Resurrection Creek Restoration Project Phase II  
Statement of Work and Request for Proposals  
Chugach National Forest, Alaska

Background and Statement of Work: The National Forest Foundation (NFF), in coordination with the Chugach National Forest, is requesting proposals for implementation of a portion of Phase II of the Resurrection Creek Restoration Project. The project objectives are to restore the degraded stream channel, riparian areas, and important fish and wildlife habitat along an approximate 2.3 miles segment of Resurrection Creek. Full implementation of the project is anticipated to be completed in three to four years. Contracted services in 2022 will be to install a temporary bridge, harvest and stockpile trees, restore historic floodplain elevations and stockpile material for 2023 work.

General Specifications

(a) Description of Work – This Request for Proposals is for services related to three tasks - installation of a temporary bridge, tree harvest and stockpiling and floodplain grading. The bridge installation, tree harvest and stockpiling will be paid by a lump sum. The floodplain grading will be paid on a time and materials basis.

Item 1: Bridge Installation
Installation of a government-furnished 100-foot span pre-fabricated modular steel road bridge across Resurrection Creek for safe heavy equipment use on both sides of the stream during restoration activities. Bridge components will be supplied and are staged near the bridge site. Tasks will include:

- Installation of a 100-foot span pre-fabricated modular steel road bridge manufactured by Acrow Bridge Company,
- Construct an approach road and abutments by building embankments out of compacted native material,
- Construct bearing pads of Contractor-provided cribbed railroad ties and custom fabricated steel plates,
- Installation of two 24-36-inch culverts as cross-drains, one under the new roadway, one under the adjacent roadway,
- The Acrow bridge can be constructed by “launching” the bridge from one side of the crossing to the other, so cranes will not be necessary, but equipment such as a loader or bulldozer will be needed,
- Launching will require the Contractor to rent additional components, including rollers and lightweight truss components from Acrow Bridge Company,
- Construction of the far-side abutment will require fording Resurrection Creek with an excavator and/or other equipment, and
- Erection of the modular bridge kit which shall be done with the assistance of an on-site representative from Acrow Bridge.
Item 2: Tree Harvest and Staging
This task includes harvesting marked trees and staging them in stockpiles near the creek. Specifics include:
- Harvesting of up to 250 trees with the majority retaining rootwads,
- Trees will be harvested from approximately 35 acres on the west side of Resurrection Creek,
- Trees will be marked and will primarily be beetle kill spruce and hemlock,
- Harvested trees will be hauled and stockpiled at three designated pool locations, consisting of 80-90 trees per site,
- Haul distances will be approximately ½ to 1 mile,
- Harvest shall be minimized during periods of high precipitation when soils are saturated,
- Root wad trees should be shaken and/or scraped to remove as much soil as possible so that nutrient rich soil clinging to the roots is left on site, and
- Bare mineral soils greater than 100 square feet in size, and any smaller areas of bare mineral soil with erosion potential, will be covered with native slash or other organic material before the machinery leaves the unit. Maintain 85% soil cover in units.

Item 3: Floodplain Manipulation
This task includes grading mine tailings and stockpiling topsoil, gravel, cobble and boulders in preparation for stream corridor construction in 2023. This task will be completed under time and materials, equipment with operator hourly basis. The equipment required for this task are one excavator greater than 80,000 lbs. operating weight, one dozer greater than 80,000 lbs. operating weight and one off-road haul truck with a 30 ton or greater payload capacity. Materials vary by location and range from topsoil to four-foot diameter boulders. Grade elevations and stockpile locations will be marked onsite by the Forest Service. Tasks include:
- Excavation, haul and stockpiling approximately up to 20,000 CY of material to designated locations.
- Grade and contour approximately up to 20 acres to restore historic floodplain elevations.

Varying and latent site conditions (clay layers and or bedrock) maybe encountered during excavation. The Forest Service project engineer and or inspectors will be onsite for the duration of the floodplain grading. If unforeseen conditions are encountered during excavation or grading, elevation and or stockpile location adjustments will be made onsite by the project engineer or inspector. There will be no expense to the contractor for site adjustment work stoppage.

The Contractor shall provide operators that have sufficient skill and experience to properly perform the work assigned to them.

The Contractor shall identify which efforts and materials they can supply in terms of materials, labor, equipment, supplies, supervision, quality control, and incidentals required to complete the work described. The Contractor shall perform all work in a safe and conscientious manner.

(b) Project Location - The project site is located 5.5 miles south of Hope, AK on Resurrection Creek Road, on the Chugach National Forest.

(c) Work Schedule - The window of operation for vegetation clearing, tree harvest and stockpiling will be outside of May 1 – July 15 to avoid the breeding season of migratory birds. A permit and variance has been secured to allow for stream crossings for the bridge installation.
## Pricing Schedule

Contactor shall price work according to the schedule below. Prevailing wages are required per conditions of funding sources.

<table>
<thead>
<tr>
<th>BID SCHEDULE</th>
<th>METHOD OF MEASURE</th>
<th>ESTIMATED QUANTITY</th>
<th>UNIT PRICE</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td><strong>Mobilization</strong></td>
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<tr>
<td><strong>Bridge Installation</strong></td>
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<tr>
<td><strong>Construction Survey and Staking; Method I, Tolerance B</strong></td>
<td>ALL</td>
<td>1</td>
<td>$0.00</td>
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<tr>
<td><strong>Clearing and Grubbing, Disposal Method (f)</strong></td>
<td>ACRE</td>
<td>0.26</td>
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<td><strong>Removal of Log Abutments, Dispose by Piling in Location Designated by the CO</strong></td>
<td>ALL</td>
<td>1</td>
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<td><strong>Dewatering (culvert)</strong></td>
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<td>$0.00</td>
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<td><strong>Gabion Baskets, Welded Wire 11 Gauge Min, Hot-Dip Galvanized, Incl. Fill and Geotextile</strong></td>
<td>CY</td>
<td>17.5</td>
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<td><strong>Prefabricated Bridge Installation, Government-Furnished Superstructure, Contractor-Furnished Substructure</strong></td>
<td>ALL</td>
<td>1</td>
<td>$0.00</td>
<td>$0.00</td>
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<tr>
<td><strong>Prefabricated Bridge Launch Kit Rental, Including Shipping</strong></td>
<td>ALL</td>
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<td>$0.00</td>
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<tr>
<td><strong>36” Corrugated Plastic Pipe</strong></td>
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<td><strong>Subtotal</strong></td>
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<td><strong>Hydraulic Excavator</strong></td>
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<tr>
<td><strong>Clearing and grubbing, Tailings Excavation</strong></td>
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<td></td>
<td></td>
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<tr>
<td><strong>Hourly Equipment and Operator Rental, Hydraulic Excavator, (w/ hydraulic thumb), Crawler Mounted, with Operator</strong></td>
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<td><strong>Minimum Weight = 80,000 lbs, General Purpose and Finishing Buckets, Thumb</strong></td>
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<td><strong>Time Rate</strong></td>
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<td><strong>Articulated Haul Truck</strong></td>
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<td></td>
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<tr>
<td><strong>Material Haul</strong></td>
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</table>
Hourly Equipment and Operator Rental, 30 Ton or Greater Capacity

<table>
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<tr>
<th>Time Rate</th>
<th>Hours</th>
<th>$0.00</th>
<th>$0.00</th>
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</thead>
</table>

Dozer
Floodplain Grading and Channel Construction
Minimum Weight = 80,000 lbs, General Purpose or U Blade

<table>
<thead>
<tr>
<th>Time Rate</th>
<th>Hours</th>
<th>$0.00</th>
<th>$0.00</th>
</tr>
</thead>
</table>

SUBTOTAL: $0.00

TOTAL BID ITEMS $0.00

Other Project Requirements and Specifications
(a) Utilities - There will be no sanitation, water, electrical or housing services available. The Contractor shall make its own arrangements for temporary facilities if needed. Approval may be granted for a temporary, self-contained contractor camp on site and equipment and fuel storage at a designated location with conditional restrictions. See Utilities, Camping and Staging Information for more details.

(b) Permits – All necessary permits have been secured and are included in the RFP.

(c) Specifications – The project occurs in a special use permit area. The holder is Hope Mining Company and coordination with the permittee will be facilitated by the USFS so mining and construction operations do not interfere with each other. The work shall be in accordance with the standard specifications for constructions of roads and bridges on federal highway projects (FP 14 - US CUSTOMARY UNITS) as modified for this contract.

Insurance Requirements
Upon selection of the winning bid, chosen contractor will be asked to affirm that it has and shall maintain State minimum workers’ compensation insurance coverage for its employees, if any. The selected contractor shall also maintain broad form general liability, property damage, and automotive liability insurance in the minimum amount of $1,000,000 for bodily injury, death, or damage to property of any person and $2,000,000 for bodily injury, death, or damage to property of more than one person. The Contractor shall name NFF an Additional Named Insured and provide NFF with documentation evidencing such coverages.

Performance Security
Chosen contractor shall post bond, cash, a letter of credit, or other financial security that is easily convertible into cash in a form acceptable to the NFF in its sole determination in the amount of 5% of the amount due to contractor, not to exceed $250,000 dollars, to assure completion of the work required under this Agreement and payment of all amounts lawfully due to all persons supplying or furnishing to the Contractor or Contractor’s subcontractors with labor, laborers, materials, rental machinery, tools or equipment used or to perform the work. As work is completed in integrated component parts, inspected, approved and, if applicable, conveyed to NFF, the Performance Security shall be released in a proportional amount, unless a lesser amount of release is necessary to maintain 5% Performance Security.
Pre-bid Meeting

The National Forest Foundation and the Forest Service will provide a pre-bid meeting to answer any questions about the scope of work for the project. The meeting will be held online and by phone on **May 10 between 1:00 – 2:00pm**. To attend the meeting by video, click [here to join the meeting](#). To call into the meeting, dial 406-998-6119 and enter in the Conference ID: 732 073 587#.

