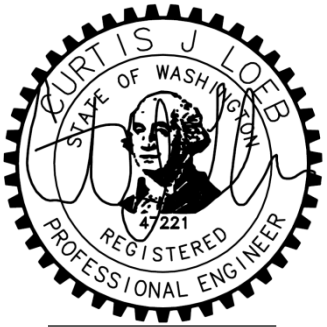
Lower Columbia Estuary Partnership

PORTLAND, OR

STEIGERWALD FLOODPLAIN RESTORATION
WASHOUGAL, WASHINGTON

CONSTRUCTION SPECIFICATIONS
AMENDMENTS AND SPECIAL PROVISIONS

100% DESIGN
OCTOBER 2019



EXPIRES: 9/25/2021

PREPARED BY

WOLF WATER RESOURCES

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Laura Herbon
Landscape Architect, LLC

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INTRODUCTION

The following Special Provisions shall be used in conjunction with the 2020 Standard Specifications for Road, Bridge, and Municipal Construction.

INTRODUCTION TO THE STANDARD AMENDMENTS

There are no amendments to the 2020 WSDOT Standard Specifications.

INTRODUCTION TO THE SPECIAL PROVISIONS

The following Special Provisions are made a part of this contract and supersede any conflicting provisions of the 2020 Standard Specifications for Road, Bridge and Municipal Construction.

Several types of Special Provisions are included in this contract; General, Region, Bridges and Structures, and Project Specific. Special Provisions types are differentiated as follows:

(date)	General Special Provision
(******)	Notes a revision to a General Special Provision and also notes a Project Specific Special Provision.
(Regions[1] date)	Region Special Provision

General Special Provisions are similar to Standard Specifications in that they typically apply to many projects, usually in more than one Region. Usually, the only difference from one project to another is the inclusion of variable project data, inserted as a "fill-in".

Region Special Provisions are commonly applicable within the designated Region. Region designations are as follows:

Regions[1]	
ER	Eastern Region
NCR	North Central Region
NWR	Northwest Region
OR	Olympic Region
SCR	South Central Region
SWR	Southwest Region
WSF	Washington State Ferries Division

Project Specific Special Provisions normally appear only in the contract for which they were developed.

Division 1
General Requirements

1-01.3 Definitions

(******)

Delete the heading **Completion Dates** and the three paragraphs that follow it, and replace them with the following:

Dates

Bid Opening Date
The date on which the Owner publicly opens and reads the Bids.

Award Date
The date of the formal decision of the Owner to accept the lowest responsible and responsive Bidder for the Work.

Contract Execution Date
The date the Owner 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 Owner has full and unrestricted use and benefit of the facilities, both from the operational and safety standpoint, any remaining traffic disruptions will be rare and brief, and only minor incidental work, replacement of temporary substitute facilities, plant establishment periods, or correction or repair remains for the Physical Completion of the total Contract.

Physical Completion Date
The day all of the Work is physically completed on the project. 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 Owner accepts the Work as complete.

Supplement this Section with the following:

All references in the Standard Specifications, Amendments, or WSDOT General Special Provisions, to the terms “State”, “Department of Transportation”, “Washington State Transportation Commission”, “Commission”, “Secretary of Transportation”, “Secretary”, “Headquarters”, “State Treasurer”, and/or “Contracting Agency’s Representative / CAR”, shall be revised to read “Owner (Lower Columbia Estuary Partnership, hereafter “LCEP”),” or “Owner’s Project Representative (OPR).”

All references to the terms “State” or “state” shall be revised to read “Owner” unless the reference is to an administrative agency of the State of Washington, a State statute or regulation, or the context reasonably indicates otherwise.

All references to “State Materials Laboratory” shall be revised to read “Owner designated location”.

All references to “final contract voucher certification” shall be interpreted to mean the Owner form(s) by which final payment is authorized, and final completion and acceptance granted.

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 the County where the Owner’s headquarters are located.

Additive
A supplemental unit of work or group of bid items, identified separately in the Bid Proposal, which may, at the discretion of the Owner, 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 Bid Proposal, from which the Owner may make a choice between different methods or material of construction for performing the same work.

Business Day
A business day is any day from Monday through Friday except holidays as listed in Section 1-08.5.

Contract Bond
The definition in the Standard Specifications for “Contract Bond” applies to whatever bond form(s) are required by the Contract Documents, which may be a combination of a Payment Bond and a Performance Bond.

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.

Notice of Award
The written notice from the Owner to the successful Bidder signifying the Owner’s acceptance of the Bid Proposal.

Notice to Proceed
The written notice from the Owner 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.

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

1-02.2 Plans and Specifications

(June 27, 2011 APWA GSP)

Delete this section and replace it with the following:

Information as to where Bid Documents can be obtained or reviewed can 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")	1	Furnished automatically upon award.
Contract Provisions	1	Furnished automatically upon award.
Large plans (e.g., 22" x 34")	2	Furnished only upon request.

Additional plans and Contract Provisions may be obtained by the Contractor from the source stated in the Call for Bids, at the Contractor's own expense.

1-02.4 Examination of Plans, Specifications and Site of Work

1-02.4(1) Subsurface Information

Section 1-02.4(1) is supplemented with the following:

(September 3, 2019)
The reference information for this project is available for review by the bidder at the following location:

*** Appendix E – Geotechnical Analysis in the Basis of Design Report ***
(available upon request)

The reference information includes the following:

***

- Borehole and test pit explorations
- Site geology
- General stratigraphy
- Groundwater monitoring
- Lab testing
    - Soil classification
    - Natural moisture content

- o Grain size distribution
- o Atterberg limits
- o Unit Weights
- o Consolidation tests
- o Consolidated-Undrained Triaxial Shear Tests

***

1-02.5 Proposal Forms

(July 31, 2017 APWA GSP)

Delete this section and replace it with the following:

The Proposal Form will identify the project and its location and describe the work. It will also list estimated quantities, units of measurement, the items of work, and the materials to be furnished at the unit bid prices. The bidder shall complete spaces on the proposal form that call for, but are not limited to, unit prices; extensions; summations; the total bid amount; signatures; date; and, where applicable, retail sales taxes and acknowledgment of addenda; the bidder's name, address, telephone number, and signature; the bidder's UDBE/DBE/M/WBE commitment, if applicable; a State of Washington Contractor's Registration Number; and a Business License Number, if applicable. Bids shall be completed by typing or shall be printed in ink by hand, preferably in black ink. The required certifications are included as part of the Proposal Form.

The Owner reserves the right to arrange the proposal forms with alternates and additives, if such be to the advantage of the Owner. The bidder shall bid on all alternates and additives set forth in the Proposal Form unless otherwise specified.

1-02.6 Preparation of Proposal

(June 20, 2017 APWA GSP)

Supplement the second paragraph with the following:

4. If a minimum bid amount has been established for any item, the unit or lump sum price must equal or exceed the minimum amount stated.

5. Any correction to a bid made by interlineation, alteration, or erasure, shall be initialed by the signer of the bid.

Delete the fourth paragraph and replace it with the following:

The Bidder shall submit with the Bid a completed Underutilized Disadvantaged Business Enterprise (UDBE) Utilization Certification, when required by the Special Provisions. For each and every UDBE firm listed on the Bidder's completed Underutilized Disadvantaged Business Enterprise Utilization Certification, the Bidder shall submit written confirmation from that UDBE firm that the UDBE is in agreement with the UDBE participation commitment that the Bidder has made in the Bidder's completed Underutilized Disadvantaged Business Enterprise Utilization Certification. WSDOT ***FORM 422-031***U (Underutilized Disadvantaged Business Enterprise Written Confirmation Document) is to be used for this purpose. Bidder must submit good faith effort documentation with the Underutilized Disadvantaged Business Enterprise Utilization Certification only in the event the bidder's efforts to solicit sufficient

UDBE participation have been unsuccessful. Directions for delivery of the Underutilized Disadvantaged Business Enterprise Written Confirmation Documents and Underutilized Disadvantaged Business Enterprise Good Faith Effort documentation are included in Sections 1-02.9

Delete the last paragraph, and replace it with the following:

The Bidder shall make no stipulation on the Bid Form, nor qualify the bid in any manner.

A bid by a corporation shall be executed in the corporate name, by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign).

A bid by a partnership shall be executed in the partnership name, and signed by a partner. A copy of the partnership agreement shall be submitted with the Bid Form if any UDBE requirements are to be satisfied through such an agreement.

A bid by a joint venture shall be executed in the joint venture name and signed by a member of the joint venture. A copy of the joint venture agreement shall be submitted with the Bid Form if any UDBE requirements are to be satisfied through such an agreement.

Add the following new section:

1-02.6(1) Recycled Materials Proposal

(January 4, 2016 APWA GSP)

The Bidder shall submit with the Bid, its proposal for incorporating recycled materials into the project, using the form provided in the Contract Provisions.

1-02.7 Bid Deposit

(March 8, 2013 APWA GSP)

Supplement this section with the following:

Bid bonds shall contain the following:

1. Owner-assigned number for the project;
2. Name of the project;
3. The Owner named as obligee;
4. The amount of the bid bond stated either as a dollar figure or as a percentage which represents five percent of the maximum bid amount that could be awarded;
5. Signature of the bidder's officer empowered to sign official statements. The signature of the person authorized to submit the bid should agree with the signature on the bond, and the title of the person must accompany the said signature;
6. The signature of the surety's officer empowered to sign the bond and the power of attorney.

If so stated in the Contract Provisions, bidder must use the bond form included in the Contract Provisions.

If so stated in the Contract Provisions, cash will not be accepted for a bid deposit.

1-02.9 Delivery of Proposal

(July 31, 2017 APWA GSP, Option A)

Delete this section and replace it with the following:

Each Proposal shall be submitted in a sealed envelope, with the Project Name and Project Number as stated in the Call for Bids clearly marked on the outside of the envelope, or as otherwise required in the Bid Documents, to ensure proper handling and delivery.

If the project has FHWA funding and requires UDBE Written Confirmation Document(s) or Good Faith Effort (GFE) Documentation, then to be considered responsive, the Bidder shall submit Written Confirmation Documentation from each UDBE firm listed on the Bidder's completed UDBE Utilization Certification, form 272-056U, as required by Section 1-02.6. The UDBE Written Confirmation Document(s) and/or GFE (if any) shall be received either with the Bid Proposal or as a Supplement to the Bid. The document(s) shall be received **no later than 24 hours** (not including Saturdays, Sundays and Holidays) after the time for delivery of the Bid Proposal.

The Bidder shall submit to the Owner a signed "Certification of Compliance with Wage Payment Statutes" document where the Bidder under penalty of perjury verifies that the Bidder is in compliance with responsible bidder criteria in RCW 39.04.350 subsection (1) (g), as required per Section 1-02.14. The "Certification of Compliance with Wage Payment Statutes" document shall be received either with the Bid Proposal or **no later than 24 hours** (not including Saturdays, Sundays and Holidays) after the time for delivery of the Bid Proposal.

If submitted after the Bid Proposal is due, the document(s) must be submitted in a sealed envelope labeled the same as for the Proposal, with "Supplemental Information" added. All other information required to be submitted with the Bid Proposal must be submitted with the Bid Proposal itself, at the time stated in the Call for Bids.

The Owner will not open or consider any Bid Proposal that is received after the time specified in the Call for Bids for receipt of Bid Proposals, or received in a location other than that specified in the Call for Bids. The Owner will not open or consider any "Supplemental Information" (UDBE confirmations, GFE documentation, or Certification of Compliance with Wage Payment Statutes) that is received after the time specified above, or received in a location other than that specified in the Call for Bids.

1-02.13 Irregular Proposals

(June 20, 2017 APWA GSP)

Delete this section and replace it with the following:

1. A Proposal will be considered irregular and will be rejected if:
   a. The Bidder is not prequalified when so required;

b. The authorized Proposal form furnished by the Owner is not used or is altered;
c. The completed Proposal form contains any unauthorized additions, deletions, alternate Bids, or conditions;
d. The Bidder adds provisions reserving the right to reject or accept the award, or enter into the Contract;
e. A price per unit cannot be determined from the Bid Proposal;
f. The Proposal form is not properly executed;
g. The Bidder fails to submit or properly complete a Subcontractor list, if applicable, as required in Section 1-02.6;
h. The Bidder fails to submit or properly complete an Underutilized Disadvantaged Business Enterprise Certification, if applicable, as required in Section 1-02.6;
i. The Bidder fails to submit written confirmation from each UDBE firm listed on the Bidder's completed UDBE Utilization Certification that they are in agreement with the bidder's UDBE participation commitment, if applicable, as required in Section 1-02.6, or if the written confirmation that is submitted fails to meet the requirements of the Special Provisions;
j The Bidder fails to submit UDBE Good Faith Effort documentation, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to demonstrate that a Good Faith Effort to meet the Condition of Award was made;
k. The Bid Proposal does not constitute a definite and unqualified offer to meet the material terms of the Bid invitation; or
l. More than one Proposal is submitted for the same project from a Bidder under the same or different names.

2. A Proposal may be considered irregular and may be rejected if:
   a. The Proposal does not include a unit price for every Bid item;
   b. Any of the unit prices are excessively unbalanced (either above or below the amount of a reasonable Bid) to the potential detriment of the Owner;
   c. Receipt of Addenda is not acknowledged;
   d. A member of a joint venture or partnership and the joint venture or partnership submit Proposals for the same project (in such an instance, both Bids may be rejected); or
   e. If Proposal form entries are not made in ink.

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

(March 13, 2012 APWA GSP)

Revise the second paragraph to read:

Any inconsistency in the parts of the contract shall be resolved by following this order of precedence (e.g., 1 presiding over 2, 2 over 3, 3 over 4, and so forth):

1. Addenda,
2. Proposal Form,
3. Special Provisions,
4. Contract Plans,

5. Amendments to the Standard Specifications,
6. Standard Specifications,
7. Owner's Standard Plans or Details (if any), and
8. WSDOT Standard Plans for Road, Bridge, and Municipal Construction.

1-05.3 Working Drawings

Section 1-05.3 is supplemented with the following:

(September 3, 2019)
When submittals require review by the railroad, the Engineer will require up to 60 calendar days from the date the submittals are received until they are returned to the Contractor. If a submittal is returned unapproved and then resubmitted, then an additional review time of up to 60 calendar days will be required.

If more than 60 calendar days are required for the Engineer's review of any individual submittal or resubmittal, an extension of time will be considered in accordance with Section 1-08.8.

1-05.4 Conformity with and Deviations from Plans and Stakes

Section 1-05.4 is supplemented with the following:

(August 7, 2017)
Contractor Surveying - Structure
Copies of the Owner provided primary survey control data are available for the bidder's inspection at the office of the Engineer.

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of bridges, noise walls, and retaining walls. Except for the survey control data to be furnished by the Owner, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility.

The Contractor shall inform the Engineer when monuments are discovered that were not identified in the Plans and construction activity may disturb or damage the monuments. All monuments noted on the plans "DO NOT DISTURB" shall be protected throughout the length of the project or be replaced at the Contractors expense.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three working days after the end of the shift.

The meaning of words and terms used in this provision shall be as listed in "Definitions of Surveying and Associated Terms" current edition, published by the American Congress on Surveying and Mapping and the American Society of Civil Engineers.

The survey work by the Contractor shall include but not be limited to the following:

1. Verify the primary horizontal and vertical control furnished by the Owner, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to the Owner. The description shall include coordinates and elevations of all secondary control points.

2. Establish, by placing hubs and/or marked stakes, the location with offsets of foundation shafts and piles.

3. Establish offsets to footing centerline of bearing for structure excavation.

4. Establish offsets to footing centerline of bearing for footing forms.

5. Establish wing wall, retaining wall, and noise wall horizontal alignment.

6. Establish retaining wall top of wall profile grade.

7. Establish elevation benchmarks for all substructure formwork.

8. Check elevations at top of footing concrete line inside footing formwork immediately prior to concrete placement.

9. Check column location and pier centerline of bearing at top of footing immediately prior to concrete placement.

10. Establish location and plumbness of column forms, and monitor column plumbness during concrete placement.

11. Establish pier cap and crossbeam top and bottom elevations and centerline of bearing.

12. Check pier cap and crossbeam top and bottom elevations and centerline of bearing prior to and during concrete placement.

13. Establish grout pad locations and elevations.

14. Establish structure bearing locations and elevations, including locations of anchor bolt assemblies.

15. Establish box girder bottom slab grades and locations.

16. Establish girder and/or web wall profiles and locations.

17. Establish diaphragm locations and centerline of bearing.

18. Establish roadway slab alignment, grades and provide dimensions from top of girder to top of roadway slab. Set elevations for deck paving machine rails.

19. Establish traffic barrier and curb profile.

20. Profile all girders prior to the placement of any deadload or construction live load that may affect the girder's profile.

The Contractor shall provide the Owner copies of any calculations and staking data when requested by the Engineer.

To facilitate the establishment of these lines and elevations, the Owner will provide the Contractor with the following primary survey and control information:

1. Descriptions of two primary control points used for the horizontal and vertical control. Primary control points will be described by reference to the project alignment and the coordinate system and elevation datum utilized by the project. In addition, the Owner will supply horizontal coordinates for the beginning and ending points and for each Point of Intersection (PI) on each alignment included in the project.

2. Horizontal coordinates for the centerline of each bridge pier.

3. Computed elevations at top of bridge roadway decks at one-tenth points along centerline of each girder web. All form grades and other working grades shall be calculated by the Contractor.

The Contractor shall give the Owner three weeks notification to allow adequate time to provide the data outlined in Items 2 and 3 above. The Contractor shall ensure a surveying accuracy within the following tolerances:

		Vertical	Horizontal
1.	Stationing on structures		±0.02 feet
2.	Alignment on structures		±0.02 feet
3.	Superstructure elevations	±0.01 feet variation from plan elevation	
4.	Substructure	±0.02 feet variation from Plan grades.	

The Owner may spot-check the Contractor's surveying. These spot-checks will not change the requirements for normal checking by the Contractor.

When staking the following items, the Contractor shall perform independent checks from different secondary control to ensure that the points staked for these items are within the specified survey accuracy tolerances:

Piles
Shafts
Footings
Columns

The Contractor shall calculate coordinates for the points associated with piles, shafts, footings and columns. The Owner will verify these coordinates prior to issuing approval

to the Contractor for commencing with the survey work. The Owner will require up to seven calendar days from the date the data is received to issuing approval.

Contract work to be performed using contractor-provided stakes shall not begin until the stakes are approved by the Owner. Such approval shall not relieve the Contractor of responsibility for the accuracy of the stakes.

Payment

Payment will be made for the following bid item when included in the proposal:

"Structure Surveying", lump sum.

The lump sum contract price for "Structure Surveying" shall be full pay for all labor, equipment, materials, and supervision utilized to perform the Work specified, including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, and coordination efforts.

(*****)

Contractor Surveying - Gibbons Creek Floodwall Monument

Install WSDOT survey monument Type 1 per Standard Plan H-6 (Exhibit B, WSDOT Hwy Surveying Manual Chapter 16). Replace disk label on SP H-6 with the following:

POCW SURVEY MONUMENT
EL 45.7 FT NAVD88
FLOODWALL STA 58+84

Brass disc shall be furnished by the contractor

No separate measurement or payment will be made for Contractor Surveying – Gibbons Creek Floodwall, this work is considered incidental to the “Contractor Surveying - Roadway” bid item.

Note: monument shall be set at elevation 45.7 feet NAVD88, which is the minimum elevation of the top of the floodwall.

(August 7, 2017)

Contractor Surveying - Roadway

Copies of the Owner provided primary survey control data are available for the bidder's inspection at the office of the Engineer.

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of the roadbed, drainage, surfacing, paving, channelization and pavement marking, illumination and signals, guardrails and barriers, and signing. Except for the survey control data to be furnished by the Owner, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility.

The Contractor shall inform the Engineer when monuments are discovered that were not identified in the Plans and construction activity may disturb or damage the monuments. All monuments noted on the plans “DO NOT DISTURB” shall be protected throughout the length of the project or be replaced at the Contractors expense.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three working days after the end of the shift.

The meaning of words and terms used in this provision shall be as listed in "Definitions of Surveying and Associated Terms" current edition, published by the American Congress on Surveying and Mapping and the American Society of Civil Engineers.

The survey work shall include but not be limited to the following:

1. Verify the primary horizontal and vertical control furnished by the Owner, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of secondary control to the Owner. The description shall include coordinates and elevations of all secondary control points.

2. Establish, the centerlines of all alignments, by placing hubs, stakes, or marks on centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs) and at points on the alignments spaced no further than 50 feet.

3. Establish clearing limits, placing stakes at all angle points and at intermediate points not more than 50 feet apart. The clearing and grubbing limits shall be 5 feet beyond the toe of a fill and 10 feet beyond the top of a cut unless otherwise shown in the Plans.

4. Establish grading limits, placing slope stakes at centerline increments not more than 50 feet apart. Establish offset reference to all slope stakes. If Global Positioning Satellite (GPS) Machine Controls are used to provide grade control, then slope stakes may be omitted at the discretion of the Contractor

5. Establish the horizontal and vertical location of all drainage features, placing offset stakes to all drainage structures and to pipes at a horizontal interval not greater than 25 feet.

6. Establish roadbed and surfacing elevations by placing stakes at the top of subgrade and at the top of each course of surfacing. Subgrade and surfacing stakes shall be set at horizontal intervals not greater than 50 feet in tangent sections, 25 feet in curve sections with a radius less than 300 feet, and at 10-foot intervals in intersection radii with a radius less than 10 feet. Transversely, stakes shall be placed at all locations where the roadway slope changes and at additional points such that the transverse spacing of stakes is not more than 12 feet. If GPS Machine Controls are used to provide grade control, then roadbed and surfacing stakes may be omitted at the discretion of the Contractor.

7. Establish intermediate elevation benchmarks as needed to check work throughout the project.

8. Provide references for paving pins at 25-foot intervals or provide simultaneous surveying to establish location and elevation of paving pins as they are being placed.

9. For all other types of construction included in this provision, (including but not limited to channelization and pavement marking, illumination and signals, guardrails and barriers, and signing) provide staking and layout as necessary to adequately locate, construct, and check the specific construction activity.

10. Contractor shall determine if changes are needed to the profiles or roadway sections shown in the Contract Plans in order to achieve proper smoothness and drainage where matching into existing features, such as a smooth transition from new pavement to existing pavement. The Contractor shall submit these changes to the Engineer for review and approval 10 days prior to the beginning of work.

The Contractor shall provide the Owner copies of any calculations and staking data when requested by the Engineer.

To facilitate the establishment of these lines and elevations, the Owner will provide the Contractor with primary survey control information consisting of descriptions of two primary control points used for the horizontal and vertical control, and descriptions of two additional primary control points for every additional three miles of project length. Primary control points will be described by reference to the project alignment and the coordinate system and elevation datum utilized by the project. In addition, the Owner will supply horizontal coordinates for the beginning and ending points and for each Point of Intersection (PI) on each alignment included in the project.

The Contractor shall ensure a surveying accuracy within the following tolerances:

	Vertical	Horizontal
Slope stakes	±0.10 feet	±0.10 feet
Subgrade grade stakes set 0.04 feet below grade	±0.01 feet	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Stationing on roadway	N/A	±0.1 feet
Alignment on roadway	N/A	±0.04 feet
Surfacing grade stakes	±0.01 feet	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)

Roadway paving pins for surfacing or paving	±0.01 feet	±0.2 feet (parallel to alignment) ±0.1 feet (normal to alignment)

The Owner may spot-check the Contractor's surveying. These spot-checks will not change the requirements for normal checking by the Contractor.

When staking roadway alignment and stationing, the Contractor shall perform independent checks from different secondary control to ensure that the points staked are within the specified survey accuracy tolerances.

The Contractor shall calculate coordinates for the alignment. The Owner will verify these coordinates prior to issuing approval to the Contractor for commencing with the work. The Owner will require up to seven calendar days from the date the data is received.

Contract work to be performed using contractor-provided stakes shall not begin until the stakes are approved by the Owner. Such approval shall not relieve the Contractor of responsibility for the accuracy of the stakes.

Stakes shall be marked in accordance with Standard Plan A10.10. When stakes are needed that are not described in the Plans, then those stakes shall be marked, at no additional cost to the Owner as ordered by the Engineer.

Payment

Payment will be made for the following bid item when included in the proposal:

"Roadway Surveying/Construction Surveying & Staking", lump sum.

The lump sum contract price for "Roadway/Construction Surveying & Staking" shall be full pay for all labor, equipment, materials, and supervision utilized to perform the Work specified, including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, and coordination efforts.

(******)

Supplement the description of Contractor Surveying – Roadway with the following:

Work for the "Roadway/Construction Surveying & Staking" bid item shall include but is not limited to survey necessary to complete the following items of work:

- Excavation (all bid items; i.e., all levees, channels, habitat areas)
- Test fills
- Wood habitat structures
- Parking Lot
- Crushed Surfacing (aggregate for trails)
- Other earthwork and grading not listed above

(April 4, 2011)

Licensed Surveyors

The Contractor shall be responsible for reestablishing or locating legal survey markers such as GLO monuments or property corner monuments, conduct boundary surveys to determine Owner right-of-way locations, and obtain, review and analyze deeds and records as necessary to determine these boundaries. The Owner will provide “rights of entry” as needed by the Contractor to perform the work.

The Contractor shall brush out or clear and stake or mark the right-of-way lines as designated by the Engineer.

The Contractor shall inform the Engineer when monuments are discovered that were not identified in the Plans and construction activity may disturb or damage the monuments. All monuments noted on the plans “DO NOT DISTURB” shall be protected throughout the length of the project or be replaced at Contractors expense.

When required, the Contractor shall prepare and file a Record of Survey map in accordance with RCW 58.09 and provide a recorded copy to the Owner. The Owner will provide all existing base maps, existing horizontal and vertical control, and other material available with Washington State Plane Coordinate information to the Contractor. The Owner will also provide maps, plan sheets, and/or aerial photographs clearly identifying the limits of the areas to be surveyed. The Contractor shall establish Washington State Plane Coordinates on all points required in the Record of Survey and other points designated in the Contract documents.

Existing right of way documentation, existing base maps, existing horizontal and vertical control descriptions, maps, plan sheets, aerial photographs and all other available material may be viewed by prospective bidders at the office of the Engineer.

The Contractor shall perform all of the necessary calculations for the contracted survey work and shall provide copies of these calculations to the Owner. Electronic files of all survey data shall be provided and in a format acceptable to the Owner.

All survey work performed by the Contractor shall conform to all applicable sections of the Revised Code of Washington and the Washington Administrative Code.

The Contractor shall provide all traffic control, signing, and temporary traffic control devices in order to provide a safe work zone.

Payment

Payment will be made in accordance with Section 1-09.6 for the following bid item when included in the proposal:

“Licensed Surveying”, Force Account.
For the purpose of providing a common proposal for all bidders, the Owner has entered an amount for the item "Licensed Surveying" in the bid proposal to become a part of the total bid by the Contractor.

1-05.14 Cooperation With Other Contractors

Section 1-05.14 is supplemented with the following:

(March 13, 1995)

Other Contracts or Other Work

It is anticipated that the following work adjacent to or within the limits of this project will be performed by others during the course of this project and will require coordination of the work:

***

Coordination with WSDOT project managers will be mandatory for all work in the SR 14 right of way. This coordination will include, but not be limited to providing project schedules and holding weekly progress meetings with WSDOT staff.

For work within SR 14 ROW, if conflicting traffic impacts result from scheduled work activities of the Steigerwald project and the adjacent WSDOT project, the Contractor shall make adjustments to their work schedule to minimize traffic impacts to the adjacent WSDOT project.

The WSDOT engineer that will oversee construction of the Steigerwald project will be:

Danae Austenfield, PE
Columbia Gorge Area Engineering Office
(360)759-1312

The WSDOT engineer that will oversee construction of the adjacent SR 14 Access Improvements (M.P. 16.1 to M.P. 17.1) project will be:

Susan Fell, PE
Clark County Engineering Office
(360)905-1501

Work on this project is scheduled to begin on April 19, 2019. ***

1-07.5 Legal Relations and Responsibilities to the Public

Environmental Regulations

Section 1-07.5 is supplemented with the following:

(September 20, 2010)

Environmental Commitments

The following Provisions summarize the requirements, in addition to those required elsewhere in the Contract, imposed upon the Owner by the various documents referenced in

the Special Provision **Permits and Licenses**. Throughout the work, the Contractor shall comply with the following requirements:

(******)
Any temporary fills placed for the temporary bypass road in the wetland must be removed in their entirety and areas returned to their preexisting elevation.

(August 3, 2009)
Payment
All costs to comply with this special provision for the environmental commitments and requirements are incidental to the contract and are the responsibility of the Contractor. The Contractor shall include all related costs in the associated bid prices of the contract.

1-07.5(4) Air Quality

Section 1-07.5(4) is supplemented with the following:

(SWR September 29, 2014)
For this project, the local air pollution agency is
*** Southwest Clean Air Agency ***.

1-07.16 Protection and Restoration of Property

1-07.16(2) Vegetation Protection and Restoration

Section 1-07.16(2) is supplemented with the following:

(******)
Vegetation and soil protection zones for trees shall extend out from the trunk to the dripline. The dripline is defined as the furthest horizontal extents of the canopy.

Vegetation and soil protection zones for shrubs shall extend out from the stems at ground level to twice the radius of the shrub.

Vegetation and soil protection zones for herbaceous vegetation shall extend to encompass the diameter of the plant as measured from the outer edge of the plant.

Private Property Along Gibbons Creek – Floodwall / Berm Construction
During construction of the engineered earthen berm along Gibbons Creek, large fir trees along Gibbons Creek as shown on the Plans shall be protected. Significant damage to trees shall incur assessed damages of $30,000 per tree.

Significant damage shall be defined as: any damage that is deemed likely to jeopardize the survival or health of the tree and may include, but are not limited to, bark stripping, broken limbs, extensive damage to root systems, poisoned root systems, puncture wounds, drastic reduction of surface roots or leaf canopy, or changes in grade (topography greater than 6 inches for more than 1/3 of the root fan area. Solely the OPR shall determine if significant damage has occurred.

