

Part 1 – The Schedule

BOY SCOUT TRAIL BRIDGE REPLACEMENT

Section C - Description and Specifications

C.1 PROJECT SCOPE

A. This project involves the following work:

- 1.) Perform minor road work required to access the site. Work includes reconditioning 0.3 miles of road 3018270 from MP 0.1 to MP 0.4, brushing 1.1 miles of road 3018000 from MP 7.33 to MP 8.43, and reshaping 50 feet of road 3018000 at its intersection with road 3018500.
- 2.) Removing and sidecasting log jam debris located on the inlet end of the existing log culvert at MP 7.33 of Road 3018000.
- 3.) Removing and disposing of a damaged 12' x 30.7' wide log culvert. Removal includes excavating road rock to the streambed's original condition and elevations and hauling stringers to designated disposal site.
- 4.) Felling, limbing, and bucking timber identified by the Government for use in the construction of a new log stringer bridge.
- 5.) Transportation of stringers, brow logs, and mud sill logs to the installation site.
- 6.) Installation of a new 42' long log stringer trail bridge with a minimum traveled way of 72", according to the design provided in the attached drawings.
- 7.) Grass seeding disturbed areas.
- 8.) Mobilization of equipment to perform the work.

The intent of this contract is to provide for the complete construction of the project described in the contract. Unless otherwise provided, the Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies and perform all work required to complete the project in accordance with drawings, specifications, and provisions of the contract.

Payment for work will **ONLY** be made **for, and under** those pay items included in the Schedule of Items. **ALL** other work and materials will be considered as incidental to and included in the payment for pay items shown.

B. Location:

Project Location: The proposed work site is located on the Prince of Wales Road System on Prince of Wales Island. The site is located approximately 8 miles north of the community of Thorne Bay, AK, on National Forest Road 301800 at Milepost 7.33. The Thorne Bay Sort Yard and Marine Access Facility is located on the main road system approximately 0.5 mi west of the community of Thorne Bay.

C.2 SPECIFICATIONS

1.) D.O.T. FHWA STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-03 U.S. Customary Units)

The FP-03 are included by reference. The requirements contained in these specifications are hereby made a part of this solicitation and any resultant contract.

FLH Standard Specifications (FP-03) can also be obtained from the Federal Highway Administration Home Page on the Internet. It is in Word or Adobe Acrobat page description format at:

<http://www.wfl.fha.dot.gov/design/specs/fp03.htm>

Or hard copies are available for purchase online at:

<http://bookstore.gpo.gov/>

2.) BEST MANAGEMENT PRACTICES BMP'S Soil and Water Conservation Handbook FSH 2509.22

This Forest Service Handbook along with all other Handbooks can be found on line in both HTML or PDF page description format at:

<http://www.regulations.gov>

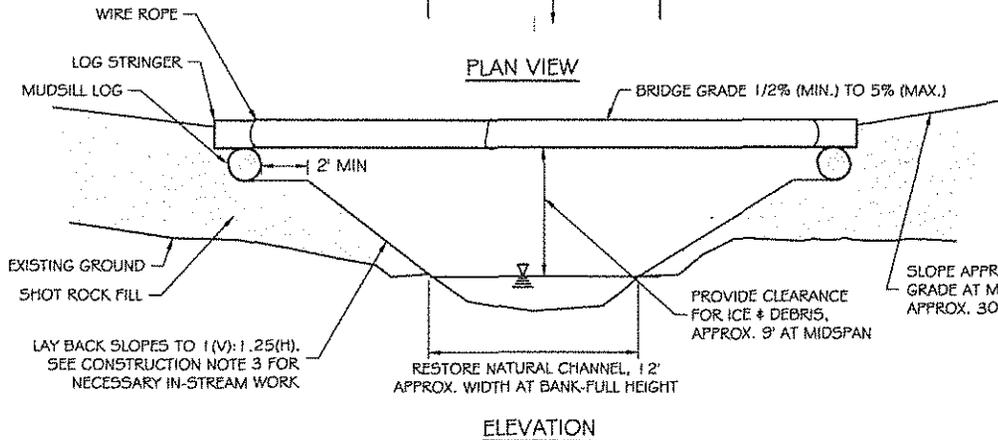
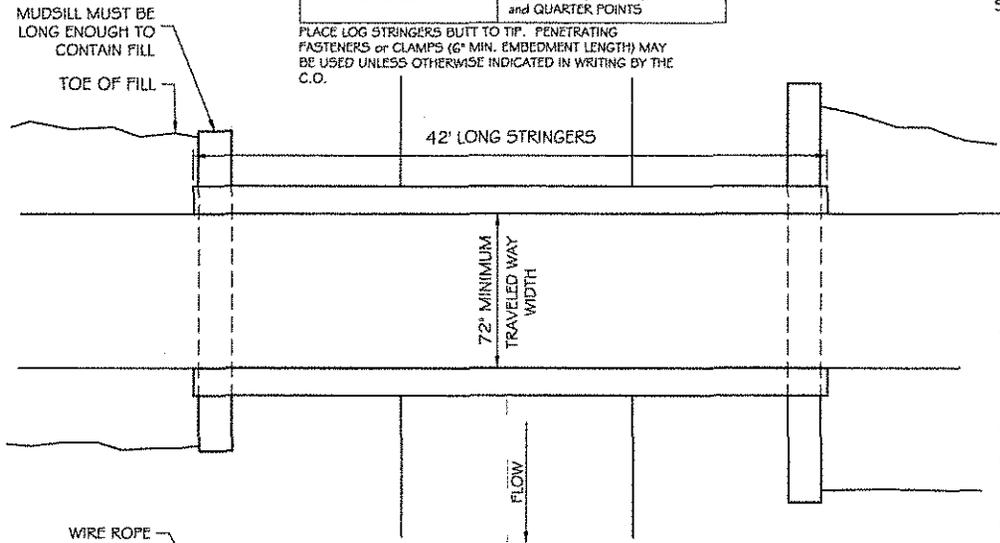
3.) SPECIAL PROJECT SPECIFICATIONS AND FOREST SERVICE SUPPLEMENTATION

The following specifications and supplementations are hereby made part of this solicitation and any resultant contract:

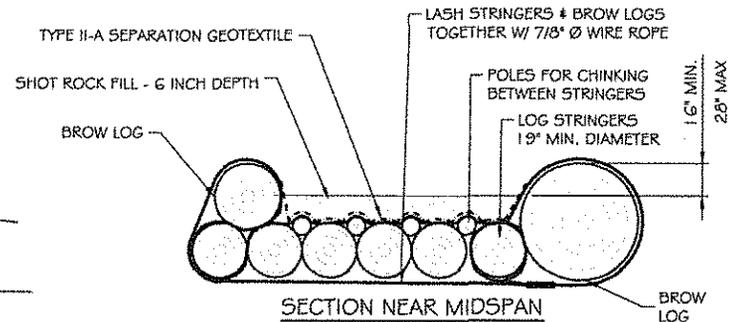
See attached FSSS document, 39 pages.

