


Lewis County
Department of Public Works
Engineering Division

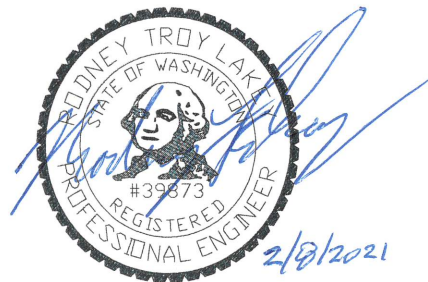
**CONTRACT
PROVISIONS AND PLANS
FOR CONSTRUCTION OF:
COUSINS ROAD MP 3.15
CULVERT REPLACEMENT**

CMP NO. 1502
February 2021

Lewis County Public Works
2025 NE Kresky Ave.
Chehalis, WA 98532-2626
Approved for Construction:


County Engineer

2-8-21
Date



Project Engineer

BOARD OF COUNTY COMMISSIONERS

Sean Swope, District No. 1
Lindsey R. Pollock, DVM, District No. 2
Gary Stamper, District No. 3

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6 *CONTRACT BOND FOR Bond No. 119*

7 *POWER EQUIPMENT LIST.....121*

8 **APPENDIX F123**

9 **APPENDIX G125**

10

11

12

1
2 **INTRODUCTION**

3
4 The following Special Provisions are made a part of this contract and supersede any conflicting
5 provisions of the 2021 Standard Specifications for Road, Bridge, and Municipal Construction.

6
7 The said Standard Specifications, the WSDOT Standard Plans, and WSDOT Construction Manual,
8 together with the Special Provisions and the attached plans hereinafter contained, covering all work
9 specified under this contract are incorporated and hereby made a part of this contract. The Special
10 Provisions hereinafter contained shall supersede any conflicting provisions of the Standard
11 Specifications, the WSDOT Standard Plans, and WSDOT Construction Manual.

12
13 Several types of Special Provisions are included in this contract; General, Region, Bridges and
14 Structures, and Project Specific. Special Provisions types are differentiated as follows:

- 15
16 (date) General Special Provision
17 (*****) Notes a revision to a General Special Provision
18 and also notes a Project Specific Special Provision.
19 (APWA GSP) American Public Works Association General Special Provision

20
21 **General Special Provisions** are similar to Standard Specifications in that they typically apply to many
22 projects, usually in more than one Region. Usually, the only difference from one project to another is
23 the inclusion of variable project data, inserted as a “fill-in”.

24
25 **Project Specific Special Provisions** normally appear only in the contract for which they were developed.

26
27 The following paragraph pertaining to the Standard Specifications shall obtain and be made a part of
28 this contract:

29
30 Wherever the word “State” or “Contracting Agency” is used it shall mean Lewis County; that
31 wherever the words “Secretary (Secretary of Transportation)” are used they shall mean Lewis
32 County Engineer; that wherever the words “State Treasurer” are used they shall mean Lewis
33 County Treasurer; that wherever the words “State Auditor” are used they shall mean Lewis
34 County Auditor; that wherever the words “Motor Vehicle Fund” are used they shall mean Lewis
35 County Road Fund.

36
37 **SPECIAL PROVISIONS**

38
39 **DIVISION 1**
40 **GENERAL REQUIREMENTS**

41
42 **1-01, DESCRIPTION OF WORK**

43 (March 13, 1995)

44 This contract provides for the improvement of *** Cousins Road MP 3.15 by installing a stream bypass,
45 removing the existing culvert, excavation, Geosynthetic Reinforced Soil construction, precast voided
46 slab bridge construction, streambed restoration, road restoration, guardrail, hydroseeding *** and other
47 related work, all in accordance with the attached Contract Plans, these Contract Provisions, and the
48 Standard Specifications.
49

1 **1-01.3 Definitions**
2 *(January 4, 2016 APWA GSP)*

3
4 Delete the heading **Completion Dates** and the three paragraphs that follow it, and replace them with the
5 following:

6
7 **Dates**

8 ***Bid Opening Date***

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

10 ***Award Date***

11 The date of the formal decision of the Contracting Agency to accept the lowest responsible and
12 responsive Bidder for the Work.

13 ***Contract Execution Date***

14 The date the Contracting Agency officially binds the Agency to the Contract.

15 ***Notice to Proceed Date***

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

17 ***Substantial Completion Date***

18 The day the Engineer determines the Contracting Agency has full and unrestricted use and
19 benefit of the facilities, both from the operational and safety standpoint, any remaining traffic
20 disruptions will be rare and brief, and only minor incidental work, replacement of temporary
21 substitute facilities, plant establishment periods, or correction or repair remains for the Physical
22 Completion of the total Contract.

23 ***Physical Completion Date***

24 The day all of the Work is physically completed on the project. All documentation required by
25 the Contract and required by law does not necessarily need to be furnished by the Contractor by
26 this date.

27 ***Completion Date***

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

32 ***Final Acceptance Date***

33 The date on which the Contracting Agency accepts the Work as complete.

34
35 Supplement this Section with the following:

36
37 All references in the Standard Specifications, Amendments, or WSDOT General Special Provisions,
38 to the terms "Department of Transportation", "Washington State Transportation Commission",
39 "Commission", "Secretary of Transportation", "Secretary", "Headquarters", and "State Treasurer"
40 shall be revised to read "Contracting Agency".

41
42 All references to the terms "State" or "state" shall be revised to read "Contracting Agency" unless
43 the reference is to an administrative agency of the State of Washington, a State statute or
44 regulation, or the context reasonably indicates otherwise.

45
46 All references to "State Materials Laboratory" shall be revised to read "Contracting Agency
47 designated location".
48

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

3
4 **Additive**

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

7
8 **Alternate**

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

12
13 **Business Day**

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

15
16 **Contract Bond**

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

20
21 **Contract Documents**

22 See definition for “Contract”.

23
24 **Contract Time**

25 The period of time established by the terms and conditions of the Contract within which the Work
26 must be physically completed.

27
28 **Notice of Award**

29 The written notice from the Contracting Agency to the successful Bidder signifying the Contracting
30 Agency’s acceptance of the Bid Proposal.

31
32 **Notice to Proceed**

33 The written notice from the Contracting Agency or Engineer to the Contractor authorizing and
34 directing the Contractor to proceed with the Work and establishing the date on which the Contract
35 time begins.

36
37 **Traffic**

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

40
41 **1-02, BID PROCEDURES AND CONDITIONS**

42
43 **1-02.1 Prequalification of Bidders**

44
45 Delete this Section and replace it with the following:

46
47 **1-02.1 Qualifications of Bidder**

48 *(January 24, 2011 APWA GSP)*

1 Before award of a public works contract, a bidder must meet at least the minimum qualifications of
2 RCW 39.04.350(1) to be considered a responsible bidder and qualified to be awarded a public
3 works project.

4 5 **1-02.2 Plans and Specifications**

6 (*****)

7
8 The first paragraph of section 1-02.2 is revised to read:

9
10 Copies of the plans and specifications are on file in the office of:

11
12 Lewis County Public Works Department
13 2025 N.E. Kresky Avenue
14 Chehalis, Washington 98532
15 (360) 740-2671

16
17 The second paragraph of section 1-02.2 is revised to read:

18
19 Prospective bidders may obtain plans and specifications from Lewis County Public
20 Works Department in Chehalis, Washington or download from Lewis County Website at
21 www.lewiscountywa.gov.

22 23 **1-02.6 Preparation Of Proposal**

24 (August 2, 2004)

25 The fifth and sixth paragraphs of Section 1-02.6 are deleted.

26 27 **1-02.9 Delivery of Proposal**

28 (*October 1, 2020 APWA GSP, Option A*)

29
30 Delete this section and replace it with the following:

31
32 Each Proposal shall be submitted in a sealed envelope, with the Project Name and Project Number
33 as stated in the Call for Bids clearly marked on the outside of the envelope, or as otherwise
34 required in the Bid Documents, to ensure proper handling and delivery.

35
36 To be considered responsive on a FHWA-funded project, the Bidder may be required to submit the
37 following items, as required by Section 1-02.6:

- 38
39
- 40 • DBE Written Confirmation Document from each DBE firm listed on the Bidder's completed
41 DBE Utilization Certification (WSDOT 272-056)
 - 42 • Good Faith Effort (GFE) Documentation
 - 43 • DBE Bid Item Breakdown (WSDOT 272-054)
 - 44 • DBE Trucking Credit Form (WSDOT 272-058)

45
46 These documents, if applicable, shall be received either with the Bid Proposal or as a supplement
47 to the Bid. These documents shall be received **no later than 48 hours** (not including Saturdays,
48 Sundays and Holidays) after the time for delivery of the Bid Proposal.

49
50 If submitted after the Bid Proposal is due, the document(s) must be submitted in a sealed envelope
51 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

1 time stated in the Call for Bids.

2
3 Proposals that are received as required will be publicly opened and read as specified in Section 1-
4 02.12. The Contracting Agency will not open or consider any Bid Proposal that is received after the
5 time specified in the Call for Bids for receipt of Bid Proposals, or received in a location other than
6 that specified in the Call for Bids. The Contracting Agency will not open or consider any
7 "Supplemental Information" (DBE confirmations, or GFE documentation) that is received after the
8 time specified above, or received in a location other than that specified in the Call for Bids.

9
10 If an emergency or unanticipated event interrupts normal work processes of the Contracting Agency
11 so that Proposals cannot be received at the office designated for receipt of bids as specified in
12 Section 1-02.12 the time specified for receipt of the Proposal will be deemed to be extended to the
13 same time of day specified in the solicitation on the first work day on which the normal work
14 processes of the Contracting Agency resume.

15 **1-02.12 Public Opening Of Proposal**

16 **(*****)**

17 Section 1-02.12 is supplemented with the following:

18 **Date and Time of Bid Opening**

19
20 The Board of County Commissioners of Lewis County or designee, will open sealed proposals and
21 publicly read them aloud at or after 12:30 p.m. on **March 2, 2021**, at the Lewis County Courthouse,
22 Chehalis, Washington, for the Cousins Road MP 3.15 Culvert Replacement Project CMP-1502.

23 **SEALED BIDS MUST BE DELIVERED BY OR BEFORE** 24 **12:30 P.M. on Tuesday, March 2, 2021**

25
26 (Lewis County official time is displayed on Axxess Intertel phones in the office of the Board of County Commissioners.
27 **Bids submitted after 12:30 PM will not be considered for this project.**)

28 **Delivery and Marking of Sealed Bid Proposals**

29
30 Sealed proposals must be delivered to the Clerk of the Board of Lewis County Commissioners
31 (351 N.W. North Street, Room 210, CMS-01, Chehalis, Washington 98532) by or before **12:30**
32 **p.m.** on the date specified for opening, and in an envelope clearly marked: ***"SEALED BID FOR***
33 ***THE COUSINS ROAD MP 3.15 CULVERT REPLACEMENT PROJECT CMP-1502, TO BE***
34 ***OPENED AT OR AFTER 12:30 P.M. ON MARCH 2, 2021"***.

35 **1-02.13 Irregular Proposals**

36 ***(October 1, 2020 APWA GSP)***

37
38 Delete this section and replace it with the following:

- 39
40
41
42 1. A Proposal will be considered irregular and will be rejected if:
- 43 a. The Bidder is not prequalified when so required;
 - 44 b. The authorized Proposal form furnished by the Contracting Agency is not used or is
45 altered;
 - 46 c. The completed Proposal form contains any unauthorized additions, deletions, alternate
47 Bids, or conditions;
 - 48 d. The Bidder adds provisions reserving the right to reject or accept the award, or enter into
49 the Contract;
 - 50 e. A price per unit cannot be determined from the Bid Proposal;
 - 51 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 a Disadvantaged Business Enterprise Certification, if applicable, as required in Section 1-02.6;
- i. The Bidder fails to submit written confirmation from each DBE firm listed on the Bidder's completed DBE Utilization Certification that they are in agreement with the bidder's DBE 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 DBE 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 Bidder fails to submit a DBE Bid Item Breakdown form, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions;
- l. The Bidder fails to submit DBE Trucking Credit Forms, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions;
- m. The Bid Proposal does not constitute a definite and unqualified offer to meet the material terms of the Bid invitation; or
- n. 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 Contracting Agency;
- 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.

1-02.14 Disqualification of Bidders

(May 17, 2018 APWA GSP, Option B)

Delete this section and replace it with the following:

A Bidder will be deemed not responsible if the Bidder does not meet the mandatory bidder responsibility criteria in RCW 39.04.350(1), as amended; or does not meet Supplemental Criteria 1-7 listed in this Section.

The Contracting Agency will verify that the Bidder meets the mandatory bidder responsibility criteria in RCW 39.04.350(1), and Supplemental Criteria 1-2. Evidence that the Bidder meets Supplemental Criteria 3-7 shall be provided by the Bidder as stated later in this Section.

1. Delinquent State Taxes

- A Criterion: The Bidder shall not owe delinquent taxes to the Washington State Department of Revenue without a payment plan approved by the Department of Revenue.

1 B. Documentation: The Bidder, if and when required as detailed below, shall sign a
2 statement (on a form to be provided by the Contracting Agency) that the Bidder does not
3 owe delinquent taxes to the Washington State Department of Revenue, or if delinquent
4 taxes are owed to the Washington State Department of Revenue, the Bidder must
5 submit a written payment plan approved by the Department of Revenue, to the
6 Contracting Agency by the deadline listed below.

7
8 **2. Federal Debarment**

9
10 A. Criterion: The Bidder shall not currently be debarred or suspended by the Federal
11 government.

12
13 B. Documentation: The Bidder shall not be listed as having an “active exclusion” on the
14 U.S. government’s “System for Award Management” database (www.sam.gov).

15
16 **3. Subcontractor Responsibility**

17
18 A. Criterion: The Bidder’s standard subcontract form shall include the subcontractor
19 responsibility language required by RCW 39.06.020, and the Bidder shall have an
20 established procedure which it utilizes to validate the responsibility of each of its
21 subcontractors. The Bidder’s subcontract form shall also include a requirement that
22 each of its subcontractors shall have and document a similar procedure to determine
23 whether the sub-tier subcontractors with whom it contracts are also “responsible”
24 subcontractors as defined by RCW 39.06.020.

25
26 B. Documentation: The Bidder, if and when required as detailed below, shall submit a copy
27 of its standard subcontract form for review by the Contracting Agency, and a written
28 description of its procedure for validating the responsibility of subcontractors with which
29 it contracts.

30
31 **4. Claims Against Retainage and Bonds**

32
33 A. Criterion: The Bidder shall not have a record of excessive claims filed against the
34 retainage or payment bonds for public works projects in the three years prior to the bid
35 submittal date, that demonstrate a lack of effective management by the Bidder of making
36 timely and appropriate payments to its subcontractors, suppliers, and workers, unless
37 there are extenuating circumstances and such circumstances are deemed acceptable to
38 the Contracting Agency.

39
40 B. Documentation: The Bidder, if and when required as detailed below, shall submit a list of
41 the public works projects completed in the three years prior to the bid submittal date that
42 have had claims against retainage and bonds and include for each project the following
43 information:

- 44
45
- 46 • Name of project
 - 47 • The owner and contact information for the owner;
 - 48 • A list of claims filed against the retainage and/or payment bond for any of the
49 projects listed;
 - 50 • A written explanation of the circumstances surrounding each claim and the ultimate
51 resolution of the claim.

1 **5. Public Bidding Crime**

2
3 A. Criterion: The Bidder and/or its owners shall not have been convicted of a crime
4 involving bidding on a public works contract in the five years prior to the bid submittal
5 date.

6
7 B. Documentation: The Bidder, if and when required as detailed below, shall sign a
8 statement (on a form to be provided by the Contracting Agency) that the Bidder and/or
9 its owners have not been convicted of a crime involving bidding on a public works
10 contract.

11
12 **6. Termination for Cause / Termination for Default**

13
14 A. Criterion: The Bidder shall not have had any public works contract terminated for cause
15 or terminated for default by a government agency in the five years prior to the bid
16 submittal date, unless there are extenuating circumstances and such circumstances are
17 deemed acceptable to the Contracting Agency.

18
19 B. Documentation: The Bidder, if and when required as detailed below, shall sign a
20 statement (on a form to be provided by the Contracting Agency) that the Bidder has not
21 had any public works contract terminated for cause or terminated for default by a
22 government agency in the five years prior to the bid submittal date; or if Bidder was
23 terminated, describe the circumstances. .

24
25 **7. Lawsuits**

26
27 A. Criterion: The Bidder shall not have lawsuits with judgments entered against the Bidder
28 in the five years prior to the bid submittal date that demonstrate a pattern of failing to
29 meet the terms of contracts, unless there are extenuating circumstances and such
30 circumstances are deemed acceptable to the Contracting Agency

31
32 B. Documentation: The Bidder, if and when required as detailed below, shall sign a
33 statement (on a form to be provided by the Contracting Agency) that the Bidder has not
34 had any lawsuits with judgments entered against the Bidder in the five years prior to the
35 bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, or
36 shall submit a list of all lawsuits with judgments entered against the Bidder in the five
37 years prior to the bid submittal date, along with a written explanation of the
38 circumstances surrounding each such lawsuit. The Contracting Agency shall evaluate
39 these explanations to determine whether the lawsuits demonstrate a pattern of failing to
40 meet of terms of construction related contracts

41
42 As evidence that the Bidder meets the Supplemental Criteria stated above, the apparent low
43 Bidder must submit to the Contracting Agency by 12:00 P.M. (noon) of the second business day
44 following the bid submittal deadline, a written statement verifying that the Bidder meets the
45 supplemental criteria together with supporting documentation (sufficient in the sole judgment of
46 the Contracting Agency) demonstrating compliance with the Supplemental Criteria. The
47 Contracting Agency reserves the right to request further documentation as needed from the low
48 Bidder and documentation from other Bidders as well to assess Bidder responsibility and
49 compliance with all bidder responsibility criteria. The Contracting Agency also reserves the right
50 to obtain information from third-parties and independent sources of information concerning a
51 Bidder's compliance with the mandatory and supplemental criteria, and to use that information in

1 their evaluation. The Contracting Agency may consider mitigating factors in determining whether
2 the Bidder complies with the requirements of the supplemental criteria.

3
4 The basis for evaluation of Bidder compliance with these mandatory and supplemental criteria
5 shall include any documents or facts obtained by Contracting Agency (whether from the Bidder or
6 third parties) including but not limited to: (i) financial, historical, or operational data from the
7 Bidder; (ii) information obtained directly by the Contracting Agency from others for whom the
8 Bidder has worked, or other public agencies or private enterprises; and (iii) any additional
9 information obtained by the Contracting Agency which is believed to be relevant to the matter.

10
11 If the Contracting Agency determines the Bidder does not meet the bidder responsibility criteria
12 above and is therefore not a responsible Bidder, the Contracting Agency shall notify the Bidder in
13 writing, with the reasons for its determination. If the Bidder disagrees with this determination, it
14 may appeal the determination within two (2) business days of the Contracting Agency's
15 determination by presenting its appeal and any additional information to the Contracting Agency.
16 The Contracting Agency will consider the appeal and any additional information before issuing its
17 final determination. If the final determination affirms that the Bidder is not responsible, the
18 Contracting Agency will not execute a contract with any other Bidder until at least two business
19 days after the Bidder determined to be not responsible has received the Contracting Agency's
20 final determination.

21
22 Request to Change Supplemental Bidder Responsibility Criteria Prior To Bid: Bidders with
23 concerns about the relevancy or restrictiveness of the Supplemental Bidder Responsibility Criteria
24 may make or submit requests to the Contracting Agency to modify the criteria. Such requests
25 shall be in writing, describe the nature of the concerns, and propose specific modifications to the
26 criteria. Bidders shall submit such requests to the Contracting Agency no later than five (5)
27 business days prior to the bid submittal deadline and address the request to the Project Engineer
28 or such other person designated by the Contracting Agency in the Bid Documents.

30 **1-02.15 Pre Award Information** 31 (August 14, 2013 APWA GSP)

32
33 Revise this section to read:

34
35 Before awarding any contract, the Contracting Agency may require one or more of these items or
36 actions of the apparent lowest responsible bidder:

- 37 1. A complete statement of the origin, composition, and manufacture of any or all materials to be
38 used,
- 39 2. Samples of these materials for quality and fitness tests,
- 40 3. A progress schedule (in a form the Contracting Agency requires) showing the order of and time
41 required for the various phases of the work,
- 42 4. A breakdown of costs assigned to any bid item,
- 43 5. Attendance at a conference with the Engineer or representatives of the Engineer,
- 44 6. Obtain, and furnish a copy of, a business license to do business in the city or county where the
45 work is located.
- 46 7. Any other information or action taken that is deemed necessary to ensure that the bidder is the
47 lowest responsible bidder.

48 49 **1-03, AWARD AND EXECUTION OF CONTRACT**

1
2 **1-03.3 Execution of Contract**
3 (October 1, 2005 APWA GSP)
4

5 Revise this section to read:
6

7 Copies of the Contract Provisions, including the unsigned Form of Contract, will be available for
8 signature by the successful bidder on the first business day following award. The number of copies
9 to be executed by the Contractor will be determined by the Contracting Agency.
10

11 Within 15 calendar days after the award date, the successful bidder shall return the signed
12 Contracting Agency-prepared contract, an insurance certification as required by Section 1-07.18,
13 and a satisfactory bond as required by law and Section 1-03.4. Before execution of the contract by
14 the Contracting Agency, the successful bidder shall provide any pre-award information the
15 Contracting Agency may require under Section 1-02.15.
16

17 Until the Contracting Agency executes a contract, no proposal shall bind the Contracting Agency
18 nor shall any work begin within the project limits or within Contracting Agency-furnished sites. The
19 Contractor shall bear all risks for any work begun outside such areas and for any materials ordered
20 before the contract is executed by the Contracting Agency.
21

22 If the bidder experiences circumstances beyond their control that prevents return of the contract
23 documents within the calendar days after the award date stated above, the Contracting Agency
24 may grant up to a maximum of 5 additional calendar days for return of the documents, provided
25 the Contracting Agency deems the circumstances warrant it.
26

27 **1-03.4 Contract Bond**
28 (*July 23, 2015 APWA GSP*)
29

30 Delete the first paragraph and replace it with the following:
31

32 The successful bidder shall provide executed payment and performance bond(s) for the full contract
33 amount. The bond may be a combined payment and performance bond; or be separate payment
34 and performance bonds. In the case of separate payment and performance bonds, each shall be
35 for the full contract amount. The bond(s) shall:

- 36 1. Be on Contracting Agency-furnished form(s);
- 37 2. Be signed by an approved surety (or sureties) that:
 - 38 a. Is registered with the Washington State Insurance Commissioner, and
 - 39 b. Appears on the current Authorized Insurance List in the State of Washington published by
40 the Office of the Insurance Commissioner,
- 41 3. Guarantee that the Contractor will perform and comply with all obligations, duties, and
42 conditions under the Contract, including but not limited to the duty and obligation to indemnify,
43 defend, and protect the Contracting Agency against all losses and claims related directly or
44 indirectly from any failure:
 - 45 a. Of the Contractor (or any of the employees, subcontractors, or lower tier subcontractors of
46 the Contractor) to faithfully perform and comply with all contract obligations, conditions, and
47 duties, or
 - 48 b. Of the Contractor (or the subcontractors or lower tier subcontractors of the Contractor) to
49 pay all laborers, mechanics, subcontractors, lower tier subcontractors, material person, or
50 any other person who provides supplies or provisions for carrying out the work;

- 1 4. Be conditioned upon the payment of taxes, increases, and penalties incurred on the project
2 under titles 50, 51, and 82 RCW; and
- 3 5. Be accompanied by a power of attorney for the Surety's officer empowered to sign the bond;
4 and
- 5 6. Be signed by an officer of the Contractor empowered to sign official statements (sole proprietor
6 or partner). If the Contractor is a corporation, the bond(s) must be signed by the president or
7 vice president, unless accompanied by written proof of the authority of the individual signing the
8 bond(s) to bind the corporation (i.e., corporate resolution, power of attorney, or a letter to such
9 effect signed by the president or vice president).

10 **1-03.7 Judicial Review**

11 *(November 30, 2018 APWA GSP)*

12
13
14 Revise this section to read:

15
16 Any decision made by the Contracting Agency regarding the Award and execution of the Contract
17 or Bid rejection shall be conclusive subject to the scope of judicial review permitted under
18 Washington Law. Such review, if any, shall be timely filed in the Superior Court of the county where
19 the Contracting Agency headquarters is located, provided that where an action is asserted against
20 a county, RCW 36.01.050 shall control venue and jurisdiction.

21 22 **1-05, CONTROL OF WORK**

23 *(March 13, 1995)*

24 **1-05.7 Removal Of Defective And unauthorized Work**

25 *(October 1, 2005 APWA GSP)*

26
27 Supplement this section with the following:

28
29 If the Contractor fails to remedy defective or unauthorized work within the time specified in a
30 written notice from the Engineer, or fails to perform any part of the work required by the Contract
31 Documents, the Engineer may correct and remedy such work as may be identified in the written
32 notice, with Contracting Agency forces or by such other means as the Contracting Agency may
33 deem necessary.
34

35
36 If the Contractor fails to comply with a written order to remedy what the Engineer determines to be
37 an emergency situation, the Engineer may have the defective and unauthorized work corrected
38 immediately, have the rejected work removed and replaced, or have work the Contractor refuses to
39 perform completed by using Contracting Agency or other forces. An emergency situation is any
40 situation when, in the opinion of the Engineer, a delay in its remedy could be potentially unsafe, or
41 might cause serious risk of loss or damage to the public.
42

43 Direct or indirect costs incurred by the Contracting Agency attributable to correcting and remedying
44 defective or unauthorized work, or work the Contractor failed or refused to perform, shall be paid
45 by the Contractor. Payment will be deducted by the Engineer from monies due, or to become due,
46 the Contractor. Such direct and indirect costs shall include in particular, but without limitation,
47 compensation for additional professional services required, and costs for repair and replacement of
48 work of others destroyed or damaged by correction, removal, or replacement of the Contractor's
49 unauthorized work.

1
2 No adjustment in contract time or compensation will be allowed because of the delay in the
3 performance of the work attributable to the exercise of the Contracting Agency's rights provided by
4 this Section.

5
6 The rights exercised under the provisions of this section shall not diminish the Contracting
7 Agency's right to pursue any other avenue for additional remedy or damages with respect to the
8 Contractor's failure to perform the work as required.

9
10 **1-05.13 Superintendents, Labor and Equipment of Contractor**
11 *(August 14, 2013 APWA GSP)*

12
13 Delete the sixth and seventh paragraphs of this section.

14
15 **1-05.14 Cooperation With Other Contractors**

16 Section 1-05.14 is supplemented with the following:
17 (March 13, 1995)

18
19 **Other Contracts Or Other Work**

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

22
23 \$\$ Utilities and/or Utility Contractors. The contractor's attention is directed to Section 1-07.17
24 these Special Provisions. \$\$

25
26 **1-05.15 Method of Serving Notices**

27 (March 25, 2009 APWA GSP)

28 Revise the second paragraph to read:

29
30 All correspondence from the Contractor shall be directed to the Project Engineer. All
31 correspondence from the Contractor constituting any notification, notice of protest, notice of dispute,
32 or other correspondence constituting notification required to be furnished under the Contract, must
33 be in paper format, hand delivered or sent via mail delivery service to the Project Engineer's office.
34 Electronic copies such as e-mails or electronically delivered copies of correspondence will not
35 constitute such notice and will not comply with the requirements of the Contract.

36
37
38 **1-07, LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC**

39
40 **1-07.1 Laws to be Observed**

41 *(October 1, 2005 APWA GSP)*

42
43 Supplement this section with the following:

44
45 In cases of conflict between different safety regulations, the more stringent regulation shall apply.

46
47 The Washington State Department of Labor and Industries shall be the sole and paramount
48 administrative agency responsible for the administration of the provisions of the Washington
49 Industrial Safety and Health Act of 1973 (WISHA).

1 The Contractor shall maintain at the project site office, or other

2
3 The Contractor shall have sole responsibility for the safety, efficiency, and adequacy of the
4 Contractor's plant, appliances, and methods, and for any damage or injury resulting from their
5 failure, or improper maintenance, use, or operation. The Contractor shall be solely and completely
6 responsible for the conditions of the project site, including safety for all persons and property in the
7 performance of the work. This requirement shall apply continuously, and not be limited to normal
8 working hours. The required or implied duty of the Engineer to conduct construction review of the
9 Contractor's performance does not, and shall not, be intended to include review and adequacy of
10 the Contractor's safety measures in, on, or near the project site.

11 **1-07.2 State Taxes**

12 Delete this section, including its sub-sections, in its entirety and replace it with the following:

13 **1-07.2 State Sales Tax**

14 *(June 27, 2011 APWA GSP)*

15
16 The Washington State Department of Revenue has issued special rules on the State sales tax.
17 Sections 1-07.2(1) through 1-07.2(3) are meant to clarify those rules. The Contractor should
18 contact the Washington State Department of Revenue for answers to questions in this area. The
19 Contracting Agency will not adjust its payment if the Contractor bases a bid on a misunderstood tax
20 liability.

21
22 The Contractor shall include all Contractor-paid taxes in the unit bid prices or other contract
23 amounts. In some cases, however, state retail sales tax will not be included. Section 1-07.2(2)
24 describes this exception.

25
26 The Contracting Agency will pay the retained percentage (or release the Contract Bond if a FHWA-
27 funded Project) only if the Contractor has obtained from the Washington State Department of
28 Revenue a certificate showing that all contract-related taxes have been paid (RCW 60.28.051).
29 The Contracting Agency may deduct from its payments to the Contractor any amount the
30 Contractor may owe the Washington State Department of Revenue, whether the amount owed
31 relates to this contract or not. Any amount so deducted will be paid into the proper State fund.

32 **1-07.2(1) State Sales Tax — Rule 171**

33
34 WAC 458-20-171, and its related rules, apply to building, repairing, or improving streets, roads, etc.,
35 which are owned by a municipal corporation, or political subdivision of the state, or by the United
36 States, and which are used primarily for foot or vehicular traffic. This includes storm or combined
37 sewer systems within and included as a part of the street or road drainage system and power lines
38 when such are part of the roadway lighting system. For work performed in such cases, the
39 Contractor shall include Washington State Retail Sales Taxes in the various unit bid item prices, or
40 other contract amounts, including those that the Contractor pays on the purchase of the materials,
41 equipment, or supplies used or consumed in doing the work.

42 **1-07.2(2) State Sales Tax — Rule 170**

43
44 WAC 458-20-170, and its related rules, apply to the constructing and repairing of new or existing
45 buildings, or other structures, upon real property. This includes, but is not limited to, the
46 construction of streets, roads, highways, etc., owned by the state of Washington; water mains and
47

1 their appurtenances; sanitary sewers and sewage disposal systems unless such sewers and
2 disposal systems are within, and a part of, a street or road drainage system; telephone, telegraph,
3 electrical power distribution lines, or other conduits or lines in or above streets or roads, unless
4 such power lines become a part of a street or road lighting system; and installing or attaching of any
5 article of tangible personal property in or to real property, whether or not such personal property
6 becomes a part of the realty by virtue of installation.

7
8 For work performed in such cases, the Contractor shall collect from the Contracting Agency, retail
9 sales tax on the full contract price. The Contracting Agency will automatically add this sales tax to
10 each payment to the Contractor. For this reason, the Contractor shall not include the retail sales
11 tax in the unit bid item prices, or in any other contract amount subject to Rule 170, with the following
12 exception.

13
14 Exception: The Contracting Agency will not add in sales tax for a payment the Contractor or a
15 subcontractor makes on the purchase or rental of tools, machinery, equipment, or consumable
16 supplies not integrated into the project. Such sales taxes shall be included in the unit bid item
17 prices or in any other contract amount.

18 **1-07.2(3) Services**

19
20
21 The Contractor shall not collect retail sales tax from the Contracting Agency on any contract wholly
22 for professional or other services (as defined in Washington State Department of Revenue Rules
23 138 and 244).

24 **1-07.5 Environmental Regulations**

25 Section 1-07.5 is supplemented with the following:

26
27 (September 20, 2010)

28 **Environmental Commitments**

29 The following Provisions summarize the requirements, in addition to those required elsewhere in
30 the Contract, imposed upon the Contracting Agency by the various documents referenced in the
31 Special Provision **Permits and Licenses**. Throughout the work, the Contractor shall comply with
32 the following requirements:
33

34 **General**

35 The Contractor shall ensure that the Project Manager representing the Prime Contractor and all
36 Subcontractors has read and understands this Special Provision. Prior to commencing any work
37 on site, the Contractor shall provide the Engineer with a signed statement from the Project
38 Manager stating that the Project Manager has read, understands and will abide by the conditions
39 of this Special Provision.
40

41 **Wetlands and Water Quality**

42 The following restrictions and requirements pertain to work throughout the project limits:
43

44
45 (August 3, 2009)

46 Temporary BMPs shall be used to allow turbid water to settle before discharge to the
47 stream. Settling time shall be sufficient to meet water quality standards. The flow rate of
48 turbid water into the stream shall not exceed one tenth of the natural flow rate of the
49 stream at the time of discharge. Before discharging to the stream, the Contractor shall
50 request the Engineer to sample the water to ensure the water is in compliance with water
51 quality standards.

1
2 (August 3, 2009)

3 During any operation involving saw cutting of concrete, all water generated by the cutting
4 operation shall be controlled and contained, to be disposed of on land with no possibility
5 of entry to waters of the State, including wetlands.

6
7 (February 25, 2013)

8 The Contractor shall retain a copy of the most recent U.S. Army Corps of Engineers
9 Nationwide Permit Verification Letter, conditions, and permit drawings on the worksite for
10 the life of the Contract (See Special Provision titled Permits and Licenses). The
11 Contractor shall provide copies of the items above listed to all Sub-Contractors involved
12 with the authorized work prior to their commencement of any work.

13
14 (February 25, 2013)

15 Temporary structures and dewatering of areas under the jurisdiction of the U.S. Army
16 Corps of Engineers must maintain normal downstream flows and prevent upstream and
17 downstream flooding to the maximum extent practicable.

18
19 (February 25, 2013)

20 Any temporary fills placed must be removed in their entirety and the affected areas
21 returned to their pre-construction elevation.

22
23 (August 3, 2009)

24 The Contractor shall notify the Engineer a minimum of 10 calendar days prior to
25 commencing any work in environmentally sensitive areas, mitigation area, and wetland
26 buffers. Installation of construction fencing is excluded from this notice requirement. At
27 the time of notification, the Contractor shall submit a work plan for view and approval
28 detailing how the work will be performed. Plan detail must be sufficient to verify that work
29 is in conformance with all contract provisions.

30
31 (August 3, 2009)

32 No Contractor staging areas will be allowed within *** 50 *** feet of any waters of the
33 State including wetlands. Refueling or storage of hazardous substances shall occur at
34 least 200 feet away from any waters of the State including wetlands. All staging,
35 stockpile and refueling areas shall be within the limits of the Area of Potential Effect as
36 depicted on the TESC Sheet in the Construction Plans.

37
38 (August 3, 2009)

39 **Payment**

40
41 All costs to comply with this special provision for the environmental commitments and
42 requirements are incidental to the contract and are the responsibility of the Contractor. The
43 Contractor shall include all related costs in the associated bid prices of the contract.

44
45 **1-07.6 Permits and Licenses**

46 Section 1-07.6 is supplemented with the following:

47
48 (September 20, 2010)

49 The Contracting Agency has obtained the below-listed permit(s) for this project. A copy of the
50 permit(s) is attached as an appendix for informational purposes. All contacts with the permitting
51 agency concerning the below-listed permit(s) shall be through the Engineer. The Contractor shall

1 obtain additional permits as necessary. All costs to obtain and comply with additional permits shall
2 be included in the applicable bid items for the work involved. Copies of these permits are required
3 to be onsite at all times.
4

Permit, Approval, Certification or Concurrence	Permitting Agency	Permit Number
Section 404 Nationwide Permit 3	US Army Corps of Engineers	NWS-2019-821
Hydraulic Permit Approval	Washington Department of Fish and Wildlife	HPA 2019-5-100+01

5
6 **The contractor shall ensure that all permit conditions have been read, understood and will be complied**
7 **with. The Project Environmental Review Form must be signed by the contractor to document this.**
8

9 **1-07.7 Load Limits**

10 Section 1-07.7 is supplemented with the following:

11
12 (*****)

13 If the source of materials provided by the Contractor necessitates hauling over roads other than
14 Lewis County roads, the Contractor shall, at the Contractor's expense, make all arrangements
15 for the use of the haul routes.

16
17 Any vehicle providing material paid for by the ton, on the project, will provide licensed tonnage
18 for that vehicle.
19

20 **1-07.9 Wages**

21 **General**

22 Section 1-07.9(1) is supplemented with the following:

23
24 (*****)

25 The State rates incorporated in this contract are applicable to all construction activities
26 associated with this contract.
27

28
29 (April 2, 2007)

30 **Application of Wage Rates for the Occupation of Landscape Construction**

31 State prevailing wage rates for public works contracts are included in this contract and show a
32 separate listing for the occupation:

33
34 Landscape Construction, which includes several different occupation descriptions such
35 as: Irrigation and Landscape Plumbers, Irrigation and Landscape Power Equipment
36 Operators, and Landscaping or Planting Laborers.
37

38 In addition, federal wage rates that are included in this contract may also include occupation
39 descriptions in Federal Occupational groups for work also specifically identified with
40 landscaping such as:

41
42 Laborers with the occupation description, Landscaping or Planting, or

43
44 Power Equipment Operators with the occupation description, Mulch Seeding Operator.
45

1 If Federal wage rates include one or more rates specified as applicable to landscaping work,
2 then Federal wage rates for all occupation descriptions, specific or general, must be
3 considered and compared with corresponding State wage rates. The higher wage rate, either
4 State or Federal, becomes the minimum wage rate for the work performed in that occupation.

5
6 Contractors are responsible for determining the appropriate crafts necessary to perform the
7 contract work. If a classification considered necessary for performance of the work is missing
8 from the Federal Wage Determination applicable to the contract, the Contractor shall initiate a
9 request for approval of a proposed wage and benefit rate. The Contractor shall prepare and
10 submit Standard Form 1444, Request for Authorization of Additional Classification and Wage
11 Rate available at <http://www.wdol.gov/docs/sf1444.pdf> , and submit the completed form to the
12 Project Engineer's office. The presence of a classification wage on the Washington State
13 Prevailing Wage Rates For Public Works Contracts does not exempt the use of form 1444 for
14 the purpose of determining a federal classification wage rate.

15 **1-07.11 Requirements For Nondiscrimination**

16 Section 1-07.11 is supplemented with the following:
17

18 (September 3, 2019)

19 Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 20 11246)

- 21
- 22 1. The Contractor's attention is called to the Equal Opportunity Clause and the Standard Federal
23 Equal Employment Opportunity Construction Contract Specifications set forth herein.
 - 24 2. The goals and timetables for minority and female participation set by the Office of Federal
25 Contract Compliance Programs, expressed in percentage terms for the Contractor's
26 aggregate work force in each construction craft and in each trade on all construction work in
27 the covered area, are as follows:
28
29

30 Women - Statewide

31 <u>Timetable</u>	32 <u>Goal</u>
33 Until further notice	34 6.9%

35 Minorities - by Standard Metropolitan Statistical Area (SMSA)

36 Spokane, WA:

37 SMSA Counties:

38 Spokane, WA	39 2.8
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40 WA Spokane.

41 Non-SMSA Counties	42 3.0
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43 WA Adams; WA Asotin; WA Columbia; WA Ferry; WA Garfield; WA Lincoln, WA
44 Pend Oreille; WA Stevens; WA Whitman.
45

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Richland, WA	
SMSA Counties:	
Richland Kennewick, WA	5.4
WA Benton; WA Franklin.	
Non-SMSA Counties	3.6
WA Walla Walla.	
Yakima, WA:	
SMSA Counties:	
Yakima, WA	9.7
WA Yakima.	
Non-SMSA Counties	7.2
WA Chelan; WA Douglas; WA Grant; WA Kittitas; WA Okanogan.	
Seattle, WA:	
SMSA Counties:	
Seattle Everett, WA	7.2
WA King; WA Snohomish.	
Tacoma, WA	6.2
WA Pierce.	
Non-SMSA Counties	6.1
WA Clallam; WA Grays Harbor; WA Island; WA Jefferson; WA Kitsap; WA Lewis; WA Mason; WA Pacific; WA San Juan; WA Skagit; WA Thurston; WA Whatcom.	
Portland, OR:	
SMSA Counties:	
Portland, OR-WA	4.5
WA Clark.	
Non-SMSA Counties	3.8
WA Cowlitz; WA Klickitat; WA Skamania; WA Wahkiakum.	

These goals are applicable to each nonexempt Contractor's total on-site construction workforce, regardless of whether or not part of that workforce is performing work on a Federal, or federally assisted project, contract, or subcontract until further notice. Compliance with these goals and time tables is enforced by the Office of Federal Contract compliance Programs.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, in each construction craft and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goal shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

1 3. The Contractor shall provide written notification to the Office of Federal Contract Compliance
2 Programs (OFCCP) within 10 working days of award of any construction subcontract in
3 excess of \$10,000 or more that are Federally funded, at any tier for construction work under
4 the contract resulting from this solicitation. The notification shall list the name, address and
5 telephone number of the Subcontractor; employer identification number of the Subcontractor;
6 estimated dollar amount of the subcontract; estimated starting and completion dates of the
7 subcontract; and the geographical area in which the contract is to be performed. The
8 notification shall be sent to:

9
10 U.S. Department of Labor
11 Office of Federal Contract Compliance Programs Pacific Region
12 Attn: Regional Director
13 San Francisco Federal Building
14 90 – 7th Street, Suite 18-300
15 San Francisco, CA 94103(415) 625-7800 Phone
16 (415) 625-7799 Fax
17

18 4. As used in this Notice, and in the contract resulting from this solicitation, the Covered Area is
19 as designated herein.
20

21 Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive
22 Order 11246)
23

24 1. As used in these specifications:

- 25
- 26 a. Covered Area means the geographical area described in the solicitation from which
27 this contract resulted;
 - 28
 - 29 b. Director means Director, Office of Federal Contract Compliance Programs, United
30 States Department of Labor, or any person to whom the Director delegates authority;
 - 31
 - 32 c. Employer Identification Number means the Federal Social Security number used on
33 the Employer's Quarterly Federal Tax Return, U. S. Treasury Department Form 941;
 - 34
 - 35 d. Minority includes:
36
 - 37 (1) Black, a person having origins in any of the Black Racial Groups of Africa.
 - 38
 - 39 (2) Hispanic, a fluent Spanish speaking, Spanish surnamed person of Mexican,
40 Puerto Rican, Cuban, Central American, South American, or other Spanish
41 origin.
 - 42
 - 43 (3) Asian or Pacific Islander, a person having origins in any of the original
44 peoples of the Pacific rim or the Pacific Islands, the Hawaiian Islands and
45 Samoa.
 - 46
 - 47 (4) American Indian or Alaskan Native, a person having origins in any of the
48 original peoples of North America, and who maintain cultural identification
49 through tribal affiliation or community recognition.
 - 50

- 1 2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work
2 involving any construction trade, it shall physically include in each subcontract in excess of
3 \$10,000 the provisions of these specifications and the Notice which contains the applicable
4 goals for minority and female participation and which is set forth in the solicitations from which
5 this contract resulted.
6
- 7 3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by
8 the U.S. Department of Labor in the covered area either individually or through an
9 association, its affirmative action obligations on all work in the Plan area (including goals and
10 timetables) shall be in accordance with that Plan for those trades which have unions
11 participating in the Plan. Contractors must be able to demonstrate their participation in and
12 compliance with the provisions of any such Hometown Plan. Each Contractor or
13 Subcontractor participating in an approved Plan is individually required to comply with its
14 obligations under the EEO clause, and to make a good faith effort to achieve each goal under
15 the Plan in each trade in which it has employees. The overall good faith performance by other
16 Contractors or Subcontractors toward a goal in an approved Plan does not excuse any
17 covered Contractor's or Subcontractor's failure to take good faith effort to achieve the Plan
18 goals and timetables.
19
- 20 4. The Contractor shall implement the specific affirmative action standards provided in
21 paragraphs 7a through 7p of this Special Provision. The goals set forth in the solicitation from
22 which this contract resulted are expressed as percentages of the total hours of employment
23 and training of minority and female utilization the Contractor should reasonably be able to
24 achieve in each construction trade in which it has employees in the covered area. Covered
25 construction contractors performing construction work in geographical areas where they do
26 not have a Federal or federally assisted construction contract shall apply the minority and
27 female goals established for the geographical area where the work is being performed. The
28 Contractor is expected to make substantially uniform progress in meeting its goals in each
29 craft during the period specified.
30
- 31 5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with
32 whom the Contractor has a collective bargaining agreement, to refer either minorities or
33 women shall excuse the Contractor's obligations under these specifications, Executive Order
34 11246, or the regulations promulgated pursuant thereto.
35
- 36 6. In order for the nonworking training hours of apprentices and trainees to be counted in
37 meeting the goals, such apprentices and trainees must be employed by the Contractor during
38 the training period, and the Contractor must have made a commitment to employ the
39 apprentices and trainees at the completion of their training, subject to the availability of
40 employment opportunities. Trainees must be trained pursuant to training programs approved
41 by the U.S. Department of Labor.
42
- 43 7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity.
44 The evaluation of the Contractor's compliance with these specifications shall be based upon
45 its effort to achieve maximum results from its action. The Contractor shall document these
46 efforts fully, and shall implement affirmative action steps at least as extensive as the following:
47
 - 48 a. Ensure and maintain a working environment free of harassment, intimidation, and
49 coercion at all sites, and in all facilities at which the Contractor's employees are
50 assigned to work. The Contractor, where possible, will assign two or more women to
51 each construction project. The Contractor shall specifically ensure that all foremen,

1 superintendents, and other on-site supervisory personnel are aware of and carry out
2 the Contractor's obligation to maintain such a working environment, with specific
3 attention to minority or female individuals working at such sites or in such facilities.
4

- 5 b. Establish and maintain a current list of minority and female recruitment sources,
6 provide written notification to minority and female recruitment sources and to
7 community organizations when the Contractor or its unions have employment
8 opportunities available, and maintain a record of the organizations' responses.
9
- 10 c. Maintain a current file of the names, addresses and telephone numbers of each
11 minority and female off-the-street applicant and minority or female referral from a
12 union, a recruitment source or community organization and of what action was taken
13 with respect to each such individual. If such individual was sent to the union hiring
14 hall for referral and was not referred back to the Contractor by the union or, if
15 referred, not employed by the Contractor, this shall be documented in the file with the
16 reason therefor, along with whatever additional actions the Contractor may have
17 taken.
18
- 19 d. Provide immediate written notification to the Director when the union or unions with
20 which the Contractor has a collective bargaining agreement has not referred to the
21 Contractor a minority person or woman sent by the Contractor, or when the
22 Contractor has other information that the union referral process has impeded the
23 Contractor's efforts to meet its obligations.
24
- 25 e. Develop on-the-job training opportunity and/or participate in training programs for the
26 area which expressly include minorities and women, including upgrading programs
27 and apprenticeship and trainee programs relevant to the Contractor's employment
28 needs, especially those programs funded or approved by the U.S. Department of
29 Labor. The Contractor shall provide notice of these programs to the sources
30 compiled under 7b above.
31
- 32 f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions
33 and training programs and requesting their cooperation in assisting the Contractor in
34 meeting its EEO obligations; by including it in any policy manual and collective
35 bargaining agreement; by publicizing it in the company newspaper, annual report,
36 etc.; by specific review of the policy with all management personnel and with all
37 minority and female employees at least once a year; and by posting the company
38 EEO policy on bulletin boards accessible to all employees at each location where
39 construction work is performed.
40
- 41 g.
- 42
- 43 h. Disseminate the Contractor's EEO policy externally by including it in any advertising
44 in the news media, specifically including minority and female news media, and
45 providing written notification to and discussing the Contractor's EEO policy with other
46 Contractors and Subcontractors with whom the Contractor does or anticipates doing
47 business.
48
- 49 i. Direct its recruitment efforts, both oral and written to minority, female and community
50 organizations, to schools with minority and female students and to minority and
51 female recruitment and training organizations serving the Contractor's recruitment

1 area and employment needs. Not later than one month prior to the date for the
2 acceptance of applications for apprenticeship or other training by any recruitment
3 source, the Contractor shall send written notification to organizations such as the
4 above, describing the openings, screening procedures, and tests to be used in the
5 selection process.

- 6
- 7 j. Encourage present minority and female employees to recruit other minority persons
8 and women and where reasonable, provide after school, summer and vacation
9 employment to minority and female youth both on the site and in other areas of a
10 Contractor's work force.
- 11
- 12 k. Validate all tests and other selection requirements where there is an obligation to do
13 so under 41 CFR Part 60-3.
- 14
- 15 l. Conduct, at least annually, an inventory and evaluation of all minority and female
16 personnel for promotional opportunities and encourage these employees to seek or
17 to prepare for, through appropriate training, etc., such opportunities.
- 18
- 19 m. Ensure that seniority practices, job classifications, work assignments and other
20 personnel practices, do not have a discriminatory effect by continually monitoring all
21 personnel and employment related activities to ensure that the EEO policy and the
22 Contractor's obligations under these specifications are being carried out.
- 23
- 24 n. Ensure that all facilities and company activities are nonsegregated except that
25 separate or single-user toilet and necessary changing facilities shall be provided to
26 assure privacy between the sexes.
- 27
- 28 o. Document and maintain a record of all solicitations of offers for subcontracts from
29 minority and female construction contractors and suppliers, including circulation of
30 solicitations to minority and female contractor associations and other business
31 associations.
- 32
- 33 p. Conduct a review, at least annually, of all supervisors' adherence to and performance
34 under the Contractor's EEO policies and affirmative action obligations.
- 35

36 8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling
37 one or more of their affirmative action obligations (7a through 7p). The efforts of a contractor
38 association, joint contractor-union, contractor-community, or other similar group of which the
39 Contractor is a member and participant, may be asserted as fulfilling any one or more of the
40 obligations under 7a through 7p of this Special Provision provided that the Contractor actively
41 participates in the group, makes every effort to assure that the group has a positive impact on
42 the employment of minorities and women in the industry, ensure that the concrete benefits of
43 the program are reflected in the Contractor's minority and female work-force participation,
44 makes a good faith effort to meet its individual goals and timetables, and can provide access
45 to documentation which demonstrate the effectiveness of actions taken on behalf of the
46 Contractor. The obligation to comply, however, is the Contractor's and failure of such a group
47 to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

48

49 9. A single goal for minorities and a separate single goal for women have been established. The
50 Contractor, however, is required to provide equal employment opportunity and to take
51 affirmative action for all minority groups, both male and female, and all women, both minority

1 and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a
2 particular group is employed in substantially disparate manner (for example, even though the
3 Contractor has achieved its goals for women generally, the Contractor may be in violation of
4 the Executive Order if a specific minority group of women is underutilized).

- 5
- 6 10. The Contractor shall not use the goals and timetables or affirmative action standards to
7 discriminate against any person because of race, color, religion, sex, or national origin.
- 8
- 9 11. The Contractor shall not enter into any subcontract with any person or firm debarred from
10 Government contracts pursuant to Executive Order 11246.
- 11
- 12 12. The Contractor shall carry out such sanctions and penalties for violation of these
13 specifications and of the Equal Opportunity Clause, including suspensions, terminations and
14 cancellations of existing subcontracts as may be imposed or ordered pursuant to Executive
15 Order 11246, as amended, and its implementing regulations by the Office of Federal Contract
16 Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties
17 shall be in violation of these specifications and Executive Order 11246, as amended.
- 18
- 19 13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific
20 affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of
21 this Special Provision, so as to achieve maximum results from its efforts to ensure equal
22 employment opportunity. If the Contractor fails to comply with the requirements of the
23 Executive Order, the implementing regulations, or these specifications, the Director shall
24 proceed in accordance with 41 CFR 60-4.8.
- 25
- 26 14. The Contractor shall designate a responsible official to monitor all employment related activity
27 to ensure that the company EEO policy is being carried out, to submit reports relating to the
28 provisions hereof as may be required by the government and to keep records. Records shall
29 at least include, for each employee, their name, address, telephone numbers, construction
30 trade, union affiliation if any, employee identification number when assigned, social security
31 number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of
32 changes in status, hours worked per week in the indicated trade, rate of pay, and locations at
33 which the work was performed. Records shall be maintained in an easily understandable and
34 retrievable form; however, to the degree that existing records satisfy this requirement, the
35 Contractors will not be required to maintain separate records.
- 36
- 37 15. Nothing herein provided shall be construed as a limitation upon the application of other laws
38 which establish different standards of compliance or upon the application of requirements for
39 the hiring of local or other area residents (e.g., those under the Public Works Employment Act
40 of 1977 and the Community Development Block Grant Program).
- 41
- 42 16. Additional assistance for Federal Construction Contractors on contracts administered by
43 Washington State Department of Transportation or by Local Agencies may be found at:

44
45 Washington State Dept. of Transportation
46 Office of Equal Opportunity
47 PO Box 47314
48 310 Maple Park Ave. SE
49 Olympia WA
50 98504-7314
51 Ph: 360-705-7090

4 **1-07.17 Utilities And Similar Facilities**
5 (April 2, 2007)

6 Section 1-07.17 is supplemented with the following:

7
8 Locations and dimensions shown in the Plan for existing facilities are in accordance with available
9 information obtained without uncovering, measuring, or other verification.
10

11 The following addresses and telephone numbers of utility companies known or suspected of
12 having facilities within the project limits are supplied for the Contractor's convenience:
13

14 **Lewis County P.U.D. No. 1**
15 **321 NW Pacific**
16 **Chehalis, WA 98532**
17 **Telephone: (360) 748-9261**
18

19 **Centurylink**
20 **Dioni Cariaga**
21 **451 S. Kaiser Rd.**
22 **Olympia, WA 98502**
23 **Telephone (206) 733-5261**
24 **Cell: (360) 250-2596**
25

26 The Contractor shall call the Underground locate service (800-424-5555) two to ten days prior to
27 construction at each project site. The Contractor shall notify the Utility Owner of any utilities that are
28 within two feet of the planned construction. The above list of Utility Owners may not be complete. As
29 per RCW 19.122 it shall be the Contractors responsibility to contact the owners of utilities known or
30 suspected of having services close to the project site.
31

32 **1-07.18 Public Liability and Property Damage Insurance**
33

34 Delete this section in its entirety, and replace it with the following:
35

36 **1-07.18 Insurance**

37 *(January 4, 2016 APWA GSP)*
38

39 **1-07.18(1) General Requirements**

- 40 A. The Contractor shall procure and maintain the insurance described in all subsections of section 1-
41 07.18 of these Special Provisions, from insurers with a current A. M. Best rating of not less than A-:
42 VII and licensed to do business in the State of Washington. The Contracting Agency reserves the
43 right to approve or reject the insurance provided, based on the insurer's financial condition.
44
- 45 B. The Contractor shall keep this insurance in force without interruption from the commencement of
46 the Contractor's Work through the term of the Contract and for thirty (30) days after the Physical
47 Completion date, unless otherwise indicated below.
48
- 49 C. If any insurance policy is written on a claims made form, its retroactive date, and that of all
50 subsequent renewals, shall be no later than the effective date of this Contract. The policy shall
51 state that coverage is claims made, and state the retroactive date. Claims-made form coverage

1 shall be maintained by the Contractor for a minimum of 36 months following the Completion Date or
2 earlier termination of this Contract, and the Contractor shall annually provide the Contracting
3 Agency with proof of renewal. If renewal of the claims made form of coverage becomes
4 unavailable, or economically prohibitive, the Contractor shall purchase an extended reporting period
5 ("tail") or execute another form of guarantee acceptable to the Contracting Agency to assure
6 financial responsibility for liability for services performed.

- 7
- 8 D. The Contractor's Automobile Liability, Commercial General Liability and Excess or Umbrella
9 Liability insurance policies shall be primary and non-contributory insurance as respects the
10 Contracting Agency's insurance, self-insurance, or self-insured pool coverage. Any insurance, self-
11 insurance, or self-insured pool coverage maintained by the Contracting Agency shall be excess of
12 the Contractor's insurance and shall not contribute with it.
- 13
- 14 E. The Contractor shall provide the Contracting Agency and all additional insureds with written notice
15 of any policy cancellation, within two business days of their receipt of such notice.
- 16
- 17 G. The Contractor shall not begin work under the Contract until the required insurance has been
18 obtained and approved by the Contracting Agency
- 19
- 20 H. Failure on the part of the Contractor to maintain the insurance as required shall constitute a material
21 breach of contract, upon which the Contracting Agency may, after giving five business days' notice
22 to the Contractor to correct the breach, immediately terminate the Contract or, at its discretion,
23 procure or renew such insurance and pay any and all premiums in connection therewith, with any
24 sums so expended to be repaid to the Contracting Agency on demand, or at the sole discretion of
25 the Contracting Agency, offset against funds due the Contractor from the Contracting Agency.
- 26
- 27 I. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the
28 Contract and no additional payment will be made.

29

30 **1-07.18(2) Additional Insured**

31 All insurance policies, with the exception of Workers Compensation, and of Professional Liability and
32 Builder's Risk (if required by this Contract) shall name the following listed entities as additional
33 insured(s) using the forms or endorsements required herein:

- 34 ▪ the Contracting Agency and its officers, elected officials, employees, agents, and volunteers

35

36 The above-listed entities shall be additional insured(s) for the full available limits of liability maintained
37 by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than
38 those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the
39 Contractor pursuant to 1-07.18(4) describes limits lower than those maintained by the Contractor.

40

41 For Commercial General Liability insurance coverage, the required additional insured endorsements
42 shall be at least as broad as ISO forms CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for
43 completed operations.

44

45 **1-07.18(3) Subcontractors**

46 The Contractor shall cause each Subcontractor of every tier to provide insurance coverage that
47 complies with all applicable requirements of the Contractor-provided insurance as set forth herein,
48 except the Contractor shall have sole responsibility for determining the limits of coverage required to be
49 obtained by Subcontractors.

1 The Contractor shall ensure that all Subcontractors of every tier add all entities listed in 1-07.18(2) as
2 additional insureds, and provide proof of such on the policies as required by that section as detailed in
3 1-07.18(2) using an endorsement as least as broad as ISO CG 20 10 10 01 for ongoing operations and
4 CG 20 37 10 01 for completed operations.

5
6 Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency
7 evidence of insurance and copies of the additional insured endorsements of each Subcontractor of
8 every tier as required in 1-07.18(4) Verification of Coverage.

9 10 **1-07.18(4) Verification of Coverage**

11 The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements
12 for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the
13 signed Contract for the work. Failure of Contracting Agency to demand such verification of coverage
14 with these insurance requirements or failure of Contracting Agency to identify a deficiency from the
15 insurance documentation provided shall not be construed as a waiver of Contractor's obligation to
16 maintain such insurance.

17
18 Verification of coverage shall include:

- 19 1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.
- 20 2. Copies of all endorsements naming Contracting Agency and all other entities listed in 1-07.18(2) as
21 additional insured(s), showing the policy number. The Contractor may submit a copy of any blanket
22 additional insured clause from its policies instead of a separate endorsement.
- 23 3. Any other amendatory endorsements to show the coverage required herein.
- 24 4. A notation of coverage enhancements on the Certificate of Insurance shall not satisfy these
25 requirements – actual endorsements must be submitted.

26
27 Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency a full
28 and certified copy of the insurance policy(s). If Builders Risk insurance is required on this Project, a full
29 and certified copy of that policy is required when the Contractor delivers the signed Contract for the
30 work.

31 32 **1-07.18(5) Coverages and Limits**

33 The insurance shall provide the minimum coverages and limits set forth below. Contractor's
34 maintenance of insurance, its scope of coverage, and limits as required herein shall not be construed to
35 limit the liability of the Contractor to the coverage provided by such insurance, or otherwise limit the
36 Contracting Agency's recourse to any remedy available at law or in equity.

37
38 All deductibles and self-insured retentions must be disclosed and are subject to approval by the
39 Contracting Agency. The cost of any claim payments falling within the deductible or self-insured
40 retention shall be the responsibility of the Contractor. In the event an additional insured incurs a liability
41 subject to any policy's deductibles or self-insured retention, said deductibles or self-insured retention
42 shall be the responsibility of the Contractor.

43 44 **1-07.18(5)A Commercial General Liability**

45 Commercial General Liability insurance shall be written on coverage forms at least as broad as ISO
46 occurrence form CG 00 01, including but not limited to liability arising from premises, operations, stop
47 gap liability, independent contractors, products-completed operations, personal and advertising injury,
48 and liability assumed under an insured contract. There shall be no exclusion for liability arising from
49 explosion, collapse or underground property damage.

1
2 The Commercial General Liability insurance shall be endorsed to provide a per project general
3 aggregate limit, using ISO form CG 25 03 05 09 or an equivalent endorsement.

4
5 Contractor shall maintain Commercial General Liability Insurance arising out of the Contractor's
6 completed operations for at least three years following Substantial Completion of the Work.

7
8 Such policy must provide the following minimum limits:

9	\$1,000,000	Each Occurrence
10	\$2,000,000	General Aggregate
11	\$2,000,000	Products & Completed Operations Aggregate
12	\$1,000,000	Personal & Advertising Injury each offence
13	\$1,000,000	Stop Gap / Employers' Liability each accident

14
15 **1-07.18(5)B Automobile Liability**

16 Automobile Liability shall cover owned, non-owned, hired, and leased vehicles; and shall be written on
17 a coverage form at least as broad as ISO form CA 00 01. If the work involves the transport of
18 pollutants, the automobile liability policy shall include MCS 90 and CA 99 48 endorsements.

19
20 Such policy must provide the following minimum limit:

21	\$1,000,000	Combined single limit each accident
----	-------------	-------------------------------------

22
23 **1-07.18(5)C Workers' Compensation**

24 The Contractor shall comply with Workers' Compensation coverage as required by the Industrial
25 Insurance laws of the State of Washington.

26
27 **1-07.23, PUBLIC CONVENIENCE AND SAFETY**

28
29 **1-07.23(1) Construction Under Traffic**

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

31
32 **(February 3, 2020)**

33 **Work Zone Clear Zone**

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

39
40 During nonworking hours equipment or materials shall not be within the WZCZ unless
41 they are protected by permanent guardrail or temporary concrete barrier. The use of
42 temporary concrete barrier shall be permitted only if the Engineer approves the
43 installation and location.

44
45 During actual hours of work, unless protected as described above, only materials
46 absolutely necessary to construction shall be within the WZCZ and only construction
47 vehicles absolutely necessary to construction shall be allowed within the WZCZ or
48 allowed to stop or park on the shoulder of the roadway.

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

3
4 Deviation from the above requirements shall not occur unless the Contractor has
5 requested the deviation in writing and the Engineer has provided written approval.

6
7 Minimum WZCZ distances are measured from the edge of traveled way and will be
8 determined as follows:

9

Regulatory Posted Speed	Distance From Traveled Way (Feet)
35 mph or less	10
40 mph	15
45 to 50 mph	20
55 to 60 mph	30
65 mph or greater	35

10
11 **Minimum Work Zone Clear Zone Distance**

12
13 **1-08, PROSECUTION AND PROGRESS**

14
15 **1-08.0 Preliminary Matters**
16 (May 25, 2006 APWA GSP)

17 Add the following new section:

18
19
20 **1-08.0(1) Preconstruction Conference**
21 (October 10, 2008 APWA GSP)

22
23 Prior to the Contractor beginning the work, a preconstruction conference will be held between the
24 Contractor, the Engineer and such other interested parties as may be invited. The purpose of the
25 preconstruction conference will be:

- 26
27
28
29
30
31
32
33
34
1. To review the initial progress schedule;
 2. To establish a working understanding among the various parties associated or affected by the work;
 3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.;
 4. To establish normal working hours for the work;
 5. To review safety standards and traffic control; and
 6. To discuss such other related items as may be pertinent to the work.

35 The Contractor shall prepare and submit at the preconstruction conference the following:

- 36
37
38
1. A breakdown of all lump sum items;
 2. A preliminary schedule of working drawing submittals; and
 3. A list of material sources for approval if applicable.

1
2 Add the following new section:
3

4 **1-08.0(2) Hours of Work**
5 *(December 8, 2014 APWA GSP)*
6

7 Except in the case of emergency or unless otherwise approved by the Engineer, the normal working
8 hours for the Contract shall be any consecutive 8-hour period between 7:00 a.m. and 6:00 p.m.
9 Monday through Friday, exclusive of a lunch break. If the Contractor desires different than the
10 normal working hours stated above, the request must be submitted in writing prior to the
11 preconstruction conference, subject to the provisions below. The working hours for the Contract
12 shall be established at or prior to the preconstruction conference.
13

14 All working hours and days are also subject to local permit and ordinance conditions (such as noise
15 ordinances).
16

17 If the Contractor wishes to deviate from the established working hours, the Contractor shall submit
18 a written request to the Engineer for consideration. This request shall state what hours are being
19 requested, and why. Requests shall be submitted for review no later than 3 working days prior to
20 the day(s) the Contractor is requesting to change the hours.
21

22 If the Contracting Agency approves such a deviation, such approval may be subject to certain other
23 conditions, which will be detailed in writing. For example:

- 24 1. On non-Federal aid projects, requiring the Contractor to reimburse the Contracting Agency
25 for the costs in excess of straight-time costs for Contracting Agency representatives who
26 worked during such times. (The Engineer may require designated representatives to be
27 present during the work. Representatives who may be deemed necessary by the Engineer
28 include, but are not limited to: survey crews; personnel from the Contracting Agency's
29 material testing lab; inspectors; and other Contracting Agency employees or third party
30 consultants when, in the opinion of the Engineer, such work necessitates their presence.)
- 31 2. Considering the work performed on Saturdays, Sundays, and holidays as working days with
32 regard to the contract time.
- 33 3. Considering multiple work shifts as multiple working days with respect to contract time even
34 though the multiple shifts occur in a single 24-hour period.
- 35 4. If a 4-10 work schedule is requested and approved the non working day for the week will be
36 charged as a working day.
- 37 5. If Davis Bacon wage rates apply to this Contract, all requirements must be met and recorded
38 properly on certified payroll

1
2 **1-08.1 Subcontracting**
3 **(December 19, 2019 APWA GSP, Option A)**

4
5 Prior to any subcontractor or lower tier subcontractor beginning work, the Contractor shall submit to the
6 Engineer a certification (WSDOT Form 420-004) that a written agreement between the Contractor and
7 the subcontractor or between the subcontractor and any lower tier subcontractor has been executed.
8 This certification shall also guarantee that these subcontract agreements include all the documents
9 required by the Special Provision Federal Agency Inspection.

10
11 A Subcontractor or lower tier Subcontractor will not be permitted to perform any work under the contract
12 until the following documents have been completed and submitted to the Engineer:

- 13
14 1. Request to Sublet Work (WSDOT Form 421-012), and
15 2. Contractor and Subcontractor or Lower Tier Subcontractor Certification for Federal-aid Projects
16 (WSDOT Form 420-004).

17
18 The Contractor shall submit to the Engineer a completed Monthly Retainage Report (WSDOT Form
19 272-065) within 15 calendar days after receipt of every monthly progress payment until every
20 Subcontractor and lower tier Subcontractor's retainage has been released.

21
22 The ninth paragraph, beginning with "On all projects, ..." is revised to read:

23
24 The Contractor shall certify to the actual amount received from the Contracting Agency and
25 amounts paid to all firms that were used as Subcontractors, lower tier subcontractors,
26 manufacturers, regular dealers, or service providers on the Contract. This includes all
27 Disadvantaged, Minority, Small, Veteran or Women's Business Enterprise firms. This Certification
28 shall be submitted to the Engineer on a monthly basis each month between Execution of the
29 Contract and Physical Completion of the Contract using the application available at:
30 <https://wsdot.diversitycompliance.com>. A monthly report shall be submitted for every month
31 between Execution of the Contract and Physical Completion regardless of whether payments were
32 made or work occurred.

33
34 **1-08.3(2)A Type A Progress Schedule**
35 *(March 13, 2012 APWA GSP)*

36
37 Revise this section to read:

38
39 The Contractor shall submit ~~3~~ copies of a Type A Progress Schedule no later than at the
40 preconstruction conference, or some other mutually agreed upon submittal time. The schedule may
41 be a critical path method (CPM) schedule, bar chart, or other standard schedule format. Regardless
42 of which format used, the schedule shall identify the critical path. The Engineer will evaluate the
43 Type A Progress Schedule and approve or return the schedule for corrections within 15 calendar
44 days of receiving the submittal.

45
46 **Contractor's Weekly Activities**
47 **(*****)**

48
49 The Contractor shall submit a weekly schedule to the Engineer (prior to the beginning of each work
50 week). The schedule shall indicate the Contractor's proposed activities for the forthcoming week

1 along with the hours of work. This will permit the Engineer to more effectively provide the contract
2 engineering and inspection for the Contractor's operations.

3
4 The written weekly activity schedule shall be submitted to the Engineer or a designated assistant
5 before the end of the last shift on the next to the last working day of the week preceding the
6 indicated activities, or other mutually agreeable time.

7
8 If the Contractor proceeds with work not indicated on the weekly activity schedule, or in a
9 sequence differing from that which has been shown on the schedule, the Engineer may require the
10 Contractor to delay unscheduled activities until they are included on a subsequent weekly activity
11 schedule.

12
13 Separately, and in addition to the weekly schedule, the Contractor shall submit weekly a summary
14 of project activities to the Engineer. The summary of activities shall include a report of the nature
15 and progress of each of the major activities that were advanced on the project within the previous
16 week.

17
18 It shall be sufficiently detailed that a composite history of the project develops. The locations and
19 approximate quantity guardrail and traffic control work shall be reported. Unusual activity, and
20 conditions or events that may affect the course of the project shall also be reported.

21 22 **1-08.4 Prosecution of Work**

23
24 Delete this section and replace it with the following:

25 26 **1-08.4 Notice to Proceed and Prosecution of Work** 27 *(July 23, 2015 APWA GSP)*

28
29 Notice to Proceed will be given after the contract has been executed and the contract bond and
30 evidence of insurance have been approved and filed by the Contracting Agency. The Contractor
31 shall not commence with the work until the Notice to Proceed has been given by the Engineer. The
32 Contractor shall commence construction activities on the project site within ten days of the Notice to
33 Proceed Date, unless otherwise approved in writing. The Contractor shall diligently pursue the
34 work to the physical completion date within the time specified in the contract. Voluntary shutdown
35 or slowing of operations by the Contractor shall not relieve the Contractor of the responsibility to
36 complete the work within the time(s) specified in the contract.

37
38 When shown in the Plans, the first order of work shall be the installation of high visibility fencing to
39 delineate all areas for protection or restoration, as described in the Contract. Installation of high
40 visibility fencing adjacent to the roadway shall occur after the placement of all necessary signs and
41 traffic control devices in accordance with 1-10.1(2). Upon construction of the fencing, the Contractor
42 shall request the Engineer to inspect the fence. No other work shall be performed on the site until
43 the Contracting Agency has accepted the installation of high visibility fencing, as described in the
44 Contract.

45 46 **1-08.5 Time for Completion** 47 *(November 30, 2018 APWA GSP, Option B)*

48
49 Revise the third and fourth paragraphs to read:

1 Contract time shall begin on the first working day following the \$\$14 \$\$ calendar day after the
2 Notice to Proceed date. If the Contractor starts work on the project at an earlier date, then contract
3 time shall begin on the first working day when onsite work begins.

4
5 Each working day shall be charged to the contract as it occurs, until the contract work is physically
6 complete. If substantial completion has been granted and all the authorized working days have
7 been used, charging of working days will cease. Each week the Engineer will provide the Contractor
8 a statement that shows the number of working days: (1) charged to the contract the week before;
9 (2) specified for the physical completion of the contract; and (3) remaining for the physical
10 completion of the contract. The statement will also show the nonworking days and any partial or
11 whole day the Engineer declares as unworkable. Within 10 calendar days after the date of each
12 statement, the Contractor shall file a written protest of any alleged discrepancies in it. To be
13 considered by the Engineer, the protest shall be in sufficient detail to enable the Engineer to
14 ascertain the basis and amount of time disputed. By not filing such detailed protest in that period,
15 the Contractor shall be deemed as having accepted the statement as correct. If the Contractor is
16 approved to work 10 hours a day and 4 days a week (a 4-10 schedule) and the fifth day of the week
17 in which a 4-10 shift is worked would ordinarily be charged as a working day, then the fifth day of
18 that week will be charged as a working day whether or not the Contractor works on that day.

19
20 Revise the sixth paragraph to read:

21
22 The Engineer will give the Contractor written notice of the completion date of the contract after all
23 the Contractor's obligations under the contract have been performed by the Contractor. The
24 following events must occur before the Completion Date can be established:

- 25 1. The physical work on the project must be complete; and
- 26 2. The Contractor must furnish all documentation required by the contract and required by law, to
27 allow the Contracting Agency to process final acceptance of the contract. The following
28 documents must be received by the Project Engineer prior to establishing a completion date:
 - 29 a. Certified Payrolls (per Section 1-07.9(5)).
 - 30 b. Material Acceptance Certification Documents
 - 31 c. Monthly Reports of Amounts Credited as DBE Participation, as required by the Contract
32 Provisions.
 - 33 d. Final Contract Voucher Certification
 - 34 e. Copies of the approved "Affidavit of Prevailing Wages Paid" for the Contractor and all
35 Subcontractors
 - 36 f. A copy of the Notice of Termination sent to the Washington State Department of Ecology
37 (Ecology); the elapse of 30 calendar days from the date of receipt of the Notice of
38 Termination by Ecology; and no rejection of the Notice of Termination by Ecology. This
39 requirement will not apply if the Construction Stormwater General Permit is transferred back
40 to the Contracting Agency in accordance with Section 8-01.3(16).
 - 41 g. Property owner releases per Section 1-07.24

42
43 (*****)

44 This project shall be physically completed within *** 50 *** working days.

45 46 **1-08.9 Liquidated Damages**

47 Section 1-08.9 is supplemented with the following:

48
49 (September 8, 2020)

Cousins Road MP 3.15 Culvert Replacement Project
CMP-1502

1 Liquidated damages in the amount of *** \$\$ 1,000.00 \$\$ *** per working day will be assessed for
2 failure to physically complete the Contract within the physical completion time specified.
3

4 **1-09, MEASUREMENT AND PAYMENT**

5 **1-09.7 Mobilization**

6 Section 1-09.7 is supplemented with the following:
7

8
9 (*****)

10 The Contracting Agency has secured a temporary staging site at a commercial rock pit near the
11 project site for use during project construction. The area to be used is depicted in the Staging
12 Area description and map (see Appendix F). The Contractor shall restore this site to the condition
13 it was found or as directed by the Engineer. The Contractor shall provide landowner/commercial
14 vehicle access through the staging area at all times as per the attached landowner agreement.
15

16 **1-09.9 Payments**

17 *(March 13, 2012 APWA GSP)*
18

19 Delete the first four paragraphs and replace them with the following:
20

21 The basis of payment will be the actual quantities of Work performed according to the Contract and
22 as specified for payment.
23

24 The Contractor shall submit a breakdown of the cost of lump sum bid items at the Preconstruction
25 Conference, to enable the Project Engineer to determine the Work performed on a monthly basis.
26 A breakdown is not required for lump sum items that include a basis for incremental payments as
27 part of the respective Specification. Absent a lump sum breakdown, the Project Engineer will make
28 a determination based on information available. The Project Engineer's determination of the cost of
29 work shall be final.
30

31 Progress payments for completed work and material on hand will be based upon progress
32 estimates prepared by the Engineer. A progress estimate cutoff date will be established at the
33 preconstruction conference.
34

35 The initial progress estimate will be made not later than 30 days after the Contractor commences
36 the work, and successive progress estimates will be made every month thereafter until the
37 Completion Date. Progress estimates made during progress of the work are tentative, and made
38 only for the purpose of determining progress payments. The progress estimates are subject to
39 change at any time prior to the calculation of the final payment.
40

41 The value of the progress estimate will be the sum of the following:

- 42 1. Unit Price Items in the Bid Form — the approximate quantity of acceptable units of work
43 completed multiplied by the unit price.
- 44 2. Lump Sum Items in the Bid Form — based on the approved Contractor's lump sum
45 breakdown for that item, or absent such a breakdown, based on the Engineer's determination.
- 46 3. Materials on Hand — 100 percent of invoiced cost of material delivered to Job site or other
47 storage area approved by the Engineer.

- 1 4. Change Orders — entitlement for approved extra cost or completed extra work as determined
2 by the Engineer.
3

4 Progress payments will be made in accordance with the progress estimate less:

- 5 1. Retainage per Section 1-09.9(1), on non FHWA-funded projects;
6 2. The amount of progress payments previously made; and
7 3. Funds withheld by the Contracting Agency for disbursement in accordance with the Contract
8 Documents.
9

10 Progress payments for work performed shall not be evidence of acceptable performance or an
11 admission by the Contracting Agency that any work has been satisfactorily completed. The
12 determination of payments under the contract will be final in accordance with Section 1-05.1.
13

14 **1-09.9(1) Retainage**

15 Section 1-09.9(1) is supplemented with the following:
16

17 **Retainage of 5 percent shall be as required by RCW 60.28.011.**
18

19 **1-09.11 Disputes and Claims**

20 **1-09.11(3) Time Limitation and Jurisdiction**

21 *(November 30, 2018 APWA GSP)*
22
23

24 Revise this section to read:
25

26 For the convenience of the parties to the Contract it is mutually agreed by the parties that any
27 claims or causes of action which the Contractor has against the Contracting Agency arising from
28 the Contract shall be brought within 180 calendar days from the date of final acceptance (Section 1-
29 05.12) of the Contract by the Contracting Agency; and it is further agreed that any such claims or
30 causes of action shall be brought only in the Superior Court of the county where the Contracting
31 Agency headquarters is located, provided that where an action is asserted against a county, RCW
32 36.01.050 shall control venue and jurisdiction. The parties understand and agree that the
33 Contractor's failure to bring suit within the time period provided, shall be a complete bar to any such
34 claims or causes of action. It is further mutually agreed by the parties that when any claims or
35 causes of action which the Contractor asserts against the Contracting Agency arising from the
36 Contract are filed with the Contracting Agency or initiated in court, the Contractor shall permit the
37 Contracting Agency to have timely access to any records deemed necessary by the Contracting
38 Agency to assist in evaluating the claims or action.
39

40 **1-09.13 Claims Resolution**

41 **1-09.13(3) Claims \$250,000 or Less**

42 *(October 1, 2005 APWA GSP)*
43
44

45 Delete this Section and replace it with the following:
46

47 The Contractor and the Contracting Agency mutually agree that those claims that total \$250,000 or
48 less, submitted in accordance with Section 1-09.11 and not resolved by nonbinding ADR

1 processes, shall be resolved through litigation unless the parties mutually agree in writing to resolve
2 the claim through binding arbitration.

3
4 **1-09.13(3)A Administration of Arbitration**
5 *(November 30, 2018 APWA GSP)*

6
7 Revise the third paragraph to read:

8
9 The Contracting Agency and the Contractor mutually agree to be bound by the decision of the
10 arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior
11 Court of the county in which the Contracting Agency's headquarters is located, provided that where
12 claims subject to arbitration are asserted against a county, RCW 36.01.050 shall control venue and
13 jurisdiction of the Superior Court. The decision of the arbitrator and the specific basis for the
14 decision shall be in writing. The arbitrator shall use the Contract as a basis for decisions.

15
16 **1-09.13(4) Claims in Excess of \$250,000**

17
18 Section 1-09.13(4) is hereby deleted and replaced with the following:

19
20 **CLAIMS RESOLUTION**

21 **(*****)**

22
23 Any dispute arising from the contract shall be processed in accordance with Section 1-04.5 and
24 Sections 1-09.11 through 1-09.13(1) of the Standard Specifications. The provisions of these
25 sections must be complied with in full as a condition precedent to the Contractor's right to seek
26 claims resolution through arbitration or litigation. The Contractor may file with the Engineer a
27 request for binding arbitration; the Engineer's decision regarding that request shall be final and
28 unappealable. Nothing in this paragraph affects or tolls the limitations period as set forth in
29 Section 1-09.11(3) of the Standard Specifications. However, if the Contractor files a lawsuit raising
30 any claim(s) arising from the contract, the parties shall, if the Engineer so directs, submit such
31 claim(s) to binding arbitration, subject to the rights of any party thereto to file with the Lewis County
32 Superior Court motions to dismiss or for summary judgment at any time. In any binding arbitration
33 proceeding, the provisions of subparagraphs (a) and (b) shall apply.