Some overexcavation and cutting of root systems is anticipated in the vicinity of the large fir trees for construction of the berm. This overexcavation and root cutting shall not be considered significant damage and shall not incur assessed damages. Follow the Standard Specification for root care when root cutting is conducted. OPR and Geotechnical Engineer shall be on site to ensure proper clearing and grubbing, overexcavation, and root cutting so as to minimize impacts to the trees.

1-07.17 Utilities and Similar Facilities

Section 1-07.17 is supplemented with the following:

(April 2, 2007)
Locations and dimensions shown in the Plans for existing facilities are in accordance with available information obtained without uncovering, measuring, or other verification.

The following addresses and telephone numbers of utility companies known or suspected of having facilities within the project limits are supplied for the Contractor's convenience:

***
Clark Public Utilities (CPU)
Aleksey Shkuratkov, Assoc. Design Engineer
PO Box 8900
Vancouver, WA 98668
360-992-8593
360-992-3000 (main)
***

1-07.18 Public Liability and Property Damage Insurance

Section 1-07.18 is supplemented with the following:

(April 1, 2013)

Relations With Railroad

Railroad Company, as used in the following specifications, shall be the railroad company or companies, or railway company or companies specified in these Special Provisions. The following provisions, though referring to a single Railroad Company, shall be applicable to each of the following railroad companies or railway companies:

*** BNSF ***

Protection of Railroad Property
The Contractor shall exercise care in all operations and shall, at the Contractor's expense, protect the property of the Railroad Company and the Company's appurtenances, property in its custody, or persons lawfully upon its right of way, from damage, destruction, interference or injury caused by the Contractor's operations. The Contractor shall prosecute the work to not interfere with the Railroad Company or its appurtenances, or any of the Railroad Company's trains or facilities, and shall

complete the work to a condition that shall not interfere with or menace the integrity or safe and successful operations of the Railroad Company or its appurtenances, or any of the Railroad Company's trains or facilities.

The Contractor shall not transport equipment, machinery, or materials across the Railroad Company's tracks, except at a public crossing, without the written consent of the Railroad Company.

The Contractor shall keep the right of way and ditches of the Railroad Company open and clean from any deposits or debris resulting from its operations. The Contractor shall be responsible for the cost to clean and restore ballast of the Railroad Company which is disturbed or becomes fouled with dirt or materials when such deposits or damage result from the Contractor’s operations, except as provided elsewhere.

The Contractor's work shall be conducted in such a manner that there will be a minimum of interference with the operation of railroad traffic. The Railroad Company will specify what periods will be allowed the Contractor for executing any part of the work in which the Railroad Company's tracks will be obstructed or made unsafe for operation of railroad traffic.

In the event that an emergency occurs in connection with the work specified, the Railroad Company reserves the right to do any and all work that may be necessary to maintain railroad traffic. If the emergency is caused by the Contractor, the Contractor shall pay the Railroad Company for the cost of such emergency work.

Protective services to protect the Railroad Company's facilities, property, and movement of its trains or engines, including railroad flagging and other devices, may be required by the Railroad Company as a result of the Contractor's operations.

The nature and extent of protective services, personnel and other measures required will in all cases be determined by the Railroad Company. Nothing in these specifications will limit the Railroad Company's right to determine and assign the number of personnel, the classes of personnel for protective services, nor other protective measures it deems necessary.
When, in the opinion of the Railroad Company, the services of flaggers or inspectors are necessary for the protection of the Railroad Company's facilities by reason of the Contractor's operations, the Railroad Company will furnish such flaggers or inspectors as may be required. The Contractor shall notify the Railroad Company a minimum of *** 30 calendar days *** in advance of whenever the Contractor is about to perform work within Railroad Company property or within 25 feet of the tracks to enable the Railroad Company to provide flagging or other protective services.

The Railroad Company’s contact is:

*** Stephen Semenick
Manager Public Projects – WA, ID, B.C.
BNSF Railway Company
2454 Occidental Ave S, Suite 2D
Seattle, WA 98134
Office: 206.625.6152

Cell: 817.422.2486 ***

No act of the Railroad Company in supervising or approving any work shall reduce or in any way affect the liability of the Contractor for damages, expense, or cost which may result to the Railroad Company from the construction of this Contract.

Unless otherwise provided, all personnel assigned by the Railroad Company, other than those engaged in performing work by the Railroad Company as listed under Construction Work by Railroad Company, will be considered protective personnel.

In general, the Railroad Company will furnish protective services whenever any of the Contractor's operations take place within or near railroad right of way and, in the opinion of the Railroad Company's representative, could endanger railroad facilities or create a hazard to railroad operations.

The Railroad Company's policy for assignment of railroad flaggers requires that the flagging position is established for fixed work days and times. Any railroad flagging performed outside of these parameters may be subject to overtime costs. The Contractor shall verify with the Railroad Company what categories of railroad flagging constitute overtime work, and obtain prior authorization from the Project Engineer before coordinating with the Railroad Company for flagging requiring overtime payments.

The Contractor shall submit to the Railroad Company and the Project Engineer, in writing, an itinerary of work within the Railroad Company's right of way or otherwise requiring a Railroad Company flagger for the following week. If such work spans multiple weeks, the itinerary shall be provided in advance of each work week.

There will be no cost to the Contractor for the railroad protective services, unless:

- Such services result from the Contractor's failure to comply with the terms and conditions of its contract with the Owner or with its Contractor's Right of Entry Agreements with the Railroad Company.

- The Contractor fails to obtain authorization from the Project Engineer prior to coordinating with the Railroad Company for any flagging requiring overtime payments.

- The Contractor arranges for assignment of a railroad flagger and alters Project work so that a flagger is no longer needed, and adequate advance notice is not provided to the Railroad Company of such change in the need for a flagger (*i.e.* causing the Railroad Company to dispatch a flagger billable to the Project when one is not required).

Construction Work by Railroad Company

The work by the Railroad Company as described below will be performed by the Railroad Company with its own forces at no cost to the Contractor:

*** none ***

All work which is performed by the Railroad Company at the Contractor's request and which is for the Contractor's benefit or convenience shall be at the Contractor's expense and the Contractor shall reimburse the Railroad Company for all costs for such work.

The Contractor shall cooperate with the Railroad Company and so conduct operations that the necessary reconstruction of its facilities and the removal of existing facilities can be accomplished without interruption of service.

Contractor's Right of Entry Agreement

No work shall be commenced within the Railroad Company's Property until the Contractor has executed, delivered, and received in return the fully executed Contractor's Right-of-Entry Agreement from the Railroad Company, and has obtained all of the insurance required by the Railroad Company as specified therein. All work within the Railroad Company's right of way or within 25 feet of a public railroad grade crossing shall be in accordance with Railroad's Contractor Requirements and the ***STEIGERWALD FLOODPLAIN RESTORATION PROJECT AGREEMENT BNSF File No. BF10013664 (See Appendices) *** hereafter referred to as the Contractor's Right of Entry Agreement.

The Contractor, its subcontractors or agents, shall at its own expense, obtain and maintain in force all insurance required by Railroad until the completion date of the contract as described in Section 1-08.5 except as stated herein.

When all the work involving construction activities within or immediately adjacent to the railroad right of way is completed, the Contractor may make a written request to the Engineer to be relieved of the responsibility to continue all or part of the insurance specified above. If the Engineer deems the portion of the work in that area is complete, the Engineer may approve the Contractor's request. However, if for any reason the Contractor resumes or starts any new work in that area (including being ordered to do so by the Engineer), the insurance shall be reinstated by the Contractor before the work is started. If the insurance must be reinstated because of the Contractor's operations or failure of the Contractor to perform all the contract requirements, the costs shall be the responsibility of the Contractor. If the insurance must be reinstated because of changes to the contract, the costs will be considered in accordance with Section 1-04.4.

(August 7, 2006)

Contractor's Right of Entry and Insurance Requirements - BNSF

No work shall commence within BNSF Railway Company (BNSF) right of way until the Contractor has executed, delivered, and received in return the fully executed Contractor's Right-of-Entry Agreement from BNSF, and has obtained all of the insurance required by the Railroad. All work within BNSF's right of way shall be in accordance with BNSF's Contractor Requirements and the Contractor's Right of Entry Agreement (See Appendices).

The Contractor, its Subcontractors or agents, shall at its own expense, obtain and maintain in force all insurance required by BNSF until the completion date of the contract as described in Section 1-08.5 except as stated herein.

When all the work involving construction activities within or immediately adjacent to the Railroad right of way is completed, the Contractor may make a written request to the Engineer to be relieved of the responsibility to continue the insurance required by BNSF. If the Engineer deems the portion of the work in that area is complete, the Engineer may approve the Contractor's request. However, if for any reason the Contractor resumes or starts any new work in that area (including being ordered to do so by the Engineer), the insurance shall be reinstated by the Contractor before the work is started. If the insurance must be reinstated because of the Contractor's activities or failure of the Contractor to perform all the contract requirements, the costs shall be the responsibility of the Contractor. If the insurance must be reinstated because of changes to the contract, the costs will be considered in accordance with Section 1-04.4.

1-07.23 Public Convenience and Safety

1-07.23(1) Construction Under Traffic

Section 1-07.23(1) is supplemented with the following:

(January 2, 2012)
Work Zone Clear Zone

The Work Zone Clear Zone (WZCZ) applies during working and nonworking hours. The WZCZ applies only to temporary roadside objects introduced by the Contractor's operations and does not apply to preexisting conditions or permanent Work. Those work operations that are actively in progress shall be in accordance with adopted and approved Traffic Control Plans, and other contract requirements.

During nonworking hours equipment or materials shall not be within the WZCZ unless they are protected by permanent guardrail or temporary concrete barrier. The use of temporary concrete barrier shall be permitted only if the Engineer approves the installation and location.

During actual hours of work, unless protected as described above, only materials absolutely necessary to construction shall be within the WZCZ and only construction vehicles absolutely necessary to construction shall be allowed within the WZCZ or allowed to stop or park on the shoulder of the roadway.

The Contractor's nonessential vehicles and employees private vehicles shall not be permitted to park within the WZCZ at any time unless protected as described above.

Deviation from the above requirements shall not occur unless the Contractor has requested the deviation in writing and the Engineer has provided written approval.

Minimum WZCZ distances are measured from the edge of traveled way and will be determined as follows:

Regulatory Posted Speed	Distance From Traveled Way (Feet)
35 mph or less	10 *
40 mph	15
45 to 55 mph	20
60 mph or greater	30

* or 2-feet beyond the outside edge of sidewalk

Minimum Work Zone Clear Zone Distance

Lane Closure Restrictions

(January 5, 2015)
Lane closures are subject to the following restrictions:

*** No lane closures will be allowed from 6:00 am to 9:00 am and from 4:00 pm to 6:00 pm daily, Monday through Friday. ***

If the Engineer determines the permitted closure hours adversely affect traffic, the Engineer may adjust the hours accordingly. The Engineer will notify the Contractor in writing of any change in the closure hours.

Lane closures are not allowed on any of the following:

1. A holiday,

2. A holiday weekend; holidays that occur on Friday, Saturday, Sunday or Monday are considered a holiday weekend. A holiday weekend includes Saturday, Sunday, and the holiday.

3. After *** noon *** on the day prior to a holiday or holiday weekend, and

4. Before *** 9:00 am *** on the day after the holiday or holiday weekend.

The second paragraph of Section 1-07.23(1) is supplemented with the following:

(******)
The Contractor shall limit the total delay to the public, to a maximum of *** 15 *** minutes, during travel through the project. If the delay becomes greater than *** 15 *** minutes, the Contractor shall immediately begin to take action to cease the operations that are causing the delays. If the *** 15 *** minute delay limit has been exceeded, as determined by the Engineer, the Contractor shall provide to the Engineer, a written proposal to revise his work operations to meet the *** 15 *** minute limit. This proposal shall be approved by the Engineer prior to resuming any work requiring traffic control.

Section 1-07.23(1) is supplemented with the following:

(SWR September 29, 2014)
The Contractor shall notify the Engineer in writing of any traffic impacts for the week by noon Thursday the week prior to the stated impacts except for full lane closures which require 10 day notification. The Contractor shall notify the Engineer in writing of any changes to the stated traffic impacts a minimum of 48 hours prior to the traffic impacts.

1-08.1 Prosecution and Progress

(******)
This section is supplemented with the following:

This project shall be physically completed according to the construction sequencing and schedule shown on the Plans.

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
Environmental Protection Plan	Pre-construction meeting
Temporary Dewatering System Plan	Pre-construction meeting
Erosion & Sed. Control Plan	Pre-construction meeting
Levee Sequencing and Contingency Plan	Pre-construction meeting
Fire Prevention Plan, per Section 1-07.3(1)A1	Pre-construction meeting
Earthwork and Excavation Plan	4 weeks prior to installation
SR 14 Temporary Traffic Control Plans	4 weeks prior to installation
Gibbons Creek Diversion Plan	4 weeks prior to installation
Groundwater Well and Pump System Plan	8 weeks prior to installation
Wood Habitat Structure Log Sourcing Plan	8 weeks prior to installation
Bridge & Abutment System Shop Drawings	8 weeks prior to installation
Levee Test Fill and Monitoring Plan	8 weeks prior to installation
East Levee Precast Concrete Headwall & Wingwall Shop Drawings/Calculations	8 weeks prior to installation
East Levee Culvert Excavation/Trenching Plan	8 weeks prior to installation
East Levee HDPE Culvert Submittal	8 weeks prior to installation
East Levee Pond Xing Structure Drawings	8 weeks prior to installation
East Levee Drainage Gate, Sluice Gate, and Trash Rack Shop Drawings	8 weeks prior to installation
Product Data/Samples/Certificates	
Plantings (Parking Lot)	4 weeks prior to installation
Coir Fabric Materials	4 weeks prior to installation
Crushed Rock Materials	4 weeks prior to installation
Asphalt and Paving Materials	4 weeks prior to installation
Controlled Low Strength Material (CLSM))	4 weeks prior to installation
Separation Geotextiles	4 weeks prior to installation
Seed	4 weeks prior to installation
Bamboo Root Barrier	4 weeks prior to installation
Fertilizers	6 weeks prior to installation

Mulches	6 weeks prior to installation
Tackifiers	6 weeks prior to installation
Cultured Stone Veneer Paint	6 weeks prior to installation
Natina Color Treatment Products	6 weeks prior to installation
Powder Coating	6 weeks prior to installation
Paint and Top Coat	6-weeks prior to installation
Wood Sealants	6 weeks prior to installation
Riffle and Scour Protection Rock	6 weeks prior to installation
Wood Habitat Structure Logs	6 weeks prior to installation
Floodwall and concrete structure formliner	8 weeks prior to installation
Refuge and Parking Lot Items	12 weeks prior to installation

1-08.9 Liquidated Damages

Section 1-08.9 is supplemented with the following:

(******)
Liquidated damages for the Project will be assessed when the Contract Work has exceeded the Setback Levee Completion Date (SLCD) as defined in the Levee Construction Sequencing and Contingency and Communications Plan (LCSCP). The LCSCP is made part of the Contract via the Bid Addenda and Supplemental Documents.

Per sheet G1.5 of the Plans, the SLCD is defined as: November 1

Liquidated damages shall be defined as:

LD = 0.15 * C / T

Where:

LD	=	liquidated damages per working day (rounded to the nearest dollar)
C	=	original Contract amount
T	=	original time for completion of the ***setback levee*** (one construction season, see for construction start/end periods in the LCSCP)

Contingency Measures
In addition to liquidated damages, if setback levee construction is not completed within 21 calendar days of the SLCD, the contractor shall immediately furnish, install, erect, and operate flood fighting materials and measures sufficient to provide flood risk reduction equivalent to authorized (i.e., existing, or current levee heights) levels for interior levee areas at all locations. See construction sequencing plan **sheet G1.5** for further information.

Flood fighting materials and their use shall be subject to the approval of the owner. Flood fighting materials shall include, but are not limited to:

- Excavators, haul trucks, bull dozers, and other similar machinery,
- Sand material for filling sandbags
- Hesco baskets,
- Meter-size sandbags,
- Small sandbags
- Jersey barriers and/or concrete eco-blocks,

- Visqueen sheeting,
- Dewatering pumps,
- Proper safety clothing including gloves and boots.

1-09.3 Scope of Payment

Section 1-09.3 is supplemented with the following:

(August 7, 2017)

Fuel Cost Adjustment

General

The Contracting Agency will make a fuel cost adjustment, either a credit or a payment, for qualifying changes in the index price of on-highway diesel fuel. The adjustment will be applied to partial payments made according to Section 1-09.9.

The adjustment is not a guarantee of full compensation for fuel price changes. Any adjustment provided by this provision shall not obligate the Contracting Agency for any costs due solely to changes in fuel costs beyond the amount adjusted by this provision. The Contracting Agency does not guarantee that fuel will be available at the base fuel cost or monthly fuel cost. No additional adjustment will be made for rates of fuel consumption or actual fuel types that differ from those specified for the purpose of determining the adjustment.

For the purpose of calculating the adjustment, the Base Fuel Cost shall be the *Weekly* fuel price from the ***U.S. Energy Information Administration*** website. The website location and directions are as follows:

- http://www.eia.gov/petroleum/gasdiesel/
- On the web page, click on the ***West Coast less California***, listed under the heading ***U.S On-Highway Diesel Fuel Prices*(dollar per gallon)*** at the lower end of the web page***.***
- In the pull down box labeled ***Period*** pull down ***Weekly.***
- Click on the fuel price history found under the column heading ***View History*** for the line ***Diesel (On-Highway*) *– All Types***.
- On this web page obtain the nearest weekly fuel cost for the Monday occurring three weeks prior to the date that bids are opened. This weekly fuel cost becomes the Base Fuel Cost and is fixed for the duration of the Contract and will be used in calculating all adjustments.

The Monthly Fuel Cost shall be the most recent *Monthly* fuel price from the U.S. Energy Information Administration website. The website location and directions are as follows:

- http://www.eia.gov/petroleum/gasdiesel/
- On the web page, click on the ***West Coast less California***, listed under the heading ***U.S On-Highway Diesel Fuel Prices*(dollar per gallon)*** at the lower end of the web page***.***
- In the pull down box labeled ***Period*** pull down ***Monthly.***
- Click on the fuel price history found under the column heading ***View History*** for the line ***Diesel (On-Highway*) *– All Types***.
- On this web page obtain the most current monthly fuel price.

If the specified index ceases to be available for any reason, the Contracting Agency at its discretion will select and begin using a substitute price source or index to establish the Monthly Fuel Cost.

Measurement

No adjustment will be made if the Monthly Fuel Cost is within 10 percent of the Base Fuel Cost. No adjustment will be made for work performed after the authorized Time for Completion.

If the Monthly Fuel Cost is greater than or equal to 110% of the Base Fuel Cost, then:

Adjustment = (Monthly Fuel Cost – (1.10 x Base Fuel Cost)) x Q

If the Monthly Fuel Cost is less than or equal to 90% of the Base Fuel Cost, then:

Adjustment = (Monthly Fuel Cost – (0.90 x Base Fuel Cost)) x Q

Where Q = Σ ((Fuel Usage Factor for each Eligible Bid Item) x (Quantity paid in the current months progress estimate for each Eligible Bid Item)) for all Eligible Bid Items listed below:

Eligible Bid Item	Fuel Usage Factor
***	
"Excavation – Channels"	0.29 gal/cy
"Excavation - Expanded Habitat Grading"	0.29 gal/cy
"Excavation - Remove Canal/Berms/Trail/Storage Pad/Park Lot"	0.29 gal/cy
"Excavation - Existing Levee Removal"	0.29 gal/cy
"Excavation - Temporary Borrow Area"	0.29 gal/cy
***	

Payment

Payment will be made for the following bid item when included in the bid proposal:

"Fuel Cost Adjustment", by calculation.

To provide a common proposal for all bidders, the Contracting Agency has entered an amount in the proposal to become a part of the Contractor's total bid.

1-10.2 Traffic Control Management

1-10.2(1) General

Section 1-10.2(1) is supplemented with the following:
(January 3, 2017)

Only training with WSDOT TCS card and WSDOT training curriculum is recognized in the State of Washington. The Traffic Control Supervisor shall be certified by one of the following:

The Northwest Laborers-Employers Training Trust
27055 Ohio Ave.
Kingston, WA 98346
(360) 297-3035

Evergreen Safety Council
401 Pontius Ave. N.
Seattle, WA 98109
1-800-521-0778 or
(206) 382-4090

The American Traffic Safety Services Association
15 Riverside Parkway, Suite 100
Fredericksburg, Virginia 22406-1022
Training Dept. Toll Free (877) 642-4637
Phone: (540) 368-1701

1-10.3 Temporary Traffic Control

1-10.3(3)F Vacant

(******)
Section 1-10.3(3) including the header is replaced with the following:

1-10.3(3)F Emergency Detour Signage

Under the bid item, Emergency Detour Signage, the contractor shall purchase and provide the Owner with temporary traffic control devices, with the exclusion of electronic message boards and installation tools and vehicles, specified in Appendix F of the Port of Camas Washougal Operations & Maintenance Manual. These temporary traffic control devices include:

- “Detour”, Right Arrow, signs (#4) (M4-9)
- “Detour”, Left Arrow, signs (#3) (M4-9)
- “Detour”, Straight Arrow, signs (#5) (M4-9)
- “Detour Ahead” signs (#6)
- “Road Closed to Through Traffic” signs (#1) (R11-4)
- “Road Closed” signs, (#2) (R11-2)
- Lane closure barricades (2), Type 3 with warning lights

Coordinate with Owner for timing and delivery of devices.

1-10.5(2) Item Bids With Lump Sum For Incidentals

(******)
This section is supplemented with the following:

“Emergency Detour Signage”, lump sum

The lump sum Contract payment shall be full compensation for delivery of all items described in section 1-10.3(3)F at the time and location indicated by the owner.

(******)
Add this section in its entirety:

1-11 Temporary Widening

1-11.1 Description

The Work consists of constructing, maintaining, and removing temporary widening as shown or directed.

1-11.2 Materials

Materials shall meet the requirements of the following sections:

Gravel Borrow:	Section 9-03.14(1)
Crushed Surfacing:	Section 9-03.9(3)
Hot Mix Asphalt:	Section 5-04

1-11.3 Construction Requirements

1-11.3(A) Earthwork

Construct roadway widening embankments and excavation and compact embankment material according to the applicable parts of Section 2-03.

1-11.3(B) Crushed Surfacing

Place and compact crushed surfacing base course according to the applicable parts of Section 4-04.

1-11.3(C) Hot Mix Asphalt

Place and compact the hot mix asphalt according to the applicable parts of Section 5-04.

1-11.3(D) Maintenance

Maintain widening surfaces according to 1-07.23.

1-11.3(E) Finishing and Cleaning Up

When temporary roadway widening is no longer needed, do the following:

- Remove HMA pavement section
- Restore area of widening to either the original ground contours or finished grade where shown or directed
- Dispose of excess materials according to 2-03.3(7).

1-11.4 Measurement

No measurement of quantities will be made for work performed under this Section. It is estimated that the following approximate quantities of materials will be required:

Roadway Excavation Incl. Haul (incl. widening removal)	1,300 C.Y.
Gravel Borrow Incl. Haul (Incl. compaction)	2,000 TON
Crushed Surfacing Base Course	250 TON
Hot Mix Asphalt	300 TON

1-11.5 Payment

The accepted quantities of work performed under this Section will be paid at the Contract lump sum amount for the item “Construct and Remove Temporary Widening”.

Payment will be payment in full for constructing, maintaining, and removing temporary widening, and for furnishing and placing all Materials, and for furnishing all Equipment, labor, and incidentals necessary to complete the Work as specified.

Division 2
Earthwork

2-01 Clearing, Grubbing, and Roadside Cleanup

2-01.1 Description

Section 2-01.1 is supplemented with the following:

(March 13, 1995)
Clearing and grubbing on this project shall be performed within the following limits:

As shown on the Plans.

(******)
Add the following to this section:

“Stripping” means removal and satisfactory disposal of crops, weeds, grass, and other vegetative materials to the ground surface and topsoil to a depth of 6 to 12 inches.

2-01.3 Construction Requirements

2-01.3(1) Clearing

Section 2-01.3(1) is supplemented with the following:

(******)

8. Follow these requirements for all tree and rootball removal that are within 5 feet from the top, side, or end surface of the levee embankment:

a. Remove all trees with rootwads intact, stumps, rootballs and roots to a minimum depth of 3 feet below grade. Salvage logs and Slash according to Section 8-27 Wood Habitat Structures.

b. Trimming of stumps is not allowed within the levee embankment zone.

c. Backfill all depressions resulting from clearing operations using Setback Levee Material and compaction meeting the requirements of the Special Provision Section 2-03.4(14)C – Compacting Earth Embankments.

9. Follow these requirements for all tree removal that is within 1 feet from the top, side, or end surface of the Expanded Habitat Areas and Upland Habitat Refugia Areas:

a. Remove all trees with rootwads intact to be used as Expanded Habitat Wood and Slash per Section 8-27 Wood Habitat Structures.

10. Follow these requirements for the Rhododendron adjacent to the Gibbons Creek Floodwall work and other plants identified for salvage and relocation:

a. Care should be taken to excavate and keep intact as much of the root system as is possible. Newly dug plants should be re-planted immediately, if this is not possible the plants should be heeled in with planting mulch or potted temporarily in large pots.

b. If significant damage occurs to the plant and salvage is not possible, contractor shall provide and plant a replacement of the same size and variety.

2-01.3(2) Grubbing

(******)
The following is added after 2.e. of section 2-01.3(2):

3. Grub levee embankment footprint in the following manner:

a. Grub deep enough to remove all topsoil, sod, shrubs, stumps, large roots greater than 1 ½ inch diameter, buried logs, and other vegetative material.

b. Stumps and roots greater than 1 ½ inch diameter, buried logs and other woody debris should be grubbed a minimum of three feet below the new levee embankment.

c. Reuse topsoil meeting Topsoil Type D requirements on new levee and new fill areas.

d. Backfill all depressions resulting from grubbing operations using Setback Levee Material and compaction meeting the requirements of Section 2-03.3(14)C – Compacting Earth Embankments.

2-01.3(3) Vacant

(******)
Section 2-01.3(3) including the header is replaced with the following:
2-01.3(3) Stripping

The Contractor shall:
Strip or excavate the entire area within the limits under the levee embankment footprint as shown on the Plans to receive Levee Material fill as shown on the plans. Strip or excavate at

the existing levee and railroad embankment tie-ins to be excavated and benched. Stripping shall remove topsoil and organic debris to a depth of approximately 6 to 12 inches or as otherwise as required.

(******)
Supplement this section with the following:

2-01.3(5) Disking
Following clearing activities contractor shall disk areas shown on Plans to a depth of 12 inches, contractor shall make a minimum of 3 passes with disker or as otherwise directed in the field by the OPR.

(******)
Section 2-01.3 is supplemented with the following:

> The Contractor shall salvage and stockpile suitable woody debris from within the limits of clearing for the purpose of constructing Wood Habitat Structures throughout the project limits. Salvaged woody debris shall be used in expanded habitat areas and Gibbons Creek Alluvial Fan only and not used in channel locations. Rootwads shall remain intact during removal, transport, and stockpiling. See Special Provision **8-27 WOOD HABITAT STRUCTURES.**
>
> **Salvaged logs**: logs salvaged during onsite clearing and grubbing shall be used in the Expanded Habitat areas, subject to approval from the OPR and Engineer. Salvaged onsite logs shall not be subject to species, size, or length requirements of Keyed, Footer, Floodplain, Buried and Pier Logs.

2-01.5 Payment

(******)

Salvaging logs and slash is considered incidental to Clearing, Grubbing, and Roadside Cleanup.

Stripping is considered incidental to Clearing, Grubbing, and Roadside Cleanup.

Salvaging and replanting of Rhododendron and other plants shall be considered incidental to Clearing, Grubbing, and Roadside Cleanup.

Disking is considered incidental to Clearing, Grubbing, and Roadside Cleanup

2-02 Removal of Structures and Obstructions

2-02.1 Description

Section 2-02.1 is supplemented with the following:

(March 13, 1995)
This work shall consist of removing miscellaneous traffic items.

(******)

USFWS Facilities: This work shall include demo/salvage of structures and existing elements included in the USFWS Facilities Salvage Plan as described in the Plans. Contractor must take care to label and keep track of individual items (i.e. powder-coated brackets, t-straps, miscellaneous hardware, metal mesh panels, signs, etc.) that will be re-installed in new locations as part of the project. Protect and store these items for re-use.

Timber Fence: This work shall include the removal, salvage, stockpile, reconstruction, and/or any additional work necessary for reinstallation of the timber fence adjacent to the Gibbons Creek Floodwall at the location shown on the Plans.

2-02.3 Construction Requirements

Section 2-02.3 is supplemented with the following:

(******)

The first sentence of the first paragraph of Section 2-02.3 is revised to read as follows:

Structures
With certain exceptions, the Contractor shall raze, remove, and dispose of all buildings and foundations, structures, roads, parking areas, fences, drain pipes, culverts, pipe bedding, luminaries, utility lines and poles, junction boxes, and other obstructions that lie wholly or partially within the project limits.

Backfilling
All trenches, holes, cavities or pits that result from removal activities described in this Section shall be backfilled to a level matching the existing surrounding grade. Backfill beneath the setback levee footprints shall be Setback Levee Material and compacted to meet the requirements of Section 2-03.3(14)C.

Backfill of all other areas shall be Excavated Material meeting the requirements of Section 9-03.14(6). Each layer of Excavated Material shall be compacted to a firm condition confirmed by field inspection by the Engineer, no testing required. No layer shall exceed 12 inches in depth before compaction.

(******)
Add the following section in its entirety:

2-02.3(1) Removal/Salvage of Riprap – Columbia River Bank

Notify the OPR 3 weeks prior to commencement of riprap removal to allow coordination with landowners.

