - Facility Identification Markers
Section 00850 - Common Provisions for Pavement Markings
Section 00851 - Pavement Marking Removal
Section 00855 - Pavement Markers
Section 00856 - Surface Mounted Tubular Markers
Section 00950 - Removal of Electrical Systems
Section 00960 - Common Provisions for Electrical Systems
Section 00962 - Metal Illumination and Traffic Signal Supports
Section 00963 - Signal Support Drilled Shafts
Section 00970 - Highway Illumination
Section 00921 - Major Sign Support Drilled Shafts
Section 00990 - Traffic Signals
Section 01070 - Mailbox Supports
Section 01100 - Water Supply Systems

AMENDMENTS TO THE STANDARD SPECIFICATIONS

The following Amendments to the Standard Specifications are made a part of this contract and supersede any conflicting provisions of the Standard Specifications.

Each Amendment contains all current revisions to the applicable section of the Standard Specifications and may include references which do not apply to this particular project. The deletion, amendment, alteration, or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section, and in no way should it be interpreted that the balance of the section does not apply unless stated as such.

All instances of text within the standard specifications that contain "Agency" or "ODOT" shall be replaced by, refer to, or imply "The Nature Conservancy" or "TNC". All instances of text within the Amendments, Special Provisions, and Plans that contain Contracting Agency Representative (CAR) shall also be replaced by, refer to, or imply TNC.

Italicized wording in the following sections are taken from the Standard Specifications and show the modifications for this project.

SECTION 00100 – GENERAL CONDITIONS

00150.60 – Construction Equipment Restrictions

Amend this section with the following:

(d) Protection of Sensitive Wetland Areas and Waterbodies – All construction equipment operating in the wetland, channel, and berm and culvert removal shall exclusively use biobased hydraulic fluids. Biobased hydraulic fluids include those made with renewable resources such as natural vegetable oil. All equipment working in the channel area must be steam-cleaned prior to construction activities at the site to remove contaminants that may enter the project site.

SECTION 00220 – ACCOMMODATIONS FOR PUBLIC TRAFFIC

00220.40 – General Requirements

Amend this section with the following:

For safety and security, the public shall not access any parts of the construction work limits, along the construction access and haul route, to the channel grading areas, or to the culvert and berm removal areas as shown on the Plans, or any other areas of the site where active construction is taking place. Exceptions to this must be mutually agreed upon by the Contractor, and TNC.

SECTION 00280 – EROSION AND SEDIMENT CONTROL

SECTION 00280.15 Run-of Control Materials:

(a) Check Dams – Furnish check dam material meeting the following requirements:

Supplement this list with the following:

- *Meter bulkbags. – Durable, weather-resistant bulk material bags of approximately one meter (3.2 feet) in width, depth, and height. Fill meter-sized bulk bags with firmly-packed fine PCC 3/8" -0 aggregate, or round 3/8" – 3/16" pea gravel.*

SECTION 00225 – WORK ZONE TRAFFIC CONTROL

00225.02(a) Temporary Signs

Add the following to the end of this subsection:

Install a 54-inch "TRUCKS LEAVING HIGHWAY 500 FT" sign in advance of each entrance point to the work area at sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings. Install a 54-inch "TRUCKS ENTERING HIGHWAY 500 FT" sign in advance of each exit point from the work area at sign spacing "A" from the "TCD Spacing Table" shown on the Standard Drawings.

00225.05 (b) Traffic Control Plan

Amend this section with the following:

The contractor shall submit a Traffic Control Plan to the Nature Conservancy and the Engineer at the pre-construction meeting for approval. The contractor shall provide stamped Working Drawings according to 00153.35 that include the proposed TCP showing all TCM and quantities of TCD.

SECTION 00290 – ENVIRONMENTAL PROTECTION

SECTION 00290.30 Pollution Control

Revise paragraph (b) to read:

*A "Pollution Control Plan Contractor Packet" is available from ODOT:
<https://www.portlandoregon.gov/transportation/article/657807>*

SECTION 00310 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

00310.44 Earthwork in Connection with Removal

Supplement this paragraph with the following:

All removal, haul off, and legal disposal of all encountered debris and structures required to remove the Connection Channel Culvert shown on the Plans is included in the "Demo Connection Channel Culvert" bid item.