- 34
35 a) Unless the parties otherwise agree, all disputes subject to arbitration shall be heard in
36 a single arbitration hearing, and then only after completion of the contract. The
37 parties shall be bound by Ch. 7.04 RCW generally, and by the arbitration rules
38 hereafter stated, and shall, for purposes of administration of the arbitration, comply
39 where applicable with the 1994 Lewis County Superior Court Mandatory Arbitration
40 Rules (LMAR) sections 1.1(b), 1.3, 2.3, 3.1, 3.2(a) and (b), 5.1, 5.2 (except as
41 referenced to MAR 5.2), 5.3, 6.1, 6.2 (including the referenced MAR 6.2), and 8.6.
42 There shall be one arbitrator, to be chosen by mutual agreement of the parties from
43 the list provided by the Lewis County Superior Court Administrator. If the parties
44 cannot agree on a person to serve as arbitrator, the matter shall be submitted for
45 appointment of an arbitrator under LMAR 2.3. The arbitrator shall determine the
46 scope and extent of discovery, except that the Contractor shall provide and update
47 the information required by Section 1-09.11(2) of the Standard Specifications.
48 Additionally, each party shall file a statement of proof with the other party and the
49 arbitrator at least 20 calendar days before the scheduled arbitration hearing. The
50 statement of proof shall include:

1. The name, business address and contact telephone number of each witness who will testify at the hearing.
2. For each witness to be offered as an expert, a statement of the subject matter and a statement of the facts, resource materials (not protected by privilege) and learned treatises upon which the expert is expected to testify and render an opinion(s), synopsis of the basis for such opinion(s), and a resume of the expert detailing his/her qualifications as an expert and pursuant to rendering such opinion(s). A list of documents and other exhibits the party intends to offer in evidence at the arbitration hearing. Either party may request a copy of any document listed, and a copy or description of any other exhibit listed. The party receiving the request shall provide the copies or description within five (5) calendar days. The parties or arbitrator may subpoena parties in accordance with the Superior Court Mandatory Arbitration Rules (MAR) of Washington, Rule 4.3, and witness fees and costs shall be provided for under Rule 6.4, thereof. The arbitrator may permit a party to call a witness or offer a document or other exhibit not included in the statement of proof only upon a showing of good cause.

b) The arbitration hearing shall be conducted at a location within Lewis County, Washington. The extent of application of the Washington Rules of Evidence shall be determined in the exercise of sound discretion of the arbitrator, except that such Rules should be liberally construed in order to promote justice. The parties should stipulate to the admission of evidence when there is no genuine issue as to its relevance or authenticity. The decision of the arbitrator and the specific grounds for the decision shall be in writing. The arbitrator shall use the contract as a basis for its decisions. The County and the Contractor agree to be bound by the decision of the arbitrator, subject to such remedies as are provided in Ch. 7.04 RCW. Judgment upon the award rendered by the arbitrator shall be entered as judgment before the presiding judge of the Superior Court for Lewis County. Each party shall bear its own costs in connection with the arbitration. Each party shall pay one-half of the arbitrator's fees and expenses.

1-10, TEMPORARY TRAFFIC CONTROL

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

1 Evergreen Safety Council
2 12545 135th Ave. NE
3 Kirkland, WA 98034-8709
4 1-800-521-0778

5
6 The American Traffic Safety Services Association
7 15 Riverside Parkway, Suite 100
8 Fredericksburg, Virginia 22406-1022
9 Training Dept. Toll Free (877) 642-4637
10 Phone: (540) 368-1701

11
12 **1-10.2(2) Traffic Control Plans**

13 (*****)

14 Section 1-10.2(2) is supplemented with the following:

15
16 The Contracting Agency has attached a Traffic Control Plan in the Contract Plans for an alternating
17 one-way, signal controlled, traffic detour during bridge installation on this project. Cousins Road
18 shall be open to traffic (alternating traffic signal controlled one-way or approved alternate) during
19 all phases of Construction. Alternating one-way traffic shall be maintained by the Contractor as
20 shown in the Traffic Control Plan, or an approved alternative plan submitted by the Contractor. All
21 signs and traffic control devices required for this project (as shown on the Traffic Control Plan)
22 shall be the Contractors responsibility to furnish, erect, maintain, and remove immediately after
23 construction. The Contractor shall adopt the Traffic Control Plan in writing to the Engineer or
24 furnish a new plan for review. The Contractor shall conduct his operations on the roadway in a
25 manner that one-way traffic is maintained at all times, unless otherwise directed by the Engineer.

26
27 If determined by the Engineer that additional signing (not shown on the Traffic Control Plan) is
28 needed, it shall be the Contractors responsibility to furnish, erect, and maintain these additional
29 signs at no cost to the Contracting Agency.

30
31 **1-10.2(3) Conformance to Established Standards**

32 (*****)

33 Section 1-10.2(3) is supplemented with the following:

34
35 The latest revision of the WSDOT Manual M54-44 "Work Zone Traffic Control Guidelines"
36 (WZTCG) is hereby made a part of this contract by reference as if contained fully herein.

37
38 **1-10.4 Measurement**

39
40 **1-10.4(1) Lump Sum Bid for Project (No Unit Items)**

41 Section 1-10.4(1) is supplemented with the following:

42
43 (August 2, 2004)

44 The proposal contains the item "Project Temporary Traffic Control," lump sum. The provisions
45 of Section 1-10.4(1) shall apply.

46
47 **DIVISION 2**
48 **EARTHWORK**

49
50 **2-01, CLEARING, GRUBBING, AND ROADSIDE CLEANUP**

1
2 **2-01.1 Description**
3 (March 13, 1995)

4
5 Section 2-01.1 is supplemented with the following:

6
7 Clearing and grubbing on this project shall be performed within the following limits:

8
9 The area staked in the field by the Engineer prior to bid opening.
10

11 **2-02, REMOVAL OF STRUCTURES AND OBSTRUCTIONS**

12 **2-02.1 Description**

13 Section 2-02.1 is supplemented with the following:

14
15 (*****)

16 This work shall consist of removing miscellaneous items.
17

18 **2-02.3 Construction Requirements**

19 Section 2-02.3 is supplemented with the following:

20
21 **Removing Miscellaneous Items**

22
23 (*****)

24 The following miscellaneous items shall be removed and disposed of:

25
26 *** Raised or recessed pavement markers ***

27 *** Flexible Guide Post ***

28 *** 6'x4' CMP Culvert ***

29 *** Barb Wire Fence ***
30

31
32 **2-02.4 Measurement**

33 Section 2-02.4 is supplemented with the following:

34
35 No specific unit of measurement will apply to the lump sum item of "Removal of Structure and
36 Obstruction". Traffic signs to be adjusted or moved shall be considered incidental to this bid item. All
37 signs shall remain the property of Lewis County.
38

39 **2-02.5 Payment**

40 Section 2-02.5 is supplemented with the following:

41
42 Payment will be made in accordance with Section 1-04.1, for the following Bid item when it is included
43 in the Proposal:

44
45 "Removal of Structures and Obstructions", lump sum.
46

47 If pavements, sidewalks, curbs, or gutters lie within an excavation area, their removal will be paid
48 for as part of the quantity removed in excavation.
49
50

1 **2-03, ROADWAY EXCAVATION AND EMBANKMENT**

2 **(*****)**

3 **2-03.3 Construction Requirements**

4
5 **2-03.3(3) Excavation Below Subgrade**

6 Section 2-03.3(3) is supplemented with the following:

7
8 **Rock Excavation**

9 The Contracting Agency has entered a bid item for “Rock Excavation” per force account as per
10 Section 1-09.6 when the Contractor encounters bedrock during Structural Excavation Class A,
11 Channel Excavation or Roadway Excavation to achieve designed elevations. Rock Excavation
12 (Force Account) work shall begin after all soil is completely removed from planned excavation
13 areas. No explosives may be used for this project.

14
15 **2-03.3(7) Disposal of Surplus Material**

16 Section 2-03.3(7) is supplemented with the following:

17
18 No waste site has been provided to the Contractor for the disposal of unsuitable and excess
19 excavation material. The Contractor shall make his own arrangement to acquire a site for the
20 disposal of unsuitable and excess excavation material.

21
22 The Contractor shall make his own arrangements to acquire a site and obtain all environmental
23 permits required for the disposal of the unsuitable excavation material. The Contracting Agency
24 must approve the waste site prior to it being utilized. Approval cannot be given until the
25 Contracting Agency receives copies of all environmental approvals.

26
27 All costs for acquiring a disposal site and for the loading, hauling, and disposal of unsuitable and
28 excess excavation material shall be considered incidental to the project and be included in the unit
29 contract prices for the various items of work therein.

30
31 **2-03.3(14)C Compacting Earth Embankments**

32 Section 2-03.3(14)C is supplemented with the following:

33
34 The Contractor shall fill the existing stream alignment with earth embankment material sourced
35 from channel excavation. Final grading shall be as indicated in the Contract Plans with all grading
36 sloped towards the new stream channel to eliminate low places where water could pool.

37
38 **2-03.3(14)M Excavation of Channels and Ditches**

39 Section 2-03.3(14)M is supplemented with the following:

40
41 The Contractor shall protect existing vegetation and channel slopes outside the stream re-grade
42 areas. All excavation and construction activities shall be conducted within the cut limits of the
43 project staked by the Engineer, access roads through areas not designated for clearing shall not
44 be permitted.

45
46 **Temporary Detour Road**

47 The Contractor shall construct the Temporary Bypass Road as shown in the Contract Plans. The
48 Contractor supplied material to construct the Temporary Detour Road shall remain the property of
49 the Contractor after removal. The following is an approximate list of quantities for the temporary
50 detour road:

1		
2	Crushed Surfacing Base Course	83 Ton
3	3" Minus Incl. Haul	125 Ton
4	Construction Geotextile for Separation	311 S.Y.
5	Corrugated Polyethylene Culv. Pipe 18 In. Dia.	45 L.F.
6	Removal of All Temporary Detour Materials	120 C.Y.
7		

8 After the bridge/road is constructed to a point when traffic can be returned, the Contractor may
9 request to salvage and re-use Temporary Detour Road crushed surfacing and the corrugated
10 polyethylene culvert pipe material for construction of guardrail landings. Approval will be
11 conditional upon recovery of clean crushed surfacing material and no damage to the temporary
12 pipe.

13
14 **2-03.4 Measurement**

15 Section 2-03.4 is supplemented with the following:

16
17 (March 13, 1995)

18 Only one determination of the original ground elevation will be made on this project. Measurement
19 for roadway excavation and embankment will be based on the original ground elevations recorded
20 previous to the award of this contract. Control stakes will be set during construction to provide the
21 Contractor with all essential information for the construction of excavation and embankments.

22
23 Earthwork quantities will be computed, either manually or by means of electronic data processing
24 equipment, by use of the average end area method or by the finite element analysis method
25 utilizing digital terrain modeling techniques.

26
27 Copies of the ground cross-section notes will be available for the bidder's inspection, before the
28 opening of bids, at the County Engineer's office.

29
30 Upon award of the contract, copies of the original ground cross-sections will be furnished to the
31 successful bidder on request to the Project Engineer.

32
33 (*****)

34 The "Roadway Excavation Incl. Haul" bid item shall include the removal and disposal of roadway
35 excavation material and approximately 1,000 S.Y. of asphalt material (existing BST). Roadway
36 Excavation quantities will be measured and paid in accordance with the requirements of Sections
37 2-03.4 and 2-03.5. Roadway Excavation Incl. Haul shall include unsuitable material within 2-feet of
38 the planned subgrade surface. Additional Roadway Excavation Incl. Haul (unsuitable material)
39 shall be field measured after planned subgrade excavation is completed, as directed by the
40 Engineer.

41
42 "Embankment Compaction" of native material stockpiled or deposited directly for existing channel
43 re-contouring and blending into existing ground contours shall be considered incidental to and
44 included in payment for other items of Work in the Contract.

45
46 No specific unit of measurement will apply to "Temporary Detour Road".

47
48 **2-03.5 Payment**

49 Section 2-03.4 is supplemented with the following:
50

1 Backfilling the existing stream channel with native material excavated to from the newly
2 constructed stream channel shall be considered incidental to and included in payment for other
3 items of Work in the Contract.

4
5 (*****)

6 “Temporary Detour Road”, lump sum.

7 The lump sum contract price for “Temporary Detour Road” shall be full payment to perform the
8 work as shown in the Contract Plans, including excavation, construction geotextile for
9 separation, 3” minus including haul, crushed surfacing base course, temporary 18-inch diam.
10 culvert pipe, maintaining the temporary detour road, and completely removing the detour road.
11
12

13 **2-09, STRUCTURE EXCAVATION**

14 **2-09.1 Description**

15 (*****)

16 Section 2-09.1 is supplemented with the following:
17
18

19 **Temporary Stream Diversion for Structure & Channel Excavation**

20 Temporary Stream Diversion for Structure & Channel Excavation work shall consist of installation and
21 maintenance of stream diversion/bypass for the creek during all in-water construction. Temporary
22 Stream Diversion for Structure Excavation shall be conducted in a manner that does not violate State
23 Water Quality Standards. All work in and adjacent to the stream shall be accomplished in strict
24 accordance with the requirements of the WDFW HPA. This work also consists of adjustments to the
25 location of the dewatering systems as deemed necessary by the Contractor to complete the project and
26 comply with all environmental regulations, permits, specifications and special provisions for this project.
27

28 **The Contracting Agency has depicted a Temporary Stream Diversion Plan on Sheet 4 of 15 in the**
29 **Contract Plans for the Contractor’s approval. The Contractor may submit a different plan as outlined**
30 **below for approval by the Engineer at their discretion.**

31
32 Upon completion of in-water construction, the Contractor shall promptly remove all stream diversion
33 materials and equipment as directed by the Engineer. Disposal of surplus material and debris
34 remaining from dewatering operations shall be incidental to and included in this item of work. The
35 Stream Diversion Plan is an integral component of stormwater management for this site. If work is
36 required above the ordinary high water mark after the in-water work window has expired, additional
37 BMPs not shown in the Contract Plans shall be proposed by the Contractor for approval by the
38 Engineer. BMPs installed and maintained after the in-water work window has expired shall control
39 stormwater generated from the site during final construction activities. Payment for BMPs shall be per
40 Contract Unit Bid prices or via Section 1-09.
41

42 **Minimum Stream Flows**

43 At all times of operation the Contractor’s temporary stream diversion shall be designed to convey the
44 following minimum flow rate of water in cubic feet per second:

45
46 *** 1.5 CFS***
47

48 During all phases of the diversion/bypass installation and decommissioning, the Contractor shall
49 maintain flows downstream of the project site.
50

1 A Contingency System is required for this Project. The capacity of the combined temporary stream
2 diversion system and the Contingency System shall be designed to convey the following minimum flow
3 rate of water in cubic feet per second:

4
5 *** \$\$ 3.9 CFS \$\$ ***
6
7

8 **Submittals**

9 One week prior to beginning stream diversion/bypass and dewatering work, the Contractor shall submit
10 the following in writing to the Engineer for approval:

- 11
12 1. Plans for the installation and commissioning of the dewatering system throughout the duration of
13 the structure excavation.
14
15 a) Drawings for Information: Show arrangement, locations, and details of temporary
16 diversion structure, pump locations and discharge line, discharge point, temporary
17 erosion control, and removal of stranded fish.
18 b) Include a written report outlining control procedures to be adopted if stream bypass
19 problems arise. Photograph or videotape, in sufficient detail, existing conditions of
20 adjoining construction and site improvements that might be misconstrued as damage
21 caused by stream bypass operations.
- 22 2. Method of stream diversion/bypass throughout the duration of the structure excavation.
23

24 Work shall not commence until the submittals are approved in writing by the Engineer.
25

26 **2-09.3 Construction Requirements**

27 (*****)

28 Section 2-09.3 in supplemented with the following:
29

30 **Preparation**

31 Protect facilities from damage caused by settlement, lateral movement, undermining, washout, and
32 other hazards created by stream diversion operations.
33

34 Install the stream diversion system to ensure minimum interference with the existing streambed, and
35 other facilities surrounding the dewatering site.
36

37 Disturbance of the bed and banks should be limited to that necessary to place the structure,
38 embankment protection, and any required channel modification associated with the installation. All
39 disturbed areas should be protected from erosion within seven (7) calendar days of completion using
40 vegetation or other means.
41

42 Isolation of the construction site from stream flow shall be accomplished using techniques such as:

- 43
44 By pumping the stream flow around the site .
- 45 The installation of a sheetpile or sandbag wall.
- 46 The use of a water-filled cofferdam.
47

48 Exception may be granted if siltation or turbidity is reduced to acceptable levels by means approved by
49 the Engineer and the Washington Department of Fish and Wildlife (WDFW).
50

51 **Installation**

Cousins Road MP 3.15 Culvert Replacement Project
CMP-1502

1 Install the stream diversion system utilizing pipes, pumps, culverts, flexible hose or similar methods
2 complete with pump equipment, standby power and pumps, valves, appurtenances, water disposal,
3 and surface-water controls.

4
5 It is anticipated that a pump bypass system will be utilized to by-pass stream around the excavation
6 area. Pumps shall be continuously monitored during working and non-working hours.
7

8 Provide standby equipment on-site available for immediate operation, to maintain stream bypass on
9 continuous basis if any part of system becomes inadequate or fails. At a minimum the Contractor shall
10 provide and have on hand additional pumps as a backup to the stream bypass system. If stream
11 bypass requirements are not satisfied due to inadequacy or failure of stream bypass system, restore
12 damaged structures and foundation soils at no additional expense to the County.
13

14 Any fish stranded in the construction area or diversion reach shall be safely moved to the flowing
15 stream.
16

17 Any wastewater from project activities and dewatering shall be routed to an area outside the ordinary
18 high water line to allow settling of fine sediments and other contaminants prior to being discharged back
19 into the subject stream. Do not permit open-sump pumping that leads to loss of fines, soil piping,
20 subgrade softening, and slope instability. Dewatering operations shall comply with regulatory water
21 disposal requirements of authorities having jurisdiction. The stream diversion/bypass and shall be
22 sufficiently maintained to avoid significant leaks that may result in flows through the work zone. All in-
23 water work shall be in strict conformance with permits obtained for this project.
24

25 Remove and dispose of the stream bypass system from project site three business days after the new
26 stream channel has been fully completed and approved by the Engineer (to allow permitting agency
27 review prior to removing stream bypass). Upon decommissioning, flows shall be reintroduced gradually
28 (24-hour to 48-hour time frame) so as to minimize the mobilization of sediments.
29

30 **2-09.3(1)E Backfilling**

31 (*****)

32 Section 2-09.3(1)E in supplemented with the following:
33

34 Native material removed from structure excavation shall be stockpiled during construction. BMP's
35 shall be used for stockpiled material. Following structural earth wall and scour rock completion,
36 the Contractor shall use native material to restore embankments outside finished walls as indicated
37 in the Contract Plans. Native material shall be graded to allow drainage towards the new stream
38 channel and shaped to provide a smooth transition to the existing terrain.
39

40 **2-09.4 Measurement**

41 (*****)

42 Section 2-09.4 in supplemented with the following:
43

44 No specific unit of measurement will apply to "Temporary Stream Diversion".
45

46 **2-09.5 Payment**

47 (*****)

48 Section 2-09.5 in supplemented with the following:
49

50 Payment will be made in accordance with Section 1-04.1 for the following bid item included in the
51 proposal:

Cousins Road MP 3.15 Culvert Replacement Project
CMP-1502

1
2 “Temporary Stream Diversion”, lump sum.

3 The lump sum contract price for “Temporary Stream Diversion” shall be full payment to perform the
4 work as specified, including dewatering, stream diversion/bypass, and any sandbagging, pumping, fish
5 exclusion, sediment removal, filtration or other materials necessary to complete the work.
6
7

8 **DIVISION 3**
9 **PRODUCTION FROM QUARRY AND PIT SITES AND STOCKPILING**
10

11 **3-01 PRODUCTION FROM QUARRY AND PIT SITES**

12
13 **3-01.4 Contractor Furnished Material Sources**

14
15 **3-01.4(1) Acquisition and Development**
16 **(*****)**

17 Section 3-01.4(1) is supplemented with the following:

18
19 No source has been provided for any materials necessary for the construction of this project.
20
21

22 **DIVISION 4**
23 **BASES**
24

25 **4-04, BALLAST AND CRUSHED SURFACING**

26
27 **4-04.3 Construction Requirements**

28
29 **4-04.3(5) Shaping and Compacting**
30 **(*****)**

31 Section 4-04.3(5) is supplemented with the following:

32
33 **Shoulder Finishing**

34 Shoulder finishing material shall not be placed until the abutting pavement has been completed,
35 unless designated by the Engineer. Shoulder finishing material (Crushed Surfacing Top Course)
36 shall be placed by a spreader box in one lift. Processing of the shoulder finishing material on the
37 roadway shall not be permitted.
38

39 The existing shoulder material, as well as any additional crushed surfacing material required shall
40 be placed, watered, and compacted against the vertical edge of the pavement, including road
41 approaches. Hand work may be required in areas of road approaches and guardrail. The
42 Contractor shall grade the shoulder material to a uniform slope, remove all debris (sod, large
43 rocks, etc.) and dress all berms resulting from this operation to the satisfaction of the Engineer.
44 The material shall be graded into place and compacted by wheel rolling a minimum of two passes
45 with a motor grader or comparable piece of equipment in areas where the shoulder is narrow. All
46 other areas shall be compacted to the satisfaction of the Engineer. In all areas where the shoulder
47 is wide enough, as determi

1
2 Following the placement of crushed surfacing material each day, the new mainline and shoulder
3 pavement shall be cleaned of all dirt and debris to the satisfaction of the Engineer. Prior to
4 commencing work on the Shoulder Finishing operation the Contractor shall submit the selected
5 method of compaction and equipment to be used to the Engineer for approval.

6
7 **4-04.4 Measurement**

8 (*****)

9 Section 4-04.4 is supplemented with the following:

10
11 “Shoulder Finishing” shall be measured per ton.

12
13 **4-04.5 Payment**

14 (*****)

15 Section 4-04.5 is supplemented with the following:

16
17 The unit contract price per ton for “Shoulder Finishing” shall be full pay for furnishing crushed
18 surfacing, hauling, grading existing material, placing additional material, watering, compacting and
19 all other work as specified. Water for compaction of shoulder rock shall be considered incidental to
20 this bid item.

21
22 **DIVISION 5**
23 **SURFACE TREATMENTS AND PAVEMENTS**

24 (*****)

25 **5-04, HOT MIX ASPHALT**

26 (*****)

27 Delete Section 5-04 and amendments, Hot Mix Asphalt and replace it with the following:

28
29 (*****)

30 **5-04.1 Description**

31
32 This Work shall consist of providing and placing one or more layers of plant-mixed hot mix asphalt
33 (HMA) on a prepared foundation or base in accordance with these Specifications and the lines,
34 grades, thicknesses, and typical cross-sections shown in the Plans.

35
36 HMA shall be composed of asphalt binder and mineral materials as may be required, mixed in the
37 proportions specified to provide a homogeneous, stable, and workable mixture.

38
39 The term “Approach” shall include Road approaches, driveways, and extensions.

40
41 **Superintendents, Labor, and Equipment of Contractor**

42
43 The Contractor shall have a sufficient number of qualified personnel on the project to
44 insure the following minimum crew size:

- 45
46 One paving superintendent
47 One paver operator
48 Two screed operators

1 Three roller operators
2 Two rakers
3

4 These workers shall be present and not assigned to dual activities that would stop them
5 from fulfilling their assigned task while the paver is in operation. There will be one
6 assigned supervisor who will be in charge of paving operations and who will be
7 responsible for work performed.

8 **Fiber Reinforced HMA:**
9

10 This work shall consist of providing and placing Fiber Reinforced HMA in accordance with these
11 Specifications and the lines, grades, thicknesses and typical cross-sections shown in the plans.
12

13 **Definitions:**

- 14 • Reinforcing Fibers: High tensile strength synthetic aramid fiber blend specially
15 formulated to reinforce hot mix asphalt.
- 16 • Fiber Reinforced Asphalt Concrete (FRAC): A mixture of hot mix asphalt and
17 reinforcing fibers that has greater resistance to rutting, thermal cracking, fatigue
18 cracking, and reflective cracking as compared to conventional non-fiber asphalt
19 mixes.
- 20 • Aramid Dispersion State Ratio (ADSR): A measure of the dispersion efficiency of the
21 Reinforcing Fibers within asphalt mixes. ADSR is calculated by comparing the mass
22 of aramid in the individual state to the total mass of extracted aramid fibers,
23 expressed as a percentage.
24

25 (*****)

26 **5-04.2 Materials**

27 Materials shall meet the requirements of the following sections:
28

29 Asphalt Binder	9-02.1(4)
30 Cationic Emulsified Asphalt	9-02.1(6)
31 Anti-Stripping Additive	9-02.4
32 HMA Additive	9-02.5
33 Aggregates	9-03.8
34 Recycled Asphalt Pavement	9-03.8(3)B
35 Mineral Filler	9-03.8(5)
36 Recycled Material	9-03.21
37 Portland Cement	9-01
38 Sand	9-03.1(2)
39 (As noted in 5-04.3(5)C for crack sealing)	
40 Joint Sealant	9-04.2
41 Foam Backer Rod	9-04.2(3)A

42 The Contract documents may establish that the various mineral materials required for the
43 manufacture of HMA will be furnished in whole or in part by the Contracting Agency. If the
44 documents do not establish the furnishing of any of these mineral materials by the Contracting
45 Agency, the Contractor shall be required to furnish such materials in the amounts required for the
46 designated mix. Mineral materials include coarse and fine aggregates, and mineral filler.

The Contractor may choose to utilize recycled asphalt pavement (RAP) in the production of HMA. The RAP may be from pavements removed under the Contract, if any, or pavement material from an existing stockpile.

The Contractor may use up to 20 percent RAP by total weight of HMA with no additional sampling or testing of the RAP in the leveling course only. No RAP will be accepted for the wearing course. The RAP shall be sampled and tested at a frequency of one sample for every 1,000 tons produced and not less than ten samples per project. The asphalt content and gradation test data shall be reported to the Contracting Agency when submitting the mix design for approval on the QPL. The Contractor shall include the RAP as part of the mix design as defined in these Specifications.

The grade of asphalt binder shall be as required by the Contract. Blending of asphalt binder from different sources is not permitted.

Production of aggregates shall comply with the requirements of Section 3-01. Preparation of stockpile site, the stockpiling of aggregates, and the removal of aggregates from stockpiles shall comply with the requirements of Section 3-02.

Reinforcing Fibers:

1. Provide a reinforcing fiber blend of virgin polyolefins and virgin aramids that meets the requirements in Table 1 and Table 2 below:

Table 1

Reinforcing Fiber Material Properties			
Property	Standard	Polyolefin	Aramid
Form	Manufacturer Certification	Serrated	Monofilament
Nominal Specific Gravity	ASTM D276	0.91	1.44
Tensile Strength (psi)	ASTM D7269	NA ¹	400,000
Length (in)	Manufacturer Certification	0.75	0.75

1. Polyolefin fibers will melt or become plastically deformed during production

Table 2

Reinforcing Fiber Performance Properties			
Performance Measure	Test Method	Standard	Requirement
Dispersion Efficiency	Aramid Dispersion State Ratio (ADSR)	Modified ASTM D2172	≥ 85%
Field Performance Cracking Resistance	Pavement Condition Index	ASTM D6433	≥ 10 PCI Points increase, Minimum 4 years
Resistance to Permanent	Flow Number (FN)	AASHTO TP79	≥ 75% increase

Deformation (Rutting)			
-----------------------	--	--	--

2. If an aramid-based fiber blend is proposed that does not meet all of the material properties in Table 1 above, performance test results meeting Table 2 above and complying with Part 2 of Section 5-04.2(2) below a substitute fiber blend shall be submitted at least one week prior to bid date for approval by engineer.
3. Non-aramid fiber blends will not be considered as acceptable alternatives to this specification

5-04.2(1) How to Get a HMA Mix Design on the QPL

If the contractor wishes to submit a mix design for inclusion in the Qualified Products List (QPL), please follow the WSDOT process outlined in Standard Specification 5-04.2(1).

5-04.2(1)A Vacant

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

No paving shall begin prior to the approval of the mix design by the Engineer.

Nonstatistical evaluation will be used for all HMA not designated as Commercial HMA in the contract documents.

(*****)

Commercial evaluation will be used for Commercial HMA and for other classes of HMA if approved by the Engineer, in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Project Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Project Engineer. The Proposal quantity of HMA that is accepted by commercial evaluation will be excluded from the quantities used in the determination of nonstatistical evaluation.

Nonstatistical Mix Design. Fifteen days prior to the first day of paving the contractor shall provide one of the following mix design verification certifications for Contracting Agency review;

- The WSDOT Mix Design Evaluation Report from the current WSDOT QPL, or one of the mix design verification certifications listed below.
- The proposed HMA mix design on WSDOT Form 350-042 with the seal and certification (stamp & signature) of a valid licensed Washington State Professional Engineer.
- The Mix Design Report for the proposed HMA mix design developed by a qualified City or County laboratory that is within one year of the approval date.**

The mix design shall be performed by a lab accredited by a national authority such as Laboratory Accreditation Bureau, L-A-B for Construction Materials Testing, The Construction Materials Engineering Council (CMEC's) ISO 17025 or AASHTO Accreditation Program (AAP) and shall supply evidence of participation in the AASHTO: resource proficiency sample program.

1 Mix designs for HMA accepted by Nonstatistical evaluation shall;
2

- 3 • Have the aggregate structure and asphalt binder content determined in accordance with
4 WSDOT Standard Operating Procedure 732 and meet the requirements of Sections 9-
5 03.8(2), except that Hamburg testing for ruts and stripping are at the discretion of the
6 Engineer, and 9-03.8(6).
- 7 • Have anti-strip requirements, if any, for the proposed mix design determined in accordance
8 with AASHTO T 283 or T 324, or based on historic anti-strip and aggregate source
9 compatibility from previous WSDOT lab testing.
10

11 At the discretion of the Engineer, agencies may accept verified mix designs older than 12 months
12 from the original verification date with a certification from the Contractor that the materials and
13 sources are the same as those shown on the original mix design.
14

15 Commercial Evaluation Approval of a mix design for “Commercial Evaluation” will be based on a
16 review of the Contractor’s submittal of WSDOT Form 350-042 (For commercial mixes, AASHTO T
17 324 evaluation is not required) or a Mix Design from the current WSDOT QPL or from one of the
18 processes allowed by this section. Testing of the HMA by the Contracting Agency for mix design
19 approval is not required.
20

21 For the Bid Item Commercial HMA, the Contractor shall select a class of HMA and design level of
22 Equivalent Single Axle Loads (ESAL’s) appropriate for the required use.

23 Reinforcing Fibers:

24
25 1. Submit the following as part of material approval prior to construction:

- 26 a. Representative fiber product sample.
- 27 b. Fiber product data sheet and certification from the Manufacturer that the fiber
28 product supplied meets the requirements of this specification.
- 29 c. Manufacturer’s instructions and general recommendations.
- 30 d. Performance test results of ADSR testing from a minimum of three separate
31 laboratory trials to validate dispersion efficiency.
- 32 e. Performance results of PCI testing from a minimum of three separate field
33 trials to validate cracking resistance.
- 34 f. Performance test results of FN testing from a minimum of three separate
35 laboratory trials to validate rutting resistance.
- 36 g. A minimum of five unique project examples and references where the
37 reinforcing fiber product was used within 250 miles of the project location
38

39 ****NOTE: Testing is NOT required on samples from the job mix. Submit
40 previously completed lab testing only.**
41

42 2. Performance testing requirements
43

44 All historical test results submitted to validate the fiber’s performance in asphalt
45 mixes shall be from previously completed laboratory and field trials using plant-mixed
46 FRAC only. **Testing is NOT required on samples from the job mix.**
47

1 Performance testing must be from laboratory trials at a fiber dosage rate equal to the
2 rate proposed for the project. Tests must be performed by an AASHTO accredited
3 laboratory or nationally recognized university testing lab and must be reviewed and
4 approved by the project engineer.

- 5
- 6 a. Aramid Dispersion State Ratio (ADSR) Tests from a minimum of three (3)
7 separate laboratory trials.
- 8 1. Perform ADSR test based on modified ASTM D2172 procedures as
9 provided in the document entitled "Extraction of Aramid Fibers from
10 Fiber Reinforced Asphalt Concrete – Special Test Method". A copy of
11 the modified extraction methodology can be obtained by making an
12 inquiry to the Pavement and Materials Laboratory at Arizona State
13 University at NCE@asu.edu.
 - 14 2. To validate ADSR results, average extracted aramid fiber quantity
15 must equal 0.007 percent by total sample weight with no individual
16 result less than 0.005 percent of the total sample weight.
 - 17 3. All tested fiber mixes must achieve a minimum ADSR of 85%.
- 18
- 19 b. Pavement Condition Index (PCI) side by side comparison from a minimum of
20 three (3) field trails with a minimum in-service pavement age of four years.
- 21 1. PCI surveys shall be performed according to ASTM D6433.
 - 22 2. Tests results shall include a control and a fiber reinforced pavement
23 section. FRAC mix shall be identical to control mix except for the
24 inclusion of fibers added at the same dosage as proposed on the
25 project.
 - 26 3. In field performance sections shall be subject to the same
27 environmental and traffic conditions. A minimum surface area of 500
28 yd² per FRAC and control section is required.
 - 29 4. PCI results from fiber sections shall show a minimum 10 PCI points
30 greater than the control section after a minimum of 4 years.
- 31
- 32 c. Flow Number (FN) Tests from a minimum of three (3) separate laboratory
33 trials.
- 34 1. Perform FN tests using the protocol from AASHTO TP79.
 - 35 2. Tests results shall include a control and a fiber reinforced mix. FRAC
36 mix shall be identical to control mix except for the inclusion of fibers
37 added at the same dosage as proposed on the project.
 - 38 3. Results from fiber specimens shall show an average FN increase of at
39 least 75% over control specimens.
- 40

41 5-04.3 Construction Requirements

42 5-04.3(1) Weather Limitations

43 Do not place HMA for wearing course on any Traveled Way beginning October 1st through March
44 31st of the following year without written concurrence from the Engineer.

45 Do not place HMA on any wet surface, or when the average surface temperatures are less than
46 those specified below, or when weather conditions otherwise prevent the proper handling or
47 finishing of the HMA.

Minimum Surface Temperature for Paving

Compacted Thickness (Feet)	Wearing Course	Other Courses
Less than 0.10	55°F	45°F
0.10 to .20	45°F	35°F
More than 0.20	35°F	35°F

5-04.3(2) Paving Under Traffic

When the Roadway being paved is open to traffic, the requirements of this Section shall apply.

The Contractor shall keep intersections open to traffic at all times except when paving the intersection or paving across the intersection. During such time, and provided that there has been an advance warning to the public, the intersection may be closed for the minimum time required to place and compact the mixture. In hot weather, the Engineer may require the application of water to the pavement to accelerate the finish rolling of the pavement and to shorten the time required before reopening to traffic.

Before closing an intersection, advance warning signs shall be placed and signs shall also be placed marking the detour or alternate route.

During paving operations, temporary pavement markings shall be maintained throughout the project. Temporary pavement markings shall be installed on the Roadway prior to opening to traffic. Temporary pavement markings shall be in accordance with Section 8-23.

All costs in connection with performing the Work in accordance with these requirements shall be included in the unit Contract prices for the various Bid items involved in the Contract.

5-04.3(3) Equipment

5-04.3(3)A Mixing Plant

Plants used for the preparation of HMA shall conform to the following requirements:

- 1. Equipment for Preparation of Asphalt Binder**
- 2. Thermometric Equipment** – An armored thermometer, capable of detecting temperature ranges expected in the HMA mix, shall be fixed in the asphalt binder feed line at a location near the charging valve at the mixer unit. The thermometer location shall be convenient and safe for access by Inspectors. The plant shall also be equipped with an approved dial-scale thermometer, a mercury actuated thermometer, an electric pyrometer, or another approved thermometric instrument placed at the discharge chute of the drier to automatically register or indicate the temperature of the heated aggregates. This device shall be in full view of the plant operator.
- 3. Heating of Asphalt Binder** – The temperature of the asphalt binder shall not exceed the maximum recommended by the asphalt binder manufacturer nor shall it be below the

1 minimum temperature required to maintain the asphalt binder in a homogeneous state. The
2 asphalt binder shall be heated in a manner that will avoid local variations in heating. The
3 heating method shall provide a continuous supply of asphalt binder to the mixer at a uniform
4 average temperature with no individual variations exceeding 25°F. Also, when a WMA
5 additive is included in the asphalt binder, the temperature of the asphalt binder shall not
6 exceed the maximum recommended by the manufacturer of the WMA additive.

7 **4. Sampling and Testing of Mineral Materials** – The HMA plant shall be equipped with a
8 mechanical sampler for the sampling of the mineral materials. The mechanical sampler shall
9 meet the requirements of Section 1-05.6 for the crushing and screening operation. The
10 Contractor shall provide for the setup and operation of the field testing facilities of the
11 Contracting Agency as provided for in Section 3-01.2(2).

12 **5. Sampling HMA** – The HMA plant shall provide for sampling HMA by one of the following
13 methods:

- 14 a. A mechanical sampling device attached to the HMA plant.
- 15 b. Platforms or devices to enable sampling from the hauling vehicle without entering
16 the hauling vehicle.

17 18 **5-04.3(3)B Hauling Equipment**

19 Trucks used for hauling HMA shall have tight, clean, smooth metal beds and shall have a cover of
20 canvas or other suitable material of sufficient size to protect the mixture from adverse weather.
21 Whenever the weather conditions during the work shift include, or are forecast to include,
22 precipitation or an air temperature less than 45°F or when time from loading to unloading exceeds
23 30 minutes, the cover shall be securely attached to protect the HMA.

24
25 The contractor shall provide an environmentally benign means to prevent the HMA mixture from
26 adhering to the hauling equipment. Excess release agent shall be drained prior to filling hauling
27 equipment with HMA. Petroleum derivatives or other coating material that contaminate or alter the
28 characteristics of the HMA shall not be used. For live bed trucks, the conveyer shall be in operation
29 during the process of applying the release agent.

30 31 **5-04.3(3)C Pavers**

32 HMA pavers shall be self-contained, power-propelled units, provided with an internally heated
33 vibratory screed and shall be capable of spreading and finishing courses of HMA plant mix material
34 in lane widths required by the paving section shown in the Plans.

35
36 The HMA paver shall be in good condition and shall have the most current equipment available
37 from the manufacturer for the prevention of segregation of the HMA mixture installed, in good
38 condition, and in working order. The equipment certification shall list the make, model, and year of
39 the paver and any equipment that has been retrofitted.

40
41 The screed shall be operated in accordance with the manufacturer's recommendations and shall
42 effectively produce a finished surface of the required evenness and texture without tearing, shoving,
43 segregating, or gouging the mixture. A copy of the manufacturer's recommendations shall be
44 provided upon request by the Contracting Agency. Extensions will be allowed provided they
45 produce the same results, including ride, density, and surface texture as obtained by the primary
46 screed. Extensions without augers and an internally heated vibratory screed shall not be used in the
47 Traveled Way.

1
2 When specified in the Contract, reference lines for vertical control will be required. Lines shall be
3 placed on both outer edges of the Traveled Way of each Roadway. Horizontal control utilizing the
4 reference line will be permitted. The grade and slope for intermediate lanes shall be controlled
5 automatically from reference lines or by means of a mat referencing device and a slope control
6 device. When the finish of the grade prepared for paving is superior to the established tolerances
7 and when, in the opinion of the Engineer, further improvement to the line, grade, cross-section, and
8 smoothness can best be achieved without the use of the reference line, a mat referencing device
9 may be substituted for the reference line. Substitution of the device will be subject to the continued
10 approval of the Engineer. A joint matcher may be used subject to the approval of the Engineer. The
11 reference line may be removed after the completion of the first course of HMA when approved by
12 the Engineer. Whenever the Engineer determines that any of these methods are failing to provide
13 the necessary vertical control, the reference lines will be reinstalled by the Contractor.

14
15 The Contractor shall furnish and install all pins, brackets, tensioning devices, wire, and accessories
16 necessary for satisfactory operation of the automatic control equipment.

17
18 If the paving machine in use is not providing the required finish, the Engineer may suspend Work as
19 allowed by Section 1-08.6. Any cleaning or solvent type liquids spilled on the pavement shall be
20 thoroughly removed before paving proceeds.

21
22 The Contractor shall deliver the mixture to the paving machine at a rate that provides continuous
23 operation of the paving machine, except for unavoidable delay or breakdown. If excessive stopping
24 of the paving machine occurs during paving operations, the Engineer may suspend paving
25 operations until the mixture deliver rate matches the paving machine operation.

26 27 **5-04.3(3)E Rollers**

28 Rollers shall be of the steel wheel, vibratory, oscillatory, or pneumatic tire type, in good condition
29 and capable of reversing without backlash. Operation of the roller shall be in accordance with the
30 manufacturer's recommendations. When ordered by the Engineer for any roller planned for use on
31 the project, the Contractor shall provide a copy of the manufacturer's recommendation for the use
32 of that roller for compaction of HMA. The number and weight of rollers shall be sufficient to compact
33 the mixture in compliance with the requirements of Section 5-04.3(10). The use of equipment that
34 results in crushing of the aggregate will not be permitted. Rollers producing pickup, washboard,
35 uneven compaction of the surface, displacement of the mixture or other undesirable results shall
36 not be used.

37 38 **5-04.3(4) Preparation of Existing Paved Surfaces**

39 When the surface of the existing pavement or old base is irregular, the Contractor shall bring it to a
40 uniform grade and cross-section as shown on the Plans or approved by the Engineer.

41
42 Preleveling of uneven or broken surfaces over which HMA is to be placed may be accomplished by
43 using an asphalt paver, a motor patrol grader, or by hand raking, as approved by the Engineer.

44
45 Compaction of preleveling HMA shall be to the satisfaction of the Engineer and may require the use
46 of small steel wheel rollers, plate compactors, or pneumatic rollers to avoid bridging across

1 preleveled areas by the compaction equipment. Equipment used for the compaction of preleveling
2 HMA shall be approved by the Engineer.

3
4 Before construction of HMA on an existing paved surface, the entire surface of the pavement shall
5 be clean. All fatty asphalt patches, grease drippings, and other objectionable matter shall be entirely
6 removed from the existing pavement. All pavements or bituminous surfaces shall be thoroughly
7 cleaned of dust, soil, pavement grindings, and other foreign matter. All holes and small depressions
8 shall be filled with an appropriate class of HMA. The surface of the patched area shall be leveled
9 and compacted thoroughly. Prior to the application of tack coat, or paving, the condition of the
10 surface shall be approved by the Engineer.

11
12 A tack coat of asphalt shall be applied to all paved surfaces on which any course of HMA is to be
13 placed or abutted; except that tack coat may be omitted from clean, newly paved surfaces at the
14 discretion of the Engineer. Tack coat shall be uniformly applied to cover the existing pavement with
15 a thin film of residual asphalt free of streaks and bare spots at a rate between 0.02 and 0.10 gallons
16 per square yard of retained asphalt. The rate of application shall be approved by the Engineer. A
17 heavy application of tack coat shall be applied to all joints. For Roadways open to traffic, the
18 application of tack coat shall be limited to surfaces that will be paved during the same working shift.
19 The spreading equipment shall be equipped with a thermometer to indicate the temperature of the
20 tack coat material.

21
22 Equipment shall not operate on tacked surfaces until the tack has broken and cured. If the
23 Contractor's operation damages the tack coat it shall be repaired prior to placement of the HMA.

24
25 The tack coat shall be CSS-1, or CSS-1h emulsified asphalt. The CSS-1 and CSS-1h emulsified
26 asphalt may be diluted once with water at a rate not to exceed one part water to one part emulsified
27 asphalt. The tack coat shall have sufficient temperature such that it may be applied uniformly at the
28 specified rate of application and shall not exceed the maximum temperature recommended by the
29 emulsified asphalt manufacturer.

30 31 **5-04.3(4)A Crack Sealing**

32
33 (*****)

34 **5-04.3(4)A1 General**

35 When the Proposal includes a pay item for crack sealing, seal all cracks ¼ inch in width and greater.
36 If the Proposal does not include an item for crack sealing or sealed joints it shall be incidental to
37 and included in the unit contract price per ton for the HMA

38
39 **Cleaning:** Ensure that cracks are thoroughly clean, dry and free of all loose and foreign material
40 when filling with crack sealant material. Use a hot compressed air lance to dry and warm the
41 pavement surfaces within the crack immediately prior to filling a crack with the sealant material. Do
42 not overheat pavement. Do not use direct flame dryers. Routing cracks is not required.

43
44 **Sand Slurry:** For cracks that are to be filled with sand slurry, thoroughly mix the components and
45 pour the mixture into the cracks until full. Add additional CSS-1 cationic emulsified asphalt to the
46 sand slurry as needed for workability to ensure the mixture will completely fill the cracks. Strike off
47 the sand slurry flush with the existing pavement surface and allow the mixture to cure. Top off

1 cracks that were not completely filled with additional sand slurry. Do not place the HMA overlay until
2 the slurry has fully cured.

3
4 The sand slurry shall consist of approximately 20 percent CSS-1 emulsified asphalt, approximately
5 2 percent portland cement, water (if required), and the remainder clean Class 1 or 2 fine aggregate
6 per section 9-03.1(2). The components shall be thoroughly mixed and then poured into the cracks
7 and joints until full. The following day, any cracks or joints that are not completely filled shall be
8 topped off with additional sand slurry. After the sand slurry is placed, the filler shall be struck off
9 flush with the existing pavement surface and allowed to cure. The HMA overlay shall not be placed
10 until the slurry has fully cured. The requirements of Section 1-06 will not apply to the portland
11 cement and sand used in the sand slurry.

12
13 In areas where HMA will be placed, use sand slurry to fill the cracks.

14
15 In areas where HMA will not be placed, fill the cracks as follows:

- 16
17 1. Cracks $\frac{1}{4}$ inch to 1 inch in width - fill with hot poured sealant.
18 2. Cracks greater than 1 inch in width – fill with sand slurry.

19
20 **Hot Poured Sealant:** For cracks that are to be filled with hot poured sealant, apply the material in
21 accordance with these requirements and the manufacturer's recommendations. Furnish a Type 1
22 Working Drawing of the manufacturer's product information and recommendations to the Engineer
23 prior to the start of work, including the manufacturer's recommended heating time and
24 temperatures, allowable storage time and temperatures after initial heating, allowable reheating
25 criteria, and application temperature range. Confine hot poured sealant material within the crack.
26 Clean any overflow of sealant from the pavement surface. If, in the opinion of the Engineer, the
27 Contractor's method of sealing the cracks with hot poured sealant results in an excessive amount of
28 material on the pavement surface, stop and correct the operation to eliminate the excess material.

29
30 **5-04.3(4)A2 Crack Sealing Areas Prior to Paving**

31
32 In areas where HMA will be placed, use sand slurry to fill the cracks.

33
34 **5-04.3(4)A3 Crack Sealing Areas Not to be Paved**

35
36 In areas where HMA will not be placed, fill the cracks as follows:

- 37
38 A. Cracks $\frac{1}{4}$ inch to 1 inch in width - fill with hot poured sealant.
39 B. Cracks greater than 1 inch in width – fill with sand slurry.

40
41 **5-04.3(4)B Vacant**

42
43 **5-04.3(4)C Pavement Repair**

44
45 All planning bituminous pavement shall be complete before performing pavement repair. The
46 Contractor shall excavate pavement repair areas and shall backfill these with HMA in accordance

1 with the details shown in the Plans and as marked in the field. The Contractor shall conduct the
2 excavation operations in a manner that will protect the pavement that is to remain. Pavement not
3 designated to be removed that is damaged as a result of the Contractor's operations shall be
4 repaired by the Contractor to the satisfaction of the Engineer at no cost to the Contracting Agency.
5 The Contractor shall excavate only within one lane at a time unless approved otherwise by the
6 Engineer. The Contractor shall not excavate more area than can be completely finished during the
7 same shift, unless approved by the Engineer.

8
9 Unless otherwise shown in the Plans or determined by the Engineer, excavate to a depth of 1.0
10 feet. The Engineer will make the final determination of the excavation depth required. The minimum
11 width of any pavement repair area shall be 40 inches unless shown otherwise in the Plans. Before
12 any excavation, the existing pavement shall be sawcut or shall be removed by a pavement grinder.
13 Excavated materials will become the property of the Contractor and shall be disposed of in a
14 Contractor-provided site off the Right of Way or used in accordance with Sections 2-02.3(3) or 9-
15 03.21.

16
17 Asphalt for tack coat shall be required as specified in Section 5-04.3(4). A heavy application of tack
18 coat shall be applied to all surfaces of existing pavement in the pavement repair area.

19
20 Placement of the HMA backfill shall be accomplished in lifts not to exceed 0.35-foot compacted
21 depth. Lifts that exceed 0.35-foot of compacted depth may be accomplished with the approval of
22 the Engineer. Each lift shall be thoroughly compacted by a mechanical tamper or a roller.

23 24 **5-04.3(5) Producing/Stockpiling Aggregates and RAP**

25
26 Aggregates and RAP shall be stockpiled according to the requirements of Section 3-02. Sufficient
27 storage space shall be provided for each size of aggregate and RAP. Materials shall be removed
28 from stockpile(s) in a manner to ensure minimal segregation when being moved to the HMA plant
29 for processing into the final mixture. Different aggregate sizes shall be kept separated until they
30 have been delivered to the HMA plant.

31 32 **5-04.3(5)A Vacant**

33
34 (*****)

35 **5-04.3(6) Mixing**

36 After the required amount of mineral materials, asphalt binder, recycling agent and anti-stripping
37 additives have been introduced into the mixer the HMA shall be mixed until complete and uniform
38 coating of the particles and thorough distribution of the asphalt binder throughout the mineral
39 materials is ensured.

40
41 When discharged, the temperature of the HMA shall not exceed the optimum mixing temperature by
42 more than 25°F as shown on the reference mix design report or as approved by the Engineer. A
43 maximum water content of 2 percent in the mix, at discharge, will be allowed providing the water
44 causes no problems with handling, stripping, or flushing. If the water in the HMA causes any of
45 these problems, the moisture content shall be reduced as directed by the Engineer.

1 Storing or holding of the HMA in approved storage facilities will be permitted with approval of the
2 Engineer, but in no event shall the HMA be held for more than 24 hours. HMA held for more than 24
3 hours after mixing shall be rejected. Rejected HMA shall be disposed of by the Contractor at no
4 expense to the Contracting Agency. The storage facility shall have an accessible device located at
5 the top of the cone or about the third point. The device shall indicate the amount of material in
6 storage. No HMA shall be accepted from the storage facility when the HMA in storage is below the
7 top of the cone of the storage facility, except as the storage facility is being emptied at the end of
8 the working shift.

9
10 Recycled asphalt pavement (RAP) utilized in the production of HMA shall be sized prior to entering
11 the mixer so that a uniform and thoroughly mixed HMA is produced. If there is evidence of the
12 recycled asphalt pavement not breaking down during the heating and mixing of the HMA, the
13 Contractor shall immediately suspend the use of the RAP until changes have been approved by the
14 Engineer. After the required amount of mineral materials, RAP, new asphalt binder and asphalt
15 rejuvenator have been introduced into the mixer the HMA shall be mixed until complete and uniform
16 coating of the particles and thorough distribution of the asphalt binder throughout the mineral
17 materials, and RAP is ensured.

18 Reinforcing Fibers:

- 19
20 1. Delivery & Storage: Deliver fiber-reinforcement to plant in sealed, undamaged
21 containers with labels intact and legible, indicating material name and lot number.
22 Store materials covered and off the ground. Keep sand and dust out of boxes and
23 do not allow boxes to become wet.
- 24
25 2. Add aramid and polyolefin reinforcing fiber blends at a dosage rate of one (1) pound
26 per one (1) ton of asphalt.
- 27
28 3. Add alternative aramid fiber blends at a rate proposed by the manufacturer that
29 achieves the ADSR, PCI, and FN results required in Section 5-04.2.
- 30
31 4. Have a fiber manufacturer's representative on site during mixing and production.
32 This requirement can be waived if fiber manufacturer and asphalt producer can
33 supply evidence of manufacturer's brand of fiber being successfully produced a
34 minimum of three times at the asphalt plant to be used for the project.
- 35
36 5. Batch Plant. When a batch plant is used, add fiber to the aggregate in the weigh
37 hopper and increase both dry and wet mixing times. Ensure that the fiber is
38 uniformly distributed before the injection of asphalt cement into the mixture.
- 39
40 6. Drum Plant:
 - 41 a. Inject fibers through the RAP collar by feeding them with a blower tube system.
42 Rate the feeding of fibers with the rate the plant is producing asphalt mix. If there
43 is any evidence of fiber balls at the discharge chute, increase the mixing time
44 and/or temperature or change the angle of the fiber feeder line to increase dry
45 mixing time.
 - 46 b. When using a blower tube system, add fibers continuously and in a steady
47 uniform manner. Provide automated proportioning devices and control delivery
48 within $\pm 10\%$ of the mass of the fibers required. Perform an equipment calibration

1 to the satisfaction of the fiber manufacturer's representative to show that the fiber
2 is being accurately metered and uniformly distributed into the mix.

3 Include the following with the blower tube system:

- 4 • Low level indicators
- 5 • No-flow indicators
- 6 • A printout of feed rate status in pounds/minute
- 7 • A section of transparent pipe in the fiber supply line for observing
- 8 consistency of flow or feed.
- 9 • Manufacturer's representative's approval of fiber addition system

11
12 (*****)

13 **5-04.3(7) Spreading and Finishing**

14
15 The mixture shall be laid upon an approved surface, spread, and struck off to the grade and
16 elevation established. HMA pavers complying with Section 5-04.3(3) shall be used to distribute the
17 mixture. Unless otherwise directed by the Engineer, the nominal compacted depth of any layer of
18 any course shall not exceed the following:

19	HMA Class 1"	0.35 feet
20	HMA Class ¾" and HMA Class ½"	
21	wearing course	0.30 feet
22	other courses	0.35 feet
23	HMA Class ⅜"	0.20 feet
24		

25
26 On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and
27 finishing equipment impractical, the paving may be done with other equipment or by hand.

28
29 When more than one JMF is being utilized to produce HMA, the material produced for each JMF
30 shall be placed by separate spreading and compacting equipment. The intermingling of HMA
31 produced from more than one JMF is prohibited. Each strip of HMA placed during a work shift shall
32 conform to a single JMF established for the class of HMA specified unless there is a need to make
33 an adjustment in the JMF.

34 **5-04.3(8) Aggregate Acceptance Prior to Incorporation in HMA**

35
36
37 For HMA accepted by nonstatistical evaluation the aggregate properties of sand equivalent,
38 uncompacted void content and fracture will be evaluated in accordance with Section 3-04.
39 Sampling and testing of aggregates for HMA accepted by commercial evaluation will be at the
40 option of the Engineer.

41 **5-04.3(9) HMA Mixture Acceptance**

42
43
44 Acceptance of HMA shall be as provided under nonstatistical, or commercial evaluation.

1 Nonstatistical evaluation will be used for the acceptance of HMA unless Commercial Evaluation is
2 specified.

3
4 Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the
5 following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel,
6 temporary pavement, and pavement repair. Other nonstructural applications of HMA accepted by
7 commercial evaluation shall be as approved by the Engineer. Sampling and testing of HMA
8 accepted by commercial evaluation will be at the option of the Engineer.

9
10 The mix design will be the initial JMF for the class of HMA. The Contractor may request a change in
11 the JMF. Any adjustments to the JMF will require the approval of the Engineer and may be made in
12 accordance with this section.

13 14 **Spreading and Finishing** 15 **(*****)**

16
17 The Contractor shall meet with the Engineer or representative by the end of each working day
18 to verify and confirm in writing and by signature the daily yields and quantities.

19
20 If the Contractor fails to follow this procedure, the Contractor accepts the Engineer's
21 estimated quantities for the work completed that day.

22 23 **Overages**

24 The Contractor shall not exceed the negotiated quantity on any section by more than **five**
25 **percent (5%)**, unless directed by the Engineer except HMA used for Middle Fork Road.
26 Middle Fork Road shall be as shown in the Contract Plans or directed by the Engineer. Any
27 material placed on each individual section in excess of the five percent shall be at the
28 Contractor's expense.

29
30 This provision shall not relieve the Contractor of his/her responsibility to complete each
31 section in its entirety.

32 33 **Reinforcing Fibers:**

- 34
35
- 36 1. Follow manufacturer's representative's recommendations for placement of
37 FRAC.
 - 38 2. Collect a small sample (10-20kg) of mix from the discharge chute during first 50
39 tons of production. If there are one or more undistributed fiber clips or bundles,
40 adjust mixing operations per manufacturer's recommendations to eliminate fiber
41 bundles.
 - 42 3. Visually observe FRAC mix in the back of first three trucks and every tenth truck
43 thereafter to confirm adequate blending of the fiber.
 - 44 4. Remove any observed fiber bundles from placed mixture and adjust operations
45 per the manufacturer's recommendation to eliminate future fiber bundle
46 development.
- 47

48 **HMA Tolerances and Adjustments**

Cousins Road MP 3.15 Culvert Replacement Project
CMP-1502

- 1 **1. Job Mix Formula Tolerances** – The constituents of the mixture at the time of acceptance
 2 shall be within tolerance. The tolerance limits will be established as follows:

3 For Asphalt Binder and Air Voids (Va), the acceptance limits are determined by adding
 4 the tolerances below to the approved JMF values. These values will also be the Upper
 5 Specification Limit (USL) and Lower Specification Limit (LSL) required in Section 1-
 6 06.2(2)D2

Property	Non-Statistical Evaluation	Commercial Evaluation
Asphalt Binder	+/- 0.5%	+/- 0.7%
Air Voids, Va	2.5% min. and 5.5% max	N/A

7 For Aggregates in the mixture:

- 8 a. First, determine preliminary upper and lower acceptance limits by applying the following
 9 tolerances to the approved JMF.

Aggregate Percent Passing	Non-Statistical Evaluation	Commercial Evaluation
1", ¾", ½", and 3/8" sieves	+/- 6%	+/- 8%
No. 4 sieve	+/-5%	+/- 8%
No. 8 Sieve	+/- 4%	+/-8%
No. 200 sieve	+/- 1.0%	+/- 3.0%

- 10 b. Second, adjust the preliminary upper and lower acceptance limits determined from step
 11 (a) the minimum amount necessary so that none of the aggregate properties are outside
 12 the control points in Section 9-03.8(6). The resulting values will be the upper and lower
 13 acceptance limits for aggregates, as well as the USL and LSL required in Section 1-
 14 06.2(2)D2.

- 15 **2. Job Mix Formula Adjustments** – An adjustment to the aggregate gradation or asphalt binder
 16 content of the JMF requires approval of the Engineer. Adjustments to the JMF will only be
 17 considered if the change produces material of equal or better quality and may require the
 18 development of a new mix design if the adjustment exceeds the amounts listed below.

- 19 a. **Aggregates** –2 percent for the aggregate passing the 1½", 1", ¾", ½", ⅜", and the No. 4
 20 sieves, 1 percent for aggregate passing the No. 8 sieve, and 0.5 percent for the
 21 aggregate passing the No. 200 sieve. The adjusted JMF shall be within the range of the
 22 control points in Section 9-03.8(6).

- 23 b. **Asphalt Binder Content** – The Engineer may order or approve changes to asphalt binder
 24 content. The maximum adjustment from the approved mix design for the asphalt binder
 25 content shall be 0.3 percent

26
 27 **5-04.3(9)A Vacant**

28
 29 **5-04.3(9)B Vacant**

30
 31 **5-04.3(9)C Mixture Acceptance – Nonstatistical Evaluation**

32 HMA mixture which is accepted by Nonstatistical Evaluation will be evaluated by the Contracting
 33 Agency by dividing the HMA tonnage into lots.

34
 35 **5-04.3(9)C1 Mixture Nonstatistical Evaluation – Lots and Sublots**

36 A lot is represented by randomly selected samples of the same mix design that will be tested for
 37 acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix

1 Formula placed. Only one lot per JMF is expected. A subplot shall be equal to one day's production
2 or 800 tons, whichever is less except that the final subplot will be a minimum of 400 tons and may be
3 increased to 1200 tons.
4

5 All of the test results obtained from the acceptance samples from a given lot shall be evaluated
6 collectively. If the Contractor requests a change to the JMF that is approved, the material produced
7 after the change will be evaluated on the basis of the new JMF for the remaining sublots in the
8 current lot and for acceptance of subsequent lots. For a lot in progress with a CPF less than 0.75, a
9 new lot will begin at the Contractor's request after the Engineer is satisfied that material conforming
10 to the Specifications can be produced.
11

12 Sampling and testing for evaluation shall be performed on the frequency of one sample per subplot.
13

14 **5-04.3(9)C2 Mixture Nonstatistical Evaluation Sampling**

15 Samples for acceptance testing shall be obtained by the Contractor when ordered by the Engineer.
16 The Contractor shall sample the HMA mixture in the presence of the Engineer and in accordance
17 with AASH-TO T 168. A minimum of three samples should be taken for each class of HMA placed
18 on a project. If used in a structural application, at least one of the three samples shall to be tested.
19

20 Sampling and testing HMA in a Structural application where quantities are less than 400 tons is at
21 the discretion of the Engineer.
22

23 For HMA used in a structural application and with a total project quantity less than 800 tons but
24 more than 400 tons, a minimum of one acceptance test shall be performed. In all cases, a minimum
25 of 3 samples will be obtained at the point of acceptance, a minimum of one of the three samples will
26 be tested for conformance to the JMF:
27

- 28 • If the test results are found to be within specification requirements, additional testing will be at
29 the Engineer's discretion.
- 30 • If test results are found not to be within specification requirements, additional testing of the
31 remaining samples to determine a Composite Pay Factor (CPF) shall be performed.
32

33 **5-04.3(9)C3 Mixture Nonstatistical Evaluation – Acceptance Testing**

34 Testing of HMA for compliance of V_a will be at the option of the Contracting Agency. If tested,
35 compliance of V_a will use WSDOT SOP 731.
36

37 Testing for compliance of asphalt binder content will be by WSDOT FOP for AASHTO T 308.
38

39 Testing for compliance of gradation will be by FOP for WAQTC T 27/T 11.
40

41 **5-04.3(9)C4 Mixture Nonstatistical Evaluation – Pay Factors**

42 For each lot of material falling outside the tolerance limits in 5-04.3(9), the Contracting Agency will
43 determine a Composite Pay Factor (CPF) using the following price adjustment factors:
44

Table of Price Adjustment Factors
--

Constituent	Factor "F"
All aggregate passing: 1½", 1", ¾", ½", ⅜" and No.4 sieves	2
All aggregate passing No. 8 sieve	15
All aggregate passing No. 200 sieve	20
Asphalt binder	40
Air Voids (Va) (where applicable)	20

Each lot of HMA produced under Nonstatistical Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the nonstatistical tolerance limits in the Job Mix Formula shown in Table of Price Adjustment Factors, the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The nonstatistical tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the Roadway shall be tested to provide a minimum of three sets of results for evaluation.

5-04.3(9)C5 Vacant

5-04.3(9)C6 Mixture Nonstatistical Evaluation – Price Adjustments

For each lot of HMA mix produced under Nonstatistical Evaluation when the calculated CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The total job mix compliance price adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price per ton of mix.

If a constituent is not measured in accordance with these Specifications, its individual pay factor will be considered 1.00 in calculating the Composite Pay Factor (CPF).

5-04.3(9)C7 Mixture Nonstatistical Evaluation - Retests

The Contractor may request a subplot be retested. To request a retest, the Contractor shall submit a written request within 7 calendar days after the specific test results have been received. A split of the original acceptance sample will be retested. The split of the sample will not be tested with the same tester that ran the original acceptance test. The sample will be tested for a complete gradation analysis, asphalt binder content, and, at the option of the agency, V

5-04.3 (9)D Mixture Acceptance – Commercial Evaluation

If sampled and tested, HMA produced under Commercial Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the commercial tolerance limits in the Job Mix Formula shown in 5-04.3(9), the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The commercial tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist,

1 backup samples of the existing sublots or samples from the street shall be tested to provide a
2 minimum of three sets of results for evaluation.

3
4 For each lot of HMA mix produced and tested under Commercial Evaluation when the calculated
5 CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals
6 the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The Job Mix Compliance Price
7 Adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons,
8 and the unit Contract price per ton of mix.

9
10 If a constituent is not measured in accordance with these Specifications, its individual pay factor will
11 be considered 1.00 in calculating the Composite Pay Factor (CPF).

12 13 **5-04.3(10) HMA Compaction Acceptance**

14 HMA mixture accepted by nonstatistical evaluation that is used in traffic lanes, including lanes for
15 intersections, ramps, truck climbing, weaving, and speed change, and having a specified
16 compacted course thickness greater than 0.10-foot, shall be compacted to a specified level of
17 relative density. The specified level of relative density shall be a Composite Pay Factor (CPF) of not
18 less than 0.75 when evaluated in accordance with Section 1-06.2, using a LSL of 92.0 (minimum of
19 92 percent of the maximum density). The maximum density shall be determined by WSDOT FOP
20 for AASHTO T 729. The specified level of density attained will be determined by the evaluation of
21 the density of the pavement. The density of the pavement shall be determined in accordance with
22 WSDOT FOP for ASSHTO T 355, except that gauge correlation will be at the discretion of the
23 Engineer, when using the nuclear density gauge and WSDOT SOP 736 when using cores to
24 determine density.

25
26 Tests for the determination of the pavement density will be taken in accordance with the required
27 procedures for measurement by a nuclear density gauge or roadway cores after completion of the
28 finish rolling.

29
30 If the Contracting Agency uses a nuclear density gauge to determine density the test procedures
31 WSDOT FOP for ASSHTO T 355 and WSDOT SOP T 729 will be used on the day the mix is placed
32 and prior to opening to traffic.

33
34 Roadway cores for density may be obtained by either the Contracting Agency or the Contractor in
35 accordance with WSDOT SOP 734. The core diameter shall be 4-inches minimum, unless
36 otherwise approved by the Engineer. Roadway cores will be tested by the Contracting Agency in
37 accordance with WSDOT FOP for AASHTO T 166.

38
39 If the Contract includes the Bid item "Roadway Core" the cores shall be obtained by the Contractor
40 in the presence of the Engineer on the same day the mix is placed and at locations designated by
41 the Engineer. If the Contract does not include the Bid item "Roadway Core" the Contracting Agency
42 will obtain the cores.

43
44 For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor's request after
45 the Engineer is satisfied that material conforming to the Specifications can be produced.

1 HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than
2 those listed above shall be compacted on the basis of a test point evaluation of the compaction
3 train. The test point evaluation shall be performed in accordance with instructions from the
4 Engineer. The number of passes with an approved compaction train, required to attain the
5 maximum test point density, shall be used on all subsequent paving.

6
7 HMA for preleveling shall be thoroughly compacted. HMA that is used for preleveling wheel rutting
8 shall be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

10 **Test Results**

11 For a subplot that has been tested with a nuclear density gauge that did not meet the minimum of 92
12 percent of the reference maximum density in a compaction lot with a CPF below 1.00 and thus
13 subject to a price reduction or rejection, the Contractor may request that a core be used for
14 determination of the relative density of the subplot. The relative density of the core will replace the
15 relative density determined by the nuclear density gauge for the subplot and will be used for
16 calculation of the CPF and acceptance of HMA compaction lot.

17
18 When cores are taken by the Contracting Agency at the request of the Contractor, they shall be
19 requested by noon of the next workday after the test results for the subplot have been provided or
20 made available to the Contractor. Core locations shall be outside of wheel paths and as determined
21 by the Engineer. Traffic control shall be provided by the Contractor as requested by the Engineer.
22 Failure by the Contractor to provide the requested traffic control will result in forfeiture of the request
23 for cores. When the CPF for the lot based on the results of the HMA cores is less than 1.00, the
24 cost for the coring will be deducted from any monies due or that may become due the Contractor
25 under the Contract at the rate of \$200 per core and the Contractor shall pay for the cost of the traffic
26 control.

28 **5-04.3(10)A HMA Compaction – General Compaction Requirements**

29 Compaction shall take place when the mixture is in the proper condition so that no undue
30 displacement, cracking, or shoving occurs. Areas inaccessible to large compaction equipment shall
31 be compacted by other mechanical means. Any HMA that becomes loose, broken, contaminated,
32 shows an excess or deficiency of asphalt, or is in any way defective, shall be removed and replaced
33 with new hot mix that shall be immediately compacted to conform to the surrounding area.

34
35 The type of rollers to be used and their relative position in the compaction sequence shall generally
36 be the Contractor's option, provided the specified densities are attained. Unless the Engineer has
37 approved otherwise, rollers shall only be operated in the static mode when the internal temperature
38 of the mix is less than 175°F. Regardless of mix temperature, a roller shall not be operated in a
39 mode that results in checking or cracking of the mat. Rollers shall only be operated in static mode
40 on bridge decks.

42 **5-04.3(10)B HMA Compaction – Cyclic Density**

43 Low cyclic density areas are defined as spots or streaks in the pavement that are less than 90
44 percent of the theoretical maximum density. At the Engineer's discretion, the Engineer may
45 evaluate the HMA pavement for low cyclic density, and when doing so will follow WSDOT SOP 733.
46 A \$500 Cyclic Density Price Adjustment will be assessed for any 500-foot section with two or more
47 density readings below 90 percent of the theoretical maximum density.

1
2 **5-04.3(10)C Vacant**

3
4 **5-04.3(10)D HMA Nonstatistical Compaction**

5
6 **5-04.3(10)D1 HMA Nonstatistical Compaction – Lots and Sublots**

7 HMA compaction which is accepted by nonstatistical evaluation will be based on acceptance testing
8 performed by the Contracting Agency dividing the project into compaction lots.

9
10 A lot is represented by randomly selected samples of the same mix design that will be tested for
11 acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix
12 Formula placed. Only one lot per JMF is expected. A subplot shall be equal to one day's production
13 or 400 tons, whichever is less except that the final subplot will be a minimum of 200 tons and may be
14 increased to 800 tons. Testing for compaction will be at the rate of 5 tests per subplot per WSDOT T
15 738. The compaction test locations will be determined by the Engineer in accordance with WSDOT
16 Test Method T 716.

17
18 The subplot locations within each density lot will be determined by the Engineer. For a lot in progress
19 with a CPF less than 0.75, a new lot will begin at the Contractor's request after the Engineer is
20 satisfied that material conforming to the Specifications can be produced.

21
22 HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than
23 those listed above shall be compacted on the basis of a test point evaluation of the compaction
24 train. The test point evaluation shall be performed in accordance with instructions from the
25 Engineer. The number of passes with an approved compaction train, required to attain the
26 maximum test point density, shall be used on all subsequent paving.

27
28 HMA for preleveling shall be thoroughly compacted. HMA that is used to prelevel wheel ruts shall
29 be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

30
31 **5-04.3(10)D2 HMA Compaction Nonstatistical Evaluation – Acceptance Testing**

32 The location of the HMA compaction acceptance tests will be randomly selected by the Engineer
33 from within each subplot, with one test per subplot. The Contracting Agency will determine the
34 random sample location using WSDOT Test Method T 716.

35
36 **5-04.3(10)D3 HMA Nonstatistical Compaction – Price Adjustments**

37 For each compaction lot with one or two sublots, having all sublots attain a relative density that is
38 92 percent of the reference maximum density the HMA shall be accepted at the unit Contract price
39 with no further evaluation. When a subplot does not attain a relative density that is 92 percent of the
40 reference maximum density, the lot shall be evaluated in accordance with Section 1-06.2 to
41 determine the appropriate CPF. The maximum CPF shall be 1.00, however, lots with a calculated
42 CPF in excess of 1.00 will be used to offset lots with CPF values below 1.00 but greater than 0.90.
43 Lots with CPF lower than 0.90 will be evaluated for compliance per 5-04.3(11). Additional testing by
44 either a nuclear moisture-density gauge or cores will be completed as required to provide a
45 minimum of three tests for evaluation.

1 For compaction below the required 92% a Non-Conforming Compaction Factor (NCCF) will be
2 determined. The NCCF equals the algebraic difference of CPF minus 1.00 multiplied by 40 percent.
3 The Compaction Price Adjustment will be calculated as the product of CPF, the quantity of HMA in
4 the compaction control lot in tons, and the unit Contract price per ton of mix.

5-04.3(11) Reject Work

5-04.3(11)A Reject Work General

8 Work that is defective or does not conform to Contract requirements shall be rejected. The
9 Contractor may propose, in writing, alternatives to removal and replacement of rejected material.
10 Acceptability of such alternative proposals will be determined at the sole discretion of the Engineer.
11 HMA that has been rejected is subject to the requirements in Section 1-06.2(2) and this
12 specification, and the Contractor shall submit a corrective action proposal to the Engineer for
13 approval.
14

5-04.3(11)B Rejection by Contractor

15 The Contractor may, prior to sampling, elect to remove any defective material and replace it with
16 new material. Any such new material will be sampled, tested, and evaluated for acceptance.
17

5-04.3(11)C Rejection Without Testing (Mixture or Compaction)

18 The Engineer may, without sampling, reject any batch, load, or section of Roadway that appears
19 defective. Material rejected before placement shall not be incorporated into the pavement. Any
20 rejected section of Roadway shall be removed.
21

22 No payment will be made for the rejected materials or the removal of the materials unless the
23 Contractor requests that the rejected material be tested. If the Contractor elects to have the rejected
24 material tested, a minimum of three representative samples will be obtained and tested.
25 Acceptance of rejected material will be based on conformance with the nonstatistical acceptance
26 Specification. If the CPF for the rejected material is less than 0.75, no payment will be made for the
27 rejected material; in addition, the cost of sampling and testing shall be borne by the Contractor. If
28 the CPF is greater than or equal to 0.75, the cost of sampling and testing will be borne by the
29 Contracting Agency. If the material is rejected before placement and the CPF is greater than or
30 equal to 0.75, compensation for the rejected material will be at a CPF of 0.75. If rejection occurs
31 after placement and the CPF is greater than or equal to 0.75, compensation for the rejected
32 material will be at the calculated CPF with an addition of 25 percent of the unit Contract price added
33 for the cost of removal and disposal.
34

5-04.3(11)D Rejection - A Partial Sublot

35 In addition to the random acceptance sampling and testing, the Engineer may also isolate from a
36 normal sublot any material that is suspected of being defective in relative density, gradation or
37 asphalt binder content. Such isolated material will not include an original sample location. A
38 minimum of three random samples of the suspect material will be obtained and tested. The material
39 will then be statistically evaluated as an independent lot in accordance with Section 1-06.2(2).
40

5-04.3(11)E Rejection - An Entire Sublot

41 An entire sublot that is suspected of being defective may be rejected. When a sublot is rejected a
42 minimum of two additional random samples from this sublot will be obtained. These additional
43

1 samples and the original subplot will be evaluated as an independent lot in accordance with Section
2 1-06.2(2).

3 4 **5-04.3(11)F Rejection - A Lot in Progress**

5 The Contractor shall shut down operations and shall not resume HMA placement until such time as
6 the Engineer is satisfied that material conforming to the Specifications can be produced:

- 7
8 1. When the Composite Pay Factor (CPF) of a lot in progress drops below 1.00 and the
9 Contractor is taking no corrective action, or
- 10 2. When the Pay Factor (PF) for any constituent of a lot in progress drops below 0.95 and the
11 Contractor is taking no corrective action, or
- 12 3. When either the PFI for any constituent or the CPF of a lot in progress is less than 0.75.

13 14 **5-04.3(11)G Rejection - An Entire Lot (Mixture or Compaction)**

15 An entire lot with a CPF of less than 0.75 will be rejected.

16 17 **5-04.3(12) Joints**

18 19 **5-04.3(12)A HMA Joints**

20 21 **5-04.3(12)A1 Transverse Joints**

22 The Contractor shall conduct operations such that the placing of the top or wearing course is a
23 continuous operation or as close to continuous as possible. Unscheduled transverse joints will be
24 allowed and the roller may pass over the unprotected end of the freshly laid mixture only when the
25 placement of the course must be discontinued for such a length of time that the mixture will cool
26 below compaction temperature. When the Work is resumed, the previously compacted mixture shall
27 be cut back to produce a slightly beveled edge for the full thickness of the course.

28
29 A temporary wedge of HMA constructed on a 20H:1V shall be constructed where a transverse joint
30 as a result of paving or planing is open to traffic. The HMA in the temporary wedge shall be
31 separated from the permanent HMA by strips of heavy wrapping paper or other methods approved
32 by the Engineer. The wrapping paper shall be removed and the joint trimmed to a slightly beveled
33 edge for the full thickness of the course prior to resumption of paving.

34
35 The material that is cut away shall be wasted and new mix shall be laid against the cut. Rollers or
36 tamping irons shall be used to seal the joint.

37 38 **5-04.3(12)A2 Longitudinal Joints**

39 The longitudinal joint in any one course shall be offset from the course immediately below by not
40 more than 6 inches nor less than 2 inches. All longitudinal joints constructed in the wearing course
41 shall be located at a lane line or an edge line of the Traveled Way. A notched wedge joint shall be
42 constructed along all longitudinal joints in the wearing surface of new HMA unless otherwise
43 approved by the Engineer. The notched wedge joint shall have a vertical edge of not less than the
44 maximum aggregate size or more than $\frac{1}{2}$ of the compacted lift thickness and then taper down on a
45 slope not steeper than 4H:1V. The sloped portion of the HMA notched wedge joint shall be
46 uniformly compacted.

1
2 **5-04.3(12)B Bridge Paving Joint Seals**
3

4 **5-04.3(12)B1 HMA Sawcut and Seal**

5 Prior to placing HMA on the bridge deck, establish sawcut alignment points at both ends of the
6 bridge paving joint seals to be placed at the bridge ends, and at interior joints within the bridge deck
7 when and where shown in the Plans. Establish the sawcut alignment points in a manner that they
8 remain functional for use in aligning the sawcut after placing the overlay.
9

10 Submit a Type 1 Working Drawing consisting of the sealant manufacturer's application procedure.
11

12 Construct the bridge paving joint seal as specified on the Plans and in accordance with the detail
13 shown in the Standard Plans. Construct the sawcut in accordance with the detail shown in the
14 Standard Plan. Construct the sawcut in accordance with Section 5-05.3(8)B and the manufacturer's
15 application procedure.
16

17 **5-04.3(12)B2 Paved Panel Joint Seal**

18 Construct the paved panel joint seal in accordance with the requirements specified in section 5-
19 04.3(12)B1 and the following requirement:
20

- 21 1. Clean and seal the existing joint between concrete panels in accordance with Section 5-
22 01.3(8) and the details shown in the Standard Plans.
23

24 **5-04.3(13) Surface Smoothness**

25 The completed surface of all courses shall be of uniform texture, smooth, uniform as to crown and
26 grade, and free from defects of all kinds. The completed surface of the wearing course shall not
27 vary more than $\frac{1}{8}$ inch from the lower edge of a 10-foot straightedge placed on the surface parallel
28 to the centerline. The transverse slope of the completed surface of the wearing course shall vary
29 not more than $\frac{1}{4}$ inch in 10 feet from the rate of transverse slope shown in the Plans.
30

31 When deviations in excess of the above tolerances are found that result from a high place in the
32 HMA, the pavement surface shall be corrected by one of the following methods:
33

- 34 1. Removal of material from high places by grinding with an approved grinding machine, or
35 2. Removal and replacement of the wearing course of HMA, or
36 3. By other method approved by the Engineer.
37

38 Correction of defects shall be carried out until there are no deviations anywhere greater than the
39 allowable tolerances.
40

41 Deviations in excess of the above tolerances that result from a low place in the HMA and deviations
42 resulting from a high place where corrective action, in the opinion of the Engineer, will not produce
43 satisfactory results will be accepted with a price adjustment. The Engineer shall deduct from monies
44 due or that may become due to the Contractor the sum of \$500.00 for each and every section of
45 single traffic lane 100 feet in length in which any excessive deviations described above are found.

1
2 When utility appurtenances such as manhole covers and valve boxes are located in the traveled
3 way, the utility appurtenances shall be adjusted to the finished grade prior to paving. This
4 requirement may be waived when requested by the Contractor, at the discretion of the Engineer or
5 when the adjustment details provided in the project plan or specifications call for utility
6 appurtenance adjustments after the completion of paving.

7
8 Utility appurtenance adjustment discussions will be included in the Pre-Paving planning (5-
9 04.3(14)B3). Submit a written request to waive this requirement to the Engineer prior to the start of
10 paving.