Remove riprap south of the existing levee along the Columbia River bank at the locations shown on the Plans. Remove riprap entirely from the upper extents near the levee toe down to the bottom extent of the rock. Remove and dispose of any and all geotextile and/or bedding rock (gravel) underlying the riprap.

Sequence the rock removal at the lower extents with river levels to minimize work in the water and associated turbidity and other environmental impacts to the extent possible. Use necessary erosion control measures to minimize turbidity in the Columbia River to the greatest extent possible.

Sort and stockpile rock at the Stockpile Locations shown on the Site Access and Staging Plan according to the following:

- **Location 1 or 2**: sort and stockpile a total of 3,000 CY of riprap at one or both Locations 1 or 2. The selected location will be specified by the OPR during construction. Visually sort and select the largest rocks within the riprap embankment. Rocks shall have a minimum size of 12-inches.
- **Location 3:** stockpile approximately 1,000 CY of riprap at Location 3. This rock shall be comprised of any riprap within the riprap embankment. Bedding rock (gravels and quarry spalls less than approximately 4 inches) shall not be included in this stockpile.
- **Location 4 - TBD:** stockpile approximately 1,000 CY of riprap at a location on Port of Camas-Washougal property to be determined by the OPR during construction. This rock shall be comprised of any rock within the riprap embankment. Bedding rock (gravels and quarry spalls less than approximately 4 inches) shall not be included in this stockpile.

All remaining riprap shall be hauled offsite by the Contractor.

(******)
Section 2-02.3 is supplemented with the following:

For completion of the “demo/salvage structures” and “demo/salvage existing elements” work items, salvage all items in the USFWS Facilities Salvage Plan table according to the Plans.

(******)
Decommission Existing Geotechnical Instrumentation
Section 2-02 is supplemented with the following:

Description
This work consists of decommissioning existing observations wells EL-04, EL-08, WL-04, WL-11, WL-16, and WL-20 as shown on the plans.

Construction Requirements

The Contractor shall decommission designated observation wells including removal and disposal of any portion of the well above existing grade. Well decommissioning shall meet the requirements of the Washington State Department of Ecology (WSDOE) and Washington Administration Code 173-160-460. The Contractor shall complete the Notice of Intent Form to Decommission with the WSDOE and provide a copy of this form to the Engineer. Written notice should be submitted to the Engineer a minimum of 3 days prior and decommissioning any well and must be approved by the Engineer.
Refer to the Geotechnical Data Report for the existing observation well locations and dimensions.

Measurement

Decommission Geotech Instrumentation will be measured per each.

Payment

"Decommission Geotech Instrumentation", per each.

The unit bid price for “Decommission Observation Well” shall be full pay for all labor, materials, equipment, and other incidental costs necessary to satisfactorily complete the work including the costs of any permits and fees required by the WSDOE.

2-02.5 Payment

(******)

Payment will be made for the following bid item when it is included in the proposal.

Section 2-02.5 is supplemented with the following:

"Removal/Salvage of Riprap – Columbia River Bank", lump sum.

“Removal of Structures and Obstructions”, lump sum

Includes:

- Demo Timber Barns on Wellfield Site
- Gibbons Creek Diversion Structure Concrete and Screens
- Gibbons Creek Hickey Pedestrian Bridge
- Fish Ladder – Remove 15 steel weirs, 84” CMP, Concrete Control Structure
- SR14 ROW Obstructions
- Removal of existing CMP culverts – 360 LF (as shown on Plans)
- Removal Wire Fence – 32,000 LF (as shown on Plans)
- Removal and haul of any additional obstructions within the work areas not listed here shall be considered incidental to this bid item.

"Demo/Salvage Structures", lump sum.

Includes:

- Overlook Walls/ Rails/ Concrete Unit Pavers
- Kiosk
- Entry Gates/ Piers
- Timber Fence – adjacent to Gibbons Creek Floodwall

"Demo/Salvage Existing Elements (incl. hauling off-site/ delivery to USFWS shop)", shall be per lump sum, paid in full upon completion of this work item per approval of the OPR.

Includes:

	QTY
Boulders; Rock Benches; & Etched Boulders	74
Signs on Concrete Posts (Rules, Invasives, etc.)	10
Signs on Steel Posts	12
USFWS Signs (Boundary, Birds Only, etc. - Assume No Concrete Footing)	30
Maintenance Access Gate	1

Wheel Stops	20
Boulder with Palette/ Cast Frog Rock/ Frame Art with Rock	3
Bonneville Paver/ Welcome to Our Home Paver	2
Bird Bike Racks	5
Interpretive Records	3
Water Control Art	1
Boot Cleaners	3
Beetle in Tree	1
Turnstile (Demo & Remove)	1
Salmon & Smolts	1
Interpretive Bugs (on Bridge)	6
Interpretive Door & Post	1
Interpretive Sign - Metal (Fish Ladder)	4
Interpretive Sign - Bird	1
Fencing with Metal Panels	110
Dedicated Bench (Demo)	1
Deliver Salvaged Items to USFWS Shop	1

2-03 Excavation and Embankment

2-03.1 Description

(******)

Add the following section:

2-03.1(1) Description for Excavation and Levee Construction

The Work described in this section, includes construction of East and West Setback Levees along the alignments shown in the plans. Construction of the East and West Setback Levees include tie-in to the existing Camas-Washougal Levee at the south terminus of each levee. The East Setback Levee will tie-in to the railroad embankment to the north. The north end of the West Setback Levee will terminate into an abutment wall at Washington State Route (SR) 14. Construct new setback levees using approved levee fill materials. Backfill ditches and depressions within the setback levee footprints as shown in the plans. Other embankment fills that are not the setback levee fills are covered in Section 2-03.3(14), Embankment Construction.

For the purposes of this contract, Excavation consists of removal of on-site material to prepare the levee foundations to the lines and grades shown on the drawings, removal of material from expanded habitat areas and new drainage channels to the lines and grades shown on the drawings, removal of objectionable materials, removing of material in the existing Camas-Washougal Levee. Borrow excavation from a provisional borrow area shall be performed to obtain required fill materials for levee construction only as approved by the Owner Representative.

Unsuitable Foundation Excavation is defined as excavating below planned subgrade to remove objectionable material as directed by the Engineer. Backfill over excavations to

grade using Setback Levee Material within the levee embankment foundation and compact to a density of at least that of the surrounding material.

Excavated materials may be used in levee embankment prism construction if they meet the material property requirements in Section 9-03.14(5) for Setback Levee Materials and are compacted to the specified density. Excavated materials that are unsuitable for use in the levee embankment prism can be used in non-structural embankment outside of the new setback levee prism, such as wavebreak overbuild and upland refugia fills.

The location of the setback levee embankments, areas of grading and contouring, new channels and possible borrow pits to be constructed are shown on the plans. Some of these areas are spread across the restoration area. The Contractor is notified to expect soft and wet soil conditions throughout the site.

Submittals

Submit a written **Levee Construction Sequencing and Contingency and Communications Plan** and a written **Earthwork and Excavation Plan** per Section 1-08.1. Obtain approval of the detailed plan from the Engineer prior to starting excavation or levee construction work. If necessary, modify the plan as required to meet field conditions, and obtain written approval of modifications prior to implementing. As a minimum, include the following in the Earthwork and Excavation plan:

a. Proposed methods for preventing interference with, or damage to, existing underground or overhead utility lines, trees designated to remain and other man-made facilities or natural features designated to remain within or adjacent to the construction rights-of-way.
b. Provision for coordinating the work with other Contractors working in the construction rights-of-way or on facilities crossing or adjacent to this work.
c. The proposed methods for controlling surface and groundwater in the excavation, fill, and borrow areas.
d. Stockpiling plan for embankment material including Setback Levee Material, base course, and top course transported to the project site showing locations, stockpile heights, slopes, limits, and drainage around the stockpile areas.
e. A complete listing of equipment used to excavate and transport the excavated materials, and used to place and compact in levee embankments.
f. The proposed sequence of work for excavating required excavations (Expanded Habitat, Channels, Gibbons Creek Channel, Existing Levee) and provisional borrow area (Provisional Borrow Area) with plan and cross sectional views showing starting and final work locations and clearing, grubbing and stripping limits.
g. The proposed plan for conserving arable land and for making optimum use of available excavated soils, including the Contractor's proposed methods for grading the bottom of the Provisional Borrow Area after completing use of the borrow area.
h. The proposed sequence of work for final work locations and clearing, grubbing and stripping limits.
i. The proposed haul roads and haul pattern, and plan for implementing dust control measures.

2-03.3(3) Excavation Below Subgrade

(******)

Add the following Section:

2-03.3(3)A Levee Foundation Preparation

Repair cavities and voids in the foundation soils of the new setback levees by performing the following:

1. Break down the sides of stump holes, test pits, and other similar cavities created during the clearing, grubbing and stripping work. Scarify the sides of the cavities to bond between foundation material and the fill.
2. Backfill each depression in layers, using foundation materials and/or Setback Levee Material to the level of the surrounding ground surface.

If the density of the natural earth under any of the setback levee embankment is less than that required in Section 2-03.3(14)C, Method C, the Engineer may order the Contractor to perform any or all of the following:

1. Scarify the earth to a depth of 6 inches.
2. Aerate or water.
3. Compact the scarified area to the specified density.
4. Excavate to a specific depth.
5. Backfill the excavated area in layers, using previously excavated material or Setback Levee Material.
6. Compact each layer to meet the compaction requirements specified for embankments.

If the natural earth under the setback levee embankment will not support hauling or compaction Equipment, the Engineer may order the Contractor to perform the following stabilization method:

1. Place a layer of Geotextile Subgrade Stabilization fabric on the cleared and grubbed foundation surface. Geotextile Subgrade Stabilization fabric should be rolled with the machine direction perpendicular to the levee centerline.
2. Place an initial layer of Setback Levee Material on the surface of the Geotextile Subgrade Stabilization fabric. The initial layer of Setback Levee Material shall be placed by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the Equipment and not greater than 3 feet, unless otherwise authorized.
3. Commence compaction of the initial layer by routing construction Equipment uniformly over the entire layer.
4. The initial layer shall meet the compaction requirements of Method C in Section 2-03.3(14)C except for layer thickness.
5. Subsequent layers shall meet all requirements of Method C in Section 2-03.3(14)C.

2-03.3(10) Selected Material

(******)

Replace the first paragraph with the following:

Excavated material will be considered suitable for use in construction of setback levee embankments if it meets the requirements of Setback Levee Material in Section 9-03.14(5). Do not use excavated materials suitable for levee embankment construction as non-structural fill unless approved by the Engineer.

Excavated material will be considered suitable for use in construction of non-structural fill on the waterside of the setback levee and outside the setback levee embankment prism if

it meets the requirements of Non-Select Material in Section 9-03-14(6). These include areas such as wavebreak overbuild, upland refugia, and alluvial fan grading.

Excavated material that is unsuitable for use as Setback Levee Material or Non-Select Material shall be disposed on-site as authorized by the Owners Representative.

(******)
Replace the second paragraph with the following:

Direct Hauling – If practical, haul excavated material immediately from the excavation to its final place for construction. Hauling shall be considered incidental to the on-site excavation item.

(******)
Replace the fourth paragraph with the following:

Stockpiling – Stockpiling of the excavated material will be allowed. Stockpiling is incidental to the excavation item and will not be paid for separately.

2-03.3(13) Borrow

(******)
Add the follow paragraphs to Section 2-03.3(13):

The Contract documents designate a Provisional Borrow Area, also referred to as Temporary Borrow Area, that the Contractor may utilize for the work. Submit a written request to the Owners Project Representative (OPR) indicating the Contractor's intention to use the specified borrow area. Include a borrow pit development and sequencing plan to demonstrate the Contractor's stages of excavation, stockpiling, conditioning, and hauling of borrow materials. Include dimensions, dewatering, slope angles, and reclamation of borrow pits. Drain and maintain borrow areas in a dry condition during excavation. Written request must be submitted minimum of 10 days prior to scheduled development of borrow area and must be approved in writing by the Contracting Representative Agency. Excavation in the Provisional Borrow Area will be measured and paid in accordance with Section 2-03.4 and 2-03.5.

2-03.3(14) Embankment Construction

(******)
Replace the third paragraph with the following:

Hillside Terraces and Levee Tie-in – Terrace the original ground or embankment when the slope of the surface is 2H:1V or steeper, at the setback levees tie-in points into the existing levee, at the setback levee tie-in at the railroad embankment, and as directed by the Engineer. The face of each terrace shall be a minimum of 1 foot and a maximum of 3 feet in height and shall be vertical or near vertical as required to remain stable during material placement and compaction. Slope the bench of the terrace outward to drain at a slope not inclined steeper than 0.05 foot per foot. Terraces damaged during work shall be reestablished. The Engineer may order the Contractor to place gravel backfill, pipe drains or both to drain any seepage.

(******)
Supplement this section with the following:

Embankment Compaction - Habitat shall be at the locations and grades indicated on the Plans. This compaction specification shall be used for embankment compaction for:

- Upland refugia habitat
- Filling existing Gibbons Creek channel north of SR14
- Gibbons creek alluvial fan
- Backfilling temporary borrow area

Work for these items not subject to requirements except those specified in the description of Embankment Compaction - Habitat.

Excavation material from the Channels and Habitat Expansion areas that is placed in **Upland Refugia Habitat Areas** shall be final graded in a naturally varying manner similar to adjacent existing ground topography. Heights of fill not to exceed 4.5 feet for Upland Refugia Habitats 1, 2, and 3 or as otherwise directed by the Engineer.

The East Levee Toe Upland Refugia Habitat shall not exceed elevation 47 feet NAVD88. Final finish grading of the Upland Refugia Habitat shall facilitate drainage, not result in ponded areas or excessive erosion, and not have side slopes steeper than 3:1.
Fill 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 in the field by the Engineer. The surface of the compacted fill shall be prepared for planting according to Section 8-01.3(2) of these Specifications.

(******)
Supplement this section with the following:

Embankment Compaction – Roads & Trails includes placement, grading, and compaction for

- Embankment Compaction – SR14 Roadway
- Embankment for parking lot
- Embankment for storage pad
- Trail Grading/ramps

Work for these items subject to requirements of section 2-03.3(14)C Compaction, as it appears in the standard specs, not as amended below.

Embankment Compaction shall be as indicated on the plans and consist of excavated material and gravel borrow.

All work required for excavation, haul, placement, conditioning, compaction, and final grading is included in the following bid items:

“Excavation – Channels”
“Excavation – Expanded Habitat Grading”
“Excavation – Remove Canal/Trail/Storage Pad/ Parking Lot”
“Excavation – Existing Levee Removal”

All work required for haul, placement, compaction, and final grading is included in the following bid items:

"Gravel Borrow Incl Haul – SR14"

(******)
Add the following Section:

2-03.3(14)B-2 Setback Levee Embankment Construction

Construction of the setback levee embankments shall follow the requirements of Section 2-03.3(14)B and the additional requirements provided below.

1. Prior to beginning embankment placement on the levee foundation, notify the Owner that the foundation is ready to receive fill. Place no fill on any part of the embankment foundation until such areas have been inspected and given final approval by the Engineer.
2. During the placing and spreading process, maintain at all times a force of workers adequate to remove all roots, debris, and oversize stone from all embankment materials. Remove all stones and rock fragments larger than 3 inches in any dimension at the source prior to hauling. Do not place fill upon a frozen surface. Do not incorporate snow, ice, or frozen earth in the embankment.
3. When required on the Plans or by the Engineer, the Contractor shall use Setback Levee Material meeting the requirements of Section 9-03.14(5) of the Special Provisions to construct setback levee embankments.
4. If test results indicate in place fill does not meet moisture and/or compaction requirements, the Contractor shall excavate, replace and re-compact all areas not meeting specifications at no additional cost to the Owner and at no schedule impact to the Project.
5. Control the surface and groundwater in coordination with the required excavation and embankment construction. Surface and/or groundwater control may necessitate the use of temporary diversion ditches, cofferdams and/or dewatering by the use of pumping. Methods for controlling the surface and groundwater levels shall be subject to approval of the Engineer.
6. Maintain and protect the setback levee embankment in a satisfactory condition at all times until final completion and acceptance of all work under the Contract. The Contractor may be required to remove, at no additional payment, any embankment material placed outside of prescribed slope lines.
7. Compaction within 4 feet of completed or partially completed structures shall be accomplished by the use of mechanical hand tampers, vibrating plates, or other approved methods and equipment.

(******)
Add the following Section:

2-03.3(14)B-3 Non-Structural Fill Compaction for Wavebreak Overbuild, Upland Refugia Habitat, and Alluvial Fan Grading

Construct non-structural fills using Non-Select Materials meeting the requirements of Section 9-03-14(6) of the Special Provisions.

When non-structural fills are shown on the Plans to abut or are in contact with levee embankment, control fill placement so that the fill elevation of non-structural fill remains below the elevation of current the setback levee embankment prism.

Compact non-structural fills using Section 2-03.3(14)C, Method A, and as modified in the Special Provisions.

2-03.3(14)C Compacting Earth Embankments

(******)

Replace the second paragraph with the following:

Method A – Each embankment shall be made of layers no more than 2 feet thick. The Contractor shall compact each layer by routing loaded haul equipment over its entire width. If the Engineer approves, the Contractor may use end dumping to begin placing a side hill fill too narrow for hauling equipment. When the fill is wide enough, the remaining layers shall be compacted by the loaded hauling equipment. Water or aerate the material to ensure each layer can be compacted to form a dense mass, free of pumping. If the layer being tested exhibits moderate yielding, deflection, reaction or pumping, rework the area to provide acceptable levels of deflection prior to placing additional material. Moderate soil pumping is defined as spongy soil conditions whereby wheeled equipment and vehicles sink between 3 to 5 inches deep.

(******)

Replace the paragraphs 6, 7, 8, and 9 with the following:

Method C – Each layer of the entire embankment shall be compacted to 95 percent of the maximum density as determined by the compaction control tests described in Section 2-03.3(14)D.

No layer shall exceed 8 inches in depth before compaction when using large compacting equipment. No layer shall exceed 4 inches in depth before compaction when using small mechanical or vibratory compactors.

The Contractor shall use compacting equipment approved by the Engineer.

(******)

Replace the paragraphs 11, 12, and 13 with the following:

Moisture Content – Within the limits described below, adjust moisture content during compaction to produce a firm, stable, and unyielding embankment. Adjust the moisture content of fill to within 3 percent above or below optimum determined by the tests described in Section 2-03.3(14)D.

The embankment must be free from pumping and rutting due to excessive moisture. Manage and adjust fill material, moisture, and procedures as necessary.

Costs for drying embankment material are incidental to other Work, including excessive moisture due to inclement weather.

Monitor the stability of the embankment. Repair embankments that lose stability due to hauling across the embankment at no expense to the Owner. Alter hauling equipment or procedures to prevent further damage. Evidence of lost stability includes pumping, rutting or lateral displacement of the embankment.

(******)

Add the following Section:

2-03.3(14)D-2 Setback Levee Embankment Compaction and Moisture Control Tests

For setback levee embankment construction, determine maximum dry density and optimum moisture content for fill materials using the following method:

1. Determine the moisture-density relations for each different classification of cohesive material utilized in accordance with ASTM D698, Method A, Method B, or Method C as appropriate for the materials being tested.
2. Perform a five-point compaction test on representative samples of the material to be used as Setback Levee Material.
3. During fill placement, perform a minimum of one additional moisture-density test for every 5,000 cubic yards placed or as directed by the Engineer.
4. Additional tests will be required each time a new material is encountered. Compile the moisture-density curves to form a family of curves. Utilize these curves to estimate optimum properties (maximum dry density and optimum moisture content) to be used with field density test.
5. Perform one water content test for every 10th in-place nuclear density test. These test will be in addition to the water content tests performed in conjunction with in-place density tests. Perform determination of water content in accordance with ASTM D2216.

Perform one initial classification test for each different classification of material to be utilized as Setback Levee Materials.

1. Perform soil classification tests in accordance with ASTM D2487.
2. As prescribed in ASTM D2487, perform grain size analyses in accordance with ASTM D6913 and Atterberg limits for embankment fill materials only in accordance with ASTM D4318 on each different classification by performing not less than five tests per material type.
3. Submit additional tests for every 5,000 cubic yards of embankment or backfill material.

Determine in-place density and moisture testing of all soils compacted in accordance with ASTM D6938 at various locations and depths throughout the embankment fill. At a minimum, perform one test every 1,000 cubic yards of completed fill, or at a change in compacted material.

1. In-place density and moisture testing shall be based on ASTM D6938, Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
2. When nuclear method is used for in-place density testing according to ASTM D6938, the first test and every tenth test thereafter for each material type must include a moisture content test in accordance with ASTM D2216.
3. Do not use nuclear density testing equipment during rain events.
4. Submit the density correlations with test results. Each transmittal including density test data must include a summary of all density correlations for the job neatly prepared on a summary sheet including at a minimum:
    a. Meter serial number and operators initials.
    b. Standard count for each test.
    c. Material type.
    d. Probe depth.
    e. Moisture content by each test method and the deviation.

f. Wet density by each test method and the deviation.
g. Location (Levee station and offset) and elevation (NAVD88) of test.

2-03.3(14)M Excavation of Channels and Ditches

(******)

Supplement this section with the following:

Excavation of Channels, Expanded Habitat, Elevated Canal, Berm/Road, Trail Grading, and Existing Levee

Excavation - Channel includes grading, channel construction, and haul of this material on site to the setback levees or upland refugia habitat areas as shown on the Plans.

The upper 6 inches of root mass and organic matter scalped from the Channel Excavation areas shall be buried in the bottom lifts of the Upland Refugia Habitat areas. The subsequent 18 inches of topsoil below the rootmass, or depth of cut otherwise determined in the field by the Engineer, shall be placed as topsoil on the outer edge of the levee lifts and outer side of the levee overbuild. All suitable soils below the topsoil layer shall be used for levee construction as specified. See section below for pesticide laden soil requirements.

Excavation - Expanded Habitat includes excavation and grading the expanded habitat grading areas, and haul of this material on site to the setback levees or upland refugia habitat areas as shown on the Plans. Expanded Habitat excavation may require soil stabilization measures (timber mats) or wide-track equipment for working in wet conditions and low bearing strength soils.

The upper 6 inches of root mass scalped from the Expanded Habitat areas shall be buried in the bottom lifts of the Upland Refugia Habitat areas. The subsequent 18 inches of topsoil below the root mass from the expanded habitat grading areas shall be used on the outer edge of the levee lifts and outer side of the levee overbuild. See section below for pesticide laden soil requirements.

All work required for excavating, separating, and hauling topsoil for revegetation (Section 8-01.3) is included in the following bid items:

Excavation - Expanded Habitat Grading (Approx. 112 Ac)

Excavation - Remove Elevated Canal, Berm/Road Mid-Site, and Trail Grading includes grading and haul of this material on site to the setback levees or upland refugia habitat areas as shown on the Plans. The upper 6 inches of root mass scalped from the Elevated Canal or Trail Grading shall be buried in the bottom lifts of the Upland Refugia Habitat areas. The descending 18 inches of topsoil below the root mass shall be used on the outer edge of the levee lifts and outer side of the levee overbuild. The gravel at the berm/road surface and road prism material shall be buried in the levees.

All work required for excavating, separating, and hauling topsoil for revegetation (Section 8-01.3) is included in the following bid items:

Excavation – Existing Levee Removal includes excavation and haul of the existing levee material on site for construction of the setback levees as shown on the Plans.

*** Maintain the Temporary Minimum Levee Crest Elevation (TMLCE) at all times during construction.

Refer to the construction sequencing plan for TMLCE details. ***

The top of the existing levee shall be removed to the TMLCE and used as the base of the setback levees. Removal of levees at any location below the TMLCE prior to completion of the setback levees to the TMLCE shall be strictly prohibited.

The final removal the existing levee material shall happen only after the setback levees are constructed to the TMLCE, surveyed to verify grades, and upon approval from the Engineer.

Quantities indicated on the Plans and bid item sheet are bank volumes, calculated in CAD using existing grade and finish grade surfaces. Existing grade surfaces were developed using photogrammetry and supplemental ground survey by licensed surveyors (Statewide Land Surveying, 2016).

2-03.3(14)M(1) Pesticide Laden Soils

The top 12 to 18 inches of the following areas contain pesticide laden soil and shall be buried in the bottom lifts of the Upland Refugia Habitat area, Temporary Borrow Area, and/or levees and covered with a minimum of three feet of non-pesticide laden soil:

- Channel 3 from station 46+00 to 3+50, and
- Expanded Habitat Areas 3 and 4.

(******)
Add the following Section:

2-03.3(14)N Test Fill Embankments

Construct three test fill embankments in Construction – Year 1 of the project at the location and dimensions shown in the plans.

1. Construct test levee embankment fills using Setback Levee Materials to demonstrate that the equipment and compaction procedures will achieve the moisture-dry density relationship as specified. The test fills may be incorporated into the final embankment if the fills meet the requirements of the specifications. Construct the test fills using materials from the sources which have been designated by the Owners Project Representative (OPR). Construct three test fills including two test fills on the West Setback Levee and one test fill on the East Setback Levee in the locations shown on the plans. Each test fill shall be of sufficient size to allow compaction equipment to achieve normal operating speed. Prior to the construction of the test fills, prepare the foundation (subgrade) as specified in Section 2-03.3(3)A for Levee Foundation Preparation.
2. Construct the test fills in accordance with the applicable provisions for Setback Levee Embankment construction in Section 2-03.3(14).

3. Compact each layer of the fill with a minimum of four (4) complete coverages using approved compaction equipment, and as many additional coverages as may be required to achieve the specified dry density. Even if the results from the test fills show that the required densities can be obtained with less than four coverages by the compaction equipment, compaction of the embankment fill with a minimum of (4) complete coverages is still required. If the use of the proposed compaction equipment causes shearing of the fill, laminations in the fill, or results in inadequate compaction, the Engineer may direct that such roller be removed from the fill and that another appropriate tamping roller be used.

The testing and reporting requirements for the test fill consist of the following:

1. Prior to construction of the test fills, perform one laboratory compaction test for each type of material used in test fills. Perform the compaction tests in accordance with the requirements specified in Section 2-03.3(14)D. Submit test results to the Engineer before construction of the test fills.
2. After placement and spreading of the fill in the each layer, but prior to compaction, collect five samples from each lift for moisture content determination in accordance with ASTM D2216.
3. After compaction, perform in-place nuclear density testing in accordance with ASTM D6938 and 2-03.3(14)D-2.
4. After compaction of each layer, a minimum of five in-place nuclear density and moisture content tests. Obtain one sample from each layer of the test fill for classification testing as specified in Section 2-03.3(14)D. All testing and sampling locations will be determined by the Engineer.

The Contractor's QC personnel shall monitor and document construction and testing of the test fills. Document weather conditions, soil type, spreading and compaction equipment type, lift thickness, number of coverages, moisture content, dry density, and a plan showing approximate location of sampling and testing. Document the test fill construction procedures and results of all testing shall be provided to the Owner’s Project Representative (OPR). Do not begin full scale embankment construction until the equipment and placement methods are approved by the Owner’s Project Representative (OPR).

(******)

Add the following Section:

2-03.3(20) Mobile Material Testing Laboratory

The contractor shall furnish and staff a mobile testing facility at the site that such that all necessary soil testing needed for levee construction as described in the specifications can be performed on site. Testing for construction of SR14 roadway embankment will be performed by WSDOT and is not included in work for this section.

2-03.4Measurement

Section 2-03.4 is supplemented with the following:

Measurement of roadway excavation and embankment
(March 13, 1995)

(March 13, 1995)

Only one determination of the original ground elevation will be made on this project. Measurement for roadway excavation and embankment will be based on the original ground elevations recorded previous to the award of this contract.

If discrepancies are discovered in the ground elevations which will materially affect the quantities of earthwork, the original computations of earthwork quantities will be adjusted accordingly.

Earthwork quantities will be computed, either manually or by means of electronic data processing equipment, by use of the average end area method or by the finite element analysis method utilizing digital terrain modeling techniques.

Copies of the ground cross-section notes *** *for SR14 road work* *** will be available for the bidder's inspection, before the opening of bids, at the Engineer's office and at the Region office.

Upon award of the contract, copies of the original ground cross-sections will be furnished to the successful bidder on request to the Engineer.

Supplement this section with the following:

(*****)
Progress measurements will be made based on quantity estimates from either (a) ground surveys of the work areas performed by the Contractor, or (b) estimates of quantities or percent completion from the Engineer based on field observations or supporting information provided by the Contractor.

2-03.5 Payment

Supplement this section with the following:

(******)
Payment will be made in accordance with Section 1-04.1, for each of the following Bid items that are included in the Proposal:

"Excavation - Channels", per cubic yard
"Excavation - Expanded Habitat Grading", per cubic yard
"Excavation - Remove Canal/Berms/Trail/Storage Pad/Park Lot", per cubic yard
"Excavation - Existing Levee Removal", per cubic yard
"Excavation - Temporary Borrow Area", per cubic yard

The unit Contract price per cubic yard for the above listed pay items shall be full compensation for all costs incurred for excavating, loading, stockpiling, hauling, placing, grading, compacting, separating topsoil and pesticide laden soil, and disposing of deleterious matter. The costs incurred for the placement and compaction of Setback Levee Embankment according to section 2-03.3(14)B-2, and placing and compacting material matching the specifications in section 9-03.14(6) for non-structural fill are incidental to the Excavation pay items.