Information Requested

If interested in this project, please provide a proposal for the above statement of work by providing:

1. A description of your ability to complete the scope of work by describing your approach, proposed equipment to be used, and past work experience on similar projects,
2. Past experience working with the Forest Service on projects located on national forests preferred, but not required,
3. A completed bid sheet (see excel spreadsheet), and
4. Three references.

Submit bids via email to [pshannon@nationalforests.org](mailto:pshannon@nationalforests.org) by Friday, **June 3**. This is a request for proposals only and quotations furnished are not offers. This request does not commit the National Forest Foundation to pay any costs incurred in the preparation of submission of the quotation or to contract for supplies or services.

Contractor Selection Process

The NFF will use the Evaluation Factors below to review each submitted bid. Level 1 criteria will be weighted heaviest, with Level 2 and 3 providing additional consideration when bids are reviewed. Based on the outcomes of that selection process, the NFF will notify successful and unsuccessful bidders by **June 17** and will prepare a separate contract document.

Evaluation Factors and Relative Importance

<table>
<thead>
<tr>
<th>Level 1 Criteria</th>
<th>Level 2 Criteria</th>
<th>Level 3 Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price / cost</td>
<td>Technical proposal / proposed approach to project</td>
<td>Benefits to the local community</td>
</tr>
<tr>
<td>Equipment and contractor capability</td>
<td>Overall strategic benefits to meeting NFF goals and grant needs, requirements, and timelines</td>
<td>Relationship to local community</td>
</tr>
<tr>
<td>Timing of when contractor can begin and/or finish the project</td>
<td>Past performance, references, and USFS feedback</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Point of Contact

For questions about the details of producing the bid, please contact:

Patrick Shannon
National Forest Foundation, Pacific Northwest and Alaska Director
503-407-2898, [pshannon@nationalforests.org](mailto:pshannon@nationalforests.org)
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.
Index of Appendices:

1. Appendix A: Bridge Installation Sheet Set
2. Appendix B: Acrow 700XS Panel Bridge – General Notes and Specifications
3. Appendix C: Forest Service Supplemental Specifications to the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects
4. Appendix D: Preliminary Stream Channel Excavation
5. Appendix E: Map of Harvest Tree Locations
6. Appendix F: Permit Notifications
TRAVEL DIRECTIONS:
FROM DOWNTOWN ANCHORAGE: FOLLOW THE SEWARD HIGHWAY SOUTH
APPROXIMATELY 69 MILES TO THE HOPE HIGHWAY JUNCTION AT MILEPOST 56.3,
THEN SOUTH ON HOPE HIGHWAY FOR 16.1 MILES TO RESURRECTION CREEK
ROAD, THEN NORTH ON RESURRECTION CREEK ROAD FOR 3.4 MILES TO A
GATED ROAD ON THE RIGHT. THEN SOUTH FOR 0.5 MILES ON THE GATED ROAD
TO THE PROJECT SITE ALONG RESURRECTION CREEK.

LAT: 60°52'56.05"N
LONG: 149°38'0.76"W
GENERAL NOTES

SPECIFICATIONS: THE WORK SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP 14 - US CUSTOMARY UNITS) AS MODIFIED FOR THIS CONTRACT.

INSTALLATION PLAN: THE CONTRACTOR SHALL DEVELOP A DETAILED PLAN FOR INSTALLATION OF THE STRUCTURE. THE PLAN SHALL INCLUDE EQUIPMENT THAT WILL BE USED, ALL STEPS THAT WILL BE TAKEN IN THE PROCESS AND PRECAUTIONS THAT WILL BE EMPLOYED TO ENSURE THE GOVERNMENT-FURNISHED STRUCTURE WILL NOT BE DAMAGED. THIS PLAN SHALL BE SUBMITTED TO THE CO FOR APPROVAL A MINIMUM OF 14 DAYS PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL NOT PROCEED WITH WORK UNTIL THE INSTALLATION PLAN HAS BEEN APPROVED BY THE CO. IT IS RECOMMENDED THAT THE CONTRACTOR CONTACT ACROW BRIDGE CORP FOR ASSISTANCE IN DEVELOPING THIS PLAN.

UTILITIES: NO UTILITIES EXIST AT THE PROJECT LOCATION.

ROAD CLOSURE: PROVIDE TYPE 3 BARRIERS WITH "ROAD CLOSED" SIGN AT NEAREST INTERSECTIONS FROM CONSTRUCTION SITE. EXACT LOCATION AND INSTALLATION OF ALL TRAFFIC SIGNS TO BE APPROVED BY THE CO. ALL CONSTRUCTION SIGNING AND BARRICADES TO BE COMPLETE AND APPROVED PRIOR TO THE BEGINNING OF CONSTRUCTION. PAY ITEM 15101 MOBILIZATION WILL NOT BE PAID UNTIL SIGNS AND BARRICADES ARE COMPLETE.

NOXIOUS WEED CONTROL: ALL CONSTRUCTION EQUIPMENT SHALL BE FREE OF DIRT & DEBRIS AND INSPECTED BY CO PRIOR TO BEING TRANSPORTED TO THE SITE.

ARCHEOLOGICAL SITES: SHOULD ARCHEOLOGICAL OR PALENTLOGICAL REMAINS OR SPECIMENS BE DISCOVERED, SUSPEND OPERATIONS AT THE DISCOVERY SITE AND NOTIFY THE CO IMMEDIATELY.

DEMOLITION: DEMOLISH AND REMOVE EXISTING LOG ABUTMENTS AND DISPOSE OF MATERIAL AT A DISPOSAL SITE DESIGNATED BY THE CO. DISPOSAL SITE SHALL BE ADJACENT TO THE PROJECT SITE.

DEWATERING: CONSTRUCT COFFERDAMS WITH PUMPS DURING CULVERT INSTALLATION. COMPLY WITH ALASKA DEC REQUIREMENTS.

STAGING AREAS: STAGING AREAS SHALL BE APPROVED BY THE CO.

CONTOURS: CONTOURS SHOWN ARE APPROXIMATE. IF THERE IS A DISCREPANCY BETWEEN THE ELEVATION SHOWN FOR A POINT AND THE ADJACENT CONTOURS, THE POINT ELEVATION WILL BE CONSIDERED CORRECT.

STRUCTURAL NOTES

STRUCTURAL DESIGN CODE:
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9th ED. DESIGN SPEED = 25 MPH.

SUPERSTRUCTURE DESIGN:
"ACROW 700XS PANEL BRIDGE" SUPERSTRUCTURE DESIGN DONE BY ACROW BRIDGE DESIGN DATED MAY 18, 2021 WILL BE PROVIDED AS ATTACHMENT TO THE REQUIREMENTS

DESIGN LOADS:
DEAD LOAD: ACTUAL SUPERSTRUCTURE WEIGHT. INCLUDES MANUFACTURED DECK PANELS AND GUARDRAIL.
LIVE LOADS ANALYZED: HL-93 VOLVO A35E CATERPILLAR D9 WIND: LATERAL FORCE ON SIDE OF BRIDGE: 0.450 K/FT ALL OTHER LOADS PER AASHTO

HYDROLOGY & HYDRAULICS:
DESIGN HYDROLOGIC EVENT: Q100 DESIGN FLOW: 4,577 CFS DESIGN FREEBOARD: 1.0 FT

DESIGN ASSUMPTIONS:
TEMPORARY INSTALLATION NOT TO EXCEED 10 YEARS IN-SERVICE BRIDGE WILL REMAIN CLOSED TO PUBLIC TRAFFIC FOR THE DURATION OF SERVICE

SUMMARY OF ESTIMATED QUANTITIES

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<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>PAY UNIT</th>
<th>EST QTY</th>
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<td>20910</td>
<td>Clearing and Grubbing, Disposal Method (c)</td>
<td>AC 0.26</td>
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<td>20411</td>
<td>Embankment Construction, Placement Method 2</td>
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<td>20503</td>
<td>Structure Backfill</td>
<td>CY 112</td>
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<td>20551</td>
<td>Dewatering (Dewatering)</td>
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<td>39207</td>
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<td>CY 65</td>
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<td>57101</td>
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<td>57120</td>
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<td>69201</td>
<td>36&quot; Corrugated Plastic Pipe</td>
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<td>63308</td>
<td>Object Markers</td>
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SPECIFICATION SHEET:
Page dimensions: 792.0x1224.0

GENERAL & STRUCTURAL NOTES

DATE: 4/4/2022
ARCHIVE NO.: G-01
DESIGNER: J. JOHNSTON
DRAWN: A. DALTON
CHECKED:
Site Entrance, Resurrection Creek Road - Approx 0.5 Miles

Resurrection Creek
Existing Single Lane Gravel Road (Access by Creek Crossing Only)

Existing Single Lane Gravel Road

Designated Borrow Source

Existing Edge of Road

Existing Surface Contours

Ordinary High Water

CP # 1

CP # 2

CP # 3

CP # 4

CP # 5

CP # 6

Note: Coordinate System and Elevations are Arbitrary for Project Location.
Maintain Positive Site and Roadway Drainage During and After Borrow Excavation