LASHING REQUIREMENTS	
FOR SPANS	LASH AT THESE LOCATIONS
UNDER 20-FT	ABUTMENTS and MIDSPAN
20-FT to 36-FT	ABUTMENTS and THIRD-POINTS
OVER 36-FT	ABUTMENTS, CENTER, and QUARTER POINTS

PLACE LOG STRINGERS BUTT TO TIP. PENETRATING FASTENERS or CLAMPS (6" MIN. EMBEDMENT LENGTH) MAY BE USED UNLESS OTHERWISE INDICATED IN WRITING BY THE C.O.



LOG STRINGER BRIDGE DETAILS



CONSTRUCTION NOTES:

1. CONSTRUCT BRIDGE TO ELEVATIONS AND ALIGNMENTS SHOWN ON THE DRAWINGS OR STAKED ON THE GROUND.
2. UNLESS OTHERWISE REQUIRED, USE A SINGLE MUDSILL AT EACH ABUTMENT. PLACE MUDSILL ON SHOT ROCK OR FIRM NATIVE MATERIAL AS DIRECTED BY THE C.O.
3. PLACEMENT OF RIPRAP OR OTHER INSTREAM WORK IS NOT ALLOWED UNLESS APPROVED IN WRITING IN ADVANCE BY THE C.O. INSTREAM WORK OR EQUIPMENT CROSSINGS ARE NORMALLY ALLOWED ONLY AS SHOWN ON THE PLAN DRAWINGS.
4. EQUIPMENT CROSSINGS MUST BE APPROVED IN WRITING BY THE C.O.
5. REMOVE AND SIDECAST DEBRIS FROM LOGJAM AT INLET OF EXISTING STRUCTURE PRIOR TO INSTALLATION OF NEW STRUCTURE. SIDECAST ANY ADDITIONAL ROAD FILL NOT UTILIZED IN BRIDGE INSTALLATION. SIDECAST ALL UNSUITABLE MATERIAL AWAY FROM THE STREAM.
6. REMOVAL OF EXISTING LOG CULVERT PRIOR TO BRIDGE INSTALLATION SHALL BE ACCOMPLISHED AS FOLLOWS:
 - a) REMOVE SHOT ROCK FILL FROM ABOVE EXISTING LOG CULVERT USING BACKHOE AND HAND TOOLS.
 - b) LAY BACK FILLS FACING THE STREAM TO A 1 (vertical) to 1-1/2 (horizontal) (max) SLOPE.
 - c) INDIVIDUALLY LIFT EACH STRINGER LOG WITHOUT CAUSING STREAM DISTURBANCE.
 - d) PLACE LOGS IN DESIGNATED DECKING AREA. REMOVE DRIVEABLE SIDE(S) MUDSILL LOG(S).
 - e) INSTALL NEW STRUCTURE
 - f) SEED AND FERTILIZE ALL DISTURBED AREAS.

MATERIAL NOTES:

1. DIAMETERS ARE GIVEN IN INCHES, REPRESENTING AVERAGE MIDSPAN DIAMETERS INSIDE BARK.
2. MINIMUM STRINGER DIAMETER IS 1.9".
3. DEPTH OF SHOT ROCK SURFACING IS TO BE 6 INCHES
4. ROCK IN SHOT ROCK SURFACING TO BE SMALLER THAN 1/2 THE SURFACING DEPTH.
5. LOGS TO BE STRAIGHT, SOUND, AND FREE OF DECAY, EXCESSIVE TWIST (SPIRAL GRAIN MORE THAN 1 in 8) AND ALL DEFECTS THAT MAY CONSIDERABLY AFFECT STRENGTH.
6. KNOT SIZE IN THE MIDDLE HALF OF THE LENGTH NOT TO EXCEED 5". DO NOT USE STRINGERS w/ LARGE KNOTS OPPOSITE EACH OTHER.

TONGASS
ENGINEERING & RECREATION

DESIGNED:	DATE:	DATE:	REVISION:	BY:
DRAWN: SJC	DATE: 1/2005	8/13	CHG TYP TO SITE SPECIFIC	G. REED
REVIEWED: K. BRAY	DATE: 01/2005			
TNFTYP-01/05				



BOY SCOUT BRIDGE INSTALLATION
USDA FOREST SERVICE - TONGASS NATIONAL FOREST
R-10 - THORNE BAY RANGER DISTRICT

LOG STRINGER BRIDGE DETAILS
ACAD.DWG
PLOT ON 11"x17" PAPER

SH.3 of 3

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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-03 for construction of National Forest System Roads.

101 - TERMS, FORMAT, AND DEFINITIONS

101.01 Meaning of Terms

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

101.03 Abbreviations.

Add the following to (a) Acronyms:

AFPA	American Forest and Paper Association
MSHA	Mine Safety and Health Administration
NIST	National Institute of Standards and Technology
NESC	National Electrical Safety Code
WCLIB	West Coast Lumber Inspection Bureau

Add the following to (b) SI symbols:

mp	Milepost
ppm	Part Per Million

101.04 Definitions.

Delete the following definitions and substitute the following:

Bid Schedule--The Schedule of Items.

Bridge--No definition.

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--No definition.

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.

Add the following:

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.

Design Quantity--“Design quantity” is a Forest Service method of measurement from the FS-96 *Forest Service Specifications for the Construction of Roads and Bridges*. Under these FP specifications this term is replaced by the term “Contract Quantities”.

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.

