National Forest Foundation

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Request for Proposals

North Umpqua Trail Bridges Calf Creek Section

Umpqua National Forest

NFF Background:

The National Forest Foundation (NFF) is a congressionally chartered nonprofit organization with the simple mission of bringing people together to restore and enhance National Forests and Grasslands. The NFF is the leading organization inspiring personal and meaningful connections to our National Forests, the centerpiece of America's public lands. Working on behalf of the American public, the NFF leads forest conservation efforts and promotes responsible recreation. We believe these lands, and all they provide, are an American treasure and are vital to the health of our communities.

Project Background:

Over the past several years multiple fires have burned in the North Umpqua Canyon, destroying multiple trail bridges. The project is to remove old bridge superstructures, and to supply and install 3 new trail bridges at former crossings of the North Umpqua Trail. Bridges are to be 5 feet wide (clear) with an estimated length (center of bearing to center bearing) as shown in the table below. The trail bridges will use the Forest Service standard steel truss trail bridges as a basis for design, with final designs and shop drawings provided by and stamped by the manufacturer.

Trail Section	Milepost	Bridge length (c-c bearing)	Latitude and Longitude	Recommended Trailhead
Calf	0.5	40	43.30266272N 122.66989587W	Panther
Calf	1.2	35	43.29890081N 122.65930892W	Panther
Calf	2.9	29	(Approximate) 43.292076N 122.633153W	Calf Creek

Statement of Work:

Through this Request for Proposals (RFP), the National Forest Foundation (NFF), in partnership with the U.S. Forest Service (USFS) Umpqua National Forest, is seeking a qualified contractor to supply and install 3 new trail bridges. The work consists of what is

shown in the USFS Plan Set and Drawings (Appendix A), which must follow the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-14 (Appendix B), and associated supplemental specifications (Appendix C) and includes the following:

1. Finalize the proposed elevations of bridges and associated trail approaches
2. Removal of existing damaged bridge superstructures;
3. Bridge approach trail reconstruction (50' either side);
4. Fabrication and installation of new concrete substructures;
5. Design, fabrication, and installation of new bridge superstructure (contractor to provide full designs that show the size of steel members, style of truss, connections, etc.);
6. Felling of hazard trees
7. Transport of bridges by helicopter to final location is anticipated
8. Final cleanup

NOTE: No instream work is anticipated. Bridges cross small tributaries and there is no excavation or placement of fill that will be placed inside the active stream or below the 100' year flood plain.

Timeline:

This Request for Proposals will close and all proposals will be due on December 11, 2026. The NFF anticipates being able to enter a contract with any selected bidder(s) by January 30, 2027, with a projected contract start date of January 30, 2027. Changes in the closing date for this Request for Proposals will be updated on the NFF website at https://www.nationalforests.org/rfp under the link for this project's Request for Proposals. All contract related dates are estimates and subject to change at the NFF's sole discretion.

The entire project including site cleanup must be completed by May 30th, 2028.

I. PROJECT OVERVIEW AND REQUIREMENTS

General Specifications

(a) Description of Work – This Request for Proposals is for construction services related to the NORTH UMPQUA TRAIL BRIDGES CALF CREEK SECTION] project, located on the Umpqua National Forest. Work on this project will include the supply of 3 steel bridges to be installed in remote tail locations along the North Umpqua Trail. The Contractor shall perform all work in a safe and conscientious manner. The selected contractor(s) will be responsible for performing the following deliverables:

1. Replacement of 3 damaged trail bridges. Refer to Appendix A: USFS Plan Set and Drawings for a detailed description of the work.

(b) Specifications – Project work shall be accomplished in accordance with the following:

1. Appendix A: USFS Plan Set and Drawings
2. Appendix B: The *Federal Highway Administration Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-14 Customary Units 2014* are included by reference. The requirements contained in these specifications are hereby made a part of this solicitation and any resultant contract. The contractor must perform construction in conformance with these specifications except as modified by supplemental specifications (Appendix C) and clauses in the contract document or the plans.
3. Appendix C: Supplemental Specifications
4. Appendix D: Fire Protection and Suppression
5. Appendix E: Federal Flowdown Provisions

(c) Project Location –This project is located on the North Umpqua Ranger District on the Umpqua National Forest, on varying sections of the North Umpqua Trail. See the table below for approximate latitude and longitude and recommended trailhead access.

Trail Section Milepost Bridge length (c-c bearing) Latitude and Longitude Recommended Trailhead

Trail Section	Milepost	Bridge length (c-c bearing)	Latitude and Longitude	Recommended Trailhead
Calf	0.5	40	43.30266272N 122.66989587W	Panther
Calf	1.2	35	43.29890081N 122.65930892W	Panther
Calf	2.9	29	(Approximate) 43.292076N 122.633153W	Calf Creek

Travel directions:

- From interstate 5 - take exit 125 and turn east at the light.
- Travel on Garden Valley blvd., Roseburg or. For approx. 1 mile and turn right onto NE Stephens St.
- Travel on NE Stephens Street for 1.3 miles to OR-138E/NE Diamond Lake Blvd.
- Turn left onto OR-138E/NE Diamond Lake Blvd and travel east:
    1. Panther creek trailhead - OR-138 MP 43.3,
    2. turn right onto NF4714 for 0.10 miles.
- Calf creek trailhead - OR-138 MP 46.4, turn right onto NF4750 for 0.50 miles.
- See sheet 2 of 10 for vicinity map

Bidders shall identify in their proposals what they can supply in terms of materials, labor, equipment, supplies, supervision, quality control, and incidentals required to complete the work as described. Proposals shall be sufficient to guarantee that the selected contractor shall be able to perform all work in a safe and conscientious manner and in accordance with all industry standards.

- Site information: The project is in a remote location and only the trailhead is accessible by a standard vehicle. The project sites do not include water, electricity, housing services, or restrooms. There is no cell service on the project sites. The suggested staging area is located at: ROAD 4750, AT MP 1.50 CALF CREEK PIT, ALT. 2. See sheet 2 of 10 for vicinity map.

(d) Government-furnished property –

Property/Facilities/Services	Availability Location	Availability Time
On site materials for trail bridge approaches (trail) and rock walls	At project sites- except in the live stream.	At Notice to Proceed
Seed	Toketee Ranger Station	Provide 7 Days Notice

(e) Work Schedule – Construction activity may be performed Monday through Sunday and shall be limited to the hours between 7:00 a.m. and 6:00 p.m., unless other hours and days are approved in writing by the USFS and the NFF. No work will be allowed on Federal Holidays unless approved by the USFS and the NFF in writing.

Helicopter operations:

- Are prohibited for all sites from March 1 – August 31 inclusive.
- For sites utilizing Steamboat Helibase, helicopter operations are prohibited from January 1 – August 31.

Noise generating operations are prohibited at all sites from March 1 – July 15 inclusive

In-Water work is prohibited from Sep 16 – June 30 inclusive, not expected in this contract.

Blasting:

- Is prohibited from March 1 – August 31 inclusive
- During blasting operations, blasting mats to prevent sediment from entering the North Umpqua River and a maximum shot size of 2 lbs and less than 155 db at 200 ft will be used unless otherwise approved by the fisheries biologist

If project occurs during fire season, fire restrictions may result in limited hours of equipment operations at the work site. (See Appendix D for Fire Protection and Suppression Guidelines.)

Other Project Requirements

Utilities/Work Site Conditions – In many locations there will be no or limited sanitation, water, electrical or housing services available. Bidders shall consider all relevant factors when submitting proposals for this work. Proposals should account for the need of the selected contractor to make its own arrangements for temporary facilities if required. The work location and conditions for this project are as follows:

(a) Contract Officer / Contract Officer's Representative – References to the Contract Officer (CO) in the appendices shall be understood to be the NFF, as NFF will hold and administer the contract for this project. The NFF shall designate the USFS as the Contract Officer's Representative (COR) for the project.

(b) Storage and Stockpiling of Material - Roadway and suitable areas adjacent to the site may be utilized for temporary stockpiling of materials as approved by the USFS. Contractor shall submit requests for stockpiling to the COR a minimum of 14 days in advance.

1. Contractor remains responsible for quality and quantity of materials until final acceptance of the project.

(c) Helicopter Use – It is anticipated that the bridges will be placed by helicopter. Proposed staging sites for helicopter operations are SHOWN ON THE DRAWINGS.

1. The selected contractor is responsible for removing any hazard trees that would be affected by helicopter operations both at the staging areas and the bridge sites.
    i. Where possible, directionally fall trees into the adjacent stand and leave longest length available. If these felled trees need to be moved for operational purposes, leave as much of the tree in the adjacent stand as possible (including tops).
    ii. An estimated number of trees for each bridge location is shown in the Schedule of Items.
2. The proposed staging areas for helicopter operations will allow placement of the bridges without flying over State Highway 138.
    i. Operations may not fly over the State Hwy138 without written approval from the USFS and the Oregon Department of Transportation (ODOT).
    ii. If the contractor elects to fly the bridges over OR138, the contractor is responsible for all coordination with ODOT and all expenses related to traffic control.

(d) Disposal - Dispose of excess or unsuitable excavated material by scattering along the trail away from drainages or compacting layers on the tread to a smooth finish. Material should not be piled nor be readily obvious that it is waste material.

(e) Hazard trees -

1. Contractor shall provide river guards when falling any trees that have the potential to reach the river, regardless of the planned falling direction.
2. Low cut all stumps -7” max. measured on up-hill side- lower is better. Limb all felled trees. Lop and scatter all slash to a max. depth of 12”. Buck and position all logs to be in full ground contact. Leave logs in longest length possible

(f) Seed - Spread seed and mulch uniformly on finished slopes. Mulch must be certified noxious weed free and may be straw from oats, wheat, rye, or other grain crops that are free from mold or other objectionable material.

(g) Safety Plan – The following conditions have been identified as inherently hazardous to a degree that failure to take the proper precautions could lead to serious injury or loss of life. This listing shall not be construed as all inclusive. The Contractor shall provide a written job-specific hazard analysis and safety plan. Appropriate actions shall be taken by the Contractor to implement this plan

during performance and to take any and all necessary steps to mitigate the dangers from hazards.

1) Tree felling
2) Helicopter Operations
3) Fall hazard from work heights exceeding six feet
4) Heavy equipment operation
5) Tree climbing and/or tower climbing
6) Fire hazards
7) Mechanical hazards such as pulleys, springs etc.

(h) Equipment Cleaning – To prevent the spread of noxious weeds, the Contractor shall clean all construction equipment prior to moving it to the project area. This cleaning shall remove all soil, plant parts, seeds, vegetative matter, or other debris that could contain or hold seeds. Only construction and maintenance equipment and the equipment necessary to transport said equipment, shall be cleaned and inspected by the Forest Service prior to operating within the project area. All subsequent move-ins of equipment to the project area shall be treated in the same manner as the initial move-in. This requirement does not apply to service vehicles, water trucks, pickups, cars, and/or similar vehicles. Contractor shall employ whatever cleaning methods necessary to ensure that construction and maintenance equipment is free of noxious weeds. Equipment shall be considered free of soil, seed, and other such debris when a visual inspection does not disclose such material. Equipment or components disassembly, or the need for specialized tools, are not required. Unless otherwise agreed, Contractor shall give the Forest Service at least 24 hours' notice when equipment is ready for inspection. Inspection will occur at the North Umpqua Ranger Station in Glide or Dorena Genetics Resource Center outside of Cottage Grove, depending on route to be traveled by contractor. Inspection will be required after every subsequent cleaning ordered by the USFS. USFS shall approve the methods of cleaning and the locations for the subsequent cleaning.

(i) Spill Prevention Plan – The Contractor is responsible for developing a spill prevention, control, and countermeasure (SPCC) plan. Contractor shall submit the SPCC to the USFS at least 10 days prior to commencing work. The USFS may either accept the plan or work with Contractor to modify the SPCC plan. Upon request, an example of a SPCC plan may be provided to the Contractor. The SPCC should contain the following information:

1. Response priorities
2. Contractor representative in charge
3. Duties of Contractor personnel
4. Contractor emergency response procedures

5. Contents of a Spill Containment Kit (SCK) to be kept on site

Refueling of equipment should be conducted 100 feet from any stream channel.

Any and all spills of chemicals, including but not limited to petroleum products, shall be reported to the USFS and immediately contained and disposed of in accordance with State and Federal regulations. Disposal includes the removal of any contaminated soil and rock material.

During Contractor operations on lands managed by the Forest Service, in the event of a release as defined in Oregon Administrative Rules (OAR), PART 340, DIVISION 108, HAZARDOUS WASTE MANAGEMENT, the Contractor shall immediately implement the modified SPCC Plan and notify the USFS. The Government Representative shall assume function as Incident Commander until relieved by the Hazardous Materials Coordinator or their replacement.

(j) Fire Precautions – If operating during fire season, the Contractor shall adhere to the Fire Protection and Suppression Guidelines (Appendix D).

(k) Heritage Resource Considerations – If cultural resources are encountered during the project, earth disturbing activities in the vicinity must be suspended in accordance with federal regulations and the USFS must be notified.

(l) Bridge Permits – To access the project site, the Contractor must travel over bridges.

1. The Contractor is responsible for applying for and obtaining overload permits from the USFS for travel on roads that access the project site if loads exceed 80,000 pounds.
2. It is unlikely that an overload permit for Mott Bridge will be provided.

(m) General Notes –

1. Prior to digging, call "Dig Safely Oregon" 1-800-332-2344. Locating and protection of all utilities (public & private) is the responsibility of the contractor.
2. NFF/USFS approval is required prior to the placement of the following items: bedding or leveling course of any structure, placement of substructure, placement of superstructure, placement of any falsework or construction materials in a live stream.
3. Remove all construction related refuse from government land prior to final acceptance.
4. Repair any damage to the existing road and trail systems due to contractor's operations, inside or outside the project boundary, at the contractor's expense, prior to final acceptance.
5. Confine construction equipment to the roadway, unless otherwise shown on the plans or approved by the contracting officer.
6. Storing of all equipment on government lands will be at the contractor's risk and at a location approved by the NFF/USFS.

7. Depths of soil and aggregate are given as final compacted depths.
8. Construction tolerance is 'A' unless otherwise noted on the drawings.
9. The trail bridge locations Forest Service has marked with flagging and/or wire flags the project centerline. Portions of the project to be reconstructed will be staked by the Forest Service. The flags, wire flags, hubs, and stakes constitute the field control from which the Contractor shall execute the work, and shall be left in place until the Contractor sets survey control monuments, and the Engineer approves their removal. See the plans for details.
    i) The Contractor shall do all further surveying, staking, and engineering to establish the horizontal and vertical control necessary to result in having the finished work comply with the lines and grades shown on the Plans or stated in the specifications. This work is incidental to the pay items.
    ii) If any construction control points have been destroyed or displaced, or are erroneous, the Contractor shall promptly notify the Engineer. If these points are destroyed or displaced due to Contractor's negligence or operation, the cost for replacing them will be charged to the Contractor.
    iii) In case of any construction changes, the Contractor shall cooperate with the Engineer and facilitate the prompt reestablishment of the field control for the adjusted work.
10. During blasting operations, blasting mats to prevent sediment from entering the North Umpqua River and a maximum shot size of 2 lbs and less than 155 db at 200 ft will be used unless otherwise approved by the fisheries biologist.

(n) Prosecution Of Work

1. Construction activity shall be limited to the hours between 7:00 a.m. and 6:00 p.m., Monday through Friday, unless other hours are approved in writing by the Contracting Officer.
2. The Contractor shall conduct activities so that interference with the public shall be kept at a minimum. The project site shall be open to public access and free of hazards on weekends. Closure of the trail is allowed 100 feet each side of the bridge for up to 21 days. Any activities requiring closure to the public shall be scheduled with the COR at least 14 days in advance.
3. The Contractor shall use measures and precautions necessary to warn and protect the public and Government personnel during work at the project site. Such actions include, but are not limited to, furnishing and maintaining barricades and signs around the work site and roping off the area.

4. Contractor shall post signage at the trailheads at each end of the project area while trails are closed.

(o) Submittals – Selected contractor shall provide the following product samples, submittals, material certifications, and testing reports to USFS and NFF for approval prior to starting work:

Item	Referenced by Contract clause or Specification No.	Time of Approval After Submittal
Final proposed layout for Trail Bridges	Appendix A, Sheet 9 General Notes	14 days
Traffic Control Plan	Appendix C 156	14 days
Soil Erosion and Sediment Control Plan	Appendix C 157.04	14 days
Stamped design of trail bridges	Appendix A, Sheet 9 Appendix C 571.03	30 days
Item	**Referenced by Contract clause or Specification No.**	**Time of Approval After Submittal**
Concrete mix design on FHWA Form 1608, 552 Structural concrete Mix Design Submittal	Appendix C 552.03	30 Days
Engineered Spill Prevention Plan	RFP Other Project Specifications	2 days
Safety Plan	RFP Other Project Specifications	14 days
Fire Plan R6-FS-6300-55 and Certification that Fire Tools and Equipment are in full compliance with the contract requirements	Appendix D	N/A
Proposed Progress Schedule	-	N/A
Structural Concrete Test Results: AASHTO T121 AASHTO T152 or T196 AASHTO T119 AASHTO C1064	Appendix B Table 552.20	Upon completing tests
Structural Concrete Test Results: AASHTO T23 & T22	Appendix B Table 552.20	28 days
Structural Backfill Test Result AASHTO R 58, T 89, & t 90 AASHTO T 27 & T11 AASHTO T 99 AASHTO T 310	Appendix B Table 208-1	N/A

Bridge Overload Permits	RFP Other Project Specifications	30 days

Insurance Requirements

(a) Minimum Insurance. In accordance with the terms of the Services Agreement, prior to the start of any work, the successful Bidder (the "Contractor") will be required to maintain, and ensure that its subcontractors performing work described in the proposal (Subcontractors) maintain, the minimum coverages and comply with the insurance requirements indicated below.

1. Coverage Requirements

   i. Commercial General Liability Insurance ("CGL"). Commercial general liability insurance, including bodily injury, property damage, personal injury, advertising injury, products and completed operations and contractual liability in the amount no less than:

      - $1,000,000 each occurrence;
      - $1,000,000 products/completed operations limit;
      - $1,000,000 advertising injury and personal injury limit; and
      - $2,000,000 general aggregate.

   ii. Business Automobile Liability Insurance. If using motor vehicles (owned, hired, or borrowed) to deliver or perform the work described in the proposal, business automobile liability insurance with a minimum limit of $1,000,000 combined single limit each accident for bodily injury and property damage for all owned, rented leased or hired vehicles used in conjunction with the performance of the services.

   iii. Workers' Compensation Insurance. Statutory workers' compensation insurance in accordance with all state and local requirements of the state(s) in which services will be performed.

   iv. Professional Liability/Errors and Omissions Insurance. Professional or errors and omissions liability insurance with combined single limits of $1,000,000 per occurrence and $1,000,000 aggregate, per year, covering the performance of the successful bidder and any of its Subcontractors under the Services Agreement.

2. Waiver of Subrogation. All insurance policies shall include a waiver of any and all rights of subrogation or recovery of the insurers thereunder against, inter alia, the NFF, and its assigns, successors, undertakings and their subsidiaries, affiliates, employees, insurers and underwriters, and of any right of the insurers to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy or in any way connected with any loss, liability or obligation covered by such policies of insurance.

3. Primary and non-contributory. With the exception of Workers' Compensation and Professional Liability insurance (if applicable), all insurance required to be maintained by Contractor shall be primary with respect to all claims arising out of Contractor's performance and/or activities under this Agreement, and any insurance or self-insurance maintained by the NFF shall be excess only and not be required to contribute with it.
4. "Claims Made" Coverage. Any liability insurance purchased on a "claims made" basis must be continuously maintained for a period equal to the applicable statute of repose, but in any case, not less than 3 years, following final performance or termination of Services, either through the continued purchase of insurance or the purchase of an extended reporting period. The retroactive date applicable to such "claims made" insurance, if any, must precede the first date on which Services are to be performed.
5. Verification of Coverage. Contractor will have furnished to the NFF original certificates of insurance and amendatory endorsements or copies of the applicable policy language effecting coverage required herein prior to or at the time of execution of the Agreement, and shall further provide evidence that the foregoing is in place and will not be cancelled or reduced during the term of the agreement. Contractor's and any Subcontractors' certificates of insurance will list "The National Forest Foundation" as an Additional Insured on its or their commercial general liability policy and business automobile liability policy (as applicable). Contractor will submit updated certificates of insurance upon expiration of the required policies.

(b) Additional Insurance Requirements. In addition to the minimum insurances set-forth above, the NFF reserves the right to request additional coverage as reasonably necessary based on the scope, nature, and risks associated with the services to be performed, including, but not limited to:

1. Aviation/Aircraft Liability Insurance covering bodily injury or property damage caused by aircraft operations.
2. Commercial/Contractor's Pollution Liability Insurance covering clean-up costs, legal fees, and third-party damages from environmental contamination.
3. Herbicide Applicator Endorsement restoring liability protection for chemical-related pollution and property damage to Contractor's CGL policy.
4. Loggers Broad Form Endorsement restoring liability protection for specific property damage and operational risk inherent to forestry operations to Contractor's CGL policy.
5. Umbrella/Excess Liability Insurance raising the limit on existing primary policies if the primary insurance limits are reasonably considered insufficient.

Payment/Performance Security

If selected to contract with the NFF, Bidder(s) shall post cash, a letter of credit, bond, or other financial security that is easily convertible into cash in a form acceptable to the NFF, in its sole determination. The security will be used to ensure completion of the work required under any subsequent agreement and payment of all amounts lawfully due to all persons. All persons shall include, but not be limited to, those supplying or furnishing to the Bidder or Bidder's subcontractors with labor, laborers, materials, rental machinery, tools or equipment used or to perform the work. Bidders may incorporate required associated costs into mobilization costs or other approved expenses. Payment or Performance security will be required in the following amounts as applicable:

a. For work that is classified as construction in accordance with the Miller Act or Little Miller Act or if required per conditions of the funding source, payment and performance bonding will be required in the full amount of any Agreement. For the purposes of this Request for Proposal, construction is defined as "any contract greater than $100,000 for the construction, alteration, or repair of any public building or public work where the federal government is the owner"; or

b. If Contractor is subcontracting 15% or more of the total contract value, or if the cost of materials is in excess of the larger of $100,000 or 50% of the contract total, payment and performance bonding will be required in the full amount of the agreement; or

c. If the value of the agreement is in excess of $250,000, Contractor will be required to post financial security in a form acceptable to the NFF in the amount of 5% of the total agreement value up to $250,000 in total financial security.

The NFF will not provide blanket waivers of payment/performance security requirements though reserves the right to negotiate payment and performance security terms and conditions with selected contractors based upon legal requirements and organizational needs and policies.

Prohibited Telecommunications Services and Equipment

NFF contractors are responsible for compliance with the prohibition on certain telecommunications and video surveillance services or equipment identified in 2 CFR 200.216.

Prevailing Wage

Work performed under this RFP and any resulting contract is subject to prevailing wage regulations under the Federal Davis-Bacon Act or other State legislation. All contractors and subcontractors bidding on this project must factor prevailing wage rates, including mandatory fringe benefits, and the maintenance of certified payroll into their cost proposals.

Federal Exclusion Verification

The selected Contractor will be required to affirm that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

Federal Flowdown Provisions

NFF funding for projects may vary but will frequently include federal funds. As such, any Agreement associated with this RFP may be subject to flowdown requirements under associated federal or state funding agreements, which are included and made part of by this reference. Federal flowdown requirements are not negotiable by the NFF and will not be removed or edited.

Identified Flowdown Provisions

While flowdown provisions may change depending on funding, the NFF has identified the following non-negotiable federal flowdown provisions as currently being required for this work:

Appendix E: Federal Flowdowns

II. REQUIRED COMPONENTS

Technical Proposal

Minimum Requirements. Bidders shall submit a technical proposal for the work described in this RFP. Bidders shall consider all relevant factors when submitting proposals for this work. Bidders shall identify in their proposals what they can supply in terms of materials, labor, equipment, supplies, supervision, quality control, and incidentals required to complete the work as described. Proposals should account for the need of the selected contractor to make its own arrangements for temporary utilities and facilities, if required. Proposals shall be sufficient to guarantee that the selected contractor shall be able to perform all work in a safe and conscientious manner and in accordance with all industry standards. At a minimum, each proposal must include the following:

a) An overview and description of the services, materials, supplies, labor, equipment, utilities, and facilities provided by the Bidder that align with the requests in this RFP.

b) A description of the project management or administration approach that will be followed by the Bidder to ensure that the identified work is completed on time and within budget.

c) A project work plan and schedule that lists in detail the stages of work expected to be completed in this project, all identifiable deliverables, and the dates on which the Bidder would anticipate being able to complete delivery of the work.

d) Any change or risk management approaches utilized by the Bidder when completing projects of the type described in this RFP.

e) A project personnel overview identifying key personnel to be utilized if selected to perform the work described in this RFP and any relevant or required credentials or certifications held by the key personnel.

Bidder Qualifications

Bidders shall submit a statement of their qualifications for the work described in this RFP. The statement should include the following items in narrative format:

1. Experience –
    i. Please provide a brief explanation of previous work experience with land management agencies, noting specifically any work performed on National Forests or Grasslands.
    ii. Please provide a listing of relevant projects of similar size, scope, and total value performed by the Bidder within the past 5 years.
2. References –
    i. Please provide three professional references, identifying as applicable any government or conservation nonprofit references.
    ii. Provide the name, email address, and telephone number for each

reference, as well as the dates of the projects during which the Bidder worked with each reference.

Failed Projects or Legal Actions

Bidders shall identify any past failed projects and the reasoning behind the failure or incompletion. Bidders shall also identify any and all current or pending legal matters in which the Bidder or any of its principals is involved.

UEI.

Successful bidders will be required to provide a Unique Entity Identifier (UEI). If you have a UEI, please provide it in your proposal or quote.

Federal Exclusion Verification

Bidder(s) will be required to affirm that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

Pricing Schedule

Bidders shall price work according to the schedule below. If Bidders believe that an alternative method of pricing is more applicable, they may also provide an alternative pricing schedule in addition to the format requested below.

The NFF, in its sole discretion, reserves the right to utilize any alternative pricing schedule proposed by any Bidders.

All quantities and measurements identified in this RFP are based upon the best knowledge available to the NFF and are subject to change.

Due to the dynamic and changing nature of NFF funding, the NFF reserves the right to negotiate an increased cost with the selected Bidder in the event that prevailing wages become required for the work described in this RFP.