11 **5-04.3(14) Planing (Milling) Bituminous Pavement**

12 The planing plan must be approved by the Engineer and a pre planing meeting must be held prior
13 to the start of any planing. See Section 5-04.3(14)B2 for information on planing submittals.
14

15
16 Locations of existing surfacing to be planed are as shown in the Drawings.
17

18 For mainline planing operations, use equipment with automatic controls and with sensors for either
19 or both sides of equipment. The controls shall be capable of sensing the grade from an outside
20 reference line, or a mat-referencing device. The automatic controls shall have a transverse slope
21 controller capable of maintaining the mandrel at the desired transverse slope (expressed as a
22 percentage) within plus or minus 0.1 percent.
23

24 Where planing an existing pavement is specified in the Contract, the Contractor must remove
25 existing surfacing material and to reshape the surface to remove irregularities. The finished product
26 must be a prepared surface acceptable for receiving an HMA overlay.
27

28 Use the cold milling method for planing unless otherwise specified in the Contract. Do not use the
29 planer on the final wearing course of new HMA.
30

31 Conduct planing operations in a manner that does not tear, break, burn, or otherwise damage the
32 surface which is to remain. The finished planed surface must be slightly grooved or roughened and
33 must be free from gouges, deep grooves, ridges, or other imperfections. The Contractor must repair
34 any damage to the surface by the Contractor's planing equipment, using an Engineer approved
35 method.
36

37 The Contractor where necessary shall plane or grind, and provide any hand work necessary to work
38 around utility appurtenances, castings, lids, curbs, gutters, sidewalks, manholes, and catch basins
39 to provide smooth transition of pavement to the finished thickness and grade as staked in the field
40 or approved by the Engineer.
41

42 Repair or replace any metal castings and other surface improvements damaged by planing, as
43 determined by the Engineer.
44

1 A tapered wedge cut must be planed longitudinally along curb lines sufficient to provide a minimum
2 of 4 inches of curb reveal after placement and compaction of the final wearing course. The
3 dimensions of the wedge must be as shown on the Drawings or as specified by the Engineer.
4

5 A tapered wedge cut must also be made at transitions to adjoining pavement surfaces (meet lines)
6 where butt joints are shown on the Drawings. Cut butt joints in a straight line with vertical faces 2
7 inches or more in height, producing a smooth transition to the existing adjoining pavement.
8

9 After planing is complete, planed surfaces must be swept, cleaned, and if required by the Contract,
10 patched and preleveled.
11

12 The Engineer may direct additional depth planing. Before performing this additional depth planing,
13 the Contractor must conduct a hidden metal in pavement detection survey as specified in Section 5-
14 04.3(14)A.
15

16 **5-04.3(14)A Pre-Planing Metal Detection Check**

17 Before starting planing of pavements, and before any additional depth planing required by the
18 Engineer, the Contractor must conduct a physical survey of existing pavement to be planed with
19 equipment that can identify hidden metal objects.
20

21 Should such metal be identified, promptly notify the Engineer.
22

23 See Section 1-07.16(1) regarding the protection of survey monumentation that may be hidden in
24 pavement.
25

26 The Contractor is solely responsible for any damage to equipment resulting from the Contractor's
27 failure to conduct a pre-planing metal detection survey, or from the Contractor's failure to notify the
28 Engineer of any hidden metal that is detected.
29

30 **5-04.3(14)B Paving and Planing Under Traffic**

31 **5-04.3(14)B1 General**

32 In addition the requirements of Section 1-07.23 and the traffic controls required in Section 1-10, and
33 unless the Contract specifies otherwise or the Engineer approves, the Contractor must comply with
34 the following:
35

36 **1. Intersections:**

- 37
- 38 a. Keep intersections open to traffic at all times, except when paving or planing operations
39 through an intersection requires closure. Such closure must be kept to the minimum time
40 required to place and compact the HMA mixture, or plane as appropriate. For paving,
41 schedule such closure to individual lanes or portions thereof that allows the traffic volumes
42 and schedule of traffic volumes required in the approved traffic control plan. Schedule work
43 so that adjacent intersections are not impacted at the same time and comply with the traffic
44 control restrictions required by the Traffic Engineer. Each individual intersection closure or
45 partial closure, must be addressed in the traffic control plan, which must be submitted to
46 and accepted by the Engineer, see Section 1-10.2(2).

1 b. When planing or paving and related construction must occur in an intersection, consider
2 scheduling and sequencing such work into quarters of the intersection, or half or more of an
3 intersection with side street detours. Be prepared to sequence the work to individual lanes
4 or portions thereof.

5 c. Should closure of the intersection in its entirety be necessary, and no trolley service is
6 impacted, keep such closure to the minimum time required to place and compact the HMA
7 mixture, plane, remove asphalt, tack coat, and as needed.

8 d. Any work in an intersection requires advance warning in both signage and a number of
9 Working Days advance notice as determined by the Engineer, to alert traffic and
10 emergency services of the intersection closure or partial closure.

11 e. Allow new compacted HMA asphalt to cool to ambient temperature before any traffic is
12 allowed on it. Traffic is not allowed on newly placed asphalt until approval has been
13 obtained from the Engineer.

14 2. Temporary centerline marking, post-paving temporary marking, temporary stop bars, and
15 maintaining temporary pavement marking must comply with Section 8-23.

16 3. Permanent pavement marking must comply with Section 8-22.

17 **5-04.3(14)B2 Submittals – Planing Plan and HMA Paving Plan**

18 The Contractor must submit a separate planing plan and a separate paving plan to the Engineer at
19 least 5 Working Days in advance of each operation's activity start date. These plans must show
20 how the moving operation and traffic control are coordinated, as they will be discussed at the pre-
21 planing briefing and pre-paving briefing. When requested by the Engineer, the Contractor must
22 provide each operation's traffic control plan on 24 x 36 inch or larger size Shop Drawings with a
23 scale showing both the area of operation and sufficient detail of traffic beyond the area of operation
24 where detour traffic may be required. The scale on the Shop Drawings is 1 inch = 20 feet, which
25 may be changed if the Engineer agrees sufficient detail is shown.
26

27
28 The planing operation and the paving operation include, but are not limited to, metal detection,
29 removal of asphalt and temporary asphalt of any kind, tack coat and drying, staging of supply
30 trucks, paving trains, rolling, scheduling, and as may be discussed at the briefing.
31

32 When intersections will be partially or totally blocked, provide adequately sized and noticeable
33 signage alerting traffic of closures to come, a minimum 2 Working Days in advance. The traffic
34 control plan must show where police officers will be stationed when signalization is or may be,
35 countermanded, and show areas where flaggers are proposed.
36

37 At a minimum, the planing and the paving plan must include:
38

- 39 1. A copy of the accepted traffic control plan, see Section 1-10.2(2), detailing each day's traffic
40 control as it relates to the specific requirements of that day's planing and paving. Briefly
41 describe the sequencing of traffic control consistent with the proposed planing and paving
42 sequence, and scheduling of placement of temporary pavement markings and channelizing
43 devices after each day's planing, and paving.
- 44 2. A copy of each intersection's traffic control plan.
- 45 3. Haul routes from Supplier facilities, and locations of temporary parking and staging areas,
46 including return routes. Describe the complete round trip as it relates to the sequencing of
47 paving operations.

- 1 4. Names and locations of HMA Supplier facilities to be used.
- 2 5. List of all equipment to be used for paving.
- 3 6. List of personnel and associated job classification assigned to each piece of paving
- 4 equipment.
- 5 7. Description (geometric or narrative) of the scheduled sequence of planing and of paving,
- 6 and intended area of planing and of paving for each day's work, must include the directions
- 7 of proposed planing and of proposed paving, sequence of adjacent lane paving, sequence
- 8 of skipped lane paving, intersection planing and paving scheduling and sequencing, and
- 9 proposed notifications and coordinations to be timely made. The plan must show HMA joints
- 10 relative to the final pavement marking lane lines.
- 11 8. Names, job titles, and contact information for field, office, and plant supervisory personnel.
- 12 9. A copy of the approved Mix Designs.
- 13 10. Tonnage of HMA to be placed each day.
- 14 11. Approximate times and days for starting and ending daily operations.

15 **5-04.3(14)B3 Pre-Paving and Pre-Planing Briefing**

16 At least 2 Working Days before the first paving operation and the first planing operation, or as
17 scheduled by the Engineer for future paving and planing operations to ensure the Contractor has
18 adequately prepared for notifying and coordinating as required in the Contract, the Contractor must
19 be prepared to discuss that day's operations as they relate to other entities and to public safety and
20 convenience, including driveway and business access, garbage truck operations, Metro transit
21 operations and working around energized overhead wires, school and nursing home and hospital
22 and other accesses, other contractors who may be operating in the area, pedestrian and bicycle
23 traffic, and emergency services. The Contractor, and Subcontractors that may be part of that day's
24 operations, must meet with the Engineer and discuss the proposed operation as it relates to the
25 submitted planing plan and paving plan, approved traffic control plan, and public convenience and
26 safety. Such discussion includes, but is not limited to:

- 27 1. General for both Paving Plan and for Planing Plan:
 - 28
 - 29 a. The actual times of starting and ending daily operations.
 - 30 b. In intersections, how to break up the intersection, and address traffic control and
 - 31 signalization for that operation, including use of peace officers.
 - 32 c. The sequencing and scheduling of paving operations and of planing operations, as
 - 33 applicable, as it relates to traffic control, to public convenience and safety, and to other
 - 34 contractors who may operate in the Project Site.
 - 35 d. Notifications required of Contractor activities, and coordinating with other entities and the
 - 36 public as necessary.
 - 37 e. Description of the sequencing of installation and types of temporary pavement markings
 - 38 as it relates to planning and to paving.
 - 39 f. Description of the sequencing of installation of, and the removal of, temporary pavement
 - 40 patch material around exposed castings and as may be needed
 - 41 g. Description of procedures and equipment to identify hidden metal in the pavement, such
 - 42 as survey monumentation, monitoring wells, street car rail, and castings, before planning,
 - 43 see Section 5-04.3(14)B2.
 - 44 h. Description of how flaggers will be coordinated with the planing, paving, and related
 - 45 operations.
 - 46

- i. Description of sequencing of traffic controls for the process of rigid pavement base repairs.
 - j. Other items the Engineer deems necessary to address.
- 2.
- a. When to start applying tack and coordinating with paving.
 - b. Types of equipment and numbers of each type equipment to be used. If more pieces of equipment than personnel are proposed, describe the sequencing of the personnel operating the types of equipment. Discuss the continuance of operator personnel for each type equipment as it relates to meeting Specification requirements.
 - c. Number of JMFs to be placed, and if more than one JMF how the Contractor will ensure different JMFs are distinguished, how pavers and MTVs are distinguished if more than one JMF is being placed at the time, and how pavers and MTVs are cleaned so that one JMF does not adversely influence the other JMF.
 - d. Description of contingency plans for that day's operations such as equipment breakdown, rain out, and Supplier shutdown of operations.
 - e. Number of sublots to be placed, sequencing of density testing, and other sampling and testing.

5-04.3(15) Sealing Pavement Surfaces

Apply a fog seal where shown in the plans. Construct the fog seal in accordance with Section 5-02.3. Unless otherwise approved by the Engineer, apply the fog seal prior to opening to traffic.

5-04.3(16) HMA Road Approaches

HMA approaches shall be constructed at the locations shown in the Plans or where staked by the Engineer. The Work shall be performed in accordance with Section 5-04.

(*****)

5-04.4 Measurement

“HMA Class 3/8 In. PG 58H-22 Fiber Reinforced” per Ton.

(*****)

5-04.5 Payment

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

“HMA Class 3/8 In. PG 58H-22 Fiber Reinforced” per Ton.

The unit contract price per ton for “HMA Class 3/8 In. PG 58H-22 Fiber Reinforced” shall be full compensation for all costs, including paving reinforcing fiber, anti-stripping additive, incurred to carry out the requirements of Section 5-04 except for those costs included in other items which are included in this Subsection and which are included in the Proposal.

(*****)

5-04.5(1) Quality Assurance Price Adjustment

In the event that test results indicate the HMA does not meet specifications, a change order will be issued for the price adjustments for Quality of HMA Mixture and Quality of HMA Compaction based upon these specifications.

1
2 (*****)
3 **5-04.5(1)B Price Adjustments for Quality of HMA Compaction**

4
5 The maximum CPF of a compaction lot is 1.00.

6
7 For each compaction lot of HMA when the CPF is less than 1.00, a Nonconforming Compaction
8 Factor (NCCF) will be determined. THE NCCF equals the algebraic difference of CPF minus 1.00
9 multiplied by 40 percent. The Compaction Price Adjustment will be calculated as the product of the
10 NCCF, the quantity of HMA in the lot in tons and the unit contract price per ton of the mix.

11
12 (*****)
13 The CPF shall be as follows:

14 <u>Compaction</u>	15 <u>CPF</u>
16 91.0% to 91.9%	17 95%
18 90.0% to 90.9%	19 90%
19 89.0% to 89.9%	20 80%
20 88.0% to 88.9%	21 75%
21 At or below 87.9%	22 Mix is removed

23
24 **DIVISION 6**
25 **STRUCTURES**
26

27 **6-01 GENERAL REQUIREMENTS FOR STRUCTURES**

28
29 **6-01.2 Foundation Data**

30 Section 6-01.2 is supplemented with the following:

31
32 (*****)
33 The attached log of test boring pages are reproductions of the original Log of Test Boring for the
34 test holes shown in the Plans that are found in Appendix A.
35
36

37 **6-02 CONCRETE STRUCTURES**

38
39 **6-02.1 Description**

40 Section 6-02.1 is supplemented with the following:

41
42 (*****)
43 The Contractor shall supply and install prestressed concrete slab girders as per the Contract Plans and
44 these specifications. The “Superstructure – Cousins Rd MP 3.15 Bridge” shall be designed to support
45 AASHTO HL-93 loading per the latest version of the WSDOT Bridge Design Manual. Bridge dead
46 loads shall include the Contractor supplied superstructure, the depicted HMA overlay per Contract
47 Plans, a future 0.15-ft HMA overlay (not depicted in the Contract Plans), guardrail, extruded curb, and
48 any other applicable permanent loads related to the superstructure. Precast units shall be connected
49 using weld ties (or an approved equivalent) and grouted per the manufacturer’s recommendation. The

1 outside slab girders shall include a drip edge and embedded bolts for the MASH Tested 31-inch Tall W-
2 Beam Guardrail (TL-2) System depicted in the Contract Plans. All bridge rail materials, fabrication and
3 construction shall be included in the "Superstructure – Cousins Rd MP 3.15 Bridge". Slab girders shall
4 incorporate waterproofing materials at the Portland cement concrete top surface, pigmented sealer at
5 the exposed outside slab girders, and a bitumen coating at slab girder to backfill contact points (precast
6 unit ends, sides and bearing areas).

7
8 Two sets of superstructure plans stamped and certified by a Civil Engineer licensed in the State of
9 Washington shall be provided to Lewis County within forty-five working days of contract award. Plans
10 shall include connection details, lifting details, assembly, and installation details. Contract Plans depict
11 Guardrail with the slab girder superstructure depth at 18-inches and 30-feet wide to accommodate a
12 28-foot (minimum) finished roadway surface and 45-foot length. Variations (within 5%) in
13 superstructure width and/or depth due to various manufacturer's forms or construction methods shall be
14 accepted provided all previously listed requirements and the 28-ft minimum roadway surface is
15 achieved with the proposed superstructure.

16 17 **6-02.2 Materials**

18 Section 6-02.2 is supplemented with the following:

19	(*****)	
20	Asphalt for Waterproofing	9-11.1
21	Waterproofing Fabric	9-11.2
22	Fence and Guardrail	9-16
23		
24		

25 **6-02.3 Construction Requirements**

26 27 **6-02.3(14) Finishing Concrete Surfaces**

28 29 **6-02.3(14)C Pigmented Sealer for Concrete Surfaces**

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

31
32 (April 6, 2009)

33 The color of the pigmented sealer shall be Washington Gray.

34
35 (*****)

36 A waterproof coating shall be applied at slab girder at backfill contact points to prevent
37 corrosion of the embedded concrete. Slab girder ends, sides and bearing areas shall be
38 coated with CSS-1, Asphalt for Waterproofing or other approved material at the
39 manufacturer's plant prior to slab girder shipment to the construction site.

40 41 42 **6-02.4 Measurement**

43 Section 6-02.4 is supplemented with the following:

44
45 (August 2, 2010)

46 ***Superstructure – Cousins Rd MP 3.15 Bridge *** contains the following approximate quantities
47 of materials and work:

48
49 ***

50	PRESTRESSED CONC. SLAB GIRDER	1,350 S.F.
51	ASPHALT FOR WATER PROOFING	1,350 S.F.

1	WATERPROOFING FABRIC (extend fabric 3-ft beyond girder ends)	1,530	S.F.
2	CORROSION PREVENTION COATING	200	S.F.
3	PIGMENTED SEALER	225	S.F.
4	GROUT	2	C.Y.
5	BR. RAIL (Type 31 Side Mounted Guardrail w/ S3x5.7 Post @ 3.125-ft oc)	90	L.F.

6
7 ***

8
9 The quantities are listed only for the convenience of the Contractor in determining the volume of
10 work involved and are not guaranteed to be accurate. The prospective bidders shall verify these
11 quantities before submitting a bid. No adjustments other than for approved changes will be made
12 in the lump sum contract price for ***Superstructure – Cousins Rd MP 3.15 Bridge *** even though
13 the actual quantities required may deviate from those listed.

14
15 **6-02.5 Payment**

16 The third bid item under Section 6-02.5 is supplemented with the following:

17
18 (June 26, 2000)

19 All costs in connection with furnishing and installing the prestressed concrete slab girders, deck
20 waterproofing, corrosion prevention sealer (at embedded concrete areas), grout, and bridge
21 guardrail shall be included in the lump sum contract price for ***“Superstructure – Cousins Rd MP
22 3.15 Bridge”***.

23
24 **6-13, STRUCTURAL EARTH WALLS**

25
26 **6-13.1 Description**

27 (*****)

28 Section 6-13.1 is supplemented with the following:

29
30 The Work includes construction of Geosynthetic Reinforced Soil (GRS) walls for bridge
31 abutments and wingwalls as detailed in these Special Provisions and the Contract Plans
32 (Appendix G). The GRS-IBS Geosynthetic Reinforced Soil Integrated Bridge System Interim
33 Implementation Guide--Chapter 7 Construction (Appendix E) is provided as general guidance
34 for this type of wall construction.

35
36 The Work includes construction of Reinforced Soil Foundations (RSF) for bridge abutments
37 and wingwalls as detailed in these Special Provisions and the Contract Plans (Appendix G).

38
39 **6-13.2 Materials**

40 (*****)

41 Section 6-13.2 is supplemented with the following:

42
43 All Geosynthetic Reinforcement for construction of the GRS and RSF abutments and wingwalls
44 shall meet the following material requirements:

45 Ultimate Tensile Strength--4,800 lb/ft

46 (Geotextiles ASTM D 4595 or geogrids ASTM D 6637)

47 Tensile Strength at 2% Strain--920 lb/ft

48 Splicing shall be per the manufacturer’s recommendation

49 Submit technical data for and samples of Geotextile for approval by the Engineer

1 Concrete Masonry Unit (CMU) blocks shall meet material requirements of Section 9-12 *Masonry*
2 *Units* be gray in color and exposed blocks (above solid core blocks) shall include a gray colored
3 fractured surface finish. The Contractor may submit alternate block material types or gravity
4 systems for review. Block material is a facing component only, therefore, proposed blocks can
5 be different dimensions from the planned CMUs. Lewis County will make every effort to work
6 with Contractors for review (after bid award) and approval of alternate block types that meet the
7 project's overall objective.

8
9 Polystyrene Foam Board shall conform to AASHTO M230, Type IV.

10
11 Backfill material shall meet the requirements of Special Provision 9-03.14(4) Gravel Borrow for
12 Structural Earth Wall—Geosynthetic Reinforcement.

13 14 **6-13.3 Construction Requirements**

15 (*****)

16 Section 6-13.3 is supplemented with the following:

17
18 GRS bridge abutments and wingwalls shall be constructed using CMUs, Geosynthetic Reinforcement
19 (Geotextile and GeoGrid), and Gravel Borrow for Structural Earth Walls Incl. Haul (Crushed Surfacing
20 Base Course) per the Contract Plans. Geotextile fabric shall be pulled taut to remove all wrinkles and
21 lay flat prior placing and compacting the backfill material. Splices shall be 24-inches minimum apart
22 outside the beam seat and bearing bed zone per the manufacturer's requirements (no splices are
23 allowed in the beam seat and bearing bed zones). Construction equipment shall not be allowed directly
24 on the Geotextile, place a 4-inch minimum backfill material lift height prior to compacting. Wheeled
25 compaction equipment shall not be allowed within 3-feet of the wall face and restrict all construction
26 equipment to 5 MPH or less with no sudden stopping/turning when transporting material. CMU blocks
27 shall be staggered, including corners, so there are no vertical joints greater than one CMU block high
28 and all blocks shall be set with a vertical wall face batter of 0-degrees. The wall shall be checked for
29 level alignment of CMU block rows at least every other Geosynthetic Reinforcement layer. Correct any
30 alignment deviations greater than 0.25-inches. The top three CMU blocks in the GRS abutment wall
31 and wingwalls shall be core filled with commercial concrete and include a #4 rebar (grade 60 epoxy
32 coated) in each block cell. The beam seat shall include a solid CMU, 4-inch polystyrene foam board
33 immediately behind the block wall, and core filled top sloping away from the wall under the bridge
34 (rounded coping cap elsewhere) as depicted in the Contract Plans.

35
36 RSF shall be constructed using Geosynthetic Reinforcement encapsulating the entire foundation with 3-
37 ft (minimum) Geosynthetic Reinforcement overlap tails on the downstream end. The RSF shall be
38 constructed with material compacted in lifts not to exceed 0.5-feet.

39 40 **6-13.3(7) Backfill**

41 (*****)

42 Section 6-13.3(7), fifth paragraph is replaced with the following:

43
44 Layer thickness within the beam seat zone and bearing bed zone shall not exceed 4-inches and shall
45 be compacted to 98 percent of the maximum density as determined by the compaction control tests
46 described in Section 2-03.3(14)D. Layer thickness elsewhere within the GRS shall not exceed 8-
47 inches. Layer thickness prior to compaction efforts shall not exceed 0.5-feet within the RSF. Backfill
48 material in the RSF and GRS (outside the beam seat and bearing zones) shall be compacted to 95
49 percent of the maximum density as determined by the compaction control tests described in Section 2-
50 03.3(14)D. The Contractor shall not use sheepfoot rollers or rollers with protrusions for compacting
51 backfill material with Geosynthetic Reinforcement. The Contractor shall compact the backfill material

1 within the zone within 3-feet of the face of the CMU blocks in a manner that achieves compaction
2 without causing damage to or distortion of the lower CMU blocks.

3
4 The Contracting Agency may conduct a minimum of two random compaction tests per lift to verify the
5 Contractors compaction effort meets the compaction percentage as described in the Contract Plans.

6 7 **6-13.4 Measurement**

8 (*****)

9 Section 6-13.4 is replaced with the following:

10
11 “Structural Earth Wall” shall be measured by the square foot of completed vertical wall in place and
12 shall include all material (Geosynthetic Reinforcement, CMUs, concrete, rebar, polystyrene, etc.), labor
13 and equipment necessary to complete the wall. The bottom limits for vertical measurement shall be the
14 bottom of the RSF. The top limit for vertical measurement shall be the top of the wall as shown on the
15 Contract Plans. The horizontal limits for measurement shall be from the end of the wall to the end of
16 the wall.

17
18 “Gravel Borrow for Structural Earth Wall Incl. Haul”, shall be measured per cubic yard for material
19 compacted and incorporated into the project as depicted in the Contract Plans. Measurements for this
20 bid item shall be determined by computer aided drafting software based on planned excavation limits.
21 The Contractor shall be responsible for supplying, hauling and compaction of material replacement due
22 to excavation beyond the plan limits for the GRS and RSF.

23 24 **6-13.5 Payment**

25 (*****)

26 Section 6-13.5 paragraph three is replaced with the following:

27
28 “Structural Earth Wall” per square foot of completed wall shall be full payment for all material
29 (Geosynthetic Reinforcement, CMUs, concrete, rebar, polystyrene, etc.), labor and equipment
30 necessary to complete the wall as depicted in the Contract Plans and described in the Special
31 Provisions.

32 33 34 **DIVISION 8** 35 **MISCELLANEOUS CONSTRUCTION**

36 37 **8-01, EROSION CONTROL AND WATER POLLUTION CONTROL**

38 39 **8-01.3 Construction Requirements**

40 Section 8-01.3 is supplemented with the following:

41 42 **Treatment of pH for Concrete Work**

43 Stormwater or dewatering water that has come in contact with concrete rubble, concrete pours,
44 concrete grindings or cement treated soils shall be maintained between pH 6.5 and pH 8.5 before
45 it is allowed to enter surface waters and discharges shall not cause a receiving water pH change of
46 more than 0.2 pH units.

1 The Contractor shall test runoff during each rain event causing runoff to leave the project site
2 during concrete pouring, grinding, rubblizing activities, when soils are being treated with cement
3 and during the first three storms following those activities. If discharging directly to surface waters
4 the Contractor shall test the pH of the water at the point of discharge, once the pour or grinding
5 has begun for each shift, and periodically, as requested by the Engineer, thereafter. If a test
6 indicates the pH is above 8.5, the Contractor shall immediately discontinue work and initiate
7 treatment according to the plan to lower the pH.

8
9 Unless specific measures are identified in the Special Provisions, the pH of water may be reduced
10 by infiltration, or dispersion in vegetation or compost.

11
12 Work may resume, with treatment, once the pH of the treated material is between 6.5 and 8.5 or it
13 can be demonstrated that the runoff will not reach surface waters.

14
15 Any additional BMP items as stated in the TESC Plan and ordered to be placed by the Engineer
16 but not included in the Proposal shall be paid by force account as provided in Section 1-09.6 of the
17 Standard Specifications.

18
19 **8-01.3(1) General**
20 (April 3, 2006)

21
22 **8-01.3(1)A Submittals**

23 Section 8-01.3(1)A is supplemented with the following:

24
25 Prior to beginning any concrete or grinding work, the Contractor shall submit a plan, for the
26 Engineer's review and approval, outlining the procedures to be used to prevent high pH
27 stormwater or dewatering water from entering surface waters. The plan shall include how the pH
28 of the water will be maintained between pH 6.5 and pH 8.5 prior to being discharged from the
29 project or entering surface waters.

30
31
32 **8-01.3(3) Placing Biodegradable Erosion Control Blanket**
33 (*****)

34 Section 8-01.3(3) is supplemented with the following:

35
36 The Contractor shall place Biodegradable Erosion Control Blanket on slopes steeper than 3:1
37 (Section 9-14.5(2)D, Table 6 of the Standard Specifications) where shown in the plans.
38 Biodegradable Erosion Control Blanket shall be installed per WSDOT Standard Plan I-60.10. Prior
39 to placing Erosion Control Blanket the Contractor shall hand seed area with seed mix as described
40 in this Special Provision.

41
42 **8-01.5 Payment**
43 (*****)

44 Section 8-01.5 is supplemented with the following:

45
46 The unit contract price per Linear Foot (L.F.) for "High Visibility Silt Fence" shall be full pay for
47 all cost to obtain, install, maintain, and remove the fence as specified. Once removed, the
48 fencing shall remain the property of the Contractor.

1 The unit contract price per square yard for “Biodegradable Erosion Control Blanket” shall be full
2 pay for furnishing and installing the specified Biodegradable Erosion Control Blanket and seed
3 mix. The seed mix shall be considered incidental to this bid item.
4

5 8-02 ROADSIDE RESTORATION

6 8-02.1 Description

7 Section 8-02.1 is supplemented with the following:
8

9 (*****)

10 The work described in this section, regardless of the nature or type of the materials encountered,
11 includes supplying plant material, planting, installing plant protectors, installing weed barrier mats
12 (at tree and shrub locations in Zone 2) and installing identification stakes as shown in the Contract
13 Plans, marked in the field, and as directed by the Engineer. This work shall be accomplished in
14 accordance with all environmental permits regulating the work.
15

16 8-02.3 Construction Requirements

17 8-02.3(9)C Seeding with Fertilizers and Mulches

18 Section 8-02.3(9)C is supplemented with the following:
19

20 Seed Mix - Roadside: Grass seed, of the following composition, proportion, and quality shall be
21 applied at the rate of ***80 *** pounds of pure live seed per acre on all areas requiring permanent
22 roadside seeding within the project limits.
23

24 Kind and Variety of 25 Seed in Mixture by 26 Common Name and 27 <u>(Botanical name)</u>	28 Pounds Pure Live Seed 29 (PLS) Per Acre
30 Deschampsia elongata 31 Slender Hairgrass	32 5.88
33 <i>Elymus glaucus</i> 34 Blue Wildrye	35 39
36 Festuca idahonesis 37 Idaho Fescue	38 12.74
39 <i>Festuca ovina</i> 40 Sheep Fescue	41 4.21
42 <i>Hordeum brachyantherum</i> 43 Meadow Barley	44 16.86
45 <i>Koeler cristata</i> 46 Prairie Junegrass	47 1.31
48 Total Pounds PLS Per Acre	49 80

After seeding the Contractor shall be responsible to ensure a healthy stand of grass, otherwise, the Contractor shall, restore eroded areas, clean up materials, and reapply the seed, at no cost to the Contracting Agency.

Seeds shall be certified “Weed Free,” indicating there are no noxious or nuisance weeds in the seed.

8-02.3(6) Mulch and Amendments

(*****)

Section 8-02.3(6) is supplemented with the following:

Long-Term Wood Cellulose Fiber mulch shall be applied at a rate of 4,000 pounds per acre with all permanent seed mixes and shall conform to Section 9-14.4(2)A Long-Term Mulch of the Standard Specifications. No more than 2,000 pounds shall be applied in any single lift.

Tackifiers with mulch tracer shall be applied per the manufacturer’s recommendation. PAM shall be added to seed mixes at the time of hydraulic application. Application rates and methods shall conform to Section 8-01.3(2)E of the Standard Specifications.

8-02.3(8)B Plant Installation

(*****)

Section 8-02.3(8) is supplemented with the following:

STREAMSIDE MITIGATION PLANTING CONSTRUCTION

The Contractor shall grade, plant, and otherwise construct mitigated planting areas as shown in the Contract Plans, marked in the field, and required by the Engineer. The planting of the enhancement sites shall be performed by a biologist, horticulturist, landscape architect or other similar professional. The credentials of the supervisor of this work shall be approved by the Engineer prior to beginning work on this item.

Planting Zones

Planting zones shall be as follows:

Planting Zone	Scientific Name	Common Name	Type	Size of Plants (Material)	Planting Density (Spacing)	Monitoring Stake Marking Color	Number of Plants
Zone 1 OHWM to 1-ft Above 100-yr Flood Elevation (Live Stakes @ NW quadrant only)	<i>Thuja Plicata</i>	Western Red Cedar	T	2 gallon container	12' centers	Red	7
	<i>Alnus rubra</i>	Red Alder	S	2 gallon container	12' centers	White	7
	<i>Lonicera involucrata</i>	Black Twinberry	S	1 gallon container	5' centers	Blue	42
	<i>Acer circinatum</i>	Vine Maple	T/S	1 gallon container	5' centers	Green	42
	<i>Salix sitchensis</i>	Sitka Willow	T/S	live stakes (3/4" Diam. X 18")	3' centers	Yellow (ribbon only)	50
Zone 2: Riparian Zone Outside Road Right of Way	<i>Pseudotsuga menziesii</i>	Douglas fir	T	2 gallon container	12' centers	Orange	17
	<i>Gaultheria shallon</i>	Salal	S	1 gallon container	5' centers	Black	32
	<i>Mahonia aquifolium</i>	Oregon Grape	S	1 gallon container	5' centers	Purple	32
	<i>Oemleria cerasiformis</i>	Indian Plum	S	1 gallon container	5' centers	Brown	32

1 **8-02.3(13) Plant Establishment**

2 (*****)

3 Section 8-02.3(13) is replaced with the following:

4 **Plant Establishment**

5 (*****)

6
7 The Contractor shall provide a one-year plant guarantee period from the date of final acceptance,
8 in accordance with performance standards of local, state and federal permits. At the end of the
9 one-year guarantee period, all dead and unacceptable plant materials shall be replaced by the
10 Contractor at the Contractor's expense. The Contractor shall provide maintenance and monitoring
11 efforts during the guarantee period.

12
13 All shrubs and trees in Zone 2 shall be marked with a monitoring stake and include a
14 biodegradable 3-foot square (or diameter) weed control mat. Weed control mats shall be Kraft
15 Paper Square Mulch Mat, Vispore Tree Mat, Tree Square Mat, DeWitt Tree Mat Circle, or an
16 equivalent weed control mat approved by the Engineer. Monitoring stakes shall be installed to a
17 depth of 18 inches. Monitoring stakes shall be three to six feet above grade. The top six inches of
18 the monitoring stakes shall be painted and color coded to species, to aid in identification of dead
19 and/or missing species.

20
21 (*****)

22 Plant Protectors shall be placed around all tree and shrub species to be planted with the exception
23 of *willow stakes* and *vine maple*. Plant protectors shall be made of solid flexible plastic and should
24 be held in place with bamboo or wood stakes. Plant protectors shall be installed to a depth of
25 three inches below the soil surface and extend nine to twelve inches above the surface. Stakes
26 should extend a minimum two inches below and minimum two inches above the plant protector
27 and be placed 2 to 3 inches away from the plant. Plant protectors shall be secured to stakes with
28 a minimum of two zip ties or equivalent.

29
30 **8-02.3(14) Plant Replacement**

31 (*****)

32 8-02.03(14) is supplemented with the following:

33
34 Monitoring stakes will be installed to a depth of 18 inches. Monitoring stakes should be three feet
35 above grade. The top six inches of the monitoring stakes shall be painted, with permanent paint
36 (anticipated to last a period of 5 years) using the table provided above, to aid in identification of
37 dead and/or missing species.

38
39 **8-02.4 Measurement**

40 Section 8-02.4 is supplemented with the following:

41
42 (*****)

43 "Streamside Mitigation Planting", no specific unit of measure will apply to this lump sum item.
44 Items specified are approximate and are provided for estimating purposes only. The successful
45 Contractor shall provide the Contracting Agency a lump sum breakdown of all items after bid
46 award.

47
48 **8-02.5 Payment**

49 Section 8-02.5 is supplemented with the following:

50
51 "Streamside Mitigation Planting" per lump sum.

1 The unit contract price per Lump Sum for “Streamside Mitigation Planting” shall be full
2 compensation for furnishing and installing all plants, live stakes, monitoring stakes, weed control
3 mats, and plant protectors - as described in Special Provision and in accordance with the USACE
4 NWP Permit on the project site and all other applicable requirements and regulations. Material
5 descriptions and construction requirements are as described in this Special Provision. The long
6 term monitoring and maintenance (after one-year plant guarantee period) shall be completed by
7 others.

8
9 “Seeding and Mulching” per acre.

10 The unit contract price per acre for “Seeding and Mulching” shall be full pay for furnishing and
11 installing the specified seed mix, mulch, and PAM, chemical weed and grass control/removal
12 immediately prior to seeding to produce the specified surface conditions, scarification of
13 compacted areas, minor filling of ruts, and all material and equipment necessary and incidental to
14 the approved application of the specified seed.

15 16 **8-11, GUARDRAIL**

17 **8-11.3(1) Beam Guardrail**

18 (*****)

19 Section 8-11.3(1) is supplemented with the following:

20
21 All posts for this project shall be galvanized steel posts. See Section 9-16.3(2) Posts and Blocks
22 of these Special Provisions.

23 24 **8-15 RIPRAP**

25 26 **8-15.2 Materials**

27 (*****)

28 Section 8-15.1 is supplemented with the following:

29		
30	Rock for Erosion Control and Scour Protection Class B	9-13.4(2)
31		
32	Rock for Filter Blanket shall meet the gradation requirements	9-03.9(3)
33	for Crushed Surfacing Base Course	
34		
35	Streambed Sediment	9-03.11(1)
36		
37	10” Cobbles	9-03.11(2)
38		

39 40 **8-15.3 Construction Requirements**

41 (*****)

42 Section 8-15.3 is supplemented with the following:

43 44 45 **Streambed Mix**

46
47 The Contractor shall create “Streambed Mix” by combining 2 parts Streambed Sediment and 1 part
48 12” Cobbles on-site or prior to hauling. Place Streambed Mix in the new stream channel and
49 culvert as profiled and detailed in the Plans. Streambed mix shall be placed in approximately 1-foot

1 lifts. Additional Streambed Sediment shall be placed on top of the Streambed Mix to provide
2 stability to the cobble mix and be placed in area of voids and watered to create a uniform, non-
3 porous bed. Applications of watering and infilling shall be repeated until all visible voids are filled
4 with Streambed Sediment and the surface is sealed. This additional Streambed Sediment shall be
5 paid as "Streambed Mix".

6
7 **8-15.3(7) Filter Blanket**

8 Section 8-15.3(7) is supplemented with the following:

9
10 Filter Blanket material shall be placed over the RSF and along the CMU wall to provide an
11 approximate 0.5-foot cushion for placement of scour protection rock. **The Filter Blanket material**
12 **shall be considered incidental to "Rock for Erosion Control and Scour Protection Class B" per**
13 **ton bid item.**

14
15 **8-15.4 Measurement**

16 (*****)

17 Section 8-15.4 is supplemented with the following:

18
19 "Rock for Erosion Control and Scour Protection Class B" will be measured per Ton. The unit
20 contract price per ton for Rock for Erosion Control and Scour Protection Class B shall be full
21 pay for furnishing all labor, tools, materials (including Filter Blanket material), and equipment
22 required to place material as shown in the Contract Plans.

23
24 "Streambed Mix" will be measured per Ton. The unit contract price per ton for Streambed Mix
25 shall be full pay for furnishing all labor, mixing, haul, tools, materials, and equipment required
26 to place material as shown in the Contract Plans.

27
28 **8-15.5 Payment**

29 (*****)

30 Section 8-15.5 is supplemented with the following:

31
32 "Rock for Erosion Control and Scour Protection Class B" per Ton.

33 The unit contract price per ton for the class or kind of riprap specified shall be full pay for
34 furnishing all labor, tools, equipment, and materials required to construct the riprap, except for
35 excavation.

36
37 "Streambed Mix" per Ton.

38
39 **DIVISION 9**
40 **MATERIALS**

41 (*****)

42 **SECTION 9-02, BITUMINOUS MATERIALS**

43
44 **9-02.1 Asphalt Material, General**

45 The second paragraph is revised to read:

46
47 The Asphalt Supplier of Performance Graded (PG) asphalt binder and emulsified asphalt shall
48 have a Quality Control Plan (QCP) in accordance with WSDOT QC 2 "Standard Practice for
49 Asphalt Suppliers That Certify Performance Graded and Emulsified Asphalts". The Asphalt

Supplier's QCP shall be submitted and receive the acceptance of the WSDOT State Materials Laboratory. Once accepted, any change to the QCP will require a new QCP to be submitted for acceptance. The Asphalt Supplier of PG asphalt binder and emulsified asphalt shall certify through the Bill of Lading that the PG asphalt binder or emulsified asphalt meets the Specification requirements of the Contract.

9-02.1(4) Performance Graded Asphalt Binder (PGAB)

This section's title is revised to read:

Performance Graded (PG) Asphalt Binder

The first paragraph is revised to read:

PG asphalt binder meeting the requirements of AASHTO M 332 Table 1 of the grades specified in the Contract shall be used in the production of HMA. For HMA with greater than 20 percent RAP by total weight of HMA, or any amount of RAS, the new asphalt binder, recycling agent and recovered asphalt (RAP and/or RAS) when blended in the proportions of the mix design shall meet the PG asphalt binder requirements of AASHTO M 332 Table 1 for the grade of asphalt binder specified by the Contract.

The second paragraph, including the table, is revised to read:

In addition to AASHTO M 332 Table 1 specification requirements, PG asphalt binders shall meet the following requirements:

		Additional Requirements by Performance Grade (PG) Asphalt Binders					
Property	Test Method	PG58S-22	PG58H-22	PG58V-22	PG64S-28	PG64H-28	PG64V-28
RTFO Residue: Average Percent Recovery @ 3.2 kPa	AASHTO T 350 ¹			30% Min.	20% Min.	25% Min.	30% Min.
¹ Specimen conditioned in accordance with AASHTO T 240 – RTFO.							

The third paragraph is revised to read:

The RTFO $J_{nr diff}$ and the PAV direct tension specifications of AASHTO M 332 are not required.

This section is supplemented with the following:

If the asphalt binder verification sample test results fail to meet AASHTO Test Method T 350 "Standard Method of Test for Multiple Stress Creep Recovery (MSCR) Test of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)" for average percent recovery @ 3.2 kPa for the applicable grades of binder in accordance with Section 9-02.1(4), the Contracting Agency may elect to test the sample using AASHTO Test Method T 301 "Standard Method of Test for Elastic Recovery Test of Asphalt Materials by Means of a Ductilometer."

1 When AASHTO T 301 is used, a minimum of 65% elastic recovery (ER) will be required when
2 tested at 25°C ± 0.5°C.
3

4 9-03 AGGREGATES

5 9-03.8 Aggregates for Hot Mix Asphalt

6 9-03.8 (2) HMA Test Requirements

7 (*****)

8 Section 9-03.8(2) is supplemented with the following:

9 ESAL's

10 The number of ESAL's for the design and acceptance of the HMA for Interstate Avenue shall be
11 *** 1*** million.

12 9-03.8(7) HMA Tolerances and Adjustments

13 (*****)

14 Delete item 1 and replace it with the following:

15
16 1. **Job Mix Formula Tolerances.** After the JMF is determined as required in 5-04.3(7)A, the
17 constituents of the mixture at the time of acceptance shall conform to the following tolerances:
18

	19 Nonstatistical 20 Evaluation	21 Commercial 22 Evaluation
23 Aggregate, percent passing		
24 1", 3/4", 1/2", and 3/8" sieves	±6%	±8%
25 U.S. No. 4 sieve	±6%	±8%
26 U.S. No. 8 sieve	±4%	±8%
27 U.S. No. 16 sieve	±4%	±8%
28 U.S. No. 30 sieve	±4%	±8%
29 U.S. No. 50 sieve	±4%	±8%
30 U.S. No. 100 sieve	±4%	±8%
31 U.S. No. 200 sieve	±2.0%	±3.0%
32 Asphalt Binder	±0.5%	±0.7%
33 VMA	34 1.5% below minimum value in 9-03.8(2)	
35 VFA	36 min. and max. as listed in 9-03.8(2)	
37 Va	38 2.5% minimum and 5.5% maximum	

39
40 These tolerance limits constitute the allowable limits as described in Section 1-06.2. The tolerance
41 limit for aggregate shall not exceed the limits of the control points section, except the tolerance
42 limits for sieves designated as 100% passing will be 99-100.
43

44 9-03.14(4) Gravel Borrow for Structural Earth Wall

45 (*****)

46 Section 9-03.14(4) grading is replaced with the following:

47 Gravel Backfill for Structural Earth Wall

48 Reinforced Soil Foundation (RSF) and Geosynthetic Reinforced Soil (GRS) requirements for
49 material gradation and quality:
50

	Sieve Size	Percent Passing
1		
2	1 ¼-Inch	99-100
3	1-Inch	80-100
4	5/8-Inch	50-80
5	No. 4	20-45
6	No. 40	3-18
7	No. 200	7.5 max.
8	% Fracture	75 min.
9	Sand Equivalent	40 min.

10
11 **9-16.3(2) Posts and Blocks**

12 Section 9-16.3(2) is supplemented with the following:

13
14 (*****)

15 All guardrail posts shall be galvanized steel.
16

17 **POWER EQUIPMENT**

18 (*****)

19 The successful bidder will be required to furnish the County a list of all equipment that they anticipate
20 utilizing on this project.

21
22 The bidder's attention is directed to the attached Power Equipment Form, which the successful bidder
23 will be required to complete and return with the contract documents. This information will enable hourly
24 rental rates to be computed by the County, utilizing the "Rental Rate Blue Book for Construction
25 Equipment". No payment for any force account work will be allowed until this form has been returned
26 and accepted by the County.
27

28 **E-VERIFY**

29 (*****)

30 "Effective June 21st, 2010, all contracts with a value of ≥ \$100,000 shall require that the awarded
31 contractor register with the Department of Homeland Security E-Verify program. Contractors shall have
32 sixty days after the execution of the contract to register and enter into a Memorandum of Understanding
33 (MOU) with the Department of Homeland Security (DHS) E-Verify program. After completing the MOU
34 the contractor shall have an additional sixty days to provide a written record on the authorized
35 employment status of their employees and those of any sub-contractor(s) currently assigned to the
36 contract. Employees hired during the execution of the contract and after submission of the initial
37 verification will be verified to the county within 30 days of hire, as reported from the E-Verify program.
38 The contractor will continue to update the County on all corrective actions required and changes made
39 during the performance of the contract."
40

41 **BOND**

42 (*****)

43 The Bidder's special attention is directed to the attached bond form, which the successful bidder will be
44 required to execute and furnish the County. **NO OTHER BOND FORMS WILL BE ACCEPTED.** The
45 bond shall be for the full amount of the contract.
46

47 **LEWIS COUNTY ESTIMATES AND PAYMENT POLICY**

48 (*****)

1 Payment cutoff shall be the last day of each month, inclusive of that day. On or before the 5th day of
2 each calendar month during the term of this contract, the Contracting Agency shall prepare monthly
3 Progress Payments for work completed and material furnished. If the Contractor agrees, the
4 Contractor will approve the Progress Payment and return the estimate to the Contracting Agency by the
5 15th day of that same calendar month. The Contracting Agency shall prepare a voucher based upon
6 the approved Progress Payment and payment based thereon shall be due the Contractor near the 10th
7 day of the next calendar month. Material Supply contracts involving delivery of prefabricated material
8 or stockpile material only (no physical work on Contracting Agency property) may be reimbursed via
9 Contractor generated invoices upon written approval by the Engineer. Reimbursement by invoice shall
10 not be subject to late charges listed on the Contractor's standard invoice form.

11
12 When the Contractor reports the work is completed he/she shall then notify the Contracting Agency.
13 The Contracting Agency shall inspect the work and report any deficiencies to the Contractor. When the
14 Contracting Agency is satisfied the work has been completed in accordance with all plans and
15 specifications, the Contracting Agency shall then accept the work.

16
17 Upon completion of all work described in this Contract, the Contracting Agency shall prepare a Final
18 Progress Payment and Final Contract Voucher for approval by the Contractor and processing for final
19 payment. Release of the Contract Bond will be 60 days following Contracting Agency Final Acceptance
20 of Contract, provided the conditions of Section 1-03.4 and Section 1-07.2 of these Special Provisions
21 have been satisfied.
22

23 APPENDICES

24 (July 12, 1999)

25 The following appendices are attached and made a part of this contract:

26
27 ***** APPENDIX A:

28 Boring Logs and Vicinity Map

29
30 APPENDIX B:

31 Washington State Prevailing Wage Rates

32 Wage Rate Supplement

33 Wage Rate Benefit Code Key

34
35 APPENDIX C:

36 Bid Proposal Documents

37
38 APPENDIX D:

39 Contract Documents

40
41 APPENDIX E:

42 U.S Dept. of Transportation GRS-IBS Interim Implementation Guide Ch. 7 -- Construction

43
44 APPENDIX F:

45 Environmental Permit Documents

46 Staging Area Map/Agreement

47
48 APPENDIX G:

49 WSDOT Standard Plans

50 Contract Plans *****

(January 13, 2021)

STANDARD PLANS

The State of Washington Standard Plans for Road, Bridge and Municipal Construction M21-01, effective September 30, 2020, is made a part of this contract.

The Standard Plans are revised as follows:

A-50.10
DELETED

A-50.20
DELETED

A-50.30
DELETED

A-50.40
DELETED

B-90.40
Valve Detail – DELETED

C-1a
DELETED

C-8
Add new Note 5, “5. Type 2 Barrier and Barrier Terminals are allowed in temporary installations only. New Type 2 Barrier and Barrier Terminals are not allowed to be fabricated after December 31, 2019. The plan is provided as a means to verify that any Type 2 barrier and Barrier Terminals fabricated prior to December 31, 2019 meets the plan requirements and cross-sectional dimensions as specified in Standard Specifications 6-10.3(5).”

C-8a
Add new Note 2, “2. Type 4 Barrier and Barrier Transition are allowed in temporary installations only. New Type 4 Barrier and Barrier Transition are not allowed to be fabricated after December 31, 2019. The plan is provided as a means to verify that any Type 4 barrier and Barrier Transition fabricated prior to December 31, 2019 meets the plan requirements and cross-sectional dimensions as specified in Standard Specifications 6-10.3(5).”

C-8b
DELETED

C-8e
DELETED

C-8f
DELETED

C-16a
DELETED

C-20.10

The following table is added:

SLOPE \ EMBANKMENT TABLE (FOR 8', 9', 11' LONG POSTS)		
POST LENGTH	SLOPE	W (FT)
8-FOOT	1H : 1V OR FLATTER	2.5 MIN.
8-FOOT	2H : 1V OR FLATTER	0 (FACE OF BARRIER AT SLOPE BREAK POINT)
9-FOOT	1.5H : 1V OR FLATTER	0 (FACE OF BARRIER AT SLOPE BREAK POINT)
11-FOOT	1H : 1V OR FLATTER	0 (FACE OF BARRIER AT SLOPE BREAK POINT)

C-20.11
DELETED

C-20.19
DELETED

C-40.16
DELETED

C-40.18
DELETED

C-80.50
DELETED

C-85.14
DELETED

C-85.15
SECTION B detail, the callout reading "ANCHOR BOLT (TYP.) ~ SEE DETAIL, STANDARD PLAN C-8b", is revised to read "ANCHOR BOLT (TYP.) ~ SEE DETAIL IN PLANS".

SECTION B detail, the callout reading "ANCHOR PLATE (TYP.) ~ SEE STANDARD PLAN J-8b", is revised to read "ANCHOR PLATE (TYP.) ~ SEE DETAIL IN PLANS".

D-2.14
DELETED

D-2.16
DELETED

D-2.18
DELETED

D-2.20
DELETED

D-2.42
DELETED

D-2.44
DELETED

D-2.46
DELETED

D-2.48
DELETED

D-2.82
DELETED

D-2.86
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.

G-20.10

SIGN INSTALLATION BEHIND TRAFFIC BARRIER detail, dimension callout "3' MIN.", is revised to read "5' MIN."

H-70.20

Sheet 2, Spacing Detail, Mailbox Support Type 1, reference to Standard Plan I-70.10 is revised to H-70.10

H-70.30

DELETED

J-10.16

Key Note 14, reads:"Mounting Hole ~ See Standard Plan J-10.30 for mounting Details." Is revised to read:"Mounting Hole ~ See Standard Plan J-10.14 for mounting Details."

General Note 12, reads: "See Standard Plan J-10.30 for pole installation details." Is revised to read: "See Standard Plan J-10.14 for pole installation details."

J-10.17

Key Note 16, reads:"Mounting Hole ~ See Standard Plan J-10.?? for mounting Details." Is revised to read:"Mounting Hole ~ See Standard Plan J-10.14 for mounting Details."

General Note 12, reads: "See Standard Plan J-10.30 for pole installation details." Is revised to read: "See Standard Plan J-10.14 for pole installation details."

J-10.18

Key Note 12, reads: "Mounting Hole ~ See Standard Plan J-10.20 for mounting Details." Is revised to read: "Mounting Hole ~ See Standard Plan J-10.14 for mounting Details."
General Note 12, reads: "See Standard Plan J-10.30 for pole installation details." Is revised to read: "See Standard Plan J-10.14 for pole installation details."

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 ~ 3/4" (IN) x 30" (IN) FULL THREAD ~ THREE REQ'D. PER ASSEMBLY" IS REVISED TO READ: "ANCHOR BOLTS ~ 3/4" (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 1/2" 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 1/2" 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 1/2" 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 1/2" 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 1/2" DIAM., is revised to read; CHASE NIPPLE ~ 1 1/2" (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-28.60

Note 1 “See Standard Plans C-8b and C-85.14 for foundation and anchor bolt details.” is revised to read “See contract for anchor bolt details. See Standard Plan C-85.15 for foundation details.”

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-40.36

Note 1, second sentence; “Finish shall be # 2B for backbox and # 4 for the cover.” Is revised to read; “Finish shall be # 2B for barrier box and HRAP (Hot Rolled Annealed and Pickled) for the cover.

J-40.37

Note 1, second sentence; “Finish shall be # 2B for backbox and # 4 for the cover.” Is revised to read; “Finish shall be # 2B for barrier box and HRAP (Hot Rolled Annealed and Pickled) for the cover.

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

All references to “Type 170 Controller” are replaced with “Controller”.

L-40.10

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-30.35-00.....10/12/07	A-60.10-03.....12/23/14
A-10.20-00.....10/5/07	A-40.00-00.....8/11/09	A-60.20-03.....12/23/14
A-10.30-00.....10/5/07	A-40.10-04.....7/31/19	A-60.30-01.....6/28/18
A-20.10-00.....8/31/07	A-40.15-00.....8/11/09	A-60.40-00.....8/31/07
A-30.10-00.....11/8/07	A-40.20-04.....1/18/17	
A-30.30-01.....6/16/11	A-40.50-02.....12/23/14	
B-5.20-03.....9/9/20	B-30.50-03.....2/27/18	B-75.20-02.....2/27/18

B-5.40-02.....1/26/17	B-30.60-00.....9/9/20	B-75.50-01.....6/10/08
B-5.60-02.....1/26/17	B-30.70-04.....2/27/18	B-75.60-00.....6/8/06
B-10.20-02.....3/2/18	B-30.80-01.....2/27/18	B-80.20-00.....6/8/06
B-10.40-01.....1/26/17	B-30.90-02.....1/26/17	B-80.40-00.....6/1/06
B-10.70-01.....9/9/20	B-35.20-00.....6/8/06	B-85.10-01.....6/10/08
B-15.20-01.....2/7/12	B-35.40-00.....6/8/06	B-85.20-00.....6/1/06
B-15.40-01.....2/7/12	B-40.20-00.....6/1/06	B-85.30-00.....6/1/06
B-15.60-02.....1/26/17	B-40.40-02.....1/26/17	B-85.40-00.....6/8/06
B-20.20-02.....3/16/12	B-45.20-01.....7/11/17	B-85.50-01.....6/10/08
B-20.40-04.....2/27/18	B-45.40-01.....7/21/17	B-90.10-00.....6/8/06
B-20.60-03.....3/15/12	B-50.20-00.....6/1/06	B-90.20-00.....6/8/06
B-25.20-02.....2/27/18	B-55.20-02.....2/27/18	B-90.30-00.....6/8/06
B-25.60-02.....2/27/18	B-60.20-02.....9/9/20	B-90.40-01.....1/26/17
B-30.05-00.....9/9/20	B-60.40-01.....2/27/18	B-90.50-00.....6/8/06
B-30.10-03.....2/27/18	B-65.20-01.....4/26/12	B-95.20-01.....2/3/09
B-30.15-00.....2/27/18	B-65.40-00.....6/1/06	B-95.40-01.....6/28/18
B-30.20-04.....2/27/18	B-70.20-00.....6/1/06	
B-30.30-03.....2/27/18	B-70.60-01.....1/26/17	
B-30.40-03.....2/27/18		

C-1.....9/9/20	C-20.42-05.....7/14/15	C-70.10-02.....9/16/20
C-1b.....9/9/20	C-20.45.02.....8/12/19	C-75.10-02.....9/16/20
C-1d.....10/31/03	C-22.16-07.....9/16/20	C-75.20-02.....9/16/20
C-2c.....8/12/19	C-22.40-08.....9/16/20	C-75.30-02.....9/16/20
C-4f.....8/12/19	C-22.45-05.....9/16/20	C-80.10-02.....9/16/20
C-6a.....10/14/09	C-23.60-04.....7/21/17	C-80.20-01.....6/11/14
C-7.....6/16/11	C.24.10-02.....8/12/19	C-80.30-01.....6/11/14
C-7a.....6/16/11	C-25.20-06.....7/14/15	C-80.40-01.....6/11/14
C-8.....2/10/09	C-25.22-05.....7/14/15	C-85.10-00.....4/8/12
C-8a.....7/25/97	C-25.26-04.....8/12/19	C-85.11-01.....9/16/20
C-20.10-06.....9/16/20	C-25.30-00.....6/28/18	C-85.15-01.....6/30/14
C-20.14-04.....8/12/19	C-25.80-05.....8/12/19	C-85.16-01.....6/17/14
C-20.15-02.....6/11/14	C-60.10-01.....9/24/20	C-85.18-01.....6/11/14
C-20.18-03.....8/12/19	C-60.20-00.....9/24/20	C-85.20-01.....6/11/14
C-20.40-07.....8/12/19	C-60.30-00.....9/24/20	
C-20.41-02.....8/12/19	C-60.70-00.....9/24/20	

D-2.04-00.....11/10/05	D-2.80-00.....11/10/05	D-6.....6/19/98
D-2.06-01.....1/6/09	D-2.84-00.....11/10/05	D-10.10-01.....12/2/08
D-2.08-00.....11/10/05	D-2.88-00.....11/10/05	D-10.15-01.....12/2/08
D-2.32-00.....11/10/05	D-2.92-00.....11/10/05	D-10.20-01.....8/7/19
D-2.34-01.....1/6/09	D-3.09-00.....5/17/12	D-10.25-01.....8/7/19
D-2.36-03.....6/11/14	D-3.10-01.....5/29/13	D-10.30-00.....7/8/08
D-2.60-00.....11/10/05	D-3.11-03.....6/11/14	D-10.35-00.....7/8/08
D-2.62-00.....11/10/05	D-3.15-02.....6/10/13	D-10.40-01.....12/2/08
D-2.64-01.....1/6/09	D-3.16-02.....5/29/13	D-10.45-01.....12/2/08
D-2.66-00.....11/10/05	D-3.17-02.....5/9/16	
D-2.68-00.....11/10/05	D-4.....12/11/98	

E-1.....2/21/07	E-4.....8/27/03	
E-2.....5/29/98	E-4a.....8/27/03	
F-10.12-04.....9/24/20	F-10.62-02.....4/22/14	F-40.15-04.....9/25/20
F-10.16-00.....12/20/06	F-10.64-03.....4/22/14	F-40.16-03.....6/29/16
F-10.18-02.....9/24/20	F-30.10-04.....9/25/20	F-45.10-02.....7/15/16
F-10.40-04.....9/24/20	F-40.12-03.....6/29/16	F-80.10-04.....7/15/16
F-10.42-00.....1/23/07	F-40.14-03.....6/29/16	
G-10.10-00.....9/20/07	G-25.10-05.....9/16/20	G-95.10-02.....6/28/18
G-20.10-02.....6/23/15	G-26.10-00.....7/31/19	G-95.20-03.....6/28/18
G-22.10-04.....6/28/18	G-30.10-04.....6/23/15	G-95.30-03.....6/28/18
G-24.10-00.....11/8/07	G-50.10-03.....6/28/18	
G-24.20-01.....2/7/12	G-90.10-03.....7/11/17	
G-24.30-02.....6/28/18	G-90.11-00.....4/28/16	
G-24.40-07.....6/28/18	G-90.20-05.....7/11/17	
G-24.50-05.....8/7/19	G-90.30-04.....7/11/17	
G-24.60-05.....6/28/18	G-90.40-02.....4/28/16	
H-10.10-00.....7/3/08	H-32.10-00.....9/20/07	H-70.10-01.....2/7/12
H-10.15-00.....7/3/08	H-60.10-01.....7/3/08	H-70.20-01.....2/16/12
H-30.10-00.....10/12/07	H-60.20-01.....7/3/08	
I-10.10-01.....8/11/09	I-30.20-00.....9/20/07	I-40.20-00.....9/20/07
I-30.10-02.....3/22/13	I-30.30-02.....6/12/19	I-50.20-01.....6/10/13
I-30.15-02.....3/22/13	I-30.40-02.....6/12/19	I-60.10-01.....6/10/13
I-30.16-01.....7/11/19	I-30.60-02.....6/12/19	I-60.20-01.....6/10/13
I-30.17-01.....6/12/19	I-40.10-00.....9/20/07	I-80.10-02.....7/15/16
J-10.....7/18/97	J-28.40-02.....6/11/14	J-60.13-00.....6/16/10
J-10.10-04.....9/16/20	J-28.42-01.....6/11/14	J-60.14-01.....7/31/19
J-10.12-00.....9/16/20	J-28.43-01.....6/28/18	J-75.10-02.....7/10/15
J-10.14-00.....9/16/20	J-28.45-03.....7/21/16	J-75.20-01.....7/10/15
J-10.15-01.....6/11/14	J-28.50-03.....7/21/16	J-75.30-02.....7/10/15
J-10.16-01.....9/16/20	J-28.60-02.....7/21/16	J-75.40-02.....6/1/16
J-10.17-01.....9/16/20	J-28.70-03.....7/21/17	J-75.41-01.....6/29/16
J-10.18-01.....9/16/20	J-29.10-01.....7/21/16	J-75.45-02.....6/1/16
J-10.20-03.....9/16/20	J-29.15-01.....7/21/16	J-80.10-00.....6/28/18
J-10.21-01.....9/16/20	J-29.16-02.....7/21/16	J-80.15-00.....6/28/18
J-10.22-01.....9/16/20	J-30.10-00.....6/18/15	J-81.10-01.....9/16/20
J-10.25-00.....7/11/17	J-40.05-00.....7/21/16	J-86.10-00.....6/28/18
J-12.15-00.....6/28/18	J-40.10-04.....4/28/16	J-90.10-03.....6/28/18
J-12.16-00.....6/28/18	J-40.20-03.....4/28/16	J-90.20-03.....6/28/18
J-15.10-01.....6/11/14	J-40.30-04.....4/28/16	J-90.21-02.....6/28/18
J-15.15-02.....7/10/15	J-40.35-01.....5/29/13	J-90.50-00.....6/28/18
J-20.10-04.....7/31/19	J-40.36-02.....7/21/17	

J-20.11-03.....7/31/19	J-40.37-02.....7/21/17
J-20.15-03.....6/30/14	J-40.38-01.....5/20/13
J-20.16-02.....6/30/14	J-40.39-00.....5/20/13
J-20.20-02.....5/20/13	J-40.40-02.....7/31/19
J-20.26-01.....7/12/12	J-45.36-00.....7/21/17
J-21.10-04.....6/30/14	J-50.05-00.....7/21/17
J-21.15-01.....6/10/13	J-50.10-01.....7/31/19
J-21.16-01.....6/10/13	J-50.11-02.....7/31/19
J-21.17-01.....6/10/13	J-50.12-02.....8/7/19
J-21.20-01.....6/10/13	J-50.13-00.....8/22/19
J-22.15-02.....7/10/15	J-50.15-01.....7/21/17
J-22.16-03.....7/10/15	J-50.16-01.....3/22/13
J-26.10-03.....7/21/16	J-50.18-00.....8/7/19
J-26.15-01.....5/17/12	J-50.19-00.....8/7/19
J-26.20-01.....6/28/18	J-50.20-00.....6/3/11
J-27.10-01.....7/21/16	J-50.25-00.....6/3/11
J-27.15-00.....3/15/12	J-50.30-00.....6/3/11
J-28.10-02.....8/7/19	J-60.05-01.....7/21/16
J-28.22-00.....8/07/07	J-60.11-00.....5/20/13
J-28.24-02.....9/16/20	J-60.12-00.....5/20/13
J-28.26-01.....12/02/08	
J-28.30-03.....6/11/14	

K-70.20-01.....6/1/16
 K-80.10-02.....9/25/20
 K-80.20-00.....12/20/06
 K-80.35-01.....9/16/20
 K-80.37-01.....9/16/20

L-10.10-02.....6/21/12		L-70.10-01.....5/21/08
L-20.10-03.....7/14/15	L-40.15-01.....6/16/11	L-70.20-01.....5/21/08
L-30.10-02.....6/11/14	L-40.20-02.....6/21/12	

M-1.20-04.....9/25/20	M-11.10-03.....8/7/19	M-40.20-00...10/12/07
M-1.40-03.....9/25/20	M-12.10-02.....9/25/20	M-40.30-01.....7/11/17
M-1.60-03.....9/25/20	M-15.10-01.....2/6/07	M-40.40-00.....9/20/07
M-1.80-03.....6/3/11	M-17.10-02.....7/3/08	M-40.50-00.....9/20/07
M-2.20-03.....7/10/15	M-20.10-03.....9/25/20	M-40.60-00.....9/20/07
M-2.21-00.....7/10/15	M-20.20-02.....4/20/15	M-60.10-01.....6/3/11
M-3.10-04.....9/25/20	M-20.30-04.....2/29/16	M-60.20-02.....6/27/11
M-3.20-03.....9/25/20	M-20.40-03.....6/24/14	M-65.10-02.....5/11/11
M-3.30-04.....9/25/20	M-20.50-02.....6/3/11	M-80.10-01.....6/3/11
M-3.40-04.....9/25/20	M-24.20-02.....4/20/15	M-80.20-00.....6/10/08
M-3.50-03.....9/25/20	M-24.40-02.....4/20/15	M-80.30-00.....6/10/08
M-5.10-03.....9/25/20	M-24.60-04.....6/24/14	
M-7.50-01.....1/30/07	M-24.65-00.....7/11/17	
M-9.50-02.....6/24/14	M-24.66-00.....7/11/17	
M-9.60-00.....2/10/09	M-40.10-03.....6/24/14	

APPENDIX A

GEOTECHNICAL REPORT – BORING LOGS

Soil Descriptions

Soils exist in mixtures with varying proportions of components. The predominant soil, i.e., greater than 50 percent based upon total dry weight, is the primary soil type and is capitalized in our log descriptions, e.g., SAND, GRAVEL, SILT or CLAY. Lesser percentages of other constituents in the soil mixture are indicated by use of modifier words in general accordance with the Visual-Manual Procedure (ASTM D2488-06). "General Accordance" means that certain local and common descriptive practices have been followed. In accordance with ASTM D2488-06, group symbols (such as GP or CH) are applied on that portion of the soil passing the 3-inch (75mm) sieve based upon visual examination. The following describes the use of soil names and modifying terms used to describe fine- and coarse-grained soils.

Fine - Grained Soils (More than 50% fines passing 0.075 mm, #200 sieve)

The primary soil type, i.e. SILT or CLAY is designated through visual – manual procedures to evaluate soil toughness, dilatancy, dry strength, and plasticity. The following describes the terminology used to describe fine - grained soils, and varies from ASTM 2488 terminology in the use of some common terms.

Primary soil NAME, adjective and symbols			Plasticity Description	Plasticity Index (PI)
SILT ML & MH	CLAY CL & CH	ORGANIC SILT & CLAY OL & OH		
SILT		Organic SILT	Non-Plastic	0 - 3
SILT		Organic SILT	Low Plasticity	4 - 10
SILT / Elastic SILT	Lean CLAY	Organic clayey SILT	Medium Plasticity	10 - 20
Elastic SILT	Lean/Fat CLAY	Organic silty CLAY	High Plasticity	20 - 40
Elastic SILT	Fat CLAY	Organic CLAY	Very Plastic	>40

Modifying terms describing secondary constituents, estimated to 5 percent increments, are applied as follows:

Description	% Composition
With sand; with gravel (combined total greater than 15% but less than 30%, modifier is whichever is greater)	15% to 30%
Sandy; or gravelly (combined total greater than 30% but less than 50%, modifier is whichever is greater)	30% to 50%

Borderline Symbols, for example CH/MH, are used where soils are not distinctly in one category or where variable soil units contain more than one soil type. **Dual Symbols**, for example CL-ML, are used where two symbols are required in accordance with ASTM D2488.

Soil Consistency. Consistency terms are applied to fine-grained, plastic soils (i.e., $PI \geq 7$). Descriptive terms are based on direct measure or correlation to the Standard Penetration Test N-value as determined by ASTM D1586-84, as follows.

Consistency Term	SPT N-value	Unconfined Compressive Strength	
		tsf	kPa
Very soft	Less than 2	Less than 0.25	Less than 24
Soft	2 - 4	0.25 - 0.5	24 - 48
Medium stiff	5 - 8	0.5 - 1.0	48 - 96
Stiff	9 - 15	1.0 - 2.0	96 - 192
Very stiff	16 - 30	2.0 - 4.0	192 - 383
Hard	Over 30	Over 4.0	Over 383

Soil Descriptions

Coarse - Grained Soils (less than 50% fines)

Coarse-grained soil descriptions, i.e., SAND or GRAVEL, are based on that portion of materials passing a 3-inch (75mm) sieve. Coarse-grained soil group symbols are applied in accordance with ASTM D2488-06 based upon the degree of grading, or distribution of grain sizes of the soil. For example, well graded sand containing a wide range of grain sizes is designated SW; poorly graded gravel, GP, contains high percentages of only certain grain sizes. Terms applied to grain sizes follow.

Material	Particle Diameter	
	Inches	Millimeters
Sand (S)	0.003 - 0.19	0.075 - 4.8
Gravel (G)	0.19 - 3.0	4.8 - 75
	Additional Constituents	
Cobble	3.0 - 12	75 - 300
Boulder	12 - 120	300 - 3050

The primary soil type is capitalized, and the amount of fines in the soil are described as indicated by the following examples. Other soil mixtures will provide similar descriptive names.

Example: Coarse-Grained Soil Descriptions with Fines

5% to less than 15% fines (Dual Symbols)	15% to less than 50% fines
GRAVEL with silt, GW-GM	Silty GRAVEL: GM
SAND with clay, SP-SC	Silty SAND: SM

Additional descriptive terminology applied to coarse-grained soils follow.

Example: Coarse-Grained Soil Descriptions with Other Coarse-Grained Constituents

Coarse-Grained Soil Containing Secondary Constituents	
With sand or with gravel	> 15% sand or gravel
With cobbles; with boulders	Any amount of cobbles or boulders.

Cobble and boulder deposits may include a description of the matrix soils, as defined above.

Relative Density terms are applied to granular, non-plastic soils based on direct measure or correlation to the Standard Penetration Test N-value as determined by ASTM D1586-84.

Relative Density Term	SPT N-value
Very loose	0 - 4
Loose	5 - 10
Medium dense	11 - 30
Dense	31 - 50
Very dense	> 50

Rock Descriptions

Scale of Rock Strength (ISRM, 1978)

Description	Designation	UCS, psi	UCS, MPa	Field Identification
Extremely weak rock	R0	50 – 150	0.25 – 1	Indented by thumbnail.
Very weak rock	R1	150 – 750	1 – 5	Crumbles under firm blows with point of geology pick; can be peeled by a pocket knife.
Weak rock	R2	750 – 3,500	5 – 25	Can be peeled with a pocket knife; shallow indentation made by firm blow with point of geological hammer.
Moderately strong rock	R3	3,500 – 7,500	25 – 50	Cannot be scraped or peeled with a pocket knife; specimen can be fractured with a single firm blow of geological hammer.
Strong rock	R4	7,500 – 15,000	50 – 100	Specimen requires more than one blow with a geological hammer to fracture it.
Very strong rock	R5	15,000 – 35,000	100 – 250	Specimen requires many blows of geological hammer to fracture it.
Extremely strong rock	R6	> 35,000	> 250	Specimen can only be chipped with geological hammer.

Discontinuity Type (USBR, 1998)

Descriptive Term	Abbr.	Description
Joint	J	A relatively planar fracture along which there has been little or no shearing displacement.
Bedding Plane Separation	BP	A separation along bedding after extraction or exposure due to stress relief or slaking.
Random Fracture	RF	A fracture that does not belong to a joint set with rough, irregular, and nonplanar surfaces and no obvious displacement.
Shear	S	A structural break with differential movement along a surface or zone; characterized by polished surfaces, striations, slickensides, gouge, breccia, mylonite, or any combination of these.
Fault	F	A shear with continuity that can be correlated between observation locations. The designation of a fault or fault zone is site-specific.
Mechanical Break	M	A break due to drilling or handling. Typically absent of oxidation, staining, or mineral fillings, and often a hackly or irregular surface.
Fracture Zone	FZ	Numerous, very closely intersecting fractures. Often fragmented core that cannot be fitted together.

((H) = Healed)

Descriptive Terminology for Fracture Density / Spacing (USACE, 1994)

Descriptive Term	Abbr.	Thickness / Spacing
Unfractured	UF	> 6 feet
Slightly Fractured	SF	2 to 6 feet
Moderately Fractured	MF	8 inches to 2 feet
Highly Fractured	HF	2 inches to 8 inches
Intensely Fractured	IF	< 2 inches

(Excludes mechanical breaks)

Correlation of RQD and Rock Quality (ASTM D D6032 – 08)

Descriptive Term	Range
Very Poor	0 to 25
Poor	26 to 50
Fair	51 to 75
Good	76 to 90
Excellent	91 to 100

Rock Descriptions

**Fracture Angle
(ASTM D D5878 – 08)**

Descriptive Term	Abbr.	Degrees
Flat	F	0 to 20
Dipping	D	21 to 50
Vertical	V	51 to 90

**Discontinuity Aperture and Infilling Thickness
(ISRM, 1978)**

Descriptive Term	Abbr.	Aperture Width
Very Tight	VT	< 0.004 inches
Tight	T	0.004 to 0.02 inches
Moderately Open	MO	0.02 to 0.10 inches
Open	O	0.10 to 0.40 inches
Very Wide	VW	> 0.40 inches

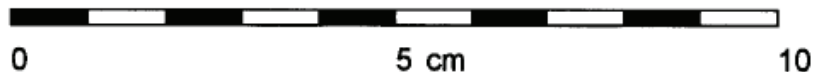
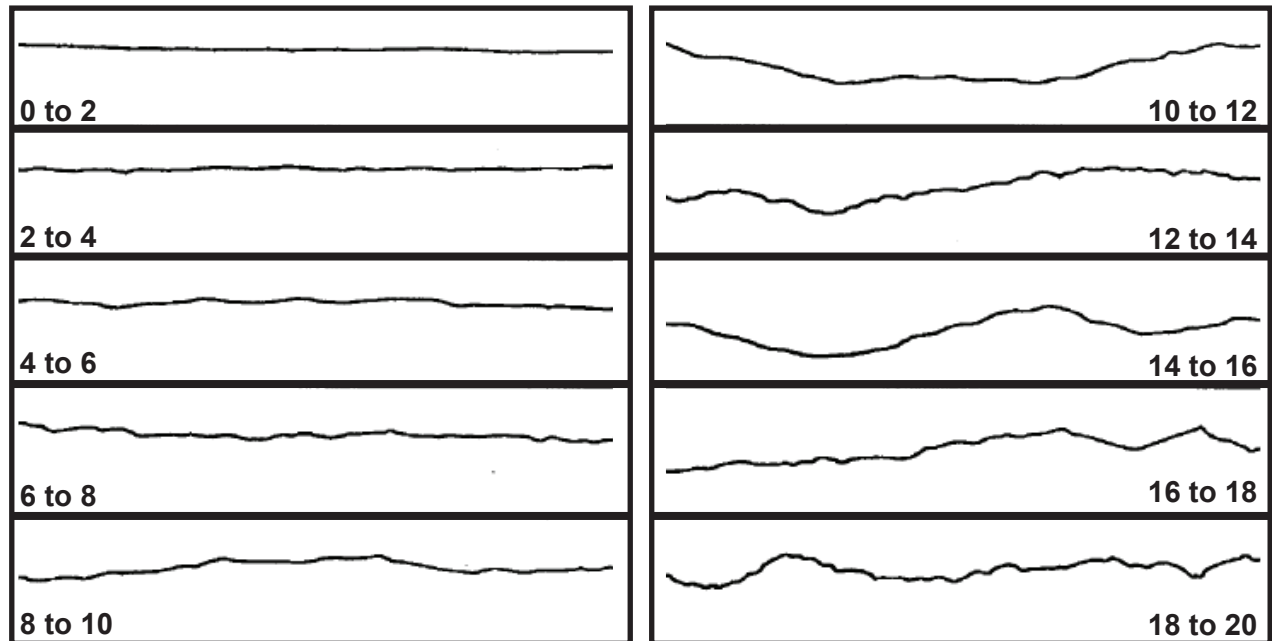
Joint Infilling Amount

Descriptive Term	Abbr.
Surface Staining	Su
Spotty	Sp
Partially Filled	Pa
Filled	Fi
None	No

Infilling Type

Descriptive Term	Abbr.	Descriptive Term	Abbr.
Calcite	Ca	Sand	Sd
Clay	Cl	Silt	Si
Chlorite	Ch	Unknown	Uk
Iron Oxide	Fe	Organics	Org
Manganese	Mn	Calcium Carbonate	CaCO ₃
Quartz	Qz	None	No










**Joint Roughness Coefficient (JRC)
(Barton and Choubey, 1977)**



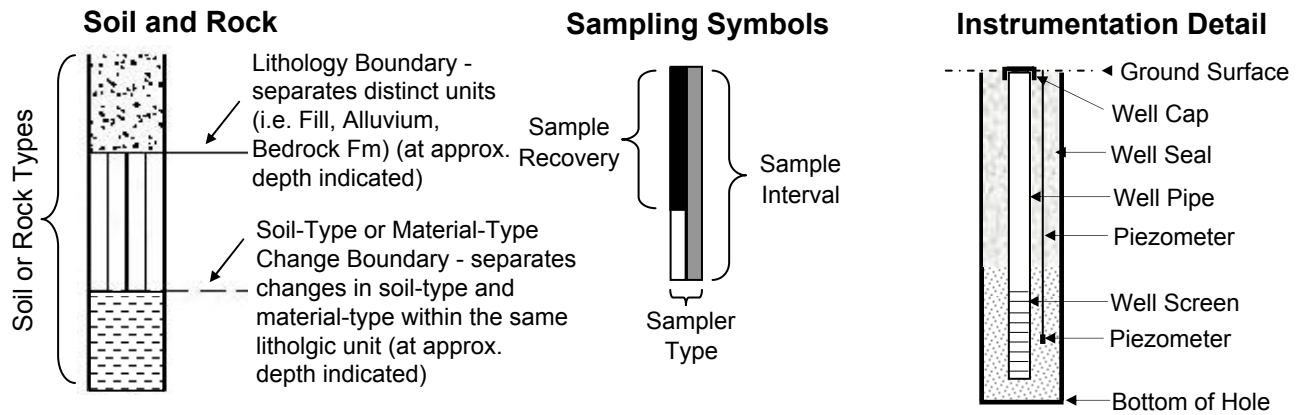
Rock Descriptions

Rock Weathering Grade (ISRM, 1978)			
Stage	Abbreviation	Grade	Description
Fresh	F	I	No visible sign of rock material weathering; slight discoloration on discontinuity surfaces
Slightly Weathered	SW	II	Discoloration indicates weathering of rock material and discontinuity surfaces; all rock material may be discolored by weathering and may be somewhat weaker externally than in its fresh condition
Moderately Weathered	MW	III	Less than half the rock is decomposed or disintegrated to soil; fresh or discolored rock is present as either continuous framework or corestones
Highly Weathered	HW	IV	More than half of the rock material is decomposed and/or disintegrated into soil; fresh or discolored rock is present as either discontinuous framework or corestones
Completely Weathered	CW	V	All rock is decomposed and/or disintegrated to soil; the original mass structure is largely intact
Residual Soil	R	VI	A rock is converted to soil; mass structure and material fabric are destroyed; large change in volume, but soil has not been significantly transported

SAMPLING DESCRIPTIONS¹

	<i>SPT Drive Sampler Standard Penetration Test ASTM D 1586</i>		<i>Shelby Tube Push Sampler ASTM D 1587</i>		<i>Specialized Drive Samplers (Details Noted on Logs)</i>		<i>Specialized Drill or Push Sampler (Details Noted on Logs)</i>		<i>Grab Sample</i>		<i>Rock Coring Interval</i>		<i>Screen (Water or Air Sampling)</i>		<i>Water Level During Drilling/Excavation</i>		<i>Water Level After Drilling/Excavation</i>
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LOG GRAPHICS



Geotechnical Testing/Acronym Explanations

PP	Pocket Penetrometer	LL	Liquid Limit
DD	Dry Density	ATT	Atterberg Limits
DCP	Dynamic Cone Penetrometer	SIEV	Sieve Gradation
TOR	Torvane	CBR	California Bearing Ratio
CON	Consolidation	OC	Organic Content
DS	Direct Shear	RES	Resilient Modulus
P200	Percent Passing U.S. Standard No. 200 Sieve	VS	Vane Shear
UC	Unconfined Compressive Strength	HYD	Hydrometer Gradation
PL	Plasticity Limit	bgs	Below ground surface
PI	Plasticity Index	MSL	Mean Sea Level

¹Note: Details of soil and rock classification systems are available on request.