Excavation required to remove the culvert and berm at the Porter Connection Channel shall not be considered incidental to this pay item because the excavation quantity is large. Excavation required to remove the berm is included in the "Excavate Channels" pay item.

All minor excavation, removal, haul off, and legal disposal of all encountered debris and structures required to remove water control structures (tide gates, culverts, etc.) shown on the Plans shall be considered incidental to the "Demo Water Control Structures" bid item.

SECTION 00320 – CLEARING AND GRUBBING

Supplement paragraph(a) Clearing Trees and Other Vegetation with the following:

Salvage native trees and brush that are cleared within the construction limits according to Special Provision Section 01041 Brushpiles and Salvaged Logs.

SECTION 00330 – EARTHWORK

00330.41 Excavations

Supplement this section with the following:

Earthwork quantities are approximate. Quantities were calculated based on bank volumes between existing grade and finish grade surfaces. Existing grade surfaces were developed using LiDAR topographic data which can have variable accuracy due to vegetative cover, open water, and other sources of error.

Channel Excavation includes earthen berm removal, channel construction, haul, regrading, and compaction of this material in the low mounds as shown on the Plans. The upper 18 inches (or depth otherwise that completely captures reed canarygrass rootmass) of all channel excavation shall be kept separate and disposed of in the lowest lift (at the bottom or buried to the extent possible) of the low mounds as directed by the CAR.

All work for excavating material, hauling material, and finish grading surfaces is included in the "Excavate Channel" bit item.

Dike Removal includes the Hathaway and Stasek Slough dike removal, haul, regrading, and compaction of this material in the low mounds as shown on the Plans. The upper 18 inches (or depth otherwise that completely captures reed canarygrass rootmass) of all dike removal shall be kept separate and disposed of in the lowest lift (at the bottom or buried to the extent possible) of the low mounds as directed by the CAR.

All work for excavating material, hauling material, and finish grading surfaces is included in the "Hathaway & Stasek Slough Dike Removal" bit item.

Low Mounds and Ditch Fills shall be as indicated on the Plans. Excavation material from Channel Excavation, and all other excavation areas shall be placed and final graded in an undulating finished surface, with heights of fill not to exceed 2.5 feet, or as otherwise directed by the CAR. Final finish

grading of the mounds shall facilitate drainage, and not result in ponded areas or excessive erosion. Grading shall allow future access to and use of these areas by the landowner (TNC), and shall not result in unsafe conditions for users of the property.

Placement, grading, and compaction of excavation material in the Low Mounds and ditch fill along the Sandpiper Channel is included in the "Excavate Channel" bid item.

Placement, grading, and compaction of excavation material in the ditch along 101 is included in the "Fill Ditch along 101" bid item.

Fill placed in the Low Mounds and ditch fills shall be compacted in lifts not to exceed 12-inches. Compaction shall be to a firm condition. Acceptance of compaction methods and final compaction shall be determined by the CAR. The surface of the compacted fill shall be prepared for planting according to Section 1040 of these Specifications.

SECTION 00390 - STREAMBED MATERIAL

Supplement this section with the following:

Work under this section consists of furnishing and placing streambed material that is resistant to scour and erosion from flows in the Porter Connector Channel bridge. Streambed material shall be placed for scour protection under the new bridge as shown on the Plans.

(a) General - Streambed rock shall consist of round (river run) rock and conform to all provisions of this section. Angular (quarry run) rock shall not be used for streambed rock. Rock shall have a minimum specific unit weight of 2.5.

(b) Gradation Requirements - Streambed rock shall be well-graded and follow the class and weight of rock below.

Streambed Material:

Rock Size Range (Inch)	% Passing by Weight
8 - 12	100
6 - 8	50
2 - 6	20
1/2	5

(c) Control Sample – Contractor shall coordinate with the Engineer to visually inspect the proposed streambed material for meeting gradation requirements prior to delivery of material to the work site.

Engineer inspection shall be performed **at the quarry** as coordinated by the contractor. The Contractor shall not deliver streambed material to the work site until Engineer inspection and approval is given.