If the opportunity to add additional funding to the work described in this RFP arises, the NFF may increase the quantities of work to be performed as part of this project, as agreed upon by the NFF and the selected Bidder.

Item No.	Task/Item	Units	Unit Cost		Extended Cost
CALF TRAIL BRIDGES					
15101	Mobilization	Lump Sum	All	$_____	$_____

15713	Soil erosion and pollution control	Lump Sum	All	$_____	$_____
62516	Turf Establishment-mulching and Seeding Dry Method	Lump Sum	All	$_____	$_____
63501	Temporary Traffic Control	Lump Sum	All	$_____	$_____
				TOTAL	$_____
CALF 0.5 CREEK TRAIL BRIDGE					
20207 A	Removal of individual trees, disposal method (f)	Each	21	$_____	$_____
20301 A	Removal of existing trail bridge, disposal method (a)	Lump Sum	All	$_____	$_____
25203 A	Special rock embankment, bridge approaches	Square Feet	10	$_____	$_____
55201 A	Structural concrete, class A(AE)	Cubic Yard*	3	$_____	$_____
57103 A	Pre-Fabricated steel truss bridge superstructure, Design, Fabricate, Deliver and Install	Lump Sum	All	$_____	$_____
				TOTAL	$_____
CALF 1.2 TRAIL BRIDGE					
20207 B	Removal of individual trees, disposal method (f)	Each	28	$_____	$_____
20301 B	Removal of existing trail bridge, disposal method (a)	Lump Sum	All	$_____	$_____

20431 B	Rock Excavation	Cubic Yard*	2	$_____	$_____
25203 B	Special rock embankment, bridge approaches	Square Feet	10	$_____	$_____
55201 B	Structural concrete, class A(AE)	Cubic Yard*	3	$_____	$_____
57103 B	Pre-Fabricated steel truss bridge superstructure, Design, Fabricate, Deliver and Install	Lump Sum	All	$_____	$_____
				TOTAL	$_____
CALF 2.9 TRAIL BRIDGE					
20207 C	Removal of individual trees, disposal method (f)	Each	12	$_____	$_____
20301 C	Removal of existing trail bridge, disposal method (a)	Lump Sum	All	$_____	$_____
55201 C	Structural concrete, class A(AE)	Cubic Yard*	3	$_____	$_____
57103 C	Pre-Fabricated steel truss bridge superstructure, Design, Fabricate, Deliver and Install	Lump Sum	All	$_____	$_____
	TOTAL				$_____
			Total Bid		

NOTE: Payment will be made on actual work performed as described in FP-14 109.01. All units are measured as Actual Quantity unless denoted by an asterisk (*). If denoted by an asterisk, the quantity is measured as a Contract Quantity in accordance with FP-14.

Payment Schedule.

Bidders shall submit a proposed payment schedule consistent with their proposed pricing structure. Lump sum proposals should identify invoicing milestones tied to deliverables or project phases, while time-and-materials proposals should identify the anticipated invoicing frequency, cost of materials/supplies, and the applicable rates for invoicing. Proposed payment schedules are for evaluation purposes only. The final payment structure and invoicing terms will be negotiated with the selected Bidder and incorporated into the executed agreement.

Invoice Number	**Milestone/Deliverable**	**Corresponding Cost**
1.		
2.		
3.		
4.		
5.		
	Agreement Total	

Insurance Information

Bidders must identify the insurance coverage currently in place. If available, please attach sample certificates of insurance.

III. SUBMISSION, EVALUATION, AND CONTACTS

Prebid Tour:

A pre-bid meeting and tour of the sites will be hosted on the 17th of November. Please contact Amber Schat-Kenig at aschat-kenig@nationalforests.org or 541.530.3894 with questions.

Bidder Selection Process:

Bid Submission

Bidders shall submit proposals containing all of the required information described above via email at the address specified below by the stated deadline:

Submission Address: aschat-kenig@nationalforests.org

Submission Deadline: 11:59 PM on December 11, 2026.

Proposals submitted after this RFP closes will not be considered unless approved by the NFF. The NFF will review all proposals determined to be responsive using the evaluation factors listed below. Proposals may be deemed non-responsive for failure to submit any required information or for failure to comply with any terms of this RFP. Non-responsive proposals may be disqualified from evaluation in the sole discretion of the NFF.

Notification

If a proposal is selected by the NFF to advance to the contracting stage, the NFF will notify the successful Bidder via email by January 1, 2027. Once the selected Bidder has been notified, the NFF project representative will coordinate the drafting and negotiation of an NFF agreement outlining the terms and conditions of the work to be performed.

Unsuccessful Bidders will be notified via email as soon as possible after the closing date of this RFP. Please Note: The NFF **will not** share any information about the organizations submitting proposals nor any information regarding the proposals submitted by other organizations. If a Bidder has questions about its proposal, the Bidder may ask the NFF Point of Contact identified below. If an answer can be provided, the NFF will respond via email as soon as it is able to do so.

Request for Proposals Only

This is a request for proposals only and bids furnished do not bind the NFF in any way. Selection of a bid will result in the opportunity to contract with the NFF but will not guarantee a resulting contract or any amount of work. The NFF reserves the right to disqualify any incomplete or improper proposal submitted as non-responsive. The NFF may also decide not to select any proposals submitted to this RFP for advancement to contract negotiations. This request does not commit the National Forest Foundation to pay any costs incurred in the preparation or submission of the proposal or to contract for supplies or services.

Evaluation Factors and Scoring

The following factors will be used to evaluate any responsive submitted proposals. The factors, as listed, are ordered from highest priority (Level 3) to lowest priority (Level 1). Each factor can receive a score from 1 point to 3 points. The number of points awarded will be multiplied by the priority level to determine the total score for each factor. (Example: If Price/Cost (level 3) is awarded 2 points, the total score for price would be 6 points.)

Level 3 Criteria

- Price / cost
- Equipment and contractor capability
- Timing of when contractor can begin and/or finish the project
- Past performance, references, and USFS feedback

Level 2 Criteria

- Technical proposal / proposed approach to project
- Overall strategic benefits to meeting NFF goals and grant needs, requirements, and timelines

Level 1 Criteria

- Benefits to the local community
- Relationship to local community

Point of Contact

Any questions about this Request for Proposals shall be submitted in writing to the NFF contact identified below. Questions determined to be of importance to all potential Bidders will be posted as an attachment to an updated version of this RFP at https://www.nationalforests.org/rfp.

Amber Schat-Kenig
National Forest Foundation Southern OR Projects Coordinator
aschat-kenig@nationalforests.org

Bid Submission

Submit bids via email to aschat-kenig@nationalforests.org by December 11, 2026.

Equal Opportunity Provider

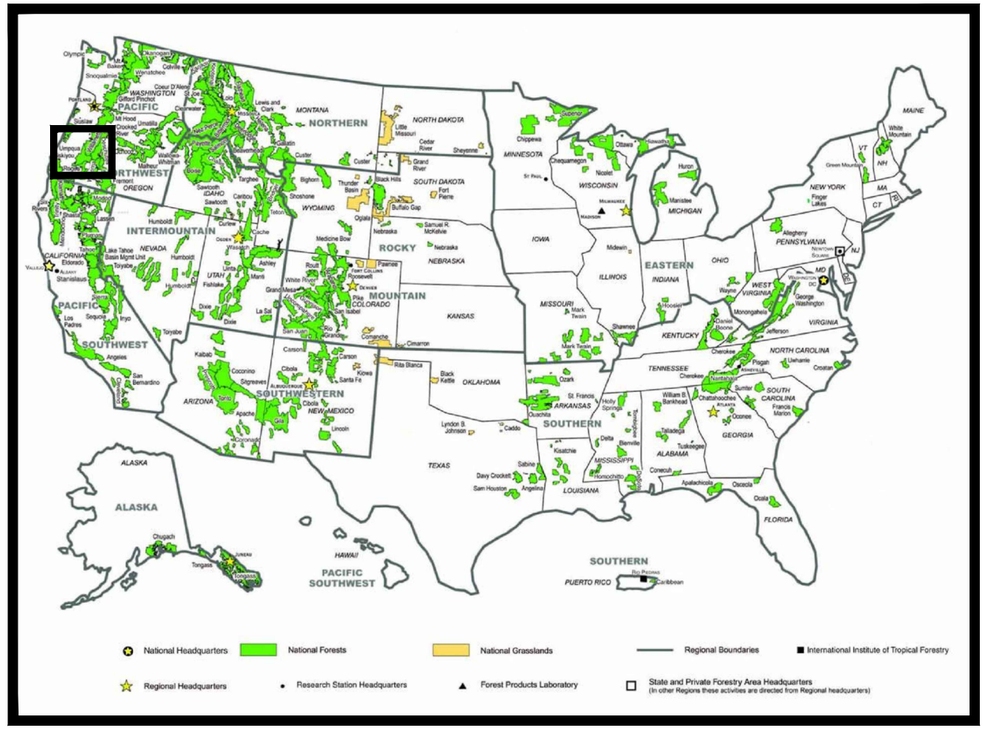
In accordance with Federal law and U.S. Department of Agriculture policy, the National Forest Foundation is prohibited from discriminating on the basis of race, color, national origin, sex, age, religion, political beliefs, or disability.

Appendix A: USFS Plan Set and Drawings

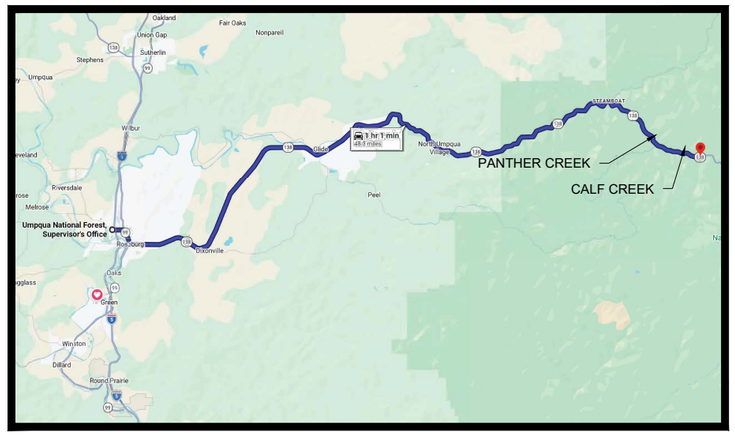
United States Department of Agriculture
Forest Service

OREGON
DOUGLAS COUNTY
R06 PACIFIC NORTHWEST REGION
UMPQUA NATIONAL FOREST - NORTH ZONE
NORTH UMPQUA RANGER DISTRICT

NORTH UMPQUA TRAIL BRIDGES
CALF CREEK SECTION



FOREST LOCATION



VICINITY MAP

TRAVEL DIRECTIONS:

FROM INTERSTATE 5 TAKE EXIT 125 AND TURN LEFT AT THE LIGHT AND TRAVEL ON GARDEN VALLEY BLVD., ROSEBURG OR. FOR APPROX. 1 MILE AND TURN RIGHT AT THE LIGHT AND TRAVEL ON NE STEPHENS STREET FOR 1.3 MILES TO OR-138 E/NE DIAMOND LAKE BLVD. TURN LEFT ONTO OR-138 E/NE DIAMOND LAKE BLVD AND TRAVEL EAST:
PANTHER CREEK TRAILHEAD - HWY 138 MP 43.3, TURN RIGHT ONTO NF 4714 FOR 0.10 MILES.
CALF CREEK TRAILHEAD - HWY 138 MP 46.4, TURN RIGHT ONTO 4750 FOR 0.50 MILES.
SEE SHEET 2 OF 13 FOR VICINITY MAP.

INDEX OF SHEETS

SHEET	SHEET TITLE	DATE
1	COVER SHEET	
2	PROJECT VICINTY MAP	
3	ESTIMATE OF QUANTITIES	
4	CALF CREEK TRAIL BRIDGE MP 0.50 SITE PLAN	
5	CALF CREEK TRAIL BRIDGE MP 1.2 SITE PLAN	
6	CALF CREEK TRAIL BRIDGE MP 2.9 DEMOLITION	
7	CALF CREEK TRAIL BRIDGE MP 2.9 SITE PLAN	
8	PREFABRICATED STEEL TRUSS TRAIL BRIDGE PLANNING AND CRITERIA	
9	GENERAL NOTES AND LAYOUT	
10	BEARING AND SUBSTRUCTURE DETAILS	
11	CALF CREEK TRAIL BRIDGE DETAILS	
12	CALF CREEK TRAIL BRIDGE GENERAL LAYOUT	
13	TRAIL BRIDGE LANDING/APPROACH, STRUCTURAL EXCAVATION & BACKFILL TYPICALS	

DESIGNED BY:

STEVE MARCHI — DATE

REVIEWED BY:

HOLLY BENTZ — DATE

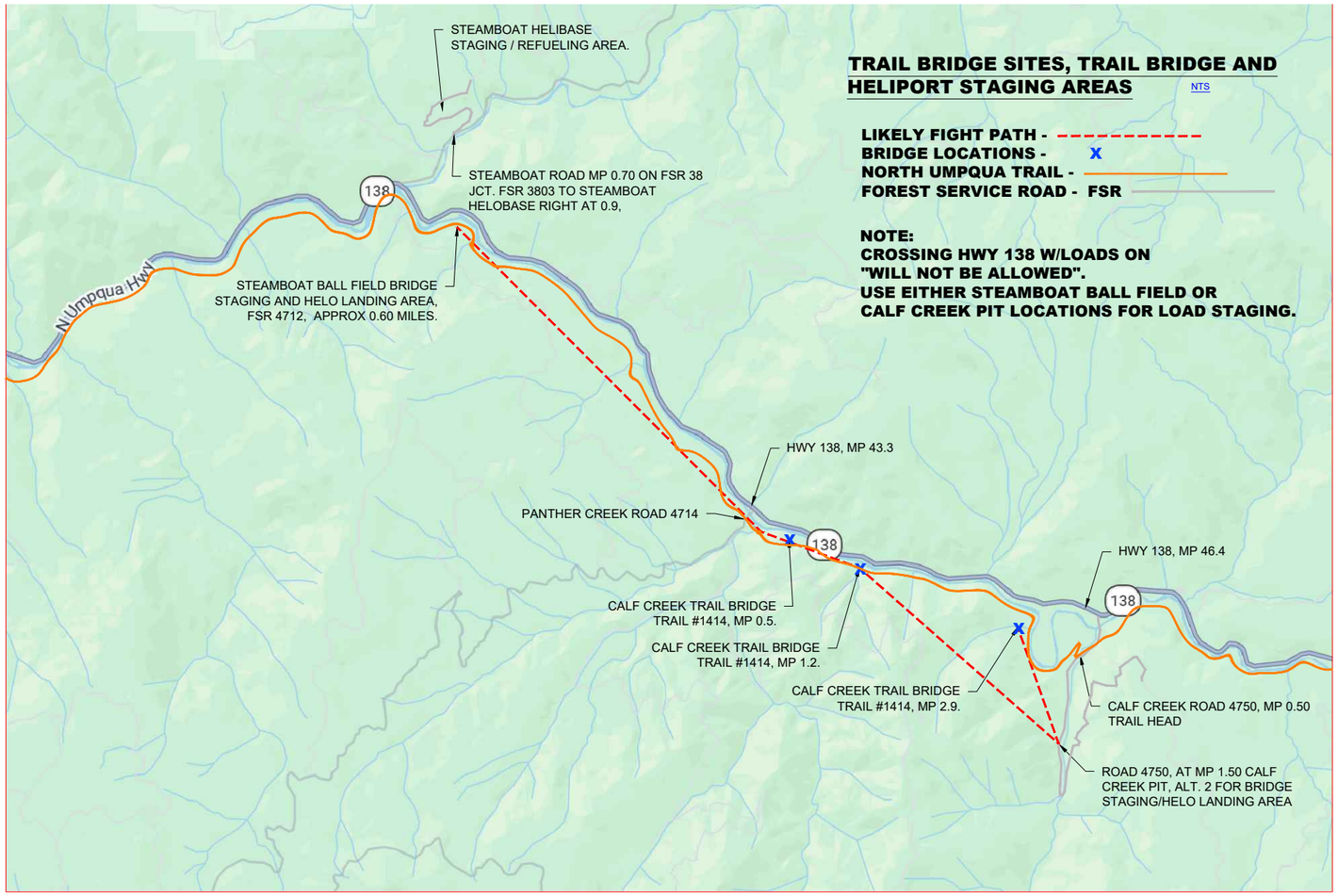
RECOMMENDED BY:

DAVID ANDERSON, DISTRICT RANGER — DATE

APPROVED:

ACTING RELMHH STAFF OFFICER UMPQUA N.F. — DATE

9/14/26 18:47 PINKLADY C:\USERS\PINKLADY\ONEDRIVE\DOCUMENTS\AGREEMENTS\NORTH UMPQUA TRAIL BRIDGES\NUT CALF BRIDGES 2026\NU TRAIL CALF BRIDGES.DWG;



NOTES: CALF TRAIL BRIDGE SITES

1) THE FOREST SERVICE HAS IDENTIFIED POTENTIAL HELICOPTER STAGING AND A BRIDGE DELIVERY SITE: STEAMBOAT HELI-BASE AND STEAMBOAT BALL FIELD CAN BE USED AS HELO STAGING AREAS. STEAMBOAT BALL FIELD OR CALF CREEK PIT MAY BE USED AS BRIDGE STAGING TO PREVENT OVERFLIGHT OF STATE HIGHWAY 138 WITH SLING LOADS. THE CONTRACTOR IS RESPONSIBLE TO REQUEST THE USE OF THE SITES FOR APPROVAL. OTHER ACTIVITIES SUCH AS FIRE SUPPRESSION HAVE PREFERENTIAL USE OF THE SITES. IN THE CASE OF EMERGENCY THE CONTRACTOR MAY BE ORDERED TO VACATE THE SITE WITH SHORT NOTICE.

2) CALF CREEK ROAD 4750, MP 1.50 OLD QUARRY (PIT) IS AVAILABLE FOR USE AS A TRAIL BRIDGE DELIVERY AND STAGING SITE FOR THE CALF BRIDGES. THE CONTRACTOR IS RESPONSIBLE TO DEVELOP AND SUBMIT FOR APPROVAL, AND IMPLEMENT A TRAFFIC CONTROL PLAN FOR THE DELIVERY OF TRUSS BRIDGE AND USE OF HELICOPTER ON DAY OF INSTALLATION. A ROAD CLOSURE TRAFFIC CONTROL PLAN IS REQUIRED FOR IMPLEMENTATION WHILE THE HELICOPTER IS WORKING IN THE AREA.



ROAD 4750, AT MP 1.50, ALT. 2
BRIDGE STAGING AREA 43.274068, -122.625958

United States Department of Agriculture
Forest Service

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PACIFIC NORTHWEST

STAMPS, LOGOS, AND SEALS

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PROJECT NAME

NORTH UMPQUA TRAIL BRIDGES - CALF CREEK SEGMENT

UMPQUA

NORTH UMPQUA RANGER DISTRICT

DRAWING TITLE

PROJECT VICINITY MAP

DATE 09/07/2026	ARCHIVE NO.
DESIGNER PEGGY ROBERTS	DRAWING SHEET NO. 2
DRAWN PEGGY ROBERTS	
CHECKED HOLLY BENTZ	
PROJECT NO.	SHEET 2 OF 13

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ESTIMATE OF QUANTITIES

ITEM NUMBER	DESCRIPTION	PAY UNIT	ESTIMATED QUANTITY	REMARKS
	CALF TRAIL BRIDGES			CALF SECTION IS 3.70 MILES IN LENGTH AND WILL HAVE 3 NEW BRIDGES: MP 0.50, MP 1.20 & MP 2.9.
15101	MOBILIZATION	LUMP SUM	ALL	FIRE PROTECTION & EQUIPMENT CLEANING INDIRECT TO PAY ITEM
15713	SOIL EROSION AND POLLUTION CONTROL	LUMP SUM	ALL	INCLUDES EROSION AND POLLUTION CONTROL PLAN, PREPARATION, INSTALLATION, & REMOVAL
62516	TURF ESTABLISHMENT - MULCHING AND SEEDING, DRY METHOD	LUMP SUM	ALL	INCLUDES DRY APPLICATION OF MULCH AND SEEDING TO ALL DISTURBED AREAS RESULTING FROM CONSTRUCTION. MULCH SHALL BE COMMERICAL SOURCE AND BE CERTIFIED WEED FREE. SEEDING SHALL BE GOVERNMENT FURNISHED.
63501	TEMPORARY TRAFFIC CONTROL	LUMP SUM	ALL	SIGNAGE SHALL BE INSTALLED AT BOTH TRAILHEADS. RIVER GUARDS FOR DANGER TREE FALLING IF THE TREES CAN REACH THE RIVER, TRAFFIC CONTROL DURING HELICOPTER OPERATIONS
	CALF TRAIL BRIDGE - MP 0.50			
20207A	REMOVAL OF INDIVIDUAL TREES, DISPOSAL METHOD (f)	EACH	21	C.O. WILL DESIGNATE TREES TO BE FELL. FALL TREES SIDE HILL, LIMB, AND LEAVE
20301A	REMOVAL OF EXISTING TRAIL BRIDGE'S, DISPOSAL METHOD (a)	LUMP SUM	ALL	REMOVE FROM PROJECTAND DISPOSE OF EXISTING TRAIL BRIDGE LEGALLY OFF OF GOVERNMENT LAND
25203A	SPECIAL ROCK EMBANKMENT, BRIDGE APPROACHES	SQUARE FEET	10	CONTRACTOR TO COORDINATE WITH CO ON SITE FOR ROCK EMBANKMENT REQUIRED. ACTUAL QUANTITY WILL BE PAID.
55201A	STRUCTURAL CONCRETE, CLASS A(AE)	CUBIC YARD *	3	PRECAST CONCRETE GRADE BEAMS
57103A	PREFABRICATED STEEL TRUSS SUPERSTRUCTURE - DESIGN, FABRICATE, DELIVER, AND INSTALL	LUMP SUM	ALL	SUPERSTRUCTURE DESIGN, FABRICATE, INSTALL PER THE PLANS & SPECS
	CALF TRAIL BRIDGE - MP 1.20			
20207B	REMOVAL OF INDIVIDUAL TREES, DISPOSAL METHOD (f)	EACH	28	C.O. WILL DESIGNATE TREES TO BE FELL. FALL TREES SIDE HILL, LIMB, AND LEAVE
20301B	REMOVAL OF EXISTING TRAIL BRIDGE, DISPOSAL METHOD (a)	LUMP SUM	ALL	REMOVE FROM PROJECT AND DISPOSE OF EXISTING TRAIL BRIDGE LEGALLY OFF OF GOVERNMENT LAND & INCLUDES MATERIALS TO BE REMOVED FROM MP 0.10
20431B	ROCK EXCAVATION	CUBIC YARD *	2	ROCK EXCAVATION IS AT B.O.B. BRIDGE @ MP 1.2. SEE SHEET 5 OF 13 FOR PHOTO OF BOULDER TO BE BROKEN UP
25203B	SPECIAL ROCK EMBANKMENT, BRIDGE APPROACHES	SQUARE FEET	10	CONTRACTOR TO COORINATE WITH CO ON SITE FOR ROCK EMBANKMENT REQUIRED. ACTUAL QUANTITY WILL BE PAID.
55201B	STRUCTURAL CONCRETE, CLASS A(AE)	CUBIC YARD *	3	PRECAST CONCRETE GRADE BEAMS
57103B	PREFABRICATED STEEL TRUSS SUPERSTRUCTURE - DESIGN, FABRICATE, DELIVER, & INSTALL	LUMP SUM	ALL	SUPERSTRUCTURE DESIGN, FABRICATE, INSTALL PER THE PLANS & SPECS
	CALF TRAIL BRIDGE - MP 2.90			
20207C	REMOVAL OF INDIVIDUAL TREES, DISPOSAL METHOD (f)	EACH	12	C.O. WILL DESIGNATE TREES TO BE FELL. FALL TREES SIDE HILL, LIMB, AND LEAVE
20301C	REMOVAL OF EXISTING TRAIL BRIDGE, DISPOSAL METHOD (a)	LUMP SUM	ALL	REMOVE FROM PROJECTAND DISPOSE OF EXISTING TRAIL BRIDGE LEGALLY OFF OF GOVERNMENT LAND
55201C	STRUCTURAL CONCRETE, CLASS A (AE)	CUBIC YARD *	3	PRECAST CONCRETE GRADE BEAMS
57103C	PREFABRICATED STEEL TRUSS SUPERSTRUCTURE - DESIGN, FABRICATE, DELIVER, & INSTALL	LUMP SUM	ALL	SUPERSTRUCTURE DESIGN, FABRICATE, INSTALL PER THE PLANS & SPECS

* CONTRACT QUANTITY



GENERAL NOTES:
CALF CREEK TRAIL SECTION AT MP 0.50 AND MP 1.20 BOTH SITES HAVE BEEN DESTROYED BY FIRE SO ANY REMAINING TRAIL BRIDGE COMPONENTS SHALL BE REMOVED OFF GOVERNMENT LAND PER PAY ITEM 20301. SEE SHEET 4 & 5 OF 13 FOR PHOTOS OF BRIDGE SITE.

AT MP 2.90 THE CURRENT TRAIL BRIDGE WILL NEED TO BE COMPLETELY REMOVED (ALL WOODEN TIMBERS, CONCRETE, HARDWARE AND ANY OTHER COMPONENTS NOT LISTED SHALL BE REMOVED FROM GOVERNEMNT LAND PER SECTION 203, DISPOSAL METHOD 203.05a, PAY ITEM 20301C. SEE SHEET 6 OF 13 FOR PHOTOS.

NOTE:
AT PANTHER TRAILHEAD HIKE IN 0.10 MILES TO PANTHER CREEK TRAIL BRIDGE AND REMOVE EXISTING ROTTEN LUMBER WITH REBAR OFF GOVERNMENT LAND PER SECTION 203, DISPOSAL METHOD 203.05(a), PAY ITEM 20301B.