The following work is considered incidental to the Excavation Bid Items:

- Excavating, separating, and hauling topsoil
- Setback Levee Embankment construction including bumpouts and overbuilds
- Engineered Berm (Levee) north of the Gibbons Creek floodwall
- Upland Refugia Habitat Construction
- Embankment for parking lot
- Embankment for storage pad
- Embankment Compaction for SR 14
- Trail grading and ramps
- Filling existing Gibbons Creek channel north of SR14
- Topsoil dressing placement on access road along Gibbons Creek Floodwall
- Gibbons Creek Alluvial Fan Grading
- Backfilling temporary borrow area
- Quarry spalls (Furnished and placed) at Channel 1 and 4 Low Water Crossings (10' wide by 20' long by 1' thick each crossing (approx. 25 TN total) – see L sheets for typical crossing section)
- Any additional work required for de-watering soils or re-working soils to place them as specified.
- Furnishing and staffing mobile material testing laboratory

The OPR's payment of progress payments, or determination of satisfactory completion of Pay Items or Work, shall not be construed as Final Acceptance or approval of any part of the Work, and shall not relieve the Contractor of responsibility for defective Materials or workmanship or for latent defects and warranty obligations.

2-09.4 Measurement

Section 2-09.4 Measurement is supplemented with the following:

(******)

The estimated quantity of structure excavation is:

Location	Class of Excavation	Quantity (CY)
Closure Structure across SR 14	A	160
Gibbon Creek Flood Wall	A	1,300
Levee Abutment Wall	A	150
Pedestrian Bridges (Channels 2 & 3)	A	500
Pedestrian Bridge (Gibbons Creek)	A	25
East Levee Culvert Wingwalls and Headwalls	A	20

2-09.5 Payment

(******)

Section 2-09.5 Payment is supplemented with the following:

The Contract unit cost for "Structure Excavation Class A" includes the cost to excavate, furnish, backfill, grade, and compact the granular material below the bottom of concrete

structures as shown in the Contract Plans. This material is referred to as “6” sand base” at the closure structure and retaining walls, referred to as “12” thick compacted gravel borrow” at the pedestrian bridges, referred to as “24” subgrade stabilization” at the Hickey Bridge and east levee culvert headwalls and wingwalls. Structural backfill for structures listed in section2-09.4 of the special provisions will not be measured and is considered incidental to “Structure Excavation Class A”.

DIVISION 4
Bases

4-04 Ballast and Crushed Surfacing

4-04.2 Materials

Section 4-04.2 Materials is supplemented with the following:

(******)
Sidewalk Aggregate 9-03.9(3)

4-04.4 Measurement

Section 4-04.4 Measurement is supplemented with the following:

(******)
Sidewalk Aggregate will be measured by the cubic yard.

4-04.5 Payment

Section 4-04.5 Payment is supplemented with the following:

(******)
“Sidewalk Aggregate”, per ton.

Division 5 Surface Treatments and Pavements

5-04 Hot Mix Asphalt

5-04.2 Materials

5-04.2(2) Mix Design – Obtaining Project Approval

Section 5-04.2(2) is supplemented with the following:

(January 3, 2011)
ESAL's
The number of ESAL's for the design and acceptance of the HMA shall be ***2.2*** million.

5-04.3(10) HMA Compaction Acceptance

The column in Table 14 of Section 5-04.3(10), titled “Statistical Evaluation of HMA Compaction is Required for”, is supplemented with the following:

(April 3, 2017)

- Any HMA for which the specified course thickness is greater than 0.10 feet and the HMA is placed in the shoulder.

5-04.3(12) Joints

Section 5-04.3(12) is supplemented with the following:

(January 5, 2004)
The HMA overlay shall be feathered to produce a smooth riding connection to the existing pavement.

HMA utilized in the construction of the feathered connections shall be modified by eliminating the coarse aggregate from the mix at the Contractor's plant or the commercial source or by raking the joint on the roadway, to the satisfaction of the Engineer.

Division 6
Structures

6-02 Concrete Structures

6-02.2 Materials

Section 6-02.2 is supplemented with the following:

(April 1, 2013)
Resin Bonded Anchors

The resin bonded anchor system shall include the nut, washer, and threaded anchor rod which is installed into hardened concrete with a resin bonding material.

Resin bonding material used in overhead and horizontal application shall be specifically recommended by the resin manufacturer for those applications.

Resin bonding material used in submerged liquid environment shall be specifically recommended by the resin manufacturer for this application.

The resin bonded anchor system shall conform to the following requirements:

1. Threaded Anchor Rod and Nuts

Threaded anchor rods shall conform to ASTM A 193 Grade B7 or ASTM A 449, except as otherwise noted, and be fully threaded. Threaded anchor rods for stainless steel resin bonded anchor systems shall conform to ASTM F 593 and shall be Type 304 unless otherwise specified.

Nuts shall conform to ASTM A 563, Grade DH, except as otherwise noted. Nuts for stainless steel resin bonded anchor systems shall conform to ASTM F 594 and shall be Type 304 unless otherwise specified.

Washers shall conform to ASTM F 436, and shall meet the same requirements as the supplied anchor rod, except as otherwise noted. Washers for stainless steel resin bonded anchor systems shall conform to ASTM A 240 and the geometric requirements of ASME B18.21.1 and shall be Type 304 Stainless Steel unless otherwise specified.

Nuts and threaded anchor rods, except those manufactured of stainless steel, shall be galvanized in accordance with AASHTO M 232. Galvanized threaded anchor rods shall be tested for embrittlement after galvanizing, in accordance with Section 9-29.6(5).

Threaded anchor rods used with resin capsules shall have the tip of the rod chiseled in accordance with the resin capsule manufacturer's recommendations. Galvanized threaded rods shall have the tip chiseled prior to galvanizing.

2. Resin Bonding Material

Resin bonding material shall be a two component epoxy resin conforming to Type IV ASTM C 881 or be one of the following:

a. Vinyl ester resin.

b. Polyester resin.

c. Methacrylate resin.

3. Ultimate Anchor Tensile Capacity

Resin bonded anchors shall be tested in accordance with ASTM E 488 to have the following minimum ultimate tensile load capacity when installed in concrete having a maximum compressive strength of 6000 pounds per square inch (psi) at the embedment specified below:

Anchor Diameter (inch)	**Tensile Capacity (lbs.)**	**Embedment (inch)**
3/8	7,800	3-3/8
1/2	12,400	4-1/2
5/8	19,000	5-5/8
3/4	27,200	6-3/4
7/8	32,000	7-7/8
1	41,000	9
1-1/4	70,000	11-1/4

The Contractor shall submit items 1 and 2 below to the Engineer for all resin bonded anchor systems. If the resin bonded anchor system and anchor diameter are not listed in the current WSDOT Qualified Products List, the Contractor shall also submit item 3 below to the Engineer.

For resin bonded anchor systems that are installed in a submerged liquid environment the Contractor shall submit items 1, 2, and 4 below. If the resin bonded anchor system and anchor diameter are not listed in the current WSDOT Qualified Products List, the Contractor shall also submit item 3 below to the Engineer.

1 The resin manufacturer's written installation procedure for the anchors.

2. The manufacturer's certificate of compliance for the threaded anchor rod certifying that the anchor rod meets these requirements.

3. Test results by an independent laboratory certifying that the threaded anchor rod system meets the ultimate anchor tensile load capacity specified in the above table. The tests shall be performed in accordance with ASTM E 488.

4. For threaded anchors intended to be installed in submerged liquid environments the Contractor shall submit tests performed by an independent laboratory within the past 24 months which certifies that anchors installed in a submerged environment meet the strength requirements specified in the above table.

(******)

Columbia River Gorge Formliner Finish

The Columbia River Gorge finish shall be accomplished by the use of either “custom-rock #1112 formliner pucca stone” distributed by Hunt Valley Distributors, or a form liner accepted by the Engineer as an equal product. For acceptance of alternative form liners, the Contractor shall submit Type 3 Working Drawings of the request, along with catalogue cuts and other descriptive supporting information, as follows:

1. One set, accompanied by a 2 foot square physical sample of the form liner, to the Engineer.

The height of the form liner shall be equal to or greater than the height of the formed surface. Only elastomeric form liners are allowed to have horizontal splices.

(******)

Natina Stain Treatment

Natina Stain treatment shall be applied to all exposed concrete surfaces. Medium-concentration treatment shall be applied in general. Dilution rate shall be tested and approved by the Engineer prior to application.

Natina Stain treatment is exempt from the WSDOT Qualified Products List per standard Specification Section 9-08.3.

Final approval of Natina Stain treatment is dependent on producing a test panel sample acceptable to the Engineer.

Natina Stain Treatment Test Panels:
Contractor shall construct at least three (3) test panels using similar concrete materials, formliner finish, and concrete finishing methods and curing durations as will be used on the permanent concrete elements. Vary Natina Stain treatment concentrations and/or number of applications among test panels as necessary to demonstrate a range of finished colors that will envelope a finished surface matching the desired color. Record Natina Stain treatment application techniques (product, concentrations, mixtures, # of applications, etc.) used on each test panel and provide to the Engineer. Store test panels in areas that will experience similar environmental conditions as the permanent concrete elements receiving the Natina Stain treatment . Engineer will observe results and select a preferred test sample. If no test panels meet the performance requirements of the specifications, the Engineer may require additional test panels be completed at no additional cost or schedule impact to the project. Test panels shall be at least 3 ft by 3 ft in plan. Contractor shall allow up to four (4) weeks from the time of applying the Natina Stain treatment to the test panels until the Engineer issues a decision on acceptability or need to cast more test panels. If re-casting of new test panels is required, the four (4) week review time will reset.

6-02.3 Construction Requirements

(******)
Special Concrete Structures

Special Concrete Structures are cast-in-place concrete structures with “cultured stone veneer” as detailed on the Plans. These include the “Kiosk”, “Levee Overlook”, “Automated Gate with Piers”, and “Entrance Sign”. Other elements of these work items, including cultured stone veneer, metal hardware, existing gates, wooden sign panel, and wood installation shall be considered incidental to these work items. Note: the “Levee Overlook” detail also shows gravel pavement, rock bench, rock boulder and Bronze Snake & Newt re-installments which are separate Bid Items covered under other Special Provision Sections.

Bridge Approach Slab Orientation and Anchors
Section 6-02.3(10)F is supplemented with the following:

(August 4, 2008)
The pavement end of the bridge approach slab shall be constructed parallel to the pavement seat.

6-02.3(14) Finishing Concrete Surfaces

Section 6-02.3(14) is supplemented with the following:

(******)
Columbia River Gorge Finish
Form liners shall be placed with joints normal to grade for barrier applications and vertical (or as shown in the Plans) for other applications. Horizontal joints in the elastomeric form liners are permitted on surfaces greater than 4 feet in height

provided that the minimum form liner panel height and width dimensions are 4 feet and 8 feet respectively.

No partial rocks will be allowed in the finished pattern. Adjust horizontal and vertical joints as needed.

Form ties shall be a type that leaves a clean hole when removed. All spalls and form tie holes shall be filled as specified for a Class 2 surface finish.

(******)

Natina Stain Treatment

The Contractor shall apply Natina Stain treatment to all exposed concrete surfaces specified in the Plans.

Natina Stain treatment shall be applied only by personnel approved by the manufacturer to apply the product. The Contractor shall furnish certificates of approval from the manufacturer for the personnel scheduled to perform the work to the Engineer prior to beginning the treatment operation.

The concrete shall be cured for the time period recommended by the manufacturer prior to receiving the treatment.

The Contractor shall clean and prepare the concrete surfaces in accordance with the recommendations of the manufacturer for the use of the treatment product.

The Contractor shall apply the Natina Stain treatment to the surfaces specified and in accordance with the recommendations of the manufacturer for the use of the treatment product.

The Contractor shall prevent Natina Stain treatment from reaching surfaces not specified to receive the treatment.

6-02.3(18) Placing Anchor Bolts

Section 6-02.3(18) is supplemented with the following:

(January 3, 2011)

Resin Bonded Anchors

The embedment depth of the anchors shall be as specified in the Plans. If the embedment depth of the anchor is not specified in the Plans then the embedment depth shall be as specified in the table of minimum and maximum torque below.

The anchors shall be installed in accordance with the resin manufacturer's written procedure.

Holes shall be drilled as specified in the Plans. Holes may be drilled with a rotary hammer drill when core drilling is not specified in the Plans. If holes are core drilled, the sides of the holes shall be roughened with a rotary hammer drill after core drilling.

Holes shall be prepared in accordance with the resin manufacturer's recommendations and shall meet the minimum requirements as specified herein. Holes drilled into concrete shall be thoroughly cleaned of debris, dust, and laitance

prior to installing the threaded rod and resin bonding material. Holes shall not have any standing liquid at the time of installation of the threaded anchor rod.

The anchor nuts shall be tightened to the following torques when the embedment equals or exceeds the minimum embedment specified.

Anchor Diameter (inch)	Minimum Torque (ft-lbs)	Maximum Torque (ft-lbs)	Minimum Embedment (Inch)
3/8	12	18	3-3/8
1/2	22	35	4-1/2
5/8	55	80	5-5/8
3/4	106	140	6-3/4
7/8	165	190	7-7/8
1	195	225	9
1-1/4	370	525	11-1/4

When the anchor embedment depth is less than the minimum values specified, the anchor nuts shall be tightened to the torque values specified in the Plans, or as recommended by the resin bonded anchor system manufacturer and approved by the Engineer.

(******)

6-02.3(24) Reinforcement

Replace the second paragraph in Section 6-02.3(24) with the following:

Before fabrication of reinforcing bars, the Contractor shall submit Type 3 Working Drawings of reinforcing fabrication details. Fabrication shall not begin until Type 3 Working Drawings have been approved.

Placing and Fastening

Section 6-02.3(24)C is supplemented with the following:

(January 7, 2019)

Drilling Holes for, and Setting, Steel Reinforcing Bar Dowels

Where called for in the Plans, holes shall be drilled into existing concrete to the size and dimension shown in the Plans. The Contractor may use any method for drilling the holes provided the method selected does not damage the concrete and the steel reinforcing bar that is to remain. Core drilling will be required when specifically noted in the Plans.

The Contractor shall exercise care in locating and drilling the holes to avoid damage to existing steel reinforcing bars and concrete. Location of the holes may be shifted slightly with the approval of the Engineer in order to avoid damaging the existing steel reinforcing bars. All damage caused by the

Contractor's operations shall be repaired by the Contractor at no cost to the Contracting Agency and the repair shall be as approved by the Engineer.

Steel reinforcing bars shall be set into the holes noted in the Plans with epoxy resin. The holes shall be cleaned before placing the resin.

The Contractor shall demonstrate, to the satisfaction of the Engineer, that the method used for setting the steel reinforcing bars completely fills the void between the steel reinforcing bar and the concrete with epoxy resin. Dams shall be placed at the front of the holes to confine the epoxy and shall not be removed until the epoxy has cured in the hole.

(******)

6-02.4 Measurement

Section 6-02.4 Measurement is supplemented with the following:

Measurement for “Kiosk”, “Levee Overlook”, “Automated Gate with Piers”, and “Entrance Sign” shall be per the completions and acceptance of the new concrete structures.

Other elements of these work items, including cultured stone veneer, existing gates, wooden sign panel, metal hardware, and wood installation shall be considered incidental to these work items; no separate measurement or payment will be made for these elements.

(******)

6-02.5 Payment

Section 6-02.5 Payment is supplemented with the following:

Payment will be made by lump sum for the Bid Items “Kiosk”, “Levee Overlook”, “Automated Gate with Piers”, and “Entrance Sign”.

6-04 Timber Structures

6-04.3 Construction Requirements

Section 6-04.3 is supplemented with the following:

(******)

New Turnstile

The New Turnstile is a cedar timber structure re-built using salvaged materials (t-straps, metal hardware) from the existing turnstile, as shown on the Plans. Cast-in-place concrete footings, bolts, wire, materials and installation are incidental to the work.

Columba River Overlook

The Columbia River Overlook is a cedar timber structure re-built using salvaged materials (t-straps, welded wire mesh, metal hardware) from the Refuge overlook

area, as shown on the Plans. Cast-in-place concrete footings materials and installation are incidental to the work. Note: the “Columbia River Overlook” detail also shows gravel pavement and rock bench re-installments which are separate Bid Items covered under other Special Provision Sections.

(******)

6-04.4 Measurement

Section 6-04.4 is supplemented with the following:

Measurement for “New Turnstile” and “Columbia River Overlook” shall be per the completions and acceptance of the new timber structures.

Other elements of these work items, including metal mesh panel and hardware installation shall be considered incidental to these work items; no separate measurement or payment will be made for these elements.

(******)

6-04.5 Payment

Section 6-04.5 is supplemented with the following:
Payment will be made by lump sum for the Bid Items “New Turnstile” and “Columbia River Overlook”.

6-11 Reinforced Concrete Walls

Description

Section 6-11.1 is supplemented with the following:

(******)

This Work also consists of constructing foundations, steel posts and related steel elements, and pre-cast concrete wall panels for the closure structure across SR 14 as shown in the Contract Plans. Specifications for Reinforced Concrete Walls are applicable to the closure structure across SR 14 unless otherwise noted.

This Work also consists of constructing the Gibbons Creek Flood Wall and levee abutment wall as shown in the Contract Plans. Specifications for Reinforced Concrete Walls are applicable to the Gibbons Creek Flood Wall and levee abutment wall structures unless otherwise noted.

Levee abutment wall work also includes the installation of 3 Bollards (WSDOT Type 3). Construct 3 Bollards with 3 feet center-to-center spacing. Place center Bollard at centerline of Levee Crest Road, offset center Bollard 10-feet back from abutment wall. Construct Bollard “Type 3” per Standard Plans.

6-11.2 Materials

Section 6-11.2 is supplemented with the following:

(******)

Structural Steel and Related Materials	9-06
Columbia River Gorge Formliner Finish	6-02.2
Natina Stain Treatment	9-08.1(2)

6-11.3 Construction Requirements

6-11.3(1) Submittals is supplemented with the following:

(******)
The Contractor shall submit Type 3 Working Drawings of pre-cast wall panels, reinforcing steel, steel posts, plates, sockets and related materials associated with the closure structure in accordance with Sections 6-02.3(28)A and 6-02.3(7).

The Contractor shall submit Type 3 Working Drawings of reinforcing steel for cast-in-place reinforced concrete structures in accordance with Sections 6-02.3(28)A and 6-02.3(7).

The Contractor shall submit Type 3E Working Drawings of pre-cast concrete panel embeds used for attaching / lifting the closure structure wall stem panels structure in accordance with Sections 6-02.3(28)A and 6-02.3(7).

6-11.3(3) Precast Concrete Wall Stem Panels is supplemented with the following:

(******)
Provide precast concrete wall stem panels for the closure structure according to details in the Contract Plans and these specifications. The precast panels have been designed in accordance with the codes and loads noted in the Contract Plans General Notes.

The construction tolerances for the precast wall stem panels for the closure structure shall be as indicated in this section.

Precast concrete wall stem panels for the closure structure shall be cast with the class of concrete as indicated in this section.

(******)
Add the following sections:

6-11.3(7) Reinforced Concrete Wall Surfacing

Surfacing of reinforced concrete walls as indicated on the plans shall be performed according to the requirements in section 6-02.3(14) and according to the limits shown.

6-11.3(8) Precast Concrete Walls – East Levee

This work includes furnishing and installing precast concrete walls at the East Levee Drainage culvert. Precast Concrete walls used for the wingwalls and headwalls at the East Levee Drainage culvert shall conform to the requirements shown on the Plans.

6-11.4 Measurement

Section 6-11.4 is supplemented with the following:

(******)

Cast-in-place concrete for the closure structure and retaining walls will be measured per cubic yard as specified in the first paragraph in Section 6-02.4.

Pre-cast concrete wall stem panels for the closure structure will be measured per cubic yard and included in the pay item for “Conc.Class 4000 for Closure Structure”.

Reference Section 8-31 for concrete work at the closure structure practice / storage area.

Reinforcing steel for the closure structure and retaining walls will not be measured. The estimated quantity of reinforcing is:

St. Reinf. Bar for Closure Structure (incl. pre-cast panels)	9,500 LBS
St. Reinf. Bar for Retaining Wall (Levee Abutment and Gibbons Creek Flood wall)	72,800 LBS

All structural steel and cast or forged metal shown for the closure structure, levee abutment, and Gibbons Creek flood wall will be paid for on the lump sum basis in the pay item “Structural Carbon Steel”. Reference Section 8-31 for steel at the closure structure practice / storage area.
The estimated quantity of steel and metals is:

Location	**Weight (lbs)**
Closure structure	7,100
Levee abutment wall Gibbons Creek Flood Wall	400

Natina Stain Treatment will be measured by the square yard of surface area receiving the treatment according to the limits shown.

Pre-cast concrete walls for the East Levee Culvert Wingwalls and Headwall will be measured as a Lump Sum. This work will include furnishing and installing the walls in the locations shown and installation of the Steel Tube Handrails.

Measurement for 3 Bollards (WSDOT Type 3) at the Levee Abutment Wall shall be considered incidental to the bid item “Conc. Class 4000 for Retaining Wall”.

6-11.5 Payment

Section 6-11.5 is supplemented with the following:

(******)
All costs with furnishing and installing wall drains at the Gibbons Creek Flood Wall will be measured and paid for separately. This drain work is not incidental to the Contract price per cubic yard for “Conc. Class 4000 for Retaining Wall”.

Drain pipes, associated bedding, and minor associated materials behind other walls and abutments shall be considered incidental the concrete work.

All costs with forming, supplying, casting, stripping, curing and otherwise installing concrete bar shall be included in the Contract unit price for “Conc. Class 4000 _____”.

“Conc. Class 4000 for Closure Structure”, per cubic yard.
All costs with furnishing and installing the concrete closure structure and pre-cast closure structure wall panels across SR14 shall be included in the unit Contract price per cubic yard for “Conc. Class 4000 for Closure Structure”.

“Conc. Class 4000 for Retaining Wall”, per cubic yard.
All costs with furnishing and installing the Gibbons Creek Flood Wall and levee abutment wall concrete and Bollards shall included in the unit Contract price per cubic yard for “Conc. Class 4000 for Retaining Wall”.

All costs with furnishing and installing reinforcing bar shall be included in the lump sum price for “St. Reinf. Bar, _____”.

“St. Reinf. Bar, Closure Structure” includes all reinforcing required for the cast-in-place foundation across SR 14 and the pre-cast flood wall panels.

“St. Reinf. Bar, Retaining Wall” includes all reinforcing required for the Gibbons Creek Flood Wall and the levee abutment wall.

“Structural Carbon Steel”, lump sum.
The lump sum Contract price for “Structural Carbon Steel” shall be paid according to Section 6-03.5.

For the purposes of payment, such minor items as manhole rings and covers, headed studs, pins, anchor bolts, and other miscellaneous minor items, unless otherwise provided, shall be considered as structural carbon steel even though made of other materials.

"Natina Stain Treatment", per square yard.
The unit contract price per square yard for "Natina Stain Treatment" shall be full pay for performing the work as specified.

"Pre-cast Concrete Walls - East Levee" shall be paid in full as a lump sum.

(******)

6-20 Pedestrian Bridge

6-20.1 Description

This Work constitutes furnishing and constructing a fully engineered steel bridge structure including railing, stay-in-place metal decking, bearings, and anchorage to abutments, erected as shown on the plans and in accordance with these specifications. The terms "Prefabricated Bridge(s)", "Premanufactured Bridge(s)", and "Pre-engineered Bridge(s)" are used in the specifications and Plans and the terms are intended to be interchangeable in referring to the contractor-designed pedestrian bridge(s).

This specification includes three prefabricated pedestrian bridges at the following locations:

1. Channel 2
2. Channel 3
3. Gibbons Creek (north of SR 14)

Qualifications - Prefabricated bridge supplier must have at least five years of experience fabricating similar structures and provide a list of at least five successful bridge projects completed within the last ten years.

6-20.2 Materials

Provide materials and construct Prefabricated Bridges in accordance with the details shown on the plans, the requirements of this specification, and the pertinent requirements of the Standard Specifications.

Steel - Bridges shall be fabricated from high strength, low alloy ASTM A500 square and rectangular tubing and/or ASTM A572 and structural steel shapes (Fy = 50 ksi). All steel shall be hot-dipped galvanized in accordance with ASTM A153 and A123.

The minimum thickness of all structural steel members shall be 3/16" nominal and be in accordance with the AISC Manual of Steel Constructions' "Standard Mill Practice Guidelines". For ASTM A500 and ASTM A847 tubing, the section properties used for design shall be per the Steel Tube Institute of North America's Hollow Structural Sections "Dimensions and Section Properties".

Fracture toughness shall be included in the Material Requirements per AAHTO-LRFD Bridge Design Specifications Section 6.6.2 with Temperature Zone 2.

Prefabricated steel fabricator shall be certified under the AISC Quality Certification Program, "Certified Bridge Fabricator – Intermediate (IBR)" as set forth in the ASIC Certification Program with Fracture Critical Endorsement.

Surface Coating – Apply Natina Steel metal stain according to the manufacturer's recommendations to all bridge steel surfaces, including railings.

See Section 9-08.1(2) for Natina product information.

General Features of Design

Bridge Design - Bridge span shall be as measured from the CL of bearings for the bridge structure. Bridge width shall be as shown and shall be as measured from the inside face of railing.

All members of the vertical trusses (top and bottom chords, verticals, and diagonals) shall be fabricated from square and/or rectangular structural steel tubing. Other structural members and bracing shall be fabricated from structural steel shapes or square and rectangular structural steel tubing.

Bridges shall be designed utilizing an underhung floor beam (top of floor beam welded to the bottom of the bottom chord) or be designed utilizing an H-Section configuration where the floor beams are placed up inside the trusses and attached to the truss verticals. The top of the top chord shall not be less than minimum distance above the deck surface as shown in the Contract Plans.

Bridges shall be designed as a single simple supported span. Bridge bearings and anchorage to abutments shall be designed following the fixity conditions indicated on the plans.

Bridges shall be designed such that the factored vertical and lateral bridge reactions at the abutments do not exceed the values shown on the plans.

The bridges shall have a vertical camber dimension at mid-span equal to 100% of the full dead load deflection plus 1% of the full length of the bridge.

The bridges shall be furnished with a stay-in-place galvanized steel form deck suitable for pouring a reinforced concrete slab. The form deck shall be designed at a minimum to carry the dead load of the wet concrete, weight of the form decking, plus a construction load of 20 psf uniform load or a 150 pound concentrated load on a 1’-0” wide section of deck. When edge supports are used, deflection is limited to 1/180 of the span or 3/4”, whichever is less. Without edge supports, deflection shall be limited to 1/180 of the span or 3/8”, whichever is less.

The Gibbons Creek bridge decking shall be rough-cut timber, as noted on the Plans.

Pedestrian railing shall be steel and placed so as to prevent a 4” sphere from passing through the railing. Pedestrian railing shall be placed on the inside of the structure at the bridge fabricator's option, provided that clear distance indicated on contract documents is provided. Railing elements shall have their ends sealed and ground smooth so as to produce no sharp edges.

The bridge will be supplied with a 1” x 5-1/2" steel kick plate attached flush to the inside face of the structure. The span of the kick plate from centerline to centerline of support shall not exceed 6’-6’. The top of the steel kick plate shall be 1” above the top of the deck (measured at the outside edge of the deck).

The bridge superstructure shall be designed for the live loads indicated in the General Structural Notes. The bridge superstructure shall also accommodate utility loading where indicated on the plans.

The Pedestrian Bridge shall be designed to accommodate a temperature range of -10 degrees F to 120 degrees F. At least 1" clearance shall be provided between the bridge and the concrete abutment backwall. A closure plate shall be included to accommodate ADA and span over the gap.

The bridge shall have load rating and vehicular use placard affixed to the guardrail or other visible location on both ends of the bridge.

Design Codes -

- AASHTO LRFD Bridge Design Specifications 8th Edition – dated 2018.
- AASHT0 LRFD Guide Specifications for the Design of Pedestrian Bridges, 2nd Edition, 2009
- WSDOT Bridge Design Manual – latest version

Design Loading -

- Live Loads indicated in the General Structural Notes.
- For seismic site parameters refer to Contract Plans.

6-20.3 Construction Requirements

Fabricate and install Prefabricated Bridge in accordance with this specification and the details and dimensions shown on the plans or approved in writing by the Engineer. Locate Prefabricated Bridges as shown on the plans.

Submittals - The Contractor shall submit Type 3E stamped working drawings, calculations, and installation procedure for the prefabricated steel bridges to the Engineer in accordance with Section 1-05.3. The contractor shall not begin work before the submittals are approved by the Engineer.

All design calculations and shop drawings for the prefabricated bridge shall be stamped and signed by a Professional Engineer in accordance with Section 1-05.3 of the WSDOT Standard Specifications.

6-20.4 Measurement

"Premanufactured Ped. Bridge - ____", shall be measured, per lump sum, where the location of the bridge shall be inserted in the blank.

Concrete Class 4000, Pedestrian Bridge for the Channel 2 and Channel 3 bridges will be measured per the cubic yard as specified in Section 6-02.4.

Reinforcing steel for the Channel 2 and Channel 3 pedestrian bridges will be paid by lump sum and will not be measured. The estimated quantity of reinforcing is:

St. Reinf. Bar for Pedestrian Bridge (includes Channel 2 and Channel 3 bridges)	5,100 LBS

"Premanufactured Pedestrian Bridge – Gibbons Creek" – no separate measurement shall be made for concrete, reinforcing bar, or work and materials necessary for completion of the abutments or gravel approaches.

6-20.5 Payment

"Premanufactured Ped. Bridge, _____", per lump sum.
All costs in connection with designing, furnishing, installing and testing; and for all labor, tools, equipment and incidentals necessary for complete installation of each "Premanufactured Ped. Bridge, _____". Included in this price, the manufacturer shall provide a warranty against defects in material and workmanship for a period of 15 years. Included in this price are pedestrian railing, decking, bearing plates, base plates, setting plates, bearing pads, anchor rods, metal staining, and steel deck closure plates at bridge ends.

"Conc. Class 4000, Pedestrian Bridge", per cubic yard.

All costs with furnishing and installing concrete for bridge abutments and wingwalls and other miscellaneous items associated with constructing the bridge substructure for the premanufactured bridges shall be included in the Contract unit price for "Conc. Class 4000, Pedestrian Bridge". All costs associated with formliner finishes and Natina stain treatment shall be considered incidental to "Conc. Class 4000, Pedestrian Bridge". Quantity

"St. Reinf. Bar, Pedestrian Bridge", lump sum.