Construction

- (a) Rock for streambed material shall be placed as shown on the Plans. The minimum layer thickness of Streambed Material shall be 24 inches unless otherwise shown. Key in streambed material into the sideslopes and channel bottom by the dimensions shown on the Plans.
- (b) Bridge concrete pile caps and helical piles shall be embedded (covered) by streambed material by the dimensions shown on the Plans.
- (c) Place streambed rock by excavator bucket. Placement of rock by end-dumping shall not be allowed. Use the back of the excavator bucket to form, smooth, and slope the surface of the streambed material as shown on the Plans and to ensure rock-to-rock contact.
- (d) Rock shall be embedded and buried with 1 foot of native channel material so that no rock is exposed at the channel finished grade lines.

All work to place streambed material is considered incidental to the "Bridge Construction" bid item.

SECTION 00510 – STRUCTURE EXCAVATION AND BACKFILL

00510.46 Preparation of Foundations

Supplement this section with the following:

The contractor (or bridge designer if not the contractor) shall submit bridge live load, dead load, lateral load reactions, anchor bolt locations, bridge bearing pad, helical pile and precast reinforced-concrete pile cap layout to the CAR and Engineer. Contractor is responsible to obtain all needed soils, hydraulic, and survey data and analysis required to construct abutments if not already available.

The bridge abutments system shall comply with requirements of geotechnical engineering report (October 5th, 2018, Geotechnics LLC) available upon request from the CAR.

SECTION 00570 – TIMBER STRUCTURES

Supplement this section with the following:

00570.12 Timber Fabrication

Replace this section with the following:

All glulam members and sawn timber to be incised and fully fabricated in a plant with facilities for performing work specified. Factory drill all holes to the extent possible. All bridge timber shall be Alaskan Yellow Cedar sealed with nontoxic, environmentally friendly sealant. Pressure treatment shall be prohibited from all timber members.

00570.13 Timber Storage

Supplement this section with the following:

The Contractor is responsible for handling and protection of bridge members after arrival at destination. All bridge materials shall be unloaded and handled with a forklift or crane using nylon slings. Any damage must be reported immediately to the bridge supplier's engineering department.

00570.40 Treated Timber

Supplement this section with the following:

Install the timber bridge according to manufacturer's shop details and installation drawings. Set structural members in locations and to elevations indicated on the Plans. Make provisions for erection loads and provide temporary bracing to maintain bridge true and plumb, and in true alignment until completion of erection. Do not field cut, drill, or alter structural members without written approval from the timber bridge company's professional engineer.

SECTION 01030 - SEEDING

01030.14 Fertilizer

Replace this section with the following:

Fertilizer shall not be used.

01030.13 Seed Supplement paragraph (f) with the following:

Areas to receive loose seeding are shown in the Plans.

Native Erosion Control Seed shall meet the Native Plant Seeding standard. Native Erosion control Seed Mix shall be composed as per the table in the plans:

BOTANICAL NAME	COMMON NAME	LBS PLS/ ACRES
<i>Alopecurus geniculatus</i>	water foxtail	1.09
<i>Bromus carinatus</i>	California brome	12.20
<i>Carex obnupta</i>	slough sedge	0.71
<i>Deschampsia cespitosa</i>	tufted hairgrass	1.02
<i>Hordeum brachyantherum</i>	meadow barley	25.11

01030.60 General

Supplement this section with the following:

- **Native Erosion Control Seed Mix** – 90% coverage of ground surface or greater

SPECIAL PROVISIONS

INTRODUCTION TO THE SPECIAL PROVISIONS

The work on this project shall be accomplished in accordance with the Standard Specifications of the Oregon Department of Transportation (ODOT). The Standard Specifications, as modified or supplemented by the Amendments to the Standard Specifications and these Special Provisions, all of which are made a part of the Contract Documents, shall govern all of the Work.

These Special Provisions are made up of both General Special Provisions (GSPs) from various sources, which may have project-specific fill-ins; and project-specific Special Provisions. Each Provision supplements, modifies, or replaces the comparable Standard Specification, or is a new Provision. Where conflicts between standard or amended standard specifications and special provisions arise, the more stringent specification shall govern.

Also incorporated into the Contract Documents by reference are:

- *Manual on Uniform Traffic Control Devices for Streets and Highways*, currently adopted edition, with Oregon State modifications, if any.