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Forest Service

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PACIFIC NORTHWEST

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PROJECT NAME

NORTH UMPQUA TRAIL BRIDGES CALF CREEK SEGMENT

UMPQUA NATIONAL FOREST

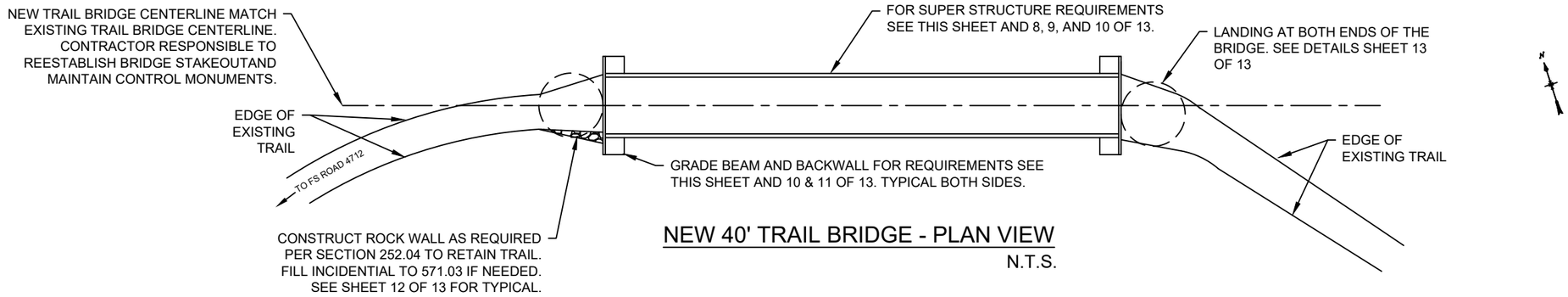
NORTH UMPQUA RANGER DISTRICT

DRAWING TITLE

ESTIMATE OF QUANTITIES

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CHECKED HOLLY BENTZ	
PROJECT NO.	SHEET 3 OF 13

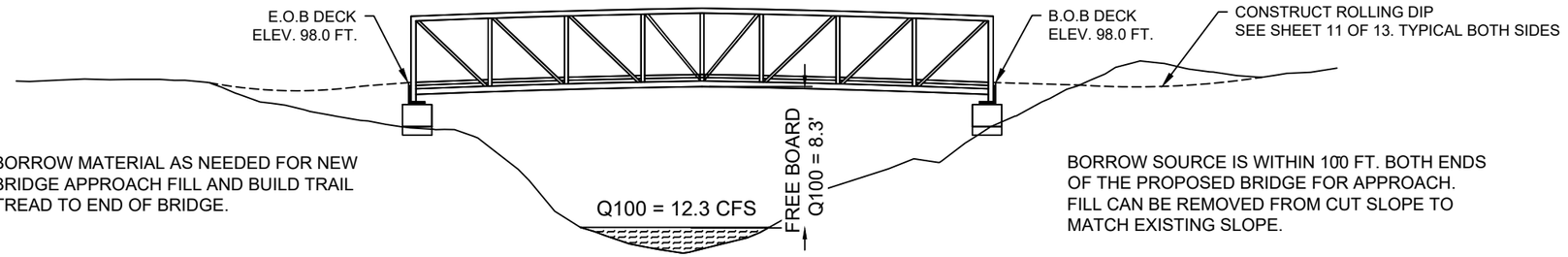
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NEW 40' TRAIL BRIDGE - PLAN VIEW

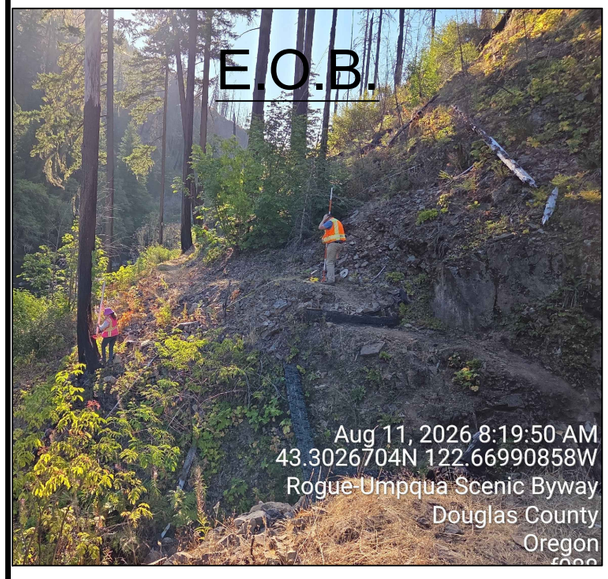
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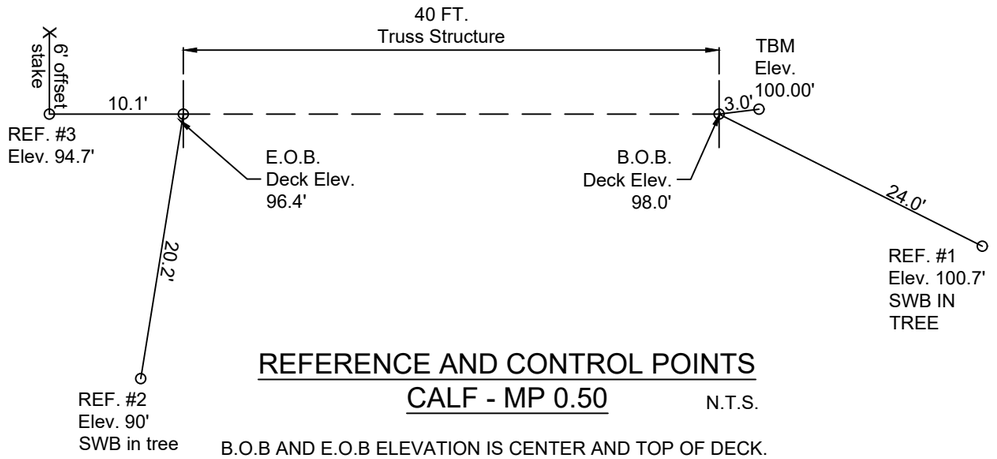
NOTE:
THE DRAWINGS ARE REPRESENTATIVE OF FIELD CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACTUAL FIELD CONDITIONS.



NEW 40' TRAIL BRIDGE - PROFILE VIEW

N.T.S.





REFERENCE AND CONTROL POINTS
CALF - MP 0.50

N.T.S.

B.O.B AND E.O.B ELEVATION IS CENTER AND TOP OF DECK. CONTROL POINTS SHOWN ABOVE ARE LOCAL ELEV. ADJUST GRADE BEAM ELEV. BASED ON BRIDGE SUPER STRUCTURE RAILING HEIGHT (TRUSS ELEV. ABOVE DECK) TO BE 42 INCHES.

TBM - TEMPORARY BENCH MARK
B.O.B. - BEGINNING OF BRIDGE CENTERLINE
E.O.B. - END OF BRIDGE CENTERLINE
SWB - SPIKE WITH BROOM



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PROJECT NAME

NORTH UMPQUA TRAIL BRIDGES CALF SECTION

UMPQUA

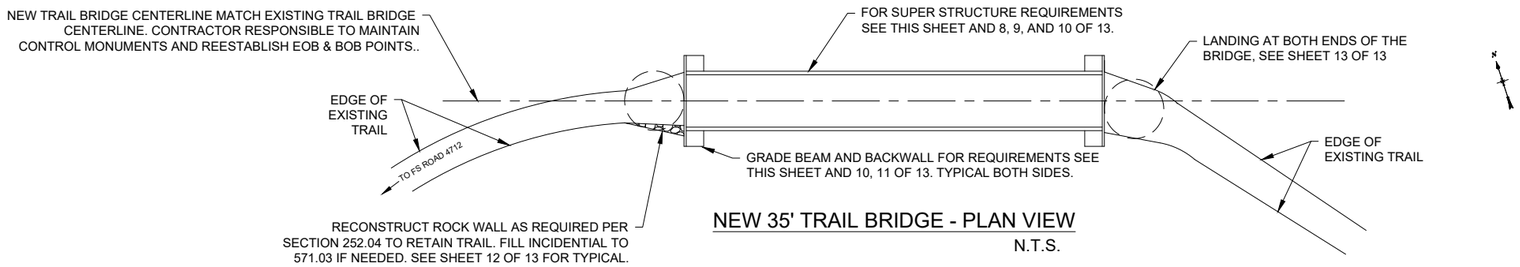
NORTH UMPQUA RANGER DISTRICT

DRAWING TITLE

CALF CREEK MP 0.50 SITE PLAN

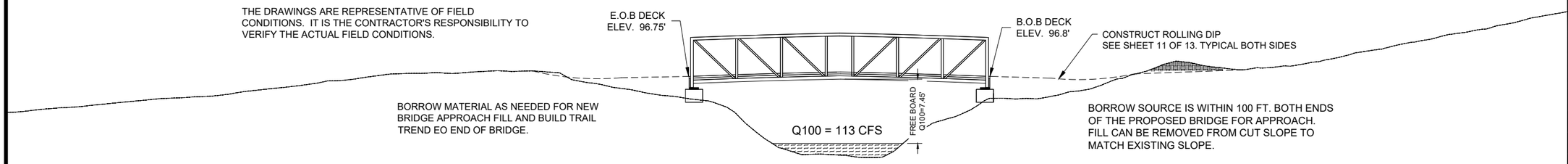
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CHECKED HOLLY BENTZ	
PROJECT NO.	SHEET 4 OF 13

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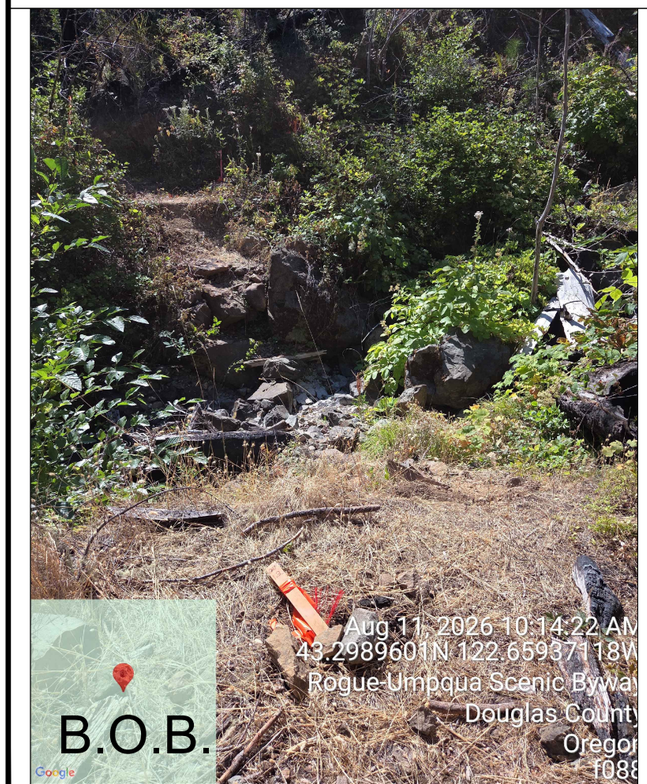
NEW 35' TRAIL BRIDGE - PLAN VIEW

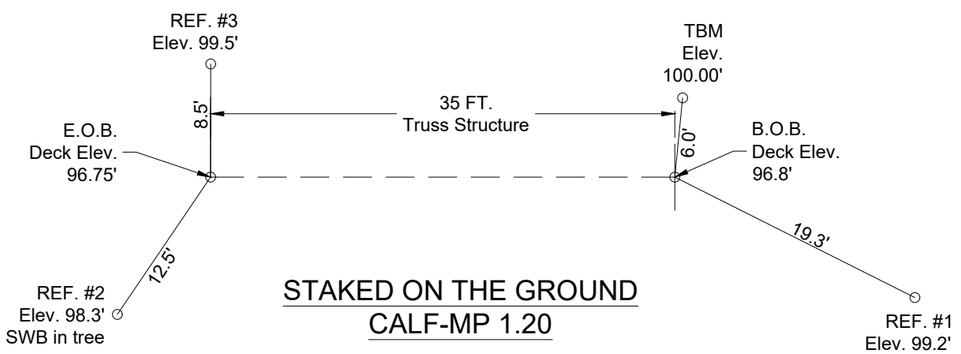
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NEW 35' TRAIL BRIDGE- PROFILE VIEW

N.T.S.

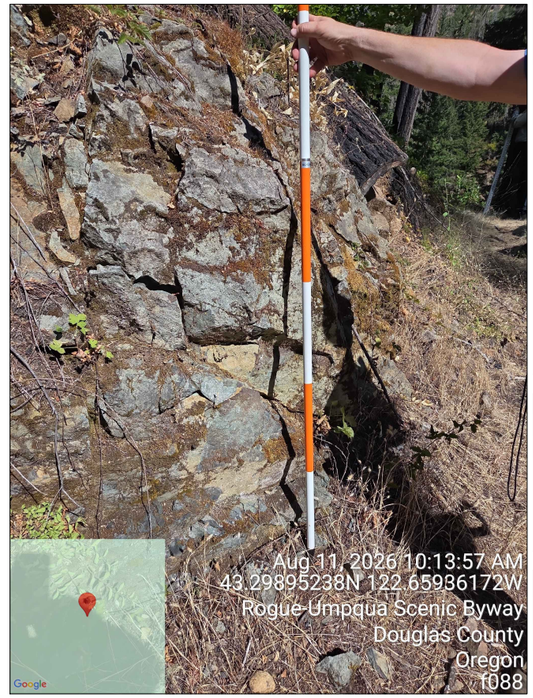




STAKED ON THE GROUND
CALF-MP 1.20

B.O.B AND E.O.B ELEVATION IS CENTER AND TOP OF DECK. CONTROL POINTS SHOWN ABOVE ARE LOCAL ELEV. ADJUST GRADE BEAM ELEV. BASED ON BRIDGE SUPER STRUCTURE RAILING HEIGHT (TRUSS ELEV. ABOVE DECK) TO BE 42 INCHES.

TBM - TEMPORARY BENCH MARK
B.O.B. - BEGINNING OF BRIDGE CENTERLINE
E.O.B. - END OF BRIDGE CENTERLINE
SWB - SPIKE WITH BROOM



BOULDER TO BE USED FOR ROCK EXCAVATION IS APPROX. 10 FT. BEFORE B.O.B.

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R0

Pacific Northwest

STAMPS, LOGOS, AND SEALS

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PROJECT NAME

NORTH UMPQUA TRAIL BRIDGES CALF SECTION

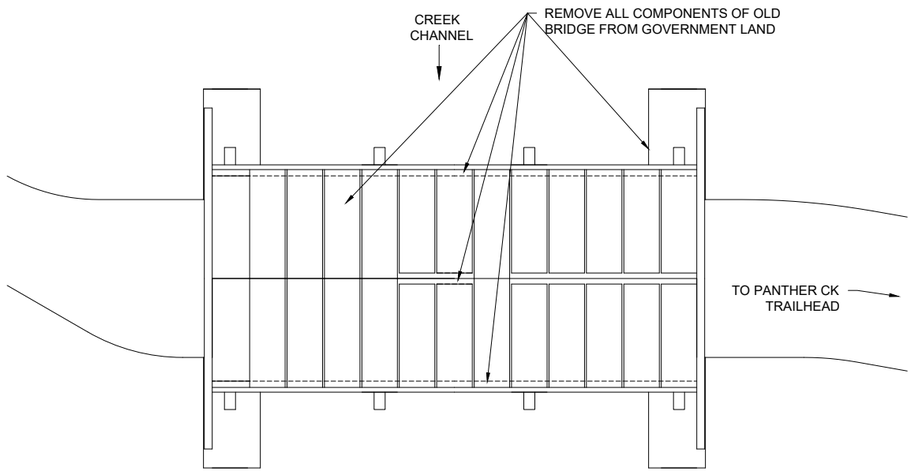
UMPQUA N.F.

NORTH UMPQUA R.D.

DRAWING TITLE

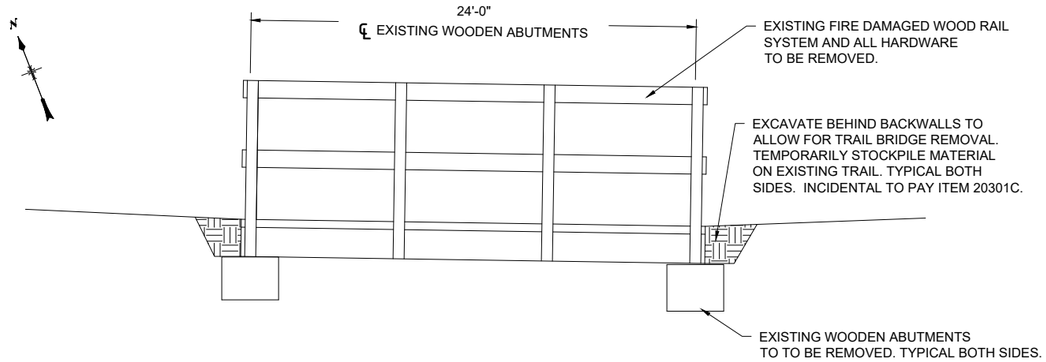
CALF CREEK MP 1.20 SITE PLAN

DATE 08/09/2026	ARCHIVE NO.
DESIGNER PEGGY ROBERTS	DRAWING SHEET NO. 5
DRAWN PEGGY ROBERTS	
CHECKED HOLLY BENTZ	
PROJECT NO.	SHEET 5 OF 13



PLAN VIEW*

N.T.S.



ELEVATION VIEW*

N.T.S.

***THE DRAWINGS ARE REPRESENTATIVE OF FIELD CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACTUAL FIELD CONDTIONS.**

NOTE:
ALL EXISTING TRAIL BRIDGE COMPONENTS SHALL BE REMOVED OFF GOVERNMENT LAND PER SECTION 203, DISPOSAL METHOD 203.05(a), PAY ITEM 20301C.



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PROJECT NAME

NORTH UMPQUA TRAIL BRIDGES CALF CREEK SECTION

UMPQUA

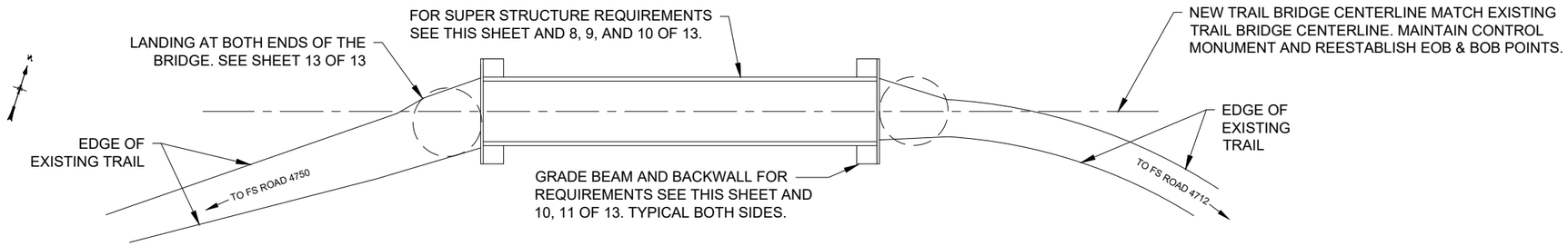
NORTH UMPQUA RANGER DISTRICT

DRAWING TITLE

CALF MP 2.9 TRAIL BRIDGE DEMOLITION

DATE 09/07/2026	ARCHIVE NO.
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DRAWN PEGGY ROBERTS	
CHECKED HOLLY BENTZ	
PROJECT NO.	SHEET 6 OF 13

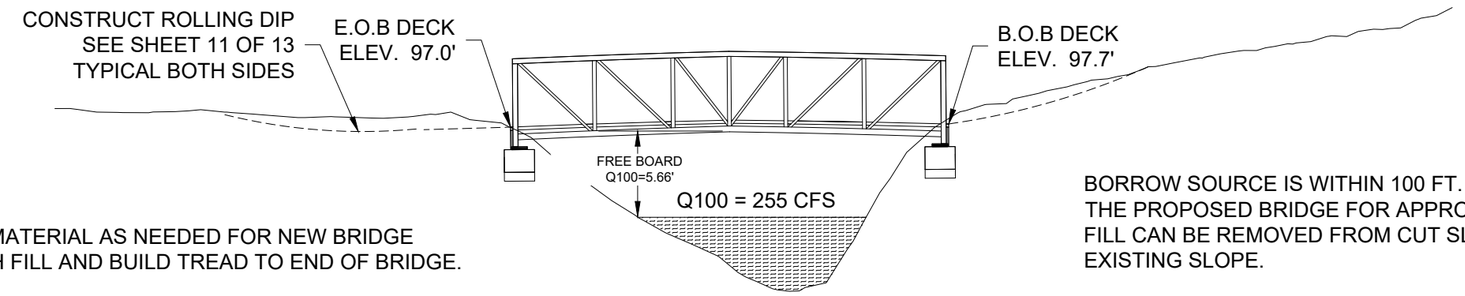
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NEW 29' TRAIL BRIDGE - PLAN VIEW

N.T.S.

THE DRAWINGS ARE REPRESENTATIVE OF FIELD CONDITIONS.
IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACTUAL FIELD CONDITIONS.

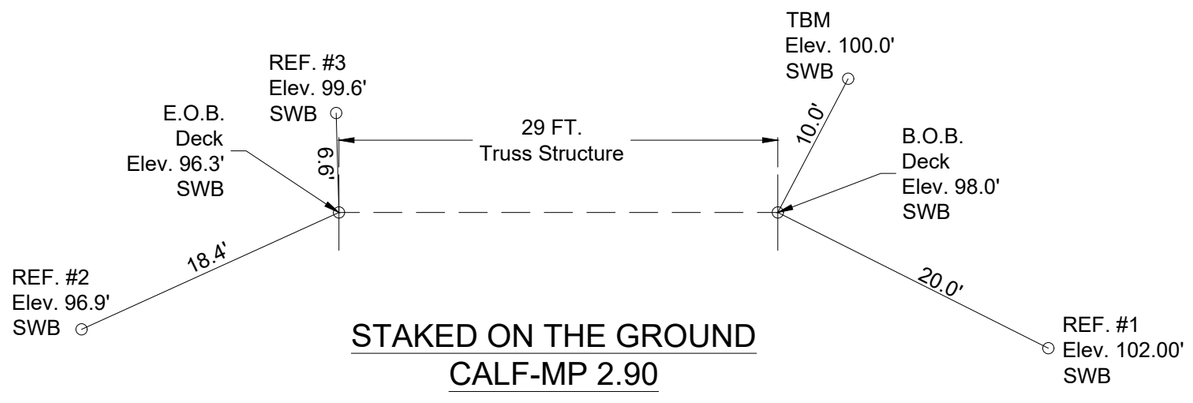


BORROW MATERIAL AS NEEDED FOR NEW BRIDGE APPROACH FILL AND BUILD TREAD TO END OF BRIDGE.

BORROW SOURCE IS WITHIN 100 FT. BOTH ENDS OF THE PROPOSED BRIDGE FOR APPROACH. FILL CAN BE REMOVED FROM CUT SLOPE TO MATCH EXISTING SLOPE.

NEW 29' TRAIL BRIDGE - PROFILE VIEW

N.T.S.



STAKED ON THE GROUND
CALF-MP 2.90

B.O.B AND E.O.B ELEVATION IS CENTER AND TOP OF DECK.
CONTROL POINTS SHOWN ABOVE ARE LOCAL ELEV. ADJUST GRADE BEAM ELEV. BASED ON BRIDGE SUPER STRUCTURE RAILING HEIGHT (TRUSS ELEV. ABOVE DECK) TO BE 42 INCHES.

TBM - TEMPORARY BENCH MARK
B.O.B. - BEGINNING OF BRIDGE CENTERLINE
E.O.B. - END OF BRIDGE CENTERLINE
SWB - SPIKE WITH BROOM

9/14/26 18:46 PINKLADY C:\USERS\PINKLADY\ONEDRIVE\DOCUMENTS\AGREEMENTS\NORTH UMPQUA TRAIL BRIDGES\NUT CALF BRIDGES-2026\CALF 2.9\CALF_2.90.DWG;

USDA FOREST SERVICE — DEPARTMENT OF AGRICULTURE

United States Department of Agriculture
Forest Service

R06
PACIFIC NORTHWEST

STAMPS, LOGOS, AND SEALS

NO.	REVISION / ISSUE	DATE
4		
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2		
1		

PROJECT NAME

NORTH UMPQUA TRAIL BRIDGES CALF SECTION

UMPQUA N.F.

NORTH UMPQUA R.D.

DRAWING TITLE

CALF CREEK MP 2.9 SITE PLAN

DATE 09/08/2026	ARCHIVE NO.
DESIGNER PEGGY ROBERTS	DRAWING SHEET NO. 7
DRAWN PEGGY ROBERTS	
CHECKED HOLLY BENTZ	
PROJECT NO.	SHEET 7 OF 13

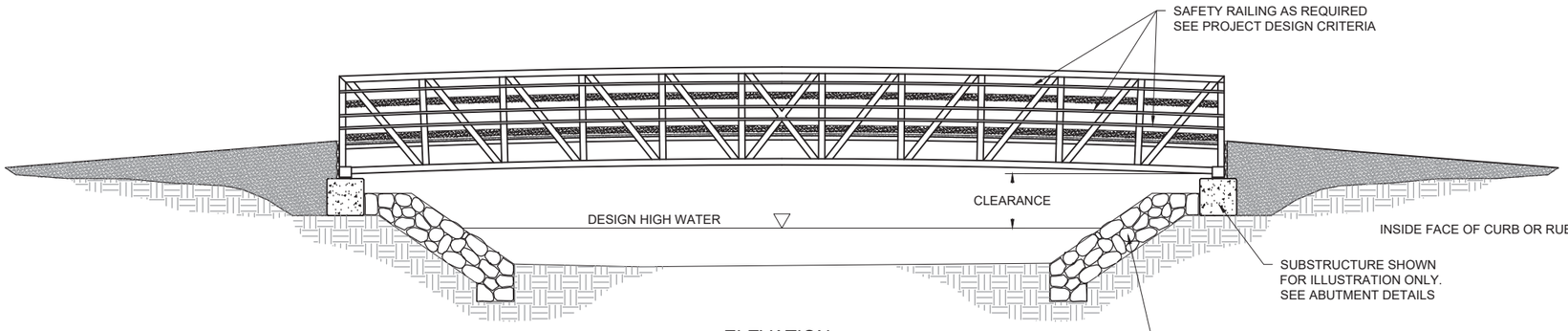
STRUCTURE NUMBER	TRAIL NO.	BRIDGE LOCATION	BRIDGE LENGTH c-c BRNG	BRIDGE SPAN OUT-TO-OUT	BRIDGE CLEAR WIDTH	PEDESTRIAN LOAD	GROUND SNOW LOAD	HANDRAIL					END POST		DECK		
								ADA REQUIRED	HEIGHT	RUB RAIL SPECIES	RUB RAIL SIZE	TREATMENT	VERTICAL	DIAGONAL	SPECIES	SIZE	TREATMENT (Y/N) & TYPE
1	1414 CALF	MP 0.5	40 FT	N/A	5'-0"	90 PSF	30 PSF	N/A	N/A	N/A	NO	NO	N/A	N/A	AYC/WRC	3X	No
2	1414 CALF	MP 1.2	35 FT	N/A	5'-0"	90 PSF	30 PSF	N/A	N/A	N/A	NO	NO	N/A	N/A	AYC/WRC	3X	No
3	1414 CALF	MP 2.9	29 FT	N/A	5'-0"	90 PSF	30 PSF	N/A	N/A	N/A	NO	NO	N/A	N/A	AYC/WRC	3X	No

DECK TYPE: ST = STEEL THROUGH TRUSS, FRP = FIBER REINFORCED POLYMER TRUSS, CONC = CONCRETE VOID SLAB

STRUCTURE NUMBER	RUNNING PLANK				ABUTMENT			BACKWALL						APPROACHES						COMMENTS
	SPECIES	SIZE	WIDTH	TREATMENT (Y/N) & TYPE	TYPE	SIZE	TREATMENT (Y/N) & TYPE	TYPE	SPECIES	SIZE	WIDTH	HEIGHT	TREATMENT (Y/N) & TYPE	LENGTH NEAR	LENGTH FAR	WIDTH	MATERIAL TYPE	MATERIAL DEPTH	GEO-SYNTHETIC TYPE	
1	AYC/WRC	2x	5 FT	No	CONC - See Pages 10 and 11			Steel - See Page 11						See	Plans					End rail will be 42" high measured from the deck.
2	AYC/WRC	2x	5 FT	No	CONC - See Pages 10 and 11			Steel - See Page 11						See	Plans					
3	AYC/WRC	2x	5 FT	No	CONC - See Pages 10 and 11			Steel - See Page 11						See	Plans					Truss will act as Guardrail across the span at 42" high.
																				Bridge will support Pedestrian and Equestrian use.