4412 SW Corbett Avenue
 Portland, Oregon 97239
 Phone: 503.248.1939
 Fax: 866.727.0140

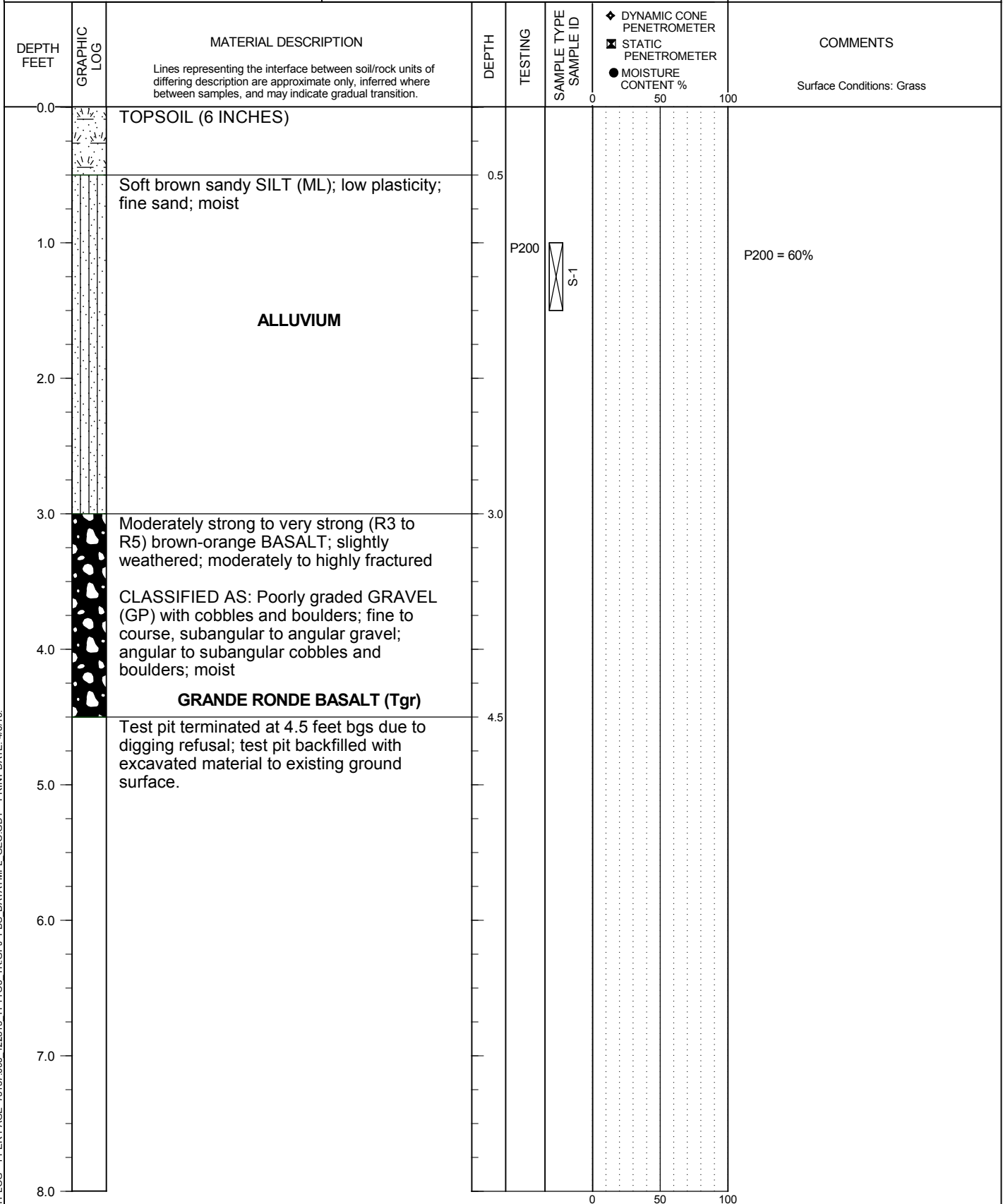
COUSINS ROAD CULVERT
 CHEHALIS, WA

TEST PIT TP-1

PBS PROJECT NUMBER:
 73137.006

APPROX. TEST PIT TP-1 LOCATION:
 (See Site Plan)

Lat: 46.57603 Long: -123.03400



TEST PIT LOG - 1 PER PAGE 73137.006-122815.TP1T03_TR.GPJ_PBS_DATA\MP\ GEO.GDT PRINT DATE: 4/8/16

LOGGED BY: T. Rikli
 COMPLETED: 12/15/15

EXCAVATED BY: Lewis County
 EXCAVATION METHOD: Deere 135D with 36" toothed bucket

FIGURE A1
 Page 1 of 1



4412 SW Corbett Avenue
 Portland, Oregon 97239
 Phone: 503.248.1939
 Fax: 866.727.0140

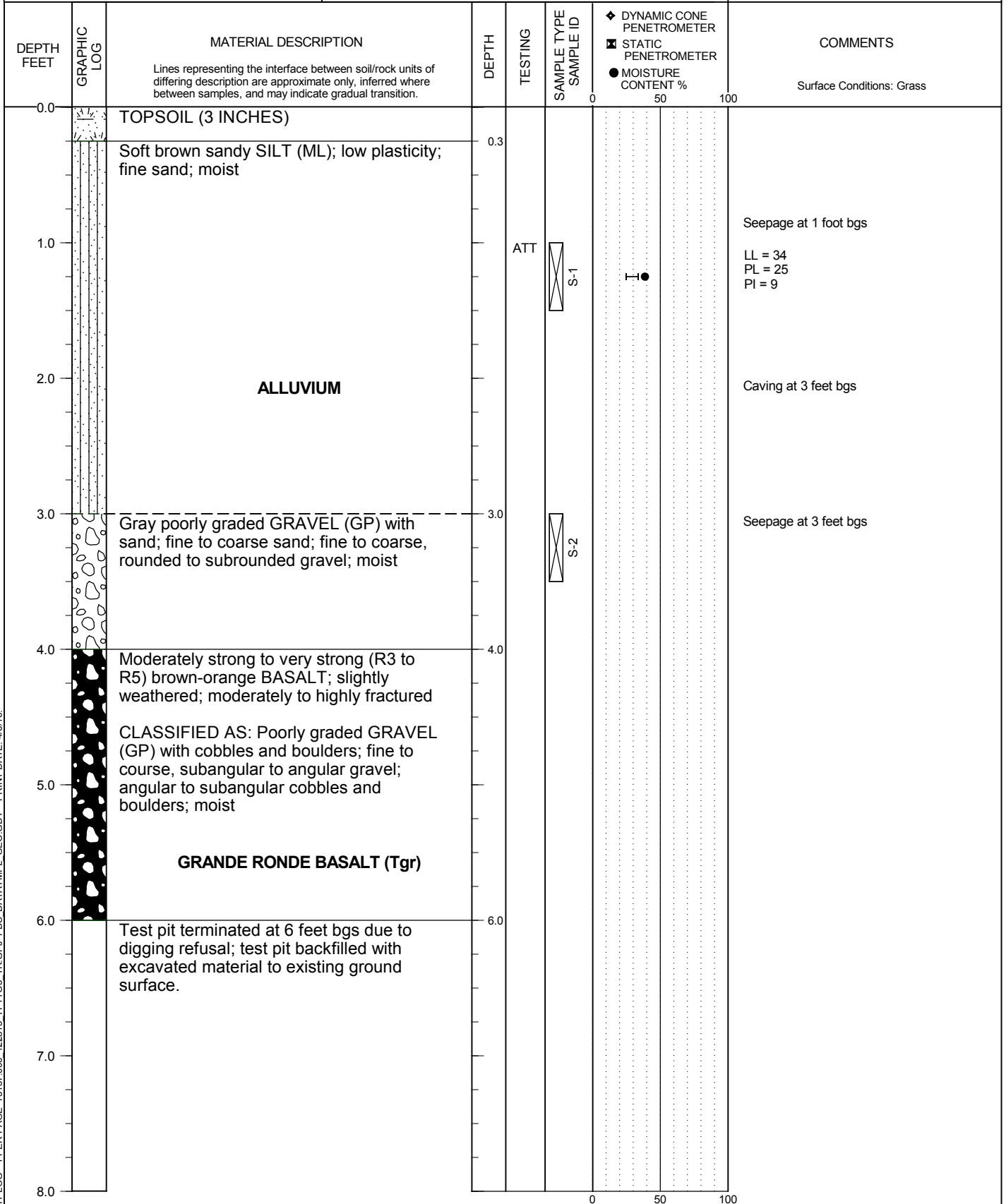
COUSINS ROAD CULVERT
 CHEHALIS, WA

TEST PIT TP-2

PBS PROJECT NUMBER:
 73137.006

APPROX. TEST PIT TP-2 LOCATION:
 (See Site Plan)

Lat: 46.57597 Long: -123.03397



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LOGGED BY: T. Rikli
 COMPLETED: 12/15/15

EXCAVATED BY: Lewis County
 EXCAVATION METHOD: Deere 135D with 36" toothed bucket

FIGURE A2
 Page 1 of 1



4412 SW Corbett Avenue
Portland, Oregon 97239
Phone: 503.248.1939
Fax: 866.727.0140

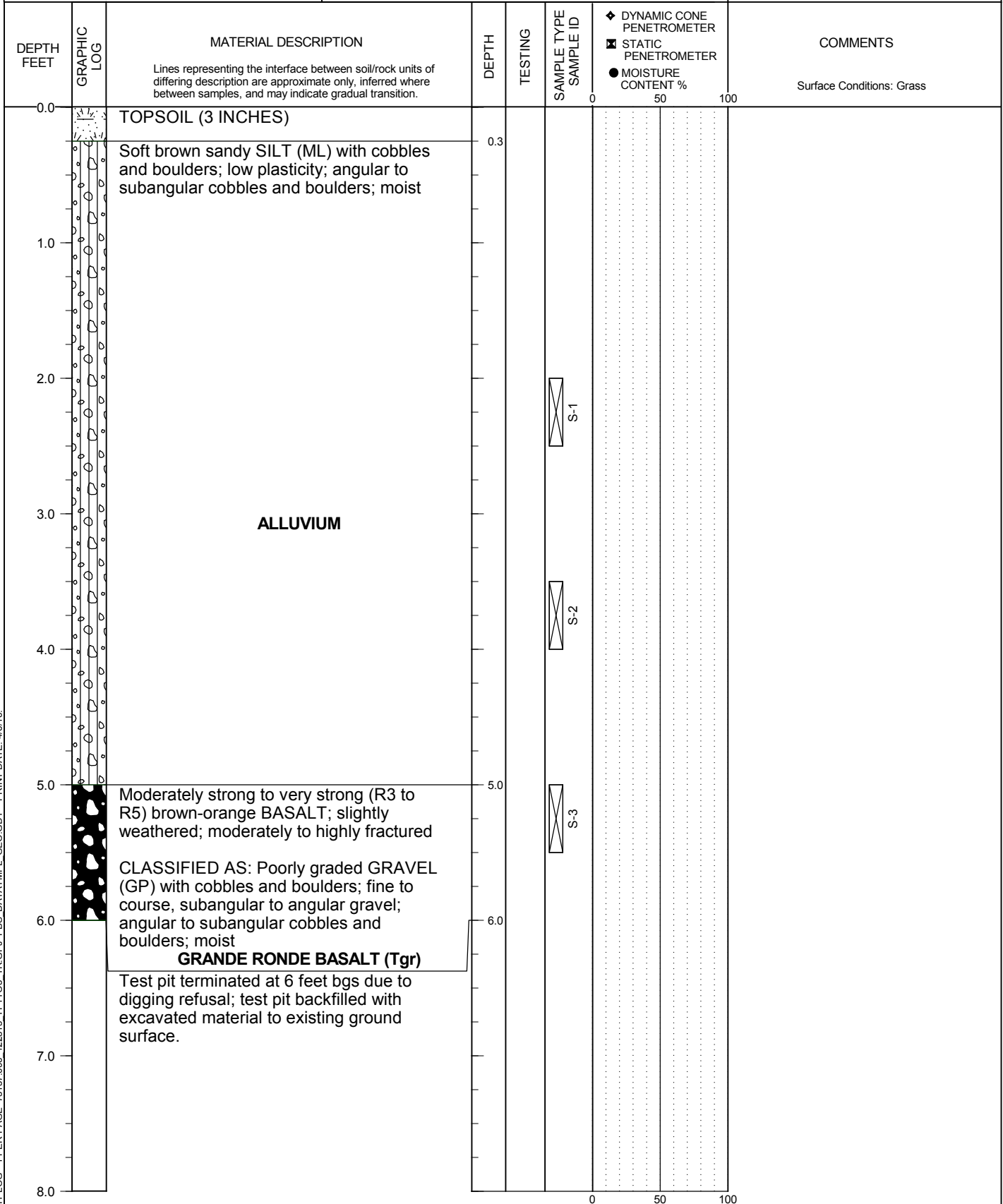
COUSINS ROAD CULVERT
CHEHALIS, WA

TEST PIT TP-3

PBS PROJECT NUMBER:
73137.006

APPROX. TEST PIT TP-3 LOCATION:
(See Site Plan)

Lat: 46.57607 Long: -123.03468

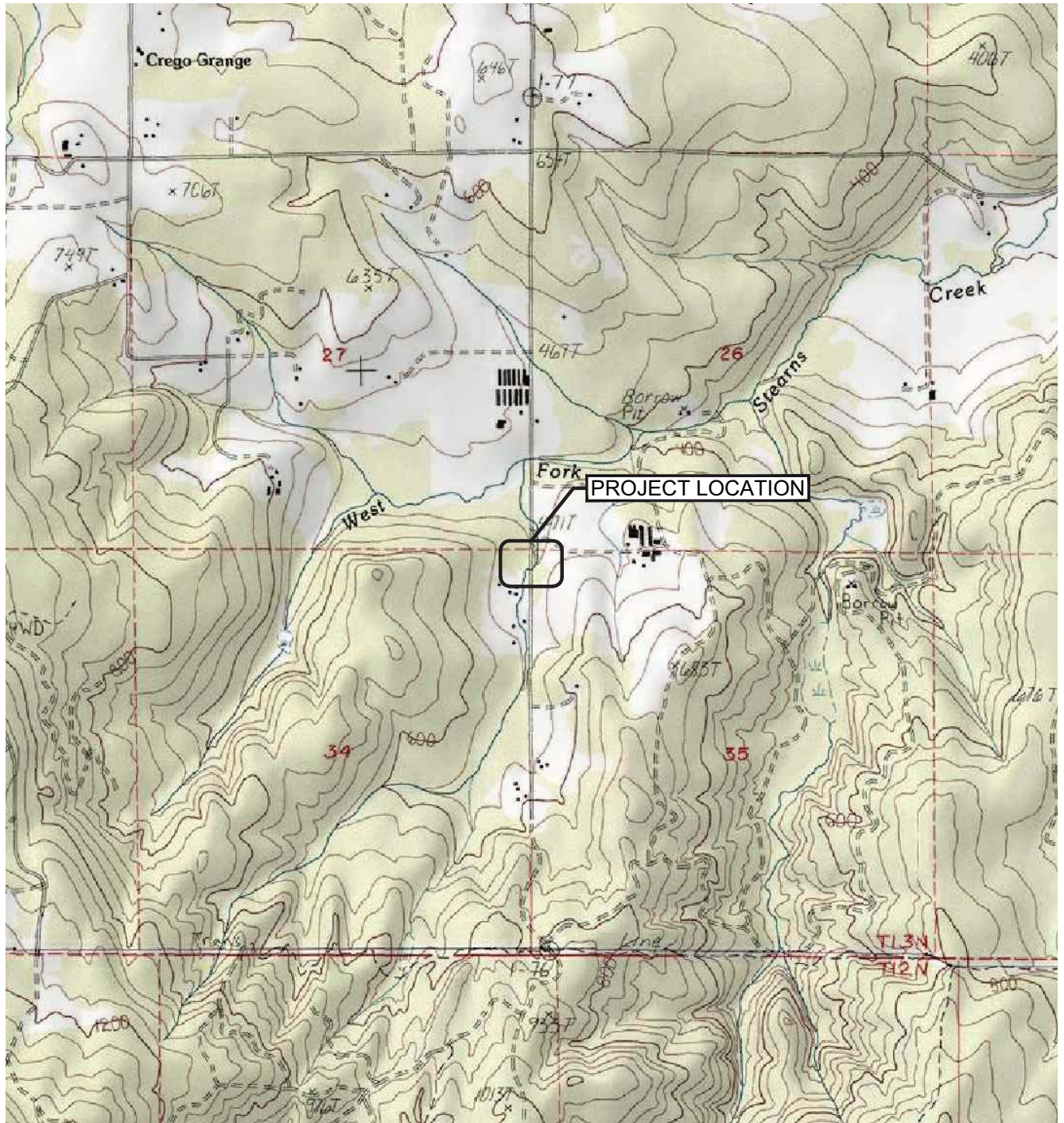


TEST PIT LOG - 1 PER PAGE 73137.006-122815.TP1T03_TR.GPJ_PBS_DATA\IMPL_GEO.GDT_PRINT DATE: 4/8/16

LOGGED BY: T. Rikli
COMPLETED: 12/15/15

EXCAVATED BY: Lewis County
EXCAVATION METHOD: Deere 135D with 36" toothed bucket

FIGURE A3
Page 1 of 1



SOURCE: USGS CURTIS OR QUADRANGLE 1993, PHOTO REVISED 1990.



WASHINGTON



SCALE: 1" = 2,000'



PROJECT #
73137.006

DATE
APR 2016

VICINITY MAP
COUSINS ROAD CULVERT REPLACEMENT
CHEHALIS, WASHINGTON

FIGURE

1



SOURCE: © 2015 GOOGLE EARTH PRO.

LEGEND

■ TP-1 TEST PIT NUMBER AND LOCATION



SCALE: 1" = 100'

L:\Projects\73000\73100-73199\73137_LewisCounty\73137.006 Cousins Road Culvert\GeoDwg\73137.006_FIG 1-2.dwg Jan 13, 2016 12:17pm Jimb



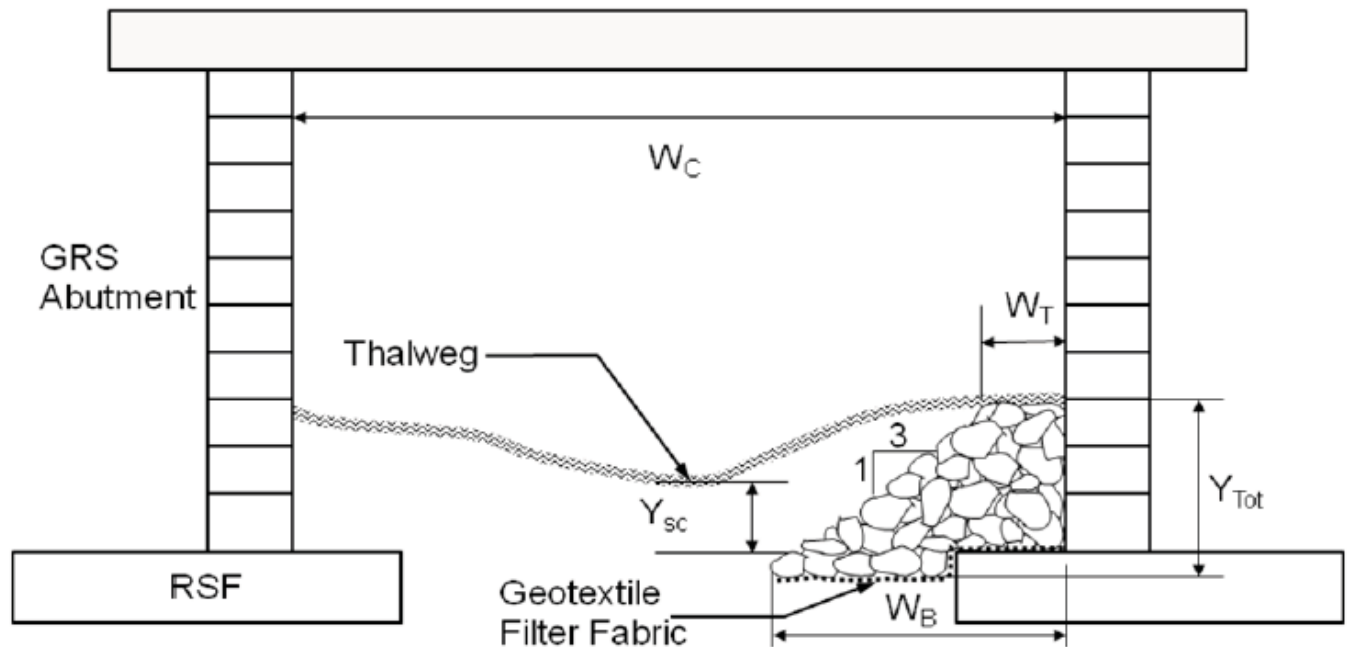
PROJECT #
73137.006

DATE
APR 2016

SITE PLAN
COUSINS ROAD CULVERT REPLACEMENT
CHEHALIS, WASHINGTON

FIGURE

2



Constructed Sloping Rock

Y_{sc} = Contraction scour plus long-term degradation referenced to the thalweg.
 Y_{Tot} = Distance from top of riprap to bottom of riprap ($3 \times D_{50ripRap}$ minimum and keyed at least 1 ft (0.3 m) below top of RSF).
 $W_T = 3 \times D_{50ripRap}$ or 5 ft (1.5 m), whichever is greater.
 $W_B = W_T + 3Y_{Tot}$
 Top of RSF (footing) elevation at Y_{sc} (or deeper) as recommended in HEC-18.

SOURCE: Hydraulic Engineering Circular (HEC) HEC-23 Figure 18-10



PROJECT #
73137.006

DATE
APR 2016

TYPICAL CROSS SECTION FOR SLOPING ROCK
 COUSINS ROAD CULVERT REPLACEMENT
 CHEHALIS, WASHINGTON

FIGURE
3

L:\Projects\73000\73100-73199\73137_LewisCounty\73137.007 Graf Road Culvert\GeoDwg\73137.000_fig 1-2.dwg Jan 20, 2016 03:16pm jimb

APPENDIX B

WASHINGTON STATE PREVAILING WAGE RATES

INCLUDING:

State Wage Rates

Wage Rate Supplements

Wage Rate Benefit Codes

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

Washington State Prevailing Wage

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

Journey Level Prevailing Wage Rates for the Effective Date: 2/9/2021

<u>County</u>	<u>Trade</u>	<u>Job Classification</u>	<u>Wage</u>	<u>Holiday</u>	<u>Overtime</u>	<u>Note</u>	<u>*Risk Class</u>
Lewis	Asbestos Abatement Workers	Journey Level	\$52.39	<u>5D</u>	<u>1H</u>		View
Lewis	Boilermakers	Journey Level	\$69.29	<u>5N</u>	<u>1C</u>		View
Lewis	Brick Mason	Journey Level	\$60.57	<u>7E</u>	<u>1N</u>		View
Lewis	Brick Mason	Pointer-Caulker-Cleaner	\$60.57	<u>7E</u>	<u>1N</u>		View
Lewis	Building Service Employees	Janitor	\$13.69		<u>1</u>		View
Lewis	Building Service Employees	Shampooer	\$13.69		<u>1</u>		View
Lewis	Building Service Employees	Waxer	\$13.69		<u>1</u>		View
Lewis	Building Service Employees	Window Cleaner	\$13.69		<u>1</u>		View
Lewis	Cabinet Makers (In Shop)	Journey Level	\$23.17		<u>1</u>		View
Lewis	Carpenters	Acoustical Worker	\$64.94	<u>7A</u>	<u>4C</u>		View
Lewis	Carpenters	Carpenter	\$64.94	<u>7A</u>	<u>4C</u>		View
Lewis	Carpenters	Carpenters on Stationary Tools	\$65.07	<u>7A</u>	<u>4C</u>		View
Lewis	Carpenters	Creosoted Material	\$65.07	<u>7A</u>	<u>4C</u>		View
Lewis	Carpenters	Floor Finisher	\$64.94	<u>7A</u>	<u>4C</u>		View
Lewis	Carpenters	Floor Layer	\$64.94	<u>7A</u>	<u>4C</u>		View
Lewis	Carpenters	Scaffold Erector	\$64.94	<u>7A</u>	<u>4C</u>		View
Lewis	Cement Masons	Application of all Composition Mastic	\$64.84	<u>7A</u>	<u>4U</u>		View
Lewis	Cement Masons	Application of all Epoxy Material	\$64.34	<u>7A</u>	<u>4U</u>		View
Lewis	Cement Masons	Application of all Plastic Material	\$64.84	<u>7A</u>	<u>4U</u>		View
Lewis	Cement Masons	Application of Sealing Compound	\$64.34	<u>7A</u>	<u>4U</u>		View
Lewis	Cement Masons	Application of Underlayment	\$64.84	<u>7A</u>	<u>4U</u>		View
Lewis	Cement Masons	Building General	\$64.34	<u>7A</u>	<u>4U</u>		View

Lewis	Cement Masons	Composition or Kalman Floors	\$64.84	7A	4U		View
Lewis	Cement Masons	Concrete Paving	\$64.34	7A	4U		View
Lewis	Cement Masons	Curb & Gutter Machine	\$64.84	7A	4U		View
Lewis	Cement Masons	Curb & Gutter, Sidewalks	\$64.34	7A	4U		View
Lewis	Cement Masons	Curing Concrete	\$64.34	7A	4U		View
Lewis	Cement Masons	Finish Colored Concrete	\$64.84	7A	4U		View
Lewis	Cement Masons	Floor Grinding	\$64.84	7A	4U		View
Lewis	Cement Masons	Floor Grinding/Polisher	\$64.34	7A	4U		View
Lewis	Cement Masons	Green Concrete Saw, self-powered	\$64.84	7A	4U		View
Lewis	Cement Masons	Grouting of all Plates	\$64.34	7A	4U		View
Lewis	Cement Masons	Grouting of all Tilt-up Panels	\$64.34	7A	4U		View
Lewis	Cement Masons	Gunite Nozzleman	\$64.84	7A	4U		View
Lewis	Cement Masons	Hand Powered Grinder	\$64.84	7A	4U		View
Lewis	Cement Masons	Journey Level	\$64.34	7A	4U		View
Lewis	Cement Masons	Patching Concrete	\$64.34	7A	4U		View
Lewis	Cement Masons	Pneumatic Power Tools	\$64.84	7A	4U		View
Lewis	Cement Masons	Power Chipping & Brushing	\$64.84	7A	4U		View
Lewis	Cement Masons	Sand Blasting Architectural Finish	\$64.84	7A	4U		View
Lewis	Cement Masons	Screed & Rodding Machine	\$64.84	7A	4U		View
Lewis	Cement Masons	Spackling or Skim Coat Concrete	\$64.34	7A	4U		View
Lewis	Cement Masons	Troweling Machine Operator	\$64.84	7A	4U		View
Lewis	Cement Masons	Troweling Machine Operator on Colored Slabs	\$64.84	7A	4U		View
Lewis	Cement Masons	Tunnel Workers	\$64.84	7A	4U		View
Lewis	Divers & Tenders	Bell/Vehicle or Submersible Operator (Not Under Pressure)	\$118.80	7A	4C		View
Lewis	Divers & Tenders	Dive Supervisor/Master	\$81.98	7A	4C		View
Lewis	Divers & Tenders	Diver	\$118.80	7A	4C	8V	View
Lewis	Divers & Tenders	Diver On Standby	\$76.98	7A	4C		View
Lewis	Divers & Tenders	Diver Tender	\$69.91	7A	4C		View
Lewis	Divers & Tenders	Manifold Operator	\$69.91	7A	4C		View
Lewis	Divers & Tenders	Manifold Operator Mixed Gas	\$74.91	7A	4C		View
Lewis	Divers & Tenders	Remote Operated Vehicle Operator/Technician	\$69.91	7A	4C		View
Lewis	Divers & Tenders	Remote Operated Vehicle Tender	\$65.19	7A	4C		View
Lewis	Dredge Workers	Assistant Engineer	\$70.62	5D	3F		View
Lewis	Dredge Workers	Assistant Mate (Deckhand)	\$70.07	5D	3F		View
Lewis	Dredge Workers	Boatmen	\$70.62	5D	3F		View
Lewis	Dredge Workers	Engineer Welder	\$71.97	5D	3F		View
Lewis	Dredge Workers	Leverman, Hydraulic	\$73.41	5D	3F		View

Lewis	Dredge Workers	Mates	\$70.62	5D	3F		View
Lewis	Dredge Workers	Oiler	\$70.07	5D	3F		View
Lewis	Drywall Applicator	Journey Level	\$64.94	5D	1H		View
Lewis	Drywall Tapers	Journey Level	\$65.31	5P	1E		View
Lewis	Electrical Fixture Maintenance Workers	Journey Level	\$13.69		1		View
Lewis	Electricians - Inside	Cable Splicer	\$77.53	5C	1G		View
Lewis	Electricians - Inside	Journey Level	\$72.56	5C	1G		View
Lewis	Electricians - Inside	Lead Covered Cable Splicer	\$82.51	5C	1G		View
Lewis	Electricians - Inside	Welder	\$77.53	5C	1G		View
Lewis	Electricians - Motor Shop	Craftsman	\$15.37		1		View
Lewis	Electricians - Motor Shop	Journey Level	\$14.69		1		View
Lewis	Electricians - Powerline Construction	Cable Splicer	\$82.39	5A	4D		View
Lewis	Electricians - Powerline Construction	Certified Line Welder	\$75.64	5A	4D		View
Lewis	Electricians - Powerline Construction	Groundperson	\$49.17	5A	4D		View
Lewis	Electricians - Powerline Construction	Heavy Line Equipment Operator	\$75.64	5A	4D		View
Lewis	Electricians - Powerline Construction	Journey Level Lineperson	\$75.64	5A	4D		View
Lewis	Electricians - Powerline Construction	Line Equipment Operator	\$64.54	5A	4D		View
Lewis	Electricians - Powerline Construction	Meter Installer	\$49.17	5A	4D	8W	View
Lewis	Electricians - Powerline Construction	Pole Sprayer	\$75.64	5A	4D		View
Lewis	Electricians - Powerline Construction	Powderperson	\$56.49	5A	4D		View
Lewis	Electronic Technicians	Journey Level	\$46.47	6Z	1B		View
Lewis	Elevator Constructors	Mechanic	\$97.31	7D	4A		View
Lewis	Elevator Constructors	Mechanic In Charge	\$105.06	7D	4A		View
Lewis	Fabricated Precast Concrete Products	Journey Level	\$13.69		1		View
Lewis	Fabricated Precast Concrete Products	Journey Level - In-Factory Work Only	\$13.69		1		View
Lewis	Fence Erectors	Fence Erector	\$44.40	7A	4V	8Y	View
Lewis	Fence Erectors	Fence Laborer	\$44.40	7A	4V	8Y	View
Lewis	Flaggers	Journey Level	\$44.40	7A	4V	8Y	View
Lewis	Glaziers	Journey Level	\$69.26	7L	1Y		View
Lewis	Heat & Frost Insulators And Asbestos Workers	Journeyman	\$79.43	5J	4H		View
Lewis	Heating Equipment Mechanics	Journey Level	\$89.61	7F	1E		View
Lewis	Hod Carriers & Mason Tenders	Journey Level	\$54.01	7A	4V	8Y	View
Lewis	Industrial Power Vacuum Cleaner	Journey Level	\$13.69		1		View

Lewis	Inland Boatmen	Boat Operator	\$61.41	5B	1K		View
Lewis	Inland Boatmen	Cook	\$56.48	5B	1K		View
Lewis	Inland Boatmen	Deckhand	\$57.48	5B	1K		View
Lewis	Inland Boatmen	Deckhand Engineer	\$58.81	5B	1K		View
Lewis	Inland Boatmen	Launch Operator	\$58.89	5B	1K		View
Lewis	Inland Boatmen	Mate	\$57.31	5B	1K		View
Lewis	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Cleaner Operator, Foamer Operator	\$13.69		1		View
Lewis	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Grout Truck Operator	\$13.69		1		View
Lewis	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Head Operator	\$13.69		1		View
Lewis	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Technician	\$13.69		1		View
Lewis	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Tv Truck Operator	\$13.69		1		View
Lewis	Insulation Applicators	Journey Level	\$64.94	7A	4C		View
Lewis	Ironworkers	Journeyman	\$75.23	7N	1O		View
Lewis	Laborers	Air, Gas Or Electric Vibrating Screed	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Airtrac Drill Operator	\$54.01	7A	4V	8Y	View
Lewis	Laborers	Ballast Regular Machine	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Batch Weighman	\$44.40	7A	4V	8Y	View
Lewis	Laborers	Brick Pavers	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Brush Cutter	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Brush Hog Feeder	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Burner	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Caisson Worker	\$54.01	7A	4V	8Y	View
Lewis	Laborers	Carpenter Tender	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Cement Dumper-paving	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Cement Finisher Tender	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Change House Or Dry Shack	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Chipping Gun (30 Lbs. And Over)	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Chipping Gun (Under 30 Lbs.)	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Choker Setter	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Chuck Tender	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Clary Power Spreader	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Clean-up Laborer	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Concrete Dumper/Chute Operator	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Concrete Form Stripper	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Concrete Placement Crew	\$53.35	7A	4V	8Y	View

Lewis	Laborers	Concrete Saw Operator/Core Driller	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Crusher Feeder	\$44.40	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Curing Laborer	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Demolition: Wrecking & Moving (Incl. Charred Material)	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Ditch Digger	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Diver	\$54.01	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Drill Operator (Hydraulic, Diamond)	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Dry Stack Walls	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Dump Person	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Epoxy Technician	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Erosion Control Worker	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Faller & Bucker Chain Saw	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Fine Graders	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Firewatch	\$44.40	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Form Setter	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Gabian Basket Builders	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	General Laborer	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Grade Checker & Transit Person	\$54.01	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Grinders	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Grout Machine Tender	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Groutmen (Pressure) Including Post Tension Beams	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Guardrail Erector	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Hazardous Waste Worker (Level A)	\$54.01	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Hazardous Waste Worker (Level B)	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Hazardous Waste Worker (Level C)	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	High Scaler	\$54.01	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Jackhammer	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Laserbeam Operator	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Maintenance Person	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Manhole Builder-Mudman	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Material Yard Person	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Motorman-Dinky Locomotive	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Nozzleman (Concrete Pump, Green Cutter When Using Combination Of High Pressure Air & Water On Concrete & Rock, Sandblast, Gunite, Shotcrete, Water Blaster, Vacuum Blaster)	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View

Lewis	Laborers	Pavement Breaker	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Pilot Car	\$44.40	7A	4V	8Y	View
Lewis	Laborers	Pipe Layer Lead	\$54.01	7A	4V	8Y	View
Lewis	Laborers	Pipe Layer/Tailor	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Pipe Pot Tender	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Pipe Reliner	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Pipe Wrapper	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Pot Tender	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Powderman	\$54.01	7A	4V	8Y	View
Lewis	Laborers	Powderman's Helper	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Power Jacks	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Railroad Spike Puller - Power	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Raker - Asphalt	\$54.01	7A	4V	8Y	View
Lewis	Laborers	Re-timberman	\$54.01	7A	4V	8Y	View
Lewis	Laborers	Remote Equipment Operator	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Rigger/Signal Person	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Rip Rap Person	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Rivet Buster	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Rodder	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Scaffold Erector	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Scale Person	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Sloper (Over 20")	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Sloper Sprayer	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Spreader (Concrete)	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Stake Hopper	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Stock Piler	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Swinging Stage/Boatswain Chair	\$44.40	7A	4V	8Y	View
Lewis	Laborers	Tamper & Similar Electric, Air & Gas Operated Tools	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Tamper (Multiple & Self-propelled)	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Timber Person - Sewer (Lagger, Shorer & Cribber)	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Toolroom Person (at Jobsite)	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Topper	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Track Laborer	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Track Liner (Power)	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Traffic Control Laborer	\$47.48	7A	4V	9C	View
Lewis	Laborers	Traffic Control Supervisor	\$50.31	7A	4V	9C	View
Lewis	Laborers	Truck Spotter	\$52.39	7A	4V	8Y	View
Lewis	Laborers	Tugger Operator	\$53.35	7A	4V	8Y	View
Lewis	Laborers	Tunnel Work-Compressed Air Worker 0-30 psi	\$129.67	7A	4V	9B	View
Lewis	Laborers	Tunnel Work-Compressed Air Worker 30.01-44.00	\$134.70	7A	4V	9B	View

		psi					
Lewis	Laborers	Tunnel Work-Compressed Air Worker 44.01-54.00 psi	\$138.38	<u>7A</u>	<u>4V</u>	<u>9B</u>	View
Lewis	Laborers	Tunnel Work-Compressed Air Worker 54.01-60.00 psi	\$144.08	<u>7A</u>	<u>4V</u>	<u>9B</u>	View
Lewis	Laborers	Tunnel Work-Compressed Air Worker 60.01-64.00 psi	\$146.20	<u>7A</u>	<u>4V</u>	<u>9B</u>	View
Lewis	Laborers	Tunnel Work-Compressed Air Worker 64.01-68.00 psi	\$151.30	<u>7A</u>	<u>4V</u>	<u>9B</u>	View
Lewis	Laborers	Tunnel Work-Compressed Air Worker 68.01-70.00 psi	\$153.20	<u>7A</u>	<u>4V</u>	<u>9B</u>	View
Lewis	Laborers	Tunnel Work-Compressed Air Worker 70.01-72.00 psi	\$155.20	<u>7A</u>	<u>4V</u>	<u>9B</u>	View
Lewis	Laborers	Tunnel Work-Compressed Air Worker 72.01-74.00 psi	\$157.20	<u>7A</u>	<u>4V</u>	<u>9B</u>	View
Lewis	Laborers	Tunnel Work-Guage and Lock Tender	\$54.11	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Tunnel Work-Miner	\$54.11	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Vibrator	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Vinyl Seamer	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Watchman	\$40.36	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Welder	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Well Point Laborer	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers	Window Washer/Cleaner	\$40.36	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers - Underground Sewer & Water	General Laborer & Topman	\$52.39	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Laborers - Underground Sewer & Water	Pipe Layer	\$53.35	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Landscape Construction	Landscape Construction/Landscaping Or Planting Laborers	\$40.36	<u>7A</u>	<u>4V</u>	<u>8Y</u>	View
Lewis	Landscape Construction	Landscape Operator	\$69.02	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Landscape Maintenance	Groundskeeper	\$13.69		<u>1</u>		View
Lewis	Lathers	Journey Level	\$64.94	<u>5D</u>	<u>1H</u>		View
Lewis	Marble Setters	Journey Level	\$60.57	<u>7E</u>	<u>1N</u>		View
Lewis	Metal Fabrication (In Shop)	Fitter	\$15.16		<u>1</u>		View
Lewis	Metal Fabrication (In Shop)	Laborer	\$13.69		<u>1</u>		View
Lewis	Metal Fabrication (In Shop)	Machine Operator	\$13.69		<u>1</u>		View
Lewis	Metal Fabrication (In Shop)	Painter	\$13.69		<u>1</u>		View
Lewis	Metal Fabrication (In Shop)	Welder	\$15.16		<u>1</u>		View
Lewis	Millwright	Journey Level	\$66.44	<u>7A</u>	<u>4C</u>		View
Lewis	Modular Buildings	Cabinet Assembly	\$13.69		<u>1</u>		View
Lewis	Modular Buildings	Electrician	\$13.69		<u>1</u>		View
Lewis	Modular Buildings	Equipment Maintenance	\$13.69		<u>1</u>		View

Lewis	Modular Buildings	Plumber	\$13.69		<u>1</u>		View
Lewis	Modular Buildings	Production Worker	\$13.69		<u>1</u>		View
Lewis	Modular Buildings	Tool Maintenance	\$13.69		<u>1</u>		View
Lewis	Modular Buildings	Utility Person	\$13.69		<u>1</u>		View
Lewis	Modular Buildings	Welder	\$13.69		<u>1</u>		View
Lewis	Painters	Journey Level	\$45.40	<u>6Z</u>	<u>2B</u>		View
Lewis	Pile Driver	Crew Tender	\$69.91	<u>7A</u>	<u>4C</u>		View
Lewis	Pile Driver	Crew Tender/Technician	\$69.91	<u>7A</u>	<u>4C</u>		View
Lewis	Pile Driver	Hyperbaric Worker - Compressed Air Worker 0- 30.00 PSI	\$80.76	<u>7A</u>	<u>4C</u>		View
Lewis	Pile Driver	Hyperbaric Worker - Compressed Air Worker 30.01 - 44.00 PSI	\$85.76	<u>7A</u>	<u>4C</u>		View
Lewis	Pile Driver	Hyperbaric Worker - Compressed Air Worker 44.01 - 54.00 PSI	\$89.76	<u>7A</u>	<u>4C</u>		View
Lewis	Pile Driver	Hyperbaric Worker - Compressed Air Worker 54.01 - 60.00 PSI	\$94.76	<u>7A</u>	<u>4C</u>		View
Lewis	Pile Driver	Hyperbaric Worker - Compressed Air Worker 60.01 - 64.00 PSI	\$97.26	<u>7A</u>	<u>4C</u>		View
Lewis	Pile Driver	Hyperbaric Worker - Compressed Air Worker 64.01 - 68.00 PSI	\$102.26	<u>7A</u>	<u>4C</u>		View
Lewis	Pile Driver	Hyperbaric Worker - Compressed Air Worker 68.01 - 70.00 PSI	\$104.26	<u>7A</u>	<u>4C</u>		View
Lewis	Pile Driver	Hyperbaric Worker - Compressed Air Worker 70.01 - 72.00 PSI	\$106.26	<u>7A</u>	<u>4C</u>		View
Lewis	Pile Driver	Hyperbaric Worker - Compressed Air Worker 72.01 - 74.00 PSI	\$108.26	<u>7A</u>	<u>4C</u>		View
Lewis	Pile Driver	Journey Level	\$65.19	<u>7A</u>	<u>4C</u>		View
Lewis	Plasterers	Journey Level	\$61.67	<u>7Q</u>	<u>1R</u>		View
Lewis	Playground & Park Equipment Installers	Journey Level	\$13.69		<u>1</u>		View
Lewis	Plumbers & Pipefitters	Journey Level	\$77.97	<u>5A</u>	<u>1G</u>		View
Lewis	Power Equipment Operators	Asphalt Plant Operator	\$70.17	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Power Equipment Operators	Assistant Engineer	\$66.30	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Power Equipment Operators	Barrier Machine (zipper)	\$69.55	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Power Equipment Operators	Batch Plant Operator: Concrete	\$69.55	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Power Equipment Operators	Bobcat	\$66.01	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Power Equipment Operators	Brokk - Remote Demolition Equipment	\$66.01	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Power Equipment Operators	Brooms	\$66.01	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Power Equipment Operators	Bump Cutter	\$69.55	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Power Equipment Operators	Cableways	\$70.17	<u>7A</u>	<u>3K</u>	<u>8X</u>	View

Lewis	Power Equipment Operators	Chipper	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Compressor	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Over 42m	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Concrete Finish Machine - laser Screed	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Conveyors	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Cranes Friction: 200 tons and over	\$72.63	7A	3K	8X	View
Lewis	Power Equipment Operators	Cranes, A-frame: 10 tons and under	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	\$71.20	7A	3K	8X	View
Lewis	Power Equipment Operators	Cranes: 20 tons through 44 tons with attachments	\$69.87	7A	3K	8X	View
Lewis	Power Equipment Operators	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	\$71.93	7A	3K	8X	View
Lewis	Power Equipment Operators	Cranes: 300 tons and over or 300' of boom including jib with attachments	\$72.63	7A	3K	8X	View
Lewis	Power Equipment Operators	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	\$70.49	7A	3K	8X	View
Lewis	Power Equipment Operators	Cranes: Friction cranes through 199 tons	\$71.93	7A	3K	8X	View
Lewis	Power Equipment Operators	Cranes: through 19 tons with attachments, A-frame over 10 tons	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators	Crusher	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Deck Engineer/deck Winches (power)	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Derricks: on building work	\$70.49	7A	3K	8X	View
Lewis	Power Equipment Operators	Dozers D-9 & Under	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Drill Oilers: Auger Type, Truck Or Crane Mount	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Drilling Machine	\$70.88	7A	3K	8X	View
Lewis	Power Equipment Operators	Elevator and man-lift: permanent and shaft type	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators	Finishing Machine, Bidwell And Gamaco & Similar Equipment	\$69.55	7A	3K	8X	View

Lewis	Power Equipment Operators	Forklift: 3000 lbs and over with attachments	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators	Forklifts: under 3000 lbs. with attachments	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators	Grade Engineer: Using Blueprints, Cut Sheets, etc.	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Gradechecker/stakeman	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators	Guardrail punch/Auger	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Horizontal/directional Drill Locator	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Horizontal/directional Drill Operator	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Hydralifts/boom trucks: 10 tons and under	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators	Hydralifts/boom trucks: over 10 tons	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators	Loader, Overhead 8 Yards. & Over	\$70.88	7A	3K	8X	View
Lewis	Power Equipment Operators	Loader, Overhead, 6 Yards. But Not Including 8 Yards	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Loaders, Overhead Under 6 Yards	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Loaders, Plant Feed	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Loaders: Elevating Type Belt	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Locomotives, All	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Material Transfer Device	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Mechanics: all (Leadmen - \$0.50 per hour over mechanic)	\$71.20	7A	3K	8X	View
Lewis	Power Equipment Operators	Motor patrol graders	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Oil Distributors, Blower Distribution & Mulch Seeding Operator	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators	Outside Hoists (elevators and manlifts), Air Tuggers, Strato	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators	Overhead, bridge type Crane: 20 tons through 44 tons	\$69.87	7A	3K	8X	View
Lewis	Power Equipment Operators	Overhead, Bridge Type	\$69.55	7A	3K	8X	View

		Crane: 20 Tons Through 44 Tons					
Lewis	Power Equipment Operators	Overhead, bridge type: 100 tons and over	\$71.20	7A	3K	8X	View
Lewis	Power Equipment Operators	Overhead, bridge type: 45 tons through 99 tons	\$70.49	7A	3K	8X	View
Lewis	Power Equipment Operators	Pavement Breaker	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators	Pile Driver (other Than Crane Mount)	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Plant Oiler - Asphalt, Crusher	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Posthole Digger, Mechanical	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators	Power Plant	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators	Pumps - Water	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators	Quad 9, HD 41, D10 And Over	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Quick Tower: no cab, under 100 feet in height based to boom	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators	Remote Control Operator On Rubber Tired Earth Moving Equipment	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Rigger and Bellman	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators	Rigger/Signal Person, Bellman(Certified)	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators	Rollagon	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Roller, Other Than Plant Mix	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators	Roller, Plant Mix Or Multi-lift Materials	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Roto-mill, Roto-grinder	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Saws - Concrete	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Scraper, Self Propelled Under 45 Yards	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Scrapers - Concrete & Carry All	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Scrapers, Self-propelled: 45 Yards And Over	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Service Engineers: equipment	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators	Shotcrete/gunite Equipment	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	\$69.55	7A	3K	8X	View

Lewis	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	\$70.88	7A	3K	8X	View
Lewis	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 90 Metric Tons	\$71.60	7A	3K	8X	View
Lewis	Power Equipment Operators	Slipform Pavers	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Spreader, Topsider & Screedman	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Subgrader Trimmer	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Tower Bucket Elevators	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Tower Crane: over 175' through 250' in height, base to boom	\$71.93	7A	3K	8X	View
Lewis	Power Equipment Operators	Tower crane: up to 175' in height base to boom	\$71.20	7A	3K	8X	View
Lewis	Power Equipment Operators	Tower Cranes: over 250' in height from base to boom.	\$72.63	7A	3K	8X	View
Lewis	Power Equipment Operators	Transporters, All Track Or Truck Type	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators	Trenching Machines	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators	Truck Crane Oiler/Driver: 100 tons and over	\$69.87	7A	3K	8X	View
Lewis	Power Equipment Operators	Truck crane oiler/driver: under 100 tons	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators	Truck Mount Portable Conveyor	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators	Welder	\$70.49	7A	3K	8X	View
Lewis	Power Equipment Operators	Wheel Tractors, Farmall Type	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators	Yo Yo Pay Dozer	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Asphalt Plant Operator	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Assistant Engineer	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Barrier Machine (zipper)	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Batch Plant Operator: Concrete	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Bobcat	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Brokk - Remote Demolition Equipment	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Brooms	\$66.01	7A	3K	8X	View

Lewis	Power Equipment Operators- Underground Sewer & Water	Bump Cutter	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Cableways	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Chipper	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Compressor	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Over 42m	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Concrete Finish Machine - laser Screed	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Conveyors	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Cranes Friction: 200 tons and over	\$72.63	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Cranes, A-frame: 10 tons and under	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	\$71.20	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Cranes: 20 tons through 44 tons with attachments	\$69.87	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	\$71.93	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Cranes: 300 tons and over or 300' of boom including jib with attachments	\$72.63	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	\$70.49	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Cranes: Friction cranes through 199 tons	\$71.93	7A	3K	8X	View

Lewis	Power Equipment Operators- Underground Sewer & Water	Cranes: through 19 tons with attachments, A-frame over 10 tons	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Crusher	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Deck Engineer/deck Winches (power)	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Derricks: on building work	\$70.49	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Dozers D-9 & Under	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Drill Oilers: Auger Type, Truck Or Crane Mount	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Drilling Machine	\$70.88	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Elevator and man-lift: permanent and shaft type	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Finishing Machine, Bidwell And Gamaco & Similar Equipment	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Forklift: 3000 lbs and over with attachments	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Forklifts: under 3000 lbs. with attachments	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Grade Engineer: Using Blueprints, Cut Sheets,etc.	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Gradechecker/stakeman	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Guardrail punch/Auger	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Horizontal/directional Drill Locator	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Horizontal/directional Drill Operator	\$69.55	7A	3K	8X	View

Lewis	Power Equipment Operators- Underground Sewer & Water	Hydralifts/boom trucks: 10 tons and under	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Hydralifts/boom trucks: over 10 tons	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Loader, Overhead 8 Yards. & Over	\$70.88	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Loader, Overhead, 6 Yards. But Not Including 8 Yards	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Loaders, Overhead Under 6 Yards	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Loaders, Plant Feed	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Loaders: Elevating Type Belt	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Locomotives, All	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Material Transfer Device	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Mechanics: all (Leadmen - \$0.50 per hour over mechanic)	\$71.20	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Motor patrol graders	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Oil Distributors, Blower Distribution & Mulch Seeding Operator	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Outside Hoists (elevators and manlifts), Air Tuggers, Strato	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Overhead, bridge type Crane: 20 tons through 44 tons	\$69.87	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Overhead, Bridge Type Crane: 20 Tons Through 44 Tons	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Overhead, bridge type: 100 tons and over	\$71.20	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Overhead, bridge type: 45 tons through 99 tons	\$70.49	7A	3K	8X	View
Lewis	Power Equipment	Pavement Breaker	\$66.01	7A	3K	8X	View

	Operators- Underground Sewer & Water						
Lewis	Power Equipment Operators- Underground Sewer & Water	Pile Driver (other Than Crane Mount)	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Plant Oiler - Asphalt, Crusher	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Posthole Digger, Mechanical	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Power Plant	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Pumps - Water	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Quad 9, HD 41, D10 And Over	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Quick Tower: no cab, under 100 feet in height based to boom	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Remote Control Operator On Rubber Tired Earth Moving Equipment	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Rigger and Bellman	\$66.30	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Rigger/Signal Person, Bellman(Certified)	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Rollagon	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Roller, Other Than Plant Mix	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Roller, Plant Mix Or Multi-lift Materials	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Roto-mill, Roto-grinder	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Saws - Concrete	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Scraper, Self Propelled Under 45 Yards	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Scrapers - Concrete & Carry All	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground	Scrapers, Self-propelled: 45 Yards And Over	\$70.17	7A	3K	8X	View

	Sewer & Water						
Lewis	Power Equipment Operators- Underground Sewer & Water	Service Engineers: equipment	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Shotcrete/gunite Equipment	\$66.01	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	\$70.88	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Slipform Pavers	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Spreader, Topsider & Screedman	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Subgrader Trimmer	\$69.55	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Tower Bucket Elevators	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Tower Crane: over 175' through 250' in height, base to boom	\$71.93	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Tower crane: up to 175' in height base to boom	\$71.20	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Tower Cranes: over 250' in height from base to boom.	\$72.63	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Transporters, All Track Or Truck Type	\$70.17	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Trenching Machines	\$69.02	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Truck Crane Oiler/Driver: 100 tons and over	\$69.87	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Truck crane oiler/driver: under 100 tons	\$69.33	7A	3K	8X	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Truck Mount Portable Conveyor	\$69.55	7A	3K	8X	View

Lewis	Power Equipment Operators- Underground Sewer & Water	Welder	\$70.49	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Wheel Tractors, Farmall Type	\$66.01	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Power Equipment Operators- Underground Sewer & Water	Yo Yo Pay Dozer	\$69.55	<u>7A</u>	<u>3K</u>	<u>8X</u>	View
Lewis	Power Line Clearance Tree Trimmers	Journey Level In Charge	\$53.10	<u>5A</u>	<u>4A</u>		View
Lewis	Power Line Clearance Tree Trimmers	Spray Person	\$50.40	<u>5A</u>	<u>4A</u>		View
Lewis	Power Line Clearance Tree Trimmers	Tree Equipment Operator	\$53.10	<u>5A</u>	<u>4A</u>		View
Lewis	Power Line Clearance Tree Trimmers	Tree Trimmer	\$47.48	<u>5A</u>	<u>4A</u>		View
Lewis	Power Line Clearance Tree Trimmers	Tree Trimmer Groundperson	\$36.10	<u>5A</u>	<u>4A</u>		View
Lewis	Refrigeration & Air Conditioning Mechanics	Journey Level	\$77.96	<u>5A</u>	<u>1G</u>		View
Lewis	Residential Brick Mason	Journey Level	\$21.96		<u>1</u>		View
Lewis	Residential Carpenters	Journey Level	\$24.89		<u>1</u>		View
Lewis	Residential Cement Masons	Journey Level	\$16.79		<u>1</u>		View
Lewis	Residential Drywall Applicators	Journey Level	\$36.07		<u>1</u>		View
Lewis	Residential Drywall Tapers	Journey Level	\$24.48		<u>1</u>		View
Lewis	Residential Electricians	Journey Level	\$36.53	<u>5A</u>	<u>1B</u>		View
Lewis	Residential Glaziers	Journey Level	\$25.40		<u>1</u>		View
Lewis	Residential Insulation Applicators	Journey Level	\$28.53		<u>1</u>		View
Lewis	Residential Laborers	Journey Level	\$23.10		<u>1</u>		View
Lewis	Residential Marble Setters	Journey Level	\$21.96		<u>1</u>		View
Lewis	Residential Painters	Journey Level	\$18.76		<u>1</u>		View
Lewis	Residential Plumbers & Pipefitters	Journey Level	\$26.35		<u>1</u>		View
Lewis	Residential Refrigeration & Air Conditioning Mechanics	Journey Level	\$32.89		<u>1</u>		View
Lewis	Residential Sheet Metal Workers	Journey Level	\$33.28		<u>1</u>		View
Lewis	Residential Soft Floor Layers	Journey Level	\$14.86		<u>1</u>		View
Lewis	Residential Sprinkler Fitters (Fire Protection)	Journey Level	\$20.28		<u>1</u>		View
Lewis	Residential Stone Masons	Journey Level	\$21.96		<u>1</u>		View
Lewis	Residential Terrazzo Workers	Journey Level	\$14.86		<u>1</u>		View
Lewis	Residential Terrazzo/Tile Finishers	Journey Level	\$14.86		<u>1</u>		View
Lewis	Residential Tile Setters	Journey Level	\$14.86		<u>1</u>		View
Lewis	Roofers	Journey Level	\$55.15	<u>5A</u>	<u>20</u>		View

Lewis	Roofers	Using Irritable Bituminous Materials	\$58.15	5A	20		View
Lewis	Sheet Metal Workers	Journey Level (Field or Shop)	\$89.61	7F	1E		View
Lewis	Sign Makers & Installers (Electrical)	Journey Level	\$18.04		1		View
Lewis	Sign Makers & Installers (Non-Electrical)	Journey Level	\$52.39	7A	4V	8Y	View
Lewis	Soft Floor Layers	Journey Level	\$51.07	5A	3J		View
Lewis	Solar Controls For Windows	Journey Level	\$13.69		1		View
Lewis	Sprinkler Fitters (Fire Protection)	Journey Level	\$65.49	7J	1R		View
Lewis	Stage Rigging Mechanics (Non Structural)	Journey Level	\$13.69		1		View
Lewis	Stone Masons	Journey Level	\$60.57	7E	1N		View
Lewis	Street And Parking Lot Sweeper Workers	Journey Level	\$16.00		1		View
Lewis	Surveyors	Chain Person	\$68.39	7A	3K		View
Lewis	Surveyors	Instrument Person	\$69.02	7A	3K		View
Lewis	Surveyors	Party Chief	\$70.17	7A	3K		View
Lewis	Telecommunication Technicians	Journey Level	\$46.47	6Z	1B		View
Lewis	Telephone Line Construction - Outside	Cable Splicer	\$41.81	5A	2B		View
Lewis	Telephone Line Construction - Outside	Hole Digger/Ground Person	\$23.53	5A	2B		View
Lewis	Telephone Line Construction - Outside	Installer (Repairer)	\$40.09	5A	2B		View
Lewis	Telephone Line Construction - Outside	Special Aparatus Installer I	\$41.81	5A	2B		View
Lewis	Telephone Line Construction - Outside	Special Apparatus Installer II	\$40.99	5A	2B		View
Lewis	Telephone Line Construction - Outside	Telephone Equipment Operator (Heavy)	\$41.81	5A	2B		View
Lewis	Telephone Line Construction - Outside	Telephone Equipment Operator (Light)	\$38.92	5A	2B		View
Lewis	Telephone Line Construction - Outside	Telephone Lineperson	\$38.92	5A	2B		View
Lewis	Telephone Line Construction - Outside	Television Groundperson	\$22.32	5A	2B		View
Lewis	Telephone Line Construction - Outside	Television Lineperson/Installer	\$29.60	5A	2B		View
Lewis	Telephone Line Construction - Outside	Television System Technician	\$35.20	5A	2B		View
Lewis	Telephone Line Construction - Outside	Television Technician	\$31.67	5A	2B		View
Lewis	Telephone Line Construction - Outside	Tree Trimmer	\$38.92	5A	2B		View
Lewis	Terrazzo Workers	Journey Level	\$55.71	7E	1N		View
Lewis	Tile Setters	Journey Level	\$55.71	7E	1N		View
Lewis	Tile, Marble & Terrazzo Finishers	Finisher	\$46.54	7E	1N		View

Lewis	Traffic Control Stripers	Journey Level	\$49.13	<u>7A</u>	<u>1K</u>		View
Lewis	Truck Drivers	Asphalt Mix Over 16 Yards	\$63.80	<u>5D</u>	<u>4Y</u>	<u>8L</u>	View
Lewis	Truck Drivers	Asphalt Mix To 16 Yards	\$62.96	<u>5D</u>	<u>4Y</u>	<u>8L</u>	View
Lewis	Truck Drivers	Dump Truck	\$62.96	<u>5D</u>	<u>4Y</u>	<u>8L</u>	View
Lewis	Truck Drivers	Dump Truck & Trailer	\$63.80	<u>5D</u>	<u>4Y</u>	<u>8L</u>	View
Lewis	Truck Drivers	Other Trucks	\$63.80	<u>5D</u>	<u>4Y</u>	<u>8L</u>	View
Lewis	Truck Drivers - Ready Mix	Transit Mix	\$63.80	<u>5D</u>	<u>4Y</u>	<u>8L</u>	View
Lewis	Well Drillers & Irrigation Pump Installers	Irrigation Pump Installer	\$18.18		<u>1</u>		View
Lewis	Well Drillers & Irrigation Pump Installers	Oiler	\$13.69		<u>1</u>		View
Lewis	Well Drillers & Irrigation Pump Installers	Well Driller	\$18.00		<u>1</u>		View

The Supplement to Wage Rates by the Washington State Department of Labor & Industries to be effective 3/3/2021 will be available on their Website when the update is complete. The Contractor shall insert it when available and make it part of this Contract.

Benefit Code Key – Effective 3/3/2021 thru 8/31/2021

Overtime Codes

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

1. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
 - B. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - C. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - D. The first two (2) hours before or after a five-eight (8) hour workweek day or a four-ten (10) hour workweek day and the first eight (8) hours worked the next day after either workweek shall be paid at one and one-half times the hourly rate of wage. All additional hours worked and all worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.
 - G. The first ten (10) hours worked on Saturdays and the first ten (10) hours worked on a fifth calendar weekday in a four-ten hour schedule, shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - H. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions or equipment breakdown) shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - I. All hours worked on Sundays and holidays shall also be paid at double the hourly rate of wage.
 - J. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage.
 - K. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
 - M. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - N. All hours worked on Saturdays (except makeup days) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

1. O. The first ten (10) hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays, holidays and after twelve (12) hours, Monday through Friday and after ten (10) hours on Saturday shall be paid at double the hourly rate of wage.
- P. All hours worked on Saturdays (except makeup days if circumstances warrant) and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
- Q. The first two (2) hours after eight (8) regular hours Monday through Friday and up to ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays (except Christmas day) shall be paid at double the hourly rate of wage. All hours worked on Christmas day shall be paid at two and one-half times the hourly rate of wage.
- R. All hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.
- U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays (except Labor Day) shall be paid at two times the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.
- V. All hours worked on Sundays and holidays (except Thanksgiving Day and Christmas day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Thanksgiving Day and Christmas day shall be paid at double the hourly rate of wage.
- W. All hours worked on Saturdays and Sundays (except make-up days due to conditions beyond the control of the employer)) shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
- X. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage. When holiday falls on Saturday or Sunday, the day before Saturday, Friday, and the day after Sunday, Monday, shall be considered the holiday and all work performed shall be paid at double the hourly rate of wage.
- Y. All hours worked outside the hours of 5:00 am and 5:00 pm (or such other hours as may be agreed upon by any employer and the employee) and all hours worked in excess of eight (8) hours per day (10 hours per day for a 4 x 10 workweek) and on Saturdays and holidays (except labor day) shall be paid at one and one-half times the hourly rate of wage. (except for employees who are absent from work without prior approval on a scheduled workday during the workweek shall be paid at the straight-time rate until they have worked 8 hours in a day (10 in a 4 x 10 workweek) or 40 hours during that workweek.) All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and Labor Day shall be paid at double the hourly rate of wage.
- Z. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid the straight time rate of pay in addition to holiday pay.

Overtime Codes Continued

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

- B. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.
- F. The first eight (8) hours worked on holidays shall be paid at the straight hourly rate of wage in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at double the hourly rate of wage.
- M. This code appears to be missing. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.
- O. All hours worked on Sundays and holidays shall be paid at one and one-half times the hourly rate of wage.
- R. All hours worked on Sundays and holidays and all hours worked over sixty (60) in one week shall be paid at double the hourly rate of wage.
- U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked over 12 hours in a day or on Sundays and holidays shall be paid at double the hourly rate of wage.

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

- F. All hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.
- H. All work performed on Sundays between March 16th and October 14th and all Holidays shall be compensated for at two (2) times the regular rate of pay. Work performed on Sundays between October 15th and March 15th shall be compensated at one and one half (1-1/2) times the regular rate of pay.
- J. All hours worked between the hours of 10:00 pm and 5:00 am, Monday through Friday, and all hours worked on Saturdays shall be paid at a one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- K. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

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

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

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

Overtime Codes Continued

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

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

EXCEPTION:

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

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

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

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

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

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

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

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

Overtime Codes Continued

4. J. The first eight (8) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) hours on a Saturday shall be paid at double the hourly rate of wage. All hours worked over twelve (12) in a day, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
- K. All hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage, so long as Saturday is the sixth consecutive day worked. All hours worked over twelve (12) in a day Monday through Saturday, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.
- L. The first twelve (12) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on a Saturday in excess of twelve (12) hours shall be paid at double the hourly rate of pay. All hours worked over twelve (12) in a day Monday through Friday, and all hours worked on Sundays shall be paid at double the hourly rate of wage. All hours worked on a holiday shall be paid at one and one-half times the hourly rate of wage, except that all hours worked on Labor Day shall be paid at double the hourly rate of pay.
- U. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. (Except on makeup days if work is lost due to inclement weather, then the first eight (8) hours on Saturday may be paid the regular rate.) All hours worked over twelve (12) hours Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- V. Work performed in excess of ten (10) hours of straight time per day when four ten (10) hour shifts are established or outside the normal shift (5 am to 6pm), and all work on Saturdays, except for make-up days shall be paid at time and one-half (1 ½) the straight time rate.

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

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

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

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

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

Overtime Codes Continued

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

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

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

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

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

Any shift starting between the hours of 6:00 pm and midnight shall receive an additional one dollar (\$1.00) per hour for all hours worked that shift.

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

- Z. All hours worked between the hours of 6:00 pm and 6:00 am, Monday through Saturday, shall be paid at a premium rate of 20% over the hourly rate of wage. Work performed on Sundays may be paid at double time. All hours worked on holidays shall be paid at double the hourly rate of wage.

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

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

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

Benefit Code Key – Effective 3/3/2021 thru 8/31/2021

Holiday Codes

5. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, and Christmas Day (7).
- B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, the day before Christmas, and Christmas Day (8).
- C. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).
- D. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8).
- H. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Day after Thanksgiving Day, And Christmas (6).
- I. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).
- J. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Eve Day, And Christmas Day (7).
- K. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9).
- L. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (8).
- N. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, The Friday After Thanksgiving Day, And Christmas Day (9).
- P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday And Saturday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9). If A Holiday Falls On Sunday, The Following Monday Shall Be Considered As A Holiday.
- Q. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).
- R. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day After Thanksgiving Day, One-Half Day Before Christmas Day, And Christmas Day. (7 1/2).
- S. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, And Christmas Day (7).
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).
6. G. Paid Holidays: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Christmas Eve Day (11).
- H. Paid Holidays: New Year's Day, New Year's Eve Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, Christmas Day, The Day After Christmas, And A Floating Holiday (10).

Holiday Codes Continued

- T. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Last Working Day Before Christmas Day, And Christmas Day (9).
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). If a holiday falls on Saturday, the preceding Friday shall be considered as the holiday. If a holiday falls on Sunday, the following Monday shall be considered as the holiday.
- 7. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any Holiday Which Falls On A Sunday Shall Be Observed As A Holiday On The Following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- C. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- D. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Unpaid Holidays: President's Day. Any paid holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any paid holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- E. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- F. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the last working day before Christmas day and Christmas day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- G. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

Holiday Codes Continued

7. J. Holidays: New Year's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- L. Holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, the Last Work Day before Christmas Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. When Christmas falls on a Saturday, the preceding Friday shall be observed as a holiday.
- P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- Q. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- S. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, the Day after Christmas, and A Floating Holiday (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- V. Holidays: New Year's Day, President's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, the day before or after Christmas, and the day before or after New Year's Day. If any of the above listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- W. Holidays: New Year's Day, Day After New Year's, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day, Christmas Day, the day after Christmas, the day before New Year's Day, and a Floating Holiday.
- X. Holidays: New Year's Day, Day before or after New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day before or after Christmas day. If a holiday falls on a Saturday or on a Friday that is the normal day off, then the holiday will be taken on the last normal workday. If the holiday falls on a Monday that is the normal day off or on a Sunday, then the holiday will be taken on the next normal workday.
- Y. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day. (8) If the holiday falls on a Sunday, then the day observed by the federal government shall be considered a holiday and compensated accordingly.

Holiday Codes Continued

7. G. New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, the last scheduled workday before Christmas, and Christmas Day (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- J. Holidays: New Year's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- L. Holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, the Last Work Day before Christmas Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. When Christmas falls on a Saturday, the preceding Friday shall be observed as a holiday.
- P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- Q. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- S. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, the Day after Christmas, and A Floating Holiday (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- V. Holidays: New Year's Day, President's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, the day before or after Christmas, and the day before or after New Year's Day. If any of the above listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

Benefit Code Key – Effective 3/3/2021 thru 8/31/2021

Holiday Codes Continued

7. W. Holidays: New Year's Day, Day After New Year's, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day, Christmas Day, the day after Christmas, the day before New Year's Day, and a Floating Holiday.
- X. Holidays: New Year's Day, Day before or after New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day before or after Christmas day. If a holiday falls on a Saturday or on a Friday that is the normal day off, then the holiday will be taken on the last normal workday. If the holiday falls on a Monday that is the normal day off or on a Sunday, then the holiday will be taken on the next normal workday.
- Y. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day. (8) If the holiday falls on a Sunday, then the day observed by the federal government shall be considered a holiday and compensated accordingly.
15. F. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, the last scheduled workday before Christmas, and Christmas Day (8). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- G. New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, the last scheduled workday before Christmas, and Christmas Day (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

Note Codes

8. D. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.
- L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$0.75, Level B: \$0.50, And Level C: \$0.25.
- M. Workers on hazmat projects receive additional hourly premiums as follows: Levels A & B: \$1.00, Levels C & D: \$0.50.
- N. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$1.00, Level B: \$0.75, Level C: \$0.50, And Level D: \$0.25.
- S. Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.

Note Codes Continued

8. T. Effective August 31, 2012 – A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.
- U. Workers on hazmat projects receive additional hourly premiums as follows – Class A Suit: \$2.00, Class B Suit: \$1.50, And Class C Suit: \$1.00. Workers performing underground work receive an additional \$0.40 per hour for any and all work performed underground, including operating, servicing and repairing of equipment. The premium for underground work shall be paid for the entire shift worked. Workers who work suspended by a rope or cable receive an additional \$0.50 per hour. The premium for work suspended shall be paid for the entire shift worked. Workers who do “pioneer” work (break open a cut, build road, etc.) more than one hundred fifty (150) feet above grade elevation receive an additional \$0.50 per hour.
- V. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.
- Depth premiums apply to depths of fifty feet or more. Over 50' to 100' - \$2.00 per foot for each foot over 50 feet. Over 101' to 150' - \$3.00 per foot for each foot over 101 feet. Over 151' to 220' - \$4.00 per foot for each foot over 220 feet. Over 221' - \$5.00 per foot for each foot over 221 feet.
- Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25' to 300' - \$1.00 per foot from entrance. 300' to 600' - \$1.50 per foot beginning at 300'. Over 600' - \$2.00 per foot beginning at 600'.
- W. Meter Installers work on single phase 120/240V self-contained residential meters. The Lineman/Groundmen rates would apply to meters not fitting this description.
- X. Workers on hazmat projects receive additional hourly premiums as follows - Class A Suit: \$2.00, Class B Suit: \$1.50, Class C Suit: \$1.00, and Class D Suit: \$0.50. Special Shift Premium: Basic hourly rate plus \$2.00 per hour.
- When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications requires that work can only be performed outside the normal 5 am to 6pm shift, then the special shift premium will be applied to the basic hourly rate. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in OT or Double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)
- Y. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.
- Swinging Stage/Boatswains Chair: Employees working on a swinging state or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

Note Codes Continued

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

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

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

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

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

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

(A) – 130' to 199' – \$0.50 per hour over their classification rate.

(B) – 200' to 299' – \$0.80 per hour over their classification rate.

(C) – 300' and over – \$1.00 per hour over their classification rate.

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

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

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

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

Note Codes Continued

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

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

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

APPENDIX C

**U.S. DEPT. OF TRANSPORTATION – FEDERAL HIGHWAY ADMINISTRATION
“GEOSYNTHETIC REINFORCED SOIL INTEGRATED BRIDGE SYSTEM INTERIM
IMPLEMENTATION GUIDE” CHAPTER 7 -- CONSTRUCTION**

CHAPTER 7. CONSTRUCTION

7.1 INTRODUCTION

GRS construction uses basic earthwork methods, primarily for excavation and compaction, along with sound general construction practices. The materials needed for GRS construction are readily available, which is a benefit of the generic nature of the system. This chapter provides guidance on most field-related scenarios, particularly with respect to a concrete modular block facing; however, this guidance can also be adapted to other GRS structures built with different facing types. All methods that are presented have been field-tested and applied during the construction of GRS-IBS. The techniques outlined can be applied to efficiently construct the layered system and have been proven to quickly construct the GRS-IBS. The contractor will ultimately choose the methods most efficient for the site, crew, and equipment on hand.

GRS construction has two principal components: (1) logistics and (2) aspects associated with actual construction. Logistics occur after the final design and before construction, outlining a plan for implementation and control of the construction process. Even though building a GRS abutment is for the most part as simple as repeatedly placing a row of facing block, a layer of well-compacted granular fill, and a sheet of reinforcement, the process is hampered without adequate planning to ensure optimum flow and placement of material throughout the course of the project.

Design plans should be made to easily provide information on the abutment layout, the reinforcement schedule, and the facing block schedule. The plans should also contain information on the limits of excavation and details about assembly of the GRS-IBS. It is important to lay out the abutments to scale, with accurate dimensions of the materials used to meet the planned elevations and limits of the abutment with respect to the superstructure and integrated approach. Additionally, an accurate illustration allows for a more precise estimate of material quantities that can be detailed on the plan with construction notes.

This chapter conveys the importance of the following details to ensure rapid GRS construction:

- **Careful attention to the first row of blocks:** Since all other courses of block are built off the first row, it is essential to ensure that the bottom row is level and even for fast construction.
- **Optimization of crew size and equipment for enhanced productivity:** Too many laborers or excess onsite equipment can cause confusion and slow down the construction process.
- **Allowance of time for a labor crew to adjust to the construction of the GRS-IBS:** Having each crew member do his or her part in the three basic steps of GRS construction (i.e., laying a course of facing block, compacting a layer of granular backfill, and placing a layer of reinforcement) dramatically improves productivity.

- **Establishment of a central position of the excavator:** Typically, it is best to limit movement of the excavator by locating it toward the back of the abutment where it can both reach and place material without moving.

7.2 LABOR, TOOLS, AND EQUIPMENT

The labor and equipment needs are minimal for GRS abutments and IBSs and do not require much specialized training or mobilization. The following subsections provide additional detail on the labor, tools, and equipment needs.

7.2.1 Labor

In many situations, a typical labor crew on GRS-IBS projects consists of five workers: four laborers and one equipment operator (figure 45). The equipment operator is central to the project and provides support to the labor crew. He or she is responsible for shaping the excavation to facilitate construction of the RSF and the GRS abutment in addition to placing fill material and moving facing units into the work area. Typically, one member of the labor crew has the role of foreman and is responsible for the layout of excavation limits and grades, alignment of wall face, placement of facing blocks, compaction of fill, and placement of geosynthetic reinforcement, as well as other activities to streamline production and the flow of material to the job site.



Source: FHWA.

Figure 45. Photo. Typical labor crew with centrally located track hoe.

7.2.2 Tools and Equipment

For most construction projects, specialized equipment is not required to construct GRS-IBS. Simple tools that are readily available and relatively inexpensive can be used. These include

hand tools, measuring devices, and heavy equipment. The contractor may modify the following lists of tools and equipment depending on the site, crew, and size of the IBS.

Typical hand tools include the following:

- Gravel rake (concrete spreader).
- Shovels (flat blade and spade).
- Heavy rakes.
- Broom to sweep top of blocks.
- Whisk broom.
- A 2- to 3-lb sledgehammer and wood two-by-fours to align blocks.
- Heavy rubber mallet.
- Spade trowel.
- Razor knives or utility knives to cut reinforcement.
- Hand tamper with metal base plate.
- Chainsaw to cut reinforcement roll.
- Concrete saw.
- 5-gal bucket.
- Block lifter.
- Standard concrete mixing and finishing tools.

Typical measuring devices include the following:

- Survey equipment.
- Laser level.
- String line to align blocks.
- A 4-ft carpenter's level.
- Plum bob to check wall batter.
- Measuring tapes.
- Chalk line.

Typical heavy equipment includes the following:

- Walk-behind vibratory plate tampers (200 lb and 18 inches wide or larger).
- Track hoe excavator.
- Riding smooth drum vibratory roller (compacting 3.28 ft from wall face).
- Pallet forks for the excavator (for moving CMU block in and out of work area).
- Trash pump and hose for dewatering the foundation excavation.
- Backhoe (as needed for material staging).

7.3 SITE PREPARATION

GRS is built from the bottom up and generally from within the footprint of the structure. Staging and delivery of materials to the site should allow for continuous GRS construction and effective use of the space. Delivered material should be easily accessible to the excavator, which is the central piece of equipment. As shown in figure 46, the excavator is positioned inside the wall

area for easy placement of fill, block, and other materials. Labor should be organized to assemble construction materials as needed on the work platform.



Source: FHWA.

Figure 46. Photo. Cut slope of retained soil.

7.3.1 Site Layout

Site preparation begins with a survey of the bridge site to stake limits for the excavation. Reference stakes should be located in an area where they will remain undisturbed during construction of the base of the wall, which is usually about 5 ft from the excavation.

The base of the GRS abutment and wing walls should be constructed to within 1 inch of the staked elevations. The external GRS abutment and wing walls should be constructed to within ± 0.5 inch of the surveyed staked dimensions.

7.3.2 Excavation

All excavations should comply with Occupational Safety and Health Administration requirements.⁽⁵²⁾ Excavation of the site involves shaping the slope for temporary slope stability, safety, and constructability. The temporary cut in the retained soil should be designed to accommodate movement of labor. The design of a temporary excavation needs to consider the loading imposed by heavy equipment and the reach limits of the excavator. Figure 47 shows a typical cut slope in stiff clay. The excavation should include provisions for drainage with a sloped cut to facilitate the movement of water. Any open excavations that form a pit should be backfilled with crushed aggregate and compacted. Excavation also includes the clearing and grubbing of vegetation. In situations where the retained fill is stable, the volume of excavation can be limited to reduce the size of the GRS composite. In the case of an abutment application, this would form a horseshoe-shaped excavation, as shown in figure 45 and figure 47.



Source: FHWA.

Figure 47. Photo. Horseshoe-shaped excavation with native soil still intact in middle.

Building in a flooded excavation can be addressed through a variety of methods ranging from using dewatering pumps (figure 48), building a coffer dam with sheeting (figure 49), or quickly compacting the structural backfill to create the stable working platform. The selection will depend on the influx of water at the site.



Copyright: Defiance County, OH.

Figure 48. Photo. Dewatering during excavation of the RSF.



Copyright: King County, WA.

Figure 49. Photo. Sheet-pile supported excavation.

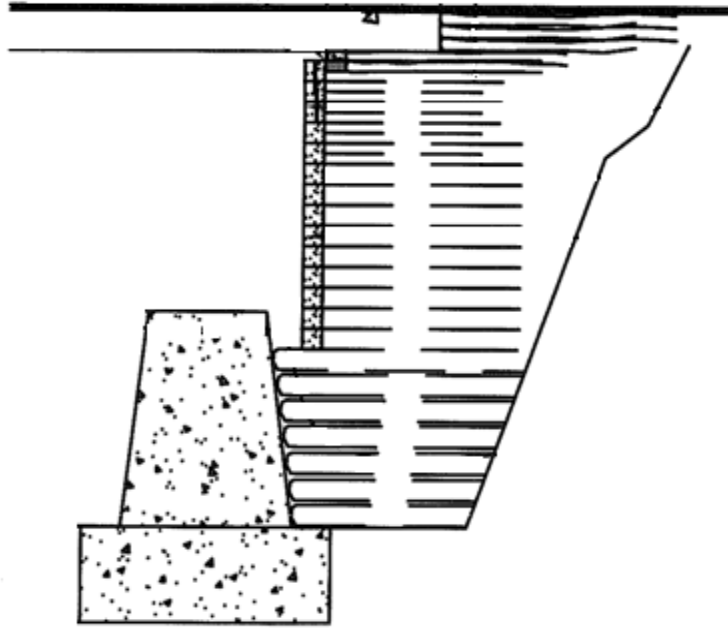
7.3.3 Placement of Abutment Behind Existing Substructure

In some situations, it may be beneficial to build the GRS-IBS behind an existing substructure. Project feasibility, environmental considerations, and other factors need to be assessed before selecting this type of project layout. Building the bridge behind an existing substructure often requires the removal of the top part of the existing abutment walls to provide additional space for the width of the new GRS-IBS. Figure 50 through figure 52 illustrate this technique. Note that the design of the GRS-IBS is the same whether it is built behind an existing abutment or not.



Copyright: St. Lawrence County, NY.

Figure 50. Photo. GRS-IBS built behind an existing concrete abutment.



Copyright: St. Lawrence County, NY.

Figure 51. Illustration. Cross section of a GRS-IBS built behind an existing concrete abutment.



Source: FHWA.

Figure 52. Photo. Building the RSF behind an existing abutment.

7.4 RSF

The depth and footprint of the excavation for the RSF should be based on external stability and, if necessary, the hydraulic analysis. The base of the RSF should be cut smooth. It should be excavated to uniform depth, and all loose, unstable material should be removed from the site (figure 53). If the base of the excavation is left open, it should be graded to one end to facilitate the removal of any intrusion of water with a pump. If flooded, all water should be removed along

with soft, saturated soils. The excavation should be backfilled as soon as possible to provide a suitable foundation and avoid adverse weather delays. The construction of the RSF can typically be completed in less than 1 day but is dependent on the size and depth of excavation, type of materials, equipment, and experience.



Copyright: Defiance County, OH.

Figure 53. Photo. RSF excavation below the stream level.

The base of the excavation should be compacted before construction of the RSF. This may require proof rolling, and any soft spots or voids should be backfilled with compacted fill material. Figure 54 shows the preparation of the RSF cut.



Source: FHWA.

Figure 54. Photo. RSF cut preparation.

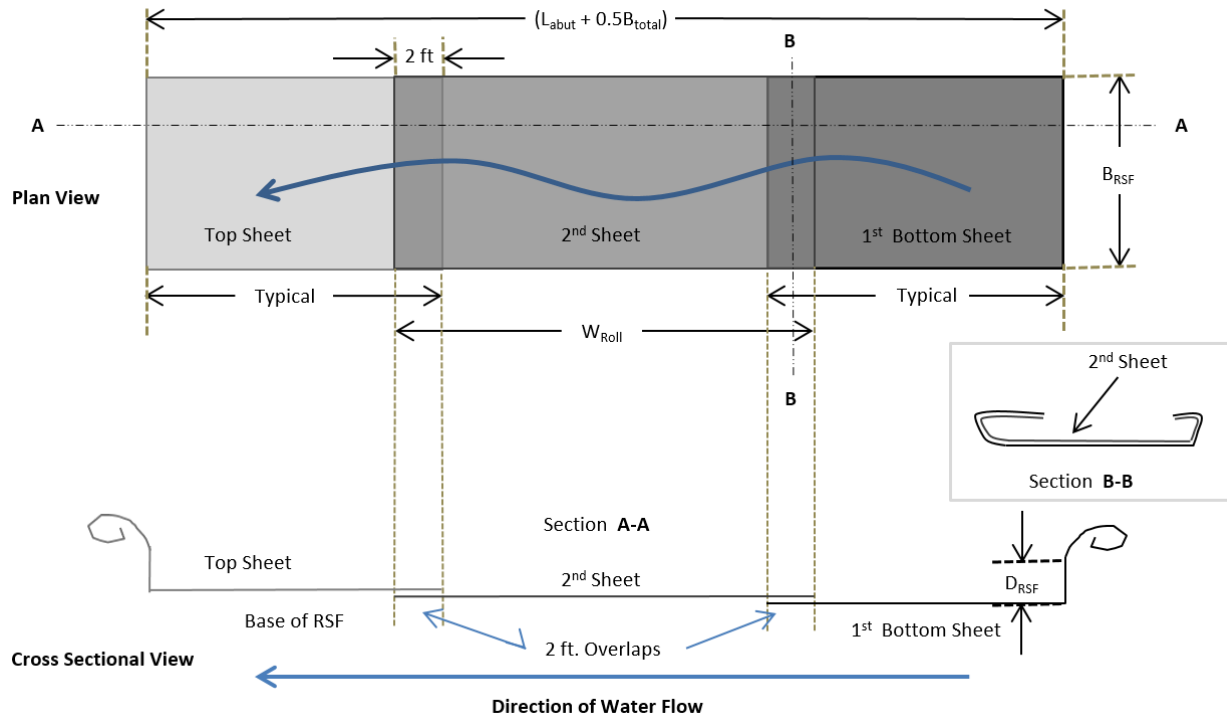
The RSF shall be encapsulated in geotextile reinforcement placed perpendicular to the abutment face to protect it from possible erosion due to scour (figure 55). The reinforcement sheets should be measured and sized to fully enclose the RSF on three sides: the face and the two wing wall sides.