"St. Reinf. Bar, Pedestrian Bridge" includes all reinforcing and anchor rods required for abutments and wingwalls at the pedestrian bridges.

"Premanufactured Pedestrian Bridge – Gibbons Creek", payment for the Pedestrian Bridge located on Gibbons Creek north of SR 14 shall include all concrete and steel reinforcing bar or other accepted abutment materials, and all other work and materials necessary to completely install the bridge as shown including the gravel approaches.

6-21 Restroom Relocation

6-21.1 Description

This work includes the decommissioning, refurbishing and relocation of the existing double vault toilet restroom structure and precast vaults to the new location shown on the plans. The existing double vault toilet restroom is a "Placer" model with utility chase manufactured by Park and Restroom Structures, Inc. in Spokane, Washington: http://www.parkandrestroomstructures.com.

6-21.2 Materials

Material shall meet the requirements of the following sections:

Cast in Place Concrete: Provide materials and construct new cast in place concrete slab and concrete sidewalk in accordance with pertinent requirement of the Standard Specifications.

Mastic: Manufacturer's recommended material.

Use the manufacturer's recommended materials for refurbishing:

Toilet Risers: Furnish white, heavy-duty, high impact polystyrene seats and lids complete with stainless steel mounting hardware. Provide riser 18 inches high (from tops of the floor), include a 5 inch flange skirt, with the width and length of the "handicap: riser just over 20 ½ inches long by 16 ½ inches wide.

Grab Bars: Furnish type 304 stainless steel, 18 gauge material.

Coatings and Sealers: Paint interior floors and coverings with two coats of dark gray water-based epoxy with sand suspension to provide slip protection. Paint interior walls and ceiling with two coats of white modified acrylic penetrating pigment.

6-21.3 Construction Requirements

The restroom will be relocated to a new location west of Gibbons Creek. See Plans.

The weight of the structure is approximately 48,000 pounds. The work will require a crane of significant capacity, a back hoe to excavate and remove the vaults and a trailer to set the precast concrete vaults and move them to their new location.

Mastic attaches structure to vault below. This must be carefully loosened before structure can be lifted for transport to new location. Transfer structure on lifting plates.

Empty/ pump precast vaults to remove water and materials, and clean out hatches prior to salvage operations.

Refurbish restroom structure before relocation. Repair hairline cracks and repaint interior. Replace toilet risers, wall vents, vent covers, grab bars with equal products. See Materials above.

Reset structure onto lined vault. Follow manufacturer's recommended procedure.

Add concrete sidewalk approach in front of restroom structure to provide a transition into the structure from gravel trails. See Plans.

6-21.4 Measurement

Measurement shall be per the completion and acceptance of the relocated and functioning restroom structure in place. The concrete sidewalk approach to the restroom structure is incidental to the work.

6-21.5 Payment

Payment will be made by lump sum for the Bid item Restroom Relocation and incidental work.

Division 7
Drainage Structures, Storm Sewers, Sanitary Sewers, Water Mains, and Conduits

7-01 Drains

7-01.3(1) Drain Pipe

(******)
Section 7-01.3(1) Drain Pipe is supplemented by the following:

This work includes constructing the splash pad located at the outfall of the “8 Drain Pipe” shown at Station 19+02.04 (53.00’ Lt) according to applicable parts of Section 8-15.

7-01.3(2) Underdrain Pipe

(******)
Section 7-01.3(2) Underdrain Pipe is supplemented by the following:

This work includes constructing the “Underdrain HDPE Pipe 8 Inch Diameter” (also referred to as toe drain or wall drain) along the toe of the concrete floodwall (along Gibbons Creek). The perforated pipe shall conform to the Standard Specifications for HDPE underdrain pipes.

7-01.4 Measurement

Section 7-01.4 is supplemented by the following:

“Underdrain HDPE Pipe 8 Inch Diameter”, shall be measured per linear foot.

7-01.5 Payment

Section 7-01.5 is supplemented by the following:

Payment for “Underdrain HDPE Pipe 8 Inch Diameter” will be made in full per linear foot installed. Any and all work, labor, and materials required for overexcavation, gravel backfill, and geogrid shall be considered incidental to this work item.

Items considered incidental to the “Drain Pipe 8 In. Diam.” Include quarry spalls and associated excavation at pipe outlet required to construct the splash pad.

(******)

Section 7-06 is replaced by the following:

7-06 Temporary Dewatering

7-06.1 Description

This work shall include designing, installing, operating, maintaining, removing, and disposing of dewatering systems, environmental compliance and other Work as detailed in these Specifications.

The dewatering system shall address the following work areas:

East Levee Test Fill Diversion (drainage diversion around test fill)
Gibbons Creek Stream Diversion including Elevated Canal
West Levee Foundation Dewatering
East Levee Foundation Dewatering

7-06.2 Materials

All materials shall be as detailed in the Contractor’s Dewatering System Plan (DSP).

7-06.3 Construction Requirements

7-06.3(1) General

The Work shall include compliance with Washington State Water Quality Standards in WAC 173-201A, project permits, environmental commitments and these Provisions.

Dewatering systems may be either a gravity or a pumped system. Pump screens must comply with the requirements in Section 7-06.3(4) of these Special Provisions. Once a pumped diversion begins, the pump must run continuously until it is no longer necessary to bypass flows. The Contractor shall have back-up pumps on site and shall provide twenty-four hour monitoring of the pumping operation. Monitoring can be achieved by providing monitoring personnel on site or through remote sensing and instrumentation to verify operation of the bypass. If the Contractor elects to monitor by remote sensing and instrumentation, a Type 2 Working Drawing shall be submitted outlining how system operation will be monitored, how alerts will be made and how personnel will respond to a diversion system failure. Pumping for dewatering excavations may be stopped and started as needed so long as the conditions needed for material placement and compaction are maintained.

All elements of dewatering systems including water that is retained by the system shall be located within the permitted impact areas as shown in the Plans. The water diversion structures shall be constructed to a height sufficient to prevent stream flow from entering the work area. Scour protection shall be provided at the outfall of the dewatering systems to prevent flow entering or re-entering a stream channel from mobilizing streambed and embankment sediments. When a dewatering system is located in or near an intertidal zone the dewatering system design shall take tidal influence into consideration.

For each dewatering system the Contractor shall arrange a meeting with the Engineer prior to implementation of the DSP. At this meeting the Contractor shall explain to the Engineer the Work to be completed for the dewatering system. The meeting shall be a minimum of 7 calendar days prior to start of the dewatering system work.

The Dewatering System shall be operational prior to performing any other work below the Ordinary High Water Line.

7-06.3(2) Temporary Dewatering System Plan

7-06.3(2)A General Plan Requirements

The Contractor shall submit a Dewatering System Plan (DSP) in accordance with the requirements of a Type 2E Working Drawing and these Specifications. A separate DSP shall be prepared and submitted for each dewatering system that is required. The DSP shall consist of a narrative and drawings detailing all dewatering system requirements and shall encompass and protect all the areas affected by the Contractor's dewatering system Work.

The Contractor shall fully implement the DSP throughout the duration of the associated Work. The Contractor shall update the DSP throughout project construction to reflect actual site conditions and the Contractor's Work. Changes to plan shall comply with WAC 196-23-020. At the request of the Engineer an updated DSP shall be submitted as a Type 2E Working Drawing. A copy of the DSP shall be on the project site at all times.

The DSP shall describe measures that will be taken to comply with Washington State Water Quality Standards in WAC 173-201A, applicable permits, environmental commitments and these Provisions.
The Contractor shall incorporate the Diversion Schedule and Sequence into their Progress Schedule.

7-06.3(2)B Stream Flows

Minimum Stream Flows

At all times of operation, the Contractor's dewatering system for the Gibbons Creek Stream Diversion shall be designed to convey the following minimum flow rate of water in cubic feet per second:

*** 30 CFS ***

Contractor shall submit Gibbons Creek diversion plan to Engineer for review prior to installation.

During all phases of the bypass installation and decommissioning, the Contractor shall maintain flows downstream of the project site.

7-06.3(2)C Plan Requirements

The DSP shall provide the following information in the following order:

1. Description and Location of all dewatering systems

    a. Identify the name of the water body where the dewatering system will be placed. Provide a description of the dewatering system.

b. Provide drawings showing the location of the dewatering system, including proposed access routes and equipment to be used to construct the diversion.

2. Schedule and Sequence

a. Provide a sequence of Work, dates, and durations for when the following will occur, in accordance with the in-water work window in the Special Provisions:

i. Fish exclusion & salvage (performed by the Contractor).

ii. DSP Implementation Meeting

iii. Dewatering System installation.

iv. Dewatering of the isolated Work area.

v. Restoration and stabilization of the dewatering system Work area to prevent erosion.

vi. Any relocations of the dewatering system to accommodate the Work sequence (if needed).

vii. Channel rewatering.

viii. Removal of the Dewatering System.

ix. Fish exclusion removal (performed by Contractor after Owner approval).

b. Include other Work that needs to be coordinated with the Dewatering System (e.g., temporary erosion control).

3. Calculations and Materials

a. Detail all elements of the dewatering system; including but not limited to pipes, pumps, and other equipment.

b. Calculations shall demonstrate the diversion system conveys the minimum peak flow specified by the Owner and include tidal influence where applicable.

c. Dewatering system shall include a water conveyance system to be used for dewatering and rewatering that is capable of conveying the flow required for the dewatering system.

d. Methods for anchoring dewatering system pipe and associated hardware; include calculations to demonstrate the devices ability to anchor the pipe and associated hardware.

e. Specifications for all materials and equipment to be used as part of the diversion including pump or diversion capacities and hose sizes. For example, provide the type, profile, and size of pipe.

f. Provide the size of fish screens (mesh size and surface area) to be used, in accordance with Section 7-06.3(5) of these Special Provisions.

4. Stream Flow Blocking and Dewatering

a. Provide the method(s), including locations and details (narrative and drawings) for blocking both the upstream and downstream ends of the diversion. Describe how minor leakage from upstream and downstream will be addressed.

b. Include provisions for scour protection at the dewatering system outfalls.

c. Identify the means and methods for dewatering water and disposal of the water.

5. Inspection and Maintenance

a. Provide the schedule and frequency for inspection of the dewatering system; include weekends and holidays.

b. Describe how maintenance will be conducted when inspections identify deficiencies in the dewatering system. These include, but are not limited to removal and disposal of trapped sediment or debris and repairing leaks.

c. The Contractor shall keep a record of all inspections and maintenance of the dewatering system.

6. Rewatering the Stream Channel

a. Detail how the stream channel will be rewatered to comply with water quality requirements.

b. Identify measures that will prevent the stranding of fish during rewatering (i.e. describe methods, rates, and durations of the rewatering process knowing that flows downstream of the fish block must be maintained to protect fish).

7. Removal of the Dewatering system

a. Describe the sequence that will be used for removing the dewatering system and methods to prevent water quality impacts.

b. Describe how disturbed soil will be permanently stabilized.

c. Describe any temporary pipes to remain (requires approval of the Engineer): their type, pipe class, size, location, and plugging procedure.

8. Other Work required for the Contractor's dewatering system

7-06.3(3) Fish and Aquatic Species Exclusion and Notifications

Prior to installing a dewatering system, the Contractor shall allow 7 calendar days after the beginning of the in-water work window defined in the Special Provisions, in their schedule for the following activities: (1) to install fish block nets upstream and downstream of the in-water Work area; and (2) safely capture and relocate any fish and other aquatic organisms that become trapped between the block nets. No Work within the limits of the Ordinary High Water Line will be allowed prior to installation of fish block nets and completion of fish exclusion activities.

(******)
Fish exclusion and salvage to be performed in accordance with the requirements listed in the plans on sheet G1.4 and in accordance with the provisions of the Hydraulic Project Approval (HPA) permit.

Fish Exclusion and salvage shall be directed by a Designated Lead Fish Moving Biologist and the work shall be carried out by Trained Personnel. Experience and qualifications for these personnel area as follows:

Requirements for Designated Lead Fish Moving Biologist (Directing Biologist)

- Completion of a minimum of a two day electrofishing class.
- Training in fish ecology and identification
- 100 hours of electrofishing experience in the Pacific Northwest, at least 20 hours of which should have been in the last 5 years in the PNW.
- Possession of a current CPR certification
- Possession of a current first aid certification
- Demonstrated understanding of aquatic invasive species and the appropriate decontamination methods necessary to prevent introducing aquatic invasive species into the work area.
- Demonstrated ability to interpret contract plan sheets/specification, contactor schedule and plans prepared by the contractor (e.g. Temporary Steam Diversion
- Plan and Spill Prevention Control and Countermeasure Plan)
- Ability to move fish per the most current version of the "WSDOT Fish
- Exclusion Protocols and Standards"
- Must develop and deliver on site field training for individuals assisting with fish moving.

Requirements for Trained Personnel

- Possess training, knowledge, skills and ability to ensure safe handling of fish and
- to ensure the safety of staff conducting the operations.
- Have a current first aid certification.
- Training must be conducted on site by the Designated Lead Fish Moving
- Biologist prior to initiation of the fish moving and must cover the following:
    - Review of site specific pre- activity safety plan

- A site specific job site analysis and fish exclusion plan.
- A discussion of roles, responsibilities, permit requirements, and species expected.
- Review of electrofishing guidelines and equipment manufactures recommendations.
- Definitions of basic terminology (galvanotaxis, narcosis, and tetany) and an explanation of how electrofishing attracts fish.
- A demonstration and discussion of the proper use of electrofishing equipment (including an explanation of how gear can injure fish and how to recognize signs of injury) and the role of each crew member.
- A demonstration of proper fish handling including proper netting, sorting by size, keeping buckets cool, releasing small and large fish in different pools, not overcrowding buckets, avoiding sunscreens/ insect repellants etc on hands moving fish.
- A review of common mistakes.
- A discussion of the use of personal floatation devices.
- A discussion of aquatic invasive species and the decontamination methods necessary to prevent introducing aquatic invasives into the work area.

7-06.3(4) Dewatering Work Area

Dewatering the isolated in-water Work area (between the upstream and downwater management system dams) shall occur at a rate slow enough to allow the Contractor to safely capture and relocate all fish species and other aquatic organisms to avoid stranding, as determined by the Engineer.

All pumps used for dewatering shall have an intake covered with a fish screen, operated, and maintained in accordance with RCW 77.57.010 and RCW 77.57.070. Appropriate fish screens are as follows:

1. Perforated plate: 0.094 inch (maximum opening diameter);

2. Profile bar: 0.069 inch (maximum width opening); or

3. Woven wire: 0.094 inch (maximum opening measured on the diagonal).

The minimum open area for all types of fish screens is twenty-seven percent. The screened intake facility must have enough surface area to ensure that the velocity through the screen is less than 0.4 feet per second. The fish screen must remain in place whenever water is withdrawn until the Owner Biologists confirm all fish have been removed. At that point, the Contractor may remove the fish screen to finish dewatering the work area.

7-06.3(5) Inspection and Maintenance

At a minimum, the Contractor shall perform the following activities once per day (including weekends and holidays):

1. Check for and correct leaks;

2. Ensure the fish block nets remain sealed to the channel substrate.

The fish block nets shall be kept clear of debris that could jeopardize the integrity of the nets. The Contractor shall perform the following activities a minimum of three times per day or when requested by the Engineer. On working days, these activities shall be performed at the start, middle, and at the end of the working day. On non-working days, these activities shall be performed between 6:00 am and 8:00 am, between 11:00 am and 1:00 pm, and between 4:00 pm and 6:00 pm:

1. Inspect the upstream and downstream fish block nets and remove debris;

2. Inspect the upstream fish block net and all screens and similar facilities for impinged fish;

    a. The Contractor shall immediately notify the Owner when impinged fish are discovered.

    b. Removal of impinged fish will be performed by the Owner.

The Contractor shall maintain a written record of all inspection and maintenance activities; record to be available at the request of the Engineer.

7-06.3(6) Rewatering the Stream Channel

The Contractor shall notify the Engineer a minimum of 7 calendar days in advance of rewatering the stream channel.

The Contractor shall introduce water to the new stream channel section and trap sediments until the stream section meets the requirements of these Provisions. Rewatering shall occur at a rate to avoid loss of surface water downstream while the new channel section is rewatered.

(******)

Section 7-06.3(6) is supplemented with the following:

Re-watering excavated channels must be performed according to the HIPIII Staged Rewatering Notes listed on the Plans.

7-06.3(7) Removal of the Dewatering system

The Contractor shall notify the Engineer two business days in advance of beginning the dewatering system removal sequence.

Once the water in the new stream channel will meet the applicable turbidity standards the Contractor may begin removal of the dewatering system and the stream channel opened to flows.

The Contractor shall immediately take all corrective actions necessary to prevent the water from exceeding the turbidity standards should the stream turbidity increase. All Work within the channel, except for removal of the temporary erosion control items, shall be completed before the dewatering system is removed. The Contractor must finish all construction activities within the limits of the Ordinary High Water Line, including but not limited to culvert installation and creek bed channel restoration, before the Owner will remove the fish block nets.

All materials used for the diversion shall become the property of the Contractor and removed from the project limits, with the exception of any materials supplied by the Owner, unless otherwise specified by the Engineer.

7-06.5 Payment

Payment will be made for the following Bid items when included in the proposal:

"Dewatering System and Plan", lump sum.

The lump sum Contract price for "Dewatering System and Plan" shall be full payment to perform the Work as specified. Progress payments for the lump sum item "Dewatering system" will be made as follows:

1. Twenty-five percent of the bid amount will be paid following completion of the TDSP including resolution of all OPR review comments.

2. The remaining seventy-five percent of the bid amount shall be paid in accordance with Section 1-09.9.

Activities and materials necessary to meet the specified requirements for Fish and Aquatic Species Exclusion and Notifications are incidental to the "Dewatering System and Plan".

(******)
Section 7-11 including the header is replaced with the following:

7-11 East Levee Gravity Drainage Culvert

7-11.1 Description

The east levee gravity drainage culvert includes the following items of work:

- High Density Polyethylene (HDPE) pipe culvert that is required for drainage from the interior of the east levee into the refuge
    - Excavation, shoring, and/or trenching of the culvert into/through the levee test fill, backfilling of excavation to meet Embankment Construction requirements per section 2-03.3(14).
    - Fusion welding of HDPE culvert sections
    - Culvert gravel drainage fill and controlled low-strength material (CLSM) bedding/backfill
    - Anchoring / ballast for CLSM-backfilled sections of culvert
    - Geogrid below gravel drainage fill
    - Watertight connections between the culvert and headwalls.
    - Quarry spalls at culvert inlet/outlet
- Installation of precast reinforced concrete headwalls & wingwalls

- Structure excavation and foundation preparation per Section 2-09. This work is included under bid item “Structure Excavation”.

- Drainage Gate
- Sluice Gate
- Trash Rack
- Steel Tube Handrail
- Beaver Exclusion Fence

Related specifications include:

- 2-03 Excavation and Embankment
- 2-09 Structure Excavation
- 6-11 Reinforced Concrete Walls – East Levee
- 7-06 Temporary Dewatering

Applicable references:

- USACE EM 1110-2-1913 Design and Construction of Levees, dated April 30, 2000
- USACE EM 1110-2-2902 Conduits, Culverts, and Pipes, dated March 31, 1998
- USACE EM 1110-2-2002 Standard Practice for Concrete for Civil Works Structures, dated February 1, 1994
- WSDOT 2020 Standard Specifications, Section 7-02.3(6)A5 Wingwalls and Retaining Walls, dated September 2019
  - USACE EM 1110-2-2000 states “the specifications of a state agency, such as a highway department, may be substituted for all or parts of the Guide Specification CW-03307, “Concrete (for Minor Structures)”, when the work being accomplished will ultimately be operated or maintained or both by the state in which it is located or when savings will result due to the familiarity of local contractors with the more usual specifications.” (USACE 1994b).

    (Per the above and for consistency with the remainder of these specifications, WSDOT standard specifications will govern for the pre-cast concrete structures.)
- WSDOT 2020 Standard Specifications, Section 9-05.23 High Density Polyethylene (HDPE) Pipe, dated September 2019

7-11.2 Material

HDPE Culvert

1) *High Density Polyethylene (HDPE)* – The solid wall HDPE pipe shall meet the requirements of ASTM F2619. Pipe segments shall be furnished (manufactured) in lengths not less than 20 feet. The pipe outside diameter shall be approximately 54 inches with a Standard Dimension Ratio (SDR) of 17 (approximate 48 inch inside diameter). Allowable fill height shall be greater than or equal to 25 feet. Culvert pipe and pipe headwall connections shall accommodate camber at least as great as that shown in the camber schedule indicated on the Plans.

2) *Pipe Joints* – Pipe segments shall be butt fused in accordance with ASTM F2620 and according to manufacturer's methods, materials, and welding machinery.

3) *Water-stop* – headwall-to-culvert water-stops shall be rubber gaskets meeting ASTM C 923 standards for water tightness.

4) *Pipe Bedding* – pipe bedding shall be first-class bedding, as described in USACE EM 1110-2-2902 Conduits, Culverts, and Pipes. Bedding material shall also meet requirements of Setback Levee Material specified in section 9-03.14(5).

5) *Flowable Fill* – Control low strength material (CLSM) (waterside two-thirds of the culvert) shall be used to backfill the pipe trench. CLSM mixture shall meet the requirements of WSDOT standard specification 2-09.3(1)E. Shrinkage reducing admixture shall be added to the CLSM.

6) *Drainage Fill* – Drainage fill (landward one-third of the culvert) shall match the specifications of Gravel Backfill for Pipe Zone Bedding in Section 9-03.12(3).

7) *Geogrid* – Geogrid shall be installed below the drainage fill. Geogrid reinforcing shall be a punched polyester geo-synthetic (Tensar biaxial geogrid or equivalent). Geogrid reinforcing shall be installed in accordance with WSDOT standard specifications 6-13.3(7) and 2-12.3.

Sluice Gate

Sluice gate (also referred to as slide gate) at the culvert inlet shall be a Waterman SS-250 slide gate with a mechanical crank, or approved equivalent. Slide gate shall be rated for a minimum unseating head of at least 25 feet.

Contractor shall coordinate anchor bolt placement for mounting of the gate with headwall manufacturer to ensure the gate is adequately sized to fit over the cored opening for the pipe and to ensure that anchor bolts will not conflict with reinforcing steel in the headwall. The sluice gate shall be treated with Natina per section 9-08.

Trash Rack

Trash rack shall be fabricated from structural steel by experienced steel fabricators in accordance with WSDOT 9-05.15(2).

Contractor shall coordinate anchor bolt placement for mounting of the rack with headwall and sluice gate manufacturers to ensure the rack is adequately sized to fit over and accommodate normal operation of the sluice gate, and that anchor bolts will not conflict with reinforcing steel in the headwall. The trash rack shall be galvanized and treated with Natina per section 9-08.

Drainage Gate

Drainage Gate at the downstream end of the drainage culvert shall be a Waterman F-25 Medium-Duty Drainage gate. Fitting options shall be as noted in the plans. Drainage gate shall be rated for a minimum seating head of 25-feet.

Contractor shall coordinate anchor bolt placement for mounting of the gate with headwall manufacturer to ensure the gate is adequately sized to fit over the cored opening for the pipe and to ensure that anchor bolts will not conflict with reinforcing steel in the headwall. The drainage gate shall be galvanized and stained with Natina per section 9-08.

Headwalls & Wingwalls
Headwalls & Wingwalls shall be precast reinforced concrete panels in the dimensions shown on the plans. The contractor shall include the headwall gaskets and use of the Columbia Gorge Form Liner Finish in the Type 2E Working Drawings required by Section 6-02.3(28). Contractor may have manufacturer apply Natina (see section 9-08) stain treatment or apply the treatment on site.

Steel Tube Handrail
Steel tube handrails shall be galvanized steel designed to a height of 3 feet with central cross bars approximately in the middle as shown in Plans. Steel Tube Handrail must allow for unimpeded operation of Sluice Gate Crank. Contractor may have manufacturer apply Natina (see section 9-08) stain treatment or apply the treatment on site.

Beaver Exclusion Fence
Beaver Exclusion Fence shall be constructed galvanized 2-inch x 4-inch nominal welded wire mesh, fixed to steel fence posts. Fence material shall be fastened to each post with minimum 10-guage tie wires (galvanized or coated). Materials to be approved by Engineer prior to purchase. All steel shall be treated with Natina per section 9-08.

7-11.3 Construction Requirements

7-11.3a The East Levee Drainage Culvert
Refer to the plan and profile of the Drainage Culvert in the Plans. The drainage culvert shall be constructed within the levee test fill section. Excavate and/or shore the test fill embankment to lay the pipe and associated bedding materials. Shoring shall meet WSDOT and all state and federal safety standards.

Pipe Joints: Butt fusing or welding of the HDPE pipe segments shall be completed and inspected only by a licensed or certified (ASTM F3190) HDPE pipe welding technician according to ASTM F2620. Prior to backfilling pipe joints shall be inspected and approved by a certified technician.

Contraction and Expansion: The contractor shall at all times limit expansion of the culvert caused by heating from direct exposure to the sun. Contraction can generate force which could result in pull-out at mechanical couplings or other fixed connection points. Allow pipe that has been in direct sunlight to cool fully before making connections between pipe segments, to the headwalls or other anchored joints, and/or flanges, or fittings. Keep the pipe covered fully prior to backfilling with drainage fill and CLSM.

Culvert Bedding, Drainage Backfill and CLSM: Over excavate as necessary on the landward one-third of the length of the culvert trench to accommodate drainage backfill (and culvert bedding) as shown and called out on the Plans. Place and compact drainage backfill on the bottom of the trench in maximum 12-inch lifts. Preform (round) the compacted drainage backfill to accommodate the culvert. After placing the culvert, continue backfilling in lifts to the elevations or grades shown in the Plans. Bring the backfill elevation up evenly on both sides to prevent lateral loading on the pipe. Take special care to ensure proper compaction of the haunch material. Engineer to inspect and approve compaction during the placement of material around the pipe and wingwalls.

Submit culvert anchoring plan for approval by the engineer as part of the East Levee Culvert Construction Plan. The anchoring plan is intended to prevent flotation or displacement of the culvert when placing CLSM.

Place CLSM along the waterward two-thirds of the culvert. Maximum CLSM lifts shall be 12 inches. Allow CLSM to cure for at least 24 hours, or as otherwise recommended by the culvert manufacturer or installer, before placing subsequent lifts. Place pipe on CLSM bedding.

Before placing second CLSM lift, anchor pipe completely using one or more of the following:

- Anchor screws
- Rebar cross pinning
- Fixing with other onsite equipment and/or machinery
- Other approved method

Continue placing CLSM in lifts to the elevations or grades shown in the Plans.

Final placement of culvert backfill shall meet levee design requirements of Section 2-03.3(14)B-2.

Water-stop Seals & End Conditions: Contractor shall install watertight pipe-to-headwall gaskets or seals at the inlet and outlet of the culvert that is mated to the concrete headwalls. Water-stop seals shall be installed according to manufacturer specifications. All joints shall be pressure tested according to USACE EM 1110-2-2902.

The finished ends of the pipe shall not extend beyond the face of the headwall and shall be trimmed if necessary. Do not trim or grout culvert ends until completion of backfill placement and approval by the Engineer.

7-11.3b Sluice Gate, Drainage Gate, Trash Rack, and Steel Tube Handrail

Sluice gate and drainage gate shall be installed per manufacturers recommendations and in the general arrangement shown on the Plans. Contractor shall coordinate anchor bolt placement for mounting of the Drainage Gate, Sluice Gate, Trash Rack, and Steel Handrail with headwall manufacturer to ensure functionality of all components and no interference between mounting brackets, frames, and reinforcing steel.

Manufacturer Minimum Qualifications

The Sluice Gate, Drainage Gate shall be furnished by a single manufacturer, respectively, with a minimum of 20-years of experience designing and manufacturing hydraulic gates. The manufacturer shall have produced hydraulic gates of the type described herein and shown on the Plans for a minimum of 20 similar projects.

The Trash Rack manufacturer shall have a minimum of 5-years of experience designing and manufacturing steel trash racks or similar grates. The manufacturer shall have produced trash racks described herein and shown on Plans, or similar products, for a minimum of 20 similar projects. Refer to WSDOT QPL Fabrication List for suggested manufacturers, though not required.

The Steel Tube Handrail manufacturer shall have a minimum of 5-years of experience designing and manufacturing steel handrails. The manufacturer shall have produced handrails described herein and shown on plans, or similar products for a minimum of 20 similar projects. Refer to WSDOT QPL Fabrication List for suggested manufacturers, though not required.

Sluice Gate

The sluice gate, also referred to as slide gate, shall be installed at the upstream end of the culvert as a secondary or backup closure to prevent Columbia River water from entering the East Levee interior in the case that the drainage gate becomes stuck or obstructed by debris in the open position.

The sluice gate shall be a Waterman stainless steel slide gate model SS-250 or approved equal. It shall be the responsibility of the contractor to handle, store, and install the gate in strict accordance with the manufacturer's recommendations. The contractor shall review the installation drawings and installation instructions prior to installing the gates.

Exposed gate cover and frame components shall be powder coated (WSDOT Mt Baker Gray color or approved equivalent) according to section 6-07.3(11). Top coat shall be semi-gloss. Submit sample of proposed powder coating color for approval by the Engineer before powder coating gate components. Stainless steel slides on faces that will interface with the guides and/or gate seats and the inside faces of the frame shall be masked prior to surface preparation and finish coat application to maintain proper gate operation.

The gate frames shall be installed in a true vertical plane, square and plumb, with no twist, convergence, or divergence between the vertical legs of the guide frame.

The frame cross rail shall be adjusted as required to maintain consistent seal compression across the full width of the gate.

The contractor shall fill any void between the guide frames and the structure with non-shrink grout as shown on the installation drawing and in accordance with the grout manufacturer's recommendations.