See Sheet C-03 for Road X-Sectional Geometry

BP: 0+00.00
Northing: 5036.2429
Easting: 5039.3721

PC: 0+17.68
Northing: 5032.7925
Easting: 5022.0332

PT: 0+52.24
Northing: 5028.6407
Easting: 4987.7543

PC: 2+43.92
Northing: 5020.0889
Easting: 4796.2670

PT: 2+87.84
Northing: 5024.3332
Easting: 4752.7017

EP: 3+07.93
Northing: 5029.0861
Easting: 4733.1838

R=155

Existing Edge of Road
New Edge of Road
R15.0
R25.0
R20.0

New Road Embankment
Surface Contours

End of Bridge (Expansion End)
Structural Backfill to Begin 10' from Face of Gabion Backwall and Include all Fill Toward Stream - Both Sides

Bridge Deck End
STA: 0+02.38
ELEV: 91.50

Begin Structural Backfill
STA: 0+81.24

Bridge Deck Beginning
STA: 0+91.24
ELEV: 91.50

Install Culvert
Inlet Invert Elev: 80.0

Limit of Approved Borrow Excavation

Match Existing Road Elevation

100' SPAN ACROW 700XS BRIDGE GOVERNMENT FURNISHED ASSEMBLED ON SITE AND PLACED BY CONTRACTOR UNDER SUPERVISION OF ACROW REPRESENTATIVE

DRAWING TITLE
ROAD PLAN AND PROFILE

DATE 4/4/2022
ARCHIVE NO.
Dwg Sheet No.
C-02

DESIGNER
J. JOHNSTON
DRAWN
A. DALTON
CHECKED

PROJECT NO.
4 of 13
12" Unclassified Borrow
1-1/2-in Maximum Particle Size
Adjacent to Culvert on All Sides
Material will be Government Furnished from Stockpile Adjacent to Site

Existing Topography Varies Along Road Alignment

Fill Depth Varies Along Road Alignment

6" Minor Crushed Aggregate
Surface Course

Unclassified Borrow Embankment

36" x 50' CPP Minimum 1% Slope
In The Direction of Flow (North)

Inlet Invert Elevation: 80.6

Flow Direction North

Road Section at Culvert
Not to Scale

Typical Road Section
Not to Scale
Notes:
- All steel hot-dipped galvanized (HDG)
- Any field cuts shall be treated with cold galvanizing coating
- All threaded rod A307
- All nuts A563
- All washers malleable iron
- Rod through holes may be 1" diameter.

Plan View Typical

Profile View Typical
Abutment Typical Profile View

Gabion Retaining Wall, 3' x 3' x 26' Hot-Dipped Galvanized and Welded Gabion Wire Mesh, Gabion Basket to be filled with 4" Min and 8" Max Diameter Stone. Fill neatly to Eliminate Gaps Between Basket and Stones.

7" x 9" x 8.5' Rail Road Ties, Place 7" Side Vertically. Tie together with 3/4" Threaded Steel Rod. See Sheet C-10.

7" x 9" x 8.5' Rail Road Ties. Place 9" Side Vertically. Tie together with 3/4" Treaded Steel Rod. See Sheet C-06.

NOTES:
- All Steel Hot Dipped Galvanized (HDG)
- Any Field Cuts Shall be Treated With Cold Galvanizing Coating
- All Threaded Rod A307
- All Nuts A563
- All Washers Malleable Iron
- Rod Through holes may be 1" diameter.

Elev: 91.66
Elev: 91.5

See Resurrection Creek Acrow Bridge Design (Attached) Sheet 6 of 6, For Expansion Teflon Bearing Pad Details.
NOTES:
- All Steel Hot Dipped Galvanized (HDG)
- Any Field Cuts Shall be Treated With Cold Galvanizing Coating
- All Threaded Rod A307
- All Nuts A563
- All Washers Malleable Iron


1" x 3' Rebar, Typ. of 4

7/8" Threaded Rod Through Angle Steel, Steel Plate and Both Courses of Rail Road Ties

1" x 3' Rebar, Typ. of 4

7"x8"x8.5' Rail Road Ties Typ. Tie together with 3/4" Threaded Steel Rod. 9" Side Placed Vertically

3.5" x 3.5" x 1/2" Angle Steel

Bearing (By Acrow)

3.5" x 3.5" x 1/2" Angle Steel

Bearing (By Acrow)

7/8" HDG Threaded Steel Rod Typ. Fasten with HDG Nuts and Cast Iron Washers. Center Vertically on Rail Road Tie.

Profile View Typical (West)

Profile View Typical (East)

Expansion End (West) Single Abutment Pad
Plan View Typical

Fixed End (East) Single Abutment Pad
Plan View Typical

1" x 3' Rebar, Typ. of 4

11" From Edg Typ.

Bearing Center Line

10" OC Typ.

11" Typ.

Bearing Center Line

11" Typ.

10" OC Typ.

11" From Edg Typ.

Bearing Center Line

10" CC Typ.

6' 5" Typ.

6' 5" Typ.
**NOTES:**

- Rail Road Ties Shown on this Detail (Top Course) May Remain Uncut (full 8.5 ft) if Centered Over Bottom Course of Ties
- All Steel Hot Dipped Galvanized (HDG)
- Any Field Cuts Shall be Treated With Cold Galvanizing Coating
- All Threaded Rod A307
- All Nuts A563
- All Abutment Pad Rail Road ties: Place on Edge with 9" Side Vertical
- All Washers Malleable Iron
- Rod Through holes may be 1" diameter
- See Resurrection Creek Acrow Bridge Design (Attached) Sheet 6 of 6, for Bearing Placement and Teflon Bearing Pad Details
NOTES:
- All Steel Hot Dipped Galvanized (HDG)
- Any Field Cuts Shall be Treated With Cold Galvanizing Coating
- All Threaded Rod A307
- All Nuts A563
- All Washers Malleable Iron
- Rod Through holes may be 1" diameter.
- All Rail Road Ties: 9" Side Placed Vertically.

Approx. Height 9 1/4". Field Measure.

Transom Bolster Pad
Plan View Typical

Profile View Typical

Rail Road Tie Transom Bolster. Place 9" Side Vertically

Bolster Secured to Pad with minimum 2" x 2" Perforated Keeper Angle on 3 sides. Fasten with 4" Timberlok Screws as Shown.

Place Shims To Fit As Needed

1 1/4" HDG Threaded Steel Rod Typ. Fasten with HDG Nuts and Cast Iron Washers. Center Vertically on Rail Road Tie.

14" Rail Road Tie Transom Bolster. Place 9" Side Vertically

2" x 2" x 2" Perforated Keeper Angle, Place on 3 sides. Fasten with 4" Timberlok Screws as Shown.

7"x9"x8.5" Rail Road Ties Typ. Place 9" Side Vertically. Tie together with 3/4" Treaded Steel Rod

No Keeper Angle on Gabion- Backwall Side of Bolster Block

Plan View Typical

10" OC Typ.

11" From Edge Typ.

Profile View Typical

11" From Edge Typ.

10" OC Typ.

TRANSOM BOLSTER DETAILS

RESURRECTION CREEK TEMPORARY BRIDGE
CHUGACH NATIONAL FOREST

SEWARD RANGER DISTRICT

DATE: 4/4/2022
ARCHIVE NO.:

DESIGNER: J. JOHNSTON
DRAWN: A. DALTON
CHECKED:

PROJECT NO.

C-08

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
ALASK REGION
RESURRECTION CREEK TEMPORARY BRIDGE
ALASK REGION
RESURRECTION CREEK TEMPORARY BRIDGE
CHUGACH NATIONAL FOREST
SEWARD RANGER DISTRICT

DRAWING TITLE

TRANSOM BOLSTER DETAILS

NOTES:
- All Steel Hot Dipped Galvanized (HDG)
- Any Field Cuts Shall be Treated With Cold Galvanizing Coating
- All Threaded Rod A307
- All Nuts A563
- All Washers Malleable Iron
- Rod Through holes may be 1" diameter.
- All Rail Road Ties: 9" Side Placed Vertically.

Approx. Height 9 1/4". Field Measure.

Transom Bolster Pad
Plan View Typical

Profile View Typical

Rail Road Tie Transom Bolster. Place 9" Side Vertically

Bolster Secured to Pad with minimum 2" x 2" Perforated Keeper Angle on 3 sides. Fasten with 4" Timberlok Screws as Shown.

Place Shims To Fit As Needed

1 1/4" HDG Threaded Steel Rod Typ. Fasten with HDG Nuts and Cast Iron Washers. Center Vertically on Rail Road Tie.

14" Rail Road Tie Transom Bolster. Place 9" Side Vertically

2" x 2" x 2" Perforated Keeper Angle, Place on 3 sides. Fasten with 4" Timberlok Screws as Shown.

7"x9"x8.5" Rail Road Ties Typ. Place 9" Side Vertically. Tie together with 3/4" Treaded Steel Rod

No Keeper Angle on Gabion- Backwall Side of Bolster Block

Plan View Typical

11" From Edge Typ.

10" OC Typ.

Profile View Typical

11" From Edge Typ.

10" OC Typ.
4.5' x 2' x 1" Steel Plate Bolt-Hole Detail (Expansion End Typ.)

4.5' x 2' x 1" Steel Plate Bolt-Hole Detail (Fixed End Typ.)

3.5" x 3.5" x \( \frac{1}{2} \)" Angle Steel Bolt-Hole Detail (Expansion End Typ.)
Approach Pad
Plan View Typical.

Approach Pad
Profile View Typical.

NOTES:
- All Steel Hot Dipped Galvanized (HDG)
- Any Field Cuts shall be treated with Cold Galvanizing Coating
- All Threaded Rod A307
- All Nuts A563
- All Washers Malleable Iron
- Rod through holes may be 1” diameter.
- All Rail Road Ties: 9” Side Placed Vertically.
- Rebar Anchors Not Placed Through Gabion.

7” x 9” x 8.5’ Rail Road Ties. Place 7” Side Vertically. Tie together with 3/4” Treaded Steel Rod.