Source: FHWA.

Figure 55. Photo. Encapsulation of fill in RSF.

If the GRS abutment is built on an RSF, particularly for water crossings, and if more than one sheet of reinforcement is needed to encapsulate the excavation, the first reinforcement sheet placed in the excavation shall be on the upstream side of the RSF with the subsequent sheet(s) placed on top with a 2-ft minimum overlap (figure 56). All overlapped sections of reinforcement in the area of the RSF should be oriented to prevent running water or surface runoff from penetrating the layers of reinforcement. The first layer of reinforcement should be placed on the upstream side of the abutment with subsequent layers (if needed) overlapped a minimum of 2 ft on the downstream side. This prevents water from infiltrating the RSF. The wrapped corners of the RSF need to be tight and without exposed soil within the RSF to complete the encapsulation.



Source: FHWA.

Figure 56. Illustration. RSF geotextile layout with respect to water flow direction.

Where:

L_{abut} = abutment length.

B_{total} = total base width of the GRS abutment including the width of the facing.

B_{RSF} = base width of the RSF.

W_{roll} = width of the reinforcement roll.

D_{RSF} = depth of the RSF.

Note that in water crossings and some soil conditions, generic concrete bin blocks (2 by 2 by 6 ft) have been used to form the perimeter of the RSF to facilitate construction (figure 57 and figure 58). Alternatively, welded wire baskets have also been used to form the perimeter of the RSF.



Copyright: North Hopewell Township, York County, PA.

Figure 57. Photo. Construction of the RSF with large concrete bin blocks.



Copyright: North Hopewell Township, York County, PA.

Figure 58. Photo. Completed RSF constructed within perimeter of concrete bin blocks.

Typical reinforcement spacing in the RSF is 12 inches. The reinforcement should be pulled taut to remove all wrinkles prior to placing and compacting the structural backfill. Fill should be placed from the face to the back to roll folds or wrinkles to the free end of the reinforcement layer.

The RSF should be constructed with structural fill, as specified in chapter 3. The structural fill is to be compacted in accordance with section 7.5 in compacted lifts not to exceed 8 inches. The first course of wall block sits directly on the RSF, as shown in figure 59, so it is important that the fill material is graded and level before encapsulating the RSF.



Source: FHWA.

Figure 59. Photo. Placement of wall block on wrapped RSF.

After this, a channel rock geotextile apron can be fixed to the abutment to stabilize and prevent the filtration or loss of material beneath the riprap for GRS-IBS construction for water crossings,. The geotextile apron can be placed beneath the first course of the facing blocks; however, if greater than 0.5 inch of material is used to level the first course of the facing block on the RSF, it is suggested to place the channel rock geotextile apron between the first and second courses to protect the leveling material from erosion.

The use of solid block at the base of the abutment should be considered to protect against vehicle impacts or any damage due to placement of channel rock that extends above the solid block zone. For water crossings, riprap protection should be placed in a manner to prevent damage to the wall face. Impact of large rock or concrete fragments during placement can crack the CMU block. Larger rocks should be uniformly distributed and placed firmly in contact with each other, with smaller rocks and fragments filling the voids between the larger rocks. This procedure often requires hand placement of smaller rocks to fill the voids. Chapter 9 provides repair procedures in the event that any CMU block is damaged.

7.5 COMPACTION

Compaction of the backfill should be to at least 95 percent of maximum dry density according to AASHTO T 99 for a well-graded aggregate and a method specification (e.g., three passes of the compactor) for an open-graded aggregate.⁽⁵³⁾ Backfill material containing fines should be compacted at a moisture content close to optimum (± 2 percent). Lifts of 8 inches should be compacted using vibratory roller compaction equipment. The facing blocks provide a form for each lift of fill. Other stiffness-based compaction control methods can be used. For open-graded fills, compact to non-movement or no appreciable displacement and both the compaction of the

aggregate and movement of the facing block should be visually assessed as outlined in section 7.5.1 and section 7.7.3.

Since the facing elements are not rigidly connected to the reinforcement, hand-operated compaction equipment (e.g., a lightweight mechanical tamper, plate, or roller) is recommended within 3 ft of the front of the wall face. It is very important for adequate GRS performance that the backfill is properly compacted. The backfill in the bearing bed reinforcement zone should be compacted to 100 percent of the maximum density according to AASHTO T 99 for a well-graded backfill or according to a method specification if the backfill is open-graded.⁽⁵³⁾

Onsite compaction equipment should be selected to achieve the required density of the fill materials. Considering that compaction is critical to the success of the project, compaction equipment should be in good operating order for efficient use. In addition, backup equipment should be available to provide quality construction throughout the project and to avoid construction delays.

7.5.1 Compaction Procedure

Once fill is placed at the required thickness and graded, all areas behind the modular block should be compacted to the required density. Any depression behind the facing block should be filled level to the top of the modular block prior to compaction.

Compaction directly behind the modular block should be performed in a manner that maintains wall alignment while improving the density of fill behind the block. This can be achieved in the following ways:

- Placing a fill lift directly behind the modular block face and rodding or foot tamping along the row of block while exerting downward pressure on the block to prevent lateral movement. For multiple lifts, the top lift height is slightly higher than the block to compensate for compression of the fill during compaction.
- Using a lightweight vibratory plate compactor directly behind the modular block while exerting downward pressure on the block to prevent lateral movement.
- Using larger vibratory compactors for the remainder of the fill area 3 ft from the face of the GRS wall. Outward block movement should be checked for and adjusted accordingly.

The most common compaction QC tool is the nuclear density gauge. Other instruments are also available for compaction control, such as the Clegg hammer, the soil stiffness gauge, or the falling weight deflectometer. These devices are typically used by correlating their measurements to soil density and moisture content. Method-based compaction specifications can also be used. For open-graded fills, compact to non-movement or no appreciable displacement, and the fills should be visually assessed.

7.6 REINFORCEMENT

Generally, the length of the reinforcement layers will follow the cut slope, as shown in figure 20. While the reinforcement layers in the GRS abutment can be any geosynthetic, the RSF and

integrated approach should be constructed and encapsulated with a geotextile to confine the compacted granular fill. The geosynthetic should be placed so that the strongest direction is perpendicular to the abutment face, as shown in figure 60 for a geotextile. Where the roll ends, the next roll should begin. Overlapping between sheets is not required. The geosynthetic reinforcement should extend between layers of CMU blocks to provide a frictional connection. The geosynthetic reinforcement should cover a minimum of 85 percent of the top surface of the CMU blocks; any excess can be removed by either burning it with a propane torch or cutting it with a razor knife.



Source: FHWA.

Figure 60. Photo. Geotextile reinforcement rolled out parallel to the wall face (strong direction perpendicular to the wall face).

After the geosynthetic is rolled out, it should be laid so that it is taut, free of wrinkles, and flat. The geosynthetic can be held in place with the fill. Placement of fill should be from the wall face backward to remove and prevent the formation of wrinkles in the geosynthetic. A conscious effort should be taken during placement of fill to prevent the development of wrinkles.

Splices of reinforcement can occur without overlap. Splice seams should be staggered to avoid a continuous break in the reinforcement throughout the GRS structure. Following this procedure, all splice seams can run either perpendicular or parallel to the wall face.

Overlaps of adjacent geosynthetic should be trimmed where they are in contact with the surface of the facing block to avoid varying geosynthetic thicknesses between the CMU block. Any seams in the geosynthetic should be staggered with each successive layer of the GRS abutment. All seams between adjacent sheets of geosynthetic located in the area beneath the footprint of the beam seat should be perpendicular to the abutment wall face.

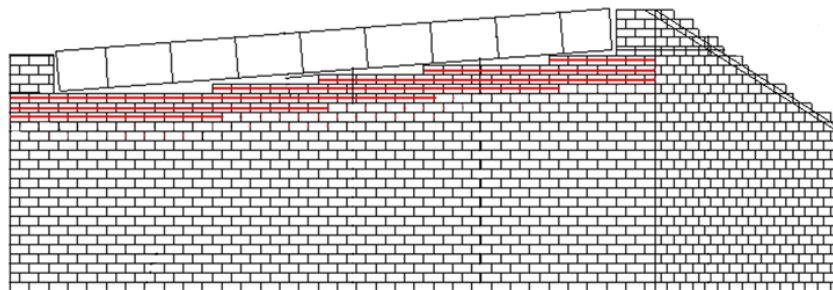
7.6.1 Operating Equipment on Geosynthetic Reinforcement

Driving is not allowed directly on the geosynthetic reinforcement. A minimum 6-inch layer of granular fill should be placed prior to operating any vehicles or equipment over the geosynthetic reinforcement. In the bearing reinforcement zone, hand-operated compaction equipment should be used over the 4-inch lifts to prevent excessive installation damage of the geosynthetic reinforcement. Rubber-tired equipment may pass over the geosynthetic reinforcement at speeds less than 5 mi/h. Skid steers and tracked vehicles can cause considerable damage to the geosynthetic reinforcement. For example, a track hoe once operating on a GRS structure turned and pulled the fabric, causing deformation to the wall face. For this reason, it is recommended to restrict the use of these vehicles on GRS structures. If absolutely necessary, use may be permitted provided no sudden braking or sharp turning occur and a minimum 6-inch cover is placed.

7.6.2 Bearing Reinforcement Bed

The bearing reinforcement bed provides additional strength in the upper GRS wall layers directly beneath the bearing area of the superstructure. These reinforcement layers are not sandwiched between two consecutive rows of block but are placed behind the facing block at 4-inch spacing. This 4-inch reinforcement spacing is generally placed in the top three to five layers of the GRS abutment or as determined by the design (see chapter 4).

Bearing bed reinforcement spacing in superelevated abutment walls requires additional planning. The 4-inch reinforcement spacing needs to be placed in the top three or more courses of block at each elevation across the length of the abutment wall (see the red reinforcement lines in figure 61). The reinforcement schedule will guide field personnel in the proper placement of the geosynthetic along a wall block course.



Source: FHWA.

Figure 61. Illustration. Superelevation reinforcement schedule.

7.6.3 Superelevation

The reinforcement layers become stair-stepped in the upper wall layers as the superelevation of the abutment is constructed (figure 62). The reinforcement terminates along the angle surface of the superelevation. The GRS wall reinforcement schedule should show the termination of each layer of reinforcement across the abutment wall from low to high elevation (figure 61).



Copyright: Defiance County, OH.

Figure 62. Photo. Superelevation reinforcement layers.

7.7 WALL FACE

This manual focuses on the use of concrete modular blocks for the wall facing; however, since GRS is internally stable, any facing elements can be used in construction. For simplicity, CMUs are used throughout this section to refer to the facing. For flexible facings other than the CMU block (including different types of concrete modular blocks, wrapped, timber, natural rock, or welded wire basket facing), alternative construction guidelines may need to be followed and/or developed. These other facing systems are described by Wu et al.⁽⁴⁰⁾ The general design guidelines for GRS-IBS, however, remain the same as those in this manual.

7.7.1 Leveling Course

Setting the first course of facing block level and grading it is critical in maintaining wall alignment for the entire height of the abutment. Typically, the first course is placed on top of the RSF directly on the geotextile; however, due to the large aggregate size of the RSF fill material, a thin leveling layer of fine aggregate can help set the facing blocks to grade and prevent them from rocking. The leveling layer should be kept to a minimum thickness (i.e., no more than 0.5 inch). If the leveling layer exceeds this thickness and there is the potential for water to erode and undermine the aggregate, mortar or grout should be placed in the gap between the RSF and the first course.

7.7.2 Setting the CMU Block

CMU block wall construction should begin at the lowest portion of the excavation, with each layer placed horizontally as shown in the project plans. Each layer should be constructed entirely before beginning the next layer. A stretcher or running bond should be maintained between courses of block so that the joints between the blocks are offset with each row.

Since the CMU blocks are dry stacked without mortar, it is important to avoid cracking the blocks and to maintain a horizontal uniform elevation by sweeping the top surface of the blocks clean of debris and fill material prior to the placement of the next layer of geosynthetic and CMU

blocks. Gravel material between layers of blocks creates point loads that can cause cracks. Also, gravel material between the blocks causes them to rock, making it difficult to secure a good fit.

When setting a course of blocks, each block should be placed tightly against the adjoining block, preventing gaps from which fill material can escape. Before proceeding to the next layer, it is often useful to walk along the top of the blocks to easily identify a poorly seated block.

To avoid cutting a block when the CMU block schedule shows the wall terminating with half a block, a full CMU block can be turned 90 degrees, placing the 8-inches width toward the face. This typically occurs at the termination of a wing wall. The end block that forms the termination does not have to be a corner CMU block (with two finished sides) because the ends of most wing walls are embedded into the fill slope.

7.7.3 Wall Face Alignment

When placing and compacting fill behind the CMU blocks, it is sometimes necessary to set the blocks back about 0.5 inch to allow for lateral outward movement of the CMU blocks during compaction. It should be noted that each combination of wall facing and backfill reacts differently during the compaction process, and adjustment of the setback distance between block courses should be performed as needed to maintain the necessary batter.

Alignment of the GRS abutment wall should be checked for plumbness at least every other layer, and any deviations greater than 0.5 inch should be corrected. Wall face verticality or batter should be maintained to conform to the limits and shape of the abutments to avoid potential as-built changes in the setback distance and clear space. While there are some cases of GRS abutments being built with poor face alignment, without exhibiting instability, wall appearance is a serviceability issue because questions may arise on whether the wall was built with poor alignment (e.g., a bulge) or if it experienced post-construction deformations. Before placing the backfill, every other row of block alignment should be checked with a string line referenced off the back of the facing block from wall corner to corner (figure 63).



Copyright: Defiance County, OH.

Figure 63. Photo. Checking block alignment with string line reference from the back of the block.

If CMU blocks become displaced during construction, they can often be hammered back into position using a 3-lb sledgehammer and a block of wood as protection. If the CMU blocks are excessively out of alignment, the fill material needs to be excavated, the CMU blocks need to be repositioned, and the fill material needs to be replaced and recompact.

7.7.4 Block Alignment for Battered Walls

Block alignment for battered walls is similar to that for vertical walls. In abutment situations where the face wall turns to form the wing wall, however, it is necessary to trim blocks on either end to account for the reduced wall length. All cuts should be performed to maintain the standard running or stretcher bond between the rows of dry-stacked blocks, with the vertical joints of each course midway between those of adjoining courses.

In special situations, negative battered walls (not abutments) have been constructed when the top area needs to be greater than the bottom, as in the case of road widening shown in figure 64. The negative batter can be created by offsetting the CMU block by a measured amount in consecutive wall layers and then filling and compacting as specified. Again, this practice is typically limited to walls and has not been used for GRS abutments, but it helps highlight the stability of closely spaced GRS.



Copyright: GeoStabilizational International.

Figure 64. Photo. Negative batter wall face.

7.7.5 Superelevation

When the plans shows a superelevation for the bridge, the top courses of CMU blocks beneath the superstructure should be trimmed to match the elevation difference and clear space across the

abutment (figure 65). This will produce a sloped face wall and aid in construction of the beam seat. One method is to snap a chalk line along the back of the block at the superelevation slope. A carpenter's angle finder can also be used to mark the cut.



Source: FHWA.

Figure 65. Photo. Blocks trimmed to match superelevation.

7.7.6 Wall Corners and Curves

Right-angle wall corners, as shown in figure 66, are constructed with CMU corner blocks that have architectural detail on two sides, providing an aesthetic finish. Facing wall and wing wall courses should be staggered to form a tight, interlocking, stable corner.



Source: FHWA.

Figure 66. Photo. Right-angle wall corner.

Walls with angles larger or smaller than 90 degrees require additional effort. The corner blocks need to be cut to form the angled face. As a result, a vertical seam or joint is formed at the corner (figure 67). Corners with vertical seams may have open block joints, making it prudent to fill the corner blocks with a concrete mix and install bent rebar to close and connect the seam at each

course of block, as shown in figure 68. This procedure secures the two faces and prevents compaction-induced separation during construction of subsequent GRS layers. It may also be used wherever added strength at the wall corner is desired. Alternatively, the wing walls can be built without cutting the block by gradually turning the blocks to avoid the need for cutting blocks and the subsequent vertical joint at the junction between the wing wall and abutment faces (e.g., see figure 69 through figure 71).



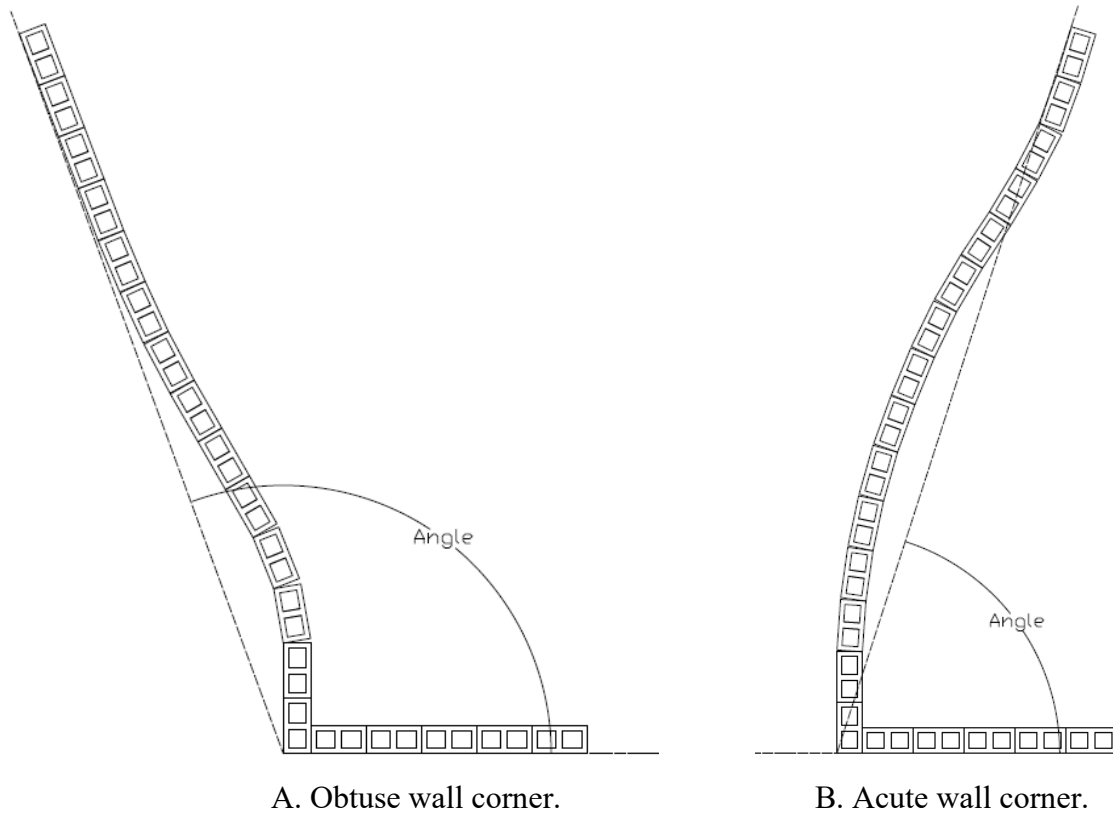
Copyright: Defiance County, OH.

Figure 67. Photo. Vertical seam in the wing wall.



Copyright: Defiance County, OH.

Figure 68. Photo. Rebar installed in the vertical seam prior to grout.



Source of subfigure images: FHWA.

Figure 69. Illustrations. Examples of alternative obtuse and acute wall corner details with rectangular blocks.



Source: FHWA.

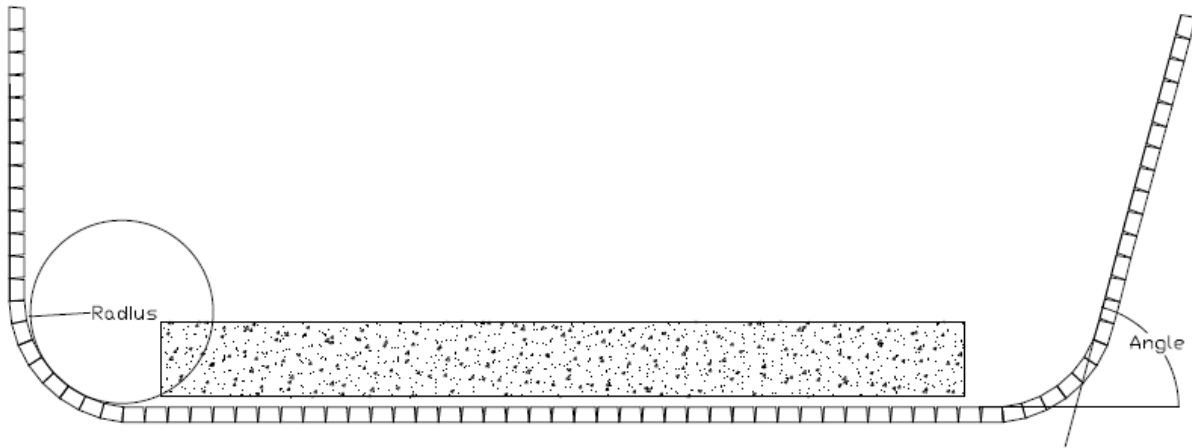
Figure 70. Photo. Alternative wing wall obtuse angle corner detail with CMU blocks.



Source: FHWA.

Figure 71. Photo. Alternative wing wall acute angle corner detail with CMU blocks.

Curves can also be constructed in lieu of a sharp corner when using SRW blocks. Figure 72 illustrates how the layout of a GRS abutment can be formed in a curved shape from the transition into the wing walls. The size of the radius to create the convex curved wing wall is dictated by the tapered shape of the SRW blocks. These layouts are aesthetic and may offer some advantages in some hydraulic conditions depending on the project requirements. Note that these details can create a larger footprint area of the abutment, leading to an increased volume of fill material needed. Regardless, the layout of the block schedule should include details of how the parapets link to the sides of the superstructure as discussed in section 7.9.3 found later in this chapter. An example of a curved corner on a GRS-IBS under construction is shown in figure 73.



Source: FHWA.

Figure 72. Illustration. Abutment layout with curved wing walls.



Copyright: Hamilton County, IN.

Figure 73. Photo. GRS-IBS with curved corner details under construction.

7.7.7 Top of Wall Facing

The top three courses of CMU blocks in the abutment are susceptible to movement simply from not having the weight of successive layers holding them in place. To prevent displacement, the hollow cores of the top three courses of CMU blocks are filled with a concrete wall fill and pinned together with No. 4 rebar, preferably epoxy-coated, and embedded with a minimum 2-inch cover (figure 74).



Copyright: Defiance County, OH.

Figure 74. Photo. Connecting the top courses of blocks.

To grout and pin the top of the wall, the reinforcement between the top two courses of CMU blocks needs to be removed to open the core for placement of concrete wall fill and a 20-inch-long No. 4 rebar dowel, preferably epoxy-coated with 2-inch cover (see chapter 3). This can be accomplished either by cutting the reinforcement with a razor knife or by burning the geosynthetic reinforcement.

The concrete wall fill is placed in two steps. After the block void is filled with concrete to the top of the block and the steel rebar is inserted, a thin layer of the same concrete mix is placed on top of the block to form the coping cap, as shown in figure 75 and figure 76. The coping is then hand-troweled either square or round and sloped to drain. A wet-cast cap is more durable than a dry-cast cap and eliminates the need to furnish and install a separate cap unit.



Source: FHWA.

Figure 75. Photo. Square coping cap.



Copyright: Defiance County, OH.

Figure 76. Photo. Rounded coping cap.

Once the top of the wall has been tied together, care should be taken to avoid any construction activity that may pull on the top layer of the reinforcement. The frictional connection between the block is strong, and when courses are pinned together, the entire grouted wall face can be pulled out of alignment.

If another type of concrete modular block is used for the abutment face, the designer will need to develop a suitable method of connection. Many proprietary SRW systems have pre-engineered methods of connection, which may or may not be compatible with the wall face layout or pinning and grouting as previously discussed. An alternative method may include the use of concrete adhesives. Regardless, coping and connecting the top wall face is important.

7.8 BEAM SEAT

The beam seat is constructed directly above the bearing bed reinforcement zone. The superstructure is then positioned on top of the beam seat, as shown in figure 77 and figure 78. The purpose of the beam seat is to ensure that the superstructure bears on the GRS abutment and not the wall facing block and to provide the necessary clear space between the superstructure and the wall face. Typically, the clear space is 3 inches, or 2 percent of the abutment height, depending on the required design (see chapter 4).



Source: FHWA.

Figure 77. Photo. Box beam placed on the beam seat.



Copyright: Defiance County, OH.

Figure 78. Photo. Detailed view of a box beam placed on a beam seat.

In general, the thickness of the beam seat is approximately 8 inches and consists of two 4-inch lifts of wrapped-face GRS. Before construction of the beam seat, the cores of the CMU blocks on the abutment wall face must be pinned with No. 4 rebar and filled with concrete wall mix (figure 79).



Source: FHWA.

Figure 79. Photo. Bearing area block grouted prior to beam placement.

7.8.1 Beam Seat Procedure

Once the block elevation beneath the bearing area is established and the hollow cores are filled with grout, the beam seat is ready for construction. The following steps should be used to construct the beam seat:

1. Place precut 4-inch-thick foam board on the top of the bearing bed reinforcement. Sometimes, a thin layer of backfill may be necessary beneath the foam board for grading purposes and to ensure the proper clear space height and drainage (crown in bridge) (figure 80). The foam board should butt against the back face of the CMU block. The exposed edge of the foam board helps form the nose of the reinforcement wrap across the length of the bearing area. The stiffness of the foam board should allow it to compress as the beam settles (see chapter 3).



Source: FHWA.

Figure 80. Photo. Foam board and 4-inch-thick block assembly to form a beam seat.

2. Set the 4-inch-thick solid concrete blocks on top of the foam board across the entire length of the bearing area (figure 81). The back edge of the top CMU face block holds the

4-inch-thick concrete block in place during compaction. Note that the distance between the top of the grouted CMU block and the top of the beam seat (the clear space) is the distance the beams can settle before bearing on the facing blocks.



Source: FHWA.

Figure 81. Photo. A 4-inch-thick concrete block on top of a foam board against the top of the CMU face block.

3. Use the first 4-inch wrapped layer of compacted fill as the thickness to the top of the foam board (figure 82).



Source: FHWA.

Figure 82. Photo. First 4-inch wrap butted against the foam board.

4. Place the second 4-inch wrapped layer of compacted fill to the top of the 4-inch-thick solid block, creating the clear space as shown in figure 83. The top of this layer controls the beam elevation and should therefore be carefully compacted and graded.



Source: FHWA.

Figure 83. Photo. Top 4-inch wrap butted against a 4-inch solid block.

5. Grade the surface aggregate of the beam seat (as necessary) to about 0.5 inch to aid in seating the superstructure and to maximize contact with the bearing area before folding the final wrap.

For temporary GRS abutments, it may be possible to add an additional layer of reinforcement placed between the beam seat and concrete or steel beams to provide additional protection of the beam seat (figure 84). The additional layer of reinforcement may decrease the sliding resistance between the superstructure and the beam seat.



Source: FHWA.

Figure 84. Photo. Additional reinforcement under the beam.

7.8.2 Setback

The setback is the distance between the back of the facing block and the front of the beam seat. This distance can be established during construction of the beam seat and placement of the block

and foam board used to form the beam seat wrap. The setback distance is usually 8 inches but can be greater.

7.8.3 Drip Edge

The optional drip edge (e.g., aluminum flashing) is installed prior to setting the bridge beams and is placed in between the bottom of the beams and the foam board. The flashing is held in place by the pressure of the beams on the compressible foam board (figure 85). The length of the flashing should extend beyond the outside edge of the bridge beams and be trimmed to fit against the parapets.



Source: FHWA.

Figure 85. Photo. Aluminum flashing (drip edge) between the beams and the top of the CMU facing.

7.8.4 CIP or Precast Footing

For GRS-IBS built without adjacent concrete beams, a CIP or precast footing may be necessary, as with steel beams or spread girders (figure 86 and figure 87). Figure 88 illustrates a simple method to create a composite bridge superstructure with multiple steel girders. The result forms a semi-integral type abutment. The final stage in the illustration (stage 5) is the placement of the deck to complete the composite bridge.



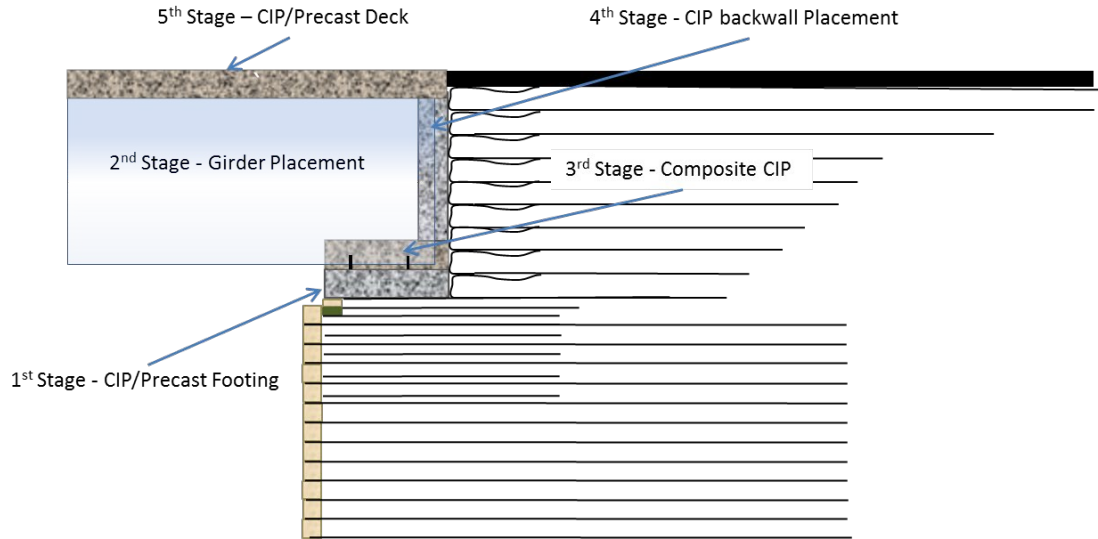
Source: FHWA.

Figure 86. Photo. Steel girder on CIP footing.



Source: FHWA.

Figure 87. Photo. CIP footings for steel girders.



Source: FHWA.

Figure 88. Illustration. Details to cast steel girders and backwall on CIP footing.

7.9 PLACEMENT OF SUPERSTRUCTURE

Prepare the beam seat as described in section 7.8.1. The grade of the beam seat will control the final elevation of the bridge.

7.9.1 Crane Position on GRS Mass

The crane used for placement of the superstructure can be positioned on the GRS abutment provided the outrigger pads are sized less than the factored bearing resistance of the GRS mass. The outrigger pads should be sized for 4,000 lb/ft² near the face of the abutment wall, with greater loads able to be supported with increasing distance from the abutment face (figure 89).



Source: FHWA.

Figure 89. Photo. Outrigger pads near the wall face.

7.9.2 Superstructure Placement on the Beam Seat (Without CIP Footing)

Since the bearing surface is aggregate under a layer of geosynthetic reinforcement, it is important to set beams square and level. They should never be dragged over the beam seat surface, which could create the potential for an uneven bearing area or a void under the beam, producing uneven bearing stresses between bridge elements.

7.9.3 Wing Walls and Parapets

Wing walls and parapets are constructed after the superstructure is set. The CMU block in the parapet wall should be trimmed or saw cut for a custom fit against the beam edge of the superstructure to prevent the loss of fill material. Figure 90 and figure 91 show the construction of the parapet against the superstructure. If the gap between the superstructure and the facing block is difficult to fill using thin slices of cut facing block, a mortar mix or other material should be used to close the gap.



Source: FHWA.

Figure 90. Photo. First view of parapet and wing wall construction.



Source: FHWA.

Figure 91. Photo. Second view of parapet and wing wall construction.

7.10 APPROACH INTEGRATION

A properly constructed integrated approach that transitions the road to the bridge is essential for minimizing settlement in front of the bridge beams and mitigating the bump at the end of the bridge. This is accomplished by compacting and reinforcing the approach fill with wrapped geotextile layers. The material for the integrated approach zone should be well-graded, as outlined in chapter 3.

Once the superstructure is in place, the approach to the bridge can be constructed using the following steps:

1. Trim a geotextile reinforcement sheet to provide the planned length after it is wrapped, and place it behind the beam end (figure 92). The width of the sheet should allow for wrapping of the sides after the fill layer is placed and compacted. Wrapping of the sides prevents lateral migration of the fill.



Source: FHWA.

Figure 92. Photo. Reinforcement placement.

2. Place a 6-inch-thick lift of fill and compact per compaction specifications for road base (figure 93). Add a secondary layer of reinforcement on top of the 6-inch-thick lift and then place another 6-inch-thick lift of fill and compact (figure 94). Fold back the reinforcement sheet to wrap the compacted fill layer and smooth wrinkles (figure 95).



Source: FHWA.

Figure 93. Photo. First 6-inch-thick fill lift.



Source: FHWA.

Figure 94. Photo. Secondary reinforcement sheet.



Source: FHWA.

Figure 95. Photo. Completed wrapped approach layer.

3. Repeat these steps until the integrated approach is approximately 2 inches from the top of the beam grade, as shown in figure 96.



Source: FHWA.

Figure 96. Photo. Second 6-inch-thick fill lift.

Multiple sheets can be used along the width of the approach as long as all seams are kept perpendicular to the beam ends. The typical wrap reinforcement spacing is 12 inches, with intermediate layers spaced at 6 inches and compacted in 6-inch-thick lifts. However, in the case of beams with a reduced depth, the spacing of the wrapped layers may need to be reduced, and the intermediate layers may need to be eliminated. At a minimum, the top two reinforcement layers of the integrated approach should extend 3 ft over the cut slope to blend the roadway on to the GRS abutment. The top wrap fold should increase in length with each successive wrapped layer until the fill is 2 inches below the bridge grade. It is important to ensure that the backfill used is specified to limit the amount of fines in the integrated approach to prevent frost heave.

7.10.1 Wrapped Reinforcement Layers on Sides

If lateral spreading of the fill in the integrated approach will be an issue (e.g., wing walls are not sufficient to confine the fill at the sides), the reinforcement sheets comprising the wrapped layers should be folded over along the sides and perpendicular to the bridge (figure 97).



Source: FHWA.

Figure 97. Photo. Completed approach fill.

7.10.2 Preloading

In some situations, it might be beneficial to preload the abutment before paving to minimize post-construction deformation or settlement within the GRS abutment. A simple method of preloading can be achieved by parking fully loaded trucks on the bridge for several days before placing the asphalt pavement.

7.10.3 Paving

The top layer of reinforcement should be kept approximately 2 inches below the beam grade. This will allow a layer of aggregate cover to be placed to protect the reinforcement from contact with hot mix asphalt.

When IBS is finished with asphalt mix overlay, a layer of paving fabric or waterproof membrane should be extended over the beams onto the approach way (see figure 15). Extending the paving fabric 3 ft over the beam approach interface is recommended to bridge the gap and provide an interface to accommodate thermal movement, minimize surface water infiltration, and prevent cracks in the road. Note that paving fabric is already used on top of the beams as a barrier to water infiltration and to absorb stresses to minimize reflective and fatigue cracking of the new asphalt surface layer. When the superstructure has a nonasphalt wearing surface, a control joint should be detailed to tie the bridge surface with the approach roadway material (figure 98).



Source: FHWA.

Figure 98. Photo. Control joint between the concrete deck and asphalt pavement.

7.10.4 Guardrail Posts

Nondisplacement steel H posts are recommended for any railing that is driven through the reinforcement (figure 99). It is also possible to drill through the GRS with an auger to set other types of posts; both methods are acceptable. Depending on the jurisdiction, some guardrail post installation occurs after paving by augering through the asphalt and into the reinforced fill. After the posts are set, the holes are filled and recompact, and an asphalt patch is placed in the area around the post.



Source: FHWA.

Figure 99. Photo. Guardrail posts.

7.11 SITE DRAINAGE

The GRS-IBS construction area should be protected from surface runoff during the project. Critical areas are behind the abutment wall at the interface between the GRS abutment and the retained fill, at the base of the abutment, and at any location where a fill slope meets the wall face. The design needs to include provisions for surface drainage along the fill slope adjacent to the wing walls. Provisions for drainage should also be included at the boundary of the wing walls and the fill slope. Long walls built along variable elevation or the abutment wing walls are often stepped to reduce excavation. In these situations, the termination of wall steps should be sufficiently embedded to prevent problems with erosion. The drainage swell or channel should be separated from the wall to avoid flow directly against the wall face.

Site preparation for drainage should include the following:

- **Grading:** The site should be graded to drain away from the GRS every night in anticipation of precipitation to avoid saturation of soil.
- **Diversion trenches:** An alternative to grading is placing diversion trenches around the perimeter to divert water.
- **Compaction of loose soil:** Any loose soil placed to construct GRS should be graded and compacted before stoppage of work for the day. Also, onsite stockpiles of fill material containing fines should be protected from excess precipitation.

7.12 UTILITIES

All utilities that pass through a GRS abutment should follow local, State, and Federal utility codes. With GRS, utilities can be placed in the reinforced zone, passing either perpendicular or parallel through the GRS fill (figure 100). Reinforcement can be trimmed to accommodate pipes and casing, and extra reinforcement sheets can be added to replace cut out sections. Waterlines should be installed with a sleeve pipe in the abutment to prevent any erosion or loss of material should there be a break (figure 101).



Source: FHWA.

Figure 100. Photo. Utilities through a GRS abutment.



Copyright: Anderson County, SC.

Figure 101. Photo. Waterline through a GRS abutment.

Some items to consider related to utility construction include the following:

- **Wall stability:** Waterlines within a GRS abutment should be contained in a sleeve pipe (see figure 101) so that in the event the waterline breaks with the abutment, the unleached water exits the wall without saturating the wall face.

- **Utility ports:** Pass-through portals should be detailed and constructed for fit against the wall face to prevent the loss of backfill material. Utility ports should also be designed to accommodate any differential movement.
- **Repair access:** Utilities passing through an abutment should be laid out for somewhat easy access in the event of repair or maintenance. This consideration should include not only the abutment but also traffic.
- **Attachments and connections to the wall face:** Hanging utilities on an abutment wall face are permitted, provided the connections are compatible with the facing type. Additionally, connections should be designed to accommodate lateral and vertical movement associated with substructure–superstructure interaction.

APPENDIX D

BID PROPOSAL DOCUMENTS

INCLUDING:

Notice to Contractor

Proposal Form

Non-Collusion Declaration

Proposal Signature Page

Certification of Compliance with Wage Payment Statutes



Lewis County Department of Public Works

Josh S Metcalf, PE, Director

Tim Fife, PE, County Engineer

NOTICE TO CONTRACTORS

NOTICE IS HEREBY GIVEN that the Board of County Commissioners of Lewis County or designee, will open sealed proposals and publicly read them aloud at or after 12:30 p.m. on **Tuesday, March 2, 2021**, at the Lewis County Courthouse in Chehalis, Washington for the Cousins Road MP 3.15 Culvert replacement Project, CMP 1502. This contract provides for the improvement of *** Cousins Road MP 3.15 by installing a stream bypass, removing the existing culvert, excavation, Geosynthetic Reinforced Soil construction, precast voided slab bridge construction, streambed restoration, road restoration, guardrail, hydroseeding *** and other related work, all in accordance with the attached Contract Plans, these Contract Provisions, and the Standard Specifications.

SEALED BIDS MUST BE DELIVERED BY OR BEFORE

12:30 P.M. on Tuesday, March 2, 2021

(Lewis County official time is displayed on Axxess Intertel phones in the office of the Board of County Commissioners.
Bids submitted after 12:30 PM will not be considered for this project.)

Sealed proposals must be delivered to the Clerk of the Board of Lewis County Commissioners (351 N.W. North Street, Room 210, CMS-01, Chehalis, Washington 98532), by or before **12:30 P.M.** on the date specified for opening, and in an envelope clearly marked: ***“SEALED BID FOR COUSINS ROAD MP 3.15 CULVERT REPLACEMENT PROJECT, CMP 1502, TO BE OPENED ON OR AFTER 12:30 P.M. ON TUESDAY, MARCH 2, 2021”.***

All bid proposals shall be accompanied by a bid proposal deposit in cash, certified check, cashier's check or surety bond in an amount equal to five percent (5%) of the amount of such bid proposal. Should the successful bidder fail to enter into such contract and furnish satisfactory contract bond within the time stated in the specifications, the bid proposal deposit shall be forfeited to the Lewis County Public Works Department.

Informational copies of maps, plans and specifications are on file for inspection in the office of the County Engineer of Lewis County in Chehalis, Washington. The contract documents may be viewed and downloaded from Lewis County's Web Site @ www.lewiscountywa.gov or you may call the Lewis County Engineers office @ (360)740-2612 and request a copy be mailed to you. All Contractor questions and Lewis County clarifying answers will be posted on our website and emailed to all Contractors registered on Lewis County's Planholder List. Plan or specification changes shall be accomplished through official project addendums.

The Lewis County Public Works Department in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR Part 26 will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin, or sex in consideration for an award.

PROPOSAL

TO: LEWIS COUNTY BOARD OF COUNTY COMMISSIONERS
CHEHALIS, WASHINGTON 98532

This certifies that the undersigned has examined the location of the COUSINS ROAD MP 3.15 CULVERT REPLACEMENT PROJECT CMP-1502, in Lewis County, Washington, and that the plans, specifications and contract governing the work embraced in these improvements, and the method by which payment will be made for said work is understood. The undersigned hereby proposes to undertake and complete the work embraced in this improvement, or as much thereof as can be completed with the money available in accordance with the said plans, specifications and contract, and the following schedules of rates and prices:

NOTE: Unit prices for all items, all extensions, and total amount of bid shall be shown: All entries must be typed or entered in ink.

ITEM NO.	PLAN QUANTITY	ITEM DESCRIPTION	UNIT PRICE DOLLARS CENTS	AMOUNT DOLLARS CENTS
1	1 L.S.	MOBILIZATION	LUMP SUM	\$
2	1 L.S.	PROJECT TEMPORARY TRAFFIC CONTROL	LUMP SUM	\$
3	0.5 ACRE	CLEARING AND GRUBBING	\$	\$
4	1 L.S.	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	\$
5	315 C.Y.	ROADWAY EXCAVATION INCL. HAUL	\$	\$
6	1 CALC.	ROCK EXCAVATION (FORCE ACCOUNT)	CALCULATED	\$25,000.00
7	1 L.S.	TEMPORARY DETOUR ROAD	LUMP SUM	\$
8	425 C.Y.	CHANNEL EXCAVATION INCL. HAUL	\$	\$
9	641 C.Y.	STRUCTURE EXCAVATION CLASS A INCL. HAUL	\$	\$
10	1 L.S.	TEMPORARY STREAM DIVERSION	LUMP SUM	\$
11	1 L.S.	TRIMMING AND CLEANUP	LUMP SUM	\$
12	350 TON	CRUSHED SURFACING BASE COURSE	\$	\$
13	90 TON	CRUSHED SURFACING TOP COURSE	\$	\$
14	20 TON	SHOULDER FINISHING	\$	\$
15	300 TON	HMA CL. 3/8 IN PG 58H-22 FIBER REINFORCED	\$	\$
16	1 L.S.	SUPERSTRUCTURE - COUSINS ROAD MP 3.15 BRIDGE	LUMP SUM	\$
17	670 S.F.	STRUCTURAL EARTH WALL	\$	\$
18	275 C.Y.	GRAVEL BORROW FOR STRUCTURAL EARTH WALL INCL. HAUL	\$	\$
19	100 L.F.	SCHEDULE A CULV. PIPE 18 IN. DIAM.	\$	\$
20	1 EST.	EROSION/WATER POLLUTION CONTROL	ESTIMATED	\$5,000.00
21	700 S.Y.	BIODEGRADABLE EROSION CONTROL BLANKET	\$	\$
22	310 L.F.	HIGH VISIBILITY SILT FENCE	\$	\$
23	0.5 ACRE	SEEDING AND MULCHING	\$	\$

ITEM NO.	PLAN QUANTITY	ITEM DESCRIPTION	UNIT PRICE		AMOUNT	
			DOLLARS	CENTS	DOLLARS	CENTS
24	1 L.S.	STREAMSIDE MITIGATION PLANTING		LUMP SUM	\$	
25	188 L.F.	EXTRUDED CURB (TYPE 2 OR 5)	\$		\$	
26	137.5 L.F.	BEAM GUARDRAIL TYPE 31	\$		\$	
27	1 EA.	BEAM GUARDRAIL ANCHOR TYPE 10	\$		\$	
28	3 EA.	BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL	\$		\$	
29	272 TON	STREAMBED MIX	\$		\$	
30	200 TON	ROCK FOR EROSION CONTROL AND SCOUR PROTECTION CL. B	\$		\$	
31	50 TON	QUARRY SPALLS	\$		\$	
32	1,500 L.F.	PAINT LINE	\$		\$	
33	0 EST.	REIMBURSEMENT FOR THIRD PARTY DAMAGE		ESTIMATED		\$0.00
34	1 CALC.	MINOR CHANGE		CALCULATED		\$25,000.00
35	1 L.S.	SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN		LUMP SUM	\$	
				TOTAL BID	\$	

Failure to return this Declaration as part of the bid proposal package will make the bid nonresponsive and ineligible for award.

NON-COLLUSION DECLARATION

I, by signing the proposal, hereby declare, under penalty of perjury under the laws of the United States that the following statements are true and correct:

1. That the undersigned person(s), firm, association or corporation has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the project for which this proposal is submitted.
2. That by signing the signature page of this proposal, I am deemed to have signed and to have agreed to the provisions of this declaration.

NOTICE TO ALL BIDDERS

To report rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (USDOT) operates the above toll-free "hotline" Monday through Friday, 8:00 a.m. to 5:00 p.m., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report such activities.

The "hotline" is part of USDOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the USDOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

PROPOSAL - SIGNATURE PAGE

The bidder is hereby advised that by signature of this proposal he/she is deemed to have acknowledged all requirements and signed all certificates contained herein.

A proposal guaranty in an amount of five percent (5%) of the total bid, based upon the approximate estimate of quantities at the above prices and in the form as indicated below, is attached hereto:

CASH IN THE AMOUNT OF _____

CASHIER'S CHECK _____ DOLLARS

CERTIFIED CHECK (\$_____) PAYABLE TO THE LEWIS COUNTY TREASURER

PROPOSAL BOND IN THE AMOUNT OF 5% OF THE BID

** Receipt is hereby acknowledged of addendum(s) No.(s) _____, _____, _____, & _____

SIGNATURE OF AUTHORIZED OFFICIAL(S)

Proposal Must be Signed

Firm Name

Address

State of Washington Contractor's License No.

Unified Business Identifier (U.B.I.) No.

Telephone No.

Federal ID No.

Note:

This proposal form is not transferable and any alteration of the firm's name entered hereon without prior permission from the Lewis County Engineer will be cause for considering the proposal irregular and subsequent rejection of the bid.

*Attach Power of Attorney



Lewis County Department of Public Works

Josh Metcalf, PE, Director

Tim Fife, PE, County Engineer

Certification of Compliance with Wage Payment Statutes

The bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date (_____), the bidder is not a "willful" violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

I certify under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Bidder's Business Name

Signature of Authorized Official*

Printed Name

Title

Date

City

State

Check One:

Sole Proprietorship Partnership Joint Venture Corporation

State of Incorporation, or if not a corporation, State where business entity was formed:

If a co-partnership, give firm name under which business is transacted:

** If a corporation, proposal must be executed in the corporate name by the president or vice-president (or any other corporate officer accompanied by evidence of authority to sign). If a co-partnership, proposal must be executed by a partner.*

APPENDIX E

CONTRACT DOCUMENTS

INCLUDING:

Contract Form

Contract Bond

Power Equipment List

CONTRACT

THIS AGREEMENT, made and entered into this ___ day of _____, 2021, between the BOARD OF COUNTY COMMISSIONERS of LEWIS COUNTY, State of Washington, acting under and by virtue of RCW 36.77.040, hereinafter called

the Board, and _____ of _____

for ___sel___, heirs, executors, administrators, successors and assigns, hereinafter called the Contractor.

WITNESSETH:

That in consideration of the payments, covenants and agreements hereinafter mentioned to be made and performed by the parties hereto, the parties hereto covenant and agree as follows:

DESCRIPTION OF WORK:

1. The Contractor shall do all work and furnish all material necessary to improve Cousins Road MP 3.15 Culvert replacement Project, CMP 1502 by installing a stream bypass, removing the existing culvert, excavation, Geosynthetic Reinforced Soil construction, precast voided slab bridge construction, streambed restoration, road restoration, guardrail, hydroseeding and other work, all in Lewis County Washington, in accordance with and as described in the attached plans and specifications, and in full compliance with the terms, conditions and stipulations herein set forth and attached, now referred to and by such reference incorporated herein and made a part hereof as fully for all purposes as if here set forth at length, and shall perform any alterations in or additions to the work covered by this contract and every part thereof and any extra work which may be ordered as provided in this contract and every part thereof.

The Contractor shall provide and be at the expense of all materials, labor, carriage, tools, implements and conveniences and things of every description that may be requisite for the transfer of materials and for constructing and completing the work provided for in this contract and every part thereof.

2. The County hereby promises and agrees with the Contractor to hire and does hire the Contractor to provide the materials and to do and cause to be done the above described work and to complete and furnish the same according to the attached plans and specifications and the terms and conditions herein contained, and hereby contracts to pay for the same according to the schedule of unit or itemized prices at the time and in the manner and upon the conditions provided for in this contract and every part thereof. The County further agrees to hire the contractor to perform any alterations in or conditions to the work covered by this contract and every part thereof and any force account work that may be ordered and to pay for the same under the terms of this contract and the attached plans and specifications.

3. The Contractor for himself, and for his heirs, executors, administrators, successors and assigns, does hereby agree to the full performance of all the covenants herein contained upon the part of the Contractor.

4. It is further provided that no liability shall attach to the County be reason of entering into this contract, except as expressly provided herein.

Contract - 1

5. CANCELLATION OF CONTRACT FOR VIOLATION OF STATE POLICY

This contract, pursuant to RCW 49.28.040 to RCW 49.28.060, may be canceled by the officers or agents of the Owner authorized to contract for or supervise the execution of such work, in case such work is not performed in accordance with the policy of the State of Washington.

6. DOCUMENTS COMPRISING CONTRACT

All documents hereto attached, including but not being limited to the advertisement for bids, information for bidders, bid proposal form, general conditions (if any), special conditions (if any), complete specifications and the complete plans, are hereby made a part of this contract.

IN WITNESS WHEREOF, the said Contractor has executed this instrument, and the said Board of County Commissioners of aforesaid County, pursuant to resolution duly adopted, has caused this instrument to be executed by and in the name of said Board by its Chairman, duly attested by its Clerk, the day and year first above written, and the seal of said Board to be hereunto affixed on the date in this instrument first above written.

By: _____

Contractor

Performance of foregoing contract assured in accordance with the terms of the accompanying bond.

Dated: _____, 2021

By: _____
Surety

By: _____
Attorney-in-fact

APPROVED AS TO FORM:

JONATHAN MEYER Prosecuting Attorney

By: _____
Civil Deputy

APPROVED:

County Engineer

Contract – 2

**CONTRACT BOND FOR
LEWIS COUNTY, WASHINGTON**

Bond No. _____

WE, _____ d/b/a _____
(Insert legal name of Contractor) (Insert trade name of Contractor, if any)

(hereinafter "Principal"), and _____ (hereinafter "Surety"), are held and firmly bound unto **LEWIS COUNTY, WASHINGTON** (hereinafter "County"), as Obligee, in an amount (in lawful money of the United States of America) equal to the total compensation and expense reimbursement payable to Principal for satisfactory completion of Principal's work under Contract No. **CMP 1502** between Principal and County, which total is *initially* _____ Dollars (\$ _____), for the payment of which sum Principal and Surety bind themselves, their executors, administrators, legal representatives, successors and assigns, jointly and severally, firmly by these presents.. Said contract (hereinafter referred to as "the Contract") is for the **Cousins Road MP 3.15 Culvert Replacement Project** and is made a part hereof by this reference. The Contract includes the original agreement as well as all documents attached thereto or made a part thereof and amendments, change orders, and any other document modifying, adding to or deleting from said Contract any portion thereof.

This Bond is executed in accordance with the laws of the State of Washington, and is subject to all provisions thereof and the ordinances of County insofar as they are not in conflict therewith, and is entered into for the use and benefit of County, and all laborers, mechanics, subcontractors, and materialmen, and all persons who supply such person or persons, or subcontractors, with provisions or supplies for the carrying on of the work covered by Contract No. **CMP 1502**, between the below-named Contractor and County for the **Cousins Road MP 3.15 Culvert Replacement Project**, a copy of which Contract, by this reference is made a part hereof and is hereinafter referred to as "the Contract." (The Contract as defined herein includes the aforesaid agreement together with all of the Contract documents including addenda, exhibits, attachments, modifications, alterations, and additions thereto, deletions therefrom, amendments and any other document or provision attached to or incorporated into the Contract)

THE CONDITION OF THIS OBLIGATION is such that if Contractor shall promptly and faithfully perform the Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

THE PARTIES FURTHER ACKNOWLEDGE & AGREE AS FOLLOWS:

- (1) Surety hereby consents to, and waives notice of, any alteration, change order, or other modification of the Contract and any extension of time made by County, except that any single or cumulative change order amounting to more than twenty-five percent (25%) of the penal sum of this bond shall require Surety's written consent.
- (2) Surety recognizes that the Contract includes provisions for additions, deletions, and modifications to the work or Contract Time and the amounts payable to Contractor. Subject to the limitations contained in paragraph (1) above, no such change or any combination thereof, shall void or impair Surety's obligation hereunder.
- (3) Surety is subject to the provisions contained in Section 1-03.4, "Contract Bond," of the Washington State Department of Transportation (WSDOT) Standard Specifications for Road, Bridge, and Municipal Construction. And such provisions are incorporated by reference. A copy may be viewed at WSDOT's website www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/.
- (4) Whenever County has declared Contractor to be in default and County has given Surety written notice of such declaration, Surety shall promptly (in no event more than thirty [30] days following receipt of such notice), specify, in written notice to County, which of the following actions Surety intends to take to remedy such default, and thereafter shall:
 - (a) Remedy the default within fifteen (15) days after its notice to County, as stated in such notice; or
 - (b) Assume within fifteen (15) days following its notice to County, full responsibility for the completion of the Contract in accordance with all of its provisions, as stated in such notice, and become entitled to payment of the balance of the Contract sum as provided in the Contract; or
 - (c) Pay County upon completion of the Contract, in cash, the cost of completion together with all other reasonable costs and expenses incurred by County as a result of Contractor's default, including but not limited to those incurred by County to mitigate its losses, which may include but are not limited to attorneys' fees and the cost of efforts to complete the work prior to Surety's exercising any option available to it under this Bond; or
 - (d) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon a determination by County and Surety jointly of the lowest responsible bidder, arrange for one or more agreements between such bidder and County, and make available as work progresses (even though there is a default or a succession of defaults under such agreement(s) for completion arranged for under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract price, but not exceeding, including other costs and damages for which Surety may be liable hereunder, the penal sum of this Bond. The term "balance of the Contract price," as used in this paragraph, shall mean the total amount payable by County to Contractor under the Contract, less the amount properly paid by County to Contractor.

(5) If County commences suit and obtains judgment against Surety for recovery hereunder, then Surety, in addition to such judgment, shall pay all costs and attorneys' fees incurred by County in enforcement of County's rights hereunder. The venue for any action arising out of or in connection with this bond shall be in Lewis County, Washington.

(6) No right or action shall accrue on this Bond to or for the use of any person or corporation other than Lewis County, except as herein provided.

(7) No rider, amendment or other document modifies this Bond except as follows, which by this reference is incorporated herein:

SURETY'S QUALIFICATIONS: Every Surety named on this bond must appear on the United States Treasury Department's most current list (Circular 570 as amended or superseded) and be authorized by the Washington State Insurance Commissioner to transact business as a surety in the State of Washington. In addition, the Surety must have a current rating of at least A-VII in A. M. Best's Key Rating Guide.

INSTRUCTIONS FOR SIGNATURES: This bond must be signed by the president or a vice-president of a corporation; the managing general partner of a partnership; managing joint venturer of a joint venture; manager of a limited liability company or, if no manager has been designated, a member of such LLC; a general partner of a limited liability partnership; or the owner(s) of a sole proprietorship. If the bond is signed by any other representative, the Principal must attach currently-dated, written proof of that signer's authority to bind the Principal, identifying and quoting the provision in the corporate articles of incorporation, bylaws, Board resolution, partnership agreement, certificate of formation, or other document authorizing delegation of signature authority to such signer, and confirmation acceptable to the County that such delegation was in effect on the date the bond was signed. **A NOTARY PUBLIC MUST ACKNOWLEDGE EACH SIGNATURE BELOW.**

FOR THE SURETY:

FOR THE PRINCIPAL:

By _____
(Signature of Attorney-in-Fact)

(Type or print name of Attorney-in-Fact)

(Type or print telephone number for Attorney-in-Fact)

By: _____
(Signature of authorized signer for Contractor)

(Type or print name of signer for Contractor)

(Type or print title of signer for Contractor)

STATE OF _____)
 _____) ss: **ACKNOWLEDGMENT FOR CONTRACTOR**
 COUNTY OF _____)

On this ____ day of _____, _____, before me a notary public in and for the State of _____, duly commissioned and sworn, personally appeared _____, the person described in and who executed the foregoing bond, and acknowledged to me that _____ signed and sealed said bond as the free and voluntary act and deed of the Contractor so identified in the foregoing bond for the uses and purposes therein mentioned, and on oath stated that _____ is authorized to execute said bond for the Contractor named therein. WITNESS my hand and official seal hereto affixed the day and year in this certificate first above written.

(Signature of Notary Public) _____
(Print or type name of Notary Public)

Notary Public in and for the State of _____ residing at _____
 My commission expires _____ **SEAL →**

STATE OF _____)
 _____) ss: **ACKNOWLEDGMENT FOR SURETY**
 COUNTY OF _____)

On this ____ day of _____, _____, before me a notary public in and for the State of _____, duly commissioned and sworn, personally appeared _____, Attorney-in-Fact for the Surety that executed the foregoing bond, and acknowledged said bond to be the free and voluntary act and deed of the Surety for the uses and purposes therein mentioned, and on oath stated that _____ is authorized to execute said bond on behalf of the Surety, and that the seal affixed on said bond or the annexed Power of Attorney is the corporate seal of said Surety. WITNESS my hand and official seal hereto affixed the day and year in this certificate first above written.

(Signature of Notary Public) _____
(Print or type name of Notary Public)

Notary Public in and for the State of _____ residing at _____
 My commission expires _____ **SEAL →**

POWER EQUIPMENT LIST

The undersigned furthermore certifies that he/she is thoroughly aware that time is of the essence for the completion of this contract within the time specified in the special provisions, and hereby agrees to provide the Engineer a list of his power equipment to be used on this project.

This equipment list will be used in computing any Force Account that may be performed within this contract.

The Contractor must complete this form in its entirety.

POWER EQUIPMENT

Type of Equipment	Make	Model Number	Serial Number	* Capacity	Year Built

APPENDIX F

PERMIT DOCUMENTS

TESC PLAN



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, SEATTLE DISTRICT
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

Regulatory Branch

March 25, 2020

Ms. Ann Weckbeck
Lewis County Public Works
2025 Northeast Kresky Avenue
Chehalis, Washington 98532

Reference: NWS-2019-821
Lewis County Public Works
(Cousins Road MP 3.15
Culvert Replacement)

Dear Ms. Weckbeck:

We have reviewed your application to discharge fill in an unnamed tributary to West Fork Stearns Creek at the crossing of Cousins Road at mile post 3.15, Chehalis, Lewis County, Washington. Based on the information you provided to us, Nationwide Permit (NWP) 3, *Maintenance* (Federal Register January 6, 2017, Vol. 82, No. 4), authorizes your proposal as depicted on the enclosed drawings dated August 8, 2019.

In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed *NWP 3, Terms and Conditions* and the following special conditions:

- a. You must implement and abide by the planting plan as shown on Sheet 6 of the project drawings, dated August 8, 2019. The plants shall be installed immediately following the work authorized by this permit. A report, as-built drawing and photographs demonstrating the trees/plants have been installed or a report on the status of project construction must be submitted to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch, within 12 months from the date of permit verification. You can meet this reporting requirement by completing and submitting the enclosed *Report for Mitigation Work Completion* form.
- b. You must maintain and monitor the survival of installed plantings for five years after the U.S. Army Corps of Engineers accepts the as-built report. Installed plants shall achieve 100% survival during monitoring Years 1 and 2. Installed trees/plants shall achieve at

least 80% survival during monitoring Years 3, 4 and 5. Percent survival is based on the total number of plants installed in accordance with the approved planting plan as shown on Sheet 6 of the project drawings, dated August 8, 2019. Individual plants that die must be replaced with native riparian species in order to meet the survival performance standards.

- c. This U.S. Army Corps of Engineers (Corps) permit does not authorize you to take a threatened or endangered species. In order to legally take a listed species, you must have a separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit, or ESA Section 7 consultation Biological Opinion (BO) with non-discretionary “incidental take” provisions with which you must comply). The Regional Road Maintenance Program Limit 10 BO prepared by the National Marine Fisheries Service (NMFS) contains mandatory terms and conditions to implement the reasonable and prudent measures that are associated with the specified “incidental take” in the BO (NMFS Reference Numbers 2003-00313, 2004-00647, 2009-03290, and WCR-2014-304). Your authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the BO. These terms and conditions are incorporated by reference in this permit. Failure to comply with the commitments made in this document constitutes non-compliance with the ESA and your Corps permit. The NMFS is the appropriate authority to determine compliance with the ESA.
- d. In order to protect the listed threatened and endangered species in the project area, you may conduct the authorized activities in the work window as agreed to and documented in writing through consultation by the National Marine Fisheries Service in any year this permit is valid. If changes to the originally authorized work window are proposed, you must re-coordinate these changes with the NMFS and receive written concurrence on the changes. Copies of the concurrence must be sent to the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch, within 10 days of the date of the revised concurrence.
- e. Incidents where any individuals of fish species, marine mammals and/or sea turtles listed by National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries) under the Endangered Species Act appear to be injured or killed as a result of discharges of dredged or fill material into waters of the U.S. or structures or work in navigable waters of the U.S. authorized by this Nationwide Permit verification shall be reported to NOAA Fisheries, Office of Protected Resources at (301) 713-1401 and the Regulatory Office of the Seattle District of the U.S. Army Corps of Engineers at (206) 764-3495. The finder should leave the animal alone, make note of any circumstances likely causing the death or injury, note the location and number of individuals involved and, if possible, take photographs. Adult animals should not be disturbed unless circumstances arise where they are obviously injured or killed by discharge exposure or some unnatural cause. The

finder may be asked to carry out instructions provided by NOAA Fisheries to collect specimens or take other measures to ensure that evidence intrinsic to the specimen is preserved.

We have reviewed your project pursuant to the requirements of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act and the National Historic Preservation Act. We have determined this project complies with the requirements of these laws provided you comply with all of the permit general and special conditions.

Please note that National General Condition 12, Soil Erosion and Sediment Controls, details controls that must be maintained in effective operation during construction. You must ensure that you comply with this condition during the construction of your project.

Please note that National General Condition 21, *Discovery of Previously Unknown Remains and Artifacts*, found in the *Nationwide Permit Terms and Conditions* enclosure, details procedures that must be followed should an inadvertent discovery occur. You must ensure that you comply with this condition during the construction of your project.

The authorized work complies with the Washington State Department of Ecology's (Ecology) Water Quality Certification (WQC) requirements for this NWP. No further coordination with Ecology for WQC is required.

You have not requested a jurisdictional determination for this proposed project. If you believe the U.S. Army Corps of Engineers does not have jurisdiction over all or portions of your project you may request a preliminary or approved jurisdictional determination (JD). If one is requested, please be aware that we may require the submittal of additional information to complete the JD and work authorized in this letter may not occur until the JD has been completed.

Our verification of this NWP authorization is valid until March 18, 2022, unless the NWP is modified, reissued, or revoked prior to that date. If the authorized work has not been completed by that date and you have commenced or are under contract to commence this activity before March 18, 2022, you will have until March 18, 2023, to complete the activity under the enclosed terms and conditions of this NWP. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 404 of the Clean Water Act. You must also obtain all local, State, and other Federal permits that apply to this project.

You are cautioned that any change in project location or plans will require that you submit a copy of the revised plans to this office and obtain our approval before you begin work. Deviating from the approved plans could result in the assessment of criminal or civil penalties.

Upon completing the authorized work, you must fill out and return the enclosed *Certificate of Compliance with Department of the Army Permit*. Thank you for your cooperation during the permitting process. We are interested in your experience with our Regulatory Program and encourage you to complete a customer service survey. These documents and information about our program are available on our website at www.nws.usace.army.mil, select "Regulatory Branch, Permit Information" and then "Contact Us." If you have any questions, please contact me at evan.g.carnes@usace.army.mil or (206) 316-3049.

Sincerely,

A handwritten signature in black ink that reads "Evan G. Carnes". The signature is written in a cursive style with a large, stylized initial "E".

Evan G. Carnes, Project Manager
Regulatory Branch













Enclosures

cc:









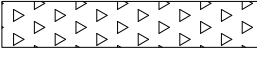
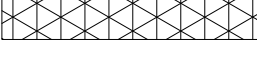

Washington Department of Ecology, Federal Permit Coordinator: ecyrefedpermits@ecy.wa.gov

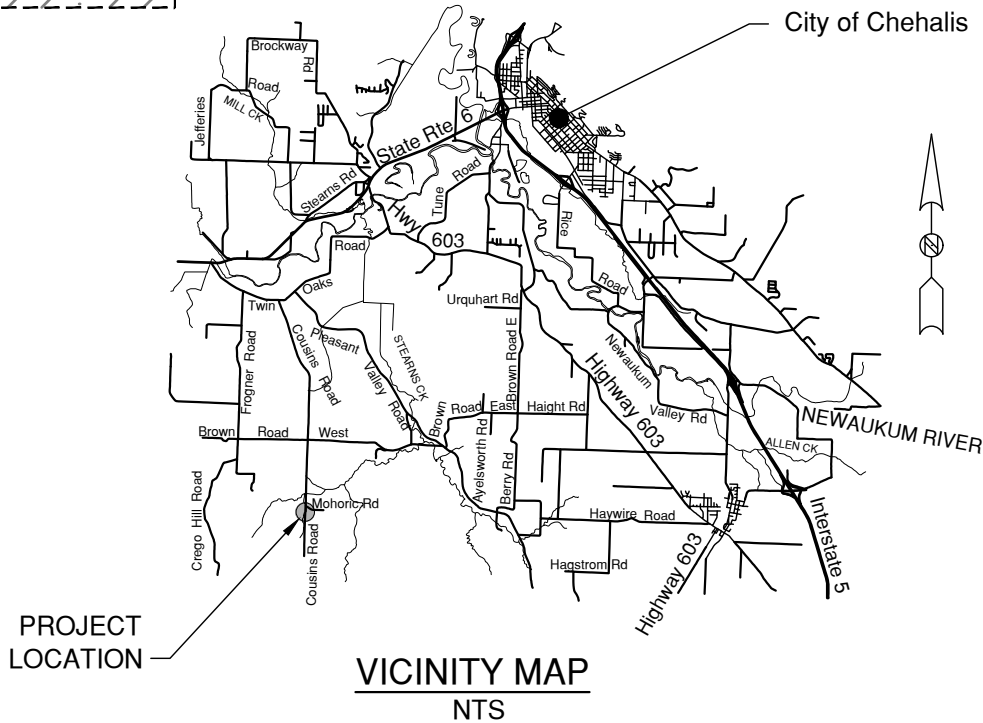
LEGEND

EXISTING FEATURES

	CONIFER TREE
	DECIDUOUS TREE
	EDGE OF ROAD
	DITCH
	EDGE OF STREAM
	FENCE
	BST ROADWAY
	MAILBOX
	FENCEPOST
	POWER POLE
	OHWM
	EXISTING 6' x 4' x 36' CMP PIPE ARCH

NEW CONSTRUCTION

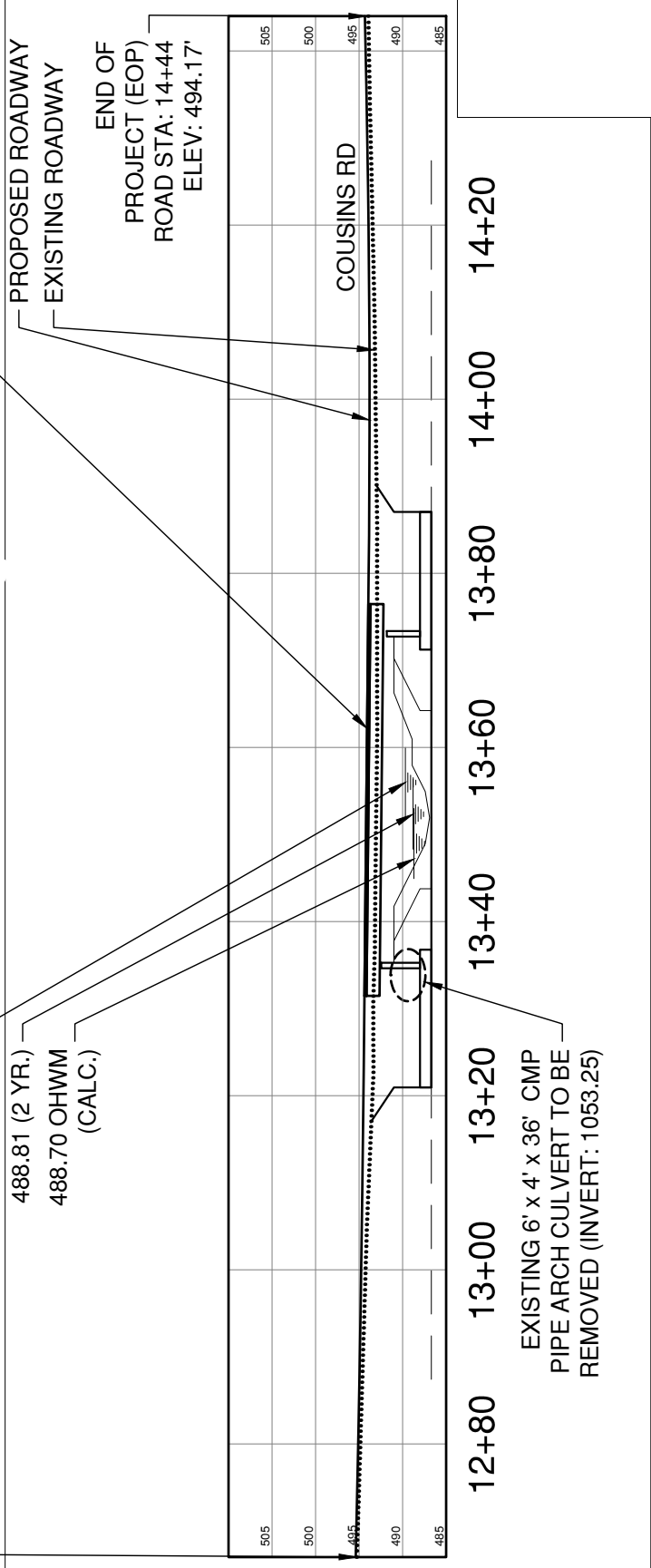
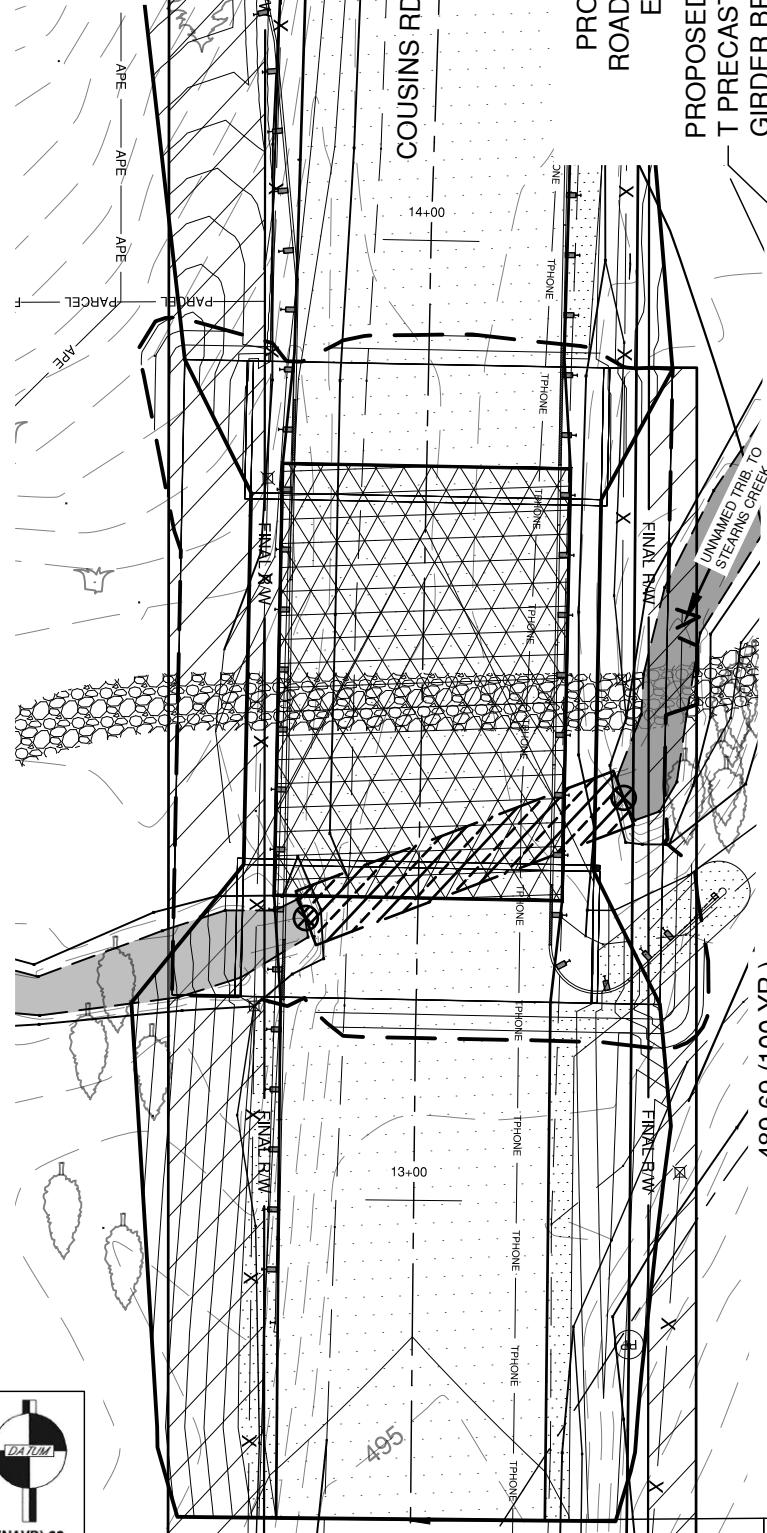
	EDGE OF PAVEMENT
	CENTERLINE
	GUARDRAIL
	HMA
	GUARDRAIL LANDING / SHOULDER ROCK
	SHOULDER
	OHWM (CALCULATED)
	PROPOSED AREA OF POTENTIAL EFFECT
	CRANE PAD
	PROPOSED BRIDGE DECK
	PROPOSED STREAMBED



REFERENCE NUMBER: NWS-2019-821	PROJECT LOCATION (ADDRESS):	COUSINS ROAD MP 3.15 CHEHALIS, WA 98532
PROPOSED PROJECT: COUSINS ROAD M.P. 3.15 CULVERT REPLACEMENT		
APPLICANT: LEWIS COUNTY	LAT/LONG: 46° 34' 33.5"/-123° 2' 2.45"	IN: UNNAMED TRIB TO STEARNS CK NEAR/AT: (city) CHEHALIS COUNTY: LEWIS
ADJACENT PROPERTY OWNERS:	DATUM: NAVD88	
1. PARCEL#019145-001-000	MOERKE BROTHERSON REV LIVING TRUST, ETAL	
2. PARCEL#019145-005-000	PICKETT, DAVE O	
3. PARCEL#019153-320-001	SMITH, JOHN G & JAN B	
4. PARCEL#019153-320-002	FULLER, IDA	



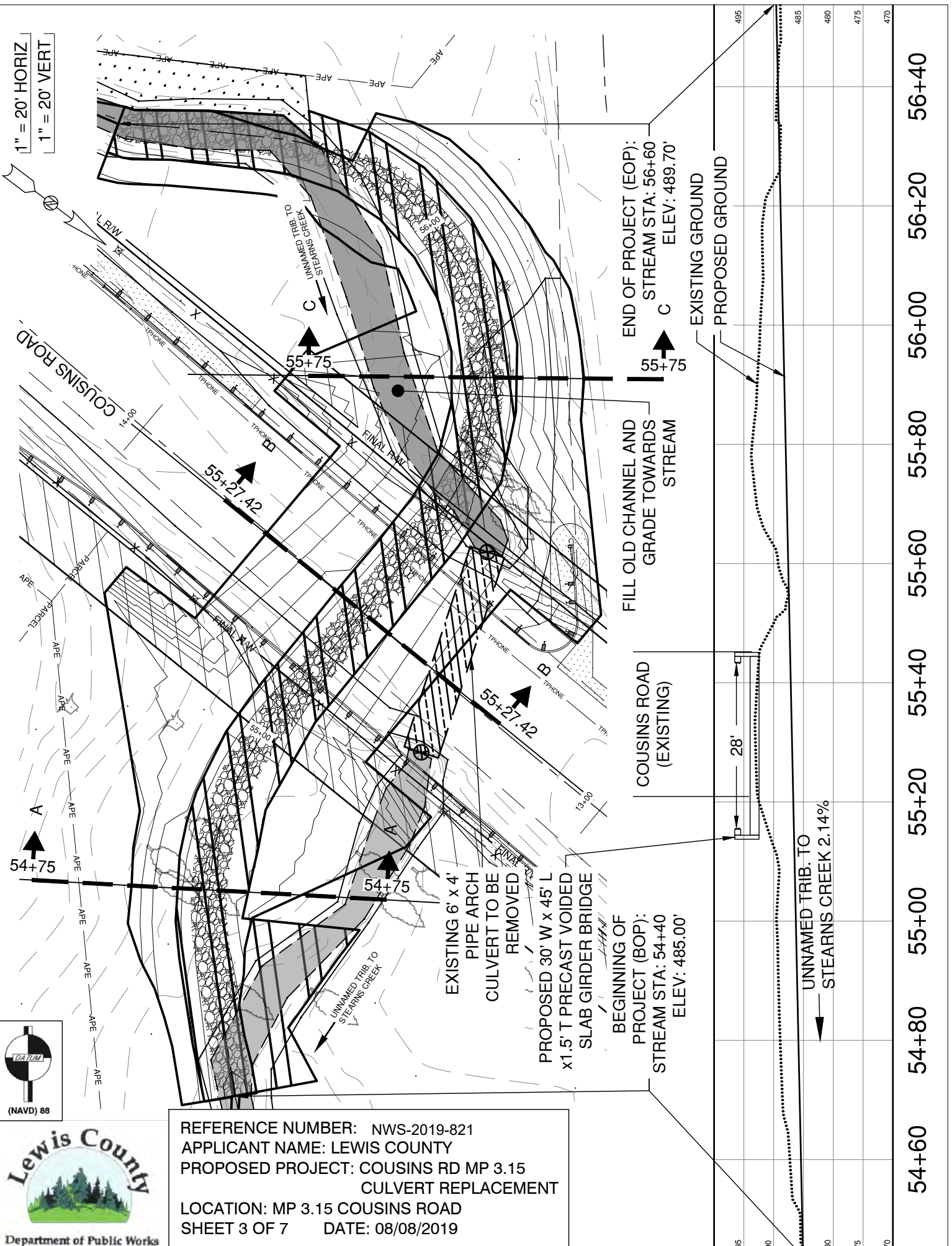
1" = 20' HORIZ
1" = 20' VERT



BEGINNING OF PROJECT (BOP): ROAD STA: 12+67 ELEV: 495.31'

REFERENCE NUMBER: NWS-2019-821
 APPLICANT NAME: LEWIS COUNTY
 PROPOSED PROJECT: COUSINS RD MP 3.15 CULVERT REPLACEMENT
 LOCATION: MP 3.15 COUSINS ROAD
 SHEET 2 OF 7 DATE: 08/08/2019