ABUTMENT MATERIAL TYPE: SS = SOLID SAWN, GLU = GLULAM, CONC = CONCRETE

Design vehicle as shown on sheet 11 CAT 308.1 or equal.

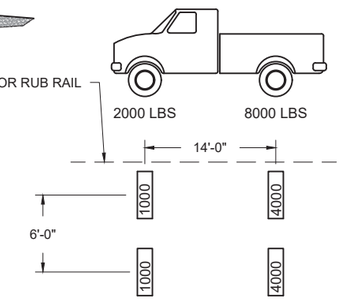


ELEVATION

NOT TO SCALE

- MAXIMUM GRADE ℄ BEARING TO ℄ BEARING = 5%

- RUNNING PLANKS AND DECK PLANKS NOT SHOWN FOR CLARITY



H-5 VEHICLE LOADING DIAGRAM*

NOT TO SCALE

*REQUIRED FOR CLEAR WIDTHS OF 7'-0" OR MORE

.

DEFINE CRITERIA FOR OTHER VEHICLES TO BE CONSIDERED DURING DESIGN BY WEIGHT, AXLES OR TRACKS, LENGTH, WIDTH, MODEL NO.,AND OTHER PERTINENT INFORMATION.

CHRISTY DARDEN

Digitally signed by CHRISTY DARDEN
Date: 2021.03.12 15:46:11 -08'00'

APPROVED BY: R6 DIRECTOR OF ENGINEERING

United States Department of Agriculture
Forest Service

R06
PACIFIC NORTHWEST REGION

STAMPS, LOGOS, AND SEALS

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2		
1		

PROJECT NAME

PREFABRICATED STEEL TRUSS TRAIL BRIDGE

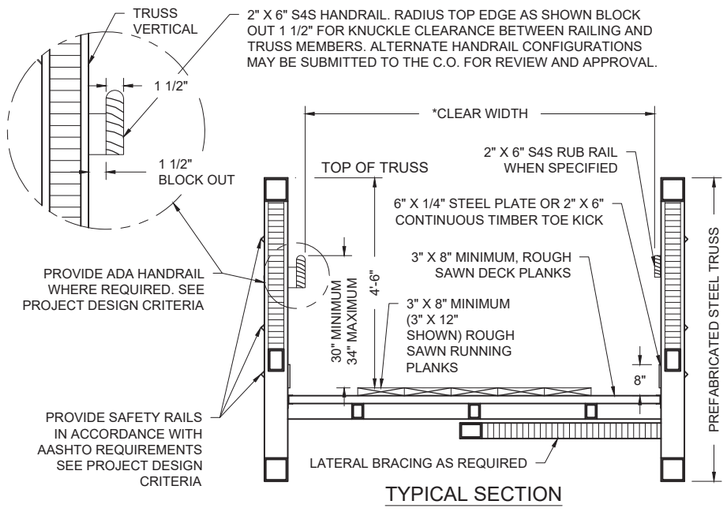
REGIONAL STANDARD R6_STD-964-10

DRAWING TITLE

PREFABRICATED STEEL TRUSS TRAIL BRIDGE PLANNING AND CRITERIA

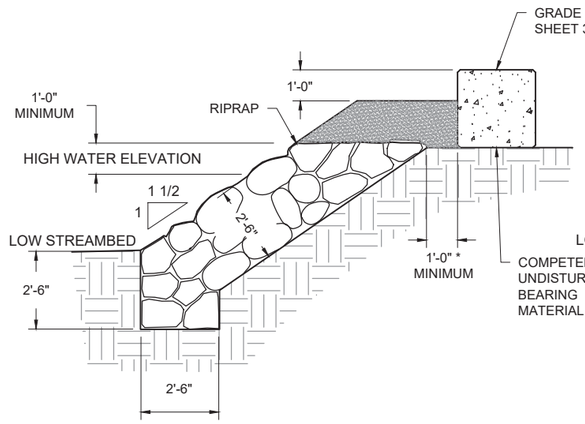
DATE 2/1/2021	ARCHIVE NO.
DESIGNER K.VAN HECKE	DRAWING SHEET NO. -01
DRAWN S.WEISNER	
CHECKED E.ANTRIM	
PROJECT NO.	SHEET 08 OF 13

2/19/21 17:43 KVANHECKE C:\USERS\KVANHECKE\BOX\01. KVANHECKE WORKSPACE\REGION 6 BRIDGE PROGRAM\REGION 6 STANDARD TRAIL BRIDGE DRAWINGS\R6 STANDARD PREFAB STEEL TRUSS BRIDGE.DWG;

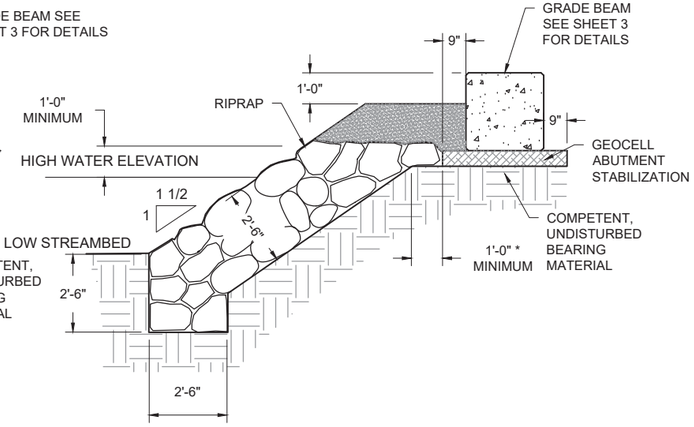


TYPICAL SECTION

* INSIDE FACE TO INSIDE FACE(RUB RAILS AND RAIL)



GRADE BEAM FOUNDATION
RIPRAP ARMORING



GRADE BEAM FOUNDATION
RIPRAP ARMORING W/GEOCELL

* SETBACK TO BE DETERMINED BY A FOUNDATION ANALYSIS IN CONFORMANCE WITH THE DESIGN SPECIFICATIONS. ENSURE FOUNDATIONS ARE DESIGNED AND CONSTRUCTED WITH CONSIDERATION FOR SITE CONDITIONS RELATIVE TO FOUNDATION MATERIAL, NOMINAL BEARING PRESSURES, WATER TABLES, AND PROXIMITY TO ADJACENT SLOPES. DESIGN THE FOUNDATIONS IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

GENERAL NOTES:

SPECIFICATIONS:

DESIGN : AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, CURRENT EDITION AND AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, CURRENT EDITION, EXCEPT AS NOTED.

CONSTRUCTION: STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-14) AND STANDARD SPECIFICATIONS FOR CONSTRUCTION OF TRAILS AND TRAIL BRIDGES ON FEDERAL PROJECTS.,

PREFABRICATED STEEL BRIDGE SUPERSTRUCTURE: PREFABRICATED STEEL SUPERSTRUCTURE DESIGN MUST BE A TRUSS CONFIGURATION SIMILAR TO THAT SHOWN ON THE DRAWINGS. MAINTAIN THE CLEARANCES ABOVE HIGH WATER TO THE BOTTOM CHORD INDICATED ON THE BRIDGE ELEVATION. FOR THE CONTRACTOR PROPOSED CROSS-SECTION, PROVIDE THE WIDTH AND RAILING DETAILS INDICATED ON THE BRIDGE TYPICAL SECTION, AND DETERMINE TRUSS HEIGHT AND THE LOCATION OF THE DECK WITH RESPECT TO THE TOP AND BOTTOM CHORDS (U FRAME VS. H FRAME). OVERHEAD LATERAL BRACING IS UNACCEPTABLE. AFTER APPROVAL BY THE CO, FINALIZE CONSTRUCTION OF THE SELECTED STRUCTURE, AND ENSURE THAT RELATED DETAILS SUCH AS PROFILE, ABUTMENT DETAILS, BEARINGS, AND TIMBER DECKING ARE CONSIDERED AND INCLUDED IN THE DESIGN AND CONSTRUCTION.

DESIGN THE PREFABRICATED STEEL BRIDGE SUPERSTRUCTURE, ABUTMENT FOUNDATIONS, AND ASSOCIATED DETAILS INCLUDING TIMBER COMPONENTS, UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER. SUBMIT THE COMPLETED DESIGN, DRAWINGS, AND SPECIFICATION PACKAGE TO THE CONTRACTING OFFICER FOR REVIEW AND APPROVAL.

PROVIDE CAMBER FOR 100% OF THE FULL DEAD LOAD DEFLECTION PLUS 1% OF BRIDGE SPAN. SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR APPROVAL AND MUST BE APPROVED BEFORE FABRICATION.

MATERIALS: USE STEEL SHAPES, PLATES AND BARS OF WEATHERING STEEL CONFORMING TO AASHTO M270, GRADE 50W (ASTM A588 OR ASTM A242) OR ASTM A847 FOR SQUARE AND RECTANGULAR TUBING. MINIMUM STEEL THICKNESS SHALL BE AS SPECIFIED IN THE GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES. USE HIGH STRENGTH BOLTS CONFORMING TO AASHTO M164, (ASTM F3125, GRADE A325), TYPE 3, UNLESS NOTED OTHERWISE. USE MALLEABLE IRON WASHERS AGAINST WOOD.

STEEL FABRICATION: FABRICATE THE PREFABRICATED STEEL BRIDGE SUPERSTRUCTURE IN A PLANT MEETING QUALITY REQUIREMENTS AS A CERTIFIED STEEL FABRICATOR BY AISC. WELD STRUCTURAL STEEL IN ACCORDANCE WITH AWS D1.5 AND SUITABLE FOR THE GRADE OF STEEL AND INTENDED USE OR SERVICE.

ERECTION PLAN : SUBMIT AN ERECTION PLAN FOR THE PREFABRICATED STEEL BRIDGE SUPERSTRUCTURE TO THE C.O. FOR APPROVAL 14 DAYS BEFORE ERECTION IS SCHEDULED. IF ALLOWED UNDER THE PROJECT DESIGN CRITERIA, TEMPORARY IN-STREAM SUPPORT BENTS MAY BE USED FOR THE ERECTION OF THE PREFABRICATED STEEL TRUSS BRIDGE. CONSTRUCT TEMPORARY IN-STREAM BENTS USING UNTREATED TIMBER CRIBBING, SILLS, CONCRETE BLOCKS OR OTHER SUPPORTS THAT ARE PLACED WITH MINIMAL DISTURBANCE WITHIN THE STREAM. REMOVE ALL MATERIALS USED TO CONSTRUCT THE TEMPORARY IN-STREAM BENTS. SUBMIT DRAWINGS INDICATING TEMPORARY BENT LOCATIONS AND DETAILS. INDICATE THE EQUIPMENT AND METHODS PROPOSED TO INSTALL AND REMOVE THE TEMPORARY BENTS AND ERECT THE NEW PREFABRICATED STEEL TRUSS SUPERSTRUCTURE.

MATERIALS:

TIMBER & LUMBER:

SOLID SAWN TIMBER: CONFORM TO THE REQUIREMENTS OF THE GRADING RULES AGENCY FOR THE SPECIES, TYPE, AND GRADE SPECIFIED BELOW. UNLESS SHOWN OTHERWISE, ACCEPTABLE GRADING RULES AGENCIES ARE WWPA OR WCLIB.

GLULAM MEMBERS: CONFORM TO THE AMERICAN NATIONAL STANDARD, STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES (ANSI 117) FOR THE COMBINATION, SPECIES, USE, AND APPEARANCE CALLED FOR IN THE DESIGN.

DECKING
- TREATED (AS ALLOWED): COASTAL REGION DOUGLAS FIR - LARCH FULL ROUGH SAWN NO.2
- UNTREATED/DECAY RESISTANT: ALASKA YELLOW OR WESTERN RED CEDAR, FULL ROUGH SAWN NO. 2

RUNNING PLANKS
- COASTAL REGION DOUGLAS FIR - LARCH ROUGH SAWN NO.2 GRADE, GRADING RULES AGENCY - WWPA, WCLIB

RAILS, POSTS (SEE PROJECT CRITERIA)
- SAWN: ALASKA YELLOW OR WESTERN RED CEDAR, S4S, SELECT STRUCTURAL,

TREATMENT: SEE PROJECT CRITERIA FOR MEMBERS IDENTIFIED TO BE TREATED AND FOR TREATMENT TYPE. TREAT MEMBERS IN ACCORDANCE WITH THE CURRENT AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) SPECIFICATIONS USING THE TREATMENT MATERIALS LISTED BELOW. IN COMPLIANCE WITH THE REQUIREMENTS OF THE CURRENT EDITION OF WESTERN WOOD PRESERVERS INSTITUTE (WWPI) "BEST MANAGEMENT PRACTICES FOR THE USE OF TREATED WOOD IN AQUATIC ENVIRONMENTS".

DECKING, RUNNING PLANKS, IF TREATED
- AWPA USE CATEGORY SYSTEM (U1) FOR USE CATEGORY 3B ABOVE GROUND - EXPOSED (UC3B)
- PENTACHLOROPHENOL IN LIGHT OIL (TYPE C SOLVENT)
- COPPER NAPHTHENATE (CuN) IN LIGHT OIL (TYPE C SOLVENT)

SILLS, BACKING PLANKS, CRIBS, TIMBER WALLS, IF TREATED
- AWPA USE CATEGORY SYSTEM (U1) FOR USE CATEGORY 4B GROUND CONTACT - HEAVY DUTY (UC4B)
- PENTACHLOROPHENOL IN HEAVY OIL (TYPE A SOLVENT)
- COPPER NAPHTHENATE (CuN) IN HEAVY OIL (TYPE A SOLVENT)

FIELD TREATMENT: FURNISH COPPER NAPHTHENATE (2% SOLUTION) FOR FIELD TREATING OF WOOD. FOR FIELD TREATING ALL ABRASIONS AND FIELD CUTS - AS APPROVED BY THE CONTRACTING OFFICER - CAREFULLY TRIM MEMBERS AND TREAT USING THREE BRUSH COATS OF THE FIELD TREATMENT SOLUTION. WHERE APPROVED FIELD DRILLING OF BOLT OR NAIL HOLES IS REQUIRED OR ALLOWED, FILL THE HOLES WITH PRESERVATIVE PRIOR TO INSERTING THE FASTENERS.

TIMBER FABRICATION: SUBMIT SHOP DRAWINGS FOR ALL TIMBER BRIDGE COMPONENTS (EXCEPT TIMBER RUNNING PLANKS). SHOW ALL DIMENSIONS AND FABRICATION DETAILS FOR ALL CUT OR BORED TIMBER. INDICATE ON SHOP DRAWINGS WHERE FIELD DRILLING OF HOLES IS REQUIRED OR RECOMMENDED.

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PROJECT NAME

PREFABRICATED STEEL TRUSS TRAIL BRIDGE

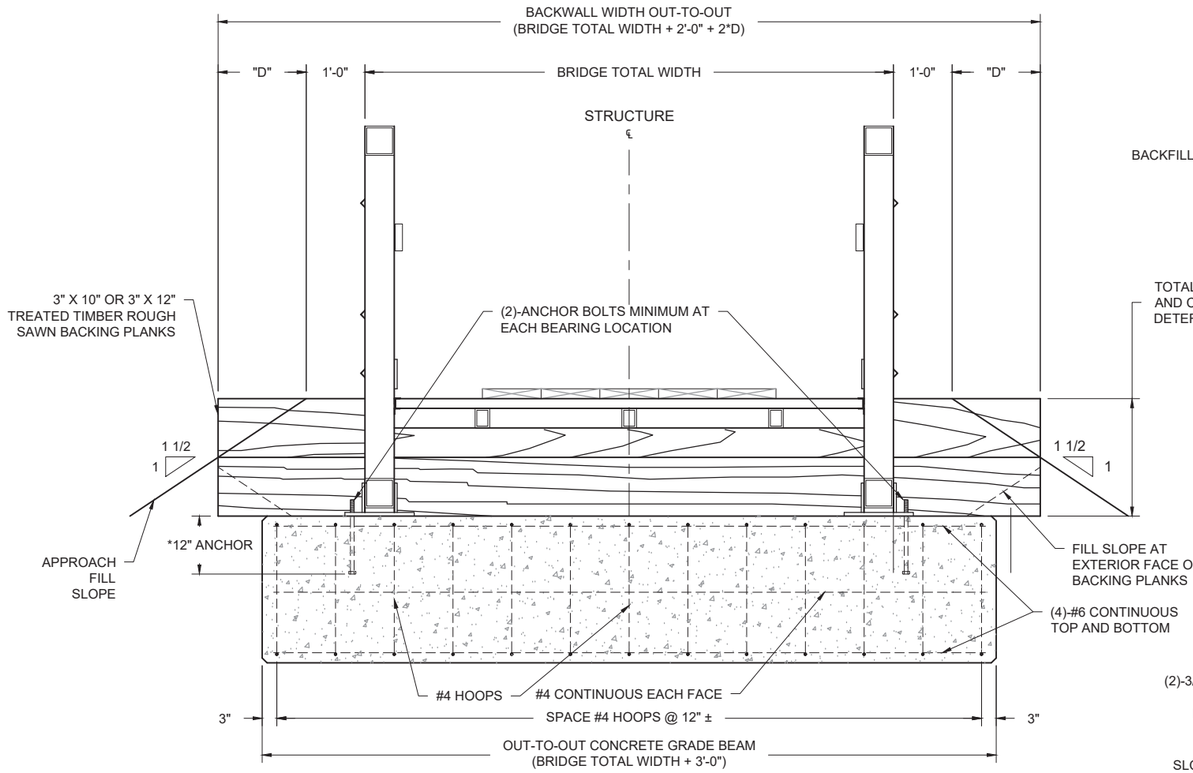
REGIONAL STANDARD R6_STD-964-10

DRAWING TITLE

GENERAL NOTES AND LAYOUT

DATE 2/1/2021	ARCHIVE NO.
DESIGNER K.VAN HECKE	DRAWING SHEET NO. -02
DRAWN S.WEISNER	
CHECKED E.ANTRIM	
PROJECT NO.	SHEET 09 OF 13

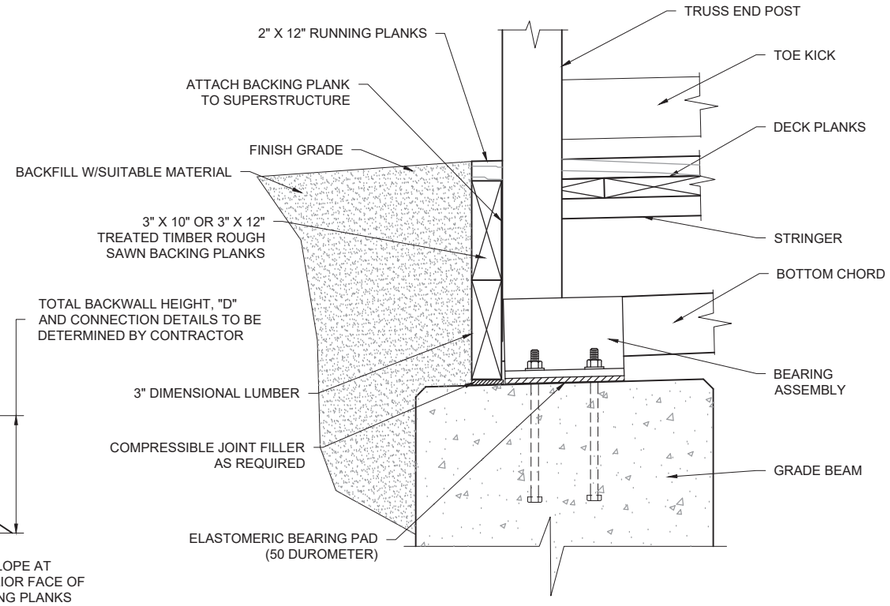
2/19/21 17:43 KVANHECKE C:\USERS\KVANHECKE\BOX\001_KVANHECKE WORKSPACE\REGION 6 BRIDGE PROGRAM\REGION 6 STANDARD TRAIL BRIDGE DRAWINGS\R6 STANDARD PREFABRICATED STEEL TRAIL BRIDGESR6_STD_964-10_PREFAB STEEL TRUSS BRIDGE.DWG;



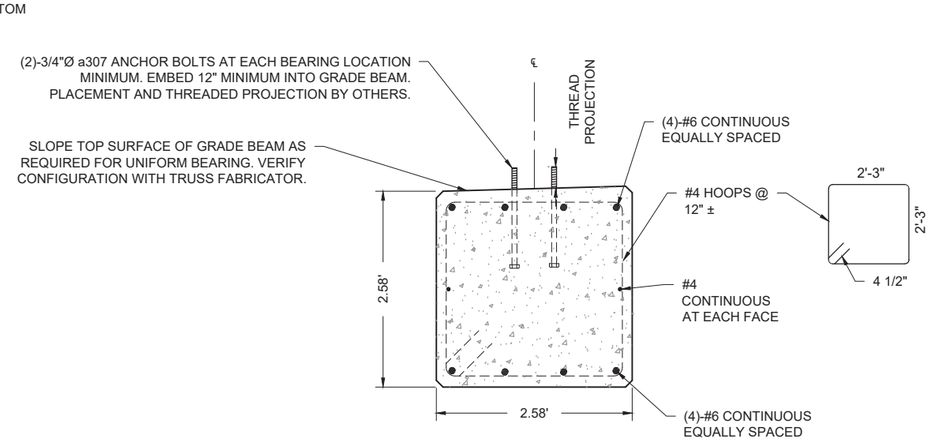
ELEVATION - GRADE BEAM

* 12" CAST-IN-PLACE ANCHOR OR 7" EPOXY ANCHOR WHEN APPROVED BY CO.

NOT TO SCALE



BEARING DETAIL



TYPICAL SECTION

NOTES:

CONCRETE: USE CLASS A(AE) FOR CONCRETE, f'c = 4500 PSI AT 28 DAYS WITH AN ENTRAINED AIR CONTENT OF 5% ±1% OR AS REQUIRED BY THE DESIGN. PROVIDE ALL CONCRETE IN ACCORDANCE WITH AN APPROVED MIX DESIGN. CHAMFER ALL EXPOSED EDGES OF CONCRETE 3/4-INCH.

REINFORCING STEEL: USE REINFORCING STEEL OF THE DEFORMED TYPE CONFORMING TO AASHTO M31 (ASTM A615), GRADE 60. WITH CONCRETE COVER AS SHOWN OR A MINIMUM OF 2 INCHES WHERE NOT SHOWN, IN CONFORMANCE WITH AASHTO SPECIFICATIONS. CUT AND BEND STEEL IN ACCORDANCE WITH ACI 315.

CONCRETE GRADE BEAM: DETAILS SHOWN ON THIS SHEET PROVIDE MINIMUM SIZES AND REQUIREMENTS. PREPARE AND SUBMIT COMPLETE GRADE BEAM DETAILS SPECIFIC TO THE BRIDGE DESIGN WITH THE PROPOSED SUPERSTRUCTURE DESIGN AND SHOP DRAWINGS.