Contractor shall obtain copies of these publications, at Contractor's own expense.

PART 00100 – GENERAL CONDITIONS

DESCRIPTION OF WORK

This contract provides for the construction of tidal channels, removal of five culverts/tide gates and associated earthen berms, construction of two bridges, and other associated work for restoration of the Porter Tract Estuary Project. Construction requires sequencing grading to prevent upstream tidal flows through sloughs into respective channel grading areas. Work also includes seeding of native erosion control seed mix, temporary erosion and traffic control, and other work, all in accordance with the attached Contract Plans, these Contract Provisions, and the Standard Specifications. The project is located in Tillamook County, Oregon.

SECTION 00110.20 - DEFINITIONS

This Section is supplemented with the following:

All references in the Standard Specifications to the terms "State", "Department of Transportation", "Secretary of Transportation", "Secretary", "Headquarters", and "State Treasurer" shall be revised to read "Contracting Agency" (The Nature Conservancy, hereafter "TNC").

All references to "State Materials Laboratory" shall be revised to read "Contracting Agency designated location".

The venue of all causes of action arising from the advertisement, award, execution, and performance of the contract shall be in the Superior Court of Tillamook County.

Additive

A supplemental unit of work or group of bid items, identified separately in the proposal, which may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.

Alternate

One of two or more units of work or groups of bid items, identified separately in the proposal, from which the Contracting Agency may make a choice between different methods or material of construction for performing the same work.

Contracting Agency Representative (CAR)

TNC's representative.

Contract Documents

See definition for "Contract".

Contract Time

The period of time established by the terms and conditions of the contract within which the work must be physically completed.

Dates***Bid Opening Date***

The date on which the Contracting Agency publicly opens and reads the bids.

Award Date

The date of the formal decision of the Contracting Agency to accept the lowest responsible and responsive bidder for the work.

Contract Execution Date

The date the Contracting Agency officially binds the agency to the contract.

Notice to Proceed Date

The date stated in the Notice to Proceed on which the contract time begins.

Substantial Completion Date

The day the Engineer determines the Contracting Agency has full and unrestricted use and benefit of the facilities, both from the operational and safety standpoint, and only minor incidental work, replacement of temporary substitute facilities, or correction or repair remains for the physical completion of the total contract.

Physical Completion Date

The day all of the work specified in the contract is physically completed. All documentation required by the contract and required by law does not necessarily need to be furnished by the Contractor by this date.

Completion Date

The day all the work specified in the contract is completed and all the obligations of the Contractor under the contract are fulfilled by the Contractor. All documentation required by the contract and required by law must be furnished by the Contractor before establishment of this date.

Final Acceptance Date

The date on which the Contracting Agency accepts the work as complete.

Logs

The lower trunk of a large tree.

Notice of Award

The written notice from the Contracting Agency to the successful bidder signifying the Contracting Agency’s acceptance of the bid.

Notice to Proceed

The written notice from the Contracting Agency or Engineer to the Contractor authorizing and directing the Contractor to proceed with the work and establishing the date on which the contract time begins.

Rootwads

The lower root fan of a large tree.

Roughened Rock Toe

A streambank constructed with imported streambed cobble for ballast of logs and scour protection, native streambed materials, and wood habitat structures to form a natural streambank for bank protection and aquatic habitat improvement.

Traffic

Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and equestrian traffic.

Wood Habitat Structures (WHS)

Logs (with or without root wads) placed in groups in the project area to enhance in-stream and riparian habitat.

SECTION 00120 – BID REQUIREMENTS AND PROCEDURES

00120.05 REQUESTS FOR SOLICITATION DOCUMENTS

Amend this section and replace it with the following:

Information as to where Bid Documents can be obtained or reviewed will be found in the Call for Bids (Advertisement for Bids) for the work.

After award of the contract, plans and specifications will be issued to the Contractor at no cost as detailed below:

To Prime Contractor	No. of Sets	Basis of Distribution
Reduced plans (11" x 17") and Contract Provisions	1	Furnished automatically upon award.
Large plans (e.g., 22" x 34") and Contract Provisions	2	Furnished only upon request.

Additional plans and Contract Provisions may be purchased by the Contractor by payment of the cost stated in the Call for Bids.