1/4” HDG Threaded Steel Rod Typ. Fasten with HDG Nuts and Cast Iron Washers. Center Vertically on Rail Road tie.

Anchor Approach Pad to Road with 1” x 3’ Rebar, Typ.
APPENDIX B

ACROW 700XS PANEL BRIDGE

GENERAL NOTES AND SPECIFICATIONS

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DIAGRAM OF PERMISSIBLE LIVE LOADS

AASHTO HL-93
UNIT: US KIPS & FEET

VOLVO A35E

CAT D9

GENERAL NOTES AND SPECIFICATIONS

DESIGN SPECIFICATION

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION, 2014 WITH 2015 AND 2016 INTERIM REVISIONS

LIVE LOAD

1 LANE OF HL-93 OR
1 LANE VOLVO A35E OR SIMILAR 3 AXLE VEHICLE AND
1 LANE CAT D9 OR ANY ANALOGOUS TRACK EQUIPMENT
TL-2 GUARDRAIL LOAD

DEAD LOAD

ANTI-SKID EPOXY AGGREGATE OVERLAY
TL-2 GUARDRAIL SYSTEM

BRIDGE SPECIFICATIONS

(a) PANEL CHORDS, DIAGONALS & VERTICALS, PANEL REINFORCING CHORDS AND RAKERS
AASHTO M223 Gd. 65
(b) DECKING, RAKER BRACE, TRANSOM, DIAGONAL BRACE, CHORD BRACE, SWAYBRACE, TRANSOM BRACE
AASHTO M223 Gd. 50
(c) PANEL PINS
ASTM A123 Gd. 97
(d) BOLTS
AASHTO M164M-A325

FINISH

ALL MAJOR COMPONENTS GALVANIZED TO AASHTO M111-ASTM A123. ALL BOLTS ARE NOT DIPPED GALVANIZED. PINS ARE ELECTRO GALVANIZED.

TRUSS PANEL TYPES

<table>
<thead>
<tr>
<th>PANEL TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS704 PANELS - CHANNEL</td>
</tr>
<tr>
<td>AS702 PANELS - TUBE</td>
</tr>
<tr>
<td>AS708 PANELS - SOLID BAR</td>
</tr>
</tbody>
</table>

BRIDGE BOLT TORQUE VALUES

<table>
<thead>
<tr>
<th>BOLT NAME</th>
<th>TORQUE VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB5046</td>
<td>2 3/4&quot;</td>
</tr>
<tr>
<td>AB5048</td>
<td>1 1/2&quot;</td>
</tr>
</tbody>
</table>

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BUILDING BRIDGES. CONNECTING PEOPLE.

ACROW CORPORATION OF AMERICA
181 New Road, Parsippany, NJ 07054
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The Forest Service, US Department of Agriculture has adopted FP-14 for construction of National Forest System Roads.
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.

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

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.
Delete Section 102 in its entirety.

Delete Section 102.
Delete all of Section 103 except Subsection 103.01 Intent of Contract.

Delete Subsections 103.02, 103.03, 103.04, 103.05.
Delete Subsections 104.01, 104.02, and 104.04.

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.
105.05 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

*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.
Delete Subsection 107.05.

Delete Subsection 107.05.
Delete Section 108 in its entirety.

Delete Section 108.
Delete Subsections 109.06, 109.07, 109.08, and 109.09:

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

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

Add the following to Subsection 152.04(c):

152.04 General.
  (c) Material.

Use required stake dimensions and materials. Pre-paint the top 2 inches of all stakes and lath, or mark them with plastic flagging. Use designated colors for paint or flagging. Mark all stakes with a stake pencil that leaves a legible imprint, or with waterproof ink.

Do not use aerosol spray paints.

Use moisture-resistant paper for survey notes. Keep notes in books with covers that will protect the contents and retain the pages in numerical sequence.

Make the following changes to Subsection 152.05:

152.05 Survey and Staking Requirements.

Delete Subsection 152.05(d)(2) and replace with the following:

(d) Slope and reference stakes.

  (2) Conventional survey methods. When required, locate slope stakes on designated portions of the road. Locate the slope stake catch points and use them to establish clearing limits and slope stake references.

  Mark slope stakes with the station, the amount of cut or fill, the horizontal distance to centerline, and the slope ratios.

  Place slope reference stakes at least 10 feet outside the clearing limit and mark with the offset distance to the slope stake. Place sight stakes when required.

  Prior to clearing and grubbing operations, move the slope stake outside the clearing limit to the slope reference stake. After clearing and grubbing and before excavation, reset the slope stakes in their original position.

  Use the designated method to establish the slope stake catchpoint.

    Method I—Computed Method. Use the template information shown in the plans or other Government-provided data to calculate the actual location of the catchpoint. The slope stake “catchpoint distance” provided may be used as a trial location to initiate slope staking. Recatch slope stakes on any section that does not match the staking report within the tolerances established in Table 152-2.

    Method II—Catchpoint Measurement Method. Determine the location of slope stake catchpoints by measuring the catchpoint distances shown in the plans or other Government-provided data.

Add the following to Subsection 152.05(e):
(e) Clearing and grubbing limits.

Mark the clearing limits with flagging or tags on trees to be left standing, or on lath. Make markings intervisible, and no more than 90 feet apart.

After establishing clearing limits, move the location line stake outside the clearing limits for station identification purposes, and mark it with horizontal distance to location line.
Replace Table 152-1 with the following:

Table 152-1 Construction Survey and Staking Tolerances

<table>
<thead>
<tr>
<th>Table 152-1 Construction Survey and Staking Tolerances (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Staking Phase</strong></td>
</tr>
<tr>
<td>Control points set from existing Government control points- Tolerance Class A</td>
</tr>
<tr>
<td>Mapping, topography, and cross-section Points- Tolerance Class A</td>
</tr>
<tr>
<td>Centerline points [3] including (PC), (PT), (POT),(POC), and references- Tolerance Class A</td>
</tr>
<tr>
<td>Slope-stake and slope-stake references- Tolerance Class A (4)</td>
</tr>
<tr>
<td>Culverts, ditches, and minor drainage structures stakes- Tolerance Class A</td>
</tr>
<tr>
<td>Retaining walls stakes</td>
</tr>
<tr>
<td>Curb and gutter stakes</td>
</tr>
<tr>
<td>Bridge substructures stakes</td>
</tr>
<tr>
<td>Bridge superstructures stakes</td>
</tr>
<tr>
<td>Clearing and grubbing limit stakes- Tolerance Class A</td>
</tr>
<tr>
<td>Roadway subgrade finish stakes- Tolerance Class A (6)</td>
</tr>
<tr>
<td>Roadway finish grade stakes (6)</td>
</tr>
</tbody>
</table>
### Table 152-1
**Construction Survey and Staking Tolerances (continued)**

<table>
<thead>
<tr>
<th>Staking Phase</th>
<th>Horizontal</th>
<th>Vertical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control points set from existing Government control points – Tolerance Class B (7)</td>
<td>±0.16 feet (±20 millimeters)</td>
<td>±0.16 feet × √N (±20 millimeters × √N ) (2)</td>
</tr>
<tr>
<td>Mapping, topography, and cross-section points – Tolerance Class B (7)</td>
<td>±1.00 feet (±300 millimeters)</td>
<td>±0.50 feet (±150 millimeters)</td>
</tr>
<tr>
<td>Centerline points including (PC), (PT), (POT), (POC), and references – Tolerance Class B (7)</td>
<td>±0.16 feet (±20 millimeters)</td>
<td>±0.16 feet (±20 millimeters)</td>
</tr>
<tr>
<td>Slope-stake and slope-stake references – Tolerance Class B (7)</td>
<td>±0.50 feet (±50 millimeters)</td>
<td>±0.16 feet (±50 millimeters)</td>
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<tr>
<td>Culverts, ditches, and minor drainage structures stakes – Tolerance Class B (7)</td>
<td>±0.50 feet (±150 millimeters)</td>
<td>±0.16 feet (±20 millimeters)</td>
</tr>
<tr>
<td>Clearing and grubbing limit stakes – Tolerance Class B (7)</td>
<td>±2.00 feet (±600 millimeters)</td>
<td>—</td>
</tr>
<tr>
<td>Roadway subgrade finish stakes – Tolerance Class B (7)</td>
<td>±0.50 feet (±50 millimeters)</td>
<td>±0.16 feet (±10 millimeters)</td>
</tr>
<tr>
<td>Roadway finish grade stakes – Tolerance Class B (7)</td>
<td>±0.50 feet (±50 millimeters)</td>
<td>±0.16 feet (±10 millimeters)</td>
</tr>
</tbody>
</table>

(1) At statistical 95 percent confidence level. Tolerances are relative to existing Government control points.
(2) N is the number of instrument setups.
(3) Centerline points: PC - point of curve, PT - point of tangent, POT - point on tangent, POC - point on curve.
(4) Take the cross-sections normal to the centerline ±1 degree.
(5) Bridge control is established as a local network and the tolerances are relative to that network.
(6) Includes paved ditches.
(7) Tolerance Class B for Very Low Volume Roads with an aggregate or native finished surface.
Delete Section 155 in its entirety.

Delete Section 155.
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.
Delete Section 201 in its entirety and replace with the following.

Section 201. — CLEARING AND GRUBBING

Description

201.01 This work consists of clearing and grubbing within the clearing limits designated in the plans.

Material

201.02 Conform to the following Subsection:

Backfill material 704.03

Construction Requirements

201.03 General. Construct erosion control measures according to Section 157. Perform work within designated limits.

Do not damage vegetation designated to remain. If damage occurs, repair or replace the vegetation in an acceptable manner. Where possible, preserve vegetation adjacent to bodies of water. Treat cuts or scarred surfaces of trees and shrubs with tree wound dressing.