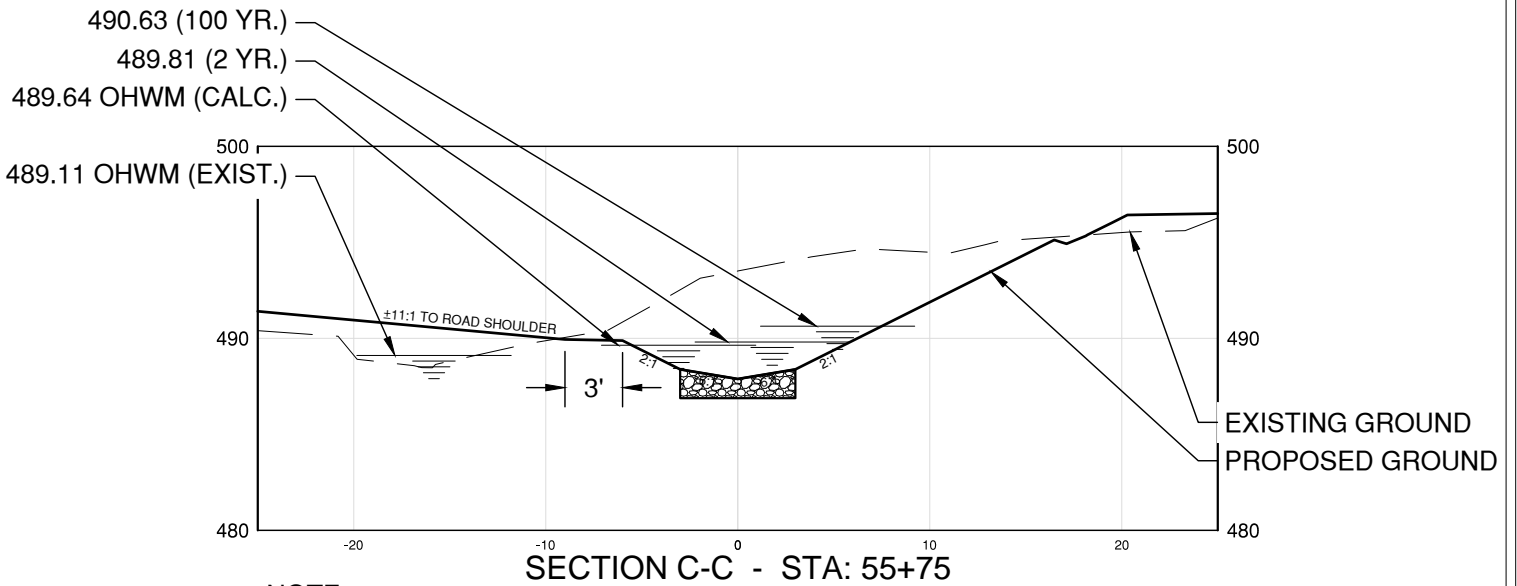
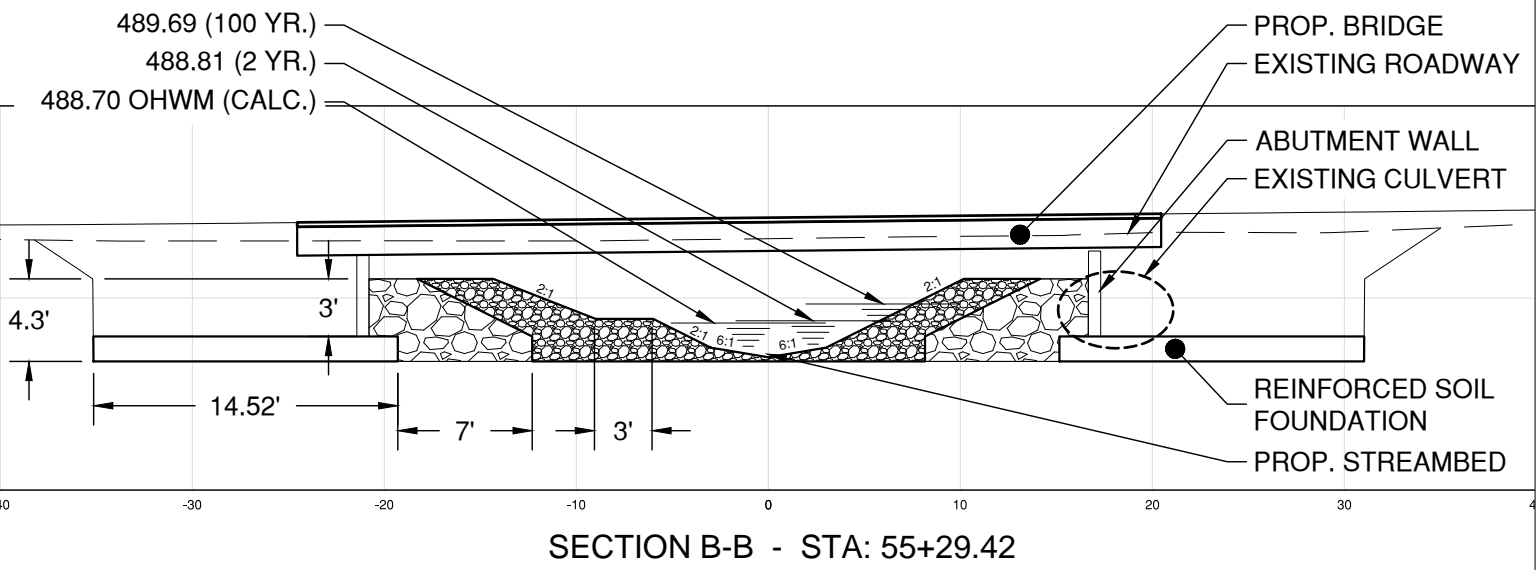
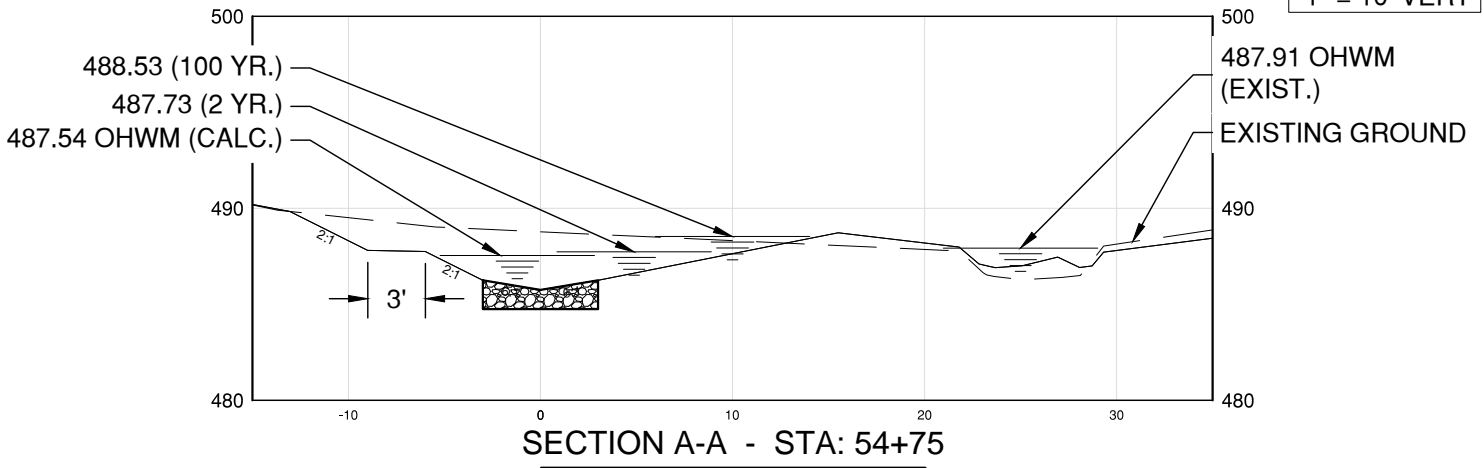
1" = 20' HORIZ
1" = 20' VERT



REFERENCE NUMBER: NWS-2019-821
 APPLICANT NAME: LEWIS COUNTY
 PROPOSED PROJECT: COUSINS RD MP 3.15
 CULVERT REPLACEMENT
 LOCATION: MP 3.15 COUSINS ROAD
 SHEET 3 OF 7 DATE: 08/08/2019

54+60 54+80 55+00 55+20 55+40 55+60 55+80 56+00 56+20 56+40

1" = 10' HORIZ
1" = 10' VERT



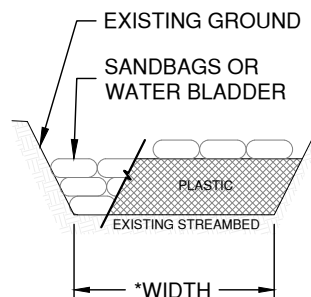
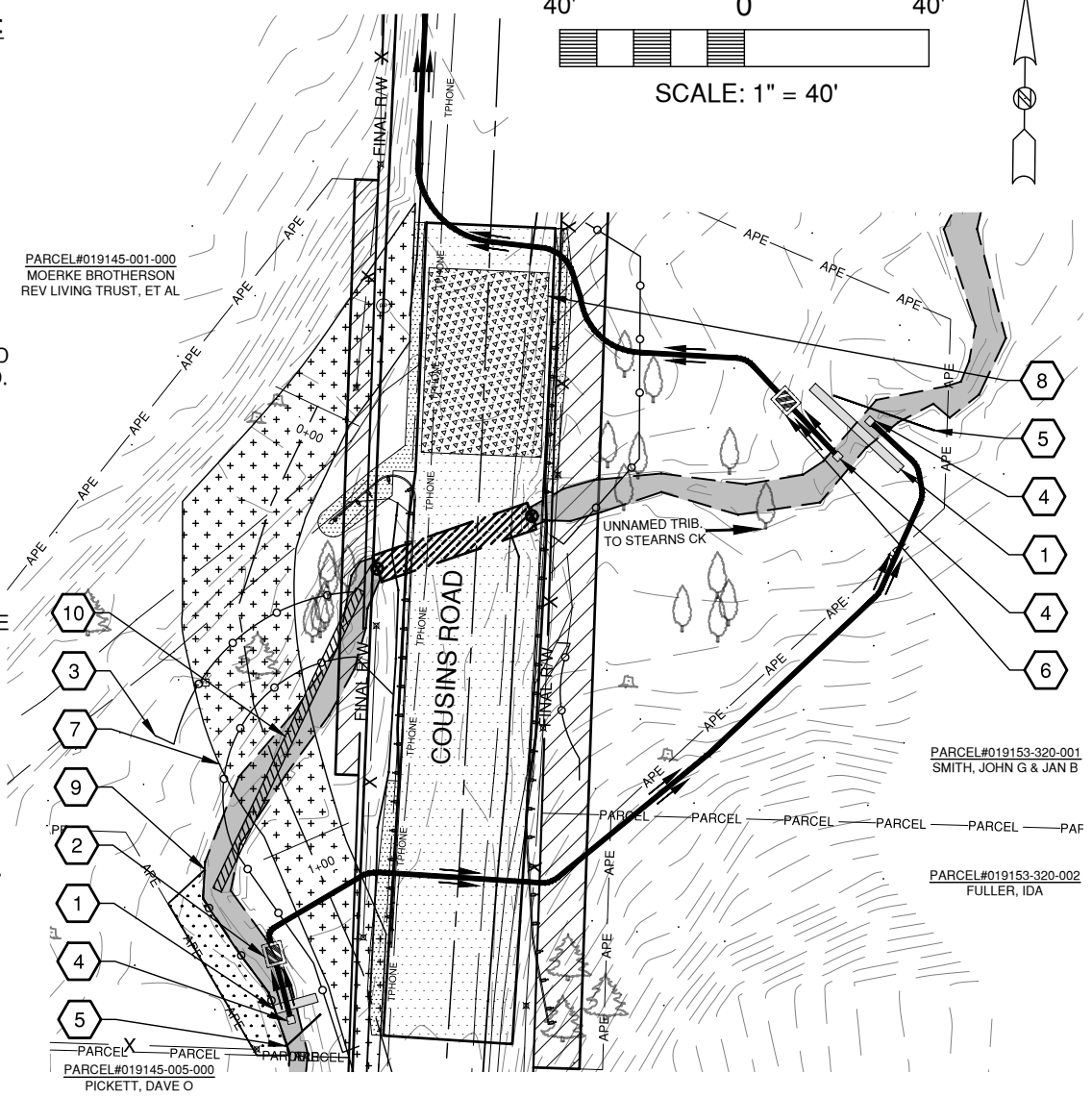
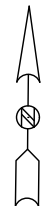
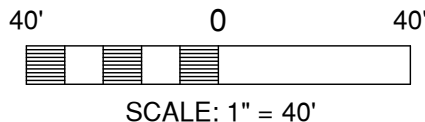
NOTE:
THALWEG WILL INCLUDE A MEANDERING
0.5' DEEP LOW FLOW NOTCH (NOT
DEPICTED).

REFERENCE NUMBER: NWS-2019-821
 APPLICANT NAME: LEWIS COUNTY
 PROPOSED PROJECT: COUSINS RD MP 3.15
 CULVERT REPLACEMENT
 LOCATION: MP 3.15 COUSINS ROAD
 SHEET 4 OF 7 DATE: 08/08/2019



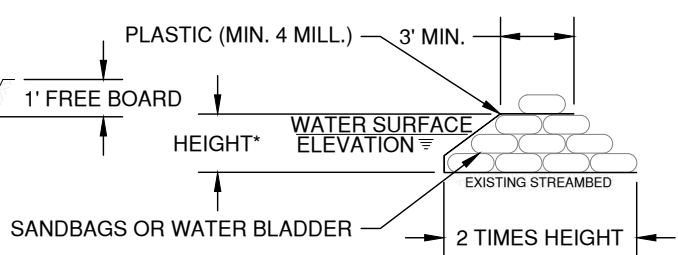
CONSTRUCTION NOTES:

- 1 INSTALL COFFERDAM PER DETAILS THIS SHEET AS STAKED IN THE FIELD BY THE ENGINEER.
- 2 INSTALL SPILL CONTAINED PUMP SYSTEM FOR STREAM BYPASS.
- 3 INSTALL HIGH VISIBILITY SILT FENCE AS NEEDED IF CONSTRUCTION ABOVE OHW PROCEEDS BEYOND HPA IN-WATER WORK WINDOW AND STREAM BYPASS IS REMOVED. SILT FENCE NOT REQUIRED WHEN BYPASS IS IN OPERATION.
- 4 PUMP INTAKE SCREEN OVER ALL INTAKE AND OUTLET HOSES PER WDFW REQUIREMENTS.
- 5 FISH DIVERSION SCREEN UPSTREAM OF BYPASS INTAKE AND DOWNSTREAM OF BYPASS OUTLET PER HPA PROVISIONS.
- 6 INSTALL SPILL CONTAINED PUMP SYSTEM FOR DEWATERING. PUMP WORK WATER NORTH ALONG APE APPROXIMATELY 120' WITH STRAW WATTLES PLACED AS DIRECTED BY THE ENGINEER.
- 7 TEMP. DETOUR ROAD (3" MINUS ROCK 16' WIDE X 1' DEEP OVER GEOTEXTILE FABRIC)
- 8 40' x 26' CRANE PAD
- 9 HIGH VISIBILITY FENCE
- 10 24" Ø x 72' LONG CULVERT UNDER DETOUR ROAD PLACED AT 1% SLOPE MIN.



* WIDTH OF COFFER DAM SHALL BE DETERMINED BY THE EXISTING BANK OF THE STREAM AT THE TIME OF CONSTRUCTION.

COFFER DAM - PROFILE VIEW
NOT TO SCALE



* HEIGHT OF COFFER DAM SHALL BE DETERMINED BY THE WATER SURFACE ELEVATION AT THE TIME OF CONSTRUCTION.

COFFER DAM - SECTION VIEW
NOT TO SCALE

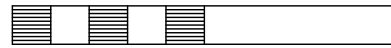
NOTES:

APE EXTENDS APPROXIMATELY 1500' NORTH AND SOUTH WITHIN EXISTING 40' WIDE RIGHT-OF-WAY FOR CONSTRUCTION SIGN PLACEMENT.
PUMP LOCATIONS ARE APPROXIMATE.

REFERENCE NUMBER: NWS-2019-821
 APPLICANT NAME: LEWIS COUNTY
 PROPOSED PROJECT: COUSINS RD MP 3.15
 CULVERT REPLACEMENT
 LOCATION: MP 3.15 COUSINS ROAD
 SHEET 5 OF 7 DATE: 08/08/2019



30' 0 30'



SCALE: 1" = 30'

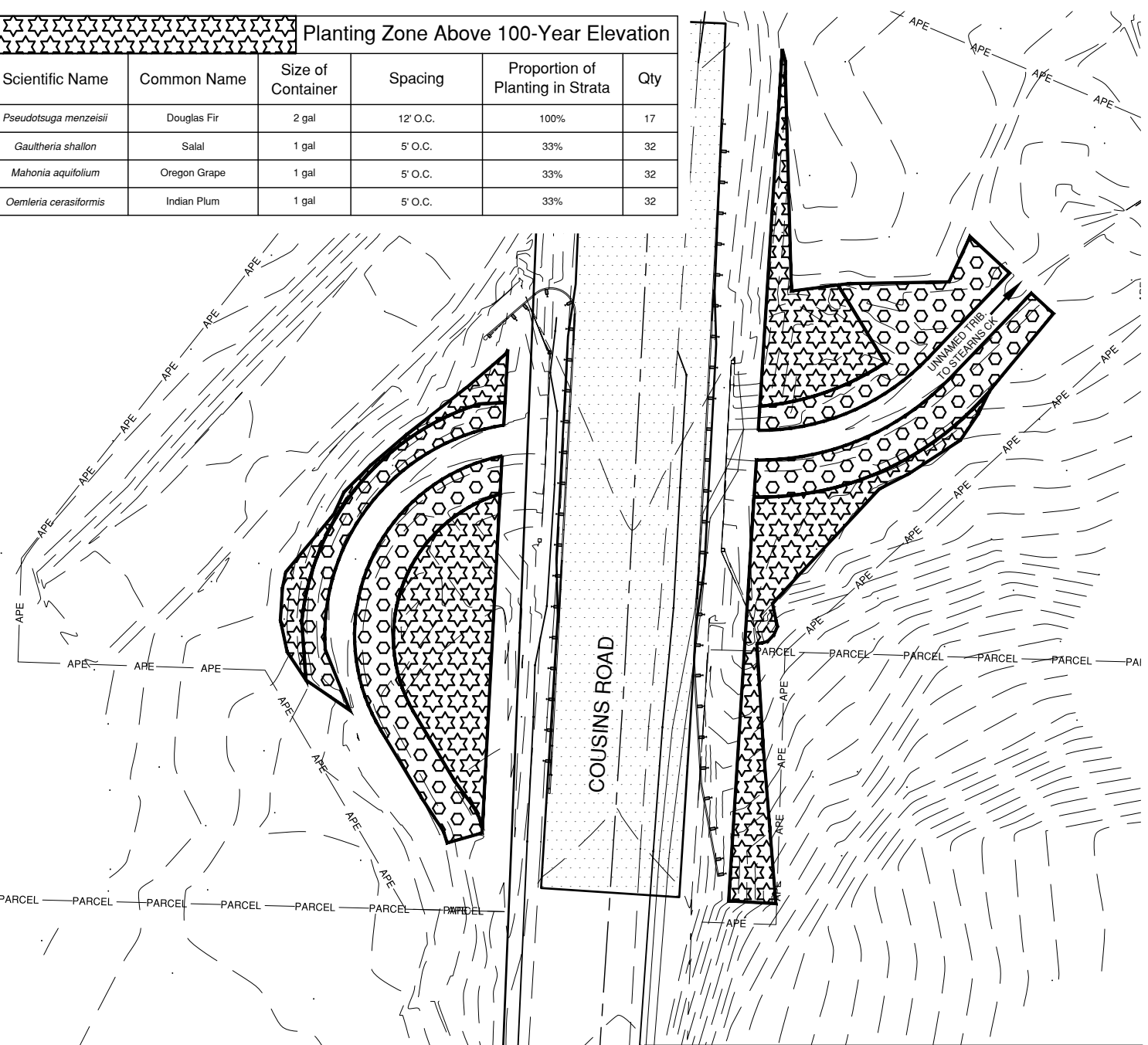


Planting Zone Below 100-Year Elevation

Scientific Name	Common Name	Size of Container	Spacing	Proportion of Planting in Strata	Qty
<i>Thuja plicata</i>	Western Red Cedar	2 gal	12' O.C.	50%	7
<i>Alnus rubra</i>	Red Alder	2 gal	12' O.C.	50%	7
<i>Lonicera involucrata</i>	Black Twinberry	1 gal	5' O.C.	50%	42
<i>Acer circinatum</i>	Vine Maple	1 gal	5' O.C.	50%	42

Planting Zone Above 100-Year Elevation

Scientific Name	Common Name	Size of Container	Spacing	Proportion of Planting in Strata	Qty
<i>Pseudotsuga menziesii</i>	Douglas Fir	2 gal	12' O.C.	100%	17
<i>Gaultheria shallon</i>	Salal	1 gal	5' O.C.	33%	32
<i>Mahonia aquifolium</i>	Oregon Grape	1 gal	5' O.C.	33%	32
<i>Oemleria cerasiformis</i>	Indian Plum	1 gal	5' O.C.	33%	32



REFERENCE NUMBER: NWS-2019-821
 APPLICANT NAME: LEWIS COUNTY
 PROPOSED PROJECT: COUSINS RD MP 3.15
 CULVERT REPLACEMENT
 LOCATION: MP 3.15 COUSINS ROAD
 SHEET 6 OF 7 DATE: 08/08/2019

SUMMARY OF QUANTITIES

Culvert Replacement (Sta 12+14 to 12+69.36) Quantities Below OHWM

Temporary	Fill - Cofferdams	318 SQ FT	36 CY
Temporary	Fill - Detour Road	671 SQ FT	45 CY
Temporary	Excavation - Bridge	572 SQ FT	101 CY
Temporary	Excavation - Stream Channel	971 SQ FT	62 CY
Permanent	Fill - Streambed Mix	299 SQ FT	22 CY

Total Quantities Below OHWM

Fill	103 CY
Excavation	163 CY

Culvert Replacement (Sta 12+14 to 12+69.36) Quantities Above OHWM

Temporary	Fill - Detour Road	2853 SQ FT	234 CY
Temporary	Excavation - Bridge	3214 SQ FT	540 CY
Temporary	Excavation - Road	8417 SQ FT	61 CY
Permanent	Excavation - Stream	6153 SQ FT	212 CY
Permanent	Fill - Streambed Mix	1018 SQ FT	71 CY
Permanent	Fill - Roadway Material (Crushed Surfacing and HMA)	8417 SQ FT	314 CY
Permanent	Fill - Rock for Erosion Control	778 SQ FT	114 CY
Permanent	Fill - Rock/Soil Mix for Stream	2405 SQ FT	158 CY

Total Quantities Above OHWM

Fill	891 CY
Excavation	813 CY

Culvert Replacement (Sta 12+14 to 12+69.36) Project Quantities

All Fill	994 CY
All Excavation	976 CY



REFERENCE NUMBER: NWS-2019-821
 APPLICANT NAME: LEWIS COUNTY
 PROPOSED PROJECT: COUSINS RD MP 3.15
 CULVERT REPLACEMENT
 LOCATION: MP 3.15 COUSINS ROAD
 SHEET 7 OF 7 DATE: 08/08/2019



US Army Corps
of Engineers ®
Seattle District

NATIONWIDE PERMIT 3

Terms and Conditions

Effective Date: March 19, 2017



-
- A. Description of Authorized Activities
 - B. U.S. Army Corps of Engineers (Corps) National General Conditions for all NWPs
 - C. Corps Seattle District Regional General Conditions
 - D. Corps Regional Specific Conditions for this NWP
 - E. Washington Department of Ecology (Ecology) Section 401 Water Quality Certification (401 Certification): General Conditions
 - F. Ecology 401 Certification: Specific Conditions for this NWP
 - G. Coastal Zone Management Consistency Response for this NWP
-

In addition to any special condition that may be required on a case-by-case basis by the District Engineer, the following terms and conditions must be met, as applicable, for a Nationwide Permit (NWP) authorization to be valid in Washington State.

A. DESCRIPTION OF AUTHORIZED ACTIVITIES

Maintenance. (a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP also authorizes the removal of previously authorized structures or fills. Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project. This NWP also authorizes the removal of accumulated sediment and debris within, and in the immediate vicinity of, the structure or fill. This NWP also authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays. (b) This NWP also authorizes the removal of accumulated sediments and debris outside the immediate vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.). The removal of sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer under separate authorization. (c) This NWP also authorizes temporary structures, fills, and work, including the use of temporary mats, necessary to conduct the maintenance activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction

sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. After conducting the maintenance activity, temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate. (d) This NWP does not authorize maintenance dredging for the primary purpose of navigation. This NWP does not authorize beach restoration. This NWP does not authorize new stream channelization or stream relocation projects. Notification: For activities authorized by paragraph (b) of this NWP, the permittee must submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 32). The pre-construction notification must include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Authorities: Section 10 of the Rivers and Harbors Act of 1899 and section 404 of the Clean Water Act (Sections 10 and 404)) Note: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act section 404(f) exemption for maintenance.

B. CORPS NATIONAL GENERAL CONDITIONS FOR ALL NWPs

To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation. (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States. (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species. If a bottomless culvert cannot be used, then the crossing should be designed and constructed to minimize adverse effects to aquatic life movements.

3. Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.

6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see section 307 of the Clean Water Act).

7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization, storm water management activities, and temporary and permanent road crossings, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow, or during low tides.

13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.

15. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

16. Wild and Scenic Rivers. (a) No NWP activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. (b) If a proposed NWP

activity will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the permittee must submit a pre-construction notification (see general condition 32). The district engineer will coordinate the PCN with the Federal agency with direct management responsibility for that river. The permittee shall not begin the NWP activity until notified by the district engineer that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status. (c) Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service). Information on these rivers is also available at: <http://www.rivers.gov/>.

17. Tribal Rights. No NWP activity may cause more than minimal adverse effects on tribal rights (including treaty rights), protected tribal resources, or tribal lands.

18. Endangered Species. (a) No activity is authorized under any NWP which is likely to directly or indirectly jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will directly or indirectly destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which “may affect” a listed species or critical habitat, unless ESA section 7 consultation addressing the effects of the proposed activity has been completed. Direct effects are the immediate effects on listed species and critical habitat caused by the NWP activity. Indirect effects are those effects on listed species and critical habitat that are caused by the NWP activity and are later in time, but still are reasonably certain to occur. (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. If pre-construction notification is required for the proposed activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation has not been submitted, additional ESA section 7 consultation may be necessary for the activity and the respective federal agency would be responsible for fulfilling its obligation under section 7 of the ESA. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that might be affected by the proposed activity or that utilize the designated critical habitat that might be affected by the proposed activity. The district engineer will determine whether the proposed activity “may affect” or will have “no effect” to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps’ determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the activity, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification that the proposed activity will have “no effect” on listed species or critical habitat, or until ESA section 7 consultation has been completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific permit conditions to the NWPs. (e) Authorization of an activity by an NWP does not authorize the “take” of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with “incidental take” provisions, etc.) from the FWS or the NMFS, the Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word

“harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) If the non-federal permittee has a valid ESA section 10(a)(1)(B) incidental take permit with an approved Habitat Conservation Plan for a project or a group of projects that includes the proposed NWP activity, the non-federal applicant should provide a copy of that ESA section 10(a)(1)(B) permit with the PCN required by paragraph (c) of this general condition. The district engineer will coordinate with the agency that issued the ESA section 10(a)(1)(B) permit to determine whether the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation conducted for the ESA section 10(a)(1)(B) permit. If that coordination results in concurrence from the agency that the proposed NWP activity and the associated incidental take were considered in the internal ESA section 7 consultation for the ESA section 10(a)(1)(B) permit, the district engineer does not need to conduct a separate ESA section 7 consultation for the proposed NWP activity. The district engineer will notify the non-federal applicant within 45 days of receipt of a complete pre-construction notification whether the ESA section 10(a)(1)(B) permit covers the proposed NWP activity or whether additional ESA section 7 consultation is required. (g) Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the FWS and NMFS or their world wide web pages at <http://www.fws.gov/> or <http://www.fws.gov/ipac> and <http://www.nmfs.noaa.gov/pr/species/esa/> respectively.

19. Migratory Birds and Bald and Golden Eagles. The permittee is responsible for ensuring their action complies with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. The permittee is responsible for contacting appropriate local office of the U.S. Fish and Wildlife Service to determine applicable measures to reduce impacts to migratory birds or eagles, including whether “incidental take” permits are necessary and available under the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act for a particular activity.

20. Historic Properties. (a) In cases where the district engineer determines that the activity may have the potential to cause effects to properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied. (b) Federal permittees should follow their own procedures for complying with the requirements of section 106 of the National Historic Preservation Act. If pre-construction notification is required for the proposed NWP activity, the Federal permittee must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements. The district engineer will verify that the appropriate documentation has been submitted. If the appropriate documentation is not submitted, then additional consultation under section 106 may be necessary. The respective federal agency is responsible for fulfilling its obligation to comply with section 106. (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the NWP activity might have the potential to cause effects to any historic properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties might have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of, or potential for, the presence of historic properties can be sought from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or designated tribal representative, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of section 106 of the National Historic Preservation Act. The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted in the PCN and these identification efforts, the district engineer shall determine whether the proposed NWP activity

has the potential to cause effects on the historic properties. Section 106 consultation is not required when the district engineer determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). Section 106 consultation is required when the district engineer determines that the activity has the potential to cause effects on historic properties. The district engineer will conduct consultation with consulting parties identified under 36 CFR 800.2(c) when he or she makes any of the following effect determinations for the purposes of section 106 of the NHPA: no historic properties affected, no adverse effect, or adverse effect. Where the non-Federal applicant has identified historic properties on which the activity might have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects to historic properties or that NHPA section 106 consultation has been completed. (d) For non-federal permittees, the district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA section 106 consultation is required. If NHPA section 106 consultation is required, the district engineer will notify the non-Federal applicant that he or she cannot begin the activity until section 106 consultation is completed. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps. (e) Prospective permittees should be aware that section 110k of the NHPA (54 U.S.C. 306113) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal, and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

22. Designated Critical Resource Waters. Critical resource waters include, NOAA-managed marine sanctuaries and marine monuments, and National Estuarine Research Reserves. The district engineer may designate, after notice and opportunity for public comment, additional waters officially designated by a state as having particular environmental or ecological significance, such as outstanding national resource waters or state natural heritage sites. The district engineer may also designate additional critical resource waters after notice and opportunity for public comment. (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters. (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, 38, and 54, notification is required in accordance with general condition 32, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal: (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site). (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the individual and cumulative adverse environmental effects are no more than minimal. (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation would be more environmentally appropriate or the adverse environmental effects of the proposed activity are no more than minimal, and provides an activity-specific waiver of this requirement. For wetland losses of 1/10-acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in only minimal adverse environmental effects. (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation to ensure that the activity results in no more than minimal adverse environmental effects. Compensatory mitigation for losses of streams should be provided, if practicable, through stream rehabilitation, enhancement, or preservation, since streams are difficult-to-replace resources (see 33 CFR 332.3(e)(3)). (e) Compensatory mitigation plans for NWP activities in or near streams or other open waters will normally include a requirement for the restoration or enhancement, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, the restoration or maintenance/protection of riparian areas may be the only compensatory mitigation required. Restored riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. If it is not possible to restore or maintain/protect a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or maintaining/protecting a riparian area along a single bank or shoreline may be sufficient. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of minimization or compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses. (f) Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in no more than minimal adverse environmental effects. For the NWPs, the preferred mechanism for providing compensatory mitigation is mitigation bank credits or in-lieu fee program credits (see 33 CFR 332.3(b)(2) and (3)). However, if an appropriate number and type of mitigation bank or in-lieu credits are not available at the time the PCN is submitted to the district engineer, the district engineer may approve the use of permittee-responsible mitigation. (2) The amount of compensatory mitigation required by the district engineer must be sufficient to ensure that the authorized activity results in no more than minimal individual and cumulative adverse environmental effects (see 33 CFR 330.1(e)(3)). (See also 33 CFR 332.3(f)). (3) Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, aquatic resource restoration should be the first compensatory mitigation option considered for permittee-responsible mitigation. (4) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan that addresses the applicable requirements of 33 CFR 332.4(c)(2) through (14) must be approved by the district engineer

before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)). (5) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided. (6) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan (see 33 CFR 332.4(c)(1)(ii)).

(g) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any NWP activity resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that an NWP activity already meeting the established acreage limits also satisfies the no more than minimal impact requirement for the NWPs. (h) Permittees may propose the use of mitigation banks, in-lieu fee programs, or permittee-responsible mitigation. When developing a compensatory mitigation proposal, the permittee must consider appropriate and practicable options consistent with the framework at 33 CFR 332.3(b). For activities resulting in the loss of marine or estuarine resources, permittee-responsible mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management. (i) Where certain functions and services of waters of the United States are permanently adversely affected by a regulated activity, such as discharges of dredged or fill material into waters of the United States that will convert a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse environmental effects of the activity to the no more than minimal level.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

26. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

27. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

28. Use of Multiple Nationwide Permits. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

29. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: “When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.”

(Transferee)

(Date)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and implementation of any required compensatory mitigation. The success of any required permittee-responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include: (a) A statement that the authorized activity was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions; (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and (c) The signature of the permittee certifying the completion of the activity and mitigation. The completed certification document must be submitted to the district engineer within 30 days of completion of the authorized activity or the implementation of any required compensatory mitigation, whichever occurs later.

31. Activities Affecting Structures or Works Built by the United States. If an NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a “USACE project”), the prospective permittee must submit a pre-construction notification. See paragraph (b)(10) of general condition 32. An activity that requires section 408 permission is not authorized by NWP until the appropriate Corps office issues the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written NWP verification.

32. Pre-Construction Notification. (a) Timing. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers will

request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

(1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

(2) 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 18 that listed species or critical habitat might be affected or are in the vicinity of the activity, or to notify the Corps pursuant to general condition 20 that the activity might have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that there is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or section 106 of the National Historic Preservation Act (see 33 CFR 330.4(g)) has been completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee may not begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

(b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

(1) Name, address and telephone numbers of the prospective permittee;

(2) Location of the proposed activity;

(3) Identify the specific NWP or NWP(s) the prospective permittee wants to use to authorize the proposed activity;

(4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is

large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;

(6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

(7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the “study river” (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

(c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is an NWP PCN and must include all of the applicable information required in paragraphs (b)(1) through (10) of this general condition. A letter containing the required information may also be used. Applicants may provide electronic files of PCNs and supporting materials if the district engineer has established tools and procedures for electronic submittals. (d) Agency Coordination: (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity’s compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the activity’s adverse environmental effects so that they are no more than minimal. (2) Agency coordination is required for: (i) all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States; (ii) NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of stream bed; (iii) NWP 13 activities in excess of 500 linear feet, fills greater than one cubic yard per running foot, or involve discharges of dredged or fill material into special aquatic sites; and (iv) NWP 54 activities in excess of 500 linear feet, or that extend into the waterbody more than 30 feet from the mean low water line in tidal waters or the ordinary high water mark in the Great Lakes. (3) When agency coordination is required, the district engineer will immediately provide (e.g., via e-mail, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete PCN to the appropriate Federal or state offices (FWS, state natural resource or water quality agency, EPA, and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will have 10 calendar days from the date the material is transmitted to notify the district engineer via telephone, facsimile transmission, or e-mail that they intend to provide substantive, site-specific comments. The comments must explain why the agency believes the adverse

environmental effects will be more than minimal. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame concerning the proposed activity's compliance with the terms and conditions of the NWP, including the need for mitigation to ensure the net adverse environmental effects of the proposed activity are no more than minimal. The district engineer will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

(4) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act. (5) Applicants are encouraged to provide the Corps with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

District Engineer's Decision: 1. In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If a project proponent requests authorization by a specific NWP, the district engineer should issue the NWP verification for that activity if it meets the terms and conditions of that NWP, unless he or she determines, after considering mitigation, that the proposed activity will result in more than minimal individual and cumulative adverse effects on the aquatic environment and other aspects of the public interest and exercises discretionary authority to require an individual permit for the proposed activity. For a linear project, this determination will include an evaluation of the individual crossings of waters of the United States to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51, 52, or 54, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in only minimal individual and cumulative adverse environmental effects. For those NWPs that have a waivable 300 linear foot limit for losses of intermittent and ephemeral stream bed and a 1/2-acre limit (i.e., NWPs 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52), the loss of intermittent and ephemeral stream bed, plus any other losses of jurisdictional waters and wetlands, cannot exceed 1/2-acre.

2. When making minimal adverse environmental effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. He or she will also consider the cumulative adverse environmental effects caused by activities authorized by NWP and whether those cumulative adverse environmental effects are no more than minimal. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional or condition assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse environmental effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

3. If the proposed activity requires a PCN and will result in a loss of greater than 1/10-acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for NWP activities with smaller impacts, or

for impacts to other types of waters (e.g., streams). The district engineer will consider any proposed compensatory mitigation or other mitigation measures the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed activity are no more than minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse environmental effects are no more than minimal, after considering mitigation, the district engineer will notify the permittee and include any activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the proposed compensatory mitigation plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure the NWP activity results in no more than minimal adverse environmental effects. If the net adverse environmental effects of the NWP activity (after consideration of the mitigation proposal) are determined by the district engineer to be no more than minimal, the district engineer will provide a timely written response to the applicant. The response will state that the NWP activity can proceed under the terms and conditions of the NWP, including any activity-specific conditions added to the NWP authorization by the district engineer. 4. If the district engineer determines that the adverse environmental effects of the proposed activity are more than minimal, then the district engineer will notify the applicant either: (a) that the activity does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (b) that the activity is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal; or (c) that the activity is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse environmental effects, the activity will be authorized within the 45-day PCN period (unless additional time is required to comply with general conditions 18, 20, and/or 31, or to evaluate PCNs for activities authorized by NWPs 21, 49, and 50), with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed mitigation plan or a requirement that the applicant submit a mitigation plan that would reduce the adverse environmental effects so that they are no more than minimal. When compensatory mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

Further Information: 1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP. 2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law. 3. NWPs do not grant any property rights or exclusive privileges. 4. NWPs do not authorize any injury to the property or rights of others. 5. NWPs do not authorize interference with any existing or proposed Federal project (see general condition 31).

C. CORPS SEATTLE DISTRICT REGIONAL GENERAL CONDITIONS: The following conditions apply to all NWPs for the Seattle District in Washington State, unless specified.

1. Project Drawings: Drawings must be submitted with pre-construction notification (PCN). Drawings must provide a clear understanding of the proposed project, and how waters of the U.S. will be affected. Drawings must be originals and not reduced copies of large-scale plans. Engineering drawings are not required. Existing and proposed site conditions (manmade and landscape features) must be drawn to scale.

2. Aquatic Resources Requiring Special Protection: Activities resulting in a loss of waters of the United States in mature forested wetlands, bogs and peatlands, aspen-dominated wetlands, alkali wetlands, vernal pools, camas prairie wetlands, estuarine wetlands, wetlands in coastal lagoons, and wetlands in dunal systems along the Washington coast cannot be authorized by a NWP, except by the following NWPs:

- NWP 3 – Maintenance
- NWP 20 – Response Operations for Oil and Hazardous Substances
- NWP 32 – Completed Enforcement Actions
- NWP 38 – Cleanup of Hazardous and Toxic Waste

In order to use one of the above-referenced NWPs in any of the aquatic resources requiring special protection, prospective permittees must submit a PCN to the Corps of Engineers (see NWP general condition 32) and obtain written authorization before commencing work.

3. New Bank Stabilization in Tidal Waters of Puget Sound: Activities involving new bank stabilization in tidal waters in Water Resource Inventory Areas (WRIAs) 8, 9, 10, 11 and 12 (within the areas identified on Figures 1a through 1e on Corps website) cannot be authorized by NWP.

4. Commencement Bay: The following NWPs may not be used to authorize activities located in the Commencement Bay Study Area (see Figure 2 on Corps website):

- NWP 12 – Utility Line Activities (substations)
- NWP 13 – Bank Stabilization
- NWP 14 – Linear Transportation Projects
- NWP 23 – Approved Categorical Exclusions
- NWP 29 – Residential Developments
- NWP 39 – Commercial and Institutional Developments
- NWP 40 – Agricultural Activities
- NWP 41 – Reshaping Existing Drainage Ditches
- NWP 42 – Recreational Facilities
- NWP 43 – Stormwater and Wastewater Management Facilities

5. Bank Stabilization: All projects including new or maintenance bank stabilization activities require PCN to the Corps of Engineers (see NWP general condition 32). For new bank stabilization projects only, the following must be submitted to the Corps of Engineers:

- a. The cause of the erosion and the distance of any existing structures from the area(s) being stabilized.
- b. The type and length of existing bank stabilization within 300 feet of the proposed project.
- c. A description of current conditions and expected post-project conditions in the waterbody.
- d. A statement describing how the project incorporates elements avoiding and minimizing adverse environmental effects to the aquatic environment and nearshore riparian area, including vegetation impacts in the waterbody.

In addition to a. through d., the results from any relevant geotechnical investigations can be submitted with the PCN if it describes current or expected conditions in the waterbody.

6. Crossings of Waters of the United States: Any project including installing, replacing, or modifying crossings of waters of the United States, such as culverts or bridges, requires submittal of a PCN to the Corps of Engineers (see NWP general condition 32). If a culvert is proposed to cross waters of the U.S. where salmonid species are present or could be present, the project must apply the stream simulation design method from the Washington Department of Fish and Wildlife located in the *Water Crossing Design Guidelines* (2013), or a design method which provides passage at all life stages at all flows where the salmonid species would naturally seek passage. If the stream simulation design method is not applied

for a culvert where salmonid species are present or could be present, the project proponent must provide a rationale in the PCN sufficient to establish one of the following:

- a. The existence of extraordinary site conditions.
- b. How the proposed design will provide equivalent or better fish passage and fisheries habitat benefits than the stream simulation design method.

If a culvert is proposed to cross waters of the U.S. where salmonid species are present or could be present, project proponents must provide a monitoring plan with the PCN that specifies how the proposed culvert will be assessed over a five-year period from the time of construction completion to ensure its effectiveness in providing passage at all life stages at all flows where the salmonid species would naturally seek passage. Culverts installed under emergency authorization that do not meet the above design criteria will be required to meet the above design criteria to receive an after-the-fact nationwide permit verification.

7. Stream Loss: A PCN is required for all activities that result in the loss of any linear feet of stream beds. No activity shall result in the loss of any linear feet of perennial stream beds or the loss of greater than 300 linear feet of intermittent and/or ephemeral stream beds. A stream may be rerouted if it is designed in a manner that maintains or restores hydrologic, ecologic, and geomorphic stream processes, provided there is not a reduction in the linear feet of stream bed. Streams include brooks, creeks, rivers, and historical waters of the U.S. that have been channelized into ditches. This condition does not apply to ditches constructed in uplands. Stream loss restrictions may be waived by the district engineer on a case-by-case basis provided the activities result in net increases of aquatic resource functions and services.

8. Mitigation: Pre-construction notification is required for any project that will result in permanent wetland losses that exceed 1,000 square feet. In addition to the requirements of General Condition 23 (Mitigation), compensatory mitigation at a minimum one-to-one ratio will be required for all permanent wetland losses that exceed 1,000 square feet. When a PCN is required for wetland losses less than 1,000 square feet, the Corps of Engineers may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Compensatory mitigation for impacts to marine waters, lakes, and streams will be determined on a case-by-case basis. If temporary impacts to waters of the U.S. exceed six months, the Corps of Engineers may require compensatory mitigation for temporal effects.

9. Magnuson-Stevens Fishery Conservation and Management Act – Essential Fish Habitat Essential Fish Habitat (EFH) is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. If EFH may be adversely affected by a proposed activity, the prospective permittee must provide a written EFH assessment with an analysis of the effects of the proposed action on EFH. The assessment must identify the type(s) of essential fish habitat (i.e., Pacific salmon, groundfish, and/or coastal-pelagic species) that may be affected. If the Corps of Engineers determines the project will adversely affect EFH, consultation with NOAA Fisheries will be required. Federal agencies should follow their own procedures for complying with the requirements of the Magnuson-Stevens Fishery Conservation and Management Act. If PCN is required for the proposed activity, Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

10. Forage Fish: For projects in forage fish spawning habitat, in-water work must occur within designated forage fish work windows, or when forage fish are not spawning. If working outside of a designated work window, or if forage fish work windows are closed year round, work may occur if the work window restriction is released for a period of time after a forage fish spawning survey has been conducted by a biologist approved by the Washington State Department of Fish and Wildlife (WDFW). Forage fish species with designated in-water work windows include Pacific sand lance (*Ammodytes hexapterus*), Pacific herring (*Clupea pallasii*), and surf smelt (*Hypomesus pretiosus*). This RGC does not

apply to NWP 48, *Commercial Shellfish Aquaculture Activities*. Please see specific regional conditions for NWP 48.

11. Notification of Permit Requirements: The permittee must provide a copy of the nationwide permit authorization letter, conditions, and permit drawings to all contractors and any other parties performing the authorized work prior to the commencement of any work in waters of the U.S. The permittee must ensure all appropriate contractors and any other parties performing the authorized work at the project site have read and understand relevant NWP conditions as well as plans, approvals, and documents referenced in the NWP letter. A copy of these documents must be maintained onsite throughout the duration of construction.

12. Construction Boundaries: Permittees must clearly mark all construction area boundaries before beginning work on projects that involve grading or placement of fill. Boundary markers and/or construction fencing must be maintained and clearly visible for the duration of construction. Permittees should avoid and minimize removal of native vegetation (including submerged aquatic vegetation) to the maximum extent possible.

13. Temporary Impacts and Site Restoration

- a. Temporary impacts to waters of the U.S. must not exceed six months unless the prospective permittee requests and receives a waiver by the district engineer. Temporary impacts to waters of the U.S. must be identified in the PCN.
- b. No more than 1/2 acre of waters of the U.S. may be temporarily filled unless the prospective permittee requests and receives a waiver from the district engineer (temporary fills do not affect specified limits for loss of waters associated with specific nationwide permits).
- c. Native soils removed from waters of the U.S. for project construction should be stockpiled and used for site restoration. Restoration of temporarily disturbed areas must include returning the area to pre-project ground surface contours. If native soil is not available from the project site for restoration, suitable clean soil of the same textural class may be used. Other soils may be used only if identified in the PCN.
- d. The permittee must revegetate disturbed areas with native plant species sufficient in number, spacing, and diversity to restore affected functions. A maintenance and monitoring plan commensurate with the impacts, may be required. Revegetation must begin as soon as site conditions allow within the same growing season as the disturbance unless the schedule is approved by the Corps of Engineers. Native plants removed from waters of the U.S. for project construction should be stockpiled and used for revegetation when feasible. Temporary Erosion and Sediment Control measures must be removed as soon as the area has established vegetation sufficient to control erosion and sediment.
- e. If the Corps determines the project will result in temporary impacts of submerged aquatic vegetation (SAV) that are more than minimal, a monitoring plan must be submitted. If recovery is not achieved by the end of the monitoring period, contingencies must be implemented, and additional monitoring will be required.

This RGC does not apply to NWP 48, *Commercial Shellfish Aquaculture Activities*. Please see specific regional conditions for NWP 48.

D. CORPS REGIONAL SPECIFIC CONDITIONS FOR THIS NWP: none

E. ECOLOGY 401 CERTIFICATION: GENERAL CONDITIONS

In addition to all the Corps National and Seattle Districts' Regional permit conditions, the following State General Section 401 Water Quality Certification (Section 401) conditions apply to all Nationwide Permits whether **certified** or **partially certified** in the State of Washington.

1. **For in-water construction activities.** Ecology Section 401 review is required for projects or

activities authorized under NWP that will cause, or may be likely to cause or contribute to an exceedance of a State water quality standard (Chapter 173-201A WAC) or sediment management standard (Chapter 173-204 WAC). State water quality standards and sediment management standards are available on Ecology's website. Note: In-water activities include any activity within a wetland and/or activities below the ordinary high water mark (OHWM).

2. Projects or Activities Discharging to Impaired Waters. Ecology Section 401 review is required for projects or activities authorized under NWP if the project or activity will occur in a 303(d) listed segment of a waterbody or upstream of a listed segment and may result in further exceedances of the specific listed parameter. To determine if your project or activity is in a 303(d) listed segment of a waterbody, visit Ecology's Water Quality Assessment webpage for maps and search tools.

3. Application. For projects or activities that will require Ecology Section 401 review, applicants must provide Ecology with a Joint Aquatic Resources Permit Application (JARPA) along with the documentation provided to the Corps, as described in National General Condition 32, Pre-Construction Notification, including, when applicable: (a) A description of the project, including site plans, project purpose, direct and indirect adverse environmental effects the project would cause, best management practices (BMPs), and any other Department of the Army or federal agency permits used or intended to be used to authorize any part of the proposed project or any related activity. (b) Drawings indicating the Ordinary High Water Mark (OHWM), delineation of special aquatic sites and other waters of the state. Wetland delineations must be prepared in accordance with the current method required by the Corps and shall include Ecology's Wetland Rating form. Wetland rating forms are subject to review and verification by Ecology staff. Guidance for determining the OHWM is available on Ecology's website. (c) A statement describing how the mitigation requirement will be satisfied. A conceptual or detailed mitigation or restoration plan may be submitted. See State General Condition 5 for details on mitigation requirements. (d) Other applicable requirements of Corps Nationwide Permit General Condition 32, Corps Regional Conditions, or notification conditions of the applicable NWP. (e) Within 180 calendar days from receipt of applicable documents noted above **and** a copy of the final authorization letter from the Corps providing coverage for a proposed project or activity under the NWP Program Ecology will provide the applicant notice of whether an individual Section 401 will be required for the project. If Ecology fails to act within a year after receipt of **both** of these documents, Section 401 is presumed waived.

4. Aquatic resources requiring special protection. Certain aquatic resources are unique, difficult-to-replace components of the aquatic environment in Washington State. Activities that would affect these resources must be avoided to the greatest extent possible. Compensating for adverse impacts to high value aquatic resources is typically difficult, prohibitively expensive, and may not be possible in some landscape settings. Ecology Section 401 review is required for activities in or affecting the following aquatic resources (and not prohibited by Seattle District Regional General Condition): (a) Wetlands with special characteristics (as defined in the Washington State Wetland Rating Systems for western and eastern Washington, Ecology Publications #14-06-029 and #14-06-030):

- Estuarine wetlands.
- Wetlands of High Conservation Value.
- Bogs.
- Old-growth and mature forested wetlands.
- Wetlands in coastal lagoons.
- Interdunal wetlands.
- Vernal pools.
- Alkali wetlands.

(b) Fens, aspen-dominated wetlands, camas prairie wetlands. (c) Marine water with eelgrass (*Zostera marina*) beds (except for NWP 48). (d) Category I wetlands. (e) Category II wetlands with a habitat score ≥ 8 points. This State General Condition does not apply to the following Nationwide Permits:

5. Mitigation. Applicants are required to show that they have followed the mitigation sequence and have first avoided and minimized impacts to aquatic resources wherever practicable. For projects requiring Ecology Section 401 review with unavoidable impacts to aquatic resources, adequate compensatory mitigation must be provided.

(a) Wetland mitigation plans submitted for Ecology review and approval shall be based on the most current guidance provided in *Wetland Mitigation in Washington State, Parts 1 and 2* (available on Ecology’s website) and shall, at a minimum, include the following:

i. A description of the measures taken to avoid and minimize impacts to wetlands and other waters of the U.S.

ii. The nature of the proposed impacts (i.e., acreage of wetlands and functions lost or degraded).

iii. The rationale for the mitigation site that was selected.

iv. The goals and objectives of the compensatory mitigation project.

v. How the mitigation project will be accomplished, including construction sequencing, best management practices to protect water quality, proposed performance standards for measuring success and the proposed buffer widths.

vi. How it will be maintained and monitored to assess progress towards goals and objectives. Monitoring will generally be required for a minimum of five years. For forested and scrub-shrub wetlands, 10 years of monitoring will often be necessary.

vii. How the compensatory mitigation site will be legally protected for the long term. Refer to *Wetland Mitigation in Washington State – Part 2: Developing Mitigation Plans* (Ecology Publication #06-06-011b) and *Selecting Wetland Mitigation Sites Using a Watershed Approach* (Ecology Publications #09-06-032 (Western Washington) and #10-06-007 (Eastern Washington)) for guidance on selecting suitable mitigation sites and developing mitigation plans. Ecology encourages the use of alternative mitigation approaches, including credit/debit methodology, advance mitigation, and other programmatic approach such as mitigation banks and in-lieu fee programs. If you are interested in proposing use of an alternative mitigation approach, consult with the appropriate Ecology regional staff person. Information on alternative mitigation approaches is available on Ecology’s website.

(b) Mitigation for other aquatic resource impacts will be determined on a case-by-case basis.

6. Temporary Fills. Ecology Section 401 review is required for any project or activity with temporary fill in wetlands or other waters of the state for more than 90 days, unless the applicant has received written approval from Ecology. Note: This State General Condition does not apply to projects or activities authorized under NWP 33, *Temporary Construction, Access, and Dewatering*

7. Stormwater pollution prevention: All projects that involve land disturbance or impervious surfaces must implement stormwater pollution prevention or control measures to avoid discharge of pollutants in stormwater runoff to waters of the State.

(a) For land disturbances during construction, the applicant must obtain and implement permits (e.g., Construction Stormwater General Permit) where required and follow Ecology’s current stormwater manual.

(b) Following construction, prevention or treatment of on-going stormwater runoff from impervious surfaces shall be provided.

Ecology’s Stormwater Management and Design Manuals and stormwater permit information are available on Ecology’s website.

8. State Section 401 Review for PCNs not receiving 45-day response from the Seattle District. In the event the Seattle District Corps does not issue a NWP authorization letter within 45 calendar days of receipt of a **complete** pre-construction notification, the applicant must contact Ecology for Section 401 review prior to commencing work.

F. ECOLOGY 401 CERTIFICATION: SPECIFIC CONDITIONS FOR THIS NWP:

Certified subject to conditions. Ecology Section 401 review is required for projects or activities authorized under this NWP if:

1. The project or activities are below the Ordinary High Water Mark (OHWM) with new work being proposed outside the original footprint.
2. The proposed project or activity increases the original footprint of the structure by more than 1/10th acre in wetlands.
3. The project or activity includes adding a new structure, such as a weir, flap gate/tide gate, or culvert to the site.

G. COASTAL ZONE MANAGEMENT CONSISTENCY RESPONSE FOR THIS NWP:

(Note: This only applies in the following counties: Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Mason, Pacific, Pierce, San Juan, Skagit, Snohomish, Thurston, Wahkiakum and Whatcom)

Response: Ecology concurs that this NWP is consistent with the CZMP, subject to the following condition: An individual Coastal Zone Management Consistency Determination is required for project or activities under this NWP if State Section 401 review is required.

General Conditions: For Non-Federal Permittees

1. Necessary Data and Information. A Coastal Zone Management Program “Certification of Consistency” form is required for projects located within a coastal county. “Certification of Consistency” forms are available on Ecology’s website. The form shall include a description of the proposed project or activity and evidence of compliance with the applicable enforceable policies of the Washington Coastal Zone Management Program (CZMP). Also, a map of the site location is required.
2. Timing. Within 6 months from receipt of the necessary data and information, Ecology will provide a federal consistency determination for the proposed project or activity. If Ecology fails to act within the 6 month period, concurrence with the CZMP is presumed.

General Conditions: For Federal Permittees (Agencies)

1. Necessary Data and Information. Federal agencies shall submit the determination, information, and analysis required by 15 CFR 930.39 to obtain a federal consistency determination.
2. Timing. Within 60 days from receipt of the necessary data and information, Ecology will provide a federal consistency determination for the proposed project or activity. If Ecology fails to act within the 60 day period, concurrence with the CZMP is presumed.



US Army Corps
of Engineers®
Seattle District

CERTIFICATE OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT



Permit Number: NWS-2019-821

Name of Permittee: Lewis County Public Works

Date of Verification: March 25, 2020

Upon completion of the activity authorized by this permit, please check the applicable boxes below, date and sign this certification, and return it to the following address:

Department of the Army
U.S. Army Corps of Engineers
Seattle District, Regulatory Branch
Post Office Box 3755
Seattle, Washington 98124-3755

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of your authorization, your permit may be subject to suspension, modification, or revocation.

<input type="checkbox"/>	<p>The work authorized by the above-referenced permit has been completed in accordance with the terms and conditions of this permit.</p> <p>Date work complete: _____</p> <p><input type="checkbox"/> Photographs and as-built drawings of the authorized work (OPTIONAL, unless required as a Special Condition of the permit).</p>
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<input type="checkbox"/>	<p>If applicable, the mitigation required (e.g., construction and plantings) in the above-referenced permit has been completed in accordance with the terms and conditions of this permit (not including future monitoring).</p> <p>Date work complete: _____ <input type="checkbox"/> N/A</p> <p><input type="checkbox"/> Photographs and as-built drawings of the mitigation (OPTIONAL, unless required as a Special Condition of the permit).</p>
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<input type="checkbox"/>	<p>Provide phone number/email for scheduling site visits (must have legal authority to grant property access).</p> <p>Printed Name: _____</p> <p>Phone Number: _____ Email: _____</p>
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Printed Name: _____

Signature: _____

Date: _____

Report for Mitigation Work Completion

Immediately upon completion of the plantings, submit this form to:
 U.S. Army Corps of Engineers, Regulatory Branch, P.O. Box 3755, Seattle, WA 98124-3755

Corps' Reference Number: NWS-2019-821

Date the Corps Verified Your Permit: March 25, 2020

Date this Report is Due: _____

Your Name: _____

Your Address: _____

Your City/State/Zip Code: _____

Your Phone Number and Email: _____

- You must attach to this form: 1) As-built drawing of planting area(s), and
 2) Photographs of the planting area(s)

Date mitigation was completed: _____

Describe any changes from the approved mitigation plan:

Name of Species You Planted	Number Planted
Total Planted:	

If there are multiple sites, fill out a separate table for each planting area.



HYDRAULIC PROJECT APPROVAL

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
(360) 902-2200

Issued Date: October 03, 2019
Project End Date: October 03, 2022

Permit Number: 2019-5-100+01
FPA/Public Notice Number: N/A
Application ID: 19449

PERMITTEE	AUTHORIZED AGENT OR CONTRACTOR
Lewis County Public Works ATTENTION: Ann Weckback 2025 NE Kresky Ave Chehalis, WA 98532-2308	

Project Name: Cousins Road Culvert Replacement – CMP 1502

Project Description: Lewis County Public Works is proposing to replace an existing 4-foot high by 6-foot wide corrugated metal pipe arch 36 feet in length with a 30-foot wide by 1.5-foot tall by 45-foot long precast voided slab girder bridge on a geosynthetic reinforced soil integrated bridge system (GRS-IBS). Additional construction will include the realignment of 220ft of channel and the placement of streambed mix.

PROVISIONS

TIMING - PLANS - INVASIVE SPECIES CONTROL

1. **TIMING LIMITATION:** You may begin the project on October 3, 2019 and you must complete the project by October 3, 2022.

Work below the Ordinary High Water mark shall only occur between July 1 and September 30. Work over the OHW may occur all year.

2. **APPROVED PLANS:** You must accomplish the work per plans and specifications submitted with the application and approved by the Washington Department of Fish and Wildlife, except as modified by this Hydraulic Project Approval. You must have a copy of these plans available on site during all phases of the project construction.

3. **INVASIVE SPECIES CONTROL:** Follow Level 1 Decontamination protocol for low risk locations. Thoroughly remove visible dirt and organic debris from all equipment and gear (including drive mechanisms, wheels, tires, tracks, buckets and undercarriage) before arriving and leaving the job site to prevent the transport and introduction of invasive species. Properly dispose of any water and chemicals used to clean gear and equipment. For contaminated or high risk sites please refer to the Level 2 Decontamination protocol. You can find this and additional information in the Washington Department of Fish and Wildlife's "Invasive Species Management Protocols", available online at <https://wdfw.wa.gov/species-habitats/invasive/prevention>.

NOTIFICATION REQUIREMENTS

4. **PRE- AND POST-CONSTRUCTION NOTIFICATION:** You, your agent, or contractor must contact the Washington Department of Fish and Wildlife by e-mail at HPAapplications@dfw.wa.gov; mail to Post Office Box 43234, Olympia, Washington 98504-3234; or fax to (360) 902-2946 at least three business days before starting work, and again within seven days after completing the work. The notification must include the permittee's name, project location, starting date for work or date the work was completed, and the permit number. The Washington Department of Fish and Wildlife may conduct inspections during and after construction; however, the Washington Department of Fish and Wildlife will notify you or your agent before conducting the inspection.

5. **FISH KILL/ WATER QUALITY PROBLEM NOTIFICATION:** If a fish kill occurs or fish are observed in distress at the job site, immediately stop all activities causing harm. Immediately notify the Washington Department of Fish and



HYDRAULIC PROJECT APPROVAL

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
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FPA/Public Notice Number: N/A
Application ID: 19449

Wildlife of the problem. If the likely cause of the fish kill or fish distress is related to water quality, also notify the Washington Military Department Emergency Management Division at 1-800-258-5990. Activities related to the fish kill or fish distress must not resume until the Washington Department of Fish and Wildlife gives approval. The Washington Department of Fish and Wildlife may require additional measures to mitigate impacts.

STAGING, JOB SITE ACCESS, AND EQUIPMENT

6. Establish staging areas (used for equipment storage, vehicle storage, fueling, servicing, and hazardous material storage) in a location and manner that will prevent contaminants such as petroleum products, hydraulic fluid, fresh concrete, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials from entering waters of the state.
7. Use existing roadways or travel paths.
8. Design and locate new temporary access roads to prevent erosion and sediment delivery to waters of the state.
9. Clearly mark boundaries to establish the limit of work associated with site access and construction.
10. Limit the removal of native bankline vegetation to the minimum amount needed to construct the project.
11. Remove soil or debris from the drive mechanisms (wheels, tires, tracks, etc.) and undercarriage of equipment prior to operating the equipment waterward of the ordinary high water line.
12. If wet or muddy conditions exist, in or near a riparian zone or wetland area, use equipment that reduces ground pressure.
13. Check equipment daily for leaks and complete any required repairs in an upland location before using the equipment in or near the water.
14. Use environmentally acceptable lubricants composed of biodegradable base oils such as vegetable oils, synthetic esters, and polyalkylene glycols in equipment operated in or near the water.

CONSTRUCTION-RELATED SEDIMENT, EROSION AND POLLUTION CONTAINMENT

15. Work in the dry watercourse (when no natural flow is occurring in the channel, or when flow is diverted around the job site).
16. Protect all disturbed areas from erosion. Maintain erosion and sediment control until all work and cleanup of the job site is complete.
17. All erosion control materials that will remain onsite must be composed of 100% biodegradable materials.
18. Straw used for erosion and sediment control, must be certified free of noxious weeds and their seeds.
19. Stop all hydraulic project activities except those needed to control erosion and siltation, if flow conditions arise that will result in erosion or siltation of waters of the state.
20. Prevent project contaminants, such as petroleum products, hydraulic fluid, fresh concrete, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials, from entering or leaching into waters of the state.
21. Deposit waste material from the project, such as construction debris, silt, excess dirt, or overburden, in an upland area above the limits of anticipated floodwater unless the material is approved by the Washington Department of Fish and Wildlife for reuse in the project.
22. Deposit all trash from the project at an appropriate upland disposal location.

CONSTRUCTION MATERIALS

23. Store all construction and deconstruction material in a location and manner that will prevent contaminants such as petroleum products, hydraulic fluid, fresh cement, sediments, sediment-laden water, chemicals, or any other toxic or harmful materials from entering waters of the state.
24. Do not stockpile construction material waterward of the ordinary high water line.



HYDRAULIC PROJECT APPROVAL

Washington Department of
Fish & Wildlife
PO Box 43234
Olympia, WA 98504-3234
(360) 902-2200

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FPA/Public Notice Number: N/A

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25. To prevent leaching, construct forms to contain any wet concrete. Place impervious material over wet concrete that will come in contact with waters of the state. Forms and impervious materials must remain in place until the concrete is cured.

26. Do not use wood treated with oil-type preservatives (creosote, pentachlorophenol) in any hydraulic project. You may use wood treated with waterborne preservatives (ACZA, ACQ) provided the wood is approved by the Western Wood Preservers Institute for use in the aquatic environment. Any use of treated wood in the aquatic environment must follow guidelines and best management practices available at www.wwpinstitute.org.

IN-WATER WORK AREA ISOLATION USING A COFFERDAM STRUCTURE

27. Maintain water quality when installing and removing the cofferdam, dike or similar structure.

28. Install the cofferdam, dike or similar structure and remove fish prior to the start of other work in the wetted perimeter.

29. Route the construction water (wastewater) from the project to an upland area above the limits of anticipated floodwater. Remove fine sediment and other contaminants before discharging the construction water to waters of the state.

30. Sequence the work to minimize the duration of dewatering.

FISH LIFE REMOVAL

31. All persons participating in capture and removal must have training, knowledge, and skills in the safe handling of fish life.

32. If electrofishing is conducted, a person with electrofishing training must be on-site to conduct or direct all electrofishing activities.

33. Place block nets upstream and downstream of the in-water work area before capturing and removing fish life.

34. Capture and safely move fish life from the work area to the nearest suitable free-flowing water.

BRIDGE

35. Design and construct the bridge to pass water, ice, large wood, and associated woody material and sediment likely to move under the bridge during the 100-year flood flows.

36. Locate the waterward face of all bridge elements including abutments, piers, pilings, sills, foundations, aprons, wing walls, and approach material landward of the ordinary high water line.

37. If excavation or other construction activities take place waterward of the ordinary high water line, isolate the work area from the stream flow (if present) by using a cofferdam, bypass, or similar structure.

38. Minimize damage to the bed and banks when placing bridge stringers.

39. Use material for the approaches that is structurally stable and that will not harm fish life if it erodes into the water.

40. Install and maintain curbs or wheel guards to prevent aggregate or earth-type paving material from entering the stream.

DEMOBILIZATION AND CLEANUP

41. Before the end of the in-water work period specified in the "timing limitations" provision, abandon temporary roads in wet or flood-prone areas.

42. Completely remove any temporary fill before the end of the in-water timing window if the fill material could erode and deliver sediment-laden water into waters of the state.

43. Restore bed and bank elevations and contours to preproject condition.

44. To prevent fish from stranding, backfill trenches, depressions, and holes in the bed that may entrain fish during high water or wave action.



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- 45. To minimize sediment delivery to the stream or stream channel, do not return in-stream flows to the work area until all in-channel work is completed and the bed and banks are stabilized.
- 46. Seed areas disturbed by construction activities with a native seed mix suitable for the site that has at least one quick-establishing plant species.
- 47. Complete replanting of riparian vegetation during the first dormant season (late fall through late winter) after project completion per the approved plan. Maintain plantings for at least three years to ensure at least eighty percent of the plantings survive. Failure to achieve the eighty percent survival in year three will require you to submit a plan with follow-up measures to achieve requirements or reasons to modify requirements.
- 48. Upon completion of the project, remove all materials or equipment from the site and dispose of all excess spoils and waste materials in an upland area above the limits of anticipated floodwater.
- 49. Return water flow slowly to the in-water work area to prevent the downstream release of sediment laden water. If necessary, install silt fencing above the bypass outlet to capture sediment during re-watering of the channel.
- 50. Remove temporary erosion and sediment control methods after job site is stabilized or within three months of project completion, whichever is sooner.

CHANNEL RELOCATION AND REALIGNMENT

- 51. Permanent new channel(s) must be similar in length, width, depth, flood plain configuration, and gradient to the old channel(s). The new channel(s) must incorporate habitat components, bed materials, channel morphology, and native or other approved vegetation to provide equal or better habitat compared to that which previously existed in the old channel.
- 52. The streambed must include a sinuous low-flow channel expected under common conditions in the reach and a high-flow bench on both sides of the channel.
- 53. During construction, isolate the new channel from the flowing watercourse.
- 54. Before water is diverted into a permanent new channel(s), install approved habitat components and bed and bank protection materials to prevent erosion as shown in the approved plan.
- 55. Size streambed material to mimic the gradation found in nearby reference channel reaches. The material must be well-graded (includes all size classes), non-porous, with 5-10% fines with sieve size U.S. No. 200 to prevent subsurface flow. Create a low-flow channel and a high-flow bench on both sides of the channel. Angular rock is not permitted within the channel.

LOCATION #1:	Site Name: Cousins Road MP 3.15 Cousins Rd MP 3.15, Chehalis, WA 98532					
WORK START:	July 1, 2020			WORK END:	October 31, 2020	
<u>WRIA</u>	<u>Waterbody:</u>			<u>Tributary to:</u>		
23 - Upper Chehalis - Upstream of Porter	Unknown Stream Number			Unknown		
<u>1/4 SEC:</u>	<u>Section:</u>	<u>Township:</u>	<u>Range:</u>	<u>Latitude:</u>	<u>Longitude:</u>	<u>County:</u>
NW 1/4	35	13 N	03 W	46.575973	-123.034024	Lewis
<u>Location #1 Driving Directions</u>						



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From I-5 take exit 77 for WA-6 W toward Raymond/ Pe Ell and turn right onto WA-6 W/Main St. Follow WA-6 W for 4.8 miles then take a left onto Twin Oaks Rd. Continue on Twin Oaks Rd for 1.1 miles then turn right onto Cousins Rd. In 3.15 miles the destination will be reached.

APPLY TO ALL HYDRAULIC PROJECT APPROVALS

This Hydraulic Project Approval pertains only to those requirements of the Washington State Hydraulic Code, specifically Chapter 77.55 RCW. Additional authorization from other public agencies may be necessary for this project. The person(s) to whom this Hydraulic Project Approval is issued is responsible for applying for and obtaining any additional authorization from other public agencies (local, state and/or federal) that may be necessary for this project.

This Hydraulic Project Approval shall be available on the job site at all times and all its provisions followed by the person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work.

This Hydraulic Project Approval does not authorize trespass.

The person(s) to whom this Hydraulic Project Approval is issued and operator(s) performing the work may be held liable for any loss or damage to fish life or fish habitat that results from failure to comply with the provisions of this Hydraulic Project Approval.

Failure to comply with the provisions of this Hydraulic Project Approval could result in civil action against you, including, but not limited to, a stop work order or notice to comply, and/or a gross misdemeanor criminal charge, possibly punishable by fine and/or imprisonment.

All Hydraulic Project Approvals issued under RCW 77.55.021 are subject to additional restrictions, conditions, or revocation if the Department of Fish and Wildlife determines that changed conditions require such action. The person(s) to whom this Hydraulic Project Approval is issued has the right to appeal those decisions. Procedures for filing appeals are listed below.

MINOR MODIFICATIONS TO THIS HPA: You may request approval of minor modifications to the required work timing or to the plans and specifications approved in this HPA unless this is a General HPA. If this is a General HPA you must use the Major Modification process described below. Any approved minor modification will require issuance of a letter documenting the approval. A minor modification to the required work timing means any change to the work start or end dates of the current work season to enable project or work phase completion. Minor modifications will be approved only if spawning or incubating fish are not present within the vicinity of the project. You may request subsequent minor modifications to the required work timing. A minor modification of the plans and specifications means any changes in the materials, characteristics or construction of your project that does not alter the project's impact to fish life or habitat and does not require a change in the provisions of the HPA to mitigate the impacts of the modification. If you originally applied for your HPA through the online Aquatic Protection Permitting System (APPS), you may request a minor modification through APPS. A link to APPS is at <http://wdfw.wa.gov/licensing/hpa/>. If you did not use APPS you must submit a written request that clearly indicates you are seeking a minor modification to an existing HPA. Written requests must include the name of the applicant, the name of the authorized agent if one is acting for the applicant, the APP ID number of the HPA, the date issued, the permitting biologist, the requested changes to the HPA, the reason for the requested change, the date of the request, and the requestor's signature. Send by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234, or by email to HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.



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MAJOR MODIFICATIONS TO THIS HPA: You may request approval of major modifications to any aspect of your HPA. Any approved change other than a minor modification to your HPA will require issuance of a new HPA. If you originally applied for your HPA through the online Aquatic Protection Permitting System (APPS), you may request a major modification through APPS. A link to APPS is at <http://wdfw.wa.gov/licensing/hpa/>. If you did not use APPS you must submit a written request that clearly indicates you are requesting a major modification to an existing HPA. Written requests must include the name of the applicant, the name of the authorized agent if one is acting for the applicant, the APP ID number of the HPA, the date issued, the permitting biologist, the requested changes to the HPA, the reason for the requested change, the date of the request, and the requestor's signature. Send your written request by mail to: Washington Department of Fish and Wildlife, PO Box 43234, Olympia, Washington 98504-3234. You may email your request for a major modification to HPAapplications@dfw.wa.gov. You should allow up to 45 days for the department to process your request.

APPEALS INFORMATION

If you wish to appeal the issuance, denial, conditioning, or modification of a Hydraulic Project Approval (HPA), Washington Department of Fish and Wildlife (WDFW) recommends that you first contact the department employee who issued or denied the HPA to discuss your concerns. Such a discussion may resolve your concerns without the need for further appeal action. If you proceed with an appeal, you may request an informal or formal appeal. WDFW encourages you to take advantage of the informal appeal process before initiating a formal appeal. The informal appeal process includes a review by department management of the HPA or denial and often resolves issues faster and with less legal complexity than the formal appeal process. If the informal appeal process does not resolve your concerns, you may advance your appeal to the formal process. You may contact the HPA Appeals Coordinator at (360) 902-2534 for more information.

A. INFORMAL APPEALS: WAC 220-660-460 is the rule describing how to request an informal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete informal appeal procedures. The following information summarizes that rule.

A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request an informal appeal of that action. You must send your request to WDFW by mail to the HPA Appeals Coordinator, Department of Fish and Wildlife, Habitat Program, PO Box 43234, Olympia, Washington 98504-3234; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. WDFW must receive your request within 30 days from the date you receive notice of the decision. If you agree, and you applied for the HPA, resolution of the appeal may be facilitated through an informal conference with the WDFW employee responsible for the decision and a supervisor. If a resolution is not reached through the informal conference, or you are not the person who applied for the HPA, the HPA Appeals Coordinator or designee may conduct an informal hearing or review and recommend a decision to the Director or designee. If you are not satisfied with the results of the informal appeal, you may file a request for a formal appeal.

B. FORMAL APPEALS: WAC 220-660-470 is the rule describing how to request a formal appeal of WDFW actions taken under Chapter 77.55 RCW. Please refer to that rule for complete formal appeal procedures. The following information summarizes that rule.



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A person who is aggrieved by the issuance, denial, conditioning, or modification of an HPA may request a formal appeal of that action. You must send your request for a formal appeal to the clerk of the Pollution Control Hearings Boards and serve a copy on WDFW within 30 days from the date you receive notice of the decision. You may serve WDFW by mail to the HPA Appeals Coordinator, Department of Fish and Wildlife, Habitat Program, PO Box 43234, Olympia, Washington 98504-3234; e-mail to HPAapplications@dfw.wa.gov; fax to (360) 902-2946; or hand-delivery to the Natural Resources Building, 1111 Washington St SE, Habitat Program, Fifth floor. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, you may request a formal appeal within 30 days from the date you receive the Director's or designee's written decision in response to the informal appeal.

C. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS: If there is no timely request for an appeal, the WDFW action shall be final and unappealable.

Habitat Biologist Scott.Brummer@dfw.wa.gov
Scott Brummer 360-785-0472

for Director
WDFW

AFTER RECORDING RETURN TO:
Lewis County Public Works Dept.
2025 NE Kresky Ave.
Chehalis, WA. 98532

Tax Parcel Number: Portion of 019033 002 003

TEMPORARY EASEMENT

IN THE MATTER OF: Cousins Road CMP 1502

KNOW ALL MEN BY THESE PRESENTS, that the Grantor, LAURA MOERKE, TRUSTEE, EDWARD W. MOERKE TESTAMENTARY CREDIT SHELTER TRUST, as to a two-third interest, AND LAURA MOERKE, a single women, as to a one-third interest, for and in consideration of ten dollars and other valuable consideration, does hereby grant and convey to LEWIS COUNTY, a political subdivision of the State of Washington, a temporary easement for access on, over and across the following described tract of land, to wit:

All that part of the Southwest Quarter of the Southwest Quarter (SW1/4 SW1/4) of Section 26, Township 13 North, Range 3 West, W.M., that lies within the graveled access area as shown shaded red on attached map, labeled "Exhibit A".


It is hereby mutually understood and agreed by the parties hereto that this temporary easement has been given by GRANTOR and accepted by the GRANTEE, for and in consideration of Ten Dollars and other valuable consideration, subject to the terms, conditions reservations herein below set forth:

1. GRANTEE will restore the area to a condition as found, subject to reasonable wear and tear due to disruption of the ground surface.
2. It shall be the responsibility of GRANTEE to obtain all permits necessary for any and all work connected with this project.
3. GRANTEE shall be liable for any and all damage suffered by GRANTOR, arising out of negligence by GRANTEE, or its employees, members, guests, servants, agents or invitees, or by any such contractor or subcontractor or any other person or persons authorized by GRANTEE to do said work.
4. The GRANTEE agrees to hold GRANTOR harmless from such claims, losses, demands or actions which may arise for any reason as a result of GRANTEE'S use of GRANTOR'S above described land for the purpose herein stated.

5. This temporary easement shall terminate and all rights granted herein shall automatically revert to the GRANTOR, its successors or assigns, upon completion of said culvert replacement project, but under no circumstance beyond December 31, 2021.

Dated this 12th day of November, 2019.

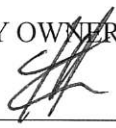
APPROVED FOR GRANTEE
BY LEWIS COUNTY



Tim Fife, P.E.
County Engineer

Dated this 3 day of Nov, 2019.

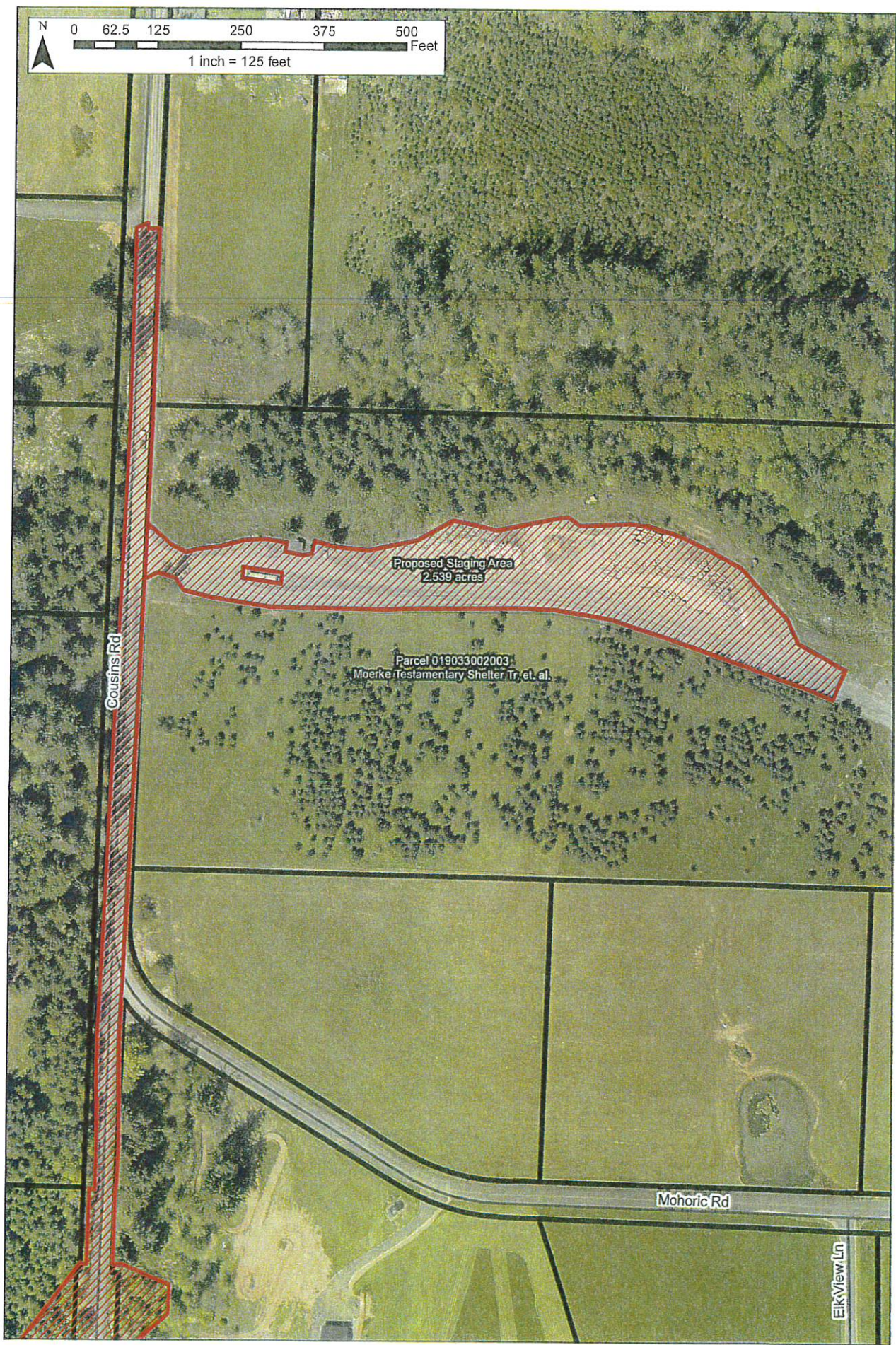
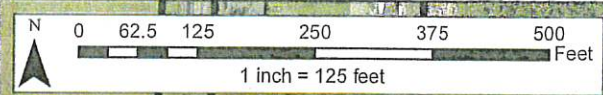
PROPERTY OWNER:



Laura Moerke
Trustee, Edward W. Moerke Testamentary
Credit Shelter Trust

Laura Moerke

Gene Anderson
CO-EX





- Legend**
-  Area of Potential Effect
 -  Parcels

EXHIBIT "A"

Requested Staging Area Map
 Cousins Road Culvert Replacement - CMP 1502
 Sections 34 and 35, T13N, R3W

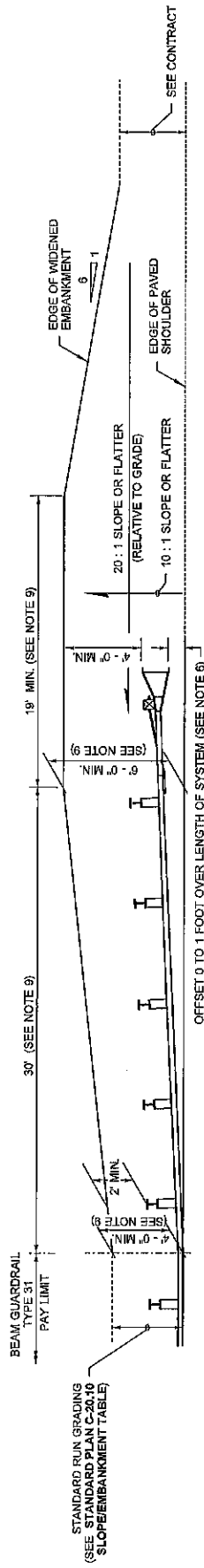
Please note parcel boundaries are approximate.