SECTION 00170 – LEGAL RELATIONS AND RESPONSIBILITIES

00170.02 PERMITS, LICENCES AND TAXES

Amend this section as follows:

The Contracting Agency has obtained the below-listed permit(s) for this project. A copy of the permit(s) is attached as an appendix for informational purposes. All contacts with the permitting agency concerning the below-listed permit(s) shall be through the Contracting Agency. The Contractor shall obtain additional permits as necessary. All costs to obtain and comply with additional permits shall be included in the applicable bid items for the work involved.

Name of document	Permitting Agency	Permit Reference #
Joint Permit Application (JPA)	Joint – State of OR & USACE, Portland District	Pending
Dept. of the Army Section 404 Permit	USACE, Portland District	(See JPA – above)
1200C Stormwater Discharge Permit	OR Dept. of Env Quality (DEQ)	Pending
DSL Fill-Removal Permit	OR Dept. of State Lands	(See JPA – above)
Grading Permit	Tillamook County	Pending
Floodplain Permit	Tillamook County	Pending

SECTION 00180 – PROSECUTION AND PROGRESS

This section is supplemented with the following:

This project shall be physically completed within *** 45 *** working days.

The contractor shall provide submittals for items including but not limited to:

Submittal	Schedule / Milestone
Construction Schedule	Pre-construction meeting
Site Access Plan	Pre-construction meeting
Traffic Control Plan	Pre-construction meeting
Environmental Protection Plan	Pre-construction meeting
Water Management Plan	Pre-construction meeting
Erosion & Sed. Control Plan	Pre-construction meeting
Bridge and Abutment Plan	Pre-construction meeting

Product Data/Samples/Certificates for

Native Erosion Control Seeding	4 weeks prior to installation
Wood Habitat Structure Materials	4 weeks prior to installation
Straw Wattle / Erosion Control Materials	2 weeks prior to installation
Aggregate/Rock Materials	2 weeks prior to installation

PART 00200 – TEMPORARY FEATURES AND APPURTENANCES

SECTION 00245 – TEMPORARY WATER MANAGEMENT

Section 00245, which is not a Standard Specification, is included in this Project by Special Provision.

Description

00245.00 Scope - This work consists of furnishing, installing, operating, maintaining, and removing temporary water management facilities in work areas.

Water management will be required to prevent tidal waters from flowing into and through existing slough channel grading areas. The existing tide gate between the railroad track and US 101 shall be closed prior to excavation to prevent water from flowing onto the site. Water levels should be maintained as low as possible (at low tide elevations) in the work areas to minimize saturation of soils primarily within the excavation work areas.

Tidal connections shall be completed after all other grading is complete and final excavations shall be done at low tide to minimize turbidity.

00245.02 Definitions:

Temporary Water Management Facility (System) - A facility that conveys water around work areas, removes water from work areas, and treats and discharges water at locations outside work areas.

00245.03 Temporary Water Management Plan - The CAR Temporary Water Management Plan (TWMP) is a concept plan. Before beginning work in regulated work areas, submit working drawings of a Contractor-developed TWMP, according to 00150.35, based on either the CAR concept plan or an independent plan that meets water quality and environmental guideline requirements and does not affect neighboring properties or water rights.

Include at least the following information:

- The sequence and schedule for dewatering and re-watering.
- Porter Slough isolation from tidal flows during culvert removal and construction of the bridge.

- How the stream flow will be routed and conveyed around or through the work areas.
- How the culvert removal work areas will be drawn down for excavation and removal of structures.
- How the pumped water will be treated before it is discharged downstream.
- Discuss all construction stages.
- A list of on-site backup materials and equipment.
- Listing of dewatering pump(s) type and capacity.

The Engineer's written approval shall be received before beginning in-water work.

00245.10 Materials - Furnish materials meeting the following requirements:

Plastic Sheeting	00280.14(a)
Bulk Bags (meter size sandbags)	00280.15(a)
Water Intake Screening	00290.34(c)

Furnish pumps that are:

- Self-priming.
- Equipped with a variable speed governor.
- Equipped with a power source.
- Standby power (backup generator)
- Able to pump water that contains soft and hard solids.