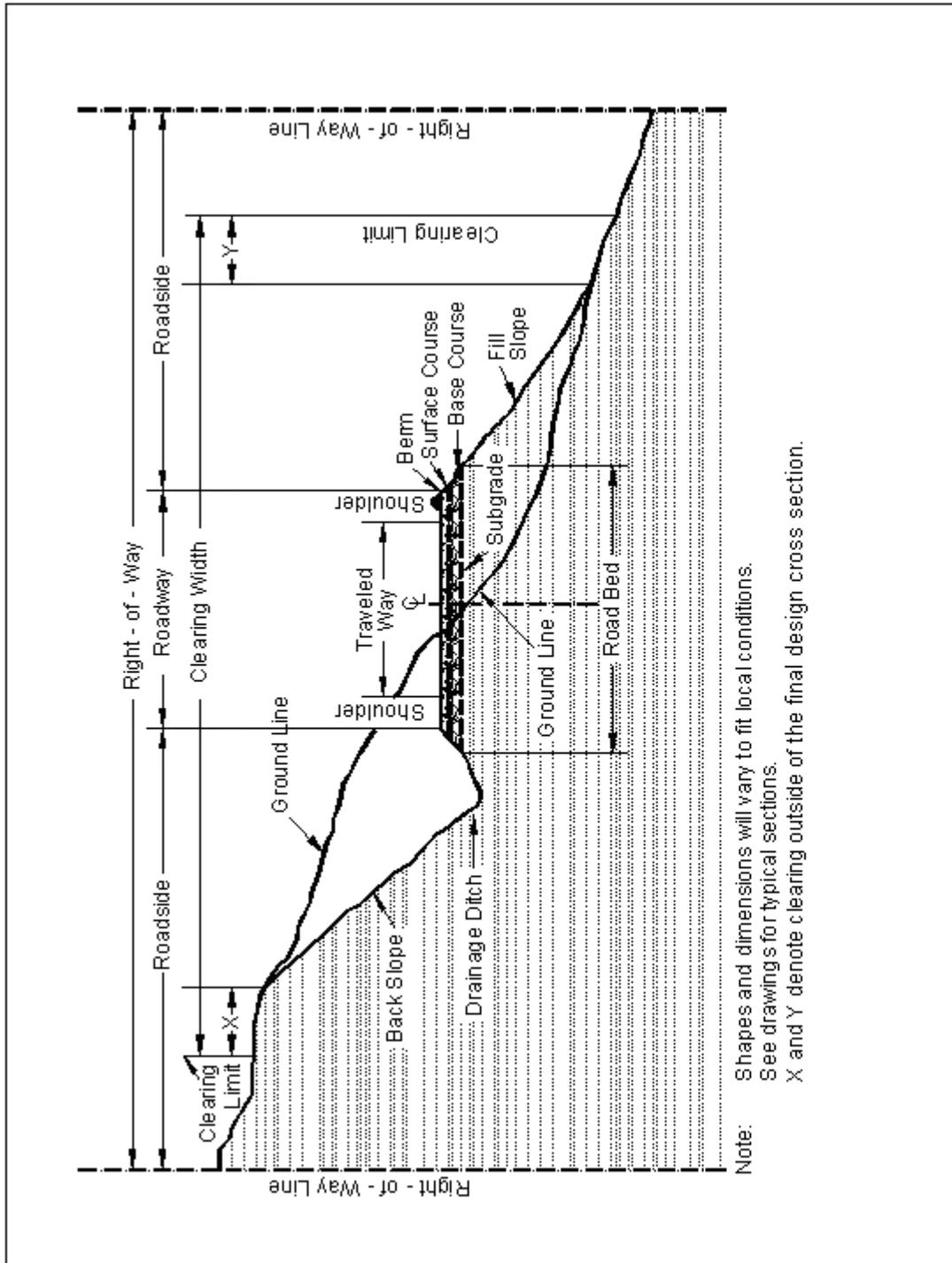
Road Order--An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

Schedule of Items--A schedule in the contract that contains a listing and description of construction items, quantities, units of measure, unit price, and amount.

Utilization Standards--The minimum size and percent soundness of trees described in the specifications 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

102 Bid, Award, and Execution of Contract

Delete Section 102 in its entirety.

103 - SCOPE OF WORK

Deletions

Delete all but subsection 103.01 Intent of Contract.

104 - CONTROL OF WORK

Deletions

Delete Sections 104.01, 104.02, and 104.04.

Add the following subsection:

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

105.02 Material Sources.

105.02(a) Government-provided sources.

Add the following:

Comply with the requirements of 30 CFR 56, subparts B and H. Use all suitable material for aggregate regardless of size unless otherwise designated. When required, re-establish vegetation in disturbed areas according to section 625.

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. The Government is not obligated to make reimbursement for the cost of producing these materials.

106 - ACCEPTANCE OF WORK

106.07 Delete

Delete subsection 106.07.

107 - LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.05 Responsibility for Damage Claims.

Delete the entire subsection.

107.06 Contractor's Responsibility for Work.

Delete the following from the first paragraph.

“except as provided in Subsection 106.07”.

107.09 Legal Relationship of the Parties.

Delete the entire subsection.

107.10 Environmental Protection.

Add the following:

Design and locate equipment repair shops, stationary refueling sites, or other facilities to minimize the potential and impacts of hazardous material spills on Government land.

Before beginning any work, submit a Hazardous Spill Plan. List actions to be taken in the event of a spill. Incorporate preventive measures to be taken, such as the location of mobile refueling facilities, storage and handling of hazardous materials, and similar information. Immediately notify the CO of all hazardous material spills. Provide a written narrative report form no later than 24 hours after the initial report and include the following:

- Description of the item spilled (including identity, quantity, manifest number, and other identifying information).
- Whether amount spilled is EPA or state reportable, and if so whether it was reported, and to whom.

- Exact time and location of spill including a description of the area involved.
- Containment procedures.
- Summary of any communications the Contractor had with news media, Federal, state and local regulatory agencies and officials, or Forest Service officials.
- Description of clean-up procedures employed or to be employed at the site including final disposition and disposal location of spill residue.

When available provide copies of all spill related clean up and closure documentation and correspondence from regulatory agencies.

The Contractor is solely responsible for all spills or leaks that occur during the performance of this contract. Clean up spills or leaks to the satisfaction of the CO and in a manner that complies with Federal, state, and local laws and regulations.

108 - PROSECUTION AND PROGRESS

108 Delete.

Delete Section 108 in its entirety.

109 - MEASUREMENT AND PAYMENT

109 Deletions

Delete the following entire subsections:

109.06 Pricing of Adjustments.

109.07 Eliminated Work.

109.08 Progress Payments.

109.09 Final Payment.

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Add the following:

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

Change the following:

“(b) Cubic yard” to “(c) Cubic yard”.

Add the following definition:

(p) Thousand Board Feet (Mbf). 1,000 board feet based on nominal widths, thickness, and extreme usable length of each piece of lumber or timber actually incorporated in the job. For glued laminated timber, 1,000 board feet based on actual width, thickness, and length of each piece actually incorporated in the job.

155 - SCHEDULES FOR CONSTRUCTION CONTRACTS

155 Delete.

Delete Section 155 in its entirety.

157 - SOIL EROSION CONTROL

157.03 General

Delete the entire subsection and replace with the following:

Prior to the start of construction, submit a written plan 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. An alternate erosion control plan with all necessary permits may be submitted 30 days before intended use.