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PROJECT NAME

PREFABRICATED STEEL TRUSS TRAIL BRIDGE

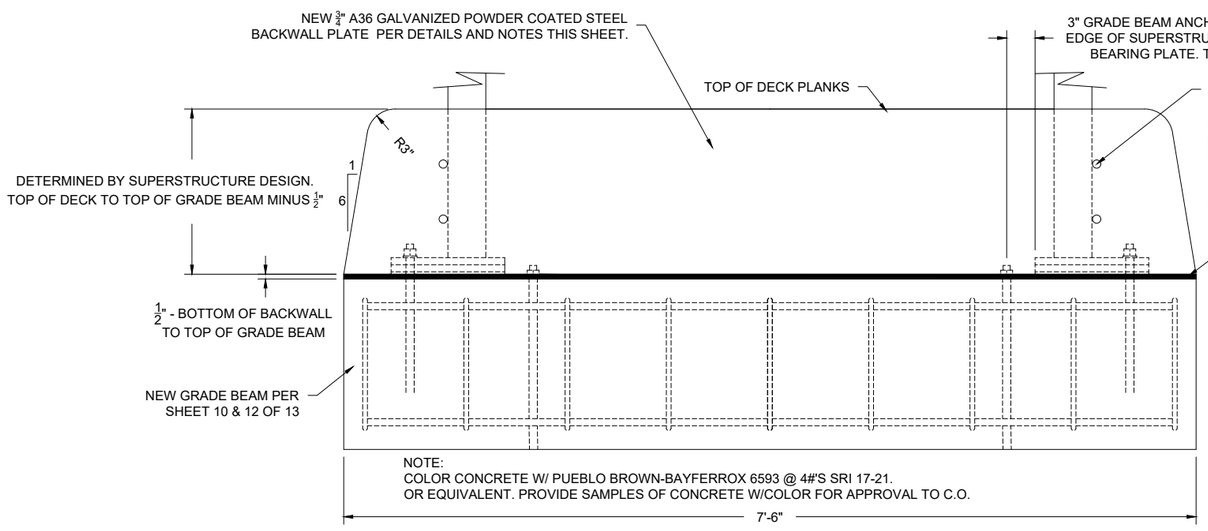
REGIONAL STANDARD R6_STD-964-10

DRAWING TITLE

BEARING AND SUBSTRUCTURE DETAILS

DATE 2/1/2021	ARCHIVE NO.
DESIGNER K.VAN HECKE	DRAWING SHEET NO. -03
DRAWN S.WEISNER	
CHECKED E.ANTRIM	
PROJECT NO.	SHEET 10 OF 13

2/19/21 17:43 KVANHECKE C:\USERS\KVANHECKE\BOX\01. KVANHECKE WORKSPACE\REGION 6 BRIDGE PROGRAM\REGION 6 STANDARD TRAIL BRIDGE DRAWINGS\R6 STANDARD PREFABRICATED STEEL TRAIL BRIDGES\R6_STD_964-10_PREFAB STEEL TRUSS BRIDGE.DWG;



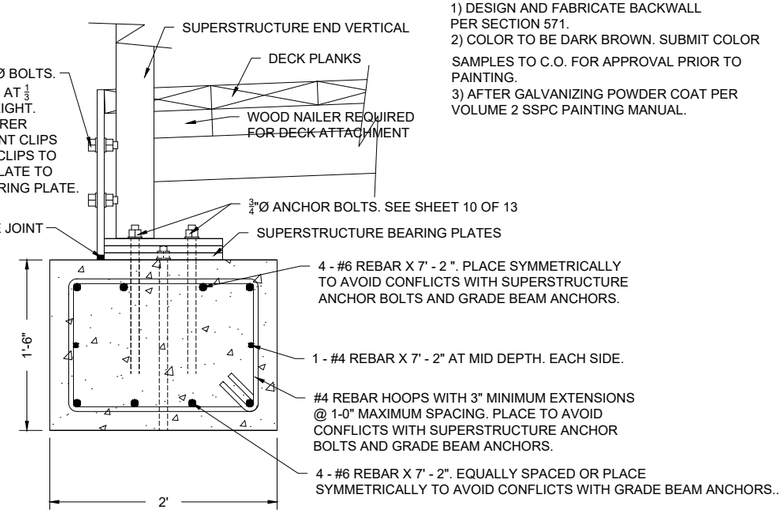
SCALE: 1 ½" = 1'-0"

0 6" 3 FT

IF THIS BAR DOES NOT MEASURE TO THE SCALE SHOWN THE DRAWING IS NOT TO SCALE

BACKWALL AND GRADE BEAM SECTION A 12

SCALE: 1 ½" = 1'-0"



BACKWALL AND GRADE BEAM CROSS SECTION

SCALE: 1 ½" = 1'-0"

BACKWALL NOTES:

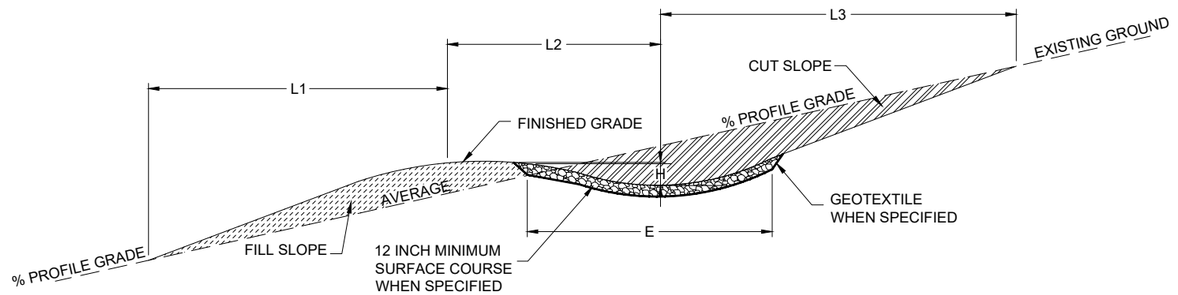
1) DESIGN AND FABRICATE BACKWALL PER SECTION 571.
2) COLOR TO BE DARK BROWN. SUBMIT COLOR SAMPLES TO C.O. FOR APPROVAL PRIOR TO PAINTING.
3) AFTER GALVANIZING POWDER COAT PER VOLUME 2 SSPC PAINTING MANUAL.

DESIGN VEHICLE
CAT 301.8 MINI EXCAVATOR
FOR ALL SPANS

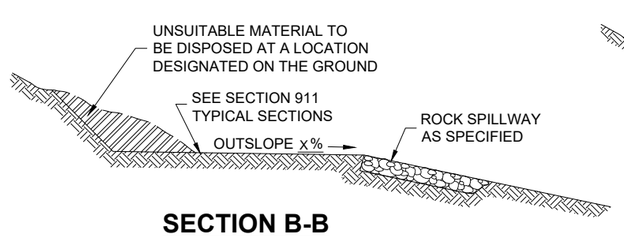


5000 LBS

℄
FLOOD LINE

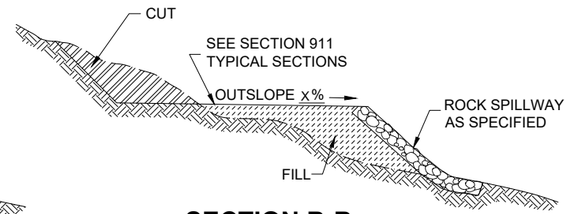


SECTION A-A



SECTION B-B

TYPICAL CUT SECTION



SECTION B-B

TYPICAL FILL SECTION

STANDARD TRAIL PLAN - DRAIN DIP DETAIL

STD_927-10-02 N.T.S.

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PROJECT NAME

NORTH UMPQUA TRAIL BRIDGES CALF CREK SECTION

UMPQUA

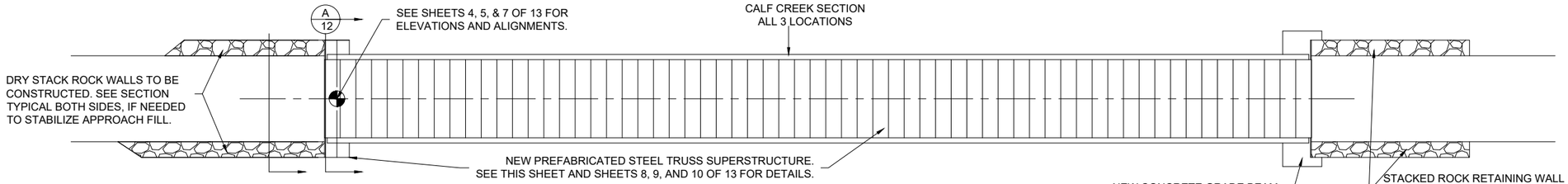
NORTH UMPQUA & DIAMOND LAKE R.D.

DRAWING TITLE

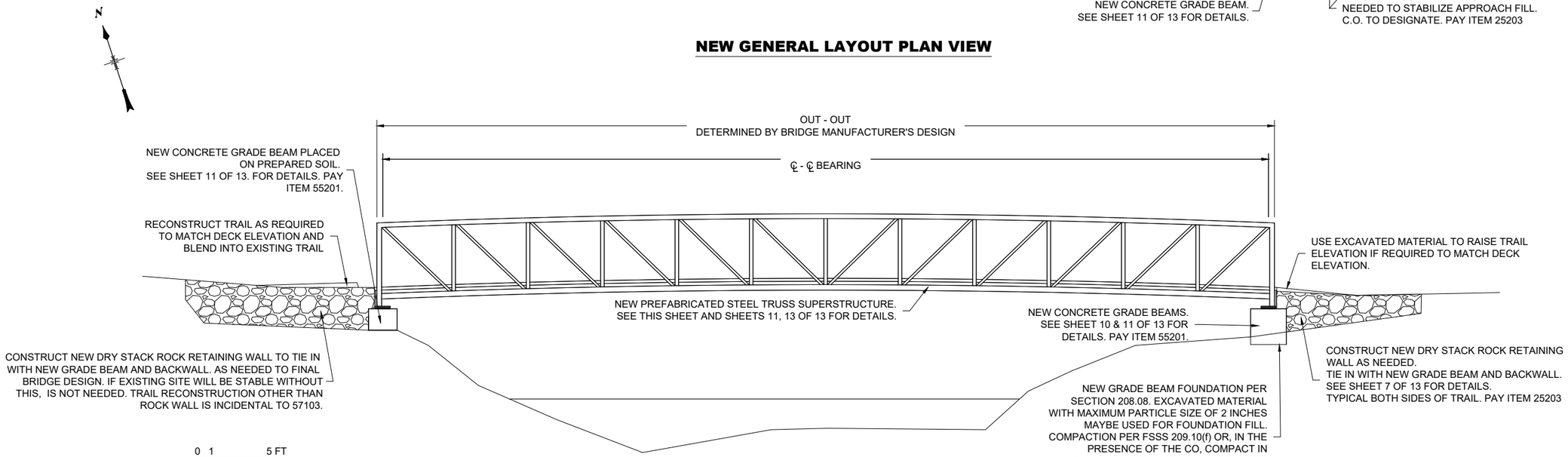
CALF CREEK TRAIL BRIDGE DETAILS

DATE 09/07/2026	ARCHIVE NO.
DESIGNER WILLIAM L BUTLER	DRAWING SHEET NO. 11
DRAWN PEGGY ROBERTS	
CHECKED HOLLY BENTZ	
PROJECT NO.	SHEET 11 OF 13

9/14/26 18:46 PINKLADY C:\USERS\PINKLADY\ONEDRIVE\DOCUMENTS\AGREEMENTS\NORTH UMPQUA TRAIL BRIDGES\NU TRAIL BRIDGESSHT-11,12,13.DWG;



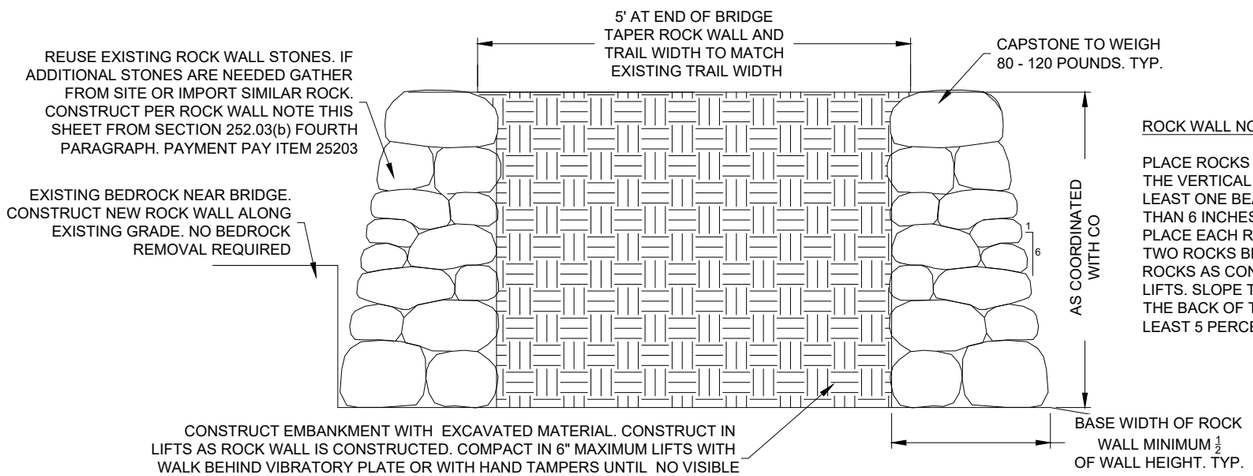
NEW GENERAL LAYOUT PLAN VIEW



0 1 5 FT
SCALE: $\frac{1}{4}$" = 1'-0"

IF THIS BAR DOES NOT MEASURE TO THE SCALE SHOWN THE DRAWING IS NOT TO SCALE

NEW GENERAL LAYOUT ELEVATION VIEW



ROCK WALL NOTE:

PLACE ROCKS TO AVOID CONTINUOUS JOINTS IN EITHER THE VERTICAL OR HORIZONTAL DIRECTION. LOCATE AT LEAST ONE BEARING POINT A DISTANCE NO GREATER THAN 6 INCHES FROM THE FACE OF THE ROCKERY. PLACE EACH ROCK TO ENSURE IT BEARS ON AT LEAST TWO ROCKS BELOW. PLACE INCREMENTALLY SMALLER ROCKS AS CONSTRUCTION PROCEEDS IN SUCCESSIVE LIFTS. SLOPE THE TOP SURE OF EACH ROCK TOWARDS THE BACK OF THE ROCKERY AT AN INCLINATION OF AT LEAST 5 PERCENT.

TYPICAL ROCK WALL/TRAIL SECTION

N.T.S.

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PROJECT NAME

NORTH UMPQUA TRAIL BRIDGES CALF CREEK SECTION

UMPQUA

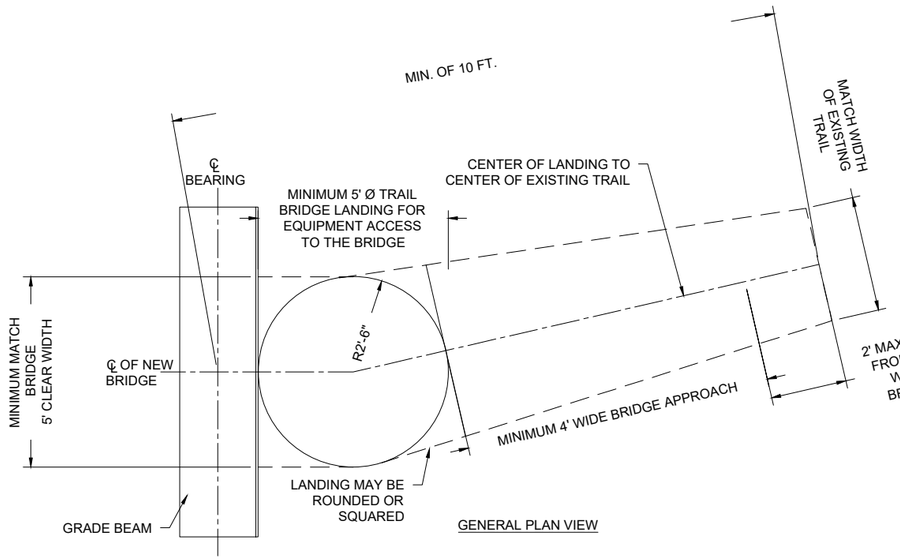
NORTH UMPQUA & DIAMOND LAKE R.D.

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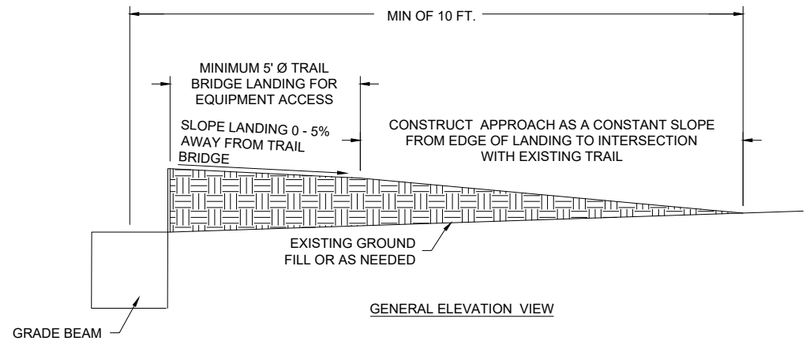
CALF SECTION TRAIL BRIDGES GENERAL LAYOUT

DATE 09/08/2026	ARCHIVE NO.
DESIGNER WILLIAM L BUTLER	DRAWING SHEET NO. 12
DRAWN PEGGY ROBERTS	
CHECKED HOLLY BENTZ	
PROJECT NO.	SHEET 12 OF 13

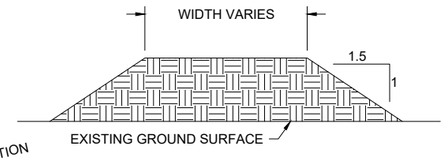
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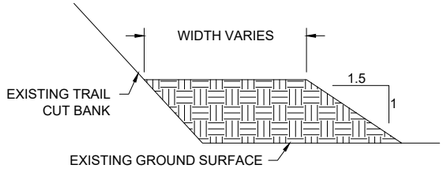
GENERAL PLAN VIEW



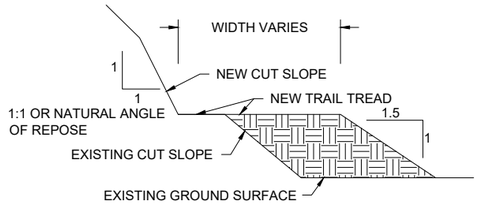
GENERAL ELEVATION VIEW



TYPICAL THROUGH FILL SECTION



TYPICAL FILL AGAINST CUT SLOPE SECTION



TYPICAL PARTIAL BENCH SECTION

NEW TRAIL BRIDGE LANDING AND APPROACH TRAIL TYPICALS

N.T.S.

LANDING AND APPROACH EXCAVATION & EMBANKMENT CONSTRUCTION NOTES:

1. LANDING AND APPROACH EXCAVATION AND EMBANKMENT CONSTRUCTED IN ACCORDANCE WITH FSSS 204 AND THIS SHEET. COMPENSATION FOR EXCAVATION BY INCIDENTAL TO 57103

2. CONSTRUCT EMBANKMENT WITH MATERIAL CONFORMING TO SECTION 704.05 OR 704.06. EXCAVATED AND BORROW MATERIAL FREE OF ORGANIC MATERIAL WILL BE ACCEPTED AS MEETING THE REQUIREMENTS OF SECTION 704.05 AND 704.06 WITH MAXIMUM PARTICLE SIZE OF 12". NO MATERIAL LARGER THAN 3" SHALL BE PLACED IN THE TOP 6" OF THE LANDING AND APPROACH.

3. PREPARE FOUNDATION FOR EMBANKMENT CONSTRUCTION BY REMOVAL OF ORGANIC MATERIAL FROM WITHIN THE EMBANKMENT FOOT PRINT.

4. PLACE MATERIAL IN MAXIMUM 6" LOOSE LIFTS.

5. COMPACT EACH LIFT IN ACCORDANCE WITH FSSS 204.11(f), OR, WITH MINIMUM THREE PASSES OF A WALK BEHIND VIBRATORY PLATE COMPACTOR, OR, WITH HAND TAMPERS UNTIL NO DISPLACEMENT OF THE SOIL IS OBSERVED.

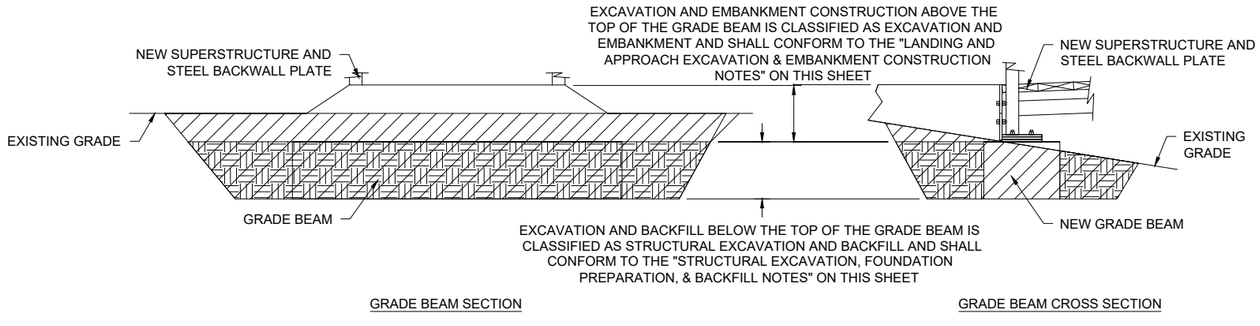
6. FINISH THE TOP SURFACE OF THE TRAIL AND LANDING TO FORM A CONTINUOUS SURFACE. NO ROCKS SHALL PROTRUDE ABOVE THE TRAIL SURFACE.

LEGEND

EMBANKMENT AND BACKFILL

EXCAVATION

EDGE OF LANDING/APPROACH TREAD



GRADE BEAM SECTION

GRADE BEAM CROSS SECTION

STRUCTURAL EXCAVATION & BACKFILL TYPICAL

N.T.S.

STRUCTURAL EXCAVATION, FOUNDATION PREPARATION, & BACKFILL NOTES

1. EXCAVATE IN ACCORDANCE WITH SECTION 208.03. COMPENSATION INCIDENTAL TO PAY ITEM 57103

2. FOUNDATION PREPARATION IN ACCORDANCE WITH SECTION 208.08. EXCAVATED MATERIAL FREE OF ORGANIC MATERIAL WITH MAXIMUM PARTICLE SIZE OF 2 INCHES MAYBE USED FOR FOUNDATION FILL. COMPACTION PER FSSS 209.10(f), OR, COMPACT IN 4" MAXIMUM LOOSE LIFTS WITH A HAND TAMPER UNTIL NO VISIBLE DEFLECTION IS OBSERVED. COMPENSATION INCIDENTAL TO PAY ITEM 57103.

3. BACKFILL IN ACCORDANCE WITH SECTION 208.09 AND THIS NOTE. EXCAVATED MATERIAL FREE OF ORGANIC MATERIAL WITH MAXIMUM PARTICLE SIZE OF 3 INCHES MAYBE USED FOR STRUCTURAL BACKFILL. COMPACTION PER FSSS 209.10(f), OR, COMPACT IN 6" MAXIMUM LOOSE LIFTS WITH A HAND TAMPER UNTIL NO VISIBLE DEFLECTION IS OBSERVED. COMPENSATION INCIDENTAL TO PAY ITEM 57103.

USDA FOREST SERVICE

United States Department of Agriculture
Forest Service

R06
PACIFIC NORTHWEST

STAMPS, LOGOS, AND SEALS

NO.	REVISION / ISSUE	DATE
4		
3		
2		
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PROJECT NAME

NORTH UMPQUA TRAIL BRIDGES CALF CREEK SECTION

UMPQUA

NORTH UMPQUA R.D.

DRAWING TITLE

TRAIL BRIDGE LANDING/APPROACH, STRUCTURAL EXCAVATION & BACKFILL TYPICALS

DATE 09/08/2026	ARCHIVE NO.
DESIGNER WILLIAM L BUTLER	DRAWING SHEET NO. 13
DRAWN WILLIAM L BUTLER	
CHECKED HOLLY BENTZ	
PROJECT NO.	SHEET 13 OF 13

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Appendix C: Supplemental Specifications

NORTH UMPQUA TRAIL BRIDGES

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Preface

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-14 for construction of National Forest System Roads.

101 - Terms, Format, and Definitions

101.01_National_11_9_2016

Add the following paragraph to Subsection 101.01:

101.01 Meaning of Terms.

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.03_National_11_9_2016

Add the following to Subsection 101.03:

101.03 Abbreviations.

(a) Acronyms.

AGAR — Agriculture Acquisition Regulations

AFPA — American Forest and Paper Association

FSAR — Forest Service Acquisition Regulations

MSHA — Mine Safety and Health Administration

NESC — National Electrical Safety Code

WCLIB — West Coast Lumber Inspection Bureau

(f) Miscellaneous unit abbreviations.

MP	—	milepost	location
ppm	—	parts per million	volume
STA		station	location

101.04_National_1_22_2020

Make the following changes to Subsection 101.04:

101.04 Definitions.

Delete these definitions and replace the following:

Bid Schedule — The Schedule of Items.

Bridge — A structure, including supports, erected over a depression or an obstruction such as water along a road, a trail, or a railway and having a deck for carrying traffic or other loads.

Contractor — The individual or legal entity contracting with the Government for performance of prescribed work. In a timber sale contract, the contractor is the "Purchaser".

Culvert — Any structure with a bottom, regardless of fill depth, depth of invert burial, or presence of horizontal driving surface, or any bottomless (natural channel) structure with footings that will not have wheel loads in direct contact with the top of the structure.

Drawings — (Public Works Contracts) Design sheets or fabrication, erection, or construction details submitted to the CO by the Contractor according to FAR Clause 52.236-21 Specifications and Drawings for Construction. Also refers to submissions and submittals.

Notice to Proceed — (Public Works Contracts) Written notice to the Contractor to begin the contract work.

Right-of-Way — A general term denoting (1) the privilege to pass over land in some particular line (including easement, lease, permit, or license to occupy, use, or traverse public or private lands), or (2) Real property necessary for the project, including roadway, buffer areas, access, and drainage areas.

Solicitation—(Public Works Contracts) The complete assembly of documents (whether attached or incorporated by reference) furnished to prospective bidders.

Add the following definitions:

Adjustment in Contract Price — "Equitable adjustment," as used in the Federal Acquisition Regulations, or "construction cost adjustment," as used in the Timber Sale Contract, as applicable.

Change — "Change" means "change order" as used in the Federal Acquisition Regulations, or "design change" as used in the Timber Sale Contract.

Forest Service — The United States of America, acting through the Forest Service, U.S. Department of Agriculture.

Neat Line — A line defining the proposed or specified limits of an excavation or structure.

Pioneer Road — Temporary construction access built along the route of the project.

Purchaser — The individual, partnership, joint venture, or corporation contracting with the Government under the terms of a Timber Sale Contract and acting independently or through agents, employees, or subcontractors.

Protected Streamcourse — A drainage shown on the plans or timber sale area map that requires designated mitigation measures.

