Slow DxP Preliminary Temporary Bridge Design

POSTED 12/15/15
DRAFT-SUBJECT TO CHANGE

Installation of government provided temporary bridge 4220-130 extension (Temporary Road) at Slow Creek Crossing:

Bridge Decking: The existing stockpile of 4" x 12" decking boards (gov. furnished) can be used by the purchaser to maintain the bridge deck throughout the life of the sale. **The temporary bridge and decking boards can be viewed and evaluated at the Zigzag Ranger Station. As the bridge is in a locked facility at the Ranger Station, it is strongly encouraged that potential purchasers call (503) 622-3191 and make an appointment to view the temporary bridge prior to traveling to the Station. Without an appointment, there is no guarantee potential purchasers will have access to the bridge location**

Bridge: The existing government bridge is a Hamilton EZ bridge. The bridge is currently disassembled into two sections approximately 9' wide by 50' long. When assemble the inside clear width is 16' (lane width), outside width 18' (including curbs) and the length is 50'.

Specifications: Applicable specifications are FP-03 specification and FS Supplemental Specification Section 571 for or transporting and installing Government-furnished prefabricated, modular superstructures and components. The work also includes constructing caps, bearings, and abutments including excavation and backfill and anchoring bridge superstructures to abutments as required.

The back wall will be four 12" x 12" x 16' timbers vertically and the abutment will be four 12" x 12" x 16' horizontally at each end of the bridge. Purchase may propose alternative material in accordance with section 571. See attached draft drawing. Approximate location for the bridge installation is shown on the drawing.

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571 – Prefabricated Bridges

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Description

571.01

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

Materials

571.02 Requirements.

Furnish materials that meet the requirements specified in the following sections:

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

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

Construction Requirements

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571.03 Design Requirements.

For required loadings use the most recent AASHTO “Standard Specifications for Highway Bridges”.

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

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

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

571.04 Design Drawings.

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

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

571.05 General.

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

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

571.06 Performance.

Notify the CO at least before delivering the bridge.

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

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

571.07 Abutments and Approaches.

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

571.08 Contractor-