201.04 Clearing. Within the clearing limits clear trees, brush, and other vegetation as follows:

(a) Cut trees so they fall within the clearing limits;

(b) In areas of cut slope rounding, cut stumps flush with or below the finished ground line;

(c) In areas outside the excavation, embankment, and slope rounding limits, cut stumps to within 6 inches of the ground; and

(d) Trim tree branches that extend over the road surface and shoulders to attain a clear height of 14 feet. Trim tree limbs as near flush with the trunk as practicable.

201.05 Grubbing. Grub deep enough to remove stumps, roots, buried logs, moss, turf, or other vegetative matter as follows:

(a) Grub areas to be excavated, accept for cut slope rounding areas;

(b) Grub embankment areas. Undisturbed stumps less than 24 inches in diameter may be left in place if they protrude less than 6 inches above the original ground and will be covered with more than 48 inches of embankment. Remove all other stumps;

(c) Grub pits, channel changes, and ditches only to the depth necessary for the excavation;

(d) Backfill stump holes and other grubbing holes with backfill material to the level of the surrounding ground according to Subsection 209.09. Compact backfill according to Subsection 209.10; and
(e) Utilization standards for merchantable timber are listed below. Fall and buck merchantable material into lengths not to exceed 40 feet. Pieces (logs) meet utilization standards when such pieces would have met Utilization Standards if bucking lengths were varied to include such material.

**Minimum Utilization Standards**

- Length = 16 feet.
- Diameter (Inside Bark) at small end = 7 inches
- 33-1/3 Net Scale in % Gross for Sawlog

**201.06 Disposal.** Merchantable timber is Government property. Dispose of clearing and grubbing debris according to Subsection 203.05.

**201.07 Acceptance.** Clearing and grubbing will be evaluated under Subsection 106.02.

Material for tree wound dressing will be evaluated under Subsection 106.03.

Backfilling and compacting of stumps and grubbing holes will be evaluated under Section 209.

**Measurement**

**201.08** Measure the Section 201 pay items listed in the bid schedule according to Subsection 109.02 and the following as applicable:

- Do not make deductions from the area computation unless excluded areas are shown on the plans.
- Do not measure clearing and grubbing of borrow sources.

**Payment**

**201.09** The accepted quantities will be paid at the contract price per unit of measurement for the Section 201 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.
203 - Removal of Structures and Obstructions

Delete Section 203 in its entirety and replace with the following.

Section 203. — REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Description

203.01 This work consists of salvaging, removing, and disposing of bridges, structures, culverts, and other obstructions.

Material

203.02 Conform to the following Subsection:

   Backfill material 704.03

Construction Requirements

203.03 Salvaging Material. Salvage with reasonable care material designated to be salvaged. Salvage in readily transportable sections or pieces. Replace or repair members, pins, nuts, plates, and related hardware damaged, lost, or destroyed during the salvage operation. Securely attach parts to adjacent members or pack them in sturdy boxes with the contents clearly marked.

Match mark members of salvaged structures. Submit one set of drawings according to Section 104 identifying the members and their respective match marks.

Stockpile salvaged material at a designated area on the project.

203.04 Removing Material.

   (a) Submittals. Submit a bridge removal plan at least 7 days before beginning bridge removal for approval. Include the following:

      (1) Methods and equipment to be used;

      (2) Measures to be used for protecting the environment, public, adjacent property, and workers;

      (3) Methods to keep debris out of stream and streambed.

   (b) General. Saw cut sidewalks, curbs, pavements, and structures when partial removal is required.

   Construct structurally adequate debris shields to contain debris within the construction limits. Do not allow debris to enter waterways, travel lanes open to public traffic, or areas designated not to be disturbed.

   Handle material with lead paint contamination according to Subsection 563.05.

   Raze and remove foundations, pavements, culverts, sidewalks, curbs, structures, and other obstructions interfering with the work and not designated to remain.
Remove structures and obstructions in the roadbed to 12 inches below subgrade elevation. Remove structures and obstructions outside the roadbed to 12 inches below finished ground or to the natural stream bottom.

Except in excavation areas, backfill and compact cavities left by structure removal with backfill material to the lines and grades of the finished ground. Backfill excavated areas according to Subsection 209.09. Compact backfill according to Subsection 209.10.

(c) Concrete removal in repair areas. Saw cut ¾ inch deep along boundaries of repair areas. Use power driven hand tools to remove existing concrete. Do not damage concrete designated to remain in place.

Where the bond between existing concrete and reinforcing steel is destroyed, remove concrete adjacent to bond to the reinforcing steel to provide at least a ¾ inch clearance for the new concrete to bond to the reinforcing steel. Use care to prevent damage to remaining concrete when achieving the final surface.

Clean exposed concrete surfaces that will be in contact with repair material. Provide a residue free surface.

(d) Reinforcing steel. Do not cut or damage reinforcing steel designated to remain in place. Repair or replace damaged bars. Replace deteriorated bars as directed by the CO.

Clean exposed reinforcing steel of coatings or residue that inhibits bonding with the new concrete. Protect the steel from corrosion and contamination. If the steel becomes corroded or contaminated, reclean the steel before placing concrete.

203.05 Disposing of Material. Dispose of debris, unsuitable material, and excess material as follows:

(a) Remove from project. Recycle or dispose of material legally off the project;

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

(c) 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;

(d) Decking. 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;

(e) Removal to designated locations. Remove construction slash and debris to designated locations; and

(f) Piling. Pile construction slash in designated areas.

203.06 Acceptance. Removal of structures and obstructions will be evaluated under Subsection 106.02. Backfilling and compacting of cavities left by structures will be evaluated under Section 209.

Measurement

203.07 Measure the Section 203 pay items listed in the bid schedule according to Subsection 109.02.

Payment
203.08 The accepted quantities will be paid at the contract price per unit of measurement for the Section 203 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.
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:

<table>
<thead>
<tr>
<th>Material</th>
<th>Section</th>
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<tbody>
<tr>
<td>Topping</td>
<td>704.05</td>
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<tr>
<td>Unclassified borrow</td>
<td>704.06</td>
</tr>
<tr>
<td>Water</td>
<td>725.01(c)</td>
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</tbody>
</table>
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**                |                                |                |          |                            |                    |                  |             |                |                |
| 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 yd³ (10,000 m³) | Processed material | Yes         | Before using in work |
|                              |                                | Density        | –        | AASHTO T 310 or other approved procedures | 1 per 3500 yd² (3000 m²), but not less than 3 per layer | In-place | No          | Before placement of next layer |
| Unclassified borrow (704.06)  | "                              | Moisture-density | –        | T 99, Method C(2)         | 1 per soil type, but not less than 1 per each 13,000 yd³ (10,000 m³) | Processed material | Yes         | Before using in work |
|                              |                                | Density        | –        | AASHTO T 310 or other approved procedures | 1 per 3500 yd² (3000 m²), but not less than 3 per layer | In-place | No          | Before placement of next layer |

*Production (continued)*
### Table 204-1
Sampling, Testing, and Acceptance Requirements

<table>
<thead>
<tr>
<th>Material or Product (Subsection)</th>
<th>Type of Acceptance (Subsection)</th>
<th>Characteristic</th>
<th>Category</th>
<th>Test Methods Specifications</th>
<th>Sampling Frequency</th>
<th>Point of Sampling</th>
<th>Split Sample</th>
<th>Reporting Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earth embankment (204.11(a))</td>
<td>Measured and tested for conformance (106.04)</td>
<td>Classification</td>
<td>–</td>
<td>AASHTO M 145</td>
<td>1 per soil type</td>
<td>Source of material</td>
<td>Yes</td>
<td>Before using in work</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moisture-density</td>
<td>–</td>
<td>T 99, Method C(2)</td>
<td>1 per soil type, but not less than 1 per each 13,000 yd³ (10,000 m³)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Density</td>
<td>–</td>
<td>AASHTO T 310 or other approved procedures</td>
<td>1 per 3500 yd² (3000 m²), but not less than 3 per layer</td>
<td>In-place</td>
<td>No</td>
<td>Before placement of next layer</td>
</tr>
<tr>
<td>Top of subgrade (204.11(a))</td>
<td></td>
<td>Density</td>
<td>–</td>
<td>AASHTO T 310 or other approved procedures</td>
<td>1 per 2500 yd² (2000 m²), but not less than 3 per layer</td>
<td>In-place</td>
<td>No</td>
<td>Before placement of next layer</td>
</tr>
<tr>
<td>Finished Product</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roadbed (204.13)</td>
<td>Measured and tested for conformance (106.04)</td>
<td>Final line &amp; grade</td>
<td>–</td>
<td>Field measured</td>
<td>Determined by the CO</td>
<td>Determined by the CO</td>
<td>No</td>
<td>Before placement of next layer</td>
</tr>
</tbody>
</table>

(1) Not required when using Government-provided source.
(2) Minimum 5 points per proctor.
<table>
<thead>
<tr>
<th>Location Description</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roadbed width (ft)</td>
<td>+0.5</td>
<td>+0.5</td>
<td>+1.0</td>
<td>+1.0</td>
<td>+1.0</td>
<td>+1.0</td>
<td>+1.5</td>
<td>+1.0</td>
<td>+2.0</td>
<td>+2.0</td>
<td>+2.0</td>
<td>+2.0</td>
<td>+2.0</td>
</tr>
<tr>
<td>Subgrade elevation (ft)</td>
<td>±0.1</td>
<td>±0.2</td>
<td>±0.2</td>
<td>±0.5</td>
<td>±1.0</td>
<td>±1.0</td>
<td>±1.5</td>
<td>±2.0</td>
<td>±3.0</td>
<td>±2.0</td>
<td>±3.0</td>
<td>(c)</td>
<td></td>
</tr>
<tr>
<td>Centerline alignment (ft)</td>
<td>±0.2</td>
<td>±0.2</td>
<td>±0.5</td>
<td>±1.0</td>
<td>±1.5</td>
<td>±1.5</td>
<td>±2.0</td>
<td>±3.0</td>
<td>±3.0</td>
<td>±5.0</td>
<td>(c)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slopes, excavation, and embankment (%)</td>
<td>±3</td>
<td>±5</td>
<td>±5</td>
<td>±5</td>
<td>±5</td>
<td>±10</td>
<td>±10</td>
<td>±10</td>
<td>±20</td>
<td>±20</td>
<td>±20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(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 in 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**

*Add the following to Subsection 208.07:*

**208.07 Dewatering.**
Construct diversions according to Subsection 157.10 Diversions. Submit dewatering plans according to Subsection 104.03.