00245.40 Fish Removal - The CAR or ODFW biologists will remove fish and aquatic life from the isolation work areas. The contractor shall allow them access into the isolation work areas before and after installation of the temporary water management facilities and provide pumping as needed to accomplish removal as follows:

- **Before Installation of Facilities** - Before installing temporary water management facilities fish and aquatic life will be removed within the proposed isolated work area.
- **After Installation of Facilities** - After installing temporary water management facilities, the water level will be reduced through the isolated work area. All fish and aquatic life will be removed as the water level is reduced. The isolation area shall not be de-watered until all fish and aquatic life have been removed.
- Installation of the cofferdams shall take place at low tide to minimize fish entrapment.

00245.42 Operation - Operate temporary water management as follows:

- Maintain water flow downstream (and upstream) of and through the work area for the duration of the diversion to prevent water from “backing-up” upstream.

- Clean and repair any temporary bypass culvert(s) and check valve to maintain adequate flow and protection of aquatic life.
- Cofferdam shall have min. elevation of 11 feet NAVD88 to prevent overtopping from daily tidal fluctuations.

00245.44 Removal - Remove the temporary water management facility and restore the sloughs channels as approved by the Engineer.

00245.80 Measurement - No measurement of quantities will be made for temporary water management facilities.

The estimated quantities of materials required for the temporary water management facility are:

Temporary Water Management Facility at Porter Connector Channel and all new channel connections:

Turbidity Curtain	As necessary
Plastic Sheeting	As necessary
Bulk Bags and Small Sandbags	As necessary
Dewatering pumps	As necessary

00245.90 Payment - The accepted quantities of temporary water management facilities will be paid for at the Contract lump sum amount for the item Temporary Water Management Facility (System).

Payment will be payment in full for furnishing and placing all materials, and for furnishing all equipment, labor, and incidentals necessary to complete the work as specified.

No separate or additional payment will be made for designing, maintaining, operating, moving, and removing the facility.

SECTION 00250 – TEMPORARY ACCESS ROADS

DESCRIPTION

Work under this section consists of constructing new temporary work access roads and improving existing access roads. Use of existing access roads and construction of new temporary work access roads will be required for construction of the project, including mobilization and demobilization of equipment, machinery, and vehicles, and for haul of excavations to the onsite disposal areas.

New temporary access roads may be required and shall minimize to the extent practicable construction impacts on the existing access road and adjacent areas. Trees removed for temporary access roads shall be used for habitat features.

CONSTRUCTION

Existing Access Roads

Improvements to the existing access roads may include leveling of the road, placement of gravel to stabilize the roadbed, and repair and minimize ruts and erosion. All Contractor-proposed improvements shall be flagged, reviewed and approved by the CAR before commencement of this work.

Before leaving the site and completion of construction, the Contractor shall restore all existing access roads. Restoration shall generally return the road to its previous condition and level of use and may include regrading and removal of ruts, stabilization of roadbed with crushed aggregate, and revegetation with erosion control mix as described in these Specifications.

New Temporary Access Roads

All clearing, grading and other work required for new temporary access roads shall be flagged, reviewed and approved by the CAR before commencement of this work.

New temporary access be constructed on an as needed basis only. The actual location shall be the responsibility of the Contractor.

- Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes should not exceed 10 percent.
- All grades should be sufficient to provide drainage but should not exceed 4 percent.
- Temporary roadbeds shall be no greater than 15 feet wide unless otherwise approved by the CAR.
- Both existing and new temporary roads may require periodic dressing with aggregate. Vegetated or seeded areas adjacent to the roads and parking areas should be checked periodically to ensure that a vigorous stand of vegetation is maintained.

Before leaving the site and completion of construction, the Contractor shall remove all new temporary access roads and restore these areas. Restoration shall generally return the site to its previous condition and may include regrading, scarification of compacted soils, and revegetation as shown in the Plans and as described in these Specifications.

MEASUREMENT AND PAYMENT

Temporary Access Roads shall be considered incidental to the site "Mobilization / Demob." bid item.

PART 00500 – BRIDGES

SECTION 00575 – PREFABRICATED BRIDGE AND ABUTMENT SYSTEM

Section 00575, which is not a Standard Specification, is included in this Project by Special Provision.