October 31, 2019

APPENDIX G

STANDARD PLANS

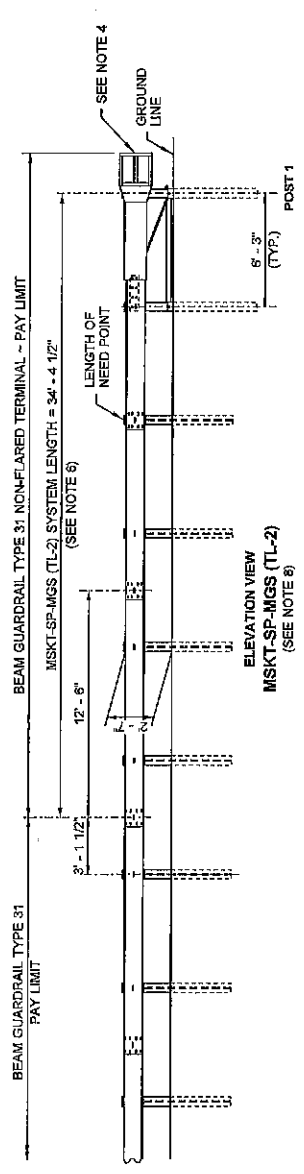
CONTRACT PLANS



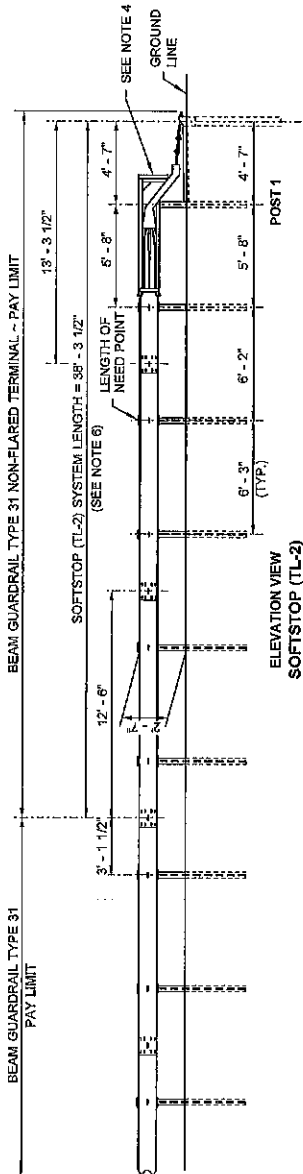
NOTES

1. The implementation of the Manual for Assessment of Safety Hardware (MASH) criteria may result in the acceptance of guardrail terminal systems currently not shown on this plan. Non-flared terminals shall be selected from the WSDOT Qualified Products List (QPL) or approved through the WSDOT Request for Approval of Materials (RAM) process.
2. This terminal is MASH compliant at Test Level Two (TL-2) and may be used in applications with posted speed of 45 mph or less.
3. An MSKT-SP-MGS (TL-2) as manufactured by Road Systems, Inc., SOFTSTOP (TL-2) as manufactured by Trinity Highway Products, LLC, or MAX-TENSION (TL-2) as manufactured by Lindsay Transportation Solutions, shall be installed according to manufacturer's recommendations.
4. A reflectorized object marker shall be installed according to manufacturer's recommendations.
5. Snow load rail washers shall not be installed within the terminal limits.
6. Provide an offset between 0 to 1 foot so that the impact head does not encroach onto the paved shoulder. The offset is provided over the length of the terminal system from the center of the last post to either:
 - (1) The face of the impact head at its leading edge (MSKT-SP-MGS), or
 - (2) The center of anchor Post 0 (Softstop or Max-Tension). Provide the maximum offset where practicable.
7. For terminal details, see WSDOT approved manufacturer's drawings.
8. These terminals are supplied with steel posts only. They can be used with beam guardrail Type 31 runs, composed of steel or wood guardrail posts.
9. The widened embankment dimensions shown on this plan will satisfy the installation requirements of all 3 guardrail terminal systems shown on this plan.

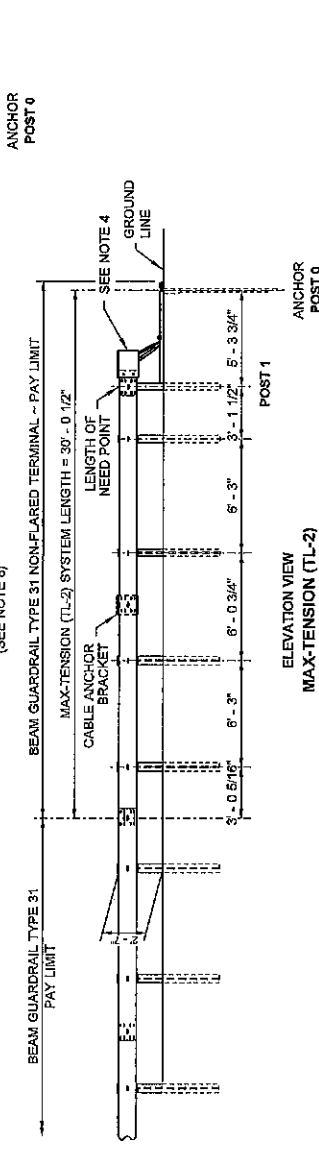
**PLAN VIEW
(MSKT-SP-MGS (TL-2) SHOWN)**



**ELEVATION VIEW
MSKT-SP-MGS (TL-2)
(SEE NOTE 6)**



**ELEVATION VIEW
SOFTSTOP (TL-2)
(SEE NOTE 6)**



**ELEVATION VIEW
MAX-TENSION (TL-2)
(SEE NOTE 6)**

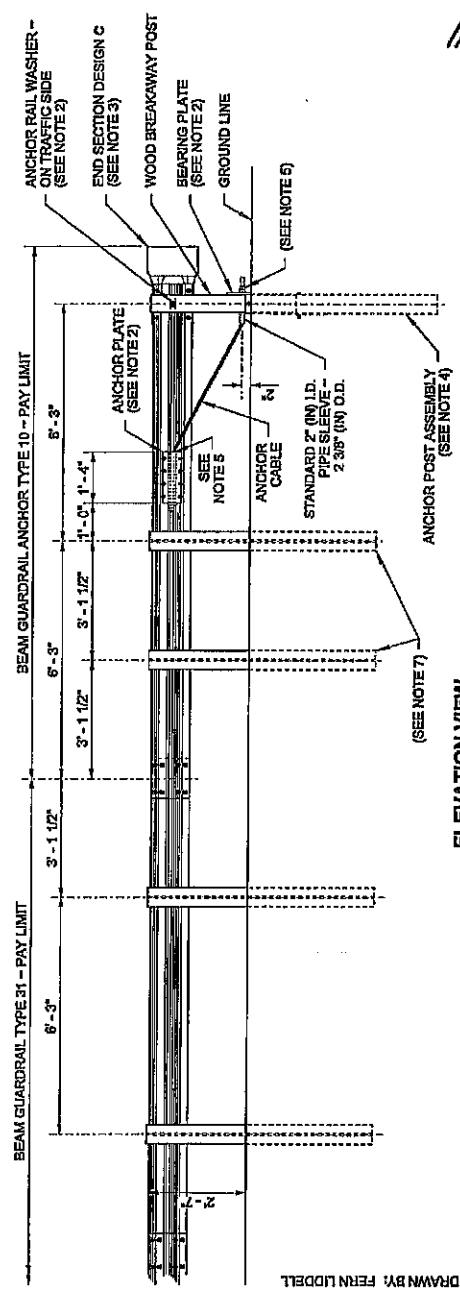


2020.08.27 09:47:19
-0700
**BEAM GUARDRAIL TYPE 31
NON-FLARED TERMINAL
(POSTED SPEED
45 MPH AND BELOW)
STANDARD PLAN C-22.45-05**

SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Date: 2020.08.18
09:54:40 -0700
STRUCTURAL ENGINEER
Washington State Department of Transportation

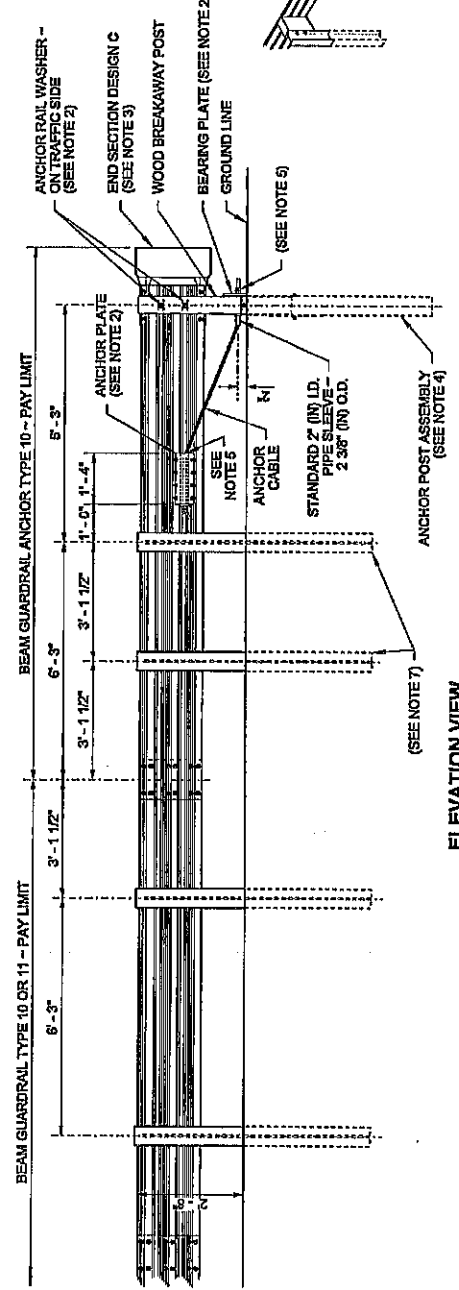
NOTES

1. For use on the end of guardrail runs when a crashworthy terminal is not required.
2. For additional details not shown, see Sheet 2 of this Plan.
3. For end section details, see Standard Plans C-7 and C-7a.
4. Use details for Wood Breakaway post shown on this plan and components shown on Standard Plan C-1b.
5. Fasten the Anchor Cable using two 1" (in) nuts and washer, at both ends of cable. Outside nut shall be torqued against inside nut a minimum of 100 ft.-lbs.
6. Wood blocks shown. Blocks of alternate material may be used. See Standard Specification, Section 9-16.3(2).
7. Posts shall match those of the connecting run: timber or steel.
8. Anchor plate may be constructed from 1/4" (in) plates welded to equal strength and dimensions as shown.
9. Eight 5/8" (in) x 1/2" (in) machine bolts with hex nut and washer. Place washer on face side of rail.

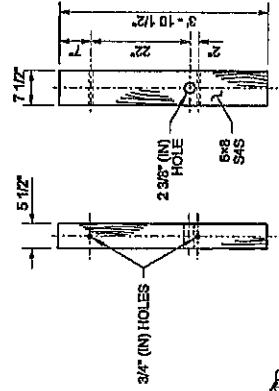


**ELEVATION VIEW
W-BEAM**

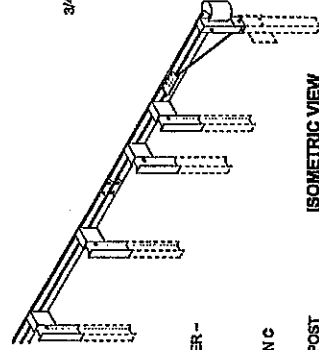
DRAWN BY: FERN LIDDELL



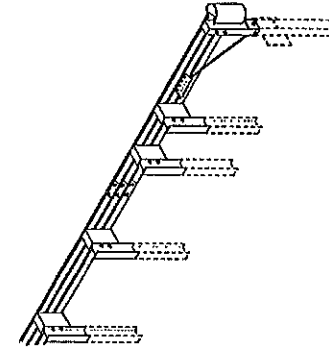
**ELEVATION VIEW
THRIE BEAM**



**WOOD BREAKAWAY
POST DETAIL**



ISOMETRIC VIEW



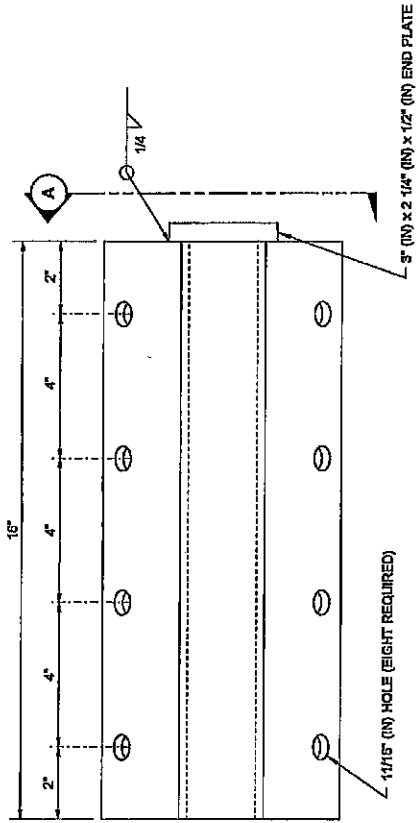
ISOMETRIC VIEW



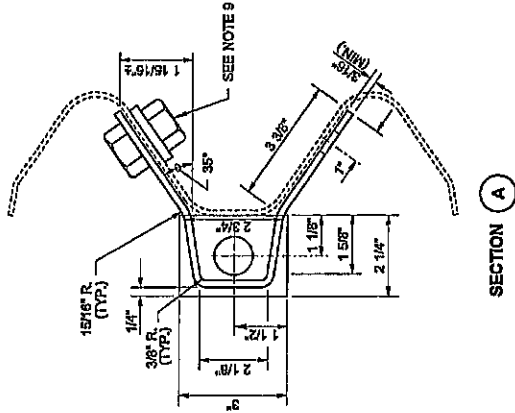
Jeff Peterson
 Peterson, Jeffrey K.
 Jul 6 2017 3:15 PM
 BEAM GUARDRAIL (TYPE 31)
 ANCHOR TYPE 10

STANDARD PLAN C-23-60-04

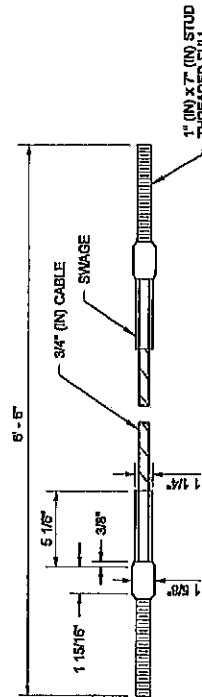
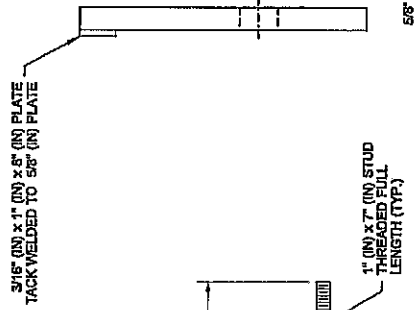
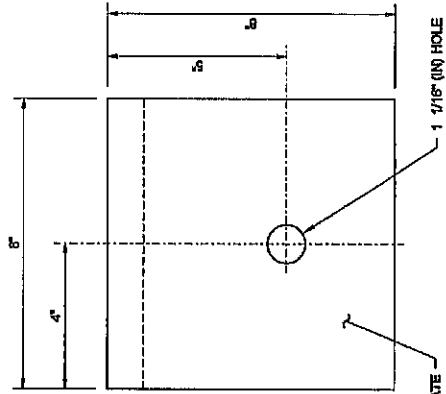
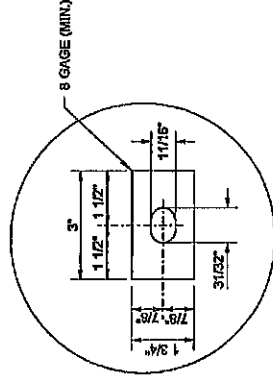
SHEET 1 OF 2 SHEETS
 APPROVED FOR PUBLICATION
 Checked: JLF
 11/23/2017 4:24 AM
 STATE DESIGN ENGINEER
 Washington State Department of Transportation



ANCHOR PLATE
(SEE NOTE 8)



ANCHOR RAIL WASHER

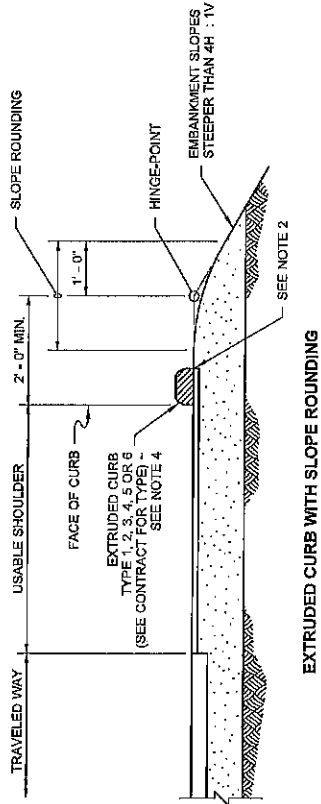


Jeffrey L. Peterson
Professional Engineer (190 Design)
Jul 6, 2017 3:15 PM
STANDARD PLAN C-23.60-04
ANCHOR TYPE 10
BEAM GUARDRAIL (TYPE 31)

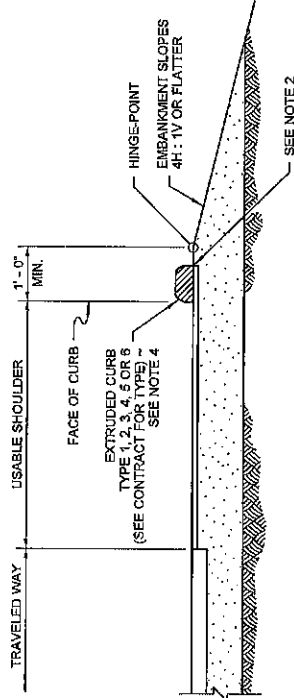
SHEET 2 OF 2 SHEETS
APPROVED FOR PUBLICATION
STATE DESIGN ENGINEER
Washington State Department of Transportation

NOTES

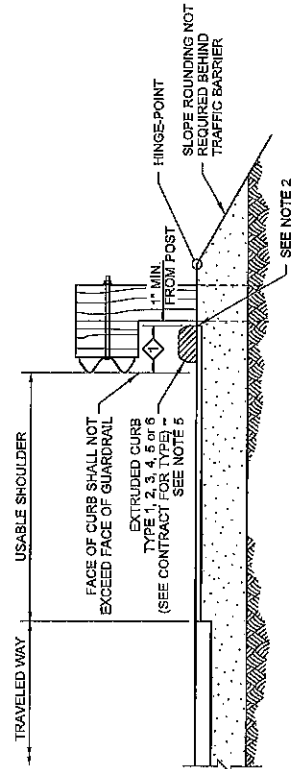
1. The installation of curb in areas with existing guardrail could require the removal and resetting of the guardrail or its components.
2. Extend shoulder pavement to provide a base for the extruded curb.
3. See Contract for exception to distances shown.
4. Type 3 and 6 curbs are not used on roadways with a posted speed greater than 40 mph.
5. Type 3 and 6 curbs are not used under Type 1 beam guardrail on roadways with a posted speed greater than 50 mph.
6. For extruded curb placement at Beam Guardrail Type 31, See Standard Plan C-20.10.
7. For extruded curb details, See Standard Plan F-10.42.



EXTRUDED CURB WITH SLOPE ROUNDING



EXTRUDED CURB WITHOUT SLOPE ROUNDING



**EXTRUDED CURB UNDER TYPE 1 BEAM GUARDRAIL
(SEE NOTE 6)**



Digitally signed by R. Scott Zeller
Date: 2020.09.24 13:27:46
-47'00'

R. Scott Zeller

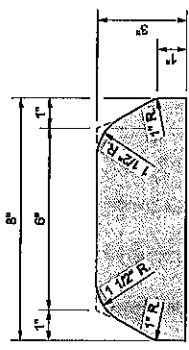
**EXTRUDED CURB
PLACEMENT**

STANDARD PLAN F-10.40-04

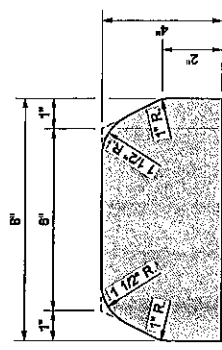
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Date: 2020.09.24
07:59:04 -47'00"

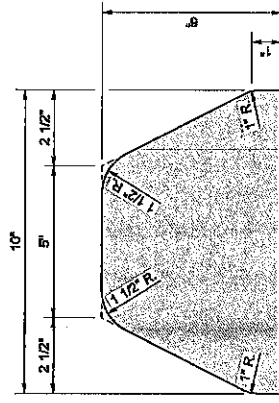
STATE DESIGN ENGINEER
Washington State Department of Transportation



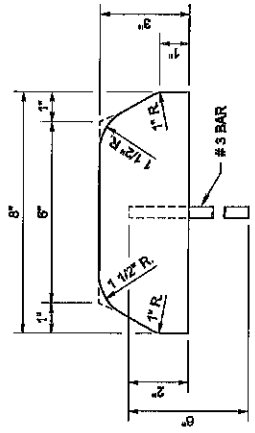
TYPE 1
(HOT MIX ASPHALT)



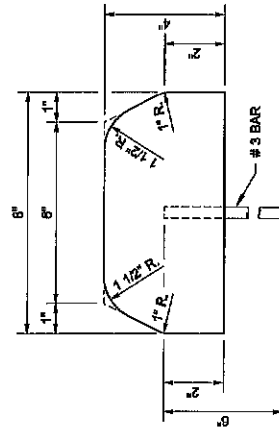
TYPE 2
(HOT MIX ASPHALT)



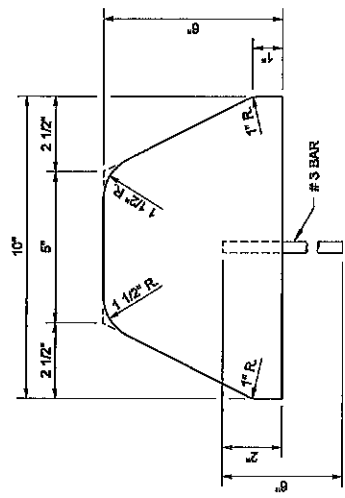
TYPE 3
(HOT MIX ASPHALT)



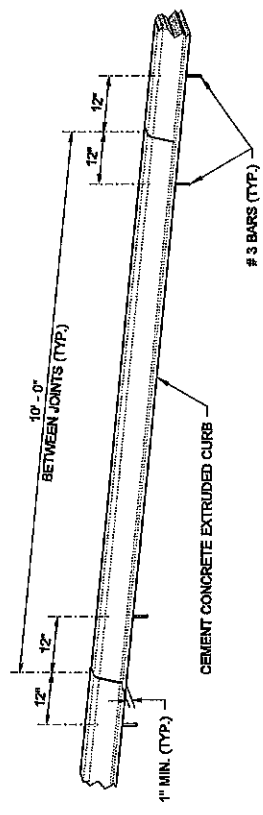
TYPE 4
(CEMENT CONCRETE)



TYPE 5
(CEMENT CONCRETE)



TYPE 6
(CEMENT CONCRETE)



SPACING OF ANCHOR BARS
(FOR TYPES 4, 5, AND 6)

NOTE
JOINTS MAY BE FORMED DURING INSTALLATION USING A RIGID DIVIDER OR SAWCUT AFTER CONCRETE CURES TO MINIMUM STRENGTH.



EXPIRES AUGUST 26, 2007

EXTRUDED CURB
STANDARD PLAN F-10.42-00

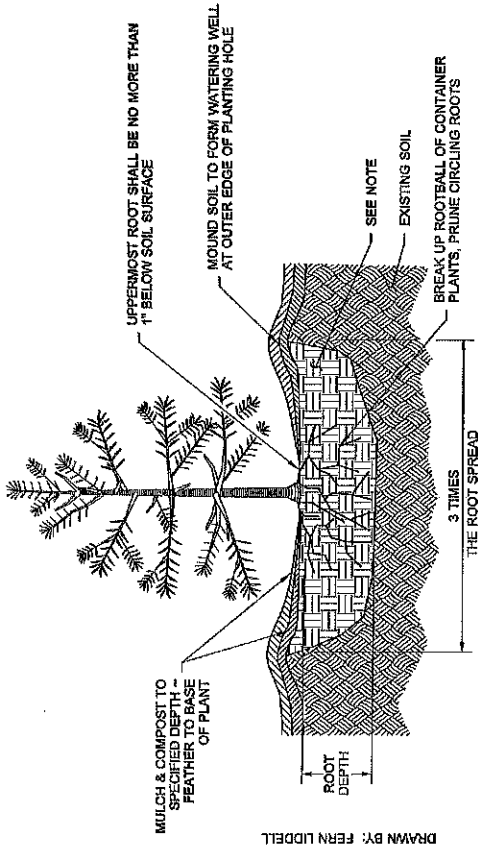
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Ken L. Smith
 STATE LICENSE ENGINEER
 Washington State Department of Transportation
 DATE
01-23-07

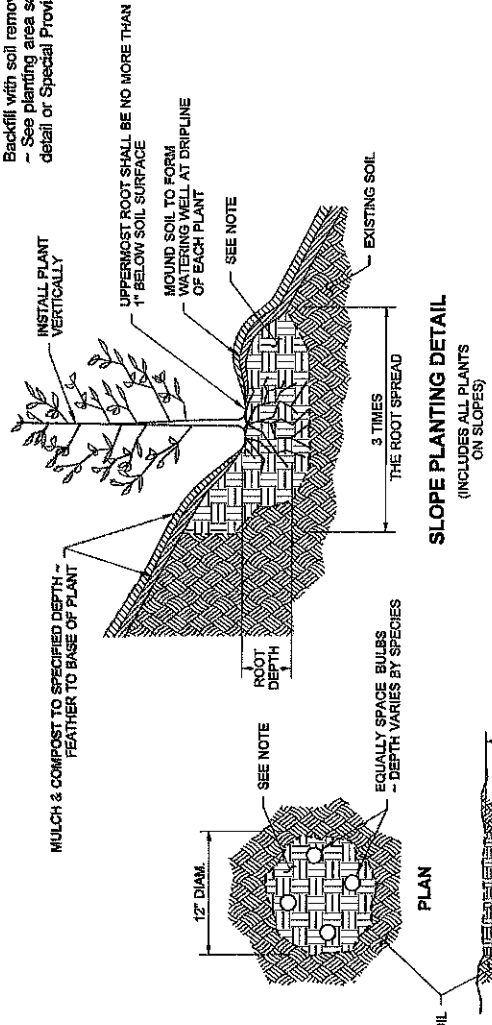
THIS PLAN IS NOT A FINAL ENGINEERING DOCUMENT. IT IS FOR INFORMATION ONLY. IT IS SUBJECT TO CHANGE WITHOUT NOTICE. A COPY MAY BE OBTAINED UPON REQUEST.

NOTE

Backfill with soil removed from hole
- See planting area soil preparation detail or Special Provisions.

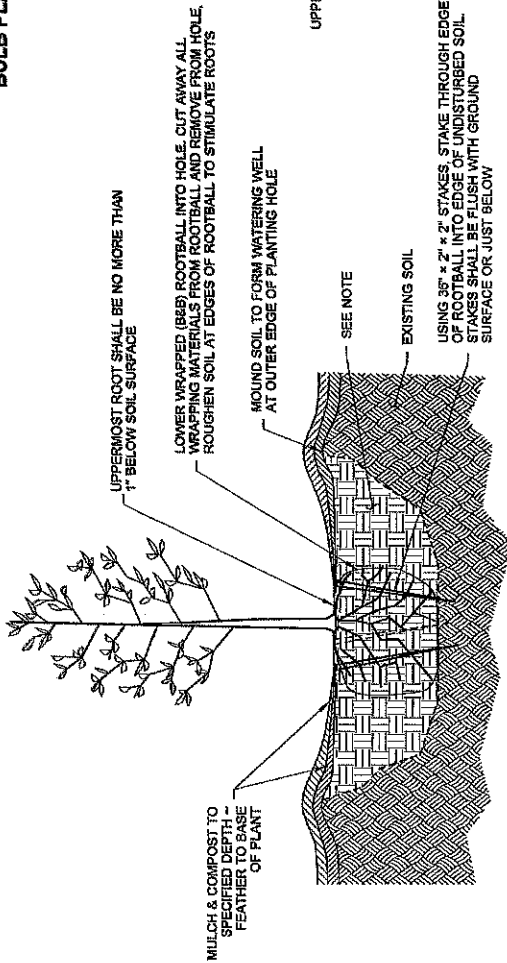


SHRUB, TREE AND GROUND COVER PLANTING DETAIL



SLOPE PLANTING DETAIL
(INCLUDES ALL PLANTS ON SLOPES)

BULB PLANTING DETAIL



TUBER OR RHIZOME PLANTING DETAIL

STREET TREE PLANTING AND STAKING DETAIL
(APPLIES TO CONTAINER, BALL AND BURLAPPED, (B&B) DECIDUOUS AND CONIFERS)

EMERGENT PLANTING DETAIL

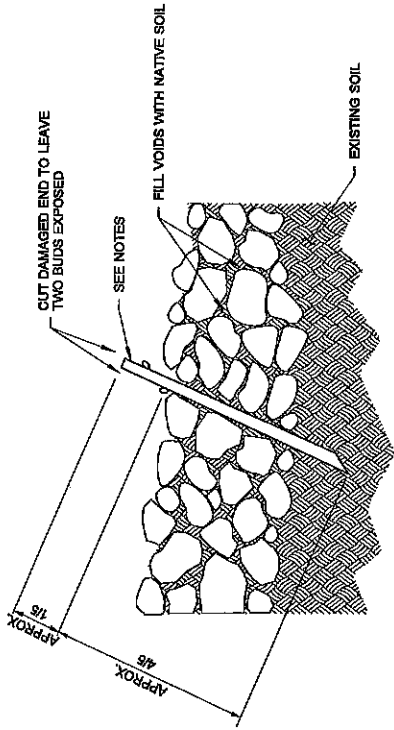


STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT
SALLY A. ANDERSON
CERTIFICATE NO. 000372

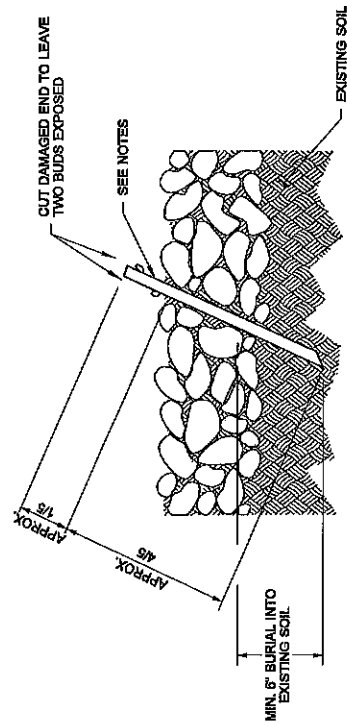
THIS PLAN IS PART OF A LARGER PROJECT AND IS NOT TO BE CONSIDERED SEPARATELY. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS A PORTION OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, A DEPARTMENT OF TRANSPORTATION PROJECT.

TREE AND SHRUB PLANTING DETAILS
STANDARD PLAN H-10.10-00
SHEET 1 OF 1 SHEET

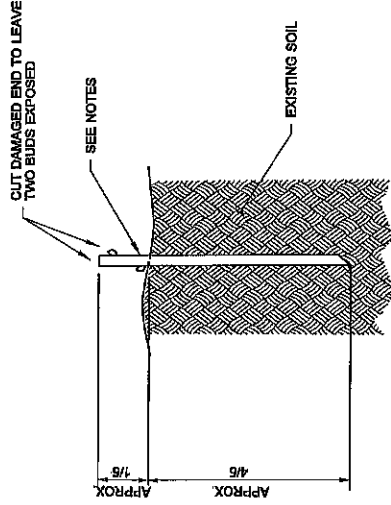
APPROVED FOR PUBLICATION
Pasco Bakofich III
STATE DESIGN ENGINEER
DATE 07-03-08
Washington State Department of Transportation



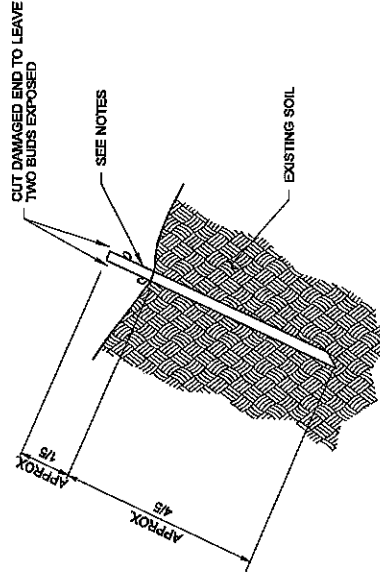
LIVE STAKE INSTALLATION IN RIPRAP



LIVE STAKE INSTALLATION IN QUARRY SPALLS



TYPICAL LIVE STAKE INSTALLATION



LIVE STAKE INSTALLATION ON SLOPES

NOTES

1. See Plant Material List for size and type of live stake.
2. Do not use axe or sledge for driving stakes.
3. In hard ground use an iron bar or star drill to prepare the holes for the stake.
4. Avoid stripping bark or bruising stakes during installation.
5. Fill void around cutting with soil.

DRAWN BY: FERN LIDDELL



STATE OF
WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

SALLY A. ANDERSON
CERTIFICATE NO. 000372

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**LIVE STAKE
INSTALLATIONS**

STANDARD PLAN H-10.15-00

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

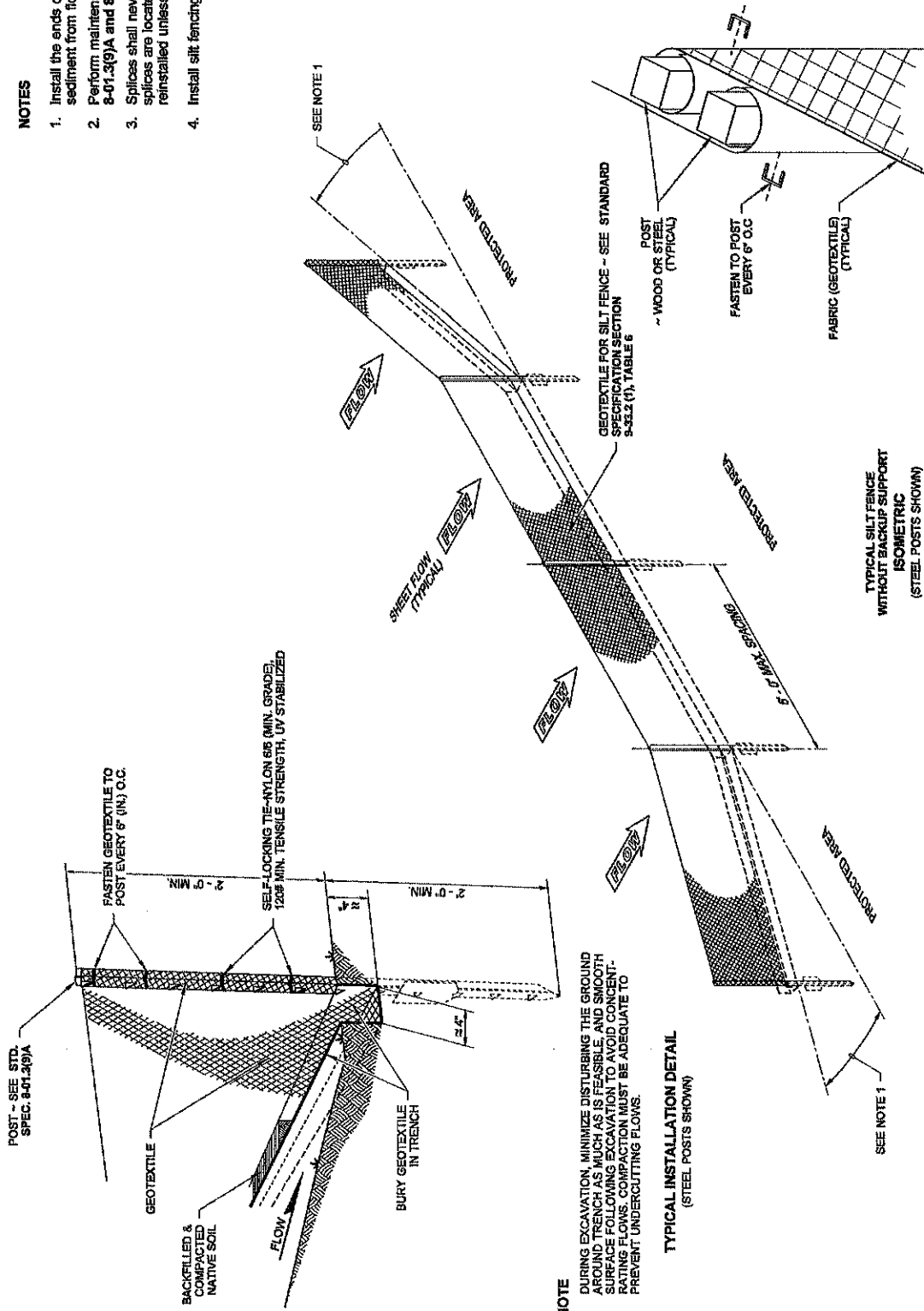
Pasco Bakofich III DATE **07-03-08**

REGISTERED ENGINEER

Washington State Department of Transportation

NOTES

1. Install the ends of the silt fence to point slightly upslope to prevent sediment from flowing around the ends of the fence.
2. Perform maintenance in accordance with Standard Specifications 8-01.3(9)A and 8-01.3(15).
3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fences may need to be reinstalled unless the Project Engineer approves the installation.
4. Install silt fencing parallel to mapped contour lines.



NOTE
 DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENTRATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.

SPLICE DETAIL
 (WOOD POSTS SHOWN)



STATE OF WASHINGTON
 REGISTERED
 LANDSCAPE ARCHITECT
 SANDRA L. SALISBURY
 CERTIFICATE NO. 000880

THIS PLAN SHALL BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED ON THESE PLANS. IT IS NOT TO BE USED FOR ANY OTHER PROJECT OR SITE. THE ORIGINAL SHALL BE FILED IN THE ARCHITECT'S OFFICE. APPROVED FOR PUBLICATION, A COPY ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. ACCEPTANCE IS LIMITED TO THE PROJECT AND SITE IDENTIFIED ON THESE PLANS.

SILT FENCE

STANDARD PLAN I-30.15-02

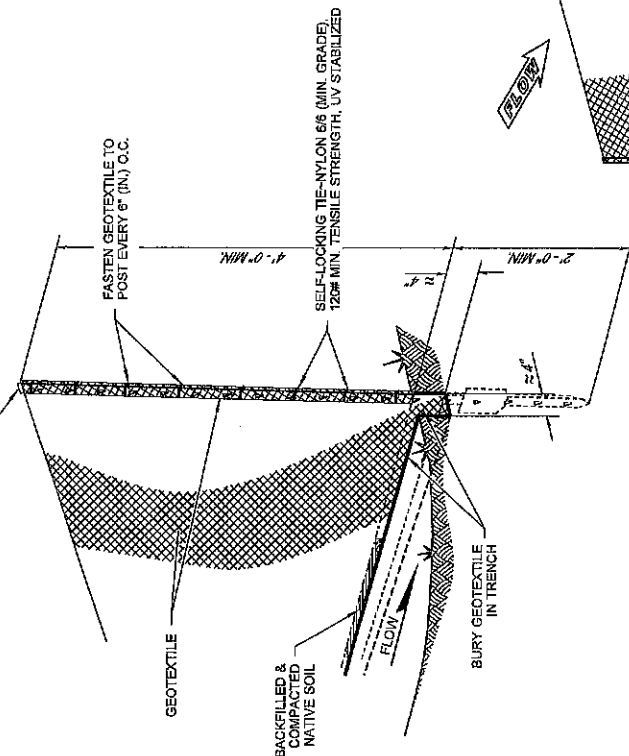
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakofich III
 STATE DESIGN ENGINEER
 DATE 3/22/13

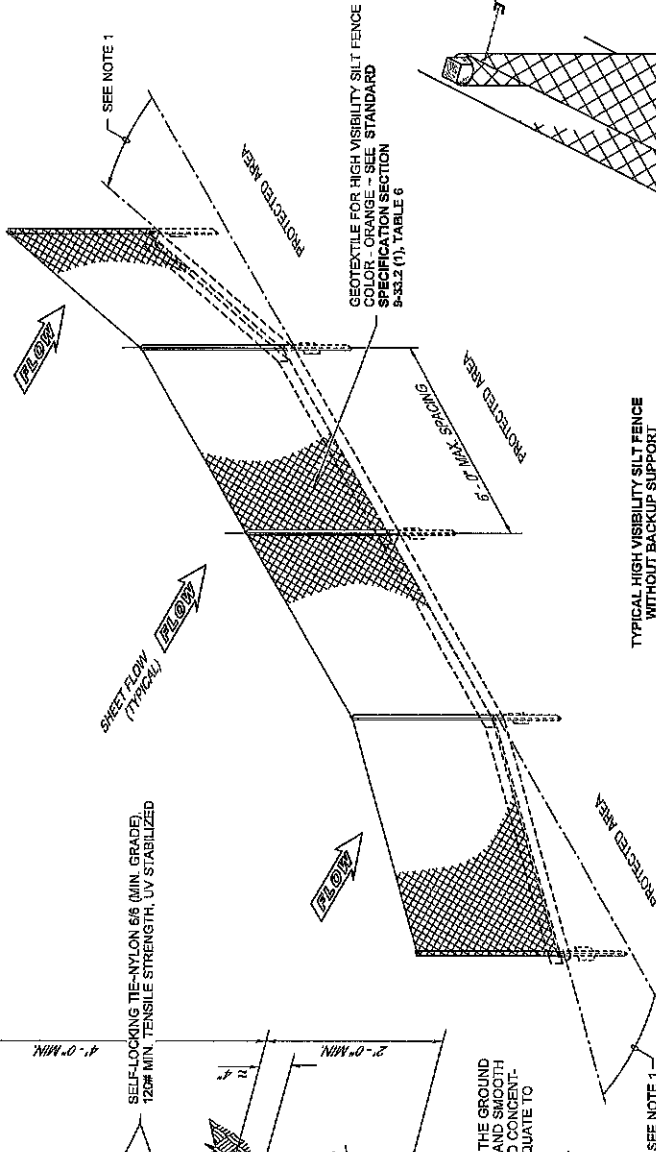
Washington State Department of Transportation

POST - SEE STANDARD SPECIFICATION SECTION 8-01.3(9)A



NOTE
 DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCHES, WHICH CAN WEAKEN THE SILT FENCE. SURFACE FOLLOWING EXCAVATION TO AVOID CONCENTRATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

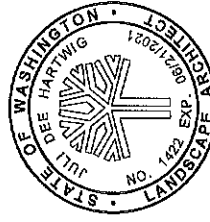
TYPICAL INSTALLATION DETAIL
 (STEEL POSTS SHOWN)



TYPICAL HIGH VISIBILITY SILT FENCE WITHOUT BACKUP SUPPORT
 ISOMETRIC
 (STEEL POSTS SHOWN)

NOTES

1. Angle Terminal end uphill 24" (in) to 48" (in) to prevent flow around fence (Typical).
2. Perform maintenance in accordance with **Standard Specification, Sections 8-01.3(9)A and 8-01.3(15)**.
3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
4. Install silt fencing parallel to mapped contour lines.



Hartwig, Julie
 Jun 4 2019 10:48 AM
 design

HIGH VISIBILITY SILT FENCE

STANDARD PLAN I-30.17-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Rev. 03/2019 7:52 AM

STATE DESIGNER

Washington State Department of Transportation

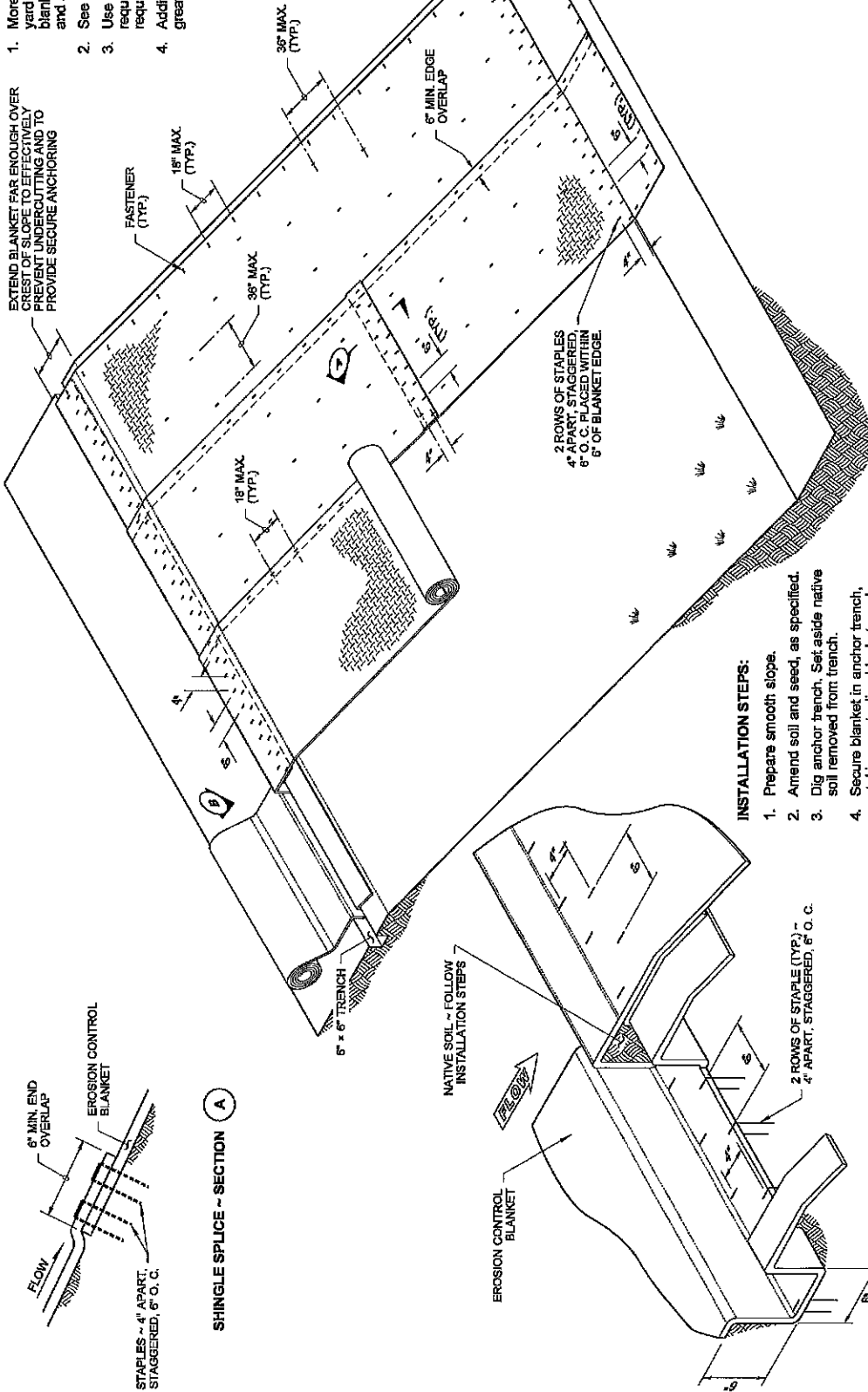
SPliced FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP. JOINING SECTIONS SHALL NOT BE PLACED IN LOW SPOTS OR IN SUMP LOCATIONS.

SPlice DETAIL
 (WOOD POSTS SHOWN)

NOTES

1. More than the minimum of one fastener per square yard may be required due to conditions such as blanket composition, soil type, surface uniformity, and slope steepness.
2. See Standard Specification 8-01.3(3) and 9-14.5(2).
3. Use manufacturer's requirements. When manufacturer's requirements are not provided, use installation requirements shown on Standard Plans.
4. Additional staples may be required on slopes greater than 3H : 1V.

EXTEND BLANKET FAR ENOUGH OVER CREST OF SLOPE TO EFFECTIVELY PREVENT UNDERCUTTING AND TO PROVIDE SECURE ANCHORING



ISOMETRIC VIEW

INSTALLATION STEPS:

1. Prepare smooth slope.
2. Amend soil and seed, as specified.
3. Dig anchor trench. Set aside native soil removed from trench.
4. Secure blanket in anchor trench, staking or stapling blanket as shown.
5. Replace native soil previously removed from trench.
6. Roll blanket down the slope in a controlled manner, taking care to remove excess slack, and taking care not to stretch blanket.
7. Stake or staple blanket as shown so there are no gaps between the blanket and the soil. Staple while unrolling blanket to minimize walking on blanket.

INITIAL ANCHOR ~ DETAIL B

SHINGLE SPLICE ~ SECTION A



STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
SANDRA L. SALISBURY
SANDRA L. SALISBURY
LICENSE NO. 860
DATE: 08/17/13

BIODEGRADABLE EROSION CONTROL BLANKET PLACEMENT FOR SLOPES STANDARD PLAN I-60.10-01

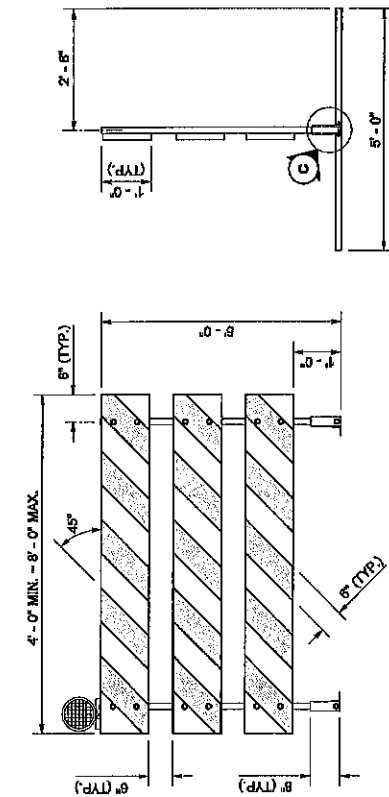
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Pasco Bakofich III
SITE DESIGN ENGINEER
Washington State Department of Transportation
DATE: 6/10/13

NOTE: THIS PLAN IS A TYPE A PLAN. IT IS THE RESPONSIBILITY OF THE USER TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS FOR PUBLICATION. A COPY MAY BE OBTAINED FROM THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED FROM THE USER.

NOTES

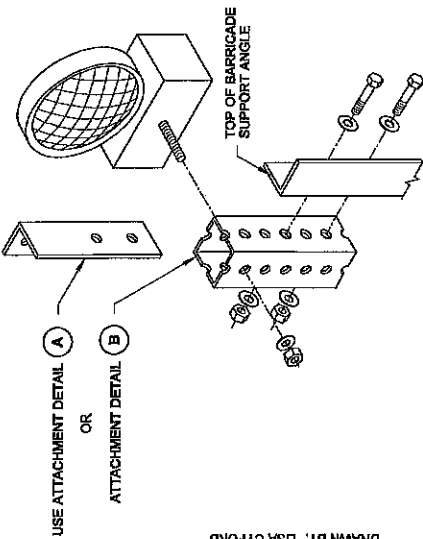
1. All fasteners may be zinc plated, galvanized or stainless steel. All steel angle and tubular steel shall be hot-rolled, high carbon steel, painted or galvanized.
2. Install one lightweight Type A Low-Intensity flashing warning light on the traffic side of the barricade. Install two Type A Low-Intensity flashing warning lights per barricade when the barricades are used to close a roadway. Attach the light to the barricade according to the light manufacturer's recommendations or use the details shown on this plan.
3. Stripes on barricade rails shall be alternating orange and white retroreflective stripes (sloping downward at an angle of 46 degrees in the direction traffic is to pass).
4. The Type 3 barricade design shown on this plan meets the crash test requirements of NCHRP 350. Alternative designs may be approved if they conform to the NCHRP 350 crash test criteria and the MUTCD.
5. When a sign is mounted on the barricade, it shall be securely bolted to at least two plywood panels. The top of the sign shall not be higher than the top panel of the barricade.
6. When sandbags are used in freezing weather, Urea fertilizer shall be mixed with the sand in a quantity to prevent the sand from freezing.



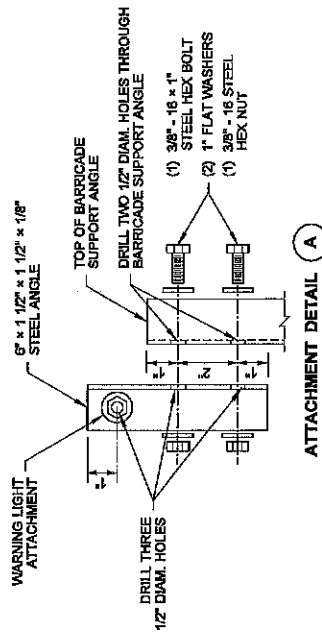
SIDE

ELEVATION

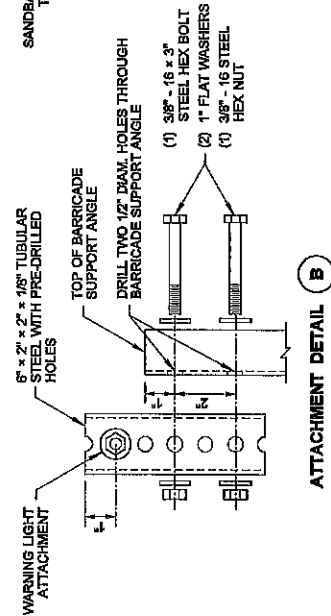
TYPE 3 BARRICADE



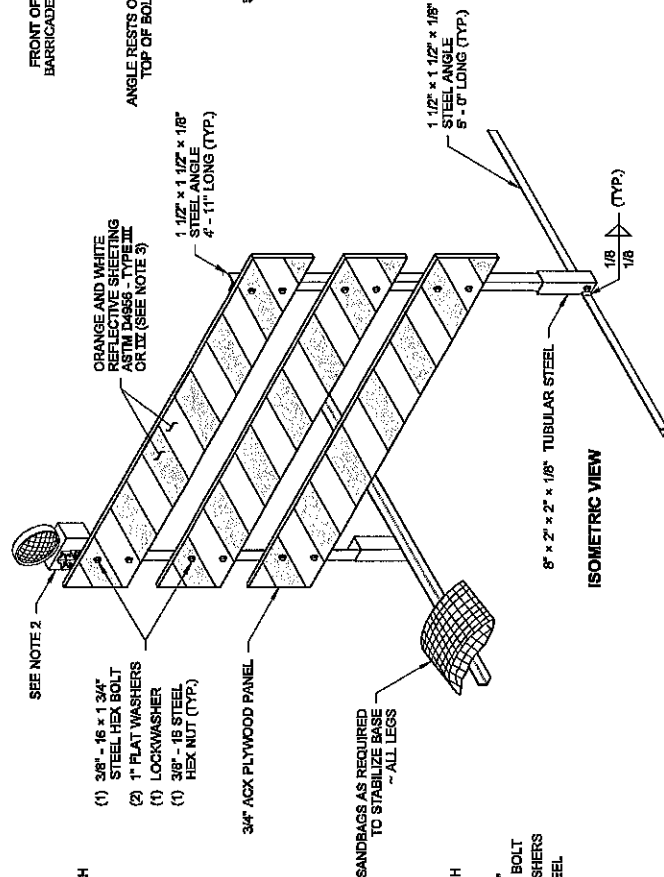
WARNING LIGHT ATTACHMENT DETAIL



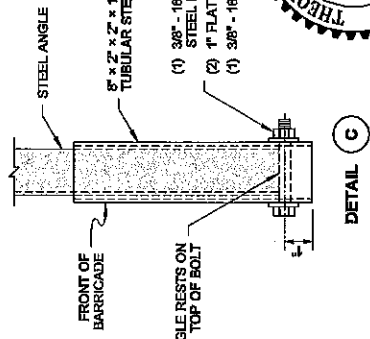
ATTACHMENT DETAIL A



ATTACHMENT DETAIL B



ISOMETRIC VIEW

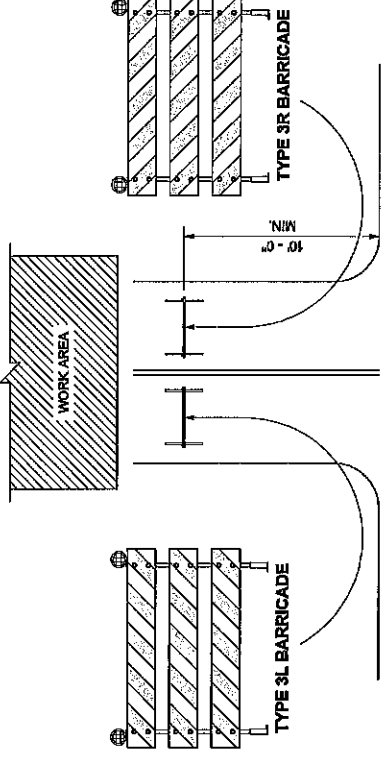


DETAIL C

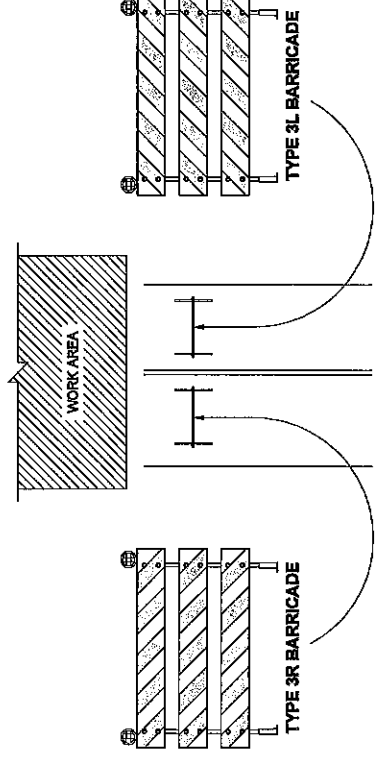


TYPE 3 BARRICADE
STANDARD PLAN K-80.20-00

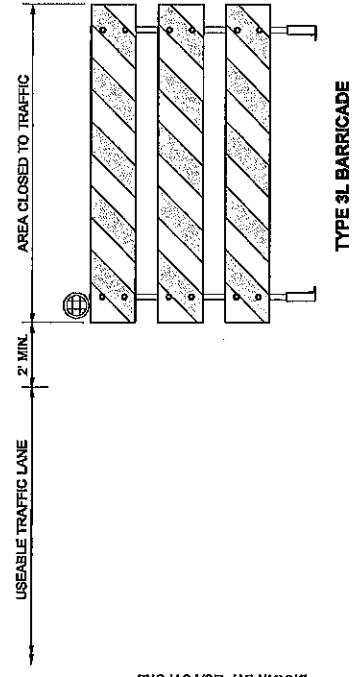
SHEET 1 OF 2 SHEETS
APPROVED FOR PUBLICATION
Kevin J. Dayton
STATE DESIGN ENGINEER
Washington State Department of Transportation
DATE: 12-20-06



ROAD CLOSURE AT INTERSECTION

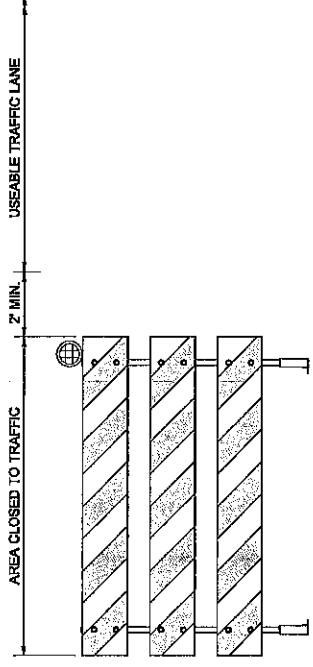


ROAD CLOSURE AT OTHER LOCATIONS



TYPE 3L BARRICADE

STRIPES ON THE BARRICADES SHALL SLOPE DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS



TYPE 3R BARRICADE

BARRICADE PLACEMENT

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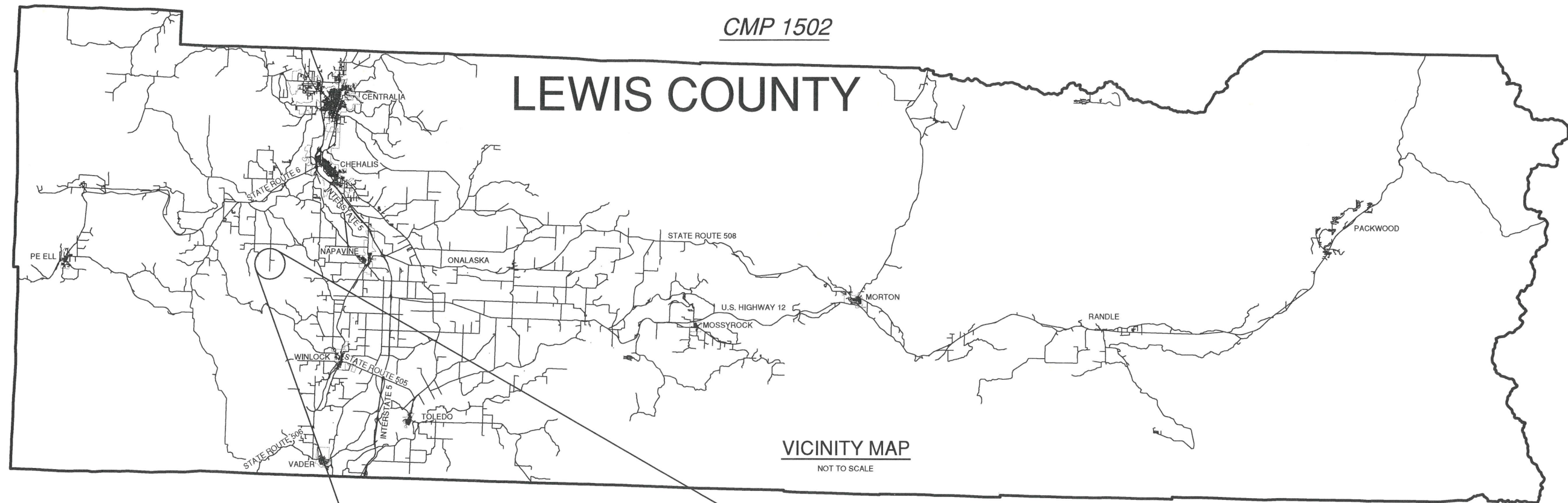
THORP J. TREPANIER
REGISTERED PROFESSIONAL ENGINEER
STATE OF WASHINGTON
EXPIRES AUGUST 9, 2007

TYPE 3 BARRICADE
STANDARD PLAN K-80.20-00
SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION
Kevin J. Dayton
STATE DESIGN ENGINEER
Washington State Department of Transportation
DATE: 12-20-06

S:\Engineer\Road Folders\C Cousins RD - 22850\Cousins MP 3.15 (Culvert)\drawings\100%\100% CONSTR. COUSINS MP 3.15 - CMP1502

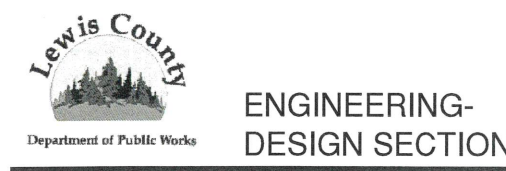
COUSINS ROAD M.P. 3.15 CULVERT REPLACEMENT PROJECT



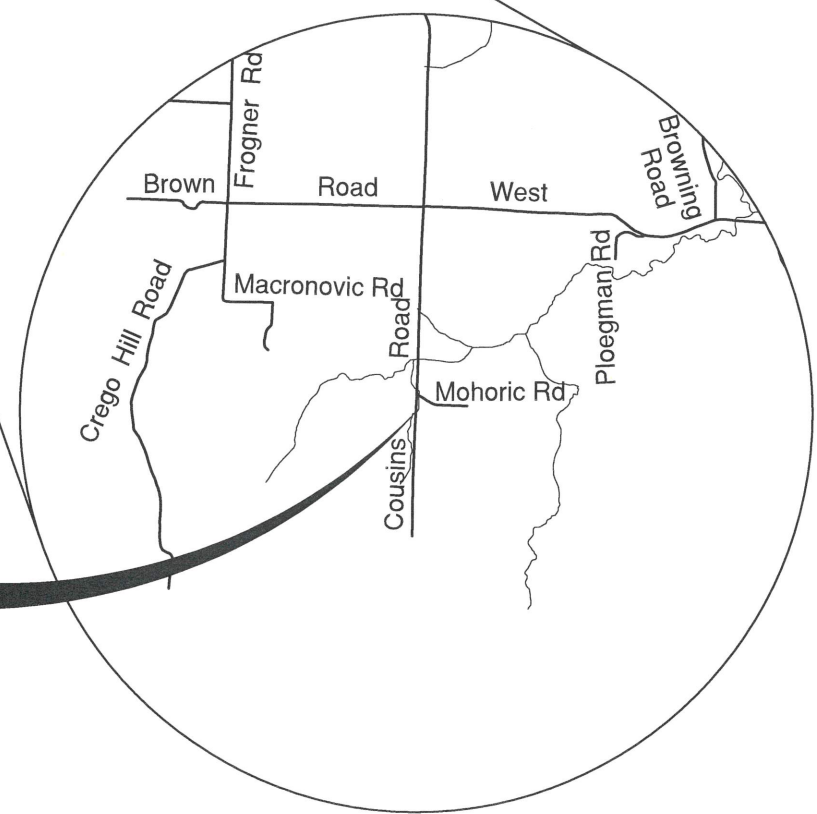
LEWIS COUNTY
DEPARTMENT OF PUBLIC WORKS
APPROVED FOR CONSTRUCTION:

[Signature] 2-8-24
County Engineer Date

COMMISSIONERS:
SEAN SWOPE, DISTRICT 1
LINDSEY R. POLLOCK, DVM, DISTRICT 2
GARY STAMPER, DISTRICT 3



PROJECT LOCATION
COUSINS RD M.P. 3.15



SHEET INDEX	
NO.	DESCRIPTION
1	VICINITY MAP AND SHEET INDEX
2	SUMMARY OF QUANTITIES
3	LEGEND
4	T.E.S.C. AND TEMPORARY STREAM BYPASS PLAN
5	DRIVEWAY PLAN AND PROFILE
6	DETOUR ROAD PLAN AND PROFILE
7	STRUCTURE EXCAVATION PLAN AND PROFILE
8	STRUCTURAL EARTH WALL PLAN AND PROFILE
9	STRUCTURAL EARTH WALL DETAILS
10	ROAD PLAN AND PROFILE
11	ROAD DETAILS
12	GUARDRAIL PLAN
13	STREAM PLAN AND PROFILE
14	STREAM CROSS SECTIONS
15	TRAFFIC CONTROL PLAN




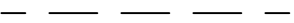









ITEM NUMBER	STD. ITEM NO.	ITEM DESCRIPTION	TOTAL QUANTITY	UNIT
1	0001	MOBILIZATION	LUMP SUM	LUMP SUM
2	6971	PROJECT TEMPORARY TRAFFIC CONTROL	LUMP SUM	LUMP SUM
3	0025	CLEARING AND GRUBBING	0.5	ACRE
4	0050	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LUMP SUM	LUMP SUM
5	0310	ROADWAY EXCAVATION INCL. HAUL	315	C.Y.
6	S.P.	ROCK EXCAVATION (FORCE ACCOUNT)	CALCULATED	CALCULATED
7	S.P.	TEMPORARY DETOUR ROAD	LUMP SUM	LUMP SUM
8	1040	CHANNEL EXCAVATION INCLUDING HAUL	425	C.Y.
9	4006	STRUCTURE EXCAVATION CLASS A INCL. HAUL	641	C.Y.
10	S.P.	TEMPORARY STREAM DIVERSION	LUMP SUM	LUMP SUM
11	7490	TRIMMING AND CLEANUP	LUMP SUM	LUMP SUM
12	5100	CRUSHED SURFACING BASE COURSE	350	TON
13	5120	CRUSHED SURFACING TOP COURSE	90	TON
14	S.P.	SHOULDER FINISHING	20	TON
15	S.P.	HMA CL. 3/8 IN. PG 58H-22 FIBER REINFORCED	300	TON
16	4300	SUPERSTRUCTURE - COUSINS ROAD MP 3.15 BRIDGE	LUMP SUM	LUMP SUM
17	7169	STRUCTURAL EARTH WALL	670	S.F.
18	7568	GRAVEL BORROW FOR STRUCTURAL EARTH WALL INCL. HAUL	275	C.Y.
19	1182	SCHEDULE A CULV. PIPE 18 IN. DIAM.	100	L.F.
20	6490	EROSION/WATER POLLUTION CONTROL	ESTIMATE	DOLLAR
21	6455	BIODEGRADABLE EROSION CONTROL BLANKET	700	S.Y.
22	6635	HIGH VISIBILITY SILT FENCE	310	L.F.
23	6414	SEEDING AND MULCHING	0.5	ACRE
24	S.P.	STREAMSIDE MITIGATION PLANTING	LUMP SUM	LUMP SUM
25	6727	EXTRUDED CURB (TYPE 2 OR 5)	188	L.F.
26	6757	BEAM GUARDRAIL TYPE 31	137.5	L.F.
27	6766	BEAM GUARDRAIL ANCHOR TYPE 10	1	EACH
28	6719	BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL	3	EACH
29	1093	STREAMBED MIX	272	TON
30	S.P.	ROCK FOR EROSION AND SCOUR PROTECTION CLASS B	200	TON
31	1086	QUARRY SPALLS	50	TON
32	6806	PAINT LINE	1500	L.F.
33	7725	REIMBURSEMENT FOR THIRD PARTY DAMAGE	ESTIMATE	DOLLAR
34	7728	MINOR CHANGE	CALCULATED	CALCULATED
35	7736	SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN	LUMP SUM	LUMP SUM

NO.	DATE	REVISION	BY	APP.






LEGEND









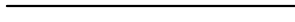
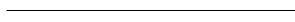
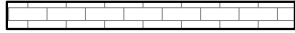

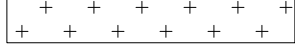

EXISTING FEATURES

-  CONIFER TREE
-  DECIDUOUS TREE
-  EDGE OF ROAD
-  SHOULDER
-  DITCH
-  EDGE OF STREAM
-  EXISTING CULVERT
-  INDEX CONTOUR LINES
-  CONTOUR LINES
-  STREAM SURFACE (AT TIME OF SURVEY)
-  BST SURFACE ROADWAY
-  WIRE FENCE
-  WETLAND

SURVEY SYMBOLS

-  SECTION LINE
-  RIGHT OF WAY
-  PARCEL LINE

NEW CONSTRUCTION

-  NO CONSTRUCTION ACTIVITY OUTSIDE THIS BOUNDARY
-  CENTERLINE
-  HIGH VISIBILITY SILT FENCE
-  HMA
-  GUARDRAIL LANDING / SHOULDER ROCK
-  CUT LIMIT
-  FILL LIMIT
-  DITCH
-  INDEX CONTOUR LINES
-  CONTOUR LINES
-  CMU BLOCK
-  EXCAVATION TO BEDROCK
-  TEMPORARY DETOUR ROAD
-  DRIVEWAY

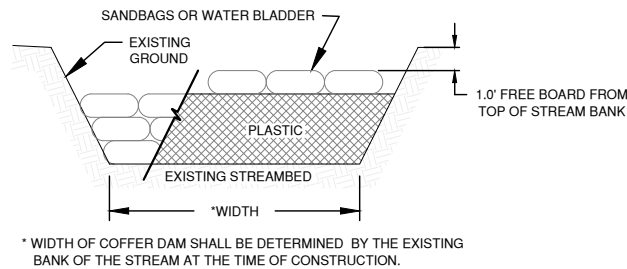
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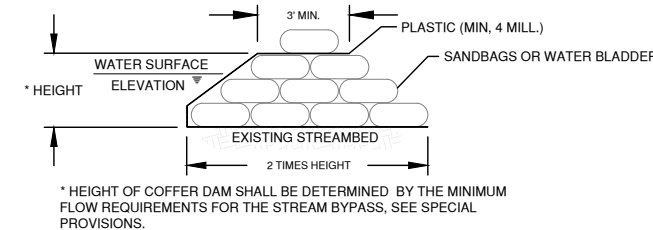
SEC. 34 & 35 TWP. 13N. RGE. 3W. W.M.

LAND LINES ARE APPROXIMATE

HIGH VISIBILITY SILT FENCE
STA: 11+50 TO 13+00
(DISTANCE FROM ϵ VARIES)



COFFER DAM - PROFILE VIEW
NOT TO SCALE



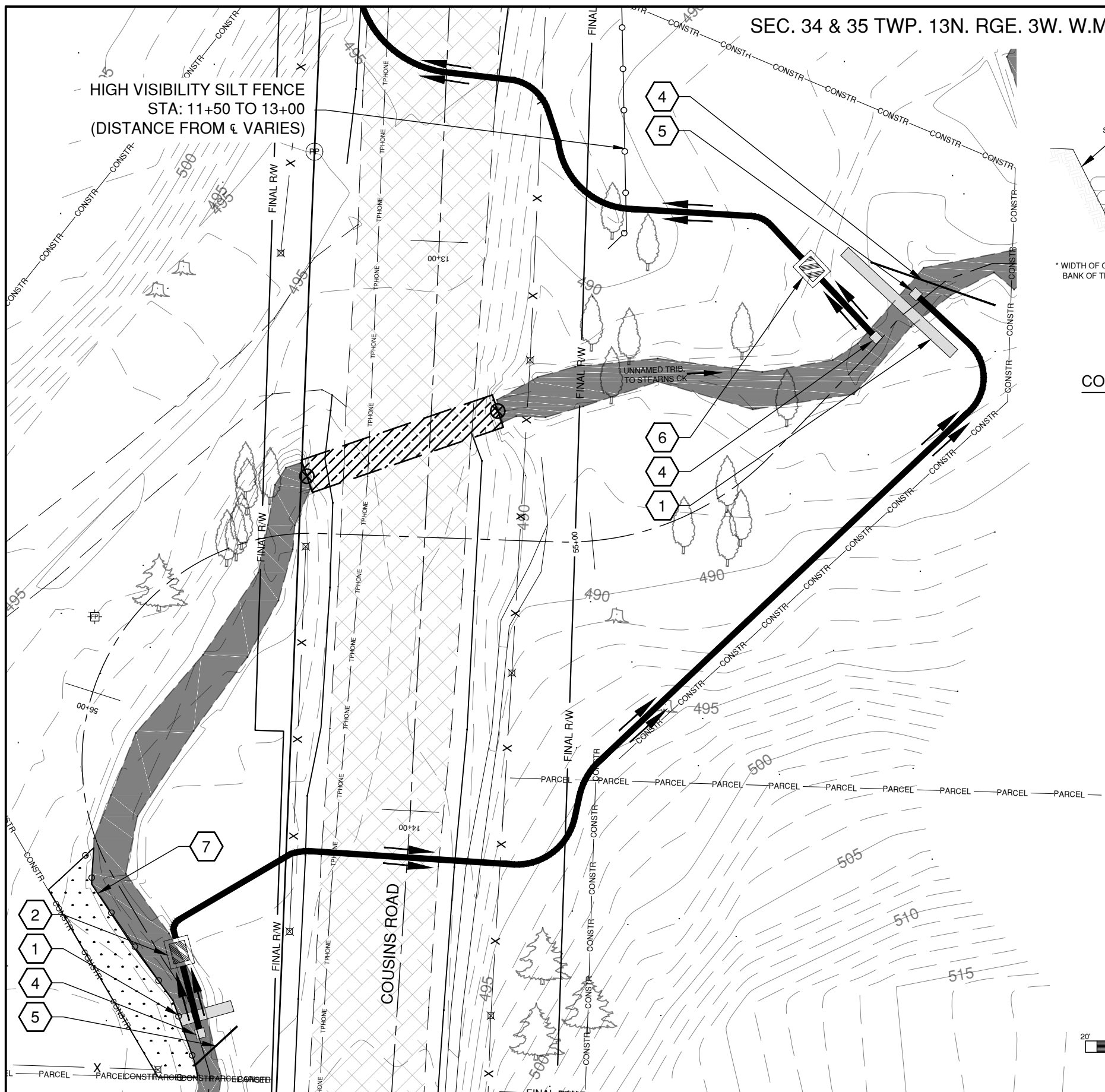
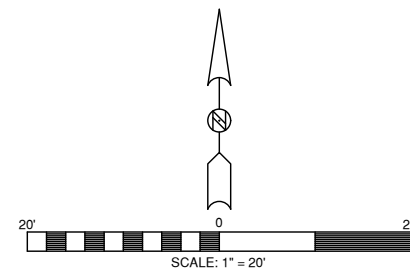
COFFER DAM - SECTION VIEW
NOT TO SCALE

NOTES:

1. SANDBAGS SHALL BE USED IN ACCORDANCE WITH APPLICABLE PERMITS.
2. INSTALL COFFER DAM AND DEWATER SITE PRIOR TO CONSTRUCTION.
3. PROVIDE 1.0' FREEBOARD, SEE SPECIAL PROVISIONS.

CONSTRUCTION NOTES:

1. INSTALL COFFERDAM PER DETAILS ABOVE AT STREAM STATIONS 56+62 AND 54+30.
2. INSTALL SPILL CONTAINED PUMP SYSTEM FOR TEMPORARY STREAM DIVERSION.
3. INSTALL HIGH VISIBILITY SILT FENCE AS DIRECTED BY THE ENGINEER.
4. PUMP INTAKE SCREEN OVER ALL INTAKE AND OUTLET HOSES PER WDFW REQUIREMENTS.
5. FISH DIVERSION SCREEN UPSTREAM OF BYPASS INTAKE AND DOWNSTREAM OF BYPASS OUTLET PER HPA PROVISIONS, 30° ANGLE FROM PERPENDICULAR.
6. INSTALL SPILL CONTAINED PUMP SYSTEM FOR DEWATERING. PUMP WORK WATER NORTH ALONG APE APPROXIMATELY 120' TO DRAIN AWAY FROM PROJECT THROUGH DITCH, WITH STRAW WATTLES PLACED EVERY 25'.
7. HIGH VISIBILITY SILT FENCE ALONG NE LIMITS OF WETLAND AREA AND AS DIRECTED BY THE ENGINEER.