After installation, all gates shall be field tested in the presence of the engineer and OPR to ensure that all items of equipment are in full compliance with this specification. Each gate assembly shall be water tested by the contractor at the discretion of the engineer and OPR, to ensure water-tightness to the required pressure rating.

Drainage Gate

Drainage Gate (also referred to as Flap Gate) shall be installed at the downstream end of the culvert to prevent backflows from the Columbia River into the interior drainage within the East Levee. The flap gate shall be designed to allow free outflow and prevent backflow for minimum seating heads of 25 feet.

The drainage gate frame shall be cast iron of flatback design for fitting to a concrete headwall.

The cover shall be cast-iron with reinforcing ribs, designed to withstand the seating head specified. A lifting eye shall be provided for manual lifting of the cover.

Seating surfaces for frame and cover shall be bronze.

All cast iron shall be painted (WSDOT Mt Baker Gray color or approved equivalent) according to section 9-08.1(2)H. Top coat shall be semi-gloss. Submit sample of proposed paint color for approval by the Engineer before painting gate components.

Trash Rack

Trash Rack shall be installed at the upstream ends of the culvert to minimize debris entering the culvert. Trash rack face shall be fabricated at a 10-degree angle from vertical to facilitate clearing debris from the rails from the top of the rack / access road.

Rail spacing shall be 4 to 6 inches, and railing shall cover the face, both sides, and the bottom of the rack. The rack and frame shall be fabricated with the minimum spacing at its top as shown on the Plans to allow normal raising and lowering of the sluice gate.

The rack shall be hinged or otherwise allow access to the culvert and sluice gate for maintenance and inspections. The rack shall also include a mechanism for locking or securing for safety and to prevent unauthorized access to the culvert.

Steel Tube Handrail

Steel handrail shall be bolted atop the headwall and wingwalls at the upstream (east) end of the culvert, in an arrangement as shown on the Plans, to protect against falling. The Steel Tube Handrail installed on the headwall portion must allow for free operation of the Sluice Gate crank.

Beaver Exclusion Fence

Beaver Exclusion Fence shall be installed in a convex alignment between the upstream (east) wingwalls as shown on Plans. The Fence shall be approximately 4-feet tall above ground with posts evenly spaced, maximum 6-feet on-center. Fence posts shall be embedded a minimum of 2-feet, the finished height of the post shall not exceed the height of the Fence material. The Fence shall be installed so that the ends are flush with the ends of the wingwalls and so that there is a maximum gap of 2-inches between the Fence and the ground, including along the inset channel. The Fence shall be attached to each post with 3 tie wires near the top, center, and bottom of the Fence material.

7-11.4 Measurement

Measurement for the HDPE Culvert shall be per linear foot of culvert installed.
Measurement for the Sluice Gate shall be per each unit installed.
Measurement for the Drainage Gate shall be per each unit installed.
Measurement for the Trash Rack shall be per each unit installed.

Measurement and payment for the Steel Tube Handrail shall be considered incidental to the bid item “Precast Concrete Walls – East Levee”

7-11.5 Payment

Payment will be made for each of the following Bid items when they are included in the Proposal:

“HDPE Culvert, East Levee Gravity Drain – 48” Dia”, per linear foot (LF) of culvert.
“Sluice Gate – East Levee”, per each unit installed.
“Drainage Gate – East Levee”, per each unit installed.

"Trash Rack – East Levee", per each unit installed.
"Steel Tube Handrail – East Levee", shall be considered incidental to bid item "Precast Concrete.

Items considered incidental to the HDPE Culvert include:

- Pipe joints including technician / installer, welder/fusion equipment and materials
- Headwall to pipe compression seals or waterstops (2)
- Controlled low strength material (CLSM) including all required ballasting/anchoring
- Gravel drainage fill (approx. 200 TN) and geogrid underlay (150 SY)
- All excavation (through levee test fill) including shoring and trenching
- Quarry spalls (approx. 15 TN) and associated grading at culvert inlet and outlet

Work considered incidental to construction, fabrication, and installation of the gates, trash rack include:

- All manufacturer or vendor design and engineering
- Shop drawings and engineering calculation submittals
- Coordination between related manufacturers
- All labor, materials, and equipment necessary to install items according to the design intent, these specifications, and as generally shown on the Plans
- Beaver Exclusion Fence (24 ft)

(******)
Supplement this section with the following.

7-13 SR 14 Culvert Flapgate Retrofits

7-13.1 Description

Drainage gates shall be installed on two existing CMP pipe culverts on the south side of SR 14 east of the existing parking lot.

Drainage gates meeting the following specifications shall be installed per the manufacturers recommendations and generally as shown on the Plans.

Drainage gate shall be cast iron or aluminum of spigot back design for fitting on corrugated metal pipe. The drainage gate shall be able to withstand a minimum seating head of 8 feet (Waterman F-10, Waterman AF-41, or equivalent).

7-13.1(A) 12" CMP Culvert Extension

This work includes adding an approximately 50-foot long extension to the 12" CMP culvert located under the constructed access ramp on the east side of the north end of the east levee. This culvert does not require a drainage gate.

7-13.3 Payment

"SR 14 Flapgate Retrofit", Lump Sum

Payment for the SR 14 Flapgate Retrofit shall be in full for installing both SR 14 Flapgate retrofits and the BNSF Culvert Extension.

Earthwork, cutting and extending existing culvert ends, pipe connectors, and all other work and materials necessary to extend and retrofit the SR 14 culverts shall be considered incidental to this work item.

Earthwork, cutting and extending existing culvert ends, pipe connectors, and all other work and materials necessary to extend and retrofit the 12” CMP culvert described in section 7-13.1(A) shall be considered incidental to this work item.

(******)
Add this section in its entirety.

7-16 Pond Crossing and Water Control Structure

7-16.1 Description

This work includes the construction of a flashboard riser and culvert adjacent to a pond on the private property within the interior drainage of the East Setback Levee. A new culvert and flashboard riser will replace an existing water control structure (WCS). A 14-foot long, 8-foot wide gravel road will be installed over the culvert crossing.

7-16.2 Materials

Material requirements for the pond crossing and water control structure are described below.

a. *Pipe* – The pipe shall be 18 inches in diameter and be 20 feet in length.

b. *Flashboard Riser* –The riser shall have removable panels to allow control of water surface elevation, and a baseplate for scour protection. Riser shall have a minimum height of 6 feet.

c. *Gravel Bedding* –Gravel Bedding shall match *the* specifications of Gravel Backfill for Pipe Zone Bedding in Section 9-03.12(3).

d. *Gravel Road* – Gravels used for pond crossing road shall meet the requirements for Gravel Borrow in Section 9-03.14(1)

7-16.3 Construction Requirements

Existing WCS shall be replaced with a new WCS consisting of a culvert connected to a flashboard riser with removable panels as shown in Plans on sheet CD7.7.

Excavation and fill shall be conducted in accordance with the plan, profile and section per CD7.7. The contractor shall excavate the foundation to a depth as required by the engineer and place gravel bedding to a thickness of 6 inches.

Native backfill shall be placed over the installed culvert and compacted to a minimum depth of 2-feet above the top of the pipe and to an unyielding condition. Ensure compaction around the haunch of the pipe.

Gravel road shall be placed on top of the compacted backfill and compacted to a minimum thickness of 6 inches, unless otherwise noted by the engineer, before it ties into the native backfill. The gravel road shall be 8-feet wide.

7-16.4 Measurement

Measurement for Pond Crossing and Water Control Structure shall be for full completion of all work items associated with the Pond Crossing and Water Control Structure and per final approval by the Engineer.

7-16.5 Payment

Payment will be made by lump sum for the Bid Item “Pond Crossing and Water Control Structure”.

(******)
Add this section in its entirety.

7-20 Groundwater Well and Pump System

7-20.1 Description

This Work constitutes furnishing all labor, services, tools and parts, and materials required for constructing a Groundwater Well and Pump System on the private property immediately west of Gibbons Creek and south of Old Evergreen Highway. The contractor and well driller and pump system supplier shall coordinate the well location, existing and any new sprinkler connection details, and other system requirements with the OPR and Engineer during construction. The purpose of the well and pump system is to supply water to an existing sprinkler system on the property.

7-20.2 Materials

Provide materials for the Groundwater Well and Pump System in accordance with the Plans, these specifications, and pertinent requirements of the Standard Specifications. Install new well and pump system for irrigation of the property per the following:

- Proposed Groundwater Well and Pump System submittal shall be provided to the OPR and engineer for review according to submittal schedule in 1-08.1.
- Coordinate well & pump system location with engineer in field during construction.
- Total groundwater well yield:
    - Max. 5,000 gallons per day (GPD)
    - Max. well depth: 40 feet
    - Driving shoes, casing
    - Sand filter, stainless steel screen, surface seals

- Submersible pump capable of supplying the following sprinkler requirements:
    - Min. 20 gallons per minute (GPM) total flow rate
    - Min. 50 to 65 PSI pressure
- Well yield rate & other tests to be included in design and installation.
- If well yield rate is less than 10 GPM, the pump system shall include the following or as otherwise necessary to achieve a total 20 GPM delivery to the sprinkler system: above ground storage tank (approx. 1,000 gal capacity or as otherwise necessary), float/kit, booster pump, misc. fittings, and all necessary pipes, electrical connections, and pump controls and switches.
- Relocate and reconfigure sprinkler zones based on well yield / pump flow rates.
- New sprinkler heads: Rainbird 2045A Maxi-Paw flow (1.5 – 8.4 GPM)
- New utility trench from house (garage) to well / pump location
    - Electrical power to new pump - 220V service
    - New electric valve controls from garage to existing sprinkler distribution valves.
- Obtain all necessary permits including but not limited to:
    - Clark County Public Health site evaluation
    - Department of Ecology permit and well report
    - Note, a new well water right is not expected because the demand is less than 5,000 GPD.

Some new sprinkler system materials (pipes, valves, controller, sprinkler head, etc.) may be needed for reconfigurations.

7-20.3 Construction Requirements

Drill well and install Groundwater Well and Pump System in accordance with this specification and the details shown on the Plans or approved in writing by the Engineer. Coordinate well & pump system locations in the field with the Engineer and property owner.

The Groundwater Well and Pump System shall be installed and fabricated by professionals who are licensed, bonded, and insured, professional pump system designers, and capable of well flow testing and inspections. The following are WA State Groundwater Association contractor members and other pump system suppliers servicing SW Washington:

Mather & Sons Pump Services Vancouver, WA 360-256-1310 contact@matherpumps.com	Advanced Drilling LLC Rochester, WA 360-273-7735 advancedrilling@gmail.com
Pitner Drilling and Pump Woodland, WA 360-225-6955 info@pitnerdrilling.com	Schneider Water Services St. Paul, OR 503-633-2666 steve@schneiderwater.com

Dale McGhee & Sons Kelso, WA 360-423-8439 office@dalemcghewelldrilling.com	Hillsboro Pump Service and Pipe & Supply Cornelius, OR 503-357-4218 info@HPSPipe.com
Steadfast Services NW LLC Vancouver, WA 98661 360-859-3174 dmetzger@steadfast-services.com	Donald B. Murphy Contractors, Inc. Federal Way, WA 253-927-8510 colleenw@dbmcm.com
Skyline Pump & Machine Co. Inc. Chehalis, WA 360-262-9580 office@skylinepump.com	Hansen Drilling (MESA) Vancouver, WA 360-694-6242 Lisa.nelson@mesaproducts.com

Submittals - The Contractor shall submit Type 3E stamped working drawings, calculations, and installation procedure for the well & pump system to the Engineer in accordance with Section 1-05.3. The contractor shall not begin work before the submittals are approved by the Engineer.

All design calculations and shop drawings for the well & pump system shall be stamped and signed by a Professional Engineer in accordance with Section 1-05.3 of the WSDOT Standard Specifications.

7-20.4 Measurement

"Groundwater Well & Pump System", shall be measured, per lump sum.

7-20.5 Payment

Payment will be made for each of the following Bid items when they are included in the Proposal:

"Groundwater Well & Pump System", per lump sum.

All costs in connection with testing, designing, furnishing, and installing, and for all labor, tools, equipment and incidentals necessary for complete installation of "Groundwater Well & Pump System" will be considered incidental to this bid item.

Division 8
Miscellaneous Construction

8-01 Erosion Control and Water Pollution Control

8-01.3 Description

8-01.3 Construction Requirements

(******)
Delete list item 3 in section 8-01.3(1)B and replace with the following

3. Coordinate with OPR for discharge sampling and submission of Discharge Monitoring Reports (DMRs) to Ecology in accordance with the CSWGP. Discharge sampling and reporting work will be conducted by OPR.

8-01.3(2) Temporary Seeding and Mulching

8-01.3(2)A Preparation for Application

Section 8-01.3(2)A is supplemented with the following:

(******)
Permanent seeding shall not occur until topsoil have been applied as shown in the Plans, slopes walked, and the seeding areas free from all undesirable vegetation, removal of temporary BMP's including, but not limited to, erosion control blankets, temporary seed, or thick mulch, thatch or other vegetative debris, and repair and removal of rills, ruts, and other surficial erosion marks, trash and other obstructions that could interfere with the application and establishment of seed and fertilizer. Existing natural debris such as fallen logs or branches may remain where designated by the Engineer.

All stockpiles and construction debris shall be removed from temporary stockpile sites, staging areas, and construction access areas, and those areas restored to original grade including the filling of any tire ruts and tilling of compacted soil prior to seeding operations.

8-01.3(2)B Temporary Seeding

Section 8-01.3(2)B is supplemented with the following:

(******)
Seeding, fertilizing, and mulching shall be applied from two directions so as to provide a complete and uniform cover over the entire seeding area. Bare or thin areas, as determined by the Engineer, shall be reseeded, fertilized, and mulched at no additional cost to the Owner. Hydroseed operations will require the use of hoses capable of applying material on slopes and on both sides of track marks to provide the specified cover.

The Engineer shall observe and verify the correct rate of seed, fertilizer, and mulch for each load prior to application. Loads not verified prior to application shall not be measured or paid for by the Owner.

Seeding and Fertilizing – Seed Mixes
Grass seed, of the following compositions, proportion, and quality shall be hydraulically applied at the specified rates of pure live seed per acre as shown below on all areas requiring permanent erosion control seeding within the project limits.

Roadside edge seeding shall be installed in 2 stages. Stage 1 shall include seed and fertilizer only. A tracer meeting the requirements of 8-01.3(2) of the Standard Specifications shall be used to aid in visibility.

Native Upland Seed Mix (Includes Roadside Edges, Vegetated Filter Strip, and Biofiltration Swales):

Kind and Variety of Seed in Mixture by Common Name and (Botanical name)	Pounds Pure Live Seed (PLS) Per Acre
Blue Wildrye (Elymus glaucus)	39.0
Roemer's Fescue (Festuca roemeri)	15.0
Native Red Fescue (Festuca rubra rubra)	20.0
Common Yarrow (Achillea millefolium)	2.2
Canada Goldenrod (Solidago canadensis)	1.6
Pacific Aster (Symphyotrichum chilensis)	2.2
Total	80

Upland Infrastructure Seed Mix (Levees, Levee Overbuild Areas, and Gibbons floodwall west side):

Kind and Variety of Seed in Mixture by Common Name and (Botanical name)	Pounds Pure Live Seed (PLS) Per Acre
Blue Wildrye (Elymus glaucus)	24.2
Roemer's Fescue (Festuca roemeri)	14.0
Native Red Fescue (Festuca rubra rubra)	20.0
Annual Ryegrass (Lolium multiflorum)	20.0
Red Clover (Trifolium pratense)	1.8
Total	80

Native Riparian Seed Mix:

Kind and Variety of Seed in Mixture by Common Name and (Botanical name)	Pounds Pure Live Seed (PLS) Per Acre
Blue Wildrye (Elymus glaucus)	25.1

California Brome (Bromus carinatus)	4.3
Meadow Barley (Hordeum brachyantherum)	11.0
Agrostis exarata (Spike Bentgrass)	1.2
Deschampsia cespitosa (Tufted Hairgrass)	2.4
Alnus rubra (Red Alder)	0.001
Total	44.0

Native Wetland Seed Mix:

Kind and Variety of Seed in Mixture by Common Name and (Botanical name)	Pounds Pure Live Seed (PLS) Per Acre
Blue Wildrye (Elymus glaucus)	16.0
California Brome (Bromus carinatus)	10.0
Meadow Barley (Hordeum brachyantherum)	4.0
Roemer's Fescue (Festuca roemeri)	3.2
Tufted Hairgrass (Deschampsia cespitosa)	3.2
Spike Bentgrass (Agrostis exarata)	2.0
Columbia Sedge (Carex aperta)	0.4
Water Sedge (Carex aquatilis)	0.4
Slough Sedge (Carex obnupta)	0.4
Fox Sedge (Carex vulpinoidea)	0.4
Total	40

Native Pasture Grass Seed Mix (Levees, Levee Overbuild Areas, and Gibbons floodwall west side):

Kind and Variety of Seed in Mixture by Common Name and (Botanical name)	Pounds Pure Live Seed (PLS) Per Acre
Blue Wildrye (Elymus glaucus)	4.0
California Brome (Bromus carinatus)	4.0

California Oatgrass (Danthonia califórnica)	4.0
Native Red Fescue (Festuca rubra rubra)	4.0
Total	16.0

Source Identified seed shall be generation four or less. Non-Source Identified seed shall meet or exceed Washington State Department of Agriculture Certified Seed Standards and be from within the appropriate genetic zones of the *** Willamette Valley or Cascades *** Ecoregion(s) as defined by the US Environmental Protection Agency (EPA).

The seed certification class shall be Certified (blue tag) in accordance with WAC 16-302 and meet the following requirements:

Prohibited Weed	0% max.
Noxious Weed	0% max.
Other Weed	0.20% max.
Other Crop	0.40% max.

The Contractor shall document all Source Identified seed by providing the Association of Official Seed Certifying Agents (AOSCA) yellow seed label for each species in the mix. Site Identification Logs can be supplied for collections where the AOSCA yellow label is not available.

Based on the certified testing results required by 9-14.2 of the Standard Specifications, the actual pounds of each grass species applied shall be adjusted so as to provide the specified pounds of PLS per species per acre.

Seeds shall be certified “Weed Free,” indicating there are no noxious or nuisance weeds in the seed.

Fertilizing

Fertilizer must organic and must be a pelleted or granular form and shall be one of the following products:

Fertilizer

Products	Guaranteed Chemical Analysis (N-P-K)(%)	Company
Biosol Forte™	7-2-1	Rocky Mountain Bioproducts Edwards, CO
Fertil-Fibers™	6-4-1	Quattro Environmental Coronado, CA
Phyta-Grow Leafy Green Special™	7-1-2	California Organic Fertilizers Inc. Fresno, CA
Approved Equal*	N: 6 to 7 P: 1 to 4 K: 1 to 2	____

*Approved equal must be within the ranges shown for N-P-K. The cumulative N release rate must be no more than 70 percent the first 70 days after incubation (86° F) with 100 percent at 350 days or more.

All fertilizers shall be furnished in standard unopened containers with weight, name of plant nutrients, and manufacturer's guaranteed statement of analysis clearly marked, all in accordance with State and Federal laws.

Fertilizer shall be applied at the rate of 1800 pounds per acre. The fertilizer formulation shall be approved by the Engineer before use.

Section 8-01.3(2)D Temporary Mulching

Section 8-01.3(2)D is supplemented with the following:

(******)

Levees and Levee Overbuild Areas Long Term Mulch: For all areas receiving Upland Infrastructure Seed Mix, add PermaMatrix BSA Hydro biotic soil amendment to the hydroseeding application.

Apply PermaMatrix BSA Hydro biotic soil amendment at manufacturer's recommended application rate of 4,000 pounds per acre. PermaMatrix to water ratios are 133 pounds per 100 gallons of water. The slurry should be free flowing in the hydroseeder with a high concentration of material so there is no splashing of water and no caking of product.

Long Term Mulch shall be applied at minimum rate of 3,500 pounds per acre with hydraulically applied seed mixes to produce a continuous and uniform cover a minimum of 0.20 inches in depth. No more than 2,000 pounds per acre shall be applied in any single lift. Seed and fertilizer shall be applied in the first lift only. Thin areas or areas of bare soil shall not be allowed and will be re-mulched by the Contractor to meet the specified thickness at no additional cost to the Owner.

Table 2 of Section 9-14.4(2)A, Long Term Mulch, is replaced by the following:

Properties	Test Method	Requirements
Performance in Protecting Slopes from Rainfall-Induced Erosion.	ASTM D 6459.	C Factor = 0.004 maximum using Revised Universal Soil Loss Equation (RUSLE).
Seed Germination Enhancement.	ASTM D 7322.	Long-Term 600 percent minimum

Due to high rainfall conditions and proximity to sensitive resources, Long Term Mulch shall be documented by the manufacturer to be effective immediately upon application with zero curing time. Substitutions to this requirement will not be allowed.

Straw mulch shall not be used for temporary erosion control cover over any applied seed mix, within wetlands, or other environmental resource areas.

(******)

Replace section 8-01.3(9)C including the header with the following:

8-01.3(9)C Floating Turbidity Curtain

Additional work required for pollution control on this project includes installation of a Type II Turbidity Curtain in the locations indicated on the plans. The turbidity curtain shall be installed prior to beginning construction and maintained in working order for the duration of construction according to the manufacturers specifications.

8-01.5 Payment

Section 8-01.5 is supplemented with the following:

(******)

"Floating Turbidity Curtain", Linear Foot

Payment for the lump

"Wattles", per linear foot

Payment per lump sum (approximately 32,500 LF)

(******)

Add this section in its entirety.

8-05 Bamboo Root Barrier

8-05.1 Description

This Work includes installation of Bamboo Root Barrier at Bamboo removal areas near the engineered berm adjacent to Gibbons Creek.

8-05.2 Materials

Materials shall meet the following requirements:

80 mil think Bamboo Root Barrier (heavy duty liner)
30” deep

Recommended suppliers include:
Bamboo Shield
Bamboo Garden
Rhizome Barrier Supply

8-05.3 Construction Requirements

Excavate and remove all bamboo canes and rhizomes from the both sides of Gibbons Creek and along the earthen berm in the vicinity of the root barrier shown on the Plans.

Dig a trench 28” deep along the installation path as shown on the plans.

Install the 80 mil think Bamboo Root Barrier with 2” exposed above finished grade. Secure overlapping ends with HDPE straps and hardware per manufacturer’s recommendations. Compact soils around the barrier to a firm condition, or as otherwise required for engineered fills in these Specifications.

8-05.4 Measurement

Bamboo Root Barrier shall be measured per LF.

8-05.5 Payment

Bamboo Root Barrier shall be paid per LF or Bamboo Root Barrier installed.

8-10 Guide Posts

8-10.1 Description

Section 8-10.1 is supplemented with the following:

Barrier Delineators

(April 1, 2002)
This Work shall consist of furnishing and installing barrier delineators on concrete barrier when barrier runs concurrent with guide post locations.

8-10.2 Materials

Section 8-10.2 is supplemented with the following:

Barrier Delineators

(August 6, 2018)
Barrier delineators shall consist of a flat plastic reflector lens or reflective sheeting attached to a housing or bracket to facilitate the mounting of the delineator on concrete traffic barrier. The reflective surface shall be rectangular or trapezoidal shape with a minimum area of 9 square inches for reflectors and 12 square inches for reflective sheeting. The housing or bracket can be flexible or rigid, molded from a durable plastic

or other durable material approved by the engineer. Barrier delineators shall be one sided for single direction or two sided for bi-directional.

Reflectors shall be acrylic or polycarbonate and shall conform to AASHTO M 290. Reflectors shall equal or exceed the following minimum values of specific intensity:

Observation Angle (Degrees)	Entrance Angle (Degrees)	Specific Intensity cd/ft-c	
		White	Yellow
0.1	0	126	75
0.1	20	50	30

Reflective sheeting for barrier delineators shall be type III, IV, V or XI and selected from approved materials listed in the Qualified Products List, or shall be accepted through the Request for Materials (RAM) process in accordance with Section 1-06.1(2).

8-10.3 Construction Requirements

Section 8-10.3 is supplemented with the following:

Barrier Delineators
(April 1, 2002)
Barrier delineators shall be placed on the traffic face of the barrier six inches down from the top. Spacing shall be as shown in the plans. Delineator color shall be white on the right of traffic and yellow on the left of traffic. The surface of the barrier where the delineator is applied shall be free of dirt, curing compound, moisture, paint, or any other material that would adversely affect the bond of the adhesive. Install delineators with an adhesive recommended by the manufacturer.

8-10.4 Measurement

Section 8-10.4 is supplemented with the following:

Barrier Delineators
(April 1, 2002)
Barrier delineators will be measured by the unit for each delineator furnished and installed.

8-10.5 Payment

Section 8-10.5 is supplemented with the following:

Barrier Delineators
(April 1, 2002)
"Barrier Delineator", per each

8-12 Chain Link Fence and Wire Fence

8-12.1 Description

(Section 8-12.1 is supplemented with the following)

(******)
This work also consists of furnishing and constructing flood wall fence of the type specified at the locations shown in the Plans.

8-12.2 Materials

(Section 8-12.2 is supplemented with the following)

(January 2, 2018)
Treated Chain Link Fence
Chain link fence fabric shall be hot-dip galvanized with a minimum of 0.8 ounce per square foot of surface area.

Fencing materials shall be treated with Natina according to section 9-08.1(2)O or be as approved by the Engineer.

Samples of the treated fencing materials shall be approved by the Engineer prior to installation on the project.

(******)
Cattle Guard Gate

Provide a commercially available 12' wide cattle guard gate as shown on Plans.

(******)

Steel	9-06.1
Timber –	Pressure treated cedar, as shown.
Preservative Timber Treatment	9-09.3(1)
Wire Mesh –	Size and spacing as shown, galvanized
Miscellaneous Hardware	9-16.2(1)H and 9-06.22

8-12.4 Measurement

(Section 8-12.4 is supplemented with the following)

(******)
Flood wall fence will be measured by the linear foot of completed fence measured between the centerline of fence posts**.**

Pedestrian railing on the levee abutment will be measured by the linear foot of completed railing measured between the centerline of railing posts.

8-12.5 Payment

(Section 8-12.5 is supplemented with the following)

(April 1, 2002)
"Treated Chain Link Fence Type 3 & 4", per linear foot.
Payment for clearing of fence line for "Treated Chain Link Fence Type ___" shall be in accordance with Section 2-01.5.
"Double 14 Ft. Treated Chain Link Gate", per each.
"Double 20 Ft. Treated Chain Link Gate", per each.
"Double Wire Gate – 20 Ft Wide", per each.
"6' Tall, 14 Ft Wide Single Wire Gate", per each.
"Cattle Guard Gate", per each.

(******)
"Flood Wall Fence"

The unit contract price for "Flood Wall Fence" shall be full payment for all costs for the specified Work including wire mesh and frame, timber posts, concrete wall embed anchors, coatings and finishes, miscellaneous steel and hardware, and all other work necessary to complete the fence installation.

"Pedestrian Railing"

The unit contract price for "Pedestrian Railing" shall be full payment for all costs for the specified Work including grout pads, base plates, wire mesh and frame, posts, railing, concrete wall embed anchors, coatings and finishes, miscellaneous steel and hardware, and all other work necessary to complete the railing installation
(******)

Furnishing and installing any Gate, Corner, or Pull posts or other materials necessary for construction of bid items in this section according to the plans and as specified are incidental to the work for bid items in this section.

8-13 Monument Cases

8-13.1 Description

Section 8-13.1 is deleted and replaced by the following:

(March 13, 1995)
This work shall consist of furnishing and placing monument cases, covers, and pipes in accordance with the Standard Plans and these Specifications, in conformity with the lines and locations shown in the Plans or as staked by the Engineer.

8-13.2 Materials

Section 8-13.2 is supplemented with the following:

(March 13, 1995)
The pipe shall be Schedule 40 galvanized pipe.

8-13.3 Construction Requirements

The last paragraph of Section 8-13.3 is revised to read:

(March 13, 1995)
The Engineer will be responsible for placing the concrete core and tack or wire inside the pipe.

8-13.4 Measurement

Section 8-13.4 is deleted and replaced by the following:

(March 13, 1995)
Measurement of monument case, cover, and pipe will be by the unit for each monument case, cover, and pipe furnished and set.
(******)
Furnishing and installation of Monument Pipes are included in this work.

8-13.5 Payment

Section 8-13.5 is supplemented with the following:

(April 28, 1997)
"Monument Case, Cover, and Pipe", per each.

(******)
Add this section in its entirety:

8-26 Riffles, Scour Protection Rock, and Buried Log Structures

8-26.1 Description

This Work includes construction of Riffles (Riffle Rock), Floodplain Cobble Bars, Scour Protection Rock (Scour Countermeasure), Streambed Gravel Bars, and rock installation for WHS Type 10 in the Gibbons Creek channel and adjacent floodplain. The purpose of these structures is to provide suitable in-stream and floodplain habitat and stabilize the grade of the channel under anticipated hydraulic forces.

8-26.2 Materials

Materials shall meet the requirements of the following sections:

Streambed Aggregates:	Section 9-03
Wood Habitat Structures:	Section 8-27

Riffle and Scour Protection Rock material specification is listed in Section 9-03.11(2).
Floodplain Cobble Bar material is specified in section 9-03.11(5).

8-26.3 Construction Requirements

8-26.3(A) Riffles (Riffle Rock), Scour Protection Rock, and Floodplain Cobble Bars

All rock (cobbles and rock) shall be placed in such a manner that all large stones shall be essentially in contact with each other, and all voids filled with the finer materials to provide a well graded compact mass.