00575.00 Scope

This section includes the design, fabrication, supply, and erection of the prefabricated (pre-engineered) bridge and abutment systems as shown on the Plans and described in these Specifications. A conceptual

design of the prefabricated bridge and abutment systems is depicted on the Plans. The Contractor shall be responsible for the final design, fabrication, supply, and erection of the prefabricated bridge and abutment system including pile supports.

The prefabricated bridges shall be timber and meet the specifications and dimensions shown in the plans. The bridge may be preconstructed or constructed on site. The supplier shall furnish all materials including connecting steel and hardware for a complete installation.

The bridge abutments shall be per the manufacture. Abutments shall be precast reinforced concrete or another material that meets approval of the Engineer except that **cast-in-place concrete shall not be allowed**. Bridge abutments shall comply with the requirements of the geotechnical engineering report.

The bridge abutments shall be supported by helical pile as indicated on the Plans. The abutment shall include or accommodate some means of structural-mechanical connection between each helical pile and the abutment such as a welded, bolted, or similar connection method that meets the approval of the Engineer and the manufacturer.

BRIDGE SUPPLIER QUALIFICATIONS:

The bridge supplier must be a company specializing in the design and fabrication of prefabricated bridges, with a minimum of five (5) years documented experience. Accepted manufacturers include:

Western Wood Structures, Inc.

P.O. Box 130
Tualatin, OR 97062-0130
(800) 547-5411
www.westernwoodstructures.com

Pacific Bridge Construction

P.O. Box 1711
Sandy, OR 97055
(971) 563-9401
www.pacbridgeinc.com

BIG R Bridge

P.O. Box 1290
Greeley, CO 80632-1290
(970) 347-2227
www.bigrbridge.com

HELICAL PILE SUPPLIER QUALIFICATIONS:

The pile supplier must be a company specializing in the design and fabrication of helical piles, with a minimum of five (5) years documented experience. Accepted manufacturers include:

PLI Systems, Inc

3045 SE 61st Ct.
Hillsboro, OR 97213
(503) 649-8111
www.plisystems.com

McDowell NW Pile King Inc.

7414 NE 47th Ave
Vancouver, WA 98661
(503) 283-8920
www.pileking.com

00575.20 Submittals

Submit shop drawings and product data under the provisions of Section 00150.37. Shop drawings shall include: general layout of the bridge structure, abutment, and helical piles and structural design, bridge elevation and cross section, and fabrication details for all wood members and steel assemblies. Include all pertinent dimensions, wood grades, drilled holes, fasteners, cambers, connectors, and types of preservative treatment. Shop drawings to be stamped by a registered engineer, licensed to practice in the state of Oregon.

- a) Submit design calculations stamped by a registered engineer licensed to practice in the state of Oregon.
- b) Furnish an AITC or APA-EWS Certificate of Conformance stating that the glulam members conform to the specifications (if applicable).
- c) Furnish a WCLIB or WWPA Certificate of Conformance for all sawn lumber.
- d) Furnish a Certificate of Treatment stating that the glulams and sawn timber have been sealed with environmentally safe products in accordance with the specifications and permits.
- e) Certified test reports shall be furnished for the structural bridge elements, high strength bolts, elastomeric bearing pads, and anchor bolts.
- f) Provide a written warranty against defects in material and workmanship for period of five (5) years.

MEASUREMENT

00575.80 Measurement

The timber bridge and abutment systems will be measured separately for each bridge, abutment, and pile support on a lump sum basis. Bid items are differentiated by bridge length.

PAYMENT

00575.90 Payment

The “prefabricated bridge and abutment system” bid items will be paid for at the Contract unit price on a lump sum basis. Payment will be in full for furnishing and placing all materials, and for furnishing all equipment, labor, and incidentals necessary to complete the work as specified. No separate or additional payment will be made for hardware, fasteners, preservative treatment, coatings.

PART 01000 – RIGHT OF WAY DEVELOPMENT AND CONTROL

SECTION 01041 – BRUSHPILES AND SALVAGED LOGS

DESCRIPTION

Work under this section consists of 1) salvaging logs within the work limits, 2) placing salvaged logs in grading area as shown on the Plans, and 3) placing salvaged vegetation as brushpiles in accordance with the Plans and these Special Provisions.