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Department of Public Works
2025 NE KRESKY AVE.
CHEHALIS WA 98532
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FAX # (360) 740-2719

DESIGNED BY : RTL
DRAWN BY : WSR
CHECKED BY :
DATE : 2/8/2021

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COUSINS ROAD MP 3.15
CULVERT REPLACEMENT

COUNTY MAINTENANCE PROJECT NO: 1502
T.E.S.C. AND TEMPORARY STREAM DIVERSION
PLAN

SHEET
4 OF 15

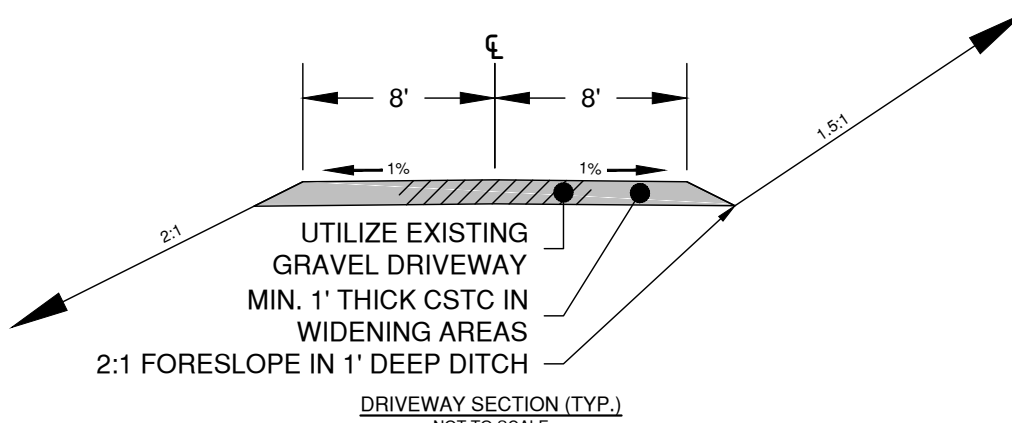
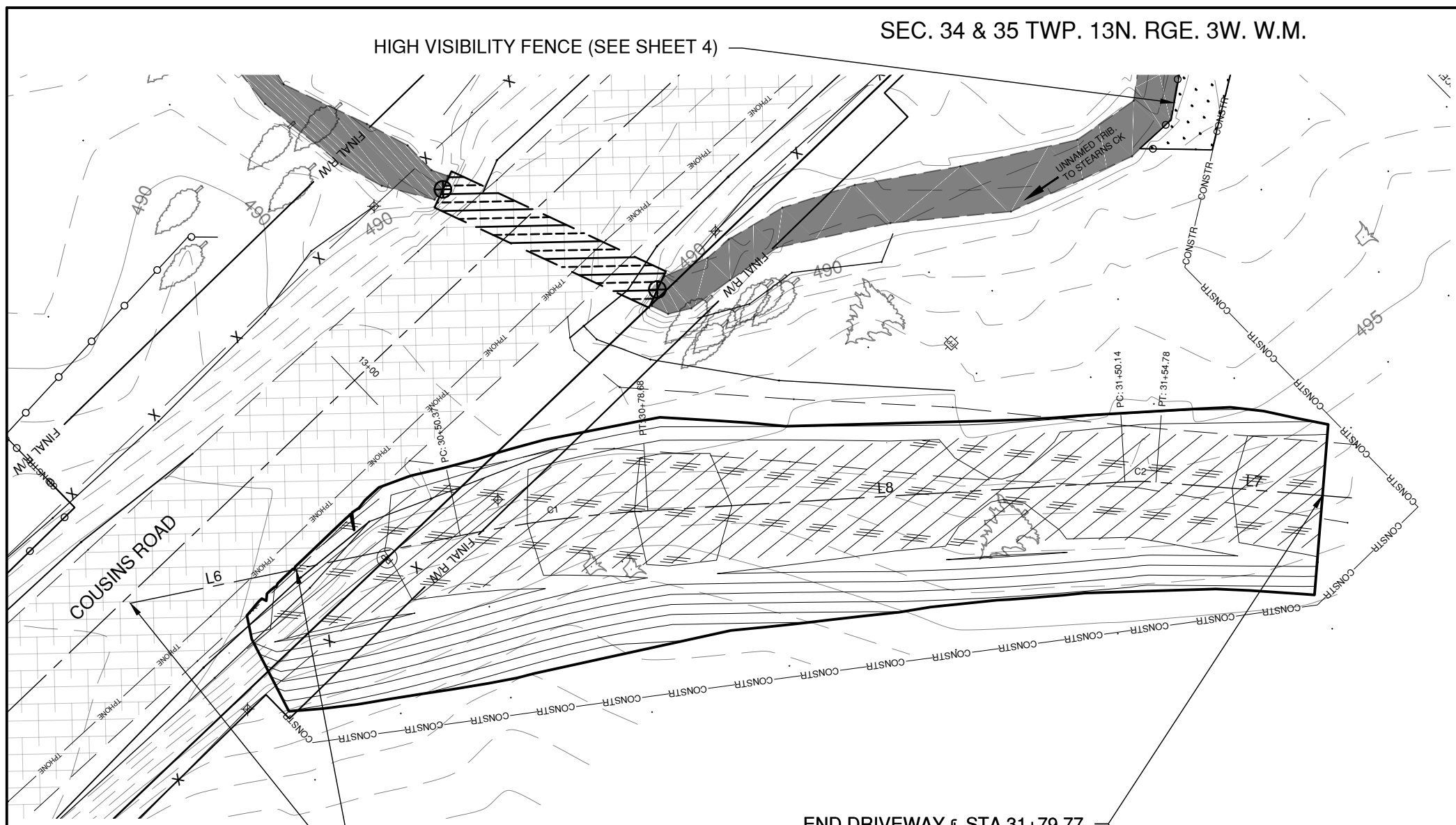
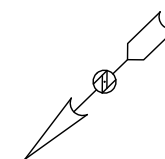


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Senior Engineer
Design/ENV.
Date: Feb 8, 2021

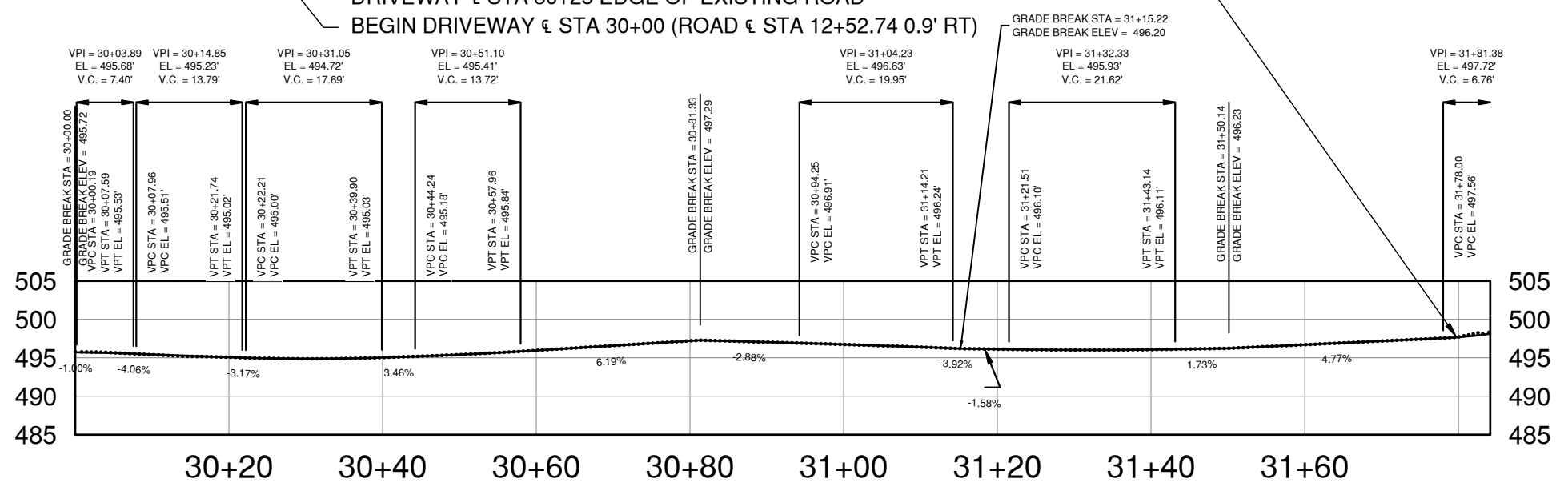


SEC. 34 & 35 TWP. 13N. RGE. 3W. W.M.

LAND LINES ARE APPROXIMATE



END DRIVEWAY € STA 31+79.77
 DRIVEWAY € STA 30+25 EDGE OF EXISTING ROAD
 BEGIN DRIVEWAY € STA 30+00 (ROAD € STA 12+52.74 0.9' RT)



DRIVEWAY DETOUR					
Number	Start Station	End Station	Line/Chord Direction	Length	Radius
L6	30+00.00	30+50.37	S34° 32' 37.47"W	50.37'	
C1	30+50.37	30+78.68	S38° 36' 00.12"W	28.32'	200'
L5	30+78.68	31+50.14	S42° 39' 22.77"W	71.46'	
C2	31+50.14	31+54.78	S46° 41' 21.82"W	4.63'	32.916'
L7	31+54.78	31+84.13	S50° 43' 20.88"W	29.36'	

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 CULVERT REPLACEMENT

COUNTY MAINTENANCE PROJECT NO: 1502
 DRIVEWAY PLAN AND PROFILE

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 OF
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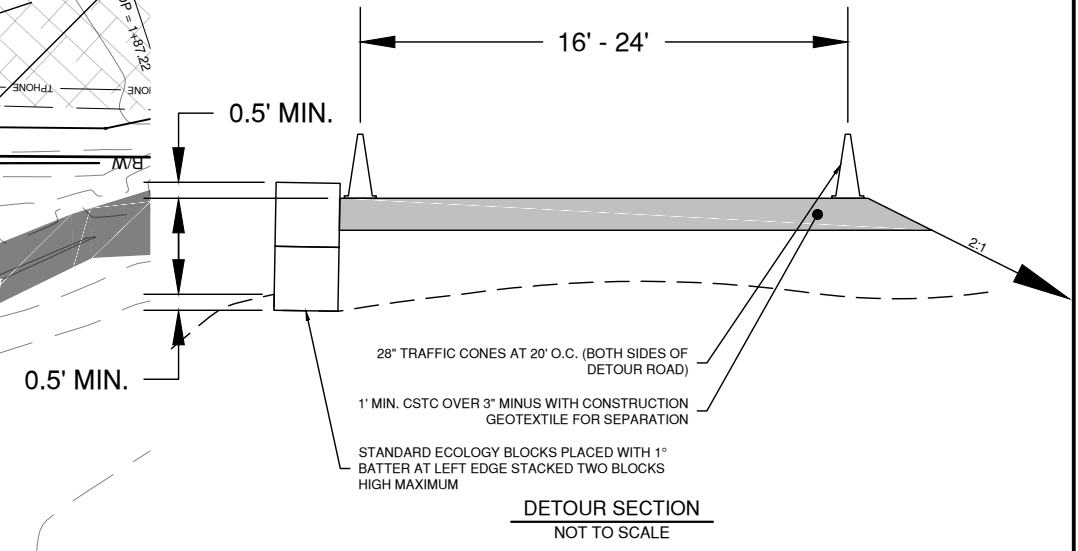
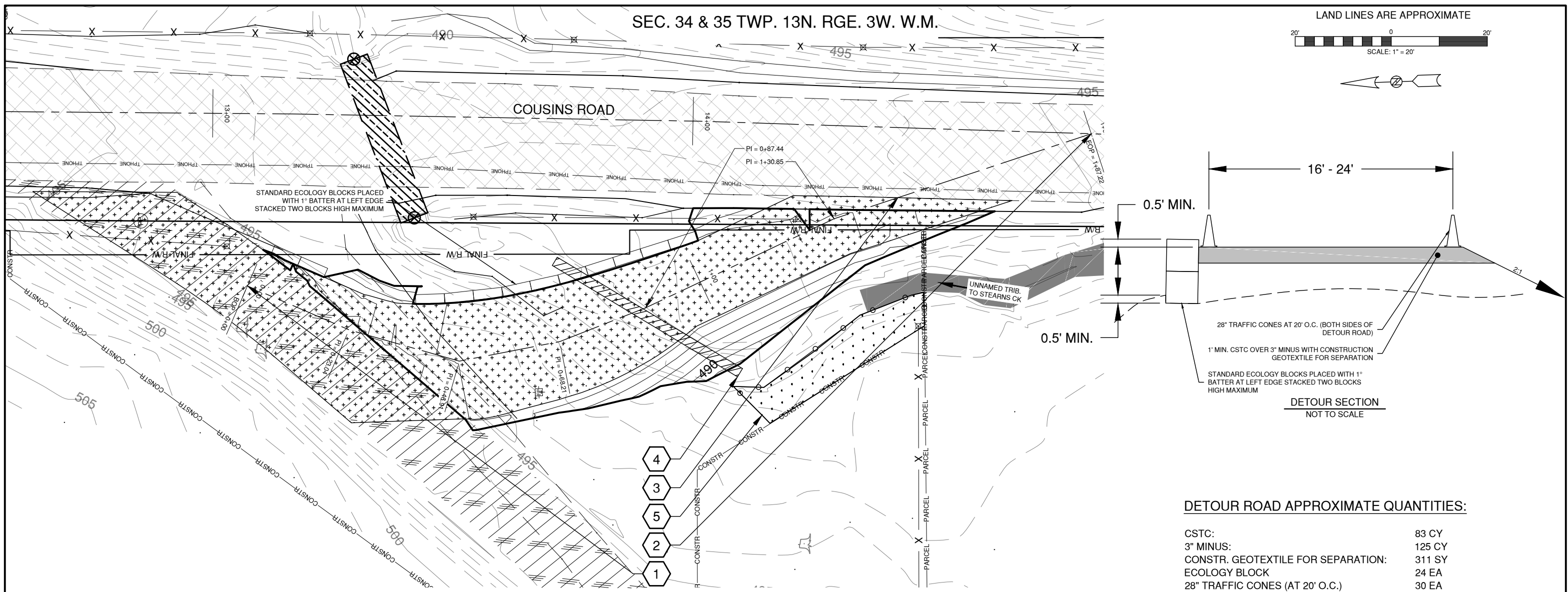
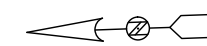
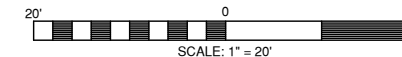


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LAND LINES ARE APPROXIMATE



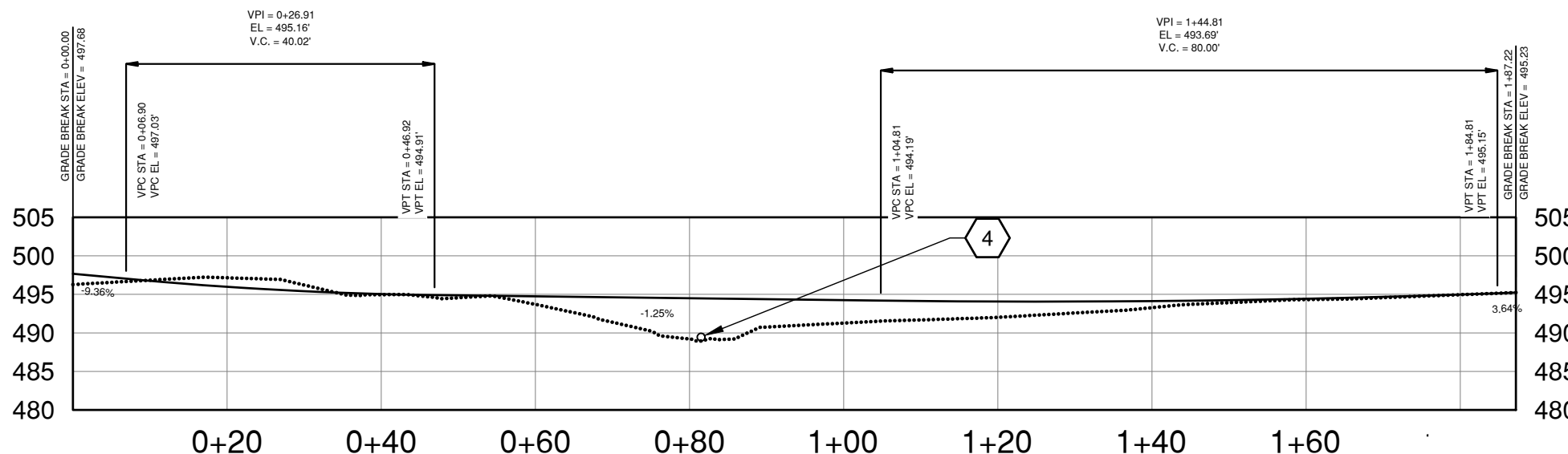
DETOUR ROAD APPROXIMATE QUANTITIES:

CSTC:	83 CY
3" MINUS:	125 CY
CONSTR. GEOTEXTILE FOR SEPARATION:	311 SY
ECOLOGY BLOCK	24 EA
28" TRAFFIC CONES (AT 20' O.C.)	30 EA
18" DIAM. CULVERT	45 LF

CONSTRUCTION NOTES:

MATERIAL PLACEMENT FOR DETOUR ROAD TO BEGIN ON NEWLY CONSTRUCTED DRIVEWAY AND END AT EXISTING EDGE OF PAVEMENT.

- 1 BEGINNING OF DETOUR: STA 0+00 N: 463457.871 E: 1003349.522 ELEV: 496.71 (DRIVEWAY CENTERLINE STA 30+65).
- 2 END OF DETOUR: STA 1+87.22 N: 463281.210 E: 1003375.136 ELEV: 495.54 (ROAD CENTERLINE STA 14+82.94).
- 3 DETOUR ROAD MEETS EXISTING EDGE OF PAVEMENT AT STA 1+36.66 N: 463329.731 E: 1003360.920 (ROAD CENTERLINE STA 14+35.47 17.41 RT).
- 4 18" Ø x 45' CULVERT PLACED WITHIN EXISTING STREAMBED AT DETOUR STA 0+81.49, TO BE REMOVED WITH DETOUR ROAD UPON COMPLETION OF ROADWAY.
- 5 HIGH VISIBILITY FENCE AT WETLAND (SEE SHEET 4).



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**COUSINS ROAD MP 3.15
 CULVERT REPLACEMENT**

COUNTY MAINTENANCE PROJECT NO: 1502
 ROAD DETOUR PLAN AND PROFILE

SHEET
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 OF
15

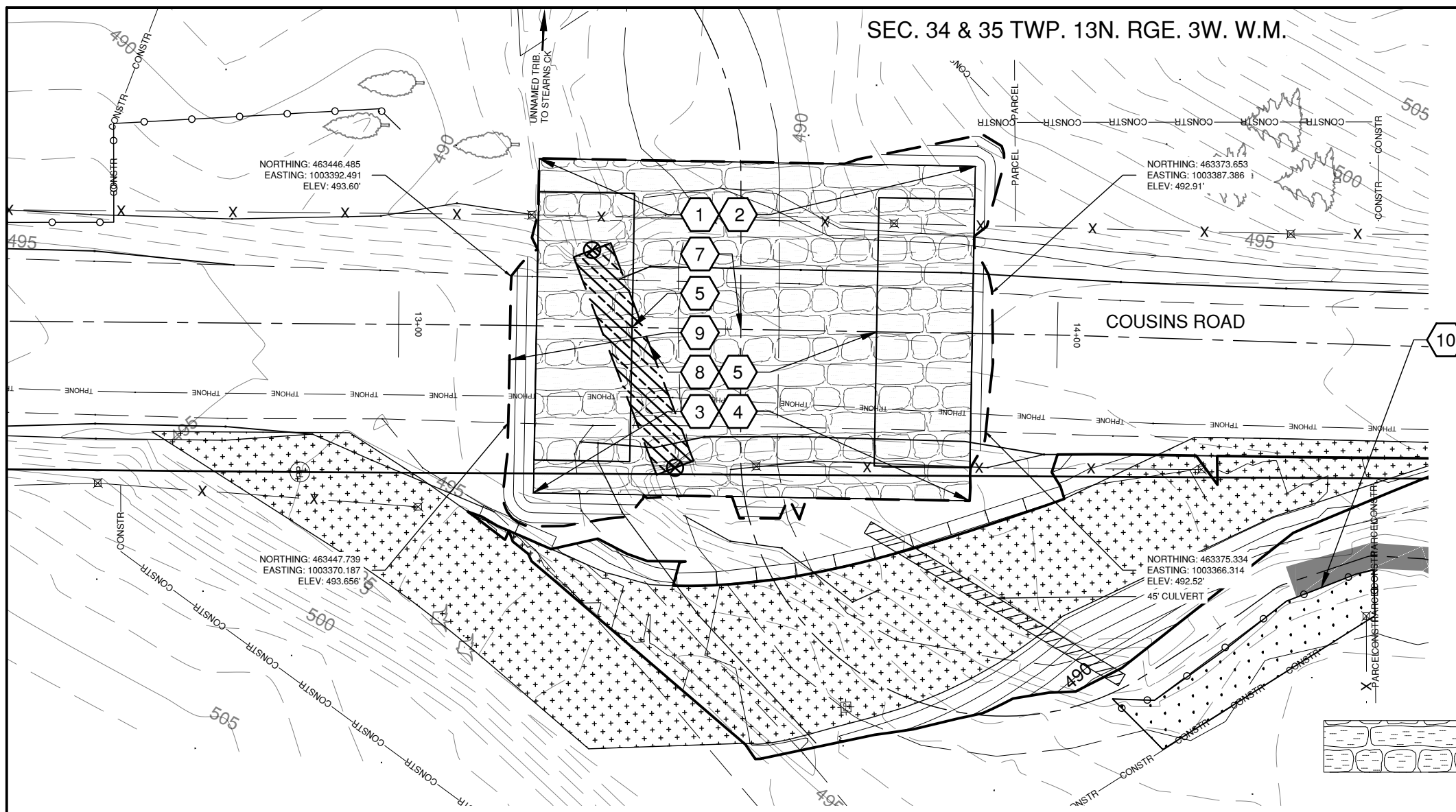


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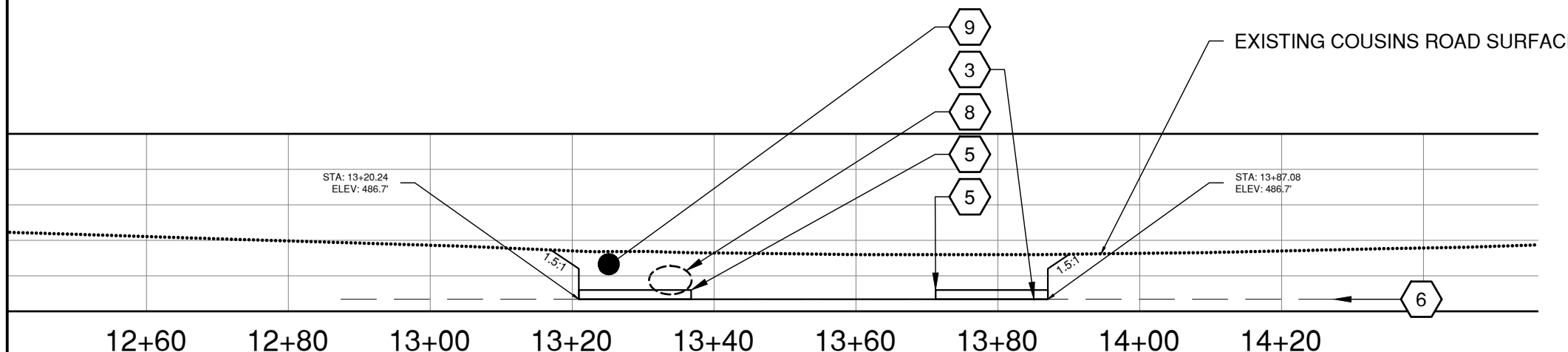
LAND LINES ARE APPROXIMATE



APPROXIMATE EXCAVATION TO BEDROCK

CONSTRUCTION NOTES:

- 1 BOTTOM OF CUT N: 463441.613 E: 1003410.126 ELEV: 486.7' STA 13+20.24 25.42 LT.
- 2 BOTTOM OF CUT N: 463444.270 E: 1003359.432 ELEV: 486.7' STA 13+20.24 25.42 RT.
- 3 BOTTOM OF CUT N: 463375.543 E: 1003406.659 ELEV: 486.7' STA 13+87.08 25.42 LT.
- 4 BOTTOM OF CUT N: 463378.205 E: 1003355.966 ELEV: 486.7' STA 13+87.08 25.42 RT.
- 5 ROAD STA 13+20.24 TO 13+34.76 AND 13+69.10 TO STA 13+83.62, 20.38' LT AND RT, INSTALL REINFORCED SOIL FOUNDATIONS (RSF) PER DETAILS ON SHEET 8. RSF TO BEAR ON BEDROCK THAT IS CLEAN AND RELATIVELY LEVEL.
- 6 ESTIMATED DEPTH OF BEDROCK (486.7'). ADDITIONAL EXCAVATION AS DIRECTED BY THE ENGINEER.
- 7 ROAD € STA 13+51.93 CROSSES STREAM € STA 55+29.42 (STREAM € PERPENDICULAR TO ROAD €).
- 8 EXISTING 4' x 6' CMP CULVERT TO BE REMOVED.
- 9 STRUCTURE EXCAVATION CLASS A INCL. HAUL.
- 10 HIGH VISIBILITY SILT FENCE (SEE SHEET 4).



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 CULVERT REPLACEMENT**

COUNTY MAINTENANCE PROJECT NO: 1502
 STRUCTURE EXCAVATION PLAN AND PROFILE

SHEET
7 OF **15**

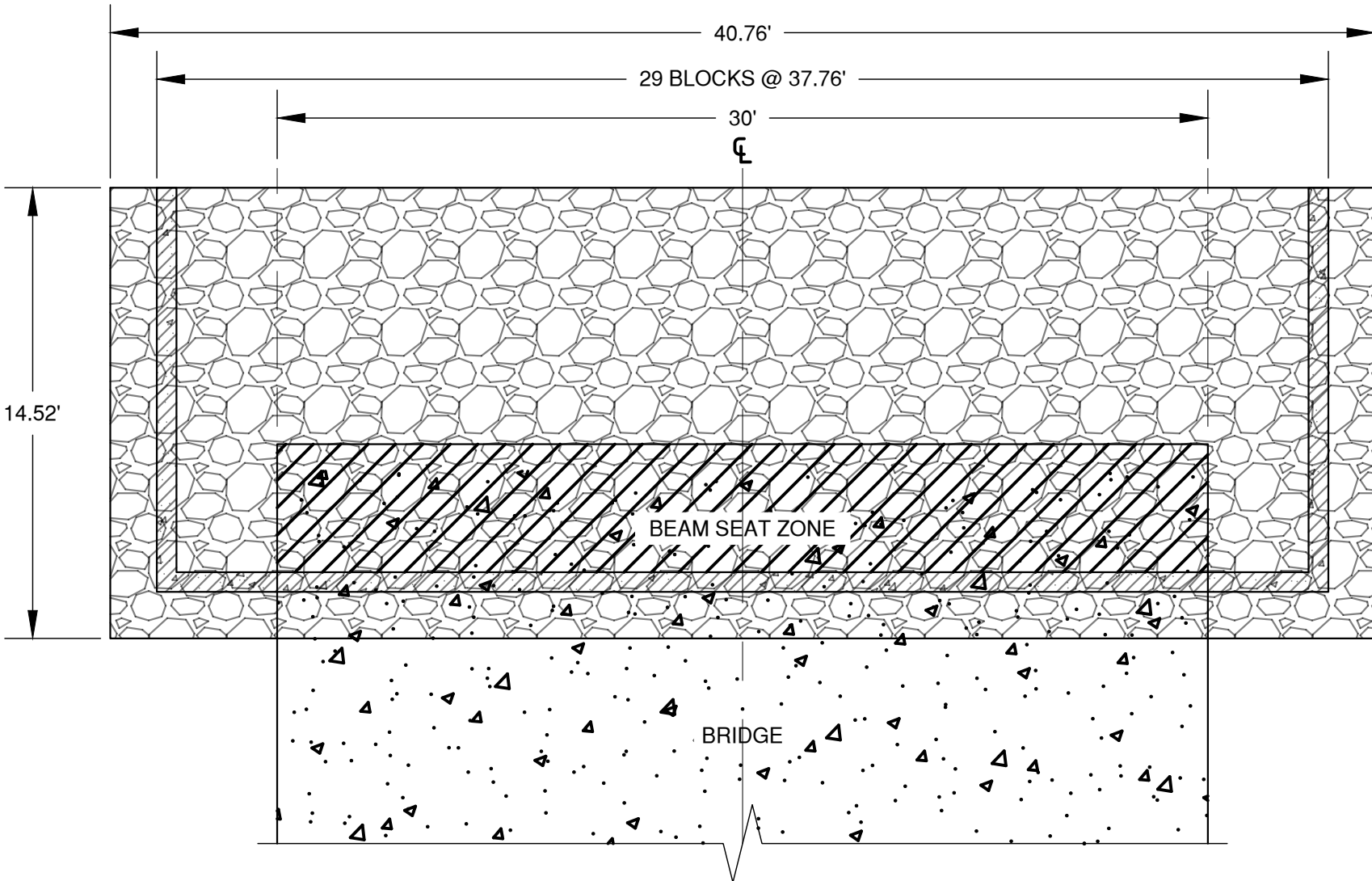
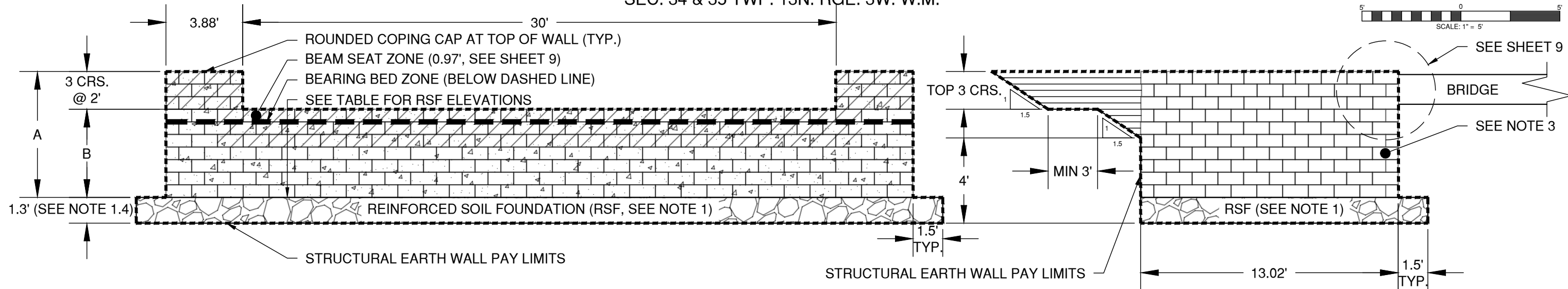


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SEC. 34 & 35 TWP. 13N. RGE. 3W. W.M.

LAND LINES ARE APPROXIMATE



ABUTMENT HEIGHTS (NORTH SIDE DEPICTED THIS SHEET)				
SIDE	DIM.	HEIGHT (FEET)	CRS.	TOP OF RSF
NORTH	A	6.67	10	487.60'
	B	4.67	7	
SOUTH	A	6.00	9	487.90'
	B	4.00	6	

NOTES:

- CONSTRUCTION CONSISTS OF SOLID CMU BLOCK (NOMINAL 8" x 8" x 16") WITH NO MORTAR EXCEPT TOP 3 COURSES ARE HOLLOW CMU BLOCK.
 SEE SHEET 9 FOR FABRIC PLACEMENT DETAILS.
- REINFORCED SOIL FOUNDATION (RSF)
 - ENCAPSULATE RSF IN GEOTEXTILE WITH 3' OVERLAPS FACING DOWNSTREAM.
 - CONSTRUCT IN LIFTS NO MORE THAN 0.5' COMPACTED HEIGHT.
 - FINAL GRADING AND COMPACTION MUST OCCUR BEFORE ENCAPSULATING THE TOP TO PREVENT DAMAGE TO GEOTEXTILE.
 - RSF CAN BE SHORTER THAN 1.3' IF BEDROCK ELEVATION IS HIGHER THAN PREDICTED, AS DIRECTED BY THE ENGINEER.
 - INTEGRATED APPROACH
 - ONLY BEGIN PLACEMENT OF GEOGRID AND BACKFILL MATERIAL IN INTEGRATED APPROACH AFTER PLACEMENT OF BRIDGE SUPERSTRUCTURE.
 - 0.17' COVER OVER LAST LAYER OF GEOGRID TO PREVENT DAMAGE FROM PAVEMENT PLACEMENT.
 - LIFTS CAN CHANGE HEIGHT TO MATCH EXISTING APPROACHES, BUT SHALL NOT EXCEED 0.5'.
 - GEOTEXTILE AND GEOGRID FABRIC PLACEMENT
 - PULL TIGHT AND LAY FLAT BEFORE PLACING BACKFILL MATERIAL.
 - ANY SPLICES MUST BE STAGGERED AT LEAST 2' APART.
 - FABRIC MUST COVER 85% OF FULL BLOCK WIDTH TO THE FRONT OF THE BLOCK. FOR CORE FILLING, CUT OR BURN AFTER NEXT COURSE IS PLACED.
 - MATERIALS
 - GEOTEXTILE AND GEOGRID FABRIC
 - REQUIRED ULTIMATE TENSILE STRENGTH = 4,800 lb/ft PER ASTM D 4595
 - TENSILE STRENGTH @ 2% STRAIN = 920 lb/ft
 - REINFORCED SOIL FOUNDATION
 - CRUSHED SURFACING BASE COURSE
 - BACKFILL
 - ALL MATERIAL SHALL MEET GRADATION OUTLINED IN THE SPECIAL PROVISIONS FOR CRUSHED SURFACING BASE COURSE

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COUSINS ROAD MP 3.15
 CULVERT REPLACEMENT

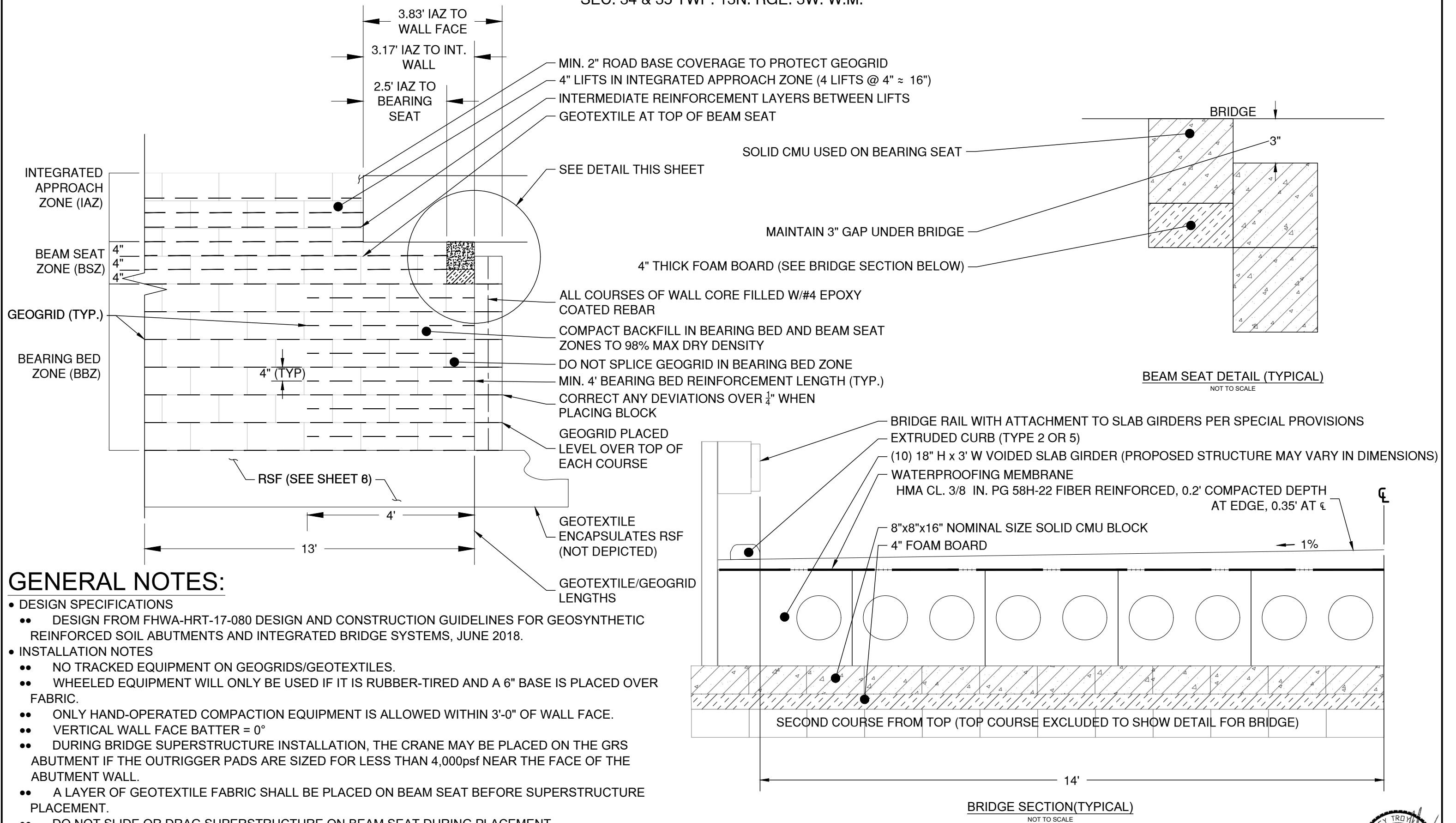
COUNTY MAINTENANCE PROJECT NO: 1502
 STRUCTURAL EARTH WALL
 PLAN AND PROFILE

SHEET
 8 OF
 15



Rodney Troy Lakey, P.E.
 Senior Engineer
 Design/ENV.
 Date: Feb 8, 2021





GENERAL NOTES:

- DESIGN SPECIFICATIONS
 - DESIGN FROM FHWA-HRT-17-080 DESIGN AND CONSTRUCTION GUIDELINES FOR GEOSYNTHETIC REINFORCED SOIL ABUTMENTS AND INTEGRATED BRIDGE SYSTEMS, JUNE 2018.
- INSTALLATION NOTES
 - NO TRACKED EQUIPMENT ON GEOGRIDS/GEOTEXTILES.
 - WHEELED EQUIPMENT WILL ONLY BE USED IF IT IS RUBBER-TIRED AND A 6" BASE IS PLACED OVER FABRIC.
 - ONLY HAND-OPERATED COMPACTION EQUIPMENT IS ALLOWED WITHIN 3'-0" OF WALL FACE.
 - VERTICAL WALL FACE BATTER = 0°
 - DURING BRIDGE SUPERSTRUCTURE INSTALLATION, THE CRANE MAY BE PLACED ON THE GRS ABUTMENT IF THE OUTRIGGER PADS ARE SIZED FOR LESS THAN 4,000psf NEAR THE FACE OF THE ABUTMENT WALL.
 - A LAYER OF GEOTEXTILE FABRIC SHALL BE PLACED ON BEAM SEAT BEFORE SUPERSTRUCTURE PLACEMENT.
 - DO NOT SLIDE OR DRAG SUPERSTRUCTURE ON BEAM SEAT DURING PLACEMENT.

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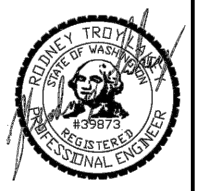
COUSINS ROAD MP 3.15
 CULVERT REPLACEMENT

COUNTY MAINTENANCE PROJECT NO: 1502
 STRUCTURAL EARTH WALL DETAILS

SHEET
 9 OF 15

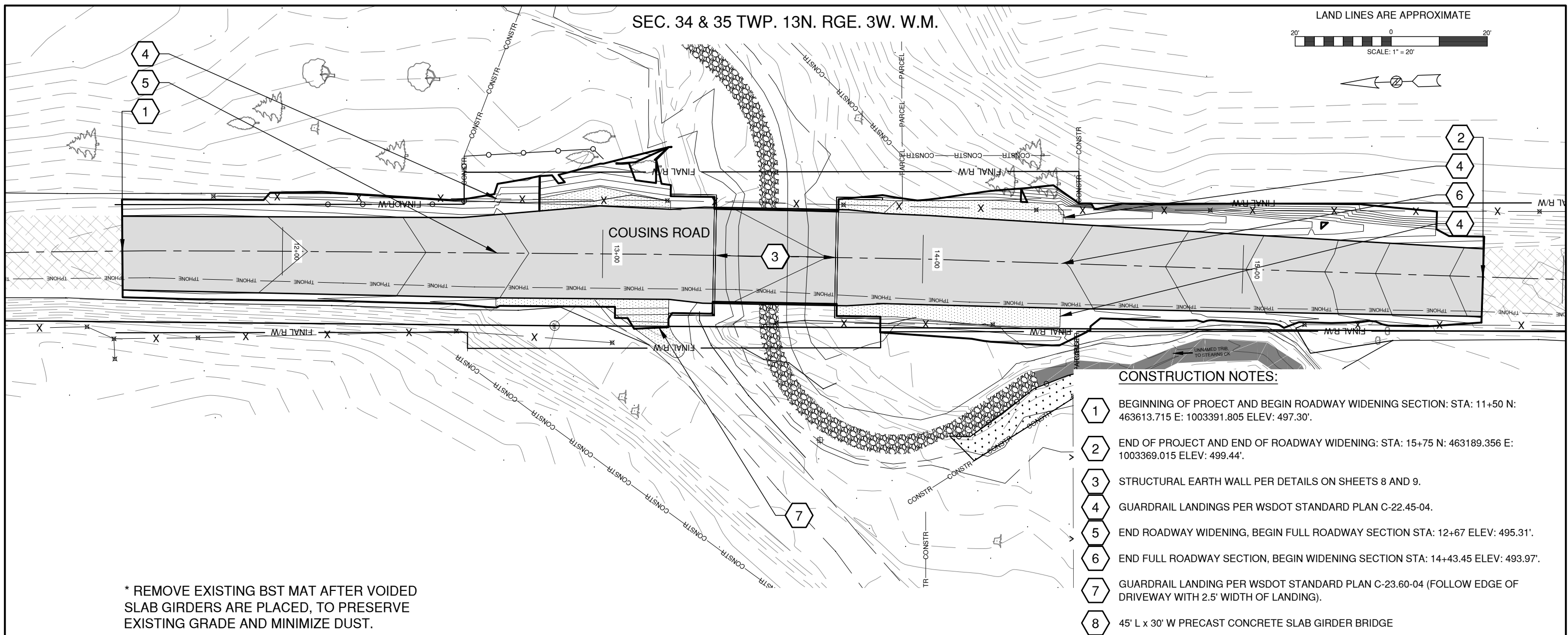
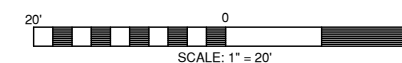


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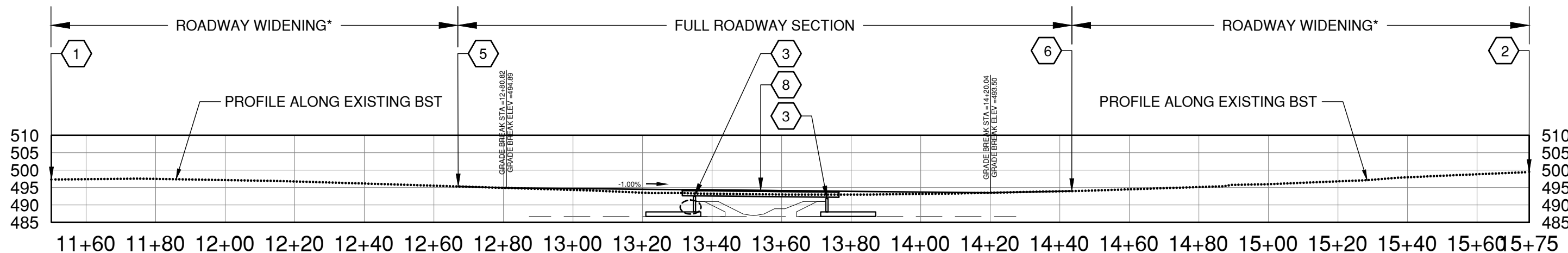
LAND LINES ARE APPROXIMATE



CONSTRUCTION NOTES:

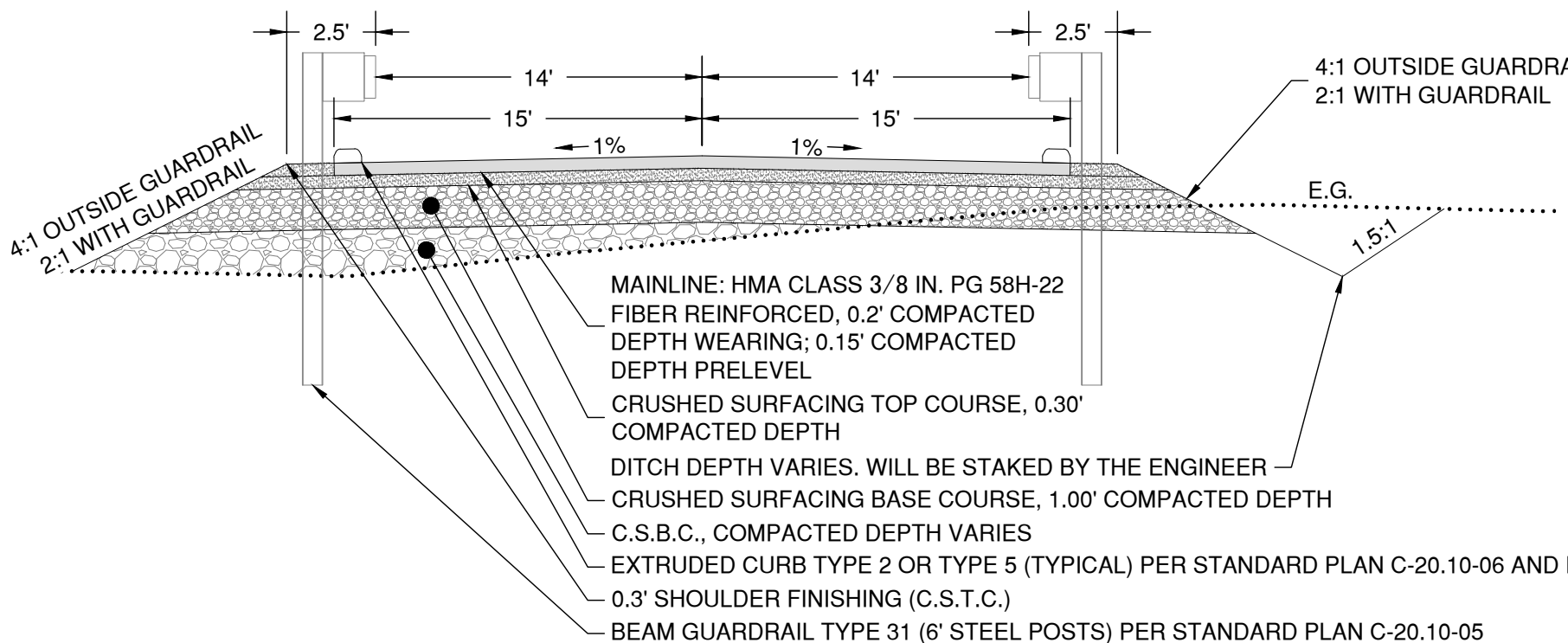
- 1 BEGINNING OF PROJECT AND BEGIN ROADWAY WIDENING SECTION: STA: 11+50 N: 463613.715 E: 1003391.805 ELEV: 497.30'.
- 2 END OF PROJECT AND END OF ROADWAY WIDENING: STA: 15+75 N: 463189.356 E: 1003369.015 ELEV: 499.44'.
- 3 STRUCTURAL EARTH WALL PER DETAILS ON SHEETS 8 AND 9.
- 4 GUARDRAIL LANDINGS PER WSDOT STANDARD PLAN C-22.45-04.
- 5 END ROADWAY WIDENING, BEGIN FULL ROADWAY SECTION STA: 12+67 ELEV: 495.31'.
- 6 END FULL ROADWAY SECTION, BEGIN WIDENING SECTION STA: 14+43.45 ELEV: 493.97'.
- 7 GUARDRAIL LANDING PER WSDOT STANDARD PLAN C-23.60-04 (FOLLOW EDGE OF DRIVEWAY WITH 2.5' WIDTH OF LANDING).
- 8 45' L x 30' W PRECAST CONCRETE SLAB GIRDER BRIDGE

* REMOVE EXISTING BST MAT AFTER VOIDED SLAB GIRDERS ARE PLACED, TO PRESERVE EXISTING GRADE AND MINIMIZE DUST.

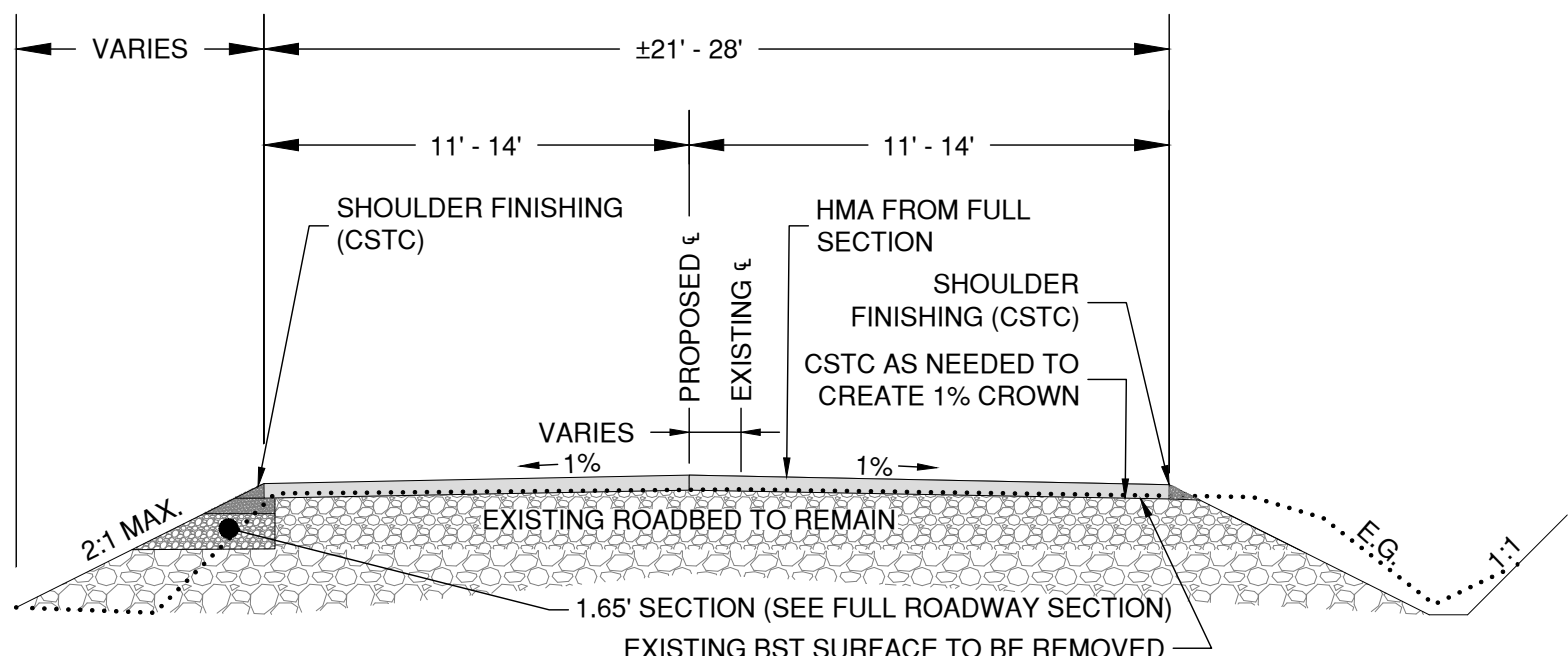
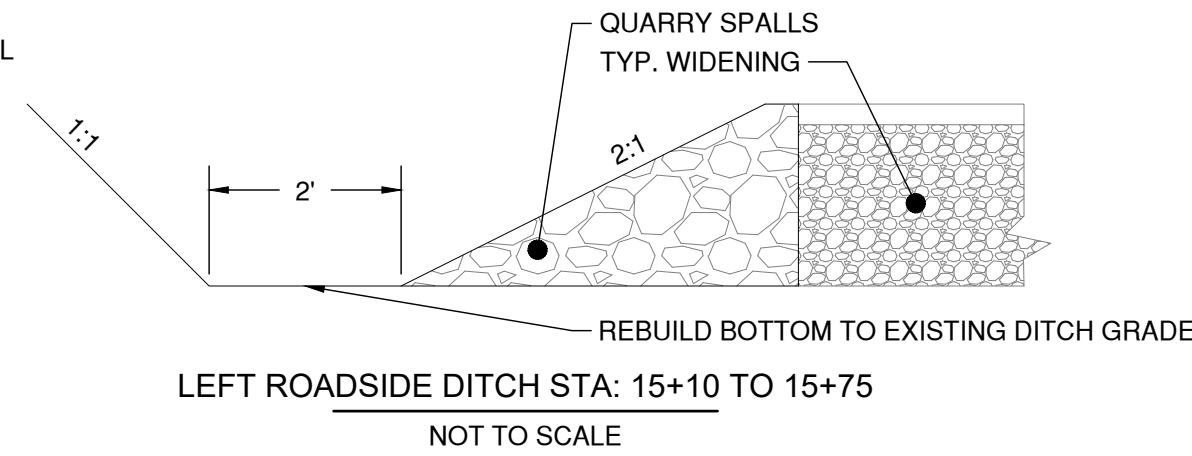


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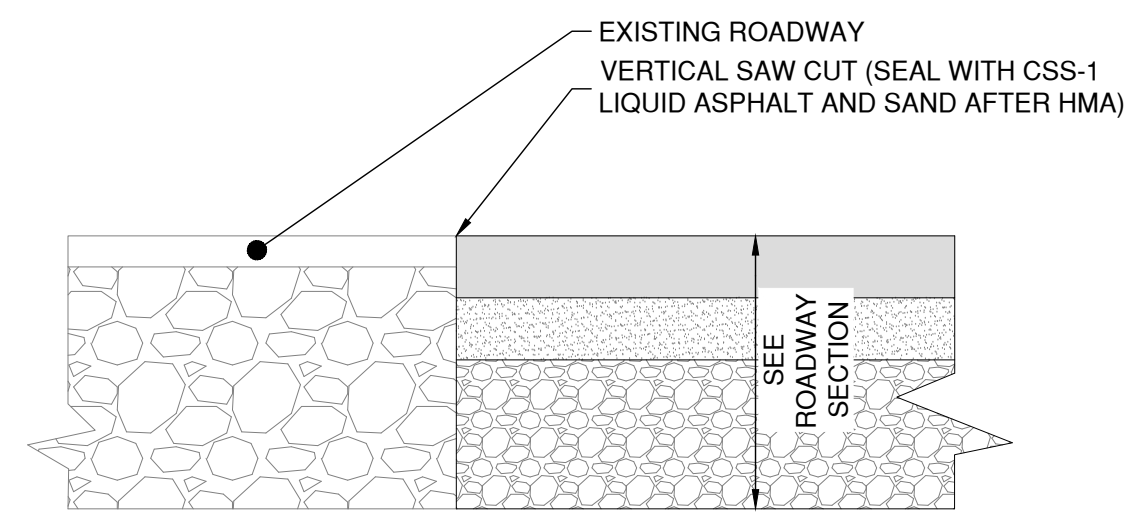




FULL ROADWAY SECTION
NOT TO SCALE

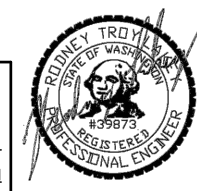


ROADWAY WIDENING SECTION
NOT TO SCALE



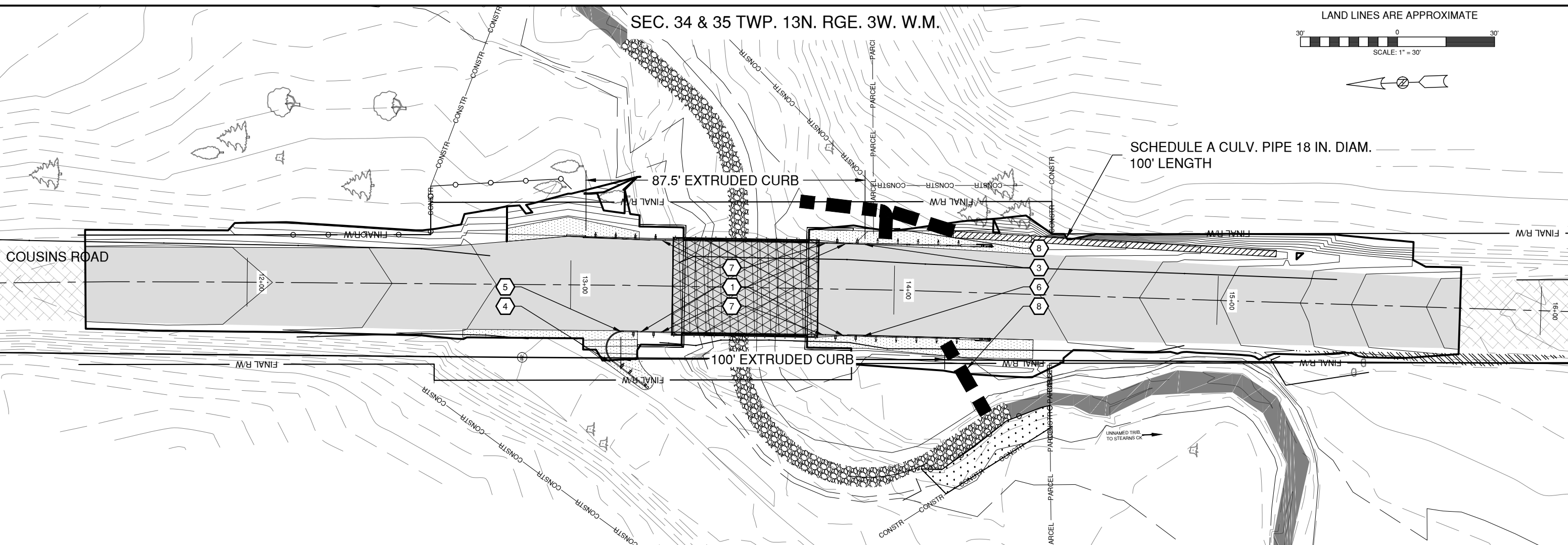
PAVEMENT BUTT JOINT
NOT TO SCALE

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LAND LINES ARE APPROXIMATE



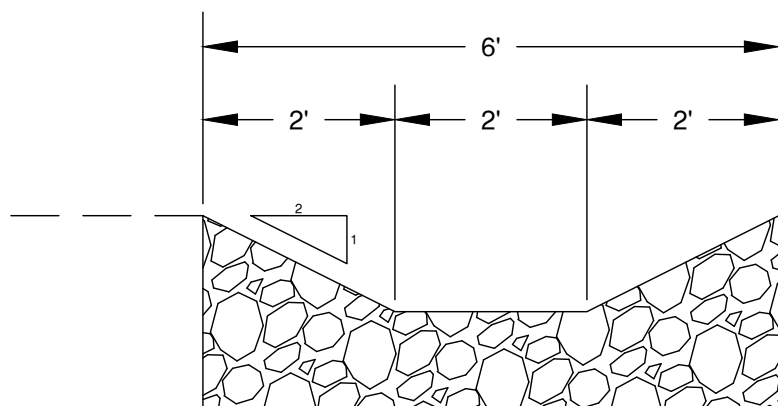
SCHEDULE A CULV. PIPE 18 IN. DIAM.
100' LENGTH

87.5' EXTRUDED CURB

100' EXTRUDED CURB

COUSINS ROAD

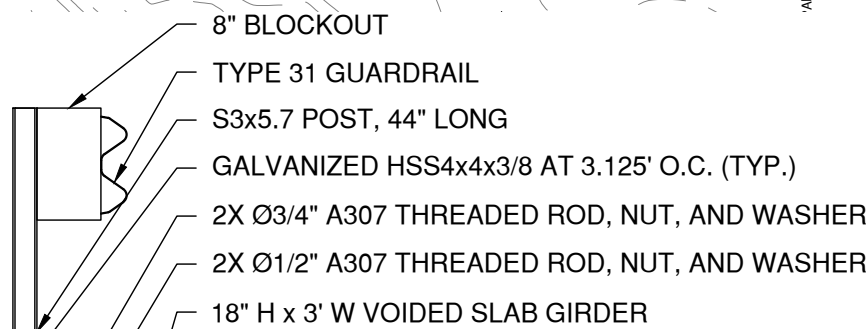
SIDE VIEW OF GUARDRAIL ATTACHMENT



QUARRY SPALL LINED DITCH

NOT TO SCALE

1/2" x 3" x 12" TOP
1/2" x 3" x 8" BTM



BRIDGE GUARDRAIL

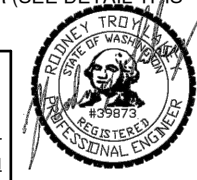
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NOTE: ALL GUARDRAIL COMPONENTS SHALL BE GALVANIZED

CONSTRUCTION NOTES:

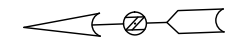
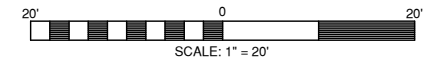
- 1 BEAM GUARDRAIL TYPE 31 (PER STANDARD PLAN C-20.10-06) 12.5' SECTIONS MOUNTED ON 12" BLOCK
- 2 BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL (SOFTSTOP TL-2, PER STANDARD PLAN C-22.45-05) STA: 12+77.62 12.13 LT TO 13+16.5 14.06 LT
- 3 BEAM GUARDRAIL TYPE 31 BURIED TERMINAL TYPE 2 (PER STANDARD PLAN C-22.16-07) STA: 13+91.52 14.06 LT TO 14+40.53 22.49 LT
- 4 BEAM GUARDRAIL TYPE 31 ANCHOR TYPE 10 (PER STANDARD PLAN C-23.60-04) STA: 13+13.12 23.59 RT TO 13+23.34 31.13 RT
- 5 BEAM GUARDRAIL TYPE 31 5' RADIUS (1 PIECE) STA: 13+13.12 23.59 RT TO 13+16.38 14.12 RT
- 6 BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL (SOFTSTOP TL-2, PER STANDARD PLAN C-22.45-05) STA: 13+91.52 14.22 RT TO 14+30.74 14.16 RT
- 7 BEAM GUARDRAIL TYPE 31 SIDE MOUNTED WITH 8" BLOCKS STA: 13+29 14.06 LT TO 13+79 14.06 RT AND 13+29.01 14.11 RT TO 13+79.02 14.06 RT. RAIL SHALL ATTACH TO BRIDGE VIA SIDE-MOUNTED MASH TL-2 TESTED, SPACED 3.125' O.C. (SEE DETAIL THIS SHEET)
- 8 QUARRY SPALL LINED DITCH AS DIRECTED IN THE FIELD BY ENGINEER (SEE DETAIL THIS SHEET)

NO.	DATE	REVISION	BY	APP.



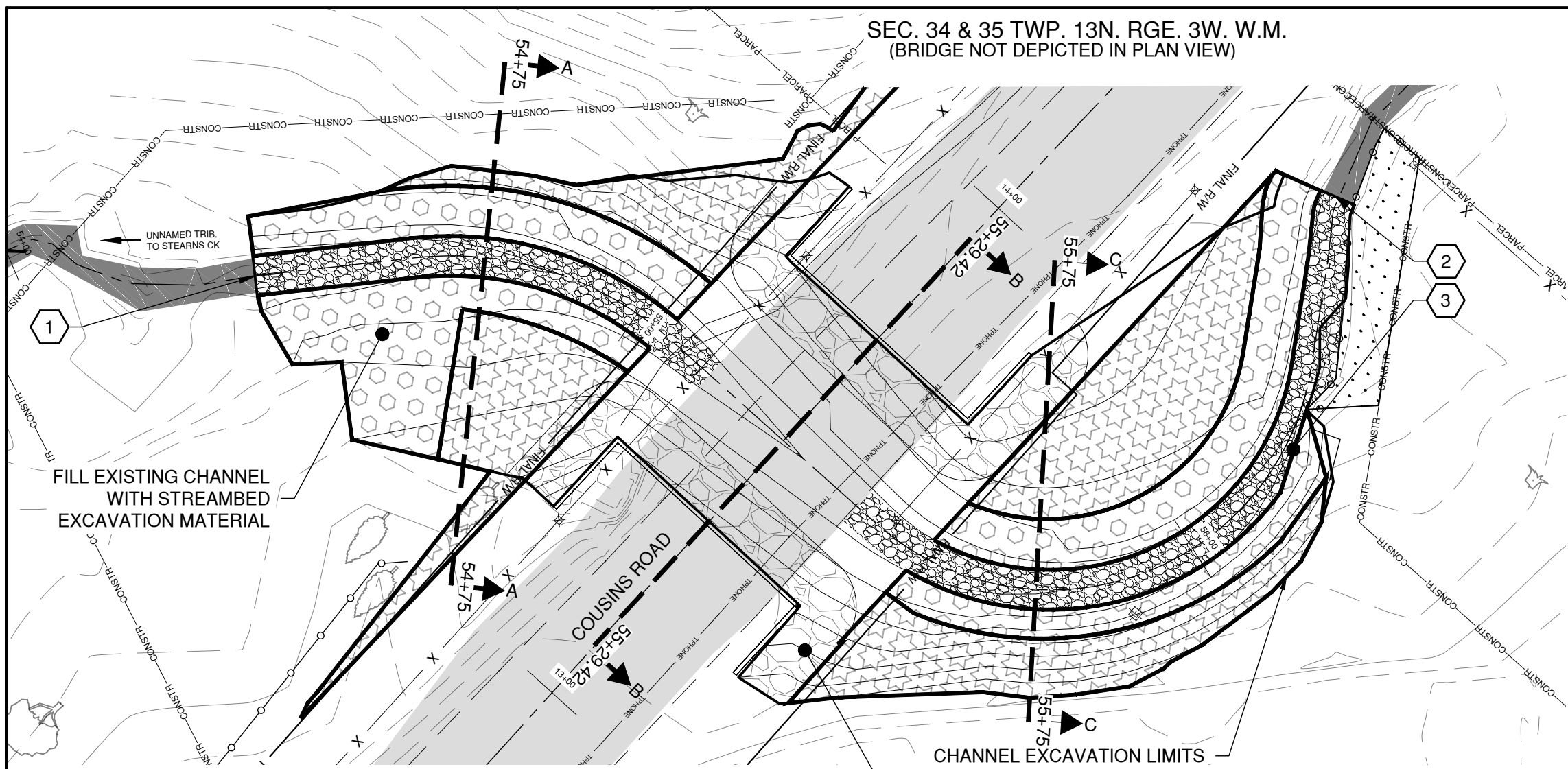
SEC. 34 & 35 TWP. 13N. RGE. 3W. W.M.
(BRIDGE NOT DEPICTED IN PLAN VIEW)

LAND LINES ARE APPROXIMATE



Proposed Streambed Centerline

Start Station	End Station	Length	Radius	Direction	PI Station
54+40	54+64.28	24.28'		S43°49'22.444"W	
54+64.28	55+06.36	42.08'	50'		54+86.66
55+06.36	55+48.12	41.75'		N87°57'20.008"W	
55+48.12	56+33.98	85.86'	40'		56+21.77
56+33.98	56+50.78	16.80'		S30°56'48.899"E	
56+50.78	56+57.60	6.82'		S33°42'22.145"E	
56+57.60	56+58.24	0.65'		S25°54'55.604"E	
56+58.24	56+60	12.24'		S16°27'31.469"E	



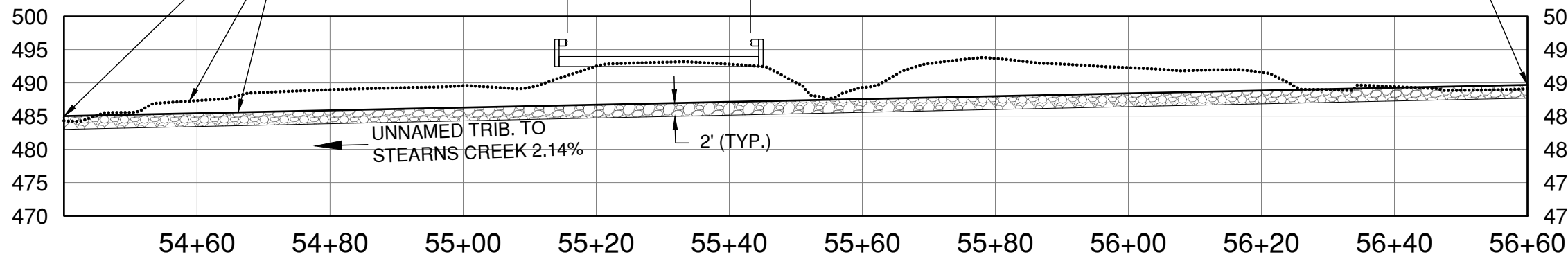
FILL EXISTING CHANNEL WITH STREAMBED EXCAVATION MATERIAL

CHANNEL EXCAVATION LIMITS

BACKFILL AROUND BRIDGE ABUTMENTS WITH NATIVE MATERIAL FROM STRUCTURE EXCAVATION (TYP. ALL AREAS BEYOND STREAMBED MIX)

STA: 54+40
ELEV: 485'
EXISTING GROUND/STREAM
STREAMBED EXCAVATION

STA: 56+60
ELEV: 489.70'



UNNAMED TRIB. TO STEARNS CREEK 2.14%

CONSTRUCTION NOTES:

NEW ROAD CONTOURS OMITTED THIS SHEET TO AVOID CLUTTER.

- 1 BEGINNING OF PROJECT: STA: 54+40 N: 463329.746 E: 1003341.931 ELEV: 489.70'.
- 2 END OF PROJECT: STA: 56+60 N: 463444.013 E: 1003460.859 ELEV: 485.00'.
- 3 STREAMBED MIX



Lewis County
Department of Public Works
2025 NE KRESKY AVE.
CHEHALIS WA 98532
PHONE # (360) 740-1123
FAX # (360) 740-2719

DESIGNED BY : RTL
DRAWN BY : WSR
CHECKED BY :
DATE : 2/8/2021

NO.	DATE	REVISION	BY	APP.

COUSINS ROAD MP 3.15
CULVERT REPLACEMENT

COUNTY MAINTENANCE PROJECT NO: 1502
STREAM PLAN AND PROFILE

SHEET
13 OF 15

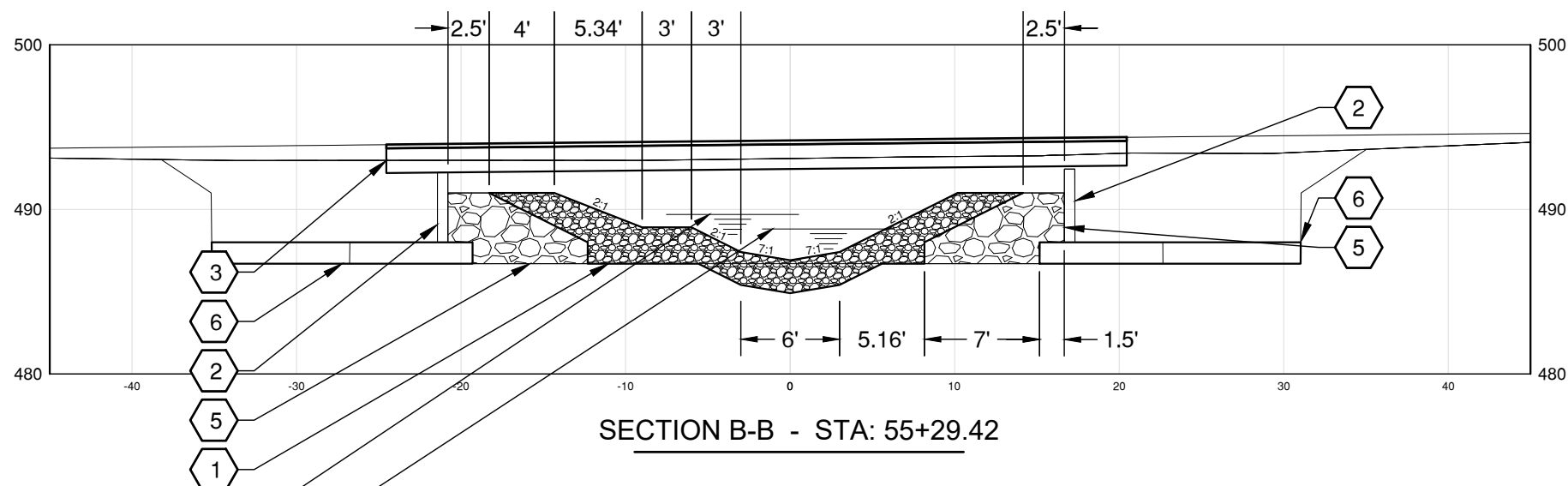
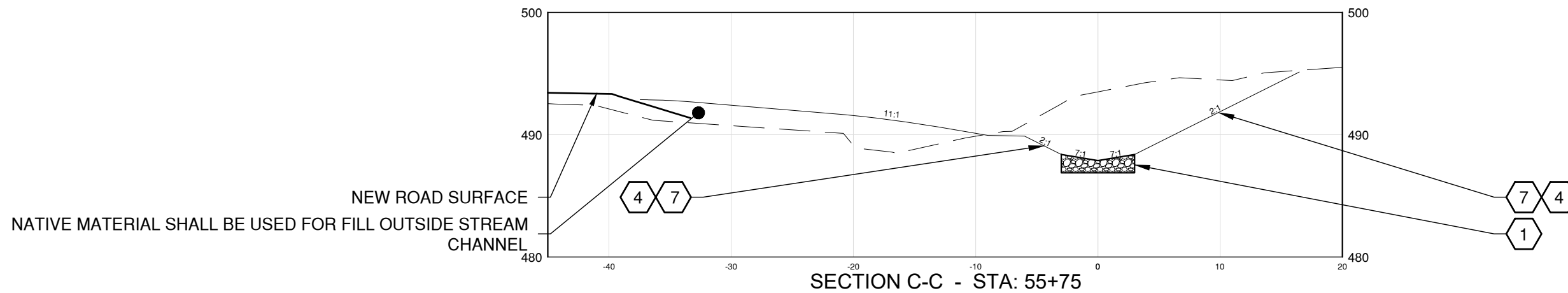


Rodney Troy Lakey, P.E.
Senior Engineer
Design/ENV.
Date: Feb 8, 2021



SEC. 34 & 35 TWP. 13N. RGE. 3W. W.M.

LAND LINES ARE APPROXIMATE

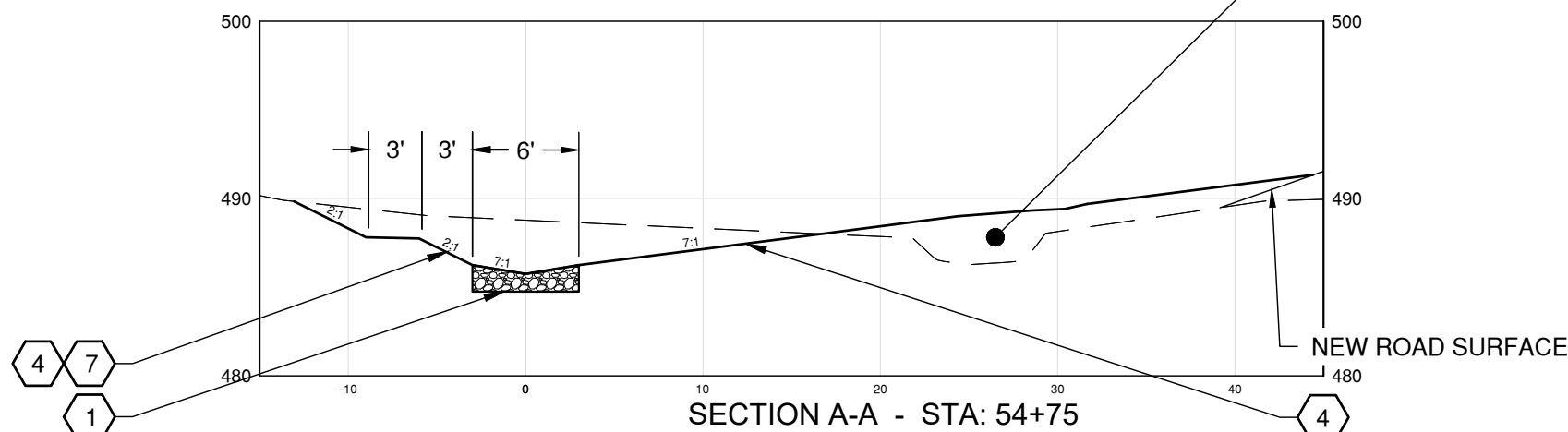


100-YR: 489.01'
2-YR: 488.1'

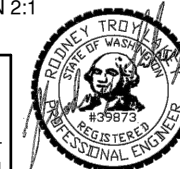
NATIVE MATERIAL SHALL BE USED FOR FILL OUTSIDE STREAM CHANNEL

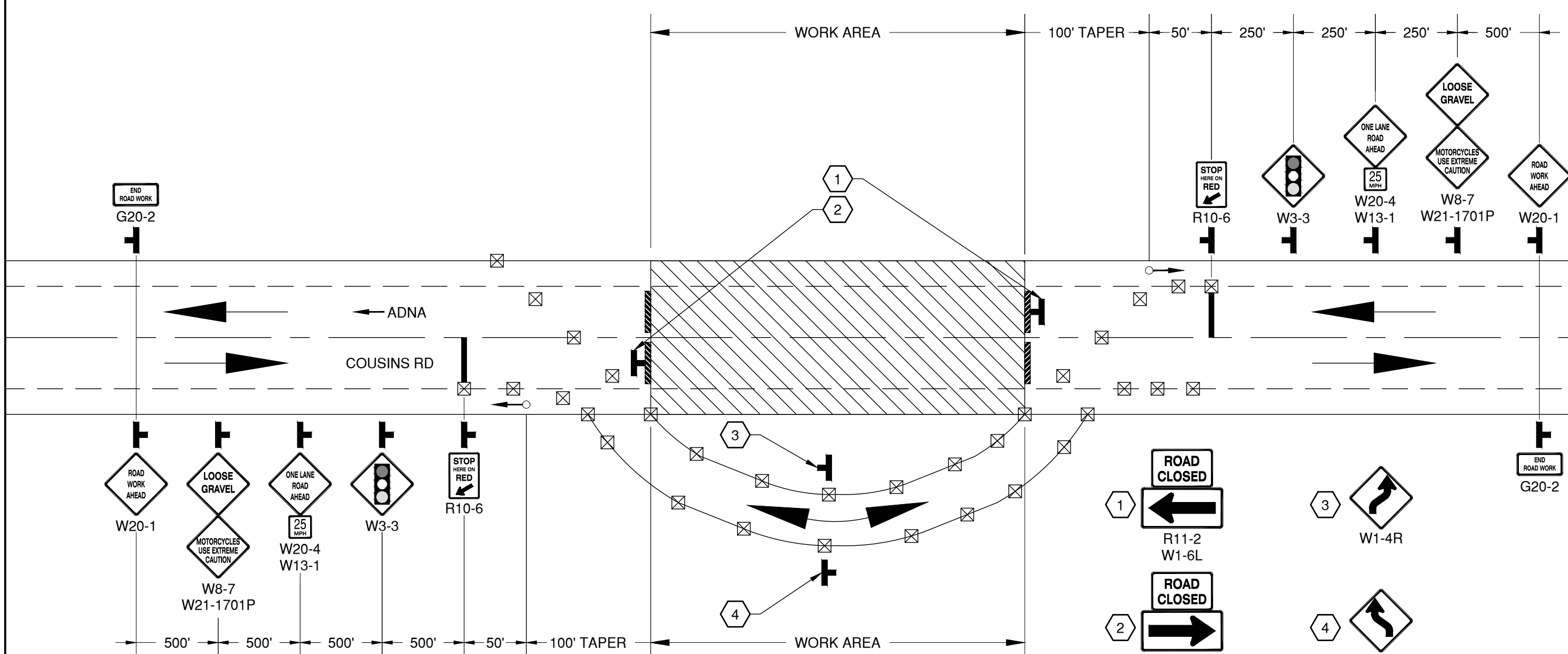
CONSTRUCTION NOTES:

- 1 STREAMBED MIX MIN. 2' DEEP WITH A MEANDERING 0.5' LOW FLOW NOTCH (NOT DEPICTED).
- 2 GRS-IBS ABUTMENT PER DETAILS ON SHEETS 8 AND 9.
- 3 45' L x 30' W PRECAST CONCRETE SLAB GIRDER BRIDGE.
- 4 PLANTING MITIGATION CONSTRUCTION OUTSIDE BRIDGE SHADOW AND CLEARZONE, AS DIRECTED BY THE ENGINEER.
- 5 ROCK FOR EROSION CONTROL AND SCOUR PROTECTION CLASS B AT RSF BRIDGE FOOTING.
- 6 RSF: NORTH TOP ELEV: 487.6' SOUTH TOP ELEV: 487.9'
BOTTOM ELEV: BASED ON BEDROCK DEPTH (EST. ELEV: 486.7')
- 7 BIODEGRADABLE EROSION CONTROL BLANKET ON 2:1 SLOPES, AS DIRECTED BY THE ENGINEER.





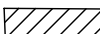



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LEGEND:

-  CONSTRUCTION SIGN CLASS A
-  TEMPORARY STOP BAR
-  TYPE 3 BARRICADE
-  28" TRAFFIC CONE (@ 15' SPACING MAX.)
-  WORK AREA
-  TEMPORARY TRAFFIC SIGNAL

NOTES:

1. DRAWING NOT TO SCALE.
2. ALL WORK SHALL COMPLY WITH THE LATEST VERSION OF THE MUTCD AND OTHER APPLICABLE PROVISIONS.
3. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED SUCH THAT THE SIGN OR DEVICE FARTHEST FROM THE WORK AREA SHALL BE PLACED FIRST AND SHALL BE PLACED PROGRESSIVELY TOWARD WORK AREA.
4. CONSTRUCTION SIGNAGE SHALL BE PROMPTLY REMOVED OR COVERED WHENEVER THE MESSAGE IS NOT APPLICABLE OR NOT IN USE.
5. DEPICTED SIGNS WITH "W" CLASSIFICATION SHALL BE BLACK LETTERING ON CONSTRUCTION ORANGE BACK.

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**COUSINS ROAD MP 3.15
 CULVERT REPLACEMENT**

COUNTY MAINTENANCE PROJECT NO: 1502
 TRAFFIC CONTROL PLAN

SHEET
15 OF 15



Rodney Troy Lakey, P.E.
 Senior Engineer
 Design/ENV.
 Date: Feb 8, 2021