When placing rock, care shall be used to avoid disturbing the underlying material. A 0.3 foot tolerance for streambed rock shall be allowed from slope plane and grade line in the finished surface.

a) Rock shall be placed as shown on the Plans. The minimum layer thickness of streambed material shall be as shown on the Plans. Key in streambed rock into the side slopes of the channel to the dimensions shown in the Plans.

b) Place 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 rock to ensure rock-to-rock contact and so that all rocks are resistant to overturning or movement from flows and wave action.

c) Wash native silts and sands into rock. Place rock in two (2) layers to facilitate washing of native silts and sands into the rock to prevent subsurface flow through the rocks instead of over the rocks, as follows:

    i. Place first rock layer to a thickness of approximately ½ of the total layer thickness.
    ii. Wash native silts and sands completely into first rock layer using a power washer. Continue washing silts and sand until water no longer infiltrates into the rock matrix.

        Silts and sand shall not be pre-mixed with cobble prior to rock placement.
    iii. Engineer shall visually inspect and confirm completion of this step before proceeding with the second layer.
    iv. Repeat this sequence of rock placement, power washing silts and sands into rock matrix, and Engineer inspection to complete the second and final layer of rock.
    v. Top dress all rock placements with a 4” thick layer of streambed sediment (sands and gravels).

Scour Protection Rock shall be placed at the toe of the Engineered Berm, the SR 14 Bridge, and the Hickey Bridge. The minimum layer thickness of Scour Protection Rock shall be as shown on the Plans and bridge sections.

Top dress Scour Protection Rock, Riffle Rock, and Floodplain Cobbles with Streambed Gravels, or soil, grass, and willow cuttings as shown on Plans

Work at the Hickey Bridge will also include the Installation of Coir Fabric, as shown in Plans, per section 8-42. Coir fabric shall be installed prior to planting with willow

cuttings. Willow cuttings to be installed in offset rows at 1 ½ foot spacing on-center. Distance between rows shall be 1 ½ feet.

Floodplain cobble bars shall be placed in the floodplain adjacent to the three upstream-most streambed rock riffles as shown in the plans. To prepare the floodplain cobble bar area for placement of rock:

1. Over excavate floodplain and channel as needed for rock placement
2. Place WHS Type 4 (2' diameter floodplain logs) as show in the plans

Logs for the floodplain cobble bars shall be pinned in place as shown in the plans. Pier logs shall be driven a minimum of 2/3 of their length into the ground at angles such that the buried log is in contact and pinned securely. Buried logs shall be buried a minimum of 4 inches. Floodplain cobble shall be placed around the buried log near the surface of the ground to prevent scour.

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.

Final placement shall be as directed and approved by the Owner. Acceptance of placed streambed rock shall be prior to completion of this Work.

8-26.3(C) Streambed Gravel Bars

Streambed gravel bars and streambed sediment shall consist of native material excavated from the relocated Gibbons Creek. See streambed gravel in Section 9-03.11. Coordinate with the Engineer before placement.

Streambed gravel bars shall be placed in unconsolidated piles in the finish grade channel to be carried downstream, sorted, and distributed into the new channel bed by natural processes. The locations and orientations of the piles shall be as shown on the plans, and dimensions of the piles shall be approximately:

- 40 feet long
- 7 feet wide
- 1 foot deep.

8-26.3(D) WHS Type 10

Construction requirements for WHS type 10 are detailed here as this structure type requires the placement of rock materials.

Log pieces for WHS Type 10 shall be the numbers and sizes listed in the Log Summary Table; see Section 8-27 of this specification. Buried logs may have no maximum length.

Contractor shall not cut the logs to the final dimensions until construction staking is reviewed and approved by the Engineer. Logs shall be field fit to the specific channel location. The Contractor shall excavate the subgrade to provide a smooth and uniform base to maintain full contact with logs. Backfill any voids on the sides and bottom of log with streambed cobble and mechanically compact to firm and unyielding condition.

The Contractor shall place log structures to the finished grade neat lines indicated on the Plans. A tolerance of plus or minus 3 inches (+/- 0.25 foot) vertical deviation of the final channel elevation will be allowed. Angle of the logs in the plan view and section view shall be as shown on the Plans.

Logs shall be pinned in place on both ends as shown in the plans. Pier logs shall be driven 2/3 of their length into the ground at angles such that the buried log is in contact with both of them and pinned securely on both sides. Rootwad logs shall be buried with the rootwad laying over the top of the buried log at the side of the channel on the inside of the channels curvature. The other end of the rootwad pier log shall be buried a minimum of 4 foot under the ground and outside of the channel. Riffle Rock shall be placed around the rootwad and trunk near the surface of the ground to prevent scour.

Place Riffle Rock over the ends of the logs and upstream (north) of the logs as shown on the Plans. Riffle Rock shall meet all requirements of Section 9-03 Streambed Aggregates. If deemed necessary by the engineer Contractor shall wash native silts and sands into streambed cobble /boulder/log structure according to this Special Provision to ensure that water does not infiltrate into, flow under or around, or otherwise bypass the buried log structure. Inspection and approval by the Engineer shall be required before final placement of all logs, boulders, and streambed cobble.

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.

8-26.4 Measurement

Scour Protection Rock shall be measured per the ton.

Riffles shall be measured per the ton.

Floodplain Cobble shall be measured per the ton.

Washing in of native silts and sands and top dressing with native sediments (sands and gravels) shall be considered incidental to construction of those project elements.

Streambed Gravel Bars shall be considered incidental to construction of the Riffles.

Rock for WHS Type 10 shall be measured per the ton. Logs shall be measured and paid as specified in section 8-27.

Measurement and payment for Coir Fabric shall be considered incidental to bid item “Scour Protection Rock”.

8-26.5 Payment

“Scour Protection Rock”, per the ton of rock installed.
“Riffles”, per the ton of rock installed.
“Floodplain Cobble Bars”, per the ton of rock installed.

Rock placed in WHS Type is included in the bid quantity for “Riffles”

(******)
Add this section in its entirety:

8-27 Wood Habitat Structures

8-27.1 Description

Work consists of placing wood habitat structures (WHSs) in accordance the Plans and these Special Provisions.

This work includes construction of scour pools in the vicinity of WHSs shown on the Plans.

This work also includes the fabrication and installation of a Sediment Accretion Stake in Gibbons Creek north of SR 14 as shown in the Plans.

8-27.2 Materials

Logs with and without rootwads shall consist of the following:

- Logs without rootwads shall be Douglas fir or Western Red Cedar, full length logs as shown on the Plans.
- Logs with rootwads shall be Douglas fir or Western Red Cedar, full length logs, and have rootwad intact unless otherwise shown on the Plans.
- Log sourcing shall be the Contractor's responsibility unless agreed upon by the OPR and Engineer prior to delivery to the site.
- Contractor is responsible for haul and transport of logs to the site.
- Multiple WHS log types, such as pier logs, may be generated from a single imported log.
- Logs used shall be in the numbers and sizes specified in the Log Summary Table on sheet C6.8 of the Plans.

Salvaged Logs, also referred to as BNSF Salvaged Logs or Expanded Habitat Wood shall consist of the following:

- **During clearing activities:** salvage and stockpile large logs for reuse in the Expanded Habitats areas and Gibbons Creek from stations 53+98 to 45+00 as habitat wood. These logs shall have their rootwads intact and be a minimum 6-inch diameter at breast height (DBH). Salvaged logs shall be a minimum of 25 feet and maximum of 80 feet in length from the base of the rootwad to the tip of the trunk. Logs shall be limbed and may be with or without bark.

- **Slash**: Logs and tree limbs smaller than 6 inch DBH shall be reused as slash in the Gibbons Creek Alluvial Fan Structures. These logs may be with or without bark. The length of each log shall be a minimum of 5 feet with a maximum length of 40 feet. Logs shall have a substantial portion of their limbs left intact. Ends and limbs shall

not be trimmed as broken ends and limbs are preferred. Logs may be partially hollow and contain cavities as long as they are generally sound and intact.

- **Salvaged logs**: Place stockpiled salvaged logs in the Gibbons Creek Alluvial fan, and in the Expanded Habitat areas as shown on the Plans. Logs with rootwads intact shall be maintained intact and used in the Gibbons Creek Alluvial Fan Structures.

8-27.2(a) Sediment Accretion Stake

Sediment Accretion Stake shall be 3-inch (nominal) diameter schedule 40 galvanized steel pipe.

Sediment Accretion Stake shall have the following dimensions:

- Nominal pipe diameter = 3 inches (actual, 3.5 inches)
- Minimum total length = 12 feet

8-27.3 Construction Requirements

Keyed, footer, and floodplain logs shall have no maximum length.

Pier log diameters shall be measured at the narrow end of the log.

WHSs shall be installed as shown on the Plans. The Contractor shall vary the plan view orientation of the logs within the limits shown and as directed by the Engineer. Number of logs in each WHS is shown in the Plans. The Contractor shall install and position the WHS to the satisfaction of the Engineer prior to the placement and compaction of native backfill. Rootwads shall generally be installed with the rootwad facing upstream (north), with exceptions as shown on the Plans or as needed for natural variability in the WHSs.

WHSs shall be installed after final grades have been met, but prior to final surface preparation. Compost blanket and soil amendment application, seeding, or placement of mulch shall be completed after WHS are installed.

Key WHS trunks into the bank to a minimum embedment as shown on the Plans. Sharpen the end of the log and push into the existing grade to the final intended positioning as shown on the Plans, if the log cannot be embedded as specified, excavate trenches to install wood into the bank and backfill with native material. Compact the backfill over the WHS in 6 inch lifts to a firm and unyielding condition. Scarify surface of backfill and graded areas to facilitate revegetation.

Where shown on the Plans, pier logs shall secure adjacent logs in place as generally shown on the Plans. All pier logs shall be driven at a slight angle towards the footer or large log to resist floatation of the adjacent log. Ensure log-to-log contact between pier logs and adjacent logs. Reposition logs and redrive pier logs if necessary to achieve log-to-log contact. Sharpen the driven end of the pier logs prior to driving. Pier logs shall be driven into the ground to a minimum depth of 6 feet or to refusal. Trim the tops of pier logs such that they extend a maximum of 24 to 36 inches above the top of the adjacent log as shown to ensure adequate overlap.

All undesirable growth from WHSs shall be treated to remove and/or prevent growth, including sprouts, suckers and roots prior to installation in the wetland area in accordance with the approved Weed and Pest Control Plan. All attached root systems shall only be pruned if designated by the Engineer.

All attached root systems shall not be pruned unless designated by the Engineer. Prune limbs on the top half of the logs as directed by the Engineer or OPR to facilitate installation. When pruning leave approximately two (2) feet of the limbs extending from the trunk to facilitate seating of the logs into the wetland surface. Place all trimmed limbs in a natural manner (small brush pile) along the creek above and around the logs after final placement of the logs.

After placement of all Salvaged Logs and the contract quantity of "Wood Habitat Structures – Expanded Habitat Wood" additional placements may be required to match what is shown on the plans. Additional Expanded Habitat Wood shall be installed if directed by the OPR and paid for as specified in section 8-27.5.

One cubic yard of slash shall be wedged below and between logs in the wood habitat structures 1, 5, 6, and 11- 13 as shown on the Plans. Imported and native slash shall consist of willow cuttings, small limbs, and other native debris.

WHS Type 10 shall be installed as specified in section 8-26.3

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.

8-27.3(a) Scour Pools

Construct 1 to 2 feet deep scour pools in Gibbons Creek at the locations shown on the plans.

8-27.3(b) Sediment Accretion Stake

Construct stake generally as shown on the plans and at a location directed in the field by the Engineer. Install stake plumb within ± 1-inch relative to ground surface. Embed stake as shown and such that the top of pipe is be 4.0 feet above channel invert (thalweg or bottom) measured at the center of the channel (approx. Station 26+50).

Paint stake in alternating red and white color bands along its length such that each band is 1 foot long. Use triple layer marine grade paint approved by the Engineer for galvanized steel applications.

Prior to painting either;

- Clean the surface of the stake with a cleaner approved for SSPC-SP 1 Solvent Cleaning, and abrade the surface with steel wool, clean again with water and dry thoroughly before painting, or
- Verify paint will adhere to surface of the pipe by some other means approved by the pipe and paint manufacturers.

During installation, protect painted regions or repaint after driving stake.

8-27.4 Measurement

Wood Habitat Structures shall be measured per each structure completed in the project area for all structure types except Type 9. The Type 9 WHS shall be measured per each log included in the finished structure. Each structure type shall be measured separately.

Rock for WHS Type 10 is included int the “Riffles” bid quantity per section 8-26 and will be measured and paid under that bid item.

8-27.5 Payment

Wood Habitat Structure – Types 1-13, per each structure installed.
Wood Habitat Structure – Expanded Habitat Wood, per each log installed.
Wood Habitat Structure – Salvaged Logs, lump sum.

The unit Contract price per each for Wood Habitat Structures (Types 1-13 and Expanded Habitat Wood) shall be full pay for installing the large wood as specified including excavation, backfill and compaction, and any required vegetative control measures. The unit contract price for Wood Habitat Structures may be different for each type of structure.

Payment for Wood Habitat Structure – Salvaged Logs shall be in full for placing all stockpiled salvaged logs in locations shown on the plans. These placements may be referred to as salvaged Logs, BNSF Salvaged Logs, or Expanded Habitat wood. There is an estimated quantity of 60 trees that will meet the salvaged log material specifications in the areas to be cleared and grubbed.

Any additional furnishing and placement of “Wood Habitat Structure - Expanded Habitat Wood” directed by the OPR as specified in section 8-27.3 shall be paid per each at the unit contract price.

Placing slash and construction of scour pools are considered incidental to the Wood Habitat Structures pay items.

All materials, labor, and equipment used in and required for construction of the Sediment Accretion Stake shall be considered incidental to the Wood Habitat Structures pay items.

(******)
Add this section in its entirety:

8-30 Floodwall Access Road

8-30.1 Description

Work under this section consists of constructing a below grade gravel road for access along the west side of the Gibbons Creek floodwall.

8-30.2 Materials

Gravels used for floodwall access road shall meet the requirements for Gravel Borrow in Section 9-03.14(1).

Soil topdressing shall be topsoil salvaged on sight during Gibbons Creek North construction. This material shall be silts and sands not including particles larger than 1 inch, and not including excessive organics per OPR's approval.

Apply upland infrastructure seed mix after final grading of the topsoils.

8-30.3 Construction Requirements

Road shall be constructed as shown on the plans. Subgrade shall be compacted to a firm condition before the addition of any surfacing gravel.

Gravel roadbed shall be constructed 6 inches thick, 10 feet wide, and located 18 inches from the floodwall over the extent shown in the plans. The road top surface shall be constructed 4 inches below the finished grade.

Gravel roadbed shall be compacted to a firm and unyielding condition to dimensions shown using a roller drum or similar machine. The specific compaction method (roller drum or other machine used, number of compaction passes, etc.) shall be determined in the field and agreed upon by the Engineer and OPR.

Road finish grade surface (soil topdressing) shall be placed in a 4 inch lift, compacted to a firm condition, and generally graded to drain in the directions and slopes shown in the Plans. Surface shall be general smooth, without potholes, ruts, or wash-boarding. Place seed according to the requirements in section 8-01.3 with upland infrastructure seed mix.

8-30.4 Measurement

Measurement for the road shall be per the ton gravel placed.

8-30.5 Payment

Gravel Borrow Incl. Haul, per ton installed

Grading related to the Floodwall Access Road is included in the "Excavation – Channels" (Gibbons Creek grading) bid item.

Surface grading and material over the gravel roadbed shall be considered incidental to this pay item.

(******)
Add this section in its entirety:

8-31 Closure Structure Storage Pad

8-31.1 Description

Work under this section consists of constructing embankment, gravel surface, fencing, storage structure, and practice installation for the closure structure storage pad.

8-31.2 Materials

Embankment material shall be sourced on site from habitat enhancement excavations. Material with moisture content too high to be used for levee construction can be stockpiled at the storage pad location and allowed to dry for compaction later in the construction timeline. Embankment material shall be sands and silts, free of organic materials, and subject to approval of OPR.

Gravels used for surfaces shall meet the requirements for Crushed Surfacing Base Course in Section 9-03.9(3).

Fencing shall be WSDOT standard type 3.

8-31.3 Construction Requirements

Construct closure structure storage pad according to sheet C1.11 in the plan. Clear and grub embankment footprint prior to placement of material. Embankment shall be compacted to dimensions shown before the addition of any surfacing gravel. Surfaces shall be compacted to a firm and unyielding condition to dimensions shown using a roller drum or similar machine. The specific compaction method (roller drum or other machine used, number of compaction passes, etc.) shall be determined in the field and agreed upon by the Engineer and OPR.

Finish grade surfaces shall be graded to drain in the directions and slopes shown in the Plans. Surface shall be general smooth, without potholes, ruts, or wash-boarding.

Fencing to be installed according to the standard plans and in the locations indicated on sheet C1.11 in the project plan set. Fencing ends flush with SR14 ROW.

Construct practice closure structure foundation as shown in the plans.

8-31.4 Measurement

Measurement for crushed surfacing base course shall be per ton installed.
Measurement for fencing shall be per linear foot.
Measurement for practice closure structure foundation shall be per the completion and acceptance of the structure by the engineer.

8-31.5 Payment

crushed surfacing base course, per ton installed.
WSDOT type 3 fencing, per linear foot.
practice closure structure foundation, lump sum

(******)
Add this section in its entirety:

8-34 Field Office Building

8-34.1 Description

This work shall consist of furnishing and setting-up a temporary office building for the sole use of the Contracting Agency.

8-34.2 Construction Requirements

The building shall be either a mobile office trailer or existing office and located within a 1 mile radius of the project limits and shall be set up and operational within the first 15 working days unless the Engineer has approved a different schedule.

The building shall be weather-tight, installed plumb and level, and provided with the following as a minimum:

1. 500 square feet minimum of floor space
2. Heating and Air Conditioning
3. Electric lights
4. 2 separate offices of 110 square feet each with lockable doors
5. 10 linear feet of shelving in each of the 2 offices
6. 3 each 30" X 60" office desks with a minimum of 3 drawers
7. 3 each swivel desk chairs with pneumatic seat height adjustment and dual wheel castors on the legs or base.
8. 1 Conference table approximately 4' X 10' or as approved by the Engineer.
9. 4 Non-fire resistant cabinets (legal size/4 drawer) locking and suitable for a hanging file system
10. 4 wastebaskets
11. 1 Whiteboard, wall mounted with color markers and erasers - 8' X 4'
12. 4 Bookcases with minimum dimensions of: 48"1ong by 14"deep with a minimum 4-shelf stack (minimum of 12"space between shelves).
13. Fire extinguishers - provide and install type and number to meet applicable State and local codes for size of office indicated.
14. 1 Facsimile FAX machine capable of transmitting by telephone, with maintenance provided by the Contractor.
15. 1 Copier that meets at the minimum the performance specifications of Sharp MX M200D. The Contractor shall also provide all maintenance and service for the copier.
16. Hot and cold water dispensing unit and supply of bottled water for the duration of the project.
17. 2 Door mats
18. 4 Boot brush with scaper.

The Contractor shall provide the Engineer with three sets of keys providing access to the field office. The Contractor shall install hardware on all exterior doors capable of being secured by padlocks that will be provided by the Contractor. The Contractor shall provide regular cleaning services for the field office at least once every two weeks (or when directed by the Engineer), to maintain the premises in a neat and clean condition.

The Contractor shall provide separate sanitation facilities including hand wash for male and female in or directly adjacent the field office building.
The Contractor shall provide at a minimum a 4 inch crushed surfacing base coarse surfaced parking area of 60' X 30' adjacent to the field office building. This shall also include maintenance of the surface.

The Contractor shall provide for broadband internet service for the construction field office building. The internet service shall be accessible in each office and or at each workstation within the office. All hardware and software necessary for connecting necessary to connect the internet service to the field office and for connecting each computer system and copier shall also be provided by the Contractor. Access to internet service within the field office may

be provided by a wireless hub or by direct connection via a network port to a network hub. Broad band internet access shall be provided by one of the following methods in order of availability:

1. Cable or DSL Broadband
2. Mobile broadband

8-34.5 Payment

Payment will be made in accordance with Section 1-04.4, for the following item:
"Field Office Building", lump sum.

The lump sum contract price for "Field Office Building" shall be full pay for furnishing, installing, maintaining, and removing the facility, including all costs associated with required utility hookups and disconnects, and monthly rental and utility charges.

If the field office and/or contents is vandalized or burglarized, Contractor shall be responsible for all repairs and content replacement at its own expense. No progress payments will be made to the Contractor until the field office is properly furnished and usable in the opinion of the Engineer.

(******)
Add this section in its entirety:

8-40 Stormwater Facilities

8-40.1 Description

This work includes two biofiltration swales at the toe of the road embankment on either side of the two culverts under the highway. The purpose of these features is to provide basic treatment to stormwater runoff from SR 14, prior to discharging to the Columbia River.

8-40.2 Construction Requirements

The biofiltration swales shall be constructed as shown in the Plans.

Contractor shall take care to minimize compaction within the swales. Surface of swale bottom and side slopes to be roughened prior to hydroseeding.

Topsoil layer shall be topsoil salvaged on sight during Gibbons Creek North construction. This material shall be silts and sands not including particles larger than 1 inch, and not including excessive organics per OPR’s approval. Topsoil shall be placed in a manner limiting compaction.

The contractor should take any necessary precautions to avoid disturbances to existing native vegetation where possible.

Stormwater BMP Marking (Flexible Guide Posts) shall be installed as shown in the Plans according to standard plan M-24.65, per Section 8-10.

8-40.3 Seeding, Fertilizing, and Mulching

Seeding, Fertilizing, and mulching shall be performed according to Section 8-01.3(2).

Seed mix for the biofiltration swales shall be the Native Upland Seed Mix described in Section 8-01.3(2)B.

8-40.4 Measurement

Measurement for Biofiltration Swales shall be per the completion and acceptance of the structure by the engineer.

Measurement for seeding of the Biofiltration Swales is included in the following bid item:

"Native Upland Seeding for Open Areas"

"Flexible Guide Posts", shall be per each installed

8-40.4 Payment

Payment for Biofiltration Swales including grading, level spreaders, and topsoil placement shall be considered incidental to the following bid item:

"Gravel Borrow Incl. Haul – SR 14"

Payment for seeding of the Biofiltration Swales is included in the following bid item:

"Native Upland Seeding for Open Areas"

"Flexible Guide Posts", per each

(******)
Add this section in its entirety:

8-41 Re-install USFWS Site Elements

8-41.1 Description

This work includes the re-installation of miscellaneous USFWS site elements including rock boulders and benches, etched boulders, maintenance access gate, wheel stops, special pavers, existing signs on wood posts (i.e. rules, invasives, etc.), existing signs on steel posts, special art boulders and rocks, Bronze Snake and Newt, existing bird bike racks, boot cleaners (and associated signs), Salmon & Smolts displays (on bridge), Interpretive Bugs (on bridge), Interpretive Door and Post, Interpretive bird signs.

This work also includes providing and installing new wheel stops to match existing; the fabrication and installation of new deer (2) and fish (2) bike racks; the fabrication and installation of a new sign.

8-41.2 Materials

Materials shall meet the requirements indicated on the plans and of the following sections:

Cast in Place Concrete: Provide materials and construct new cast in place concrete slab in accordance with pertinent requirement of the Standard Specifications.

New Wheel Stops (match existing): Furnish wheel stops of recycled plastic. Wheel stops shall be grey in color with the following dimensions: 72 inch length by 6 inch width by 4 inch height.

Signage: Provide applicable materials in accordance with the Plans and Section 8-21 Permanent Signing of the Standard Specifications.

8-41.3 Construction Requirements

See Plans for new locations of miscellaneous USFWS site elements.

Provide and install new wheel stops to match existing.

Fabricate and install new deer and fish bike racks to match existing bike racks. Fabricate from 1/2" steel and powder coat to match existing bike racks.

Fabricate and install new sign at east end: Private Land – Public Access Prohibited. Install on wood post to match other existing signage.

Signage: Provide applicable construction requirements in accordance with Section 8-21 Permanent Signing of the Standard Specifications.

All signage placed in the National Scenic Area, whether new or salvaged and reused, shall have support structures with low visual impact, be non-reflective, and colored to blend with the setting. New sign content, color, and materials within the National Scenic Area must be approved by USFS-CRGNSA Scenic specialist prior to installation.

This work shall include the following items:

- “Re-install Boulders, Rock Benches & Etched Boulders”
- “Re-install Maintenance Access Gate”
- “Re-install Existing Wheel Stops”
- “Re-install Welcome to Our Home Paver”
- “Re-install Bonneville Dam Paver”
- “Re-install Existing Signs on Wood Posts”
- “Re-install Existing Signs on Steel Posts”
- “Re-install Boulder with Palette, Cast Frog Rock & Frame Art with Rock”
- “Re-install Bronze Snake & Newt”
- “Re-install Existing Heron & Duck Bike Racks”
- “Re-install Boot Cleaners (and associated signs on posts)
- “Re-install Salmon & Smolts displays”
- “Re-install Interpretive Bugs”
- “Re-install Interpretive Door and Post”
- “Re-install Interpretive Bird Signs on Wood Posts”
- “Wheel Stops – New”
- “Deer Bike Racks”
- “Fish Bike Racks”
- “Private Land Sign on Wood Post”

8-41.4 Measurement

Measurement for the “Re-install USFWS Site Elements” bid item will be in full for completion of the work.

8-41.5 Payment

Payment will be made for the “Re-install USFWS Site Elements” bid item as a lump sum.

Add this section in its entirety:

8-42 Coir Fabric (Biodegradable Erosion Control Blanket)

8-42.1 Description

This work will include the installation of approximately 75 SY of Coir Fabric (also referred to as Biodegradable Erosion Control Blanket) at the Hickey Bridge as shown in Plans.

8-42.2 Materials

At the locations identified as Coir Fabric in the Plans, 2 layers of fabric will be installed (approximately 75 SY of each). The bottom layer will be a non-woven coir mat and the top layer will be a loosely woven coir netting. The Coir Fabric will be staked down with wooden stakes spaced 1-foot on center. Following the installation, area will be planted with willow cuttings (approximately 415 cuttings).

8-42.3 Construction Requirements

Grade the area to be covered by biodegradable fabrics to a smooth condition free from depressions and protruding rocks, sticks, and other debris which may prevent a smooth application or that may damage the fabric. Remove all objects that could interfere with application or damage the coir fabrics.

Apply seeding to soil with mechanical spreaders that uniformly apply dry seed at the quantity shown in the Plans. Apply seed to soil prior to folding back and staking coir fabrics as shown.

Place woven coir fabrics, as shown in Standard Plan I-60.20 “Biodegradable Erosion Control Blanket Placement for Ditches”, overlaying nonwoven coir fabric. The coir fabrics shall be placed, stretched tightly, and anchored as shown using wood stakes. Wood stakes shall be installed through both layers. It is not required to anchor the nonwoven and woven fabrics individually. Wood stakes shall be placed between the fibers of the woven coir fabric. Cutting of the coir fabrics to facilitate wooden stake placement will not be allowed. Complete all seeding using Native Riparian Seed Mix.

Overlap coir fabric such that upstream pieces of fabric overlap the downstream piece of fabric a minimum of 1 foot. Stake coir fabric with wooden stakes placed 1 foot on-center.

Install coir termination trenches along the edges of the coir fabric sheet as shown or indicated. Install coir transition trenches along the edge of the proposed Scour Protection Rock as indicated.

Repair or replace damaged coir fabric shall be repaired or replaced. If damaged coir fabric has a tear of 6 inches or less, scrap fabric may be placed beneath damaged woven coir fabric such that it extends 24 inches beyond the damaged area in all directions. Stake around the tear with 4 wooden stakes on 12-inch centers. Coir fabric with tears greater than 6 inches shall be replaced at no additional expense.

Install coir fabrics stretched taught and staked to have firm contact with underlying soil. Install additional wooden stakes, as directed, to tighten up loosely staked coir fabric.

Following installation of the coir fabric, willow cuttings will be planted. Willow cuttings to be installed in offset rows at 1 ½ foot spacing on-center. Distance between rows shall be 1 ½ feet.

8-42.4 Measurement

Measurement for the Coir Fabric shall be upon inspection and approval by the Engineer.

Measurement for willow cuttings shall be considered incidental to the Coir Fabric.

8-42.5 Payment

Payment for the Coir Fabric shall be considered incidental to the bid item “Scour Protection Rock”

Payment for the willow cuttings shall be considered incidental to the bid item “ Scour Protection Rock”.

8-42 Parking Lot Utilities

8-42.1 Description

This work includes the reconnection of electrical and communication utilities for the automated gate after relocation of the parking lot facility. Contractor to coordinate in the field with OPR to determine needs for utility reconnection.

8-42.2 4

Payment for work under this section will be made in full for the following bid item

“Parking Lot Utilities (electrical & Comm.)”, lump sum

Division 9
Materials

9-03.9 Aggregates for Ballast and Crushed Surfacing

Section 9-03.9(3) **Crushed Surfacing** is supplemented with the following:

(******)

Sidewalk Aggregate: Provide hard, durable particles or fragments of crushed stone gravel uniformly graded from coarse to fine and free of organic matter and suitable for ADA accessible trail construction. Maximum particle size must not exceed 5/8 inch. Submit gradation of proposed aggregate for approval by the Engineer before transporting material to the project. Provide aggregate colored in earth tones such as those found in local pit run basalt.

(******)

Add the following Section:

9-03.10(1) Aggregate for Sand Base

Sand Base shall consist of granular material, either naturally occurring or processed. It shall be essentially free from various types of wood waste or other extraneous or objectionable materials. It shall have such characteristics of size and shape that it will compact readily, and the maximum particle size shall not exceed 2/3 of the depth of the layer being placed.

Sand Base shall meet the following requirements for grading and quality when placed in hauling vehicles for delivery to the site or during manufacture and placement into the temporary stockpile. The exact point of acceptance will be determined by the Engineer.

Aggregate for Sand Base (Modified gradation of ASTM C33 fine aggregate[1])

Sieve size	Percent passing, by weight
3/8-inch	100
No. 4	95-100
No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	5-30
No. 100	0-10
No. 200	0-2[2]

[1]Modified gradation of ASTM C33 fine aggregate

[2]Two percent (or less) in stockpile, 5 percent (or less) in-place.