Incorporate all permanent erosion control features into the project at the earliest practicable time, as outlined in the approved plan.

When erosion control measures are not functioning as intended, immediately take corrective action.

204 - EXCAVATION AND EMBANKMENT

Replace Section 204 in its entirety with the following:

Description

204.01 This work consists of excavating material and constructing embankments. This 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.** All material excavated from within the right-of-way or easement areas, except subexcavation covered in (2) below 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 groundline in embankment sections. Subexcavation does not include the work required by Subsections 204.05, 204.06(b), and 204.06(c).

(3) **Borrow excavation.** Material used for embankment construction that is obtained from outside the roadway prism. Borrow excavation includes unclassified borrow, select borrow, and select 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 sub-excavation that cannot be used.

Material

204.03 Conform to the following Subsections:

Backfill material	704.03
Select borrow	704.07
Select topping	704.08
Topping	704.05
Unclassified borrow	704.06
Water	725.01

Construction Requirements

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

204.05 Reserved.

204.06 Roadway Excavation. Excavate as follows:

(a) General. Do not disturb material and vegetation outside the construction limits. Incorporate only suitable material into embankments. Replace any shortage of suitable material caused by premature disposal of roadway excavation. Dispose of unsuitable or excess excavation material according to Subsection 204.14.

At the end of each day's operations, shape to drain and compact the work area to a uniform cross-section. Eliminate all ruts and low spots that could hold water.

Retrieve material deposited outside of the clearing limits as directed by the CO. Place unsuitable material in designated areas.

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

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

(d) Pioneer Roads. Road pioneering, slash disposal, and grubbing of stumps may proceed concurrently with excavation. 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.

204.07 Subexcavation. Excavate material to the limits designated by the CO. Take cross-sections according to Section 152. Prevent unsuitable material from becoming mixed with the backfill. Dispose of unsuitable material according to Subsection 204.14. Backfill the subexcavation with topping, or other suitable material. Compact the material according to Subsection 204.11.

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

Obtain borrow source acceptance according to Subsection 105.02. Develop and restore borrow sources according to Subsection 105.03. 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 less than 4 feet high over natural ground.** When designated, remove topsoil and break up the ground surface to a minimum depth of 6 inches 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. Scarify or pulverize asphalt and concrete roads to 6 inches below the pavement. Reduce all particles to a maximum size of 6 inches 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 benches in the existing slope to a sufficient width to accommodate placement and compaction operations and equipment. Bench the slope as the embankment is placed and compacted in layers. Begin each bench at the intersection of the original ground and the vertical cut of the previous bench.

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 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 all 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 flatter than 1V:1.75H with a tamping type roller or by walking with a dozer. For slopes 1V:1.75H or steeper, compact the slopes as construction of the embankment progresses.

Where placing embankment on one side of abutments, wing walls, piers, or culvert headwalls, compact the material using methods that prevent excessive pressure against the structure.

Where placing embankment material on both sides of a concrete wall or box structure, conduct operations so compacted embankment material is at the same elevation on both sides of the structure.

Where structural pilings are placed in embankment locations, limit the maximum particle size to 4 inches.

(b) Embankment within the roadway prism. Place embankment material in horizontal layers not exceeding 12 inches in compacted thickness. Incorporate oversize boulders or rock fragments into the 12-inch layers by reducing them in size or placing them individually as required by (c) 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 layers may be placed in layers up to 24 inches thick. Incorporate oversize boulders or rock fragments into the 24-inch layer by reducing them in size or placing them individually according to (c) below. Place sufficient earth and smaller rocks to fill the voids. Compact each layer according to Subsection 204.11 before placing the next layer.

(c) Individual rock fragments and boulders. Place individual rock fragments and boulders greater than 24 inches in diameter as follows:

- (1) Reduce rock to less than 48 inches 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 by (b) above. Fill all the voids between rocks.
- (4) Compact each layer according to Subsection 204.11 before placing the next layer.

(d) Embankment outside of roadway prism. Where placing embankment outside the staked roadway prism, place material in horizontal layers not exceeding 24 inches 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) Compaction A. Use AASHTO T 27 to determine the amount of material retained on a Number 4 sieve. If there is more than 80 percent retained on the No. 4 sieve use procedure (1).

If there is 50 to 80 percent retained on the No. 4 sieve use procedure (2). If there is less than 50 percent retained on the No. 4 sieve use procedure (3).

(1) 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 per second and vibratory rollers at speeds less than 3 feet 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 impact per vibration and a minimum frequency of 1000 vibrations per minute.

(b) Eight roller passes of a 20-ton compression-type roller.

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

Increase the compactive effort for layers deeper than 12 inches as follows:

- For each additional 6 inches or fraction thereof, increase the number of roller passes in (a) above by four passes.
- For each additional 6 inches or fraction thereof, increase the number of roller passes in (b) and (c) above, by eight passes.

(2) Use AASHTO T 99 to determine the optimum moisture content of the portion of the material passing a No. 4 sieve. Multiply this number by the percentage of material passing a No. 4 sieve, and add 2 percent to determine the optimum moisture content of the material. 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 rollers at speeds less than 6 feet per second and vibratory rollers at speeds less than 3 feet per second. Compact each layer of material full width according to (1) above.

(3) 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 180, method D. For other material classifications, determine the optimum moisture content and 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 B. Place material by end dumping to the minimum depth needed for operation of spreading equipment. Adjust the moisture content of the material to obtain a mass that will not visibly deflect under the load of the hauling and spreading equipment. Operate 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.

(c) Compaction C. Place material by end dumping to the minimum depth needed for operation of spreading equipment. Level and smooth each embankment layer before placing the next layers. Operate hauling and spreading equipment uniformly over the full width of each layer. Construct a solid embankment with adequate compaction by working smaller rock and fines in with the larger rocks to fill the voids, and by operating hauling and spreading equipment uniformly over the full width of each layer as the embankment is constructed.

204.12 Ditches. Slope, grade, and shape ditches. Remove all projecting roots, stumps, rock, or similar matter. Maintain all ditches in an open condition and free from leaves, sticks, and other debris.

Form furrow ditches by plowing or using other acceptable methods to produce a continuous furrow. Place all excavated material on the downhill side so the bottom of the ditch is approximately 18 inches below the crest of the loose material. Clean the ditch using a hand shovel, ditcher, or other suitable method. Shape to provide drainage without overflow.