---

**303 - Road Reconditioning**

*Delete Section 303 in its entirety and replace with the following.*

**Section 303. — ROAD RECONDITIONING**

**Description**

**303.01** This work consists of reconditioning ditches, shoulders, roadbeds, and aggregate surfaces.

**Material**

**303.02** N/A.

**Construction Requirements**

**303.03 Ditch Reconditioning.** Remove all slide material, sediment, vegetation, blowdown, and other debris from ditches and culvert inlets/outlets. Reshape ditches and culvert inlets/outlets to achieve positive drainage and uniform ditch width, depth, and grade. Dispose of waste material on the downhill side of the road away from any live streams.

**303.04 Shoulder Reconditioning.** Remove all slide material, sediment, vegetation, blowdown, and other debris from existing shoulders including parking areas, turnouts, and other widened areas. Repair soft and unstable areas according to Subsection 204.07. Reshape shoulders. Dispose of waste material on the downhill side of the road away from any live streams.

**303.05 Roadbed Reconditioning.** Remove all slide material, sediment, vegetation, blowdown, and other debris from the roadbed. Dispose of waste material on the downhill side of the road away from live streams. Materials dislodged by work activities such as rocks, roots, branches, and trees shall be removed from the roadway and ditches. Pull any trees larger than 2 inches in diameter. Repair holes, soft, and unstable areas according to Subsection 204.07. Compact according to Subsection 204.11.

**303.06 Aggregate Surface Reconditioning.** Repair soft and unstable areas to the full aggregate surface according to Subsection 204.07. Remove irregularities and shape to a uniform surface. Finish and compact the surface according to Subsection 302.05.
303.07 **Roadway Reconditioning.** Perform applicable work described in Subsections 303.03 through 303.06.

303.08 **Acceptance.** Road Reconditioning work will be evaluated under Subsection 106.02. The road will be smooth, uniform appearance, and free from any debris.

**Measurement**

303.09 Measure the Section 303 pay items listed in the bid schedule according to Subsection 109.02.

**Payment**

303.10 The accepted quantities will be paid at the contract price per unit of measurement for the Section 303 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 Structures

571.00 *Regional_10_4_2018 modified 03_02_2022*

571 - Prefabricated Bridges

**Description**

571.01 This work consists of transporting and installing Government-furnished prefabricated, modular superstructures and components. The work also includes constructing traffic barriers including curbs and railings, caps, bearings, and abutments, excavation and backfill, anchoring bridge superstructures to abutments as required, riprap, and backwalls.

**Materials**

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

<table>
<thead>
<tr>
<th>Material</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel Structures</td>
<td>555</td>
</tr>
<tr>
<td>Bridge Railing</td>
<td>556</td>
</tr>
<tr>
<td>Timber Structures</td>
<td>557</td>
</tr>
<tr>
<td>Structural Metal</td>
<td>717</td>
</tr>
</tbody>
</table>

**Construction Requirements**

571.03 **Installation and Assembly Procedures.** Contractor shall consult with prefabricated bridge manufacturer to produce written Installation and Assembly Procedures, acceptable to the manufacturer. The Installation and Assembly Procedures shall be submitted to the Government 14 days prior to installation. The document shall indicate, both in writing and graphically, the proposed method of erection, details of falsework bents, bracing, guys, dead-men, lifting devices, and bridge member attachments. It shall show the erection sequence, lifting or launching...
equipment locations and capacities, lifting point locations, and bridge member masses. It shall include complete details for anticipated phases and erection conditions.

571.04 Substructure and Approaches. Contractor shall provide all materials, equipment, labor, and supervision necessary to install timber substructures and bearing plates as well as timber approach pads. Requirements for gabion backwalls are included in Section 253.

571.05 Performance. Structure assembly and installation shall be directed and monitored by an authorized representative of Acrow Bridge Corporation. The Government will provide up to five days of time, including all expenses, of an authorized Acrow Bridge Corporation representative. The Contractor shall be responsible for any additional time, beyond the five days, required to complete the assembly and installation.

Follow all requirements set forth by the Installation and Assembly Procedures.

Perform excavation, backfill, and embankment work according to sections 204 and 209.

Dispose of all debris resulting from operations according to section 203.

571.06 Abutments and Approaches. Construct required caps, bearing, abutments, and backwalls according to Division 500. Construct approaches including excavation and backfill according to sections 204 and 209. Construct riprap according to section 251.

571.07 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. Install the substructure complete and in place including suitable material for fill, crushed aggregate bedding, footings, backwall, and riprap.

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.

Measurement

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

Payment

571.09 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 571 pay items listed in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.
Delete Subsection 703.05(c)(3) and Replace with the following:

703.05 (c) Surface course aggregate. (3) Plastic Index

(3) Plastic Index, AASHTO T 90

If the percent passing the No. 200 sieve is less than 12% 2 to 9
If the percent passing the No. 200 sieve is greater than 12% Less than 2

Delete 703.05 and replace with the following:

703.05 Subbase, Base, Surface Course, and Screened Aggregate.

(a) Subbase or base aggregate. Furnish hard, durable particles or fragments of crushed stone, crushed slag, or crushed gravel conforming the following:

(1) Gradation Table 703-2
(2) Liquid limit, AASHTO T 89 25 max.
(3) Plastic limit, AASHTO T 90 Nonplastic
(4) Los Angeles abrasion, AASHTO T 96 40% max.
(5) Sodium sulfate soundness loss (5 cycles), AASHTO T 104 12% max.
(6) Durability index (coarse), AASHTO T 210 35 min.
(7) Durability index (fine), AASHTO T 210 35 min.
(8) Fractured faces, ASTM D 5821 50% min.
(9) Free from organic matter and lumps or balls of clay

Do not use material that breaks up when alternately frozen and thawed or wetted and dried.

Obtain the aggregate gradation by crushing, screening, and blending processes as necessary. Fine aggregate, material passing the No. 4 sieve, shall consist of natural or crushed sand and fine mineral particles.

(b) Surface course aggregate. Furnish hard, durable particles or fragments of crushed stone, crushed slag, or crushed gravel conforming the following:

(1) Gradation Table 703-3
(2) Liquid limit, AASHTO T 89 35 max.
(3) Plastic Index, AASHTO T 90

a) If the percent passing the No. 200 sieve is less than 12% 2 to 9
b) If the percent passing the No. 200 sieve is greater than 12% Less than 2
(4) Los Angeles abrasion, AASHTO T 96 40% max.
(5) Sodium sulfate soundness loss (5 cycles), AASHTO T 104 12% max.
(6) Durability index (coarse), AASHTO T 210 35 min.
(7) Durability index (fine), AASHTO T 210 35 min.
(8) Fractured faces, ASTM D 5821 75% min.
(9) Free from organic matter and lumps or balls of clay
Do not use material that breaks up when alternately frozen and thawed or wetted and dried.

Do not furnish material that contains asbestos fibers.

Obtain the aggregate gradation by crushing, screening, and blending processes as necessary. Fine aggregate, material passing the No. 4 sieve, shall consist of natural or crushed sand and fine mineral particles.

(c) **Screened aggregate** – Furnish hard, durable particles or fragments of stone, slag, or gravel conforming the following:

1. Gradation Table 703-13
2. Plastic Index, AASHTO T 90 Less than 9
3. Los Angeles abrasion, AASHTO T 96 55% max.
4. Free from organic matter and lumps or balls of clay.

Do not use material that breaks up when alternately frozen and thawed or wetted and dried.