Road Order — An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

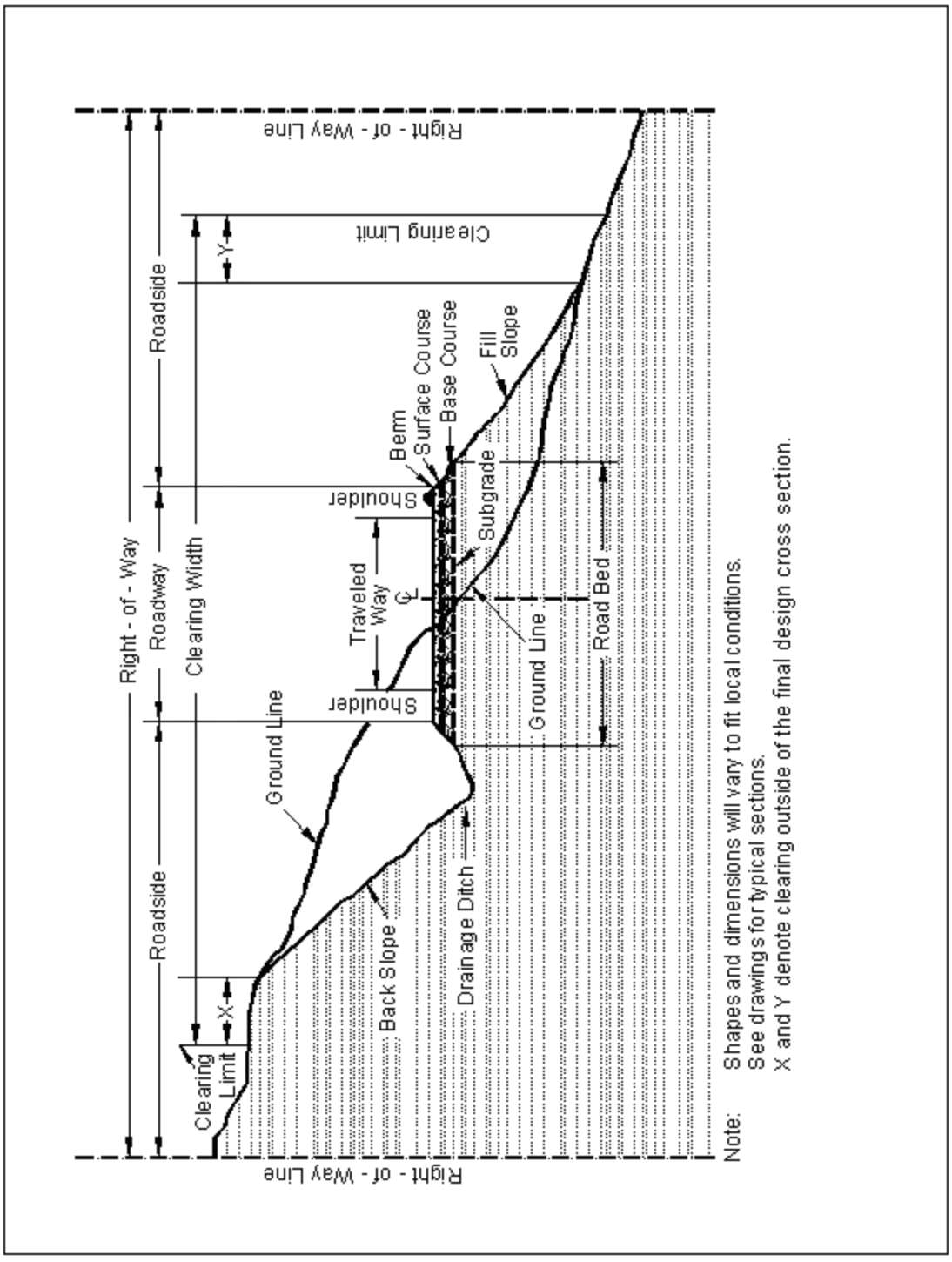
Shop Drawings — (Timber and Stewardship Contracts) Referred to as "Drawings" in FP-14, include drawings, diagrams, layouts, schematics, descriptive literature, illustrations, lists or tables, performance and test data, and similar materials furnished by Purchaser to explain in detail specific portions of the work required by the contract.

Utilization Standards —

The minimum size and percent soundness of trees described in Public Works contract specifications or Timber Sale and IRTC contract provisions to determine merchantable timber.

Add Figure 101-1—Illustration of road structure terms:

Figure 101-1—Illustration of road structure terms.



102 - Bid¸ Award¸ and Execution of Contract

Delete Section 102 in its entirety.

Delete Section 102.

103 - Scope of Work

Delete all of Section 103 except Subsection 103.01 Intent of Contract.

Delete Subsections 103.02, 103.03, 103.04, 103.05.

104 - Control of Work

104.00_National_11_9_2016

Delete Subsections 104.01, 104.02, and 104.04.

Delete Subsections 104.01, 104.02, 104.04.

104.06_National_11_9_2016

Add the following to Subsection 104.06:

104.06 Use of Roads by Contractor.

The Contractor is authorized to use roads under the jurisdiction of the Forest Service for all activities necessary to complete this contract, subject to the limitations and authorizations designated in the Road Order(s) or described in the contract, when such use will not damage the roads or national forest resources, and when traffic can be accommodated safely.

105 - Control of Material

105.05 Use of Material Found in the Work.

Delete 105.05 (a) and (b) and the last sentence of the second paragraph and substitute the following:

Materials produced or processed from Government lands in excess of the quantities required for performance of this contract are the property of the Government. Place excess material safely at government-approved location, at no additional cost to government.

106 - Acceptance of Work

106.01_National_7_18_2017

Delete Subsection 106.01 and replace with the following:

106.01 Conformity with Contract Requirements.

Follow the requirements of FAR Clause 52.246-12 Inspection of Construction.

References to standard test methods of AASHTO, ASTM, GSA, and other recognized standard authorities refer to the methods in effect on the date of solicitation for bids.

Perform all work to the lines, grades, cross-sections, dimensions, and processes or material requirements shown on the plans or specified in the contract.

Incorporate manufactured materials into the work according to the manufacturer's recommendations or to these specifications, whichever is more strict.

Plan dimensions and contract specification values are the values to be strived for and complied with as the design values from which any deviations are allowed. Perform work and provide material that is uniform in character and reasonably close to the prescribed value or within the specified tolerance range. The purpose of a tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons.

When standard manufactured items are specified (such as fence, wire, plates, rolled shapes, pipe conduits, etc., that are identified by gauge, unit mass, section dimensions, etc.), the identification will be considered to be nominal masses or dimensions. Unless specific contract tolerances are noted, established manufacturing tolerances will be accepted.

The Government may inspect, sample, or test all work at any time before final acceptance of the project. When the Government tests work, copies of test reports are furnished to the Contractor upon request. Government tests may or may not be performed at the work site. If Contractor testing and inspection is verified by the Government, the Contractor's results may be used by the Government to evaluate work for acceptance. Do not rely on the availability of Government test results for process control.

Acceptable work conforming to the contract will be paid for at the contract unit bid price. Four methods of determining conformity and accepting work are described in Subsections 106.02 to 106.05 inclusive. The primary method of acceptance is specified in each Section of work. However, work may be rejected at any time it is found by any of the methods not to comply with the contract.

Remove, repair, or replace work that does not conform to the contract, or to prevailing industry standards where no specific contract requirements are noted. Removing, repairing, or replacing work; providing temporary traffic control; and any other related work to accomplish conformity will be at no cost to the Government.

(a) Disputing Government test results. If the accuracy of Government test results is disputed, promptly inform the CO. If the dispute is unresolved after reasonable steps are taken to resolve the dispute, further evaluation may be obtained by written request. Include a narrative describing the dispute and a proposed resolution protocol that addresses the following:

1. Sampling method;
2. Number of samples;
3. Sample transport;

4. Test procedures;
5. Testing laboratories;
6. Reporting;
7. Estimated time and costs; and
8. Validation process.

If the evaluation requires additional sampling or testing be performed, mutually agree with the Government on witnessing procedures and on sampling and testing by a third party laboratory. Use a third party laboratory accredited by the AASHTO accreditation program. Provide proof of the laboratory's accreditation for the test procedures to be used. Do not use the same laboratory that produced the disputed Government test results or that produced the test results used as a basis for the dispute.

The CO will review the proposed resolution protocol and may modify it before final approval and execution.

The Government will use the approved resolution protocol test results to determine the validity of the disputed testing. If the Government test results are validated, the Contractor will be responsible for all costs associated with developing and performing the resolution protocol. If the Government test results are not validated, the Government will be responsible for all costs associated with developing and performing the resolution protocol. If the validity of the Government test results cannot be determined, the Contractor and Government will equally share all costs associated with developing and carrying out the resolution protocol.

(b) Alternatives to removing and replacing non-conforming work. As an alternative to removal and replacement, the Contractor may submit a written request to:

1. Have the work accepted at a reduced price; or
2. Be given permission to perform corrective measures to bring the work into conformity.

The request must contain supporting rationale and documentation. Include references or data justifying the proposal based on an evaluation of test results, effect on service life, value of material or work, quality, aesthetics, and other tangible engineering basis. The CO will determine disposition of the nonconforming work.

Delete Subsection 106.02 and replace with the following:

106.02 Visual Inspection.

Acceptance is based on visual inspection of the work for compliance with the specific contract requirements. Use prevailing industry standards in the absence of specific contract requirements or tolerances.

107 - Legal Relations and Responsibility to the Public

Delete Subsection 107.05.

Delete Subsection 107.05.

108 - Prosecution and Progress

Delete Section 108 in its entirety.

Delete Section 108.

109 - Measurement and Payment

109.00_National_11_9_2016

Delete Subsections 109.06, 109.07, 109.08, and 109.09:

Delete Subsections 109.06, 109.07, 109.08, 109.09.

109.01_National_2_22_2019

Delete the third paragraph and Table 109-1 of Subsection 109.01 and replace with the following:

109.01 Measurement of Work.

Take measurements as described in Subsection 109.02 unless otherwise modified by the Measurement Subsection of the section controlling the work being performed. Table 109-1 indicates the accuracy required for quantities of the various pay units used in the Schedule of Items. Use this guide to determine the decimal placement in the final payment.

Table 109-1

Decimal Accuracy of Quantities for Final Payment

Pay Item	Level of Precision
Linear Foot	1
Exception--Timber, Steel, and concrete Piles	0.1
Station	0.1
Mile	0.01
Square Foot	0.1
Square Yard	0.1
Each	1
Acre	0.01
Gallon	1
M-Gals.	0.1
Cubic Yard	1
Exception--Structure Excavation; Sheathing Materials; Bedding, Bed Course, and Backfill Materials; Gabions;	0.1
Exception--Concrete; Masonry	0.01
Pound	1
Ton	0.1
Exception--Calcium Chloride; Sodium Chloride; Hydrated Lime; Bituminous Materials; Pavements; Bed Course Materials	0.01
Hour	0.1
MFBM	0.01
Station Yard	1
Cubic Yard Mile	1
Ton Mile	1

Add the following sentence to Subsection 109.02(b):

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

153 - Contractor Quality Control

153.02_National_11_1_2016

Delete Subsection 153.02 and replace with the following:

153.02 Qualifications.

Submit the following for approval with the quality control plan:

(a) Quality control manager (QCM). Furnish a QCM who has at least 2 years' experience in construction, inspector, quality control and material testing on construction projects of similar type and scope.

(b) Testers. Provide testers with at least one year experience in the type of sampling and testing required, and with one of the following for the type of sampling and testing performed:

(1) NICET Level II certification in highway material or equivalent state or industry certification;

(2) Certification by a regional certification program (such as Western Alliance for Quality Transportation Construction (WAQTC), Northeast Transportation Technician Certification Program (NETTCP), Southeast Task Force for Technician Training and Qualification (STFTTQ), or Multi Regional Training and Certification (M-TRAC)); or

(3) At least one year employment by an AASHTO accredited laboratory performing equivalent sampling and testing.

153.07_National_11_1_2016

Delete Subsection 153.07 and replace with the following:

153.07 Records and control charts.

Maintain complete testing and inspection records by pay item number and make them accessible to the CO.

155 - Schedules for Construction Contracts

Delete Section 155 in its entirety.

Delete Section 155.

156 - Public Traffic

156.00_National_2_5_2019

Delete Section 156 in its entirety and replace with the following:

Section 156. – PUBLIC TRAFFIC

Description

156.01 This work consists of controlling and protecting public traffic adjacent to and within the project.

Material

156.02 Conform to the MUTCD and the following Sections and Subsections:

Permanent Traffic Control	633	
Traffic Signing and Marking Material		718
Concrete Barriers and Precast Guardwalls	618	
Temporary plastic fence		710.11

Construction Requirements

156.03 General. Accommodate traffic according to MUTCD, approved traffic control plan and this section. Perform work in a manner that ensures safety and convenience of the public. Unless otherwise provided for in Table 156-1, keep existing roads open to all traffic during road improvement work, and maintain them in a condition that will adequately accommodate traffic. Delays may not exceed **<number>** minutes at any one time followed by an open period of no less than **<number>** minutes. Accommodate public traffic on roads adjacent to and within the project until the project is accepted according to Subsection 106.07(b).

Submit traffic control plan at least 30 days prior to intended use. Perform no work that interferes or conflicts with traffic or existing access to the roadway surface until a traffic control plan has been approved.

Post construction signs and traffic control devices in conformance with MUTCD and Forest Service EM 7100-15. All required signs will be in place and approved prior to beginning work on project.

If the Contractor agrees in writing to allow public traffic to use a new road being constructed prior to completion, it will be considered an existing road for traffic control purposes.

156.04 Temporary Traffic Control. Install and maintain temporary traffic control devices adjacent to and within the project as required by the approved traffic control plan and the MUTCD. Install and maintain traffic control devices as follows:

(a) Furnish and install traffic control devices before the start of construction operations.

(b) All detours outside of clearing limits will be approved in writing by the Contracting Officer as part of the traffic control plan.

(c) Install only those traffic control devices needed for each stage or phase.

(d) Relocate temporary traffic control devices as necessary.

(e) Remove devices that no longer apply to the existing conditions.

(f) Immediately replace any device that is lost, stolen, destroyed, or inoperative.

(g) Keep temporary traffic control devices clean.

(h) Remove all temporary traffic control devices upon contract completion or when approved.

(i) When required, use flaggers certified by the American Traffic Safety Services Association, the National Safety Council, the International Municipal Signal Association, a state agency, or other acceptable organization. Perform the work described under MUTCD Part 6. Use type III, VII, VIII, or IX retroreflective sheeting on flagger paddles. Do not use flags. Flaggers must wear high visibility safety apparel as required by MUTCD 6E.02.

156.05 Temporary Closures. Road segments may be closed as shown in Table 156-1. The maximum consecutive days of closure shall be followed by a minimum number of consecutive days open to traffic as shown. Maintain traffic control devices during closure period(s). Appropriate barricades and signs will be erected and maintained as shown in the traffic control plan or as otherwise designated.

Prior to closing roads during construction, give written notice to the Contracting Officer at least 10 days in advance.

Table 156-1
Temporary Road Closures

Road Number	From Terminus	To Terminus	Maximum Consecutive Days of Closure	Minimum Consecutive Days Open
<number>	**<MP or description>**	**<MP or description>**	**<number>**	**<number>**
See template and drawings				

156.06 Acceptance. Public traffic work will be evaluated under Subsection 106.02.

Measurement and Payment

156.07 Do not measure Public Traffic for payment. Payment for contract work is provided indirectly. See Subsection 109.05.

157 - Soil Erosion and Sediment Control

Delete Subsection 157.04 and replace with the following:

157.04 General.

Thirty (30) days prior to the start of construction, submit a written plan according to subsection 104.03 with all necessary permits that provides permanent and temporary erosion control measures to minimize erosion and sedimentation during and after construction. Do not begin work until the necessary controls for that particular phase of work have been implemented. Do not modify the type, size, or location of any control without approval.

When erosion control measures are not functioning as intended, take corrective action to eliminate or minimize pollutants in storm water discharges from the project.

203 - Removal of Structures and Obstructions

Add the following to Subsection 203.05:

203.05 Disposing of Material.

(e) Windrowing Construction Slash. Place construction slash outside the roadway in neat, compacted windrows approximately parallel to and along the toe line of embankment slopes. Do not permit the top of the windrows to extend above subgrade. Use construction equipment to matt down all material in a windrow to form a compact and uniform pile. Construct breaks of at least 15 feet at least every 200 feet in a windrow. Do not place windrows against trees.

(f) Scattering. Scatter construction slash in designated areas without damaging trees. Limb all logs. Place logs and stumps away from trees, positioned so they will not roll, and are not on top of one another. Limb and scatter other construction slash to reduce slash concentrations. When scattering for erosion control, place construction slash as flat as practicable on the completed slope.

(g) Chipping. Use an approved chipping machine to chip slash longer than 3 feet. Deposit chips on embankment slopes or outside the roadway to a loose depth less than 6 inches. Minor amounts of chips or ground woody material may be permitted within the roadway if they are thoroughly mixed with soil and do not form a layer.

(h) Debris Mat. Use tree limbs, tops, cull logs, split stumps, wood chunks, and other debris to form a mat upon which construction equipment is operated. Place stumps upside down and blend stumps into the mat.

(i) Decking. Remove brush from designated log deck areas. Limb and top logs.

Logs not meeting the Utilization Standards described in Subsection 201.04(c) shall be cut to lengths less than **<number>** feet and decked in designated log deck location.

Merchantable timber not associated with an existing timber sale shall be cut to length meeting the Utilization Standards described in Subsection 201.04(c).

Deck logs so that logs are piled parallel to one another; can be removed by standard log loading equipment; will not damage standing trees; will not interfere with drainage, and will not roll. Keep logs in log decks free of brush and soil.

(j) Removal to designated locations. Remove construction slash to designated locations.

(k) Piling. Pile construction slash in designated areas. Place and construct piles so that if the piles are burned, the burning will not damage remaining trees. Keep piles free of dirt from stumps.

204 - Excavation and Embankment

204.00_National_11_4_2016

Delete Section 204 in its entirety and replace with the following.

Section 204. — EXCAVATION AND EMBANKMENT

Description

204.01 This work consists of excavating material and constructing embankments. This work also includes furnishing, hauling, stockpiling, placing, disposing, sloping, shaping, compacting, and finishing earthen and rocky material.

204.02 Definitions.

(a) Excavation. Excavation consists of the following:

(1) Roadway excavation. Material excavated from within the right-of-way or easement areas, except subexcavation covered in Subsection 204.02(a)(2) and structure excavation covered in Sections 208 and 209. Roadway excavation includes all material encountered regardless of its nature or characteristics.

(2) Subexcavation. Material excavated from below subgrade elevation in cut sections or from below the original ground-line in embankment sections. Subexcavation excludes the work required by Subsection 204.05 or 204.06.

(3) Borrow excavation. Material used for embankment construction that is obtained from outside the roadway prism. Borrow excavation includes unclassified borrow, and topping.

(b) Embankment construction. Embankment construction consists of placing and compacting roadway or borrow excavation. This work includes:

(1) Preparing foundation for embankment;

(2) Constructing roadway embankments;

(3) Benching for side-hill embankments;

(4) Constructing dikes, ramps, mounds, and berms; and

(5) Backfilling subexcavated areas, holes, pits, and other depressions.

(c) Conserved topsoil. Excavated material conserved from the roadway excavation and embankment foundation areas that is suitable for growth of grass, cover crops, or native vegetation.

(d) Waste. Excess and unsuitable roadway excavation and subexcavation that cannot be used.

Material

204.03 Conform to the following Subsections:

Topping	704.05
Unclassified borrow	704.06
Water	725.01(c)

Construction Requirements

204.04 Preparation for Roadway Excavation and Embankment Construction. Clear the area of vegetation and obstructions according to Sections 201 and 203.

Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation and embankment. Maintain drainage during pioneering operations.

204.05 Conserved Topsoil. When designated, conserve topsoil from roadway excavation and embankment foundation areas. Stockpile conserved topsoil in low windrows immediately beyond the rounding limits of cut and embankment slopes or in other approved locations. Separate conserved topsoil from other excavated material. When designated, place conserved topsoil on completed slopes according to Section 624.

204.06 Roadway Excavation. Excavate as follows:

(a) Rock cuts. Blast rock according to Section 205. Excavate rock cuts to 6 inches (150 millimeters) below subgrade within the roadbed limits. Backfill to subgrade with topping or other suitable material. Compact the material according to Subsection 204.11.

(b) Earth cuts. Scarify earth cuts to 6 inches (150 millimeters) below subgrade within the roadbed limits. Compact the scarified material according to Subsection 204.11.

(c) Pioneer Roads. Conduct excavation and placement operations so material to be treated under Section 201 will not be incorporated into the roadway unless specified in the slash treatment method. Maintain drainage during pioneering operations.

Remove snow and ice in advance of the work and deposit beyond the roadway limits in a manner that will not waste material or generate sediment. Do not incorporate snow and ice into embankments. Place snow or ice in a manner to prevent resource damage.

(d) Drainage Feature. Drainage feature includes construction of all ditches, minor channel changes, drainage dips, catch basins, surface water deflectors, and other minor drainage structures. Compact the material according to Subsection 204.11. Excavate on a uniform grade between control points.

Do not disturb material and vegetation outside the construction limits. Retrieve material deposited outside the construction limits. Dispose of unsuitable or excess excavation material according to Subsection 204.14. Replace shortage of suitable material caused by premature disposal of roadway excavation.

Shape to drain and compact the work area to a uniform cross-section at the end of each day's operations.

204.07 Subexcavation. Excavate material to the required limits. Dispose of unsuitable material according to Subsection 204.14. Take cross-sections according to Section 152. Backfill subexcavated area with suitable material in horizontal layers not exceeding 12 inches (300 millimeters) in compacted thickness and compact according to Subsection 204.11. Prevent unsuitable material from mixing with suitable backfill material.

204.08 Borrow Excavation. Use suitable roadway excavation in embankment construction. Do not use borrow excavation when it results in excess roadway excavation. Deduct excess borrow excavation from the total borrow excavation quantity.

Obtain borrow source approval according to Subsection 105.02. Develop and restore borrow sources according to Subsections 105.03 and 105.06. Do not excavate beyond the established limits. When applicable, shape the borrow source to permit accurate measurements when excavation is complete.

204.09 Preparing Foundation for Embankment Construction. Prepare foundation for embankment construction as follows:

(a) Embankment over natural ground. Remove topsoil and break up the ground surface to a minimum depth of 6 inches (150 millimeters) by plowing or scarifying. Compact the ground surface according to Subsection 204.11.

(b) Embankments over an existing asphalt, concrete, or gravel road surface. Scarify gravel roads to a minimum depth of 6 inches (150 millimeters). Scarify or pulverize asphalt and concrete roads to 6 inches (150 millimeters) below the pavement. Reduce particles to a maximum size of 6 inches (150 millimeters) and produce a uniform material. Compact the surface according to Subsection 204.11.

(c) Embankment across ground not capable of supporting equipment. Dump successive loads of embankment material in a uniformly distributed layer to construct the lower portion of the embankment. Limit the layer thickness to the minimum depth necessary to support the equipment.

(d) Embankment on an existing slope steeper than 1V:3H. Cut horizontal steps in the existing slope to a sufficient width to accommodate placement and compaction operations and equipment. Step the slope as the embankment is placed and compacted in layers. Begin each step at the intersection of the original ground and the vertical cut of the previous step.

204.10 Embankment Construction. Incorporate only suitable roadway excavation material into the embankment. When the supply of suitable roadway excavation is exhausted, furnish unclassified borrow to complete the embankment. Obtain written approval before beginning construction of embankments over 6 feet (2 meters) high at subgrade centerline. Construct embankments as follows:

(a) General. At the end of each day's operations, shape to drain and compact the embankment surface to a uniform cross-section. Eliminate ruts and low spots that could hold water.

During all stages of construction, route and distribute hauling and leveling equipment over the width and length of each layer of material.

Compact embankment side slopes with a tamping foot roller, by walking with a dozer, or by over-building the fill and then removing excess material to the final slope line. For slopes 1V:1¾H or steeper, compact the slopes as embankment construction progresses.

(b) Embankment within the roadway prism. Place embankment material in horizontal layers not exceeding 12 inches (300 millimeters) in compacted thickness. Incorporate oversize boulders or rock fragments into the 12-inch (300-millimeter) layers by reducing them in size or placing them individually as required below. Compact each layer according to Subsection 204.11 before placing the next layer.

Material composed predominately of boulders or rock fragments too large for 12-inch (300-millimeter) layers may be placed in layers up to 24 inches (600 millimeters) thick. Incorporate oversize boulders or rock fragments into the 24-inch (600-millimeter) layer by reducing them in size or placing individual rock fragments and boulders greater than 24 inches (600 millimeters) in diameter as follows:

(1) Reduce rock to less than 48 inches (1200 millimeters) in the largest dimension;

(2) Distribute rock within the embankment to prevent nesting;

(3) Place layers of embankment material around each rock to a depth not greater than that permitted above. Fill voids between rocks; and

(4) Compact each layer according to Subsection 204.11(a) before placing the next layer.

(c) Embankment outside of roadway prism. When placing embankment outside the staked roadway prism, place material in horizontal layers not exceeding 24 inches (600 millimeters) in compacted thickness. Compact each layer according to Subsection 204.11.

204.11 Compaction. Compact the embankment using one of the following methods as specified.

(a) Placement Method 1. Use AASHTO T 27 to determine the quantity of material retained on a No. 4 (4.75-millimeter) sieve. Compact as follows:

(1) More than 80 percent retained on a No. 4 (4.75-millimeter) sieve. Adjust the moisture content to a level suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Compact each layer of material full width with one of the following and until there is no visible evidence of further consolidation:

(a) Four roller passes of a vibratory roller having a minimum dynamic force of 40,000 pounds (180 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute;

(b) Eight roller passes of a 20-ton (20-metric ton) compression-type roller; or

(c) Eight roller passes of a vibratory roller having a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute.

Increase the compactive effort for layers deeper than 12 inches (300 millimeters) as follows:

- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 204.11(a)(1)(a), by four passes; or

- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 204.11(a)(1)(b) and (c), by eight passes.

(2) 50 to 80 percent retained on a No. 4 (4.75-millimeter) sieve. Classify the material according to AASHTO M 145. Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content. Use AASHTO T 99 to determine the optimum moisture content of the portion of the material passing a No. 4 (4.75-millimeter) sieve. Multiply this number by the percentage of material passing a No. 4 (4.75-millimeter) sieve, and add 2 percent to determine the optimum moisture content of the material.

Use nonvibratory rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet(1 meter) per second. Compact each layer of material full width according to Subsection 204.11(a)(1).

(3) Less than 50 percent retained on a No. 4 (4.75-millimeter) sieve. Classify the material according to AASHTO M 145. For material classified A-1 or A-2-4, determine the maximum density according to AASHTO T 99, Method C.

Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content.

Use compression-type or vibratory rollers. Compact each layer of material full width to at least 95 percent of the maximum density. Determine the in-place density and moisture content according to AASHTO T 310 or other approved test procedures. When required, use AASHTO T 224 to correct for coarse particles.

(b) Placement Method 2. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate roller compaction equipment over the full width of each layer until there is no visible evidence of further consolidation or, if when a sheepsfoot roller is used, the roller "walks out" of the layer. Make at least three complete passes. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Ensure rollers meet the following requirements:

(1) Steel wheeled rollers, other than vibratory, capable of exerting a force of not less than 250 pounds per inch (4.5 kilogram/millimeter) of width of the compression roll or rolls.

(2) Vibratory steel wheeled rollers equipped with amplitude and frequency controls with a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration, specifically designed to compact the material on which it is used.