204.13 Sloping, Shaping, and Finishing. Complete slopes, ditches, culverts, riprap, and other underground minor structures before placing aggregate courses. Slope, shape, and finish as follows:

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

If a slide or slipout occurs on a cut or embankment slope, remove or replace the material, and repair or restore all 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 by the contract, construct steps on slopes of $1\frac{1}{3}V:1H$ to $1V:2H$. Construct the steps approximately 18 inches high. Blend the steps into natural ground at the end of the cut. If the slope contains nonrippable 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. Finish the roadbed to be smooth and uniform, and shaped to conform to the typical sections. Remove unsuitable material from the roadbed and replace it with suitable material. Finish roadbeds to the tolerance class shown in table 204-2. Ensure that the subgrade is visibly moist during shaping and dressing. Scarify to 6 inches below the bottom of low sections, holes, cracks, or depressions and bring back to grade with suitable material. Maintain proper ditch drainage.

For surfaced roads, remove all material larger than 6 inches from the top 6 inches of the roadbed.

For unsurfaced roads, use one of the following methods to finish the roadbed:

- (1) **Method A.** Remove all material larger than 6 inches from the top 6 inches of the roadbed and replace with suitable material.
- (2) **Method B.** Use a vibratory grid roller or approved equal with a minimum weight of 10 tons. Roll at least 5 full-width passes or until there is no visible evidence of further consolidation.
- (3) **Method C.** For roads designated as Construction Tolerance Class K, L, or M, finish the roadbed by spreading the excavation. Eliminate rock berms.

204.14 Disposal of Unsuitable or Excess Material. Dispose of unsuitable or excess material at designated sites or legally off of the project.

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 and testing 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.

Clearing and removal of obstructions will be evaluated under Sections 201 and 203.

Measurement

204.16 Measure the Section 204 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 shown in the bid schedule;
- (d) Ditches, except furrow ditches measured under a separate bid item;
- (e) Topsoil;
- (f) Borrow material used in the work when a pay item for borrow is not shown in the bid schedule;
- (g) Loose scattered rocks removed and placed as required within the roadway;
- (h) Conserved material taken from stockpiles and used in Section 204 work; 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; and
- (l) Material excavated outside the established slope limits.

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

- (a) Unsuitable material below subgrade in cuts and unsuitable material beneath embankment areas when a pay item for subexcavation is not shown 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, select borrow, and select topping. When measuring by the cubic yard measure in its original position. If borrow excavation is measured by the cubic yard 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 used in place of excess roadway excavation.

(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. Measure rounding cut slopes horizontally along the centerline of the roadway if a pay item for slope rounding is included in the bid schedule. If a pay item for slope rounding is not included in the bid schedule slope rounding will be considered subsidiary to excavation.

(e) Waste. Measure waste by the cubic yard 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 in the hauling vehicle.

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 and Testing Requirements

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Topping (704.05) & unclassified borrow (704.06)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type	Processed material before incorporating in work	Yes, when requested	Before using in work
		Moisture-density	—	AASHTO T 180, method D ⁽¹⁾ or T 99, method C ⁽¹⁾	1 per soil type but not less than 1 per 6000 yd ² but not less than 1 per layer	“	“	“
		Compaction	—	AASHTO T 310 or other approved procedures	1 per 6000 yd ² but not less than 1 per layer	In-place	—	Before placing next layer
Select borrow (704.07 & Select topping (704.08)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type but not less than 1 for each day of production	Processed material before incorporating	Yes, when requested	Before using in work
		Gradation	—	AASHTO T 27	“	“	“	“
		Liquid limit	—	AASHTO T 89	“	“	“	“
		Moisture-density	—	AASHTO T 180, method D ⁽¹⁾ or T 99, method C ⁽¹⁾	1 per soil type but not less than 1 per 6000 yd ² but not less than 1 per layer	“	“	“
Compaction	—	AASHTO T 310 or other approved procedures	1 per 6000 yd ² but not less than 1 per layer	In-place	—	Before placing next layer		

(1) Minimum of 5 points per proctor

**Table 204-1 (continued)
Sampling and Testing Requirements**

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Earth embankment (204.11, Compaction A)	Measured and tested for conformance (106.04)	Classification	—	AASHTO M 145	1 per soil type	Source of Material	Yes, when requested	Before using in work
		Moisture-density	—	AASHTO T 180, method D ⁽¹⁾ or T 99, method C ⁽¹⁾	1 per soil type but not less than 1 per 13,000 yd ³	“	“	“
		Compaction	—	AASHTO T 310 or other approved procedures	1 per 3500 yd ² but not less than 1 per layer	In-place	—	Before placing next layer
Top of subgrade (204.11 Compaction A)	Measured and tested for conformance (106.04)	Compaction	—	AASHTO T 310 or other approved procedures	1 per 2500 yd ²	In-place	—	Before placing next layer

(1) Minimum of 5 points per proctor.

**Table 204-2
Construction Tolerances**

	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 change is greater than or equal to 10 percent. The centerline grade is not to exceed 20 percent in 100 feet of length.

208 - STRUCTURE EXCAVATION AND BACKFILL FOR SELECTED MAJOR STRUCTURES

Construction Requirements

208.04 General.

Add the following to the end of the second sentence of the third paragraph:

"... to the CO a minimum of 5 days prior to beginning excavation work."

Add the following to the end of the third sentence of the third paragraph:

"...to the CO a minimum of 15 days prior to installation."

208.09 Foundation Preparation.

Add the following after the first paragraph:

The foundation elevation is defined as the bottom of footings, for spread footing placement; the bottom of the pile cap, for construction of pile foundations; and the toe of the wall, for construction of retaining walls, except wingwalls at bridges.

Replace all material from any over-excavation below the designated footing elevation with concrete, compacted gravel, or foundation fill at the direction of the CO.

When boulders or irregular, fractured, or seamed bedrock precludes excavation to the designated footing elevation without further loosening of previously solid material, the CO may order removal of such loose material and allow payment for concrete, gravel, or structural backfill that is required to restore foundation material to the designated elevation

208.13 Measurement.

Add the following to the second paragraph:

(f) Material excavated to construct end walls or wing walls which lie outside the excavation limits specified above.

Add the following paragraph:

Foundation over-excavation and the resulting replacement material will not be measured for payment unless the CO determines the over-excavation was unavoidable because of the nature of the material.

572 - LOG STRINGER BRIDGES

Description

572.01 This work consists of building log bridges and log culverts, including abutments, piers, and superstructures and associated excavation and backfill.

Materials

572.02 Conform to the following Sections and Subsections:

Geotextiles	714.01
Timber Structures	557
Wire Rope	709.02
Structural Concrete	552
Reinforcing Steel	554

572.03 Logs. Use designated trees for logs. Use logs used for stringers that are of the correct species and within the dimensional tolerance. Use high quality logs, that are straight, sound, and free of windshake, decay, or excessive twist (spiral grain with a slope of grain relative to the longitudinal axis of the log exceeding 1 in 8). Ensure that knots in the middle half of the stringer length do not significantly affect structural capacity. Obtain approval for all logs to be used in the structure.

572.04 Timber & Lumber. Furnish structural lumber and timber that meets the required species, grades, and dimensions.

572.05 Aggregate. Furnish aggregate for crib abutments, decking, or surfacing.

Construction Requirements

572.06 General. Perform clearing and grubbing according to Section 201. Perform excavation and embankment according to Section 204. Perform structure excavation and backfill according to Section 209.

Handle all logs and timber carefully to prevent damage to the wood.

Dispose of all debris and excess material at approved locations.

Construct abutments and piers as required.

572.07 Performance. Construct bridge superstructures and substructures as required with attention paid to erection, fit-up, and connection. Obtain written approval for all deviations from the plans.

When specified, place timber caps to obtain even and uniform bearing over the tops of supporting posts or piles and with post and pile ends in true alignment. Secure all caps.

Match stringers for size at the bearings and place them in position so that the crown is up. Alternate stringers butt to tip. Locate any knots that may affect the strength of the member in the top portion of the stringer. Lash stringers together with wire rope as required.

Cut stringers to length with a square cut. Cut or hew the bottom surface of the small end of the stringer logs only to the depth necessary to achieve the required bearing area. Block or shim tip ends that are smaller than the largest tip and shim or block as necessary to provide uniform bearing area.

Notch all crib logs together, including face logs, tie logs, and anchor logs and drift pin all connections.

Place geotextile and aggregate to construct a running surface.

Measurement

572.08 Measure the Section 572 items listed in the bid schedule according to Subsection 109.02 and the following:

Measure untreated and treated timber and lumber by the board feet of timber and lumber in place in the completed structure. Compute the quantities from nominal cross section dimensions and actual lengths.

Measure log stringer bridge by the linear foot from center of sill log to center of sill log.

Payment

572.09 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 572 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

625 - TURF ESTABLISHMENT

625.03 General.

Delete the entire subsection and add the following:

Apply temporary turf establishment to soil cut & fill slopes within fourteen (14) days after each 2000 foot section of road has been constructed to final grade, unless otherwise agreed by the CO. Cut & Fill slopes damaged by construction activities shall be reseeded within ten (10) days of the damage. See FP section 157.04 (d) for exceptions.

Apply turf establishment to finished slopes and ditches between April 15 and September 15.

Do not seed during windy weather or when the ground is excessively wet, frozen, snow covered, extremely dry, cloddy, hard pan, or is otherwise not friable.

Application Methods for Seed, Fertilizer, & Limestone

"Furnish the kinds of seed and the amounts to be applied in terms of pure live seed as follows:

Seed mixture contains no more than 0.01% of other seed whether identified or not.

<u>Kind of Seed</u>	<u>Live Seed (Lbs/Acre)</u>
1. * Boreal Red Fescue (Festuca Rubra, Boreal variety)	10
2. Annual Ryegrass (Lolium multiflorum)	10
3. * Arctared Fescue (Festuca rubra, Arctared variety)	5
Total	25

* If Boreal Red Fescue or Arctared Fescue is unavailable Fawn Tall fescue may be substituted. If Fawn Tall Fescue is unavailable, then the amounts of the available two may be adjusted to 100%.

Determine the pounds of seed to be furnished per acre by dividing the pounds of pure live seed required per acre by the product of the percent purity and percent germination.

$$\frac{\text{Example pure live seed/acre}}{0.90 \times 0.85} = 6.536 \text{ lbs.}$$

Commercial seed per acre; purity = 90% and germination = 85%.

Apply seed by the dry or hydraulic method. Fertilizer shall be applied at a rate of 200 pounds plus 103 for urea at pounds per acre in all applications by either the dry or hydraulic method and have a chemical analysis as listed below:

<u>Nutrient</u>	<u>Percent</u>
Nitrogen, N	10
Phosphorus, P ₂ O ₅	20
Potassium, K	10
Nitrogen, Urea	46

Retest Germination after 6 months of Purchase.

Apply mulch when specified at a rate of 1205 pounds per acre by the hydraulic method only.

625.04 Preparing Seedbed.

Delete entire Subsection

625.05 Watering.

Add the following:

During dry soil conditions,

625.11 Measurement.

Delete the second paragraph and add the following:

Seeding and mulching acreage by the acre on ground surface will not be measured for payment. The Contract Quantity for seeding and mulching will be determined by approved designs or averages from design segments included in quantity tables utilized in linear grading pay item.

718 - TRAFFIC SIGNING AND MARKING MATERIAL

718.05 Aluminum Panels

Delete the third paragraph and replace with the following:

Clean, degrease and properly prepare the panels according to methods recommended by the sheeting manufacturer. Conversion coatings will conform to ASTM B-921 or ASTM B-449.

SECTION H – SPECIAL CONTRACT REQUIREMENTS

AGAR 452.236-73 ARCHAEOLOGICAL OR HISTORIC SITES (FEB. 1988)

If a previously unidentified archaeological or historic site(s) is encountered, the Contractor shall discontinue work in the general area of the site(s) and notify the Contracting Officer immediately.

H. 1 ORDER OF PRECEDENCE - REQUIREMENTS, SPECIFICATIONS, DRAWINGS

Resolve any inconsistencies in the Specifications of this solicitation and any resultant contract by giving precedence in the following order:

- (a) Section H - Special Contract Requirements
- (b) Special Project Specifications (Latest date highest precedence)
 - 1. Tongass NF. Special Project Specifications
 - 2. Region 10 Special Project Specifications
- (c) Standard Specifications
- (d) Drawings
 - 1. Drawings, figured dimensions over scaled dimensions
 - 2. Drawings, large scale contract drawings over small scale contract drawings
 - 3. Schedules on contract drawings over any conflicting notations on contract drawings.
 - 4. Shop Drawings - (The term "Shop Drawings", includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract.)

H. 2 LANDSCAPE PRESERVATION

- (a) Confine operations to within the clearing limits or other areas designated in contract documents, and prevent the depositing of rocks, excavated materials, stumps, or other debris outside of these limits. Unless otherwise agreed to by the CO, retrieve material which falls outside of these limits and either incorporate the material in the work or dispose of the material as directed by the CO.

- (b) Schedule and conduct operations to minimize erosion of soils and to prevent silting and muddying of streams, rivers, irrigation systems, and impoundments (lakes, reservoirs, etc.). Install silt fencing around areas immediately next to streams and ponds to mitigate suspended sediments when designated on the drawings.

Do not discharge pollutants such as raw sewage, and other harmful materials into or near rivers, streams, and impoundments or into natural or manmade channels leading thereto. Do not allow wash water or waste water from concrete or aggregate operations to enter live streams prior to treatment by filtration, settling, or other means sufficient to reduce the sediment content to not more than that of the stream into which it is discharged.

Collect and return waste motor oils, fuels, lubricants, bitumens and similar hydrocarbons to the supplier. Comply with the requirements of 40 CFR 279, Standards for the Management of Used Oil. Do not discharge hydrocarbon products on the ground, use them for road oiling, or bury them in a landfill.

Do not operate mechanized equipment in live streams without written approval of the Contracting Officer.

- (c) **CREEK CROSSINGS:** Schedule and conduct bridge and instream work to minimize disturbance to streams.
1. Do not cross streams without Contracting Officer approval.
 2. Submit a written equipment crossing plan to the Contracting Officer for approval 14 calendar days before creek crossing is planned. Two machine crossings will be permitted for the stream designated on the drawings as a fish stream. No machine crossings will be permitted if fish eggs are present in the gravel or adult fish are present in the stream; otherwise two machine crossings will be permitted.
 3. Limit machine crossings to two times for all live streams not designated on the drawings as fish streams with pipes 48" and larger to be installed.
 4. Do not leave temporary bridges in place between September 15 and March 15, unless approved in advance in writing by the Contracting Officer.

Obtain necessary permits for floating camps, floats, shore ramps, and other appurtenances associated with project operations from the following State of Alaska and Federal Agencies:

1. ADNR - Alaska Department of Natural Resources.
2. ADEC - Alaska Department of Environmental Conservation.
3. ADGC – Alaska Department of Governmental Coordination.
4. EPA – US Environmental Protection Agency.
5. DA, COE – US Army Corps of Engineers.
6. USCG – US Coast Guard.

H. 3 USE OF PREMISES

- (a) Obtain written approval from the Contracting Officer before opening or operating on National Forest land or lands administered by the Forest Service any camp, quarry, borrow pit, storage area, detour, or bypass site, other than SHOWN ON THE DRAWINGS. A camp is interpreted to include the camp site or trailer parking area of any employee working on the project for the Contractor. Such approval, if granted, will be without charge to the Contractor.
- (b) Sanitation Facilities: Provide and maintain the following facilities for the work force at the camp, unless provided otherwise.
 1. Meet State of Alaska drinking water regulations 18 AAC 80 regarding potable water supplies for drinking, washing and cooking.
 2. Comply with State of Alaska wastewater disposal regulations 18 AAC 72 for domestic sewage.
 3. Ensure that the design, operation, and maintenance of all solid waste systems under Forest Service jurisdiction meet all Federal, State, and local requirements. Meet State of Alaska solid waste management regulations (18 AAC 60) and Federal regulations contained in 40 CFR 243, 40 CFR 245, 40 CFR 257, and 40 CFR 258. Remove solid wastes and/or residues and dispose of in approved commercial landfills.
 4. Meet the requirements of 40 CFR 112 (Oil Pollution Prevention) for fuel storage. Meet the requirements of 33 CFR 150 and 33 CFR 154 for facilities transferring oil or hazardous materials in bulk.

- (c) Do not begin any camp development, either land based or floating, until a plan for development, occupation, and cleanup is submitted and approved by the Contracting Officer. Include the following information on this plan:
1. Location and size of the proposed camp development, including a map.
 2. Wastewater system.
 3. Number of people who will use the site and proposed dates of occupancy.
 4. Power supply system.
 5. Water supply system.
 6. Building layout, shop area, living quarters.
 7. Road and trail layout.
 8. Clearing limits and slash disposal locations.
 9. Borrow areas.
 10. Dock and access location.
 11. Equipment and fuel storage area and Spill Prevention Control and Countermeasure (SPCC) plan.
 12. Incinerator location and ash disposal plan.

Forest Service will review plan as submitted for completeness and applicability. Proposed modifications of Contractor's plans will be discussed with the Contractor prior to approval. Any modifications agreed upon will be incorporated in a revised set of plans.

H. 4 CONTRACTOR'S USE AND MAINTENANCE OF EXISTING ROADS

The Contractor is authorized to use roads in the immediate construction project area for performance of work under this contract. Such roads are those which are necessary for direct access to designated borrow sites, quarries, stockpile sites, waste areas, campsites, equipment unloading ramps, and other approved work areas. The roads authorized for use will be subject to the following general conditions:

- (a) Federal Regulations contained in 36 CFR 261.12; except vehicle weight will not exceed that of AASHTO HS20-44 and/or U80 Loading. Submit written requests to the CO for approval to use L90 and U102 overload Loadings on roads authorized for use. Regulations prohibit damaging a road or blocking a road open to use by others, except as otherwise provided in Special Project Specification 104.
- (b) The Government will not snowplow roads for the Contractor's use. The Contractor may snowplow any road designated for his use. A permit defining snowplowing requirements is required and will be issued by the District Ranger, upon request by the Contractor. Repair any damage to the road structure caused by snow removal operations. Vehicles, other than conventional over-the-snow vehicles (snowmobiles), will not be permitted to use roads when there is an average of more than 4" of snow unless the road has been snowplowed.

The Contractor is responsible for and will perform road maintenance on Forest Service roads in the construction area commensurate with his use. Perform road maintenance at such intervals that prevent deterioration of the roadway, or as directed by the Contracting Officer.

H. 5 ROAD MAINTENANCE REQUIREMENTS

Perform road maintenance work on the required roads in accordance with the following:

- (a) Maintain existing roadbed by blading and shaping the traveled way and shoulders. Do not undercut banks. Maintain established drainage structures and/or berms, and place additional drainage structures/berms where necessary to protect embankments.
- (b) Perform all seasonal weather cleanup, including removal of bank sloughs, minor slides and fallen timber, which can be accomplished by a motor patrol grader equipped with a front end blade, or comparable equipment, and by the use of hand tools. Replace material eroded from fill slopes and clean out drainage ditches and culverts subject to the above equipment limitations.

Deposit the material removed from slides or other sources in locations approved by the Contracting Officer.

H. 6 EMERGENCY CONTROL

- (a) Immediately extinguish without expense to the Government all fires on or in the vicinity of the project which are caused by the Contractor's employees, whether set directly or indirectly as a result of construction operations, with or without direction by the Forest Service. The Contractor may be held liable for all damages and costs of additional labor, subsistence, equipment, supplies, and transportation deemed necessary by the Government resulting from fires set or caused by Contractor's employees or resulting from construction operations.
- (b) Contractor's Responsibility for Controlling Other Emergencies - When requested by the Contracting Officer, allow the Forest Service to temporarily use employees and equipment for emergency control work. Payment will be made at not less than the current area rate established by the Forest Service.
- (c) Fire fighting equipment will be required during the fire season from May 10 to August 31, and during any other period of fire danger designated by the Contracting Officer.

Furnish rust-free fire tools to equip all workers employed in Contractor's operations at each separate work site. Maintain tools in serviceable condition and keep tools in one or more weather-tight fire tools boxes. Paint fire tools boxes red, mark "tools for Fire Only" with letters at least 3" high, and keep sealed. Post a list of the contents inside each fire tool box so as to be visible when opened.

Kind of Tool	No. of People Working in Area			
	<u>1-4</u>	<u>5-9</u>	<u>10-15</u>	<u>16-20</u>
Axe, d.b chopping, 32-inch min. handle	1	1	2	3
Shovels, L.H. R.P., No. 0 or larger	1	3	6	7
Pulaski, 32-inch min. handle	2	3	7	10
File, 10-inch mill bastard	1	1	1	2
Pumps, backpack cans, 5-gal filled with water	1	2	2	3

Equip each internal combustion engine with a spark arrester qualified and rated USDA-Forest Service, Standard 5100-1, unless it is:

- (a) Equipped with a turbine-driven exhaust supercharger such as the turbocharger. There shall be no exhaust bypass.
- (b) A multi-position engine, such as on a chain saw, which is equipped with screen arrester, as described in the Forest Service Spark Arrester guide.

A spark arrester, which does not meet the requirements in this guide may be approved upon submission of acceptable proof that the arrester is at least 80 percent efficient in retention, attrition, or destruction of carbon particles. Such arrester may be required to meet higher standards as improvements in design and efficiency are discovered.

- (c) A passenger-carrying vehicle or light truck intended primarily for use on roads, and equipped with a factory designed muffler and exhaust system.
- (d) A heavy duty truck, such as a dump or log truck, or other vehicle used 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.

Properly install and constantly maintain in serviceable condition all exhaust equipment described in this Subsection, including spark arresters and mufflers.

Equip each unit of mobile or stationary power equipment, including trucks, with one shovel, and at least one fire extinguisher meeting one of the following specifications:

1. 2-1/2 pound size or larger dry chemical type.
2. 4-pound size or larger carbon dioxide type.

Test or check each extinguisher for proper functioning prior to the beginning of fire precautionary period.

Provide each gasoline power saw with one chemical-pressurized fire extinguisher of not less than 8-ounce capacity by weight. Maintain the extinguisher in good working order at all times.

Do not burn camp refuse, brush, slash, or debris such as that resulting from clearing around camps or on rights-of-way, without the written approval of the Contracting Officer. Submit written requests for burning to the Contracting Officer at least 48 hours in advance of intended burning. The Contracting Officer will approve routine camp refuse disposal incineration in the camp development proposal.

H. 7 CONSTRUCTION STAKES, LINES, AND GRADES

Contractor's Responsibilities: {Roads }

Perform all construction staking in accordance with the requirements of Section 152 except for the following item(s):

The Government will mark the clearing limits around rock borrow sources on National Forest Land.

Contractor's Responsibilities: {Roads }

Perform all construction staking and grade establishment, except for the following item(s):

The Government will provide initial centerline and reference controls to establish road alignment and timber structures. Drainage structure survey and staking will be provided by the contractor and paid under pay item 15204.

H. 8 PROSECUTION OF WORK

Areas of weak ground are crossed on this project. The initial embankment depth shall be as SHOWN ON THE DRAWINGS or determined by the Contracting Officer.

Reestablish design centerline grade and alignment in accordance with Section 152 as construction progresses, and prior to the placement of borrow excavation. Reestablished design grades may be re-staked by the Contracting Officer to meet local conditions. Final grades may be at elevations other than those SHOWN ON THE DRAWINGS, but in no instance will they be lower than that of the surrounding ground elevations. When directed by the CO, return to previously constructed road or trail embankments and place additional borrow material where subsidence has occurred as a result of construction traffic displacing unstable or weak soil underlying the roadway.

Linear Grading reflects estimated borrow excavation volumes, based on previous designs including additional material for anticipated subsidence. The estimated quantities may vary locally depending on extent of subsidence or the condition of the existing road (ground for trail). Payment for additional material placed in areas of subsidence is included in the appropriate Borrow Excavation pay item in the Schedule of Items.

H. 9 DISPOSAL OF MERCHANTABLE TIMBER

All timber meeting Forest Service merchantability standards logged during prosecution of this contract, remains the property of the Government. Deck logs in the immediate vicinity in accordance with Section 201 of the specifications.

Buck trees in various lengths to obtain the greatest utilization of material meeting the following utilization standards. The Minimum merchantable piece shall be 6” in diameter inside bark at small end, 12 feet in length, have a net scale of 33 1/3 percent of its gross scale for a sawlog or produce not less than 50 percent of its gross volume in firm usable pulp chips.

Trim allowance shall be a maximum of 12” for log lengths up to 40 foot. An additional 2” of trim shall be allowed for each 10 foot of log length over 40 foot.

Use humbolt undercut in felling merchantable timber. Buck all limbs flush with merchantable logs.

All dead trees which are sufficiently tall to reach the roadbed are designated for cutting. Fell other fire-dangerous dead trees or unstable live trees within 200 foot slope distance of the center line of the road, when marked by the Forest Service. Treat all timber under this subsection meeting utilization standards in accordance with Specification 201 Subsection 201.04, unless relieved in writing.

Cut and use timber designated by the Contracting Officer for construction, without charge.

H. 10 LOCAL MATERIAL SOURCES

Designated rock source for this project is shown on sheet 2 of the Drawings:
Road 3018270 MP 0.12

Submit a development plan to the CO for approval prior to commencing any development activities.

H. 11 ACCESS TO THE PROJECT

Project Location: The proposed work site is located on the Prince of Wales Road System on Prince of Wales Island. The site is located approximately 8 miles north of the community of Thorne Bay, AK, on National Forest Road 301800 at Milepost 7.33. The Thorne Bay Sort Yard and Marine Access Facility is located on the main road system approximately 0.5 mi west of the community of Thorne Bay.

H. 12 GOVERNMENT FURNISHED MATERIALS

The Government will supply the contractor with the locations of tagged trees that are acceptable for use in the construction of the log stringer trail bridge required in this contract. It is the contractor's requirement to provide all the labor, equipment, hardware, and other materials necessary for the completion of this contract. This includes, but is not limited to, felling, limbing and bucking all timber, transporting stringers to the work site, and construction of the log stringer trail bridge described in the drawings.