Obtain the aggregate gradation by crushing, screening, and blending processes as necessary.
Table 703-2
Target Value Ranges for Subbase and Base Gradation

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Percent by Mass Passing Designated Sieve (AASHTO T 27 and T 11)</th>
<th>Grading Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A (Subbase)</td>
<td>B (Subbase)</td>
</tr>
<tr>
<td>2½ inch</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>2 inch</td>
<td>97 – 100</td>
<td>100</td>
</tr>
<tr>
<td>1½ inch</td>
<td></td>
<td>97 – 100</td>
</tr>
<tr>
<td>1 inch</td>
<td>65 – 79 (6)</td>
<td>80 – 100 (6)</td>
</tr>
<tr>
<td>3/4 inch</td>
<td></td>
<td>64 – 94 (6)</td>
</tr>
<tr>
<td>1/2 inch</td>
<td>45 – 59 (7)</td>
<td></td>
</tr>
<tr>
<td>3/8 inch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. 4</td>
<td>28 – 42 (6)</td>
<td>40 – 60 (8)</td>
</tr>
<tr>
<td>No. 40</td>
<td>9 – 17 (4)</td>
<td></td>
</tr>
<tr>
<td>No. 200</td>
<td>4.0 – 8.0 (3)</td>
<td>4.0 – 12.0 (4)</td>
</tr>
</tbody>
</table>

( ) The value in the parentheses is the allowable deviation (±) from the target values.
Table 703-3
Target Value Ranges for Surface Gradation

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>S</th>
<th>T</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/2 inch</td>
<td>100</td>
<td></td>
<td></td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 inch</td>
<td>97-100</td>
<td>100</td>
<td></td>
<td>72 – 92 (6)</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>3/4 inch</td>
<td>76-89 (6)</td>
<td>97 - 100</td>
<td>97 - 100</td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>1/2 inch</td>
<td></td>
<td></td>
<td></td>
<td>71 – 91 (6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3/8 inch</td>
<td>56-68 (6)</td>
<td>70 – 80 (6)</td>
<td>80 – 92 (6)</td>
<td>51 – 71 (6)</td>
<td>71 – 90 (6)</td>
<td></td>
</tr>
<tr>
<td>No. 4</td>
<td>43-53 (7)</td>
<td>51 – 63 (7)</td>
<td>58 – 70 (7)</td>
<td>36 – 53 (7)</td>
<td>43 – 60 (7)</td>
<td>50 – 68 (7)</td>
</tr>
<tr>
<td>No. 8</td>
<td></td>
<td></td>
<td></td>
<td>26 – 40 (6)</td>
<td>30 – 46 (6)</td>
<td>34 – 51 (6)</td>
</tr>
<tr>
<td>No. 16</td>
<td>23-32 (6)</td>
<td>28 – 39 (6)</td>
<td>28 – 40 (6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. 200</td>
<td>10.0-16.0 (4)</td>
<td>10.0 – 16.0 (4)</td>
<td>9.0 – 14.0 (4)</td>
<td>8.0 – 15.0 (4)</td>
<td>8.0 – 15.0 (4)</td>
<td>8.0 – 15.0 (4)</td>
</tr>
</tbody>
</table>

( ) The value in the parentheses is the allowable deviation (±) from the target values.
If the plasticity index (PI) is greater than 0, the TV range for the No. 200 sieve size is 8-12 (4).
### Table 703-13
Gradation Requirements for Screened Aggregate

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
<th>P</th>
<th>Q</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 inch</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 inch</td>
<td></td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 inch</td>
<td></td>
<td></td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 inch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>No. 4</td>
<td>15-45</td>
<td>15-45</td>
<td>15-45</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Scope of Work:

This work consists of the proposed channel excavation and floodplain grading. COR will provide the oversight. The Contractor shall supply equipment and operators to complete the work. Contractor assumes all equipment, labor, supervision, transportation, operating supplies and incidental cost.

Description of Work:

Future Stream Channel Excavation. Excavation of future stream channel will be completed under the direction of the COR. Future stream channel excavation will be conducted within 0.6 miles of the bridge installation site within the Proposed Restored Channel location shown on Figure 1 below. Exact location and dimensions of excavation will be marked and designated on the ground by the COR. Some material will be hauled to stockpile at locations in close proximity (under ¼ mile haul distance) to the excavation area. All materials to be moved and placed shall be as directed by the project Engineer and/or COR.

Equipment work includes, but is not limited to, constructing approximately 5,000 linear feet of proposed channel excavation and up to 20 acres of floodplain grading. This includes excavation, haul and stockpiling up to 20,500 CY of material to designated locations.

The work will include pioneering a new stream channel, in the dry, which includes excavating overburden from the proposed channel and constructing new floodplains and terraces as designated by the COR. Work also could include pioneering routes from stockpile sites to log structure sites and transporting trees and logs from stockpile areas to structure sites as designated by the COR. Excavators will need to shuttle wood along the project area to the flagged sites. Other work shall include side channel construction, tree and rock structure construction and finish work as designated by the COR. Excavated channel material will be hauled and stockpiled at locations designated by the COR to be used at a later time.

Work consists of providing at least two tracked-mounted excavators, one dozer and one articulated dump truck. All excavators will have a general-purpose excavation bucket with hydraulic thumb for digging into stream channel and stream bank and to move large trees with rootwads into designated locations. Both excavators should be greater than 80,000 GVW. Excavators shall have qualified operators with timber and forest pioneering experience.
Equipment Requirements:

A. All equipment shall be furnished on a fully-operational basis, and in good operating condition.

B. Hydraulic Excavator:
   a. Excavators shall be crawler-mounted hydraulic excavators which meet the following minimum specifications:
      i. General purpose digging bucket with digging teeth,
      ii. Ditch cleaning or finishing bucket,
      iii. Hydraulic thumb,
      iv. Crawler-mounted, and
      v. Minimum operating weight of 80,000 lbs. GVW.

C. Dozer:
   a. Minimum operating weight of 80,000 lbs. GVW
   b. Minimum blade capacity of 5.4 cubic yards
   c. Low Ground Pressure
   d. Minimum horsepower of 215 hp.

D. Articulated Haul Truck:
   a. Minimum 30 Ton Capacity
   b. End Dump
   c. 3 Axles
APPENDIX F: Permit Notifications
FISH HABITAT CONCURRENCE FH21-V-0163

**ISSUED:** June 11, 2021

**EXPIRES:** Upon Completion & Restoration of Stream

U.S. Forest Service
Chugach National Forest
Seward Ranger District
Angela Coleman
29847 Seward Highway
Seward, AK 99664-9502

Re: Temporary Bridge and Equipment Ford

Resurrection Creek – Stream No. 247-60-10150
Section 9, T 9N, R 2W, S.M.
Location: 60.8822° N, 149.6343° W, 60.8827° N, 149.63405° W
River Center Tracking No. 12801

Dear Ms. Coleman:

Pursuant to the anadromous fish act at AS 16.05.871(b), the Alaska Department of Fish and Game (ADF&G), Habitat Section, has reviewed your proposal to install and maintain a temporary bridge and cross Resurrection Creek with various models of heavy equipment at the referenced locations.

**Project Description**

An approximately 100-foot long by 20-foot wide single span temporary bridge will be placed above ordinary high water (OHW) for construction access and support of the Resurrection Creek Stream and Riparian Restoration Project Phase II. Additional details and specifications regarding the design and construction of the temporary bridge and culvert are found in the Resurrection Creek Temporary Bridge Installation project, submitted to the River Center on June 2, 2021, and authored by J. Johnston representing the USDA Forest Service, R10 Alaska Region.

The equipment ford is located immediately upstream of the hand tram/trolley near the center of Section 9. Equipment crossings at this site have been established by Hope Mining Company and authorized by ADF&G Fish Habitat Permitting since 2003. The equipment crossing will support the Resurrection Creek Stream and Riparian Restoration Project Phase II and placement of the temporary bridge.
During implementation of this project, you will employ all applicable U.S. Forest Service best management practices to control sedimentation and erosion, and to avoid impacts to fish and fish passage.

**USDA Forest Service Agreement No. 19MU-11100100-108**

ADF&G Stream No. 247-60-10150 provides habitat for Chinook, chum, coho, and pink salmon and other species of resident fish.

In accordance with AS 16.05.841, AS 16.05.871(d), and Section II (4) of MOU 19MU-11100100-108, this is our concurrence for your proposed project.

Nothing in this concurrence relieves you from your responsibility to comply with all other applicable federal, state, or local statutes, regulations, or ordinances.

Please direct questions about this permit to Habitat Biologist Tony Munter at (907) 714-2478 or e-mail at tony.munter@alaska.gov.

Sincerely,

Doug Vincent-Lang
Commissioner

**Tony Munter**

By: Tony Munter
Habitat Biologist II
Habitat Section

cc: KRC File
By email only:

AWT Seward
ADF&G Anchorage
COE - KFO
MULTI-AGENCY PERMIT PACKAGE

Chugach National Forest Resurrection Creek                  RC# 12801
bridge                                               161 East 1st Ave Door 8
                                                3/15/2022
Anchorage, AK 99501

PARCEL ID:  03510013

PROJECT DESCRIPTION:

Applicant proposes to construct a temporary bridge approx. 100 feet long by 20 feet wide over the Resurrection Creek for approx. ten crossings of the creek. They also will put in a 36’ by 52 foot culvert across a pond. There will be removal of approx. 20 trees. There will be approx. 70 cubic yards of gravel material fill used in water.

Enclosed please find the individual permits from the following River Center Agencies:

<table>
<thead>
<tr>
<th>Expiration</th>
<th>Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ 6/28/2023</td>
<td>Kenai Peninsula Borough, Habitat Protection</td>
</tr>
<tr>
<td>☐ Not required</td>
<td>Kenai Peninsula Borough, Floodplain Development</td>
</tr>
<tr>
<td>☐ Not required</td>
<td>State of Alaska, Division of Parks &amp; Outdoor Recreation</td>
</tr>
<tr>
<td>☐ Lifetime of Project</td>
<td>State of Alaska, Department of Fish &amp; Game Habitat Division</td>
</tr>
</tbody>
</table>

Each of these permits have expiration dates. Please review them carefully. If you are unable to complete your project by the expiration dates, you must apply for an extension to your permits.

The permittee is responsible for the actions of the contractors, agents, or other persons who perform work to accomplish the approved plan. For any activity that deviates from the approved plan, the permittee shall notify the River Center and obtain written approval before beginning the activity.

If you have any questions regarding your project, please contact the River Center at (907) 714-2460 or kenairivcenter@kpb.us.
A RESOLUTION GRANTING A CONDITIONAL USE PERMIT PURSUANT TO KPB 21.18 FOR THE CONSTRUCTION OF A 100 BY 20-FOOT BRIDGE, THE PLACEMENT OF A 36-INCH BY 52-FOOT CULVERT, AND THE PLACEMENT OF APPROXIMATELY 70 CUBIC YARDS OF FILL WITHIN THE 50-FOOT HABITAT PROTECTION DISTRICT OF RESURRECTION CREEK.