(3) Pneumatic-tired rollers with smooth tread tires of equal size that will provide a uniform compacting pressure for the full width of the roller and capable of exerting a ground pressure of at least 80 psi (550 Kilopascals).

(4) Sheepsfoot, tamping, or grid rollers capable of exerting a force of 250 pounds per inch (4.5 kilogram/millimeter) of width of roller drum.

(c) Placement Method 3. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer until there is no visible evidence of further consolidation. Make at least three complete passes.

(d) Placement Method 4. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer.

(e) Placement Method 5. Adjust the moisture content of the material to a moisture content suitable for compaction. Compact the complete surface with a bucket of an excavator larger than 39,000 pounds (18 metric ton) Gross Vehicle Weight using a minimum of three blows. Overlap compaction by ½ width of bucket.

(f) Placement Method 6. Adjust the moisture content of the material to a moisture content suitable for compaction. Compact using an approved mechanical tamper for a minimum of three complete passes.

When compacting with rollers or hauling and spreading equipment is not practical, use approved mechanical tampers for a minimum of three complete passes.

204.12 Drainage Features. Slope, grade, and shape all drainage features. Remove projecting roots, stumps, rock, or similar matter. Maintain all drainage features in an open condition and without sticks, and other debris.

Form furrow ditches by plowing or using other acceptable methods to produce a continuous furrow. Place excavated material on the downhill side so the bottom of the ditch is approximately 18 inches

(450 millimeters) below the crest of the loose material. Clean the ditch using a hand shovel or other suitable method. Shape to provide drainage without overflow.

204.13 Sloping, Shaping, and Finishing. Complete subgrade, slopes, drainage features, culverts, riprap, and other underground minor structures before placing aggregate courses. Slope, shape, and finish to the designated tolerance class as defined in Table 204-2 as follows:

(a) Sloping. Leave earth slopes with uniform roughened surfaces, except as described in Subsection 204.13(b), with no noticeable break as viewed from the road. Except in solid rock, round tops and bottoms of slopes including the slopes of drainage ditches. Round material overlaying solid rock to the extent practical. Scale rock slopes. Slope rounding is not required on tolerance class D through M roads.

If a slide or slipout occurs on a cut or embankment slope, remove or replace the material and repair or restore damage to the work. Bench or key the slope to stabilize the slide. Reshape the cut or embankment slope to an acceptable condition.

(b) Stepped slopes. Where required, construct steps on slopes of 1⅓V:1H to 1V:2H. Construct the steps approximately 18 inches (450 millimeters) high. Blend the steps into natural ground at the end of the cut. If the slope contains non-rippable rock outcrops, blend steps into the rock. Remove loose material found in transitional area. Except for removing large rocks that may fall, scaling stepped slopes is not required.

(c) Shaping. Shape the subgrade to a smooth surface and to the cross-section required. Shape slopes to gradually transition into slope adjustments without noticeable breaks. At the ends of cuts and at intersections of cuts and embankments, adjust slopes in the horizontal and vertical planes to blend into each other or into the natural ground.

(d) Finishing. Ensure that the subgrade is visibly moist during shaping and dressing; smooth and uniform, and shaped to conform to the typical sections. Remove material larger than 6 inches (150 millimeters) from the top 6 inches (150 millimeters) of the roadbed. Remove unsuitable material from the roadbed, and replace it with suitable material. Scarify to 6 inches (150 millimeters) below the bottom of low sections, holes, cracks, or depressions and bring back to grade with suitable material.

Maintain proper ditch drainage.

204.14 Disposal of Unsuitable or Excess Material. Dispose of unsuitable or excess material at designated sites or according to Subsection 203.05(a)

When there is a pay item for waste, shape and compact the waste material in its final location. Do not mix clearing or other material not subject to payment with the waste material.

204.15 Acceptance. See Table 204-1 for sampling, testing, and acceptance requirements.

Material for embankment and conserved topsoil will be evaluated under Subsections 106.02 and 106.04.

Excavation and embankment construction will be evaluated under Subsections 106.02 and 106.04.

Subexcavation will be evaluated under Subsections 106.02 and 106.04.

Measurement

204.16 Measure the Section 204 pay items listed in the bid schedule according to Subsection 109.02 and the following as applicable:

(a) Roadway excavation. Measure roadway excavation in its original position as follows:

(1) Include the following volumes in roadway excavation:

(a) Roadway prism excavation;

(b) Rock material excavated and removed from below subgrade in cut sections;

(c) Unsuitable material below subgrade and unsuitable material beneath embankment areas when a pay item for subexcavation is not listed in the bid schedule;

(d) Ditches, except furrow ditches measured under a separate pay item;

(e) Conserved topsoil;

(f) Borrow material used in the work when a pay item for borrow is not listed in the bid schedule;

(g) Loose scattered rocks removed and placed as required within the roadway;

(h) Conserved material taken from pre-existing stockpiles and used in Section 204 work, except topsoil measured under 624; and

(i) Slide and slipout material not attributable to the Contractor's method of operation.

(2) Do not include the following in roadway excavation:

(a) Overburden and other spoil material from borrow sources;

(b) Overbreakage from the backslope in rock excavation;

(c) Water or other liquid material;

(d) Material used for purposes other than required;

(e) Roadbed material scarified in place and not removed;

(f) Material excavated when stepping cut slopes;

(g) Material excavated when rounding cut slopes;

(h) Preparing foundations for embankment construction;

(i) Material excavated when benching for embankments;

(j) Slide or slipout material attributable to the Contractor's method of operation;

(k) Conserved material taken from stockpiles constructed at the option of the Contractor;

(l) Material excavated outside the established slope limits; and

(m) Road pioneering for the convenience of the Contractor.

(3) When both roadway excavation and embankment construction pay items are listed in the bid schedule, measure roadway excavation only for the following:

(a) Unsuitable material below subgrade in cuts and unsuitable material beneath embankment areas when a pay item for subexcavation is not listed in the bid schedule;

(b) Slide and slipout material not attributable to the Contractor’s method of operations; and

(c) Drainage ditches, channel changes, and diversion ditches.

(b) Unclassified borrow, and topping. When measuring by the cubic yard (cubic meter) measure in its original position. If borrow excavation is measured by the cubic yard (cubic meter) in-place, take initial cross-sections of the ground surface after stripping overburden. Upon completion of excavation and after the borrow source waste material is returned to the source, retake cross-sections before replacing the overburden. Do not measure borrow excavation until suitable roadway excavation is depleted.

(c) Embankment construction. Measure embankment construction in its final position. Do not make deductions from the embankment construction quantity for the volume of minor structures.

(1) Include the following volumes in embankment construction:

(a) Roadway embankments;

(b) Material used to backfill subexcavated areas, holes, pits, and other depressions;

(c) Material used to restore obliterated roadbeds to original contours; and

(d) Material used for dikes, ramps, mounds, and berms.

(2) Do not include the following in embankment construction:

(a) Preparing foundations for embankment construction;

(b) Adjustments for subsidence or settlement of the embankment or of the foundation on which the embankment is placed; and

(c) Material used to round fill slopes.

(d) Rounding cut slopes. If a pay item for slope rounding is included in the bid schedule measure rounding cut slopes horizontally along the centerline of the roadway. If a pay item is not included for slope rounding is not included in the bid schedule payment will be considered indirect to roadway excavation.

(e) Waste. Measure waste by the cubic yard (cubic meter) in its final position. Take initial cross-sections of the ground surface after stripping over-burden. Upon completion of the waste placement, retake cross-sections before replacing overburden.

(f) Slope scaling. Measure slope scaling by the cubic yard (cubic meter) in the hauling vehicle.

(g) Subexcavation. Measure subexcavation by the cubic yard (cubic meter) in its original position.

(h) Drainage features. Measurement includes all excavation, embankment, shaping, and grading necessary for a completed drainage feature.

Payment

204.17 The accepted quantities will be paid at the contract price per unit of measurement for the Section 204 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Table 204-1

Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	**Type of Acceptance (Subsection)**	**Characteristic**	**Category**	**Test Methods Specifications**	**Sampling Frequency**	**Point of Sampling**	**Split Sample**	**Reporting Time**
Source								
Topping (704.05)	Measured and tested for conformance (106.04 & 105)	Classification[1]	–	AASHTO M 145	1 per soil type and source of material	Processed material	Yes	Before using in work
Unclassified borrow (704.06)	"	"	–	"	"	"	"	"
Production								

Table 204-1

Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Topping (704.05) and (204.11(a))	Measured and tested for conformance (106.04)	Moisture-density	–	T 99, Method C(2)	1 per soil type, but not less than 1 per each 13,000 yd^3 (10,000 m^3)	Processed material	Yes	Before using in work
		Density	–	AASHTO T 310 or other approved procedures	1 per 3500 yd^2 (3000 m^2), but not less than 3 per layer	In-place	No	Before placement of next layer
Unclassified borrow (704.06) and (204.11(a))	"	Moisture-density	–	T 99, Method C(2)	1 per soil type, but not less than 1 per each 13,000 yd^3 (10,000 m^3)	Processed material	Yes	Before using in work

Table 204-1

Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	**Type of Acceptance (Subsection)**	**Characteristic**	**Category**	**Test Methods Specifications**	**Sampling Frequency**	**Point of Sampling**	**Split Sample**	**Reporting Time**
		Density	–	AASHTO T 310 or other approved procedures	1 per 3500 yd^2 (3000 m^2), but not less than 3 per layer	In-place	No	Before placement of next layer
Production (continued)								
Earth embankment (204.11(a))	Measured and tested for conformance (106.04)	Classification	–	AASHTO M 145	1 per soil type	Source of material	Yes	Before using in work
		Moisture-density	–	T 99, Method C(2)	1 per soil type, but not less than 1 per each 13,000 yd^3 (10,000 m^3)	"	"	"

Table 204-1

Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	**Type of Acceptance (Subsection)**	**Characteristic**	**Category**	**Test Methods Specifications**	**Sampling Frequency**	**Point of Sampling**	**Split Sample**	**Reporting Time**
		Density	–	AASHTO T 310 or other approved procedures	1 per 3500 yd^2 (3000 m^2), but not less than 3 per layer	In-place	No	Before placement of next layer
Top of subgrade (204.11(a))	"	Density	–	AASHTO T 310 or other approved procedures	1 per 2500 yd^2 (2000 m^2), but not less than 3 per layer	In-place	No	Before placement of next layer
Finished Product								
Roadbed (204.13)	Measured and tested for conformance (106.04)	Final line & grade	–	Field measured	Determined by the CO	Determined by the CO	No	Before placement of next layer

Table 204-1

Sampling, Testing, and Acceptance Requirements

Material or Product (Subsection)	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time

(1) Not required when using Government-provided source.

(2) Minimum 5 points per proctor.

Table 204-2

Construction Tolerances

Location Description	**Tolerance Class (a)**												
	A	B	C	D	E	F	G	H	I	J	K	L	M
Roadbed width (ft)	+0.5	+0.5	+1.0	+1.0	+1.0	+1.0	+1.5	+1.0	+2.0	+2.0	+2.0	+2.0	+2.0
Subgrade elevation (ft)	±0.1	±0.2	±0.2	±0.5	±0.5	±1.0	±1.0	±1.5	±2.0	±3.0	±2.0	±3.0	(c)
Centerline alignment (ft)	±0.2	±0.2	±0.5	±0.5	±1.0	±1.0	±1.5	±1.5	±2.0	±3.0	±3.0	±5.0	(c)
Slopes, excavation, and embankment (% slope[(b)])	±3	±5	±5	±5	±5	±5	±10	±10	±10	±10	±20	±20	±20

(a) Maximum allowable deviation from construction stakes and drawings.

(b) Maximum allowable deviation from staked slope measured from slope stakes or hinge points.

(c) Unless otherwise shown the centerline alignment and subgrade elevation, as built, have no horizontal curves with a radius of less than 80 feet, and no vertical curves with a curve length of less than 80 feet when the algebraic difference in the grade change is less than 10 percent, or a curve length of less than 100 feet when the algebraic difference of the grade

209 - Structure Excavation and Backfill

Delete Subsection 209.10 and replace with the following:

209.10 Compacting.

Compact the embankment using one of the following methods as specified.

(a) Compaction Method 1. Use AASHTO T 27 to determine the quantity of material retained on a No. 4 (4.75-millimeter) sieve. Compact as follows:

(1) More than 80 percent retained on a No. 4 (4.75-millimeter) sieve. Adjust the moisture content to a level suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Compact each layer of material full width with one of the following and until there is no visible evidence of further consolidation:

(a) Four roller passes of a vibratory roller having a minimum dynamic force of 40,000 pounds (180 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute;

(b) Eight roller passes of a 20-ton (20-metric ton) compression-type roller; or

(c) Eight roller passes of a vibratory roller having a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration and a minimum frequency of 1000 vibrations per minute.

Increase the compactive effort for layers deeper than 12 inches (300 millimeters) as follows:

- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 209.10(a)(1)(a), by four passes; or
- For each additional 6 inches (150 millimeters) or fraction thereof, increase the number of roller passes in Subsection 209.10(a)(1)(b) and (c), by eight passes.

(2) 50 to 80 percent retained on a No. 4 (4.75-millimeter) sieve. Classify the material according to AASHTO M 145. Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content. Use AASHTO T 99 to determine the optimum moisture content of the portion of the material passing a No. 4 (4.75-millimeter) sieve. Multiply this number by the percentage of material passing a No. 4 (4.75-millimeter) sieve, and add 2 percent to determine the optimum moisture content of the material.

Use nonvibratory rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet(1 meter) per second. Compact each layer of material full width according to Subsection 209.10(a)(1).

(3) Less than 50 percent retained on a No. 4 (4.75-millimeter) sieve. Classify the material according to AASHTO M 145. For material classified A-1 or A-2-4, determine the maximum density according to AASHTO T 99, Method C..

Adjust the moisture content of material classified A-1 through A-5 to a moisture content suitable for compaction. Adjust the moisture content of material classified A-6 and A-7 to within 2 percent of the optimum moisture content.

Use compression-type or vibratory rollers. Compact each layer of material full width to at least 95 percent of the maximum density. Determine the in-place density and moisture content according to AASHTO T 310 or other approved test procedures. When required, use AASHTO T 224 to correct for coarse particles.

(b) Compaction Method 2. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate roller compaction equipment over the full width of each layer until there is no visible evidence of further consolidation or, if when a sheepsfoot roller is used, the roller "walks out" of the layer. Make at least three complete passes. Use compression-type rollers at speeds less than 6 feet (1.8 meters) per second and vibratory rollers at speeds less than 3 feet (1 meter) per second. Ensure rollers meet the following requirements:

(1) Steel wheeled rollers, other than vibratory, capable of exerting a force of not less than 250 pounds per inch (4.5 kilogram/millimeter) of width of the compression roll or rolls.

(2) Vibratory steel wheeled rollers equipped with amplitude and frequency controls with a minimum dynamic force of 30,000 pounds (130 kilonewtons) impact per vibration, specifically designed to compact the material on which it is used.

(3) Pneumatic-tired rollers with smooth tread tires of equal size that will provide a uniform compacting pressure for the full width of the roller and capable of exerting a ground pressure of at least 80 psi (550 Kilopascals).

(4) Sheepsfoot, tamping, or grid rollers capable of exerting a force of 250 pounds per inch (4.5 kilogram/millimeter) of width of roller drum.

(c) Compaction Method 3. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer until there is no visible evidence of further consolidation. Make at least three complete passes.

(d) Compaction Method 4. Adjust the moisture content of the material to a moisture content suitable for compaction. Fill the interstices around rock with earth or other fine material as practical. Operate hauling and spreading equipment uniformly over the full width of each layer.

(e) Compaction Method 5. Adjust the moisture content of the material to a moisture content suitable for compaction. Compact the complete surface with a bucket of an excavator larger than 39,000 pounds (18 metric ton) Gross Vehicle Weight using a minimum of three blows. Overlap compaction by ½ width of bucket.

(f) Compaction Method 6. Adjust the moisture content of the material to a moisture content suitable for compaction. Compact using an approved mechanical tamper for a minimum of three complete passes.

When compacting with rollers or hauling and spreading equipment is not practical, use approved mechanical tampers for a minimum of three complete passes.

552 - Structural Concrete

552.00_Regional_4_18_2019

552.01 Description.

Delete the first paragraph of Subsection 552.01 and replace with the following:

This work consists of furnishing, placing, finishing, and curing concrete to be cast-in-place in bridges, culverts, and other structures; furnishing precast concrete elements by forming, placing reinforcing steel, placing and finishing concrete, curing, and transporting members; and materials testing and implementing quality control procedures. When specified, work also includes installation of furnished precast concrete elements, including performing all necessary grouting, welding or other connections; and repairs or finishing associated with transport and the removal of lifting devices.

552.02 Material.

Add the following references to Subsection 552.02:

Dowel bars	709.01(f)
Falsework and forms	562
Hook bolts	709.01(e)
Mortar cement	701.02(b)
Reinforcing steel	554
Structural steel	717.01

552.03 Construction Requirements.

Delete Table 552-1 and its footnotes and replace with the following table and footnotes:

Table 552-1

Composition of Concrete

Class of Concrete	Minimum Compressive Strength @ 28-Days, f'c, psi (MPa)	Maximum Water/ Cementitious Material Ratio	Coarse Aggregate Size Number AASHTO M 43 [1]
A	4500 (31.0)	0.45	5, 56, 57
A(AE) [5]	4500 (31.0)	0.45	5, 56, 57
C	4500 (31.0)	0.45	7, 78
C(AE)	4500 (31.0)	0.45	7, 78
D(AE) [2]	5000 (34.5)	0.40	5, 56, 57
P (Precast, Prestressed) [3] [4] [5]	See plans	–	6,7,67,68,78
P(AE) [3] [4] [5]	See plans	–	6,7,67,68,78
S (Seal)	–	0.54	5, 56, 57

[1] Meet the processing requirements of AASHTO M 43, Table 1 – Standard Sizes of Processed Aggregate.

[2] The maximum water-soluble chloride ion (Cl-) content is 0.15 percent by mass of cement. Determine the water-soluble chloride ion content of concrete made with mix ingredients at an age between 28 and 48 days according to ASTM C1218. Submit test results with the concrete mix design for approval.

[3] The maximum water-soluble chloride ion (Cl-) content is 0.06 percent by mass of cement. Determine the water-soluble chloride ion content of concrete made with mix ingredients at an age between 28 and 48 days according to ASTM C1218. Submit test results with the concrete mix design for approval.

[4] Use Class P (AE) concrete in the entire depth of the top flange of all multi-beam bridge girders. In lieu of this, Class P (AE) concrete may be used for fabrication of the entire girder and throughout the entire depth of prestressed slabs. In all cases, furnish concrete meeting the 28 day specified minimum concrete strength requirements for the prestressed members as shown on the plans, unless otherwise specified.

[5] Use Class A (AE) or Class P (AE) concrete for precast elements to be used as substructure elements, such as footings or foundations. Use Class P (AE) concrete for fabrication of precast elements to be used in a precast (non-prestressed) superstructure element, including slabs, girders, and box culverts where traffic will be in contact with the horizontal top surface. In all cases, furnish concrete meeting the 28 day specified minimum concrete strength requirements for the precast or prestressed members as shown on the plans, unless otherwise specified.

Delete the second and third paragraph of Subsection 552.03 and replace with the following:

Submit written concrete mix designs on FHWA Form 1608, 552 *Structural Concrete Mix Design Submittal*, or other format that is professional in appearance and provides all of the required information in subsections (a) through (z) of this section, 552.03. Allow at least 30 calendar days for approval before production.

Add the following Subsection 552.03 under the list of items to be included in the mix design submittal:

(z) Evaluation of potential aggregate reactivity

552.08 Delivery.

Delete the last sentence of the first paragraph of Subsection 552.08(a) with the following:

Do not exceed 130 total revolutions at mixing speed, including both initial mixing and remixing. Do not exceed 300 total revolutions, including both mixing and agitating speed.

Delete table 552-4 and its footnotes and replace with the following table and footnotes:

Table 552-4
Concrete Remixing and Discharge Time Limits

Cement Type [1]	**Admixtures**	**Remixing Time Limit (hour)**	**Discharge Time Limit (hour)**
Type I, IA, II, IIA, V, or approved blended hydraulic cement	None	0.75	1.00
Type I, IA, II, IIA, V, or approved blended hydraulic cement	ASTM C494, Type B, D, or G[2]	1.25	1.50
Type I, IA, II, IIA, V, or approved blended hydraulic cement	Hydration stabilizer	3.00	Approved design discharge time limit, 3.50 maximum
Type III	None	0.50	0.75
Type III	ASTM C494, Type B, D, or G[2]	1.00	1.25

[1] AASHTO M 85 or AASHTO M 240 as applicable.

[2] ASTM C494 defines Type B as a retarding admixture, Type D as a Water-reducing and retarding admixture, and Type G as a Water-reducing, high range, and retarding admixture.

552.18 Loads on New Concrete Structures.

Add the following paragraph to Subsection 552.18:

Do not allow public traffic on the bridge until approaches, curbs, and bridge rail are completed and in-place. Erect barricades at each end of bridge spans when road approaches allow vehicles to drive directly onto the structure.

***Delete* Subsections 552.20, 552.21, and 552.22 and replace with the following:**

552.20 Precast Elements. Precast concrete elements and members considered structural in nature shall meet the following specifications of this section.

(a) Certification and/or Quality Assurance of Precast Manufacturing Plant. Furnish precast concrete members using a plant with one of the following certifications, appropriate to the type of member being fabricated:

(1) Precast/Prestressed Concrete Institute (PCI)
   (a) Bridge 1, Precast Bridge Products (no prestressed reinforcing).
   (b) Commercial 1, Precast Concrete Products (no prestressed reinforcing).
(2) National Precast Concrete Association (NPCA)
(3) American Concrete Pipe Association (ACPA)

When available, submit a copy of the transmittal letter of the latest PCI, NPCA, or ACPA inspection and certification with the shop drawings.

In lieu of the above certification, the Contractor shall retain a professional engineer to provide quality assurance for the work by inspecting and certifying in writing the concrete members are constructed in accordance with the contract specifications and FSSS Section 552 and shall include information including but not limited to the following:

(a) Shop drawings review.
(b) Concrete member dimensions.
(c) Concrete mix design.
(d) Aggregate sources, moisture contents, test results.
(e) Steel reinforcing placement.
(f) Concrete curing and strength test results.
(g) Concrete material certifications.
(h) Placement mixing, delivery and sampling.
(i) Properly calibrated production and test equipment
(j) Proper records keeping including; personnel qualifications and training records, material sources, quality control testing results for the aggregate and concrete, pre-

pour and post-pour inspection reports, batching records, disposition of failing products, and shipping.

Material sources shall be on the State's approved supplier list or approved in writing by the CO.

Furnish the certification or supplemental information above to the CO prior to shipment of materials and installation at the job site.

Perform all sampling, testing, and inspection necessary to ensure quality control of the component materials and the concrete. Sample and test for quality control and acceptance testing in accordance with the AASHTO or ASTM test methods prescribed in Section 552.

Maintain adequate records of all inspections and tests. Keep records that indicate the nature and number of observations made, the number and type of deficiencies found, the quantities approved and rejected, and the nature of any corrective action taken.

(b) Precast Manufacturing Plant (i.e. Casting Yard). The precasting of concrete structural members may be done at a casting yard of an industry-certified plant or a casting yard of the Contractor's choice with the appropriate certifications discussed above.

(c) Tolerances. Place and consolidate concrete so that shrinkage cracks are not produced in the member.

Verify that the prefabricated elements will fit-up and align properly before shipping from the precast facility. Assembling each superstructure and substructure composed of prefabricated elements in the yard prior to shipping the elements to the project site is a suitable way to perform such verification. If assembled in the yard, use blocking to simulate the support of the elements and the spacing between the elements. Verify all elements are constructed in compliance with all plan requirements. Dry fit all connections in the fabrication yard prior to installation of the elements at the bridge site.

Fabricate precast concrete foundation units straight and true size and shape with exposed edges and corners precise and true so each finished unit complies with the following dimension tolerances as well as position tolerances for cast in items:

(1) Length shall not vary by more than ¾ inch.
(2) Height/Width shall not vary from that shown in the design by more than ¼ inch.
(3) Local smoothness shall be no more than ¼ inch in 10 feet for any surface, except when finishing or form liners are called out or accepted as part of the submittal
(4) Position of inserts for structural connections shall not vary from that shown in the shop drawings by more than ½ inch.
(5) Placement of non-prestressed reinforcement shall comply with Section 554 Reinforcing Steel.

(d) Submittals. Submit four (4) sets of shop drawings to the CO for approval according to subsection 104.03, a minimum of 21 days before fabrication of the precast member(s). In lieu of

hard copy shop drawing submittals, electronic submittals are acceptable. Show all details necessary for fabrication, including the following:

(1) Details and location of all lifting holes, inserts, hardware, devices, and any additional reinforcing required for lifting. Include supporting calculations and lifting procedures.
(2) Describe the method of curing, handling, storing, and transporting the elements.
(3) Concrete mix design for all precast elements.

(e) Quality Assurance.

(1) Permanently mark each element with date of fabrication, supplier identification and module identification. Stamp markings in fresh concrete.
(2) Prevent cracking or damage of precast components during handling and storage.
(3) Replace or repair defective or broken precast concrete deck and concrete deck overhang elements according to section 106. Requests to repair defective or broken elements are subject to the following;
   (a) Obtain approval before performing concrete repairs.
   (b) Concrete repair work must re-establish the module's structural integrity, durability, and aesthetics to the satisfaction of the CO.
   (c) Describe the cause of damage and the corrective action taken to eliminate future damage.
   (d) An updated CPM schedule showing the effects of repair work on project completion must be submitted.
(4) Elements will be rejected if they do not conform to the contract documents, and for the following reasons:
   (a) Full-depth cracking of concrete and concrete breakage that is not repairable.
   (b) Cracks that extend to the nearest reinforcement plane, or fine surface cracks that do not extend to the nearest reinforcement plane but are numerous or extensive.
   (c) Camber that does not meet the requirements of the plans or fabrication drawings.
   (d) Honeycombed texture.
   (e) Dimensions exceeding the allowable tolerances.
   (f) Damage during fabrication, transportation, erection, or construction.
(5) Document all test results for structural concrete. Show in the quality control files at least the following information:
   (a) Element identification.
   (b) Date and time of fabrication concrete pour.
   (c) Concrete cylinder test results.
   (d) Concrete mix design and the batch print out.
   (e) Form-stripping date.
   (f) Location and number of blockouts and lifting inserts.
   (g) Temperature, moisture, and duration of curing period.