Sand Base shall contain not more than 0.05 percent by weight of wood waste. Sand base shall be a durable material from igneous origin and durable.

9-03.11 Streambed Aggregates

Supplement Section 9-03.11 with the following:

(******)

Streambed Gravel shall be comprised of native Gibbons Creek sands and gravel. The allowable size range shall be no greater than 10 inches in size and no smaller than small pebbles. Sand no greater than 5% of the total quantity is acceptable. The native gravel shall be generally well-graded, and not contain significant quantiles of sand, silt, or other soil. Minor quantities of organic material (wood fragments, leaves, other detritus) is acceptable.

Replace section 9-03.11(2) with the following.

(******)

9-03.11(2) Rock (Riffles and Scour Protection Rock)

Riffle Rock and Scour Protection Rock shall be clean, naturally occurring material.

Scour Protection Rock and Rock Riffle Material shall have the following gradation:

Approx. Size (Diameter, in.)	Percent Passing by Weight (%)
24	100
18	90
12	50
8	25
4	10
1	0

The grading of the Riffle Rock and Scour Protection Rock shall be determined by the Engineer by visual inspection of the load **at the quarry** before it is hauled to the project site.

Scour Protection Rock shall be angular rock, Riffle Rock shall be round (river run) rock.

Where called for in the Plans, sub angular rock matching the size gradation for streambed rock may be used in place of round rock if and only if the size gradation specifications cannot be met by the available round rock. Substitution of sub angular rock shall be made only upon approval by the Engineer.

Supplement section 9-03.11 with the following

(******)

9-03.11(5) Floodplain Cobbles

Floodplain Cobbles shall be clean, naturally occurring water rounded gravel material. Floodplain Cobble shall have the following gradation:

Approx. Size (Diameter, in.)	Percent Passing by Weight (%)
12	100
10	90
6	50
4	25
2	10
1	5

The grading of the cobbles shall be determined by the Engineer by visual inspection of the load **at the quarry** before it is hauled to the project site..

Potential round rock material sources include:

BCX quarry at Dibblee Point, Rainier, OR
Storedahl Quarry, Battleground, WA.

(******)
Add the following Section:

9-03.14(5) Setback Levee Material

Obtain Setback Levee Material from the on-site borrow source(s), excavated materials from existing levees, and from required excavation of expanded habitat areas and new channels. The materials shall consist of granular material, either naturally occurring or processed, and shall be free of debris, waste, frozen materials, vegetation, and other deleterious matter. The Setback Levee Material shall consist of satisfactory materials classified in accordance with ASTM D2487 as SM and ML.

The organic materials shall not exceed 5 percent by dry unit weight. Where in contact with geosynthetic the maximum particle size shall be 1-¼ inch or less. All percentages are by dry weight.

(******)
Add the following section:

9-03.14(6) Non-Select Material

Non-Select Material is any excavated material that does not meet Setback Levee Material properties and/or is too wet to place in the levee embankment.

Non-Select Material could be granular or nongranular soil and/or aggregate which is free of deleterious material. Deleterious material includes woody debris larger than 8 inches in diameter or 10 feet long, coal, charcoal, metallic debris, construction debris, hazardous waste, or any other extraneous or objectionable material.

9-08.1(2) Paint Types

(******)

Section **9-08.1(2)** is supplemented with the following:

9-08.1(2)O Exterior Paint for USFWS Structures*:* Provide the following:

Cardinal Industrial Finishes
T091-BR47
Rust Texture
TGIC Polyester
Semi-Gloss
Exterior Durable

9-08.1(2)P Clear Sealant for USFWS Timber Structures*:* Provide the following:

Olympic Waterguard Clear Wood Sealer, or approved equal (clear wood sealer without pigment, especially red undertones).

Provide sample of product applied to cedar members prior to application to project wood structures.

9-08.1(2)Q Stain for Concrete and Galvanized Steel Surfaces*:* Provide the following:

"Natina Reactive Color Treatment" as produced by:

Natina Products
1555 North VIP Blvd.
Casa Grande, AZ 85122
www.natinaproducts.com
(866) 804-0378

Note to Contractors: it is highly recommended that the Natina Steel Color Solution that will be applied to Treated Fences and Gate Materials be applied by Natina Products in their shop. It is not advised to apply the product to installed in place fences and gates in the field because the product is a reactive colorant.

9-12 Masonry Units

Section 9-12 **Masonry Units** is supplemented with the following:

(******)

Add the following subsection:

9-12.3 Cultured Stone Veneer: architectural veneer for application over cast in place concrete piers for Automated Entry Gate, Kiosk base, and Levee Overlook wall. Provide "Cultured Stone", color Desert Blend "Cobblefield" by Boral (Available through local distributor Mutual Materials). Submit stimulated stone samples representing the range of colors and size to be used on the project to the Engineer one month before beginning work.

Place the mortar according to the stone veneer manufacturer's recommendations. Attach the simulated stone veneer to the cast in place concrete according to the manufacturer's recommendations.

9-16 Fence and Guardrail

(******)
Section **9-16** is supplemented with the following:

9-16.1(1)G Steel T Post

Steel t post shall be 6' long, studded, and include a welded anchor panel.

9-16.1(1)H 6 Gage Steel Wire Panel
6 Gage Steel Wire panel shall be welded construction 6 gage wire with 6" x 6" mesh openings.

9-16.1(1)I 6 Gage Steel Wire
This material to be used for attaching wire panels to each other and to t posts.

(******)
Add the following Section:

9-33.2(4) Geotextile Subgrade Stabilization

Geotextile Subgrade Stabilization shall consist of woven polyester geotextile and shall meet the following requirements:

Table 9
Minimum Properties Required for Geotextile Subgrade Stabilization

Geotextile Property	ASTM Test Method	Geotextile Property Requirements
Wide-Width Strip Tensile Strength, in machine and x-machine direction	D4595	7,000 lb min.
Wide-Width Strip Failure Strain (minimum) in machine and x-machine direction	D4595	< 50 %
Wide-Width Strip Tensile Strength at 5% Strain, in machine and x-machine direction	D4595	2,000 lb min.
Puncture Resistance	D6241	700 lb min.
Tear Strength	D4533	150 lb min.
Water Permittivity	D4491	0.10 sec^{-1} min.

Appendices

(January 2, 2012)

The following appendices are attached and made a part of this contract:

APPENDIX A:
Summary of Geotechnical Conditions.

(September 3, 2019)

Standard Plans

The State of Washington Standard Plans for Road, Bridge and Municipal Construction M21-01 transmitted under Publications Transmittal No. PT 16-048, effective September 3, 2019 is made a part of this contract.

The Standard Plans are revised as follows:

A-50.10
Sheet 2 of 2, Plan, with Single Slope Barrier, reference C-14a is revised to C-70.10

A-50.20
Sheet 2 of 2, Plan, with Anchored Barrier, reference C-14a is revised to C-70.10

A-50.30
Sheet 2 of 2, Plan (top), reference C-14a is revised to C-70.1

B-10.60
DELETED

B-82.20
DELETED

B-90.40
Valve Detail – DELETED

C-1
Delete Note 1.

Revise Note 2 to read “Remove all rail washers, also called “Snow Load Rail Washers”, when encountered during raising beam guardrail work and the guardrail raising work requires removal of the rail.

Re-number all notes.

C-4b
DELETED

C-4e
DELETED

C-8a
Delete “Section A-A, Type 4 Detail

C-20.11
Delete Notes 1 & 2. Re-Number all notes.
Delete “ Snow Load Post Washer” and “Snow Load Rail Washer” details.

C-22.14
DELETED

C-22.16
Note 3, formula, was: “Elevation G = (Elevation S – D x (0.1) + 31” is revised to read: “Elevation G = (Elevation S – D x (0.1) + 31/12”

C-40.14
DELETED

C-70.10
Sheet 1, Note 1 was - “1. PERMANENT INSTALLATION requirements: Embed barrier 3” (in) minimum; …” is revised to read: “1. Installation requirements: Embed barrier 3” (in) minimum in asphalt or concrete; embed barrier 10” (in) minimum in soil; …”

Sheet 1, existing Notes 2 and 4 are deleted. Existing Note 3 is renumbered to Note 2.

Sheet 1, add new Note 3, “3. See Sheet 2 for barrier with a 2’-10” reveal installed in asphalt or concrete. See Sheet 3 for barrier with a 3’-6” reveal installed in asphalt or concrete.”

Sheet 2, the detail titled “3’ – 6” BARRIER FOR USE WITH A 0” (IN) TO 5” (IN) MAX. GRADE SEPARATION” has the following changes:
1. The detail title is changed to “3’ – 6” BARRIER FOR USE WITH A 0” (IN) TO 4” (IN) MAX. GRADE SEPARATION”.
2. The callout “GRADE SEPARATION--5” MAX.” is changed to “GRADE SEPARATION--4” MAX.”

C-85.11
Add new Note 3 “3. Contact the HQ Bridge traffic barrier specialist before using this barrier placement plan for projects involving new or reconstructed bridges.”

C-90.10
DELETED

D-10.10
Wall Type 1 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT Bridge Design Manual (BDM) and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.15
Wall Type 2 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.30
Wall Type 5 may be used in all cases.

D-10.35
Wall Type 6 may be used in all cases.

D-10.40

Wall Type 7 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.45

Wall Type 8 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the revisions stated in the 11/3/15 Bridge Design memorandum.

D-15.10

STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.20

STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.30

STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

F-10.12

Section Title, was – “Depressed Curb Section” is revised to read: “Depressed Curb and Gutter Section”

F-10.40

“EXTRUDED CURB AT CUT SLOPE”, Section detail - Deleted

F-10.42

DELETE – “Extruded Curb at Cut Slope” View

G-25.10

Key Note 3, second sentence, was – “For single-post installations, divide the (#2w/diamond shape symbol) post MAX. XYZ in half.” Is revised to read: “For single-post installations, divide the two-post MAX. XYZ in half.”

G-60.10

DELETED

G-60.20

DELETED

G-60.30

DELETED

G-70.10

DELETED

G-70.20
DELETED

H-70.20
Sheet 2, Spacing Detail, Mailbox Support Type 1, reference to Standard Plan I-70.10 is revised to H-70.10

J-10.21
Note 18, was – "When service cabinet is installed within right of way fence, see Standard Plan J-10.22 for details." Is revised to read; "When service cabinet is installed within right of way fence, or the meter base is mounted on the exterior of the cabinet, see Standard Plan J-10.22 for details."

J-10.22
Key Note 1, was – "Meter base per serving utility requirements~ as a minimum, the meter base shall be safety socket box with factory-installed test bypass facility that meets the requirements of EUSERC drawing 305." Is revised to read; "Meter base per serving utility requirements~ as a minimum, the meter base shall be safety socket box with factory-installed test bypass facility that meets the requirements of EUSERC drawing 305. When the utility requires meter base to be mounted on the side or back of the service cabinet, the meter base enclosure shall be fabricated from type 304 stainless steel."
Key Note 4, "Test with (SPDT Snap Action, Positive close 15 Amp – 120/277 volt "T" rated). Is revised to read: "Test Switch (SPDT snap action, positive close 15 amp – 120/277 volt "T" rated)."
Key Note 14, was – "Hinged dead front with ¼ turn fasteners or slide latch." Is revised to read; "Hinged dead front with ¼ turn fasteners or slide latch. ~ Dead front panel bolts shall not extend into the vertical limits of the breaker array(s)."
Key Note 15, was – "Cabinet Main Bonding Jumper. Buss shall be 4 lug tinned copper. See Cabinet Main bonding Jumper detail, Standard Plan J-3b." is revised to read; "Cabinet Main Bonding Jumper Assembly ~ Buss shall be 4 lug tinned copper ~ See Standard Plan J-10.20 for Cabinet Main Bonding Jumper Assembly details."
Note 1, was – "…socket box mounting detail, see Standard Plan J-3b." is revised to read to read: "…socket box mounting detail, see Standard Plan J-10.20."
Note 6, was – "…See door hinge detail, Standard Plan J-3b." is revised to read: "…See door hinge detail, Standard Plan J-10.20."

J-20.26
Add Note 1, "1. One accessible pedestrian pushbutton station per pedestrian pushbutton post."

J-20.16
View A, callout, was – LOCK NIPPLE, is revised to read; CHASE NIPPLE

J-21.10
Sheet 1, Elevation View, Round Concrete Foundation Detail, callout – "ANCHOR BOLTS ~ ¾" (IN) x 30" (IN) FULL THREAD ~ THREE REQ'D. PER ASSEMBLY" IS REVISED TO READ: "ANCHOR BOLTS ~ ¾" (IN) x 30" (IN) FULL THREAD ~ FOUR REQ'D. PER ASSEMBLY"
Sheet 1 of 2, Elevation view (Round), add dimension depicting the distance from the top of the foundation to find 2 #4 reinforcing bar shown, to read; 3" CLR.. Delete "(TYP.)" from the 2

½" CLR. dimension, depicting the distance from the bottom of the foundation to find 2 # 4 reinf. Bar.
Sheet 1 of 2, Elevation view (Square), add dimension depicting the distance from the top of the foundation to find 1 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from the 2 ½" CLR. dimension, depicting the distance from the bottom of the foundation to find 1 # 4 reinf. Bar.
Sheet 2 of 2, Elevation view (Round), add dimension depicting the distance from the top of the foundation to find 2 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from the 2 ½" CLR. dimension, depicting the distance from the bottom of the foundation to find 2 # 4 reinf. Bar.
Sheet 2 of 2, Elevation view (Square), add dimension depicting the distance from the top of the foundation to find 1 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from the 2 ½" CLR. dimension, depicting the distance from the bottom of the foundation to find 1 # 4 reinf. Bar.
Detail F, callout, "Heavy Hex Clamping Bolt (TYP.) ~ 3/4" (IN) Diam. Torque Clamping Bolts (see Note 3)" is revised to read; "Heavy Hex Clamping Bolt (TYP.) ~ 3/4" (IN) Diam. Torque Clamping Bolts (see Note 1)"
Detail F, callout, "3/4" (IN) x 2' – 6" Anchor Bolt (TYP.) ~ Four Required (See Note 4)" is revised to read; "3/4" (IN) x 2' – 6" Anchor Bolt (TYP.) ~ Three Required (See Note 2)"

J-21.15
Partial View, callout, was – LOCK NIPPLE ~ 1 ½" DIAM., is revised to read; CHASE NIPPLE ~ 1 ½" (IN) DIAM.

J-21.16
Detail A, callout, was – LOCKNIPPLE, is revised to read; CHASE NIPPLE

J-22.15
Ramp Meter Signal Standard, elevation, dimension 4' - 6" is revised to read; 6'-0"
(2x) Detail A, callout, was – LOCK NIPPLE ~ 1 ½" DIAM. is revised to read; CHASE NIPPLE ~ 1 ½" (IN) DIAM.

J-40.10
Sheet 2 of 2, Detail F, callout, "12 – 13 x 1 ½" S.S. PENTA HEAD BOLT AND 12" S. S. FLAT WASHER" is revised to read; "12 – 13 x 1 ½" S.S. PENTA HEAD BOLT AND 1/2" (IN) S. S. FLAT WASHER"

J-75.20
Key Notes, note 16, second bullet point, was: "1/2" (IN) x 0.45" (IN) Stainless Steel Bands", add the following to the end of the note: "Alternate: Stainless steel cable with stainless steel ends, nuts, bolts, and washers may be used in place of stainless steel bands and associated hardware."

J-81.10
Power Distribution Block Diagram, lower left corner, Sheet 1 of 3; Switch Pack 2; circuit 623 (T4-5) [middle ckt] is revised to read; circuit **622 (T4-5)**.

K-80.30
DELETED

K-80.35

Add New Note 1 – “1. The intended use of this plan is for the temporary installation of Type 2 concrete barrier (See Standard Plan C-8) on cement concrete pavement, bridge decks, or hot mix asphalt pavement.”

Re-number all notes.

Remove all references to Type F barrier shown on the Standard Plan.

K-80.37

Revise Note 1 to read:“1. The intended use of this plan is for the temporary installation of F-Shape NARROW BASE concrete barrier (See Standard Plan C-60.10) on cement concrete pavement, bridge decks.”

Replace all references stating “NARROW BASE, ALTERNATIVE TEMPORARY CONCRETE BARRIER SEGMENT” with “F-Shape NARROW BASE concrete barrier segment.”

M-3.50

Double-Left Turn Channelization (with Right Turn Pocket) view, dimension, upper left corner, “taper” dimension; callout – was “40’ if Posted Speed is 40 MPH or less 100’ if Posted Speed is more than 40 MPH” is revised to read; “See Contract”

M-5.10

Right-Turn Channelization view, dimension, upper right corner, “taper” dimension; callout – was “50’ MIN.” is revised to read; “See Contract”

M-24.50

DELETED

The following are the Standard Plan numbers applicable at the time this project was advertised. The date shown with each plan number is the publication approval date shown in the lower right-hand corner of that plan. Standard Plans showing different dates shall not be used in this contract.

A-10.10-00.....8/7/07
A-10.20-00.....10/5/07
A-10.30-00.....10/5/07
A-20.10-00.....8/31/07
A-30.10-00.....11/8/07
A-30.30-01.....6/16/11
A-30.35-00.....10/12/07
A-40.00-00.....8/11/09
A-40.10-04.....7/31/19
A-40.15-00.....8/11/09
A-40.20-04.....1/18/17
A-40.50-02.....12/23/14
A-50.10-00…....11/17/08
A-50.20-01…....9/22/09
A-50.30-00…....11/17/08
A-50.40-00…....11/17/08
A-60.10-03.....12/23/14
A-60.20-03.....12/23/14
A-60.30-01.....6/28/18
A-60.40-00.....8/31/07

B-5.20-02.....1/26/17
B-5.40-02.....1/26/17
B-5.60-02.....1/26/17
B-10.20-02.....3/2/18
B-10.40-01.....1/26/17
B-10.70-00……1/26/17
B-15.20-01.....2/7/12
B-15.40-01.....2/7/12
B-15.60-02.....1/26/17
B-20.20-02.....3/16/12
B-30.50-03.....2/27/18
B-30.70-04.....2/27/18
B-30.80-01.....2/27/18
B-30.90-02.....1/26/17
B-35.20-00.....6/8/06
B-35.40-00.....6/8/06
B-40.20-00.....6/1/06
B-40.40-02.....1/26/17
B-45.20-01.....7/11/17
B-45.40-01.....7/21/17
B-75.20-02.....2/27/18
B-75.50-01.....6/10/08
B-75.60-00.....6/8/06
B-80.20-00.....6/8/06
B-80.40-00.....6/1/06
B-85.10-01.....6/10/08
B-85.20-00.....6/1/06
B-85.30-00.....6/1/06
B-85.40-00.....6/8/06
B-85.50-01.....6/10/08

B-20.40-04.....2/27/18
B-20.60-03.....3/15/12
B-25.20-02.....2/27/18
B-25.60-02.....2/27/18
B-30.10-03.....2/27/18
B-30.15-00……..2/27/18
B-30.20-04.....2/27/18
B-30.30-03.....2/27/18
B-30.40-03.....2/27/18
B-50.20-00.....6/1/06
B-55.20-02.....2/27/18
B-60.20-01.....6/28/18
B-60.40-01.....2/27/18
B-65.20-01.....4/26/12
B-65.40-00.....6/1/06
B-70.20-00.....6/1/06
B-70.60-01.....1/26/17
B-90.10-00…….6/8/06
B-90.20-00.....6/8/06
B-90.30-00.....6/8/06
B-90.40-01.....1/26/17
B-90.50-00.....6/8/06
B-95.20-01.....2/3/09
B-95.40-01.....6/28/18

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C-1.....6/28/18
C-1a.....7/14/15
C-1b.....7/14/15
C-1d.....10/31/03
C-2c.....6/21/06
C-4f.....7/2/12
C-6a.....10/14/09
C-7.....6/16/11
C-7a.....6/16/11
C-8.....2/10/09
C-8a.....7/25/97
C-8b.....2/29/16
C-8e.....2/21/07
C-8f.....6/30/04
C-16a.....7/21/17
C-20.10-04.....7/21/17
C-20.11-00……..7/21/17
C-20.14-03.....6/11/14
C-20.15-02.....6/11/14
C-20.18-02.....6/11/14
C-20.19-02.....6/11/14
C-20.40-06.....7/21/17
C-20.41-01.....7/14/15
C-20.42-05.....7/14/15
C-20.45.01.....7/2/12
C-22.16-06.....7/21/17
C-22.40-06.....7/21/17
C-22.45-03.....7/21/17
C-23.60-04.....7/21/17
C.24.10-01.....6/11/14
C-25.20-06.....7/14/15
C-25.22-05.....7/14/15
C-25.26-03.....7/14/15
C-25.30-00…….6/28/18
C-25.80-04.....7/15/16
C-40.16-02.....7/2/12
C-40.18-03.....7/21/17
C-60.10-00…….8/22/19
C-70.10-01.....6/17/14
C-75.10-01.....6/11/14
C-75.20-01.....6/11/14
C-75.30-01.....6/11/14
C-80.10-01.....6/11/14
C-80.20-01.....6/11/14
C-80.30-01.....6/11/14
C-80.40-01.....6/11/14
C-80.50-00.....4/8/12
C-85.10-00.....4/8/12
C-85.11-00.....4/8/12
C-85.14-01.....6/11/14
C-85.15-01.....6/30/14
C-85.16-01.....6/17/14
C-85-18-01.....6/11/14
C-85.20-01.....6/11/14

2

D-2.04-00.....11/10/05
D-2.06-01.....1/6/09
D-2.08-00.....11/10/05
D-2.14-00.....11/10/05
D-2.16-00.....11/10/05
D-2.18-00.....11/10/05
D-2.20-00.....11/10/05
D-2.32-00.....11/10/05
D-2.34-01.....1/6/09
D-2.36-03.....6/11/14
D-2.42-00.....11/10/05
D-2.44-00.....11/10/05
D-2.60-00.....11/10/05
D-2.62-00.....11/10/05
D-2.46-01.....6/11/14
D-2.48-00.....11/10/05
D-2.64-01.....1/6/09
D-2.66-00.....11/10/05
D-2.68-00.....11/10/05
D-2.80-00.....11/10/05
D-2.82-00.....11/10/05
D-2.84-00.....11/10/05
D-2.86-00.....11/10/05
D-2.88-00.....11/10/05
D-2.92-00.....11/10/05
D-3.09-00.....5/17/12
D-3.10-01……5/29/13
D-3.11-03……6/11/14
D-3.15-02……6/10/13
D-3.16-02……5/29/13
D-3.17-02……5/9/16
D-4.....12/11/98
D-6.....6/19/98
D-10.10-01.....12/2/08
D-10.15-01.....12/2/08
D-10.20-01.....8/7/19
D-10.25-01.....8/7/19
D-10.30-00.....7/8/08
D-10.35-00.....7/8/08
D-10.40-01.....12/2/08
D-10.45-01.....12/2/08

3

E-1.....2/21/07
E-2.....5/29/98
E-4.....8/27/03
E-4a.....8/27/03

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F-10.12-03.....6/11/14
F-10.16-00.....12/20/06
F-10.18-01.....7/11/17
F-10.62-02.....4/22/14
F-10.64-03.....4/22/14
F-30.10-03.....6/11/14
F-40.15-03.....6/29/16
F-40.16-03.....6/29/16
F-45.10-02.....7/15/16

F-10.40-03.....6/29/16
F-10.42-00.....1/23/07
F-40.12-03.....6/29/16
F-40.14-03.....6/29/16
F-80.10-04.....7/15/16

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G-10.10-00.....9/20/07
G-20.10-02.....6/23/15
G-22.10-04.....6/28/18
G-24.10-00.....11/8/07
G-24.20-01.....2/7/12
G-24.30-02.....6/28/18
G-24.40-07.....6/28/18
G-24.50-05.....8/7/19
G-24.60-05.....6/28/18
G-25.10-04.....6/10/13
G-26.10-00……7/31/19
G-30.10-04.....6/23/15
G-50.10-03.....6/28/18
G-90.10-03……7/11/17
G-90.11-00……4/28/16
G-90.20-05……7/11/17
G-90.30-04……7/11/17
G-90.40-02……4/28/16
G-95.10-02.....6/28/18
G-95.20-03.....6/28/18
G-95.30-03.....6/28/18

2

H-10.10-00.....7/3/08
H-10.15-00.....7/3/08
H-30.10-00.....10/12/07
H-32.10-00.....9/20/07
H-60.10-01.....7/3/08
H-60.20-01.....7/3/08
H-70.10-01.....2/7/12
H-70.20-01.....2/16/12
H-70.30-02.....2/7/12

3

I-10.10-01.....8/11/09
I-30.10-02.....3/22/13
I-30.15-02.....3/22/13
I-30.16-01.....7/11/19
I-30.17-01.....6/12/19
I-30.20-00.....9/20/07
I-30.30-02.....6/12/19
I-30.40-02.....6/12/19
I-30.60-02.....6/12/19
I-40.10-00.....9/20/07
I-40.20-00.....9/20/07
I-50.20-01.....6/10/13
I-60.10-01.....6/10/13
I-60.20-01.....6/10/13
I-80.10-02.....7/15/16

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J-10.....7/18/97
J-10.10-03……6/3/15
J-10.15-01.....6/11/14
J-10.16-00……6/3/15
J-10.17-00……6/3/15
J-10.18-00……6/3/15
J-10.20-02……7/31/19
J-10.21-00……6/3/15
J-10.22-00.....5/29/13
J-10.25-00……7/11/17
J-12.15-00……6/28/18
J-12.16-00……6/28/18
J-15.10-01.....6/11/14
J-15.15-02……7/10/15
J-20.10-04.....7/31/19
J-20.11-03.....7/31/19
J-20.15-03.....6/30/14
J-20.16-02.....6/30/14
J-20.20-02.....5/20/13
J-20.26-01.....7/12/12
J-21.10-04.....6/30/14
J-21.15-01.....6/10/13
J-21.16-01.....6/10/13
J-21.17-01.....6/10/13
J-21.20-01.....6/10/13
J-22.15-02.....7/10/15
J-22.16-03.....7/10/15
J-28.40-02.....6/11/14
J-28.42-01.....6/11/14
J-28.43-01.....6/28/18
J-28.45-03.....7/21/16
J-28.50-03.....7/21/16
J-28.60-02.....7/21/16
J-28.70-03.....7/21/17
J-29.10-01.....7/21/16
J-29.15-01.....7/21/16
J-29.16-02.....7/21/16
J-30.10-00……6/18/15
J-40.05-00……7/21/16
J-40.10-04……4/28/16
J-40.20-03……4/28/16
J-40.30-04……4/28/16
J-40.35-01……5/29/13
J-40.36-02……7/21/17
J-40.37-02……7/21/17
J-40.38-01.....5/20/13
J-40.39-00……5/20/13
J-40.40-02……7/31/19
J-45.36-00……7/21/17
J-50.05-00……7/21/17
J-50.10-01…….7/31/19
J-50.11-02…….7/31/19
J-50.12-02…….8/7/19
J-50.13-00…….8/22/19
J-60.13-00…….6/16/10
J-60.14-01……7/31/19
J-75.10-02……7/10/15
J-75.20-01……7/10/15
J-75.30-02…….7/10/15
J-75.40-02……6/1/16
J-75.41-01……6/29/16
J-75.45-02……6/1/16
J-80.10-00……6/28/18
J-80.15-00……6/28/18
J-81.10-00……6/28/18
J-86.10-00……6/28/18
J-90.10-03…….6/28/18
J-90.20-03…….6/28/18
J-90.21-02……6/28/18
J-90.50-00……6/28/18

J-26.10-03…..7/21/16
J-26.15-01…..5/17/12
J-26.20-01…..6/28/18
J-27.10-01…..7/21/16
J-27.15-00…..3/15/12
J-28.10-02.....8/7/19
J-28.22-00.....8/07/07
J-28.24-01.....6/3/15
J-28.26-01.....12/02/08
J-28.30-03.....6/11/14
J-50.15-01…….7/21/17
J-50.16-01…….3/22/13
J-50.18-00…….8/7/19
J-50.19-00…….8/7/19
J-50.20-00…….6/3/11
J-50.25-00…….6/3/11
J-50.30-00…….6/3/11
J-60.05-01…….7/21/16
J-60.11-00…....5/20/13
J-60.12-00…....5/20/13

K-70.20-01.....6/1/16
K-80.10-01.....6/1/16
K-80.20-00.....12/20/06
K-80.35-00.....2/21/07
K-80.37-00.....2/21/07

L-10.10-02.....6/21/12
L-20.10-03.....7/14/15
L-30.10-02.....6/11/14
L-40.10-02.....6/21/12
L-40.15-01.....6/16/11
L-40.20-02.....6/21/12
L-70.10-01.....5/21/08
L-70.20-01.....5/21/08

M-1.20-03.....6/24/14
M-1.40-02.....6/3/11
M-1.60-02.....6/3/11
M-1.80-03.....6/3/11
M-2.20-03.....7/10/15
M-2.21-00……7/10/15
M-3.10-03.....6/3/11
M-3.20-02.....6/3/11
M-3.30-03.....6/3/11
M-3.40-03.....6/3/11
M-3.50-02.....6/3/11
M-5.10-02.....6/3/11
M-7.50-01.....1/30/07
M-9.50-02.....6/24/14
M-9.60-00……..2/10/09
M-11.10-03.....8/7/19
M-12.10-01……6/28/18
M-15.10-01.....2/6/07
M-17.10-02.....7/3/08
M-20.10-02.....6/3/11
M-20.20-02.....4/20/15
M-20.30-04.....2/29/16
M-20.40-03.....6/24/14
M-20.50-02.....6/3/11
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M-24.60-04.....6/24/14
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M-60.20-02.....6/27/11
M-65.10-02.....5/11/11
M-80.10-01.....6/3/11
M-80.20-00.....6/10/08
M-80.30-00.....6/10/08