MATERIALS

During clearing activities, salvage the two large Spruce trees along Hathaway Slough for reuse in the channel grading areas as habitat wood. These logs shall have their rootwads intact. Salvage branches and limbs for use in brush piles. Ends and limbs shall not be trimmed as broken ends and limbs are preferred.

Brushpile material, if approved for use by the CAR, may be salvaged onsite during clearing activities. Materials for brush piles shall be derived from native species only and shall not contain noxious weeds or non-native species which shall be hauled and disposed of offsite.

CONSTRUCTION

Brushpiles shall be arranged along the side slopes of the Low Mounds above elevation 10 as directed in the field by the CAR.

Large salvaged logs shall be placed as follows unless directed otherwise in the field by the CAR:

1. Sharpen the end of the tree trunk to a point.
2. Drive the sharpened end of the log into the finish grade surface, angling the log along the side slope of the channels as shown on the Plans. Drive the log one-quarter of its overall length into the soil.
3. Push the log rootwad into the soil so that the roots are partially embedded into the soil.

MEASUREMENT AND PAYMENT

All equipment, labor, and materials required for placement of brushpiles and salvaged logs shall be considered incidental to Clearing and Grubbing. No additional payment shall be made for placement of Brushpiles or salvaged logs.

SECTION 01042 – WOOD HABITAT STRUCTURES

DESCRIPTION

This work shall consist of furnishing and placing all Wood Habitat logs and rootwads as shown in the plans and specified here.

MATERIALS

Materials will meet the following requirements:

- **General:** Tree species shall be Douglas Fir, Hemlock, Cedar, Spruce and Alder that are disease free, have limited rot or decay (Utility Grade 95 minimum), and be clean of dirt and debris. Large Wood for stream placement will be limited to Douglas Fir and Cedar species.
- **Log Sourcing:** Large Wood may originate from one or more of the following sources:
 - a. Forest Stewardship Council (FSC) certified timber,
 - b. Healthy Forest, Healthy Communities (HFHC) timber,
 - c. Northwest urban salvage timber or other approved Northwest salvage timber,
 - d. Utility grade and 12"+3 SAW LWD originating from approved Oregon Department of Forestry Timber Sales,
 - e. Owner Supplied LWD.
- **Log Supplier List:** The following supplier list is provided to assist with Large Wood sourcing and procurement:

<u>Log Supplier</u>	<u>Contact Person/e-mail</u>	<u>Telephone No.</u>
Trout Mountain Forestry	Scott Ferguson Scott@troutmountain.com	503-222-9772
Hyla Woods	Peter Hayes peter@hylawoods.com	971-678-9466
NW Natural Resource Group	Kirk Hansen kirk@nnrg.org	360-316-9317
Integrated Resource Management	Mark Barnes marc@irmforestry.com	541-929-3408
Warm Springs Forest Industries	Chris Ketcham Chris.ketcham@vanport-intl.com	541-553-1148
Warm Springs Forest Manager	Jim Rice Jim.rice@wstribes.org	541-553-2006

- **Diameter:** The diameter of the LWD *without rootwads* measured at breast height from base of tree trunk are 16-24 inches with a tolerance of +/- 4 inches. The diameter of the LWD *with rootwads* measured at breast height from base of tree trunk are 18-36 inches with a tolerance of +/- 4 inches.
- **Length:** Logs shall range in length from 12 – 40 feet (including the rootwad) as shown in the plans.

Rootwads: Rootwads shall be attached to the trunk and have a minimum fan diameter of 4 feet. Rootwads shall have a stout root structure with roots that are at least 2 inches in diameter. All twigs and

branches (except for the roots) shall be removed to stubs no longer than four inches. Branches shall be reserved and interwoven into the imbedded rootwad to provide greater structure and complexity.

CONSTRUCTION

1. Embed the wood habitat structures as shown on the plans. Embed by sharpening the end of the log and driving it into undisturbed ground instead of over excavating wherever possible.
2. Visible log ends shall be broken in a manner that does not compromise the integrity of the log. Ends may be broken prior to installation. No visible saw cut ends will be allowed.

MEASUREMENT AND PAYMENT

The “Wood Habitat Structures” bid item will be measured and payed per each log placed.