(h) Approved repair procedures.

(f) Handling, storing, and transporting.

(1) *Damage/Cracking.* Prevent cracking or damage of prefabricated elements and modules during handling, storing, and transporting.

(2) *Precast Element Sizes.* Finalize the size of precast elements with consideration for shipping restrictions, equipment availability, and site constraints. Show the final element sizes on the assembly plan.

(3) *Lifting Devices.* The design and detail of the lifting devices is the responsibility of the contractor. Use lifting devices in a manner that does not cause damage, cracking, or torsional forces. Place the lifting devices in locations that are not visible once the prefabricated element is placed, or within recessed pockets that can be patched after installation.

(4) *Safety.* The Contractor is responsible for the safety and stability of prefabricated elements during all stages of handling, transportation, and construction.

(5) *Handling and Storing.* Store the precast units in a horizontal and upright position, supported at their designated bearing points. Follow Chapter 5 of the PCI Design Handbook for handling and erection bracing requirements.

Lift the precast elements so that the angle between the top surface of the precast element and the lifting line is not less than 60 degrees when measured from the top surface of the precast elements to the lifting line. If two cranes are used, then the lifting lines shall be vertical. Lift the modules at the designated points. The Contractor is responsible for handling stresses in the modules. Choose the locations of the lifting points so that the anticipated flexural tensile stress induced in the top of the structural concrete for the assumed support locations is not greater than the allowable stress.

Select smooth and well compacted storage areas to prevent damage due to differential settlement. Support precast elements during storage to prevent cracking or creep induced deformation (sagging). Check precast elements at least once per month to ensure that creep-induced deformation does not occur.

Protect the elements from freezing temperatures for 5 days after casting or until precast concrete attains design compressive strength. Do not remove thermal protection for any length of time before the units attain the specified compressive strength when the surrounding air temperature is below 20 °F (-6 °C).
Before transporting precast concrete members, provide written certification that the members were fabricated and visually inspected in conformance with 552 and meet minimum quality requirements.

(6) *Additional Reinforcement.* Provide additional reinforcement, as needed, to meet the requirements of handling, transporting, and erecting precast members.

(7) *Requirements Prior to Shipping.* Do not ship precast concrete members until concrete cylinder tests, manufactured from the same concrete and cured under the same conditions as the members, indicate that the concrete in each member has attained the minimum required design strength and is at least 7 days old.

(g) Installation.

(1) Install members without damage to structural capacity, shape, or finish. Replace or repair damaged members.

(2) Install members level and plumb without exceeding the following allowable tolerances:

(a) Plan Location from Design Datum: Plus or Minus ½ in. (±13mm).

(b) Top Elevation from Nominal Top Elevation: Plus or Minus 3/8 in. (±6mm).

(c) Maximum Plumb Variation over the Lesser of Height of Structure or 100 ft (30m): 1 in. (25 mm).

(d) Plumb in Any 10 ft (3 m) of Element Height: ¼ in. (6mm).

(e) Maximum Jog in Alignment of Matching Edges: ¼ in. (6mm).

552.21 Acceptance.

See Table 552-9 for sampling, testing, and acceptance requirements and the quality characteristic category.

Reinforcing steel, anchor devices, elastomeric bearings, and material for concrete and grout will be evaluated under Subsection 106.03. Furnish production certifications for hydraulic cement, reinforcing steel, and any other cementitious materials.

Cast in place concrete mixture's slump, air content, density, and temperature will be evaluated under Subsections 106.02 and 106.04.

Concrete compressive strength will be evaluated under Subsection 106.05. The lower specification limit is the minimum required compressive strength at 28 days (f'_c) specified in the contract. Remove and replace concrete represented by cylinders having a compressive strength less than 90 percent of the minimum 28-day strength (f'_c).

Concrete for precast concrete members will be evaluated under Subsections 106.02, 106.03, and 106.04.

Construction of all precast concrete members and concrete structures (including batching, placing, finishing, and curing concrete) will be evaluated under Subsections 106.02 and 106.04.

Reinforcing steel will be evaluated under Section 554.

Falsework and forms will be evaluated under Section 562.

Measurement

552.22 Measure the Section 552 pay items listed in the bid schedule according to Subsection 109.02 and the following as applicable.

When measuring structural concrete by the cubic yard (cubic meter), measure in the structure.

Do not measure reinforcing steel, concrete, anchorages, plates, nuts, and other material contained within or attached to the unit for precast concrete structural members.

Payment

552.23 The accepted quantities will be paid at the contract price per unit of measurement for the Section 552 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05

571 - Prefabricated Bridges

571.00_nat_us_03_15_2005

Description

571.01 This work consists of designing, fabricating, delivering, and installing a prefabricated modular bridge superstructures, or transporting and installing Government-furnished prefabricated, modular superstructures and components. The work also includes constructing caps, bearings, and abutments including excavation and backfill and anchoring bridge superstructures to abutments as required

Materials

571.02 Requirements. Furnish materials that meet the requirements specified in the following sections:

Bridge Railing	556
Structural Metal	717
Prestressed Concrete	553
Reinforcing Steel	554
Steel Structures	555
Structural Concrete	552
Timber Structures	557
Material for Timber Structures	716

Concrete compressive strength, structural steel tensile strength, finish and designation, timber species, grade, and treatment, and other material specifications shall be as required or if not listed in the contract documents, take them from the manufacturer’s drawings, and have them approved by the CO prior to fabrication.

Construction Requirements

571.03 Design Requirements. For required loadings use the most recent AASHTO "Standard Specifications for Highway Bridges".

When design of the structure is required, submit plans and calculations signed by a professional engineer registered in the state where the bridge will initially be located or in the state where the fabricator's offices are located.

Use durable materials to allow removal, transportation, and re-installation without using specialized construction equipment. When required, design bridges to allow transportation by air or pack animals and complete construction by manual labor. Use design techniques and fabrication methods to minimize field installation difficulties. Fabricate primary components from steel.

Rig main superstructure components with permanent lifting devices to facilitate efficient installation and removal of these items. Place lifting devices so as not to interfere with traffic.

571.04 Design Drawings. When furnishing a prefabricated bridge superstructure, submit design drawings, calculations, or shop drawings at least 21 days in advance of the start of fabrication to allow time for review and correction of any changes and approval by the CO. Include plan, elevation, and section views of the modular bridge superstructure, dimensions of all components, welding and connection details, and general and specific notes regarding design and construction.

When Government-furnished prefabricated bridge superstructure components are specified, material lists, installation information, and manufacturer's instructions will be furnished by the Government.

571.05 General. Perform excavation, backfill, and embankment work under Sections 204 and 209.

Dispose of all debris resulting from operations in accordance with Section 203.

571.06 Performance. Notify the CO at least before delivering the bridge.

If the prefabricated superstructure is not installed immediately upon delivery to the project site, provide appropriate equipment and labor to unload and stack, support, and store all material at the delivery point. Support and stack all components to prevent damage. Furnish and install blocking to support all components at least 12 inches above the ground.

Furnish all tools, devices, special equipment, and material needed for installation in well-marked watertight containers suitable for long-term, outdoor storage.

571.07 Abutments and Approaches. Construct required caps, bearing, and abutments according to Division 500. Construct approaches including excavation and backfill according to sections 204 and 209.

571.08 Contractor-Furnished Prefabricated Bridge Superstructure. Furnish the following items for approval prior to delivery of the bridge component:

(a) Supplier or inspection agency certification of wood species and grade of all timber and a conformance certificate for all sawn and glued laminated members.

(b) Certification by an approved inspection and testing agency of wood treatment, listing method of treatment, type of preservative, retention, and penetration. Supplier certification is permitted if each piece is stamped or branded with a legible American Wood Preservers Bureau quality mark.

(c) Certification of structural steel, fasteners, and hardware.

(d) Certification of galvanizing process used.

(e) Steel fabricator certification that steel fabrication and quality control meet the requirements of the AISC Code of Standard Practice; and that all welding meets the requirements of ANSI/AASHTO/AWS D 1.5 Bridge Welding Code.

(f) A complete list of all bridge components, hardware, and fasteners.

(g) Complete instructions and drawings. Provide drawings that are black line, of reproducible quality, on ANSI sheet size D (24 inches by 36 inches). Furnish the same information in an approved electronic format.

Mark each major component of the bridge superstructure with the same permanent serial number in a location that is clearly visible, both when stacked in storage and erected at the site.

Assemble bridge superstructure prior to delivery to assure proper fit-up of all components. Notify the CO of the assembly 2 weeks before assembly.

571.09 Government-Furnished Prefabricated Bridge Superstructure. For Government-furnished prefabricated bridge units, transport all material from the storage site(s) to the bridge site, and install the superstructure complete and in place, including connection of all girders, diaphragms, railings, panels, transoms, and other elements.

Upon taking possession of the Government-furnished units at the storage site, assume liability for damage resulting from handling, transporting, or erecting the units in place, until final acceptance of the project.

571.10 Non-pressure Epoxy Grout Anchors. Furnish non-pressure epoxy grout to cement anchor dowels and bolts. At least 15 days prior to use submit for approval manufacture's test information on the non-pressure epoxy grout proposed for use.

Immediately prior to placing dowels or bolts, clean drill hole of dust and other material. Fill hole halfway with grout. Insert dowels by rotating it though one complete turn while tapping it down. Insert bolts according to manufacture's instructions. If necessary add more grout to fill the hole.

571.11 Acceptance. Furnish a production certification for timber, including glued-laminated lumber, structural steel, and fabricated steel. Furnish a certification for all wood treatment, fasteners, hardware, galvanizing processes, and non-pressure epoxy grout.

Measurement

571.12 Measure the Section 571 items listed in the bid schedule according to Subsection 109.02.

Payment

571.13 The accepted quantities, measured as provided in Subsection 109.02 and above, will be paid at the contract price per unit of measurement for the Section 571 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Section 625. – TURF ESTABLISHMENT

625.01.

Delete and replace with the following:

This work consists of seeding and mulching. Seed will be provided by the Forest Service.

625.02.

Delete from the materials:

Agricultural Limestone	713.02
Fertilizer	713.03
Seed	713.04
Tackifiers	713.11
Water for Vegetation	725.01(b)

625.03 General.

Delete the entire subsection and replace with the following:

Apply turf establishment to finished and accepted grounds or any disturbed area between **September 15** and **October 15**.

Assure that mulch used in the work conforms to the weed free requirements of Section 713.05.

625.04 Preparing Seedbed.

Delete the entire subsection

625.05 Watering.

Delete the entire subsection

625.06 Fertilizing.

Delete the entire subsection

625.07 Seeding.

Add the following:

Seed will be furnished by the Forest Service. Application rate is anticipated to be 20 lbs/acre. Actual application rate may be adjusted based on viability of available seed and season of application. Application rate will be established in writing by the Contracting Officer at the time seed is furnished.

625.09 Protecting and Caring for Seeded Areas.

Delete the entire subsection and replace with the following:

Seeded areas damaged by construction activities shall be reseeded and mulched within 10 days of the damage.

R6-FS-6300-52 (5/97)

USDA FOREST SERVICE
PACIFIC NORTHWEST REGION

FIRE PROTECTION AND SUPPRESSION

1. Fire Period and Closed Season

Specific fire prevention measures are listed below and shall be effective for the period April 1 to October 31 of each year. The Forest Service may change the dates of said period by advance written notice if justified byunusual weather or other conditions. Required tools and equipment shall be kept currently in serviceable condition and immediately available for initial attack on fires.

2. Fire Plan

Before starting any operations on the project, the Contractor, Permittee, Licensee, or Purchaser, hereinafter referred to as the "Contractor," shall prepare a fire plan in cooperation with the Contracting Officer providing for the prevention and control of fires in the project area.

The Contractor shall certify compliance with fire protection and suppression requirements before beginning operations during the fire period and closed season, and shall update such certification when operations change

3. Substitute Measures

The Contracting Officer may by written notice authorize substitute measures or equipment or may waive specific requirements during periods of low fire danger.

4. Emergency Measures

The Forest Service may require emergency measures, including the necessary shutting down of equipment or portions of operations in the project area during periods of fire emergency created by hazardous climatic conditions.

5. Fire Control

The Contractor shall, independently and in cooperation with the Forest Service, take all reasonable action to prevent and suppress fires in the project area. Independent initial action shall be prompt and shall include the use of all personnel and equipment available in the project area.

For the purpose of fighting forest fires on or in the vicinity of the project which are not caused by the Contractor's operations, the Contractor shall place employees and equipment temporarily at the disposal of the Forest Service. Any individual hired by the Forest Service will be employed in accordance with the Interagency Pay Plan for Emergency Firefighters. The Forest Service will compensate the Contractor for equipment rented at fire fighting

equipment rates common in the area, or at prior agreed to rates.

6. Compliance with State Forest Laws

Listing of specific fire precautionary measures herein is not intended to relieve the Contractor in any way from compliance with the State Fire Laws covering fire prevention and suppression equipment, applicable to operations under this contract, permit or license.

7. Fire Precautions

Specific fire precautionary measures are as follows:

a. Smoking and Open Fires

Smoking and fires shall be permitted only at the option of the Contractor. The Contractor shall not allow open fires on the project area without advance permission in writing from Forest Service.

Unless restricted by State Law or Federal Regulation, smoking shall be permitted only in such portions of the project area that are free of flammable material. Smokers shall sit down to smoke in such a position that any burning material will fall within a cleared area, and shall extinguish and press out in mineral soil all burning material before leaving the cleared area.

b. Fire Extinguishers and Equipment on Trucks, Tractors, etc.

All power-driven equipment operated by the Contractor on National Forest land, except portable fire pumps, shall be equipped with one fire extinguisher having a UL rating of at least 5 BC, and one "D" handled or long handled round point shovel, size "0" or larger. In addition, each motor patrol, truck and passenger-carrying vehicle shall be equipped with a double-bit axe or Pulaski, 3-1/2 pounds or larger.

Equipment shall be kept in a serviceable condition and shall be readily available.

c. Power Saws

Each gasoline power saw operator shall be equipped with a pressurized chemical fire extinguisher of not less than 8-ounce capacity by weight, and one long-handled round point shovel, size "0" or larger. The extinguisher shall be kept in possession of the saw operator at all times. The shovel shall be accessible to the operator within 1 minute.

d. Extinguishers

One refill for each type or one extra extinguisher sufficient to replace each size extinguisher required on equipment shall be safely stored in the fire tool box or other agreed upon place on the project area that is protected and readily available.

e. Spark Arresters and Mufflers

Each internal combustion engine shall be equipped with a spark arrester meeting either (1) USDA Forest Service Standard 5100-1a, or (2) appropriate Society of Automotive Engineers (SAE) recommended practice J335(b) and J350(a) as now or hereafter amended unless it is:

(1) Equipped with a turbine-driven exhaust supercharger such as the turbocharger. There shall be no exhaust bypass

(2) A passenger-carrying vehicle or light truck, or medium truck up to 40,000 GVW, used on roads and equipped with a factory-designedmuffler complete with baffles and an exhaust system in good working condition.

(3) A heavy duty truck, such as a dump or log truck, or other vehicleused for commercial hauling, used only on roads and equipped with a factory designed muffler and with a vertical stack exhaust system extending above the cab.

Exhaust equipment described in this subsection, including spark arresters and mufflers, shall be properly installed and constantly maintained in serviceable condition.

f. Emergency Fire Precautions

The Contractor shall restrict operations in accordance with the Industrial Fire Precaution Levels listed below. The Forest Service may change the Industrial Fire Precaution Levels to other values upon revision of the National Fire Danger Rating System and may change the specific Industrial Fire Precaution Levels when such changes are necessary for the protection of the National Forest. When sent to the Contractor, the revised Industrial Fire Precaution Levels will supersede the attached levels

INDUSTRIAL FIRE PRECAUTIONS SCHEDULE
INDUSTRIAL FIRE PRECAUTION (IFPL)

LEVEL

I. **Closed season** - Fire precaution requirements are in effect. A fire watch/security is required at this and all higher levels unless otherwise waived.

II. **Partial hootowl -** The following may operate only between the hours of 8 p.m. and 1 p.m., local time:

a. power saws, except at loading sites;
b. cable yarding;
c. blasting;
d. welding or cutting of metal.

III. **Partial shutdown** - The following shall be prohibited except as indicated:

Cable yarding - except that gravity operated logging systems employing non-motorized carriages may be operated between the hours of 8 p.m. and 1 p.m., local time, when all block and moving lines, except the line between the carriage and the chokers, are suspended 10 feet above the ground;

Power saws - except power saws may be used at loading sites and on tractor/skidder operations between the hours of 8 p.m. and 1 p.m., local time.

In addition, the following are permitted between the hours of 8 p.m. and 1 p.m., local time:

a. tractor/skidder operations;
b. mechanized loading and hauling of any product or material;
c. blasting;
d. welding or cutting of metal;
e. any other spark-emitting operation not specifically mentioned.

IV. **General shutdown** - All operations are prohibited.

The following definitions shall apply to these Industrial Fire Precaution Levels:

Cable yarding systems: A yarding system employing cables and winches in a fixed position.

Closed season (Fire Precautionary Period): That season of the year when a fire hazard exists as declared by the responsible agency official.

Contracting Officer: The person executing the contract, permit or license on behalf of the Government and includes that person's designated representative, acting within the limits of their authority or the duly appointed successor to the individuals.

Loading sites/woods site/project area: A place where any product or material (including but not limited to logs, firewood, slash, soil, rock, poles, posts, etc.) is placed in or upon a truck or other vehicle

Low hazard area: Means any area where the responsible agency representative (WDNR, ORF, BIA, BLM) determines the combination of elements reduces the probability of fire starting and/or spreading.

Tractor/skidder operations: include a harvesting operation, or portion of a harvesting operation, where tractors, skidders, or other harvesting equipment capable of constructing fireline, are actively yarding forest products and can quickly reach and effectively attack a fire start.

Waivers, written in advance, may be used for any and all activities. Activities for which waivers may be issued include, but are not limited to:

a. mechanized loading and hauling;
b. road maintenance such as sprinkling, graveling, grading and paving;
c. cable yarding using gravity systems or suspended lines and blocks, or other yarding systems where extra prevention measures will significantly reduce the risk of fire;
d. powers saws at loading sites or in felling and bucking where extra prevention measures will significantly reduce the risk of fire;
e. maintenance of equipment (other than metal cutting and welding) or improvements such as structures, fences and powerlines.

Such waiver, or substitute precautions will prescribe measures to be taken by the Contractor to reduce the risk of ignition, and/or the spread of fire. The Contracting Officer shall consider site specific weather factors, fuel conditions, and specific operations that result in less risk of fire ignition and/or spread than contemplated when precaution level was predicted. Consideration shall also be given to measures that reduce the precaution levels above. The Contractor shall assure that all conditions of such waivers or substitute precautions are met.

The Contractor shall obtain the predicted Industrial Fire Precaution Level daily, prior to the start of work, from the appropriate Ranger District headquarters. If predictions made after 6:00 p.m., local time, are significantly different than the original prediction, the Forest Service will inform the Contractor when changes in restrictions or industrial precautions are made.

NOTE: The IFPL system does not apply on lands protected by ODF east of the summit of the Cascades.

Where hauling involves transit through more than one shutdown/regulated use area, the precaution level at the woods loading site shall govern the level of haul restriction, unless otherwise prohibited by other than industrial precaution level system.

8. Fire Tools

The Contractor shall furnish serviceable fire fighting tools in a readily accessible fire tool box or compartment of sound construction with a hinged lid and hasp so arranged that the box can be secured or sealed. The box shall be red and marked "Fire Tools" in letters one inch high. It shall contain a minimum of:

a. 2 axes or Pulaskis with a 32-inch handle;

b. 3 adze eye hoes. One Pulaski may be substituted for 1 adze eye hoe;

c. 3 long-handled, round point shovels, size "0" or larger.

9. Fire Security

When the Industrial Fire Precautions Level is "I" or higher, unless a waiver is granted, the Contractor shall designate a person who shall perform fire security services listed below on the project area and vicinity. The designated person shall be capable of operating the Contractor's communications and fire fighting equipment specified in the contract, excluding helicopters, and of directing the activities of the Contractor's personnel on forest fires. In lieu of having the designated person perform the required supervisory duties, the Contractor may provide another person meeting the qualifications stated above to direct the activities of Contractor's personnel and equipment during all fire fighting activities.

Services described shall be for at least 1 hour from the time the Contractor's operations are shut down. For the purposes of this provision, personnel servicing equipment, and their vehicles, who are not engaged in cutting or welding metal are excluded.

Fire security services shall consist of moving throughout the operation area or areas constantly looking, reporting, and taking suppression action on any fires detected. Where possible, the designated person shall observe inaccessible portions of helicopter operating areas from vantage points within or adjacent to project area.

10 Blasting

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Whenever the Industrial Fire Precaution Level is "II" or greater, a fire security person equipped with a long-handled, round point, No. "0" or larger, shovel, and a five-gallon backpack pump can filled with water will stay at location of blast for 1 hour after blasting is done. Blasting may be suspended by Forest Service in writing, in an area of high rate of spread and resistance to control.

Fuses shall not be used for blasting. Explosive cords shall not be used without written permission of Forest Service, which may specify conditions under which such explosives may be used and precautions to be taken.

USDA FOREST SERVICE
PACIFIC NORTHWEST REGION

FIRE PROTECTION AND SUPPRESSION

Additional Fire Precautionary Measure 1 - Tank Truck

11. The Contractor shall provide a tank truck or trailer, containing not less than 300 gallons of water, during yarding, loading, land clearing, right-of-way clearing and mechanical treatment of slash. A tank truck or trailer will not be required if powersaw falling and bucking is the only operation. Such tank truck or trailer shall be maintained in a serviceable condition and located within 10 minutes, round trip, from each project area during Fire Period and Closed Season.

The tank truck or trailer shall be equipped with a pump capable of discharging 20 gallons of water per minute, using a 1/4 inch nozzle tip, through a 50 foot length of rubber line hose. In addition, 500 feet of serviceable fabric jacket rubber lined hose of not less than 1 inch outside diameter, fitted with a nozzle capable of discharging a straight stream of 1/4 inch diameter and a spray pattern shall be immediately available for use. The tank, pump and at least 250 feet of hose and nozzle shall be connected and ready for use at all times.

If a trailer is used, it shall be equipped with a hitch to facilitate prompt movement. A serviceable tow vehicle shall be immediately available for attachment to the trailer and must meet the time requirements stated above. Such truck or trailer shall be equipped to operate for a minimum of 8 hours. Tank truck or trailer shall be available from the start of work to the end of the Fire Watch / Fire Security service.

USDA FOREST SERVICE
PACIFIC NORTHWEST REGION

FIRE PROTECTION AND SUPPRESSION

Additional Fire Precautionary Measure 2 - Communications

12. The contractor shall provide adequate two-way communication facilities to report a fire to Forest Service within 15 minutes of detection. FCC Regulations prohibit commercial use of Citizen Band (CB) radios. (CB's are not considered adequate two-way communications).

Such communications shall be operable during periods of operation of power-driven equipment, including the time fire security is required. Fire Period and Closed Season

Appendix E
Flowdown Provisions

NFF Funding Code: 1593035
NFF Funding Code Name: CCS SPA North Umpqua Watershed

Funder Agreement ID: 21-CS-11061500-010

Flowdown Provisions

U.S. FOREST SERVICE ACKNOWLEDGED IN PUBLICATIONS, AUDIOVISUALS AND ELECTRONIC MEDIA.

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All non federal government entities working on this agreement will adhere to the below provisions found in the Consolidated Appropriations Act, 2016, Pub. L. 114-113, relating to reporting fraud, waste and abuse to authorities:

1. The recipient may not require its employees, contractors, or subrecipients seeking to report fraud, waste, or abuse to sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting them from lawfully reporting that waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

2. The recipient must notify its employees, contractors, or subrecipients that the prohibitions and restrictions of any internal confidentiality agreements inconsistent with paragraph (a) of this award provision are no longer in effect.

3. The prohibition in paragraph (a) of this award provision does not contravene requirements applicable to any other form issued by a Federal department or agency governing the nondisclosure of classified information.

4. If the Government determines that the recipient is not in compliance with this award provision, it:

    a. Will prohibit the recipient's use of funds under this award, in accordance with sections 743, 744 of Division E of the Consolidated Appropriations Act, 2016, (Pub. L. 114-113) or any successor provision of law; and

    b. May pursue other remedies available for the recipient's material failure to comply with award terms and conditions.

Flowdown Provisions

NFF Funding Code: 1593123
NFF Funding Name: CCS Umpqua Disaster Recovery FRSR

Funder Agreement ID: 23-CS-11061500-025

U.S. FOREST SERVICE ACKNOWLEDGED IN PUBLICATIONS, AUDIOVISUALS AND ELECTRONIC MEDIA.

Award Recipient or Contractor shall acknowledge U.S. Forest Service support in any publications, audiovisuals, and electronic media developed as a result of this agreement.

TRAINING, EVALUATION, AND CERTIFICATION OF SAWYERS USED BY COOPERATORS.

Any employee, contractor, or volunteer of the cooperator who will use chain saws or crosscut saws on National Forest System lands under this agreement must be trained, evaluated, and certified in accordance with Forest Service Manual 2358. The cooperator is responsible for providing sawyer training, evaluation, and certification for the cooperator's employees, contractors, and volunteers, unless the U.S. Forest Service and the cooperator determine it is not in the best interest of the partnership for the cooperator to provide sawyer training and evaluation. In these circumstances, the U.S. Forest Service, upon request and upon availability of Agency resources, may assist with conducting sawyer training and evaluation for the cooperator's employees, contractors, and volunteers. Cooperator employees, contractors, and volunteers who will use chain saws and/or crosscut saws on National Forest System lands must be certified by the cooperator. Only those cooperator organizations with an approved sawyer training, evaluation, and certification program may conduct sawyer training, evaluation, and certification. Any employee, contractor, or volunteer of the cooperator who will use other types of saws, such as handsaws to cut small diameter material, brush saws, and pole saws, must be trained in accordance with Forest Service Handbook 6709.12, Chapter 40, section 41.3. The cooperator is responsible for providing that training.

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3. The prohibition in paragraph (a) of this award provision does not contravene requirements applicable to any other form issued by a Federal department or agency governing the nondisclosure of classified information.

4. If the Government determines that the recipient is not in compliance with this award provision, it:

    a. Will prohibit the recipient's use of funds under this award, in accordance with sections 743, 744 of Division E of the Consolidated Appropriations Act, 2016, (Pub. L. 114-113) or any successor provision of law; and

    b. May pursue other remedies available for the recipient's material failure to comply with award terms and conditions.