WHEREAS, Chapter 21.18 provides for the approval of Conditional Use Permits for certain activities within the habitat protection district; and

WHEREAS, KPB 21.18.081 provides that a conditional use permit is required for construction not meeting the standards of KPB 21.18.071; and

WHEREAS, KPB 21.18.091 provides for mitigation measures by the planning department staff to address impacts to the Habitat Protection District from a proposed, ongoing, or completed project; and

WHEREAS, public notice was sent to all property owners within a 300-foot radius of the proposed activity as provided in Section 21.11.030; and

WHEREAS, public notice was published in the Peninsula Clarion on June 17, 2021 and June 24, 2021 as provided in Section 21.11.020; and

WHEREAS, public testimony was received at the June 28, 2021 meeting of the Kenai Peninsula Borough Planning Commission;

NOW, THEREFORE, BE IT RESOLVED BY THE PLANNING COMMISSION OF THE KENAI PENINSULA BOROUGH:

That the Planning Commission makes the following findings of fact pursuant to KPB 21.18:

Section 1. Project Details Within the 50-foot Habitat Protection District

1. Installation of a 100 by 20-foot bridge across Resurrection Creek.

2. Installation of a 36-inch by 52-foot culvert and approximately 70 cubic yards of alluvial gravel to cross a settling pond running parallel to Resurrection Creek.

3. Structures will provide the applicant with access perform the Resurrection Creek Phase II Restoration Project, a bank restoration project that will be 2 miles in length, and is scheduled to begin in 2022.

4. Bridge, culvert, and fill will be removed at the conclusion of the Resurrection Creek Phase II Restoration Project (approximately 5 - 10 years), and the area will be revegetated pursuant to KPB 21.18.071(A)(1).

Section 2. Pursuant to 21.18.081(D) General Standards, the following standards shall be met before conditional use approval may be granted:
1. The use or structure will not cause significant erosion, sedimentation, damage to the habitat protection district, an increase in ground or surface water pollution, or damage to riparian wetlands and ecosystems;
2. Granting of the conditional use shall be consistent with the purposes of this chapter, the borough comprehensive plan, other applicable chapters of the borough code, and other applicable planning documents adopted by the borough;
3. The development of the use or structure shall not physically damage the adjoining property;
4. The proposed use or structure is water-dependent;
5. Applicant and/or owner must be in compliance with other borough permits and ordinance requirements.

Section 3. Findings of fact pursuant to KPB 21.18.081
1. Portions of this proposed project are within the 50-foot habitat protection district as defined by KPB 21.18.040.
2. Pursuant to KPB 21.18.081(B)(5), the construction of transportation and utility infrastructure may be approved within the habitat protection district under a conditional use permit.
3. Pursuant to KPB 21.18.081(D), staff finds that the proposed project meets the five general standards above.
4. Pursuant to KPB 21.18.020(A), this chapter was established to protect and preserve the stability of anadromous fish through controlling shoreline alterations and disturbances along anadromous waters and to preserve nearshore habitat.
5. Pursuant to KPB 21.18.020(A)(2), the installation of the proposed structures will preserve nearshore habitat by reducing the number of in-water crossings that heavy equipment will make to complete the development of Resurrection Creek Phase II Restoration Project.
6. Pursuant to KPB 21.18.20(B)(5), one purpose of this chapter was established to separate conflicting land uses.
7. Access to the site and all construction activities will occur along active mining roads used by Hope Mining Company and will not affect neighboring parcels.
8. Kenai Peninsula Borough Planning Commission Resolution 2015-35 defines water-dependent as:
   "...a use or structure located on, in or adjacent to water areas because the use requires access to the waterbody. The definition is applicable to facilities or activities that must be located at or near the shoreline and within the 50-foot buffer. An activity is considered water dependent if it is dependent on the water as part of the intrinsic nature of its operation. Examples of water dependent facilities may include, but are not limited to, piers, boat ramps, and elevated walkways."
9. The River Center found the application complete and scheduled it for public hearing on June 28, 2021.
10. Agency review was distributed on June 2, 2021. No comments or objections have been received from resource agencies to date.
11. KPB 21.11.030 requires that public notice be mailed to all property owners within a 300-foot radius of the project. The applicant is the only property owner within the 300-foot radius.

Section 4. Permit Conditions
1. Construction techniques and best management practices shall be utilized to ensure that land disturbing activities do not result in runoff or sedimentation to Resurrection Creek.
2. The bridge, culvert, and fill must be designed and installed to meet KPB floodplain requirements.
3. The permittee shall minimize damage to all vegetation and shall revegetate all disturbed areas with native vegetation.
4. For each tree removed, two seedlings less than 5.5-feet tall of a species native to the region will be planted within the 50-foot HPD.
5. Storage or use of fuel is prohibited within 50-feet of any open water.
6. The River Center shall be notified at least 3 days prior to the start of the project.
7. If changes to the approved project described above are proposed prior to or during its siting, construction, or operation, the permittee is required to notify the River Center to determine if additional approval is required.
8. The permittee shall be held responsible for the actions of the contractors, agents, or others who perform work to accomplish the approved plan.
9. The construction or installation phase of this Conditional Use Permit must be completed within one calendar year from the date of the permit’s issuance, or the Conditional Use Permit shall expire unless the Planning Commission finds that more time is necessary to effectuate the purposes of this chapter, in which case the commission may extend the deadline for a maximum of six years from the date of issuance. Prior to its expiration date and upon written request, the Planning Director may grant a Conditional Use Permit extension for 12 months (KPB 21.18.081 (H)).
10. In addition to the penalties provided by KPB 21.18.110, and pursuant to KPB 21.50, the permit may be revoked if the permittee fails to comply with the provisions of this chapter or the terms and conditions of a permit issued under this chapter. The Borough Clerk shall provide at least 15 day's written notice to the permittee of a revocation hearing before the hearing officer (KPB 21.18.082).
11. The permittee shall comply with the terms, conditions and requirements of the Kenai Peninsula Borough Code of Ordinances Chapter 21.18, and any regulations adopted pursuant to this chapter.
12. The permittee is responsible for abiding by all other federal, state, and local laws, regulations, and permitting requirements applicable to the project (KPB 21.18.081 (G)).

THIS CONDITIONAL USE PERMIT EFFECTIVE ON 28TH DAY OF JUNE, 2021.

Blair Martin, Chairperson
Planning Commission

ATTEST:

Ann Shimberg
Administrative Assistant

Note: An appeal of a decision of the Planning Commission may be filed to the hearing officer, in accordance with the requirements of the KPB Code of Ordinances, Chapter 21.20.250. An appeal must be filed with the Borough Clerk within 15 days of date of the notice of the decision using the proper forms and be accompanied by the filing and records preparation fee.
March 15, 2022

Chugach National Forest
161 East 1st Ave Door 8
Anchorage, AK 99501

Issued: June 28, 2021
Expired: June 28, 2022
Time Extension Request: June 28, 2022
Expires: June 28, 2023

RE: Conditional Use Permit (Resolution #2021-19 Bridge Time Extension Request)

Dear Applicant:

Because of a funding issue, you were unable to initiate the project in 2021, as originally permitted. On March 28, 2022, a time extension was submitted for the installation of a 100 foot long by 20 foot wide bridge within the 50-foot Habitat Protection District of the Kenai River.

KPB 21.18 081(H) states prior to its expiration date, a conditional use permit issued for up to one year may be extended up to twelve (12) months by the director of planning upon written request. Any additional time extensions beyond the 6/28/2023 date will need to be approved by the KPB Planning Commission.

The project must be completed as outlined in the enclosed Resolution 2021-19, approved by the Kenai Peninsula Borough Planning Commission on June 28, 2021. During construction, a copy of this letter and the Resolution must be kept on site.

If you have questions regarding this action, please contact Samantha Lopez, River Center Manager, at (907) 714-2468.

Sincerely,

Melanie Aeschliman
Planning Director
Kenai Peninsula Borough

Enclosed: KPB Resolution 2021-19
DISPLAY THIS SIGN SO IT IS VISIBLE FROM THE ROAD AND A SECOND COPY THAT IS VISIBLE FROM THE RIVER
THIS SIGN SHOULD BE POSTED DURING ALL PHASES OF CONSTRUCTION

RIVER CENTER PERMITTED PROJECT

<table>
<thead>
<tr>
<th>Applicant:</th>
<th>Authorized Work:</th>
</tr>
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<tbody>
<tr>
<td>Chugach National Forest Resurrection Creek bridge</td>
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<td>KPB Parcel:</td>
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<td>03510013</td>
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<tr>
<td>Legal Description:</td>
<td></td>
</tr>
<tr>
<td>T 9N R 2W SEC 1 SEWARD MERIDIAN SW ENTIRE TOWNSHIP EXCEPT USS 2761 &amp; USS 2636 &amp; USS 2642 &amp; US MIN SUR 1449 &amp; US MIN SUR 1451 &amp; ASLS 88-13 &amp; SAXTONS BIRCH ACRES SUB &amp; KINGS CASTLE ACRES SUB &amp; E1/2 NW1/4 OF SEC 3 &amp; W1/2 NE1/4 OF SEC 4</td>
<td></td>
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<thead>
<tr>
<th>Permits Issued:</th>
<th>Expiration:</th>
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<tbody>
<tr>
<td>KPB Floodplain</td>
<td>Not required</td>
</tr>
<tr>
<td>KPB Habitat Protection</td>
<td>6/28/2023</td>
</tr>
<tr>
<td>ADNR Park Use Permit</td>
<td>Not required</td>
</tr>
<tr>
<td>ADFG Division of Habitat</td>
<td>Lifetime of Project</td>
</tr>
</tbody>
</table>

Questions regarding this permit should be directed to the Gilman River Center: (907) 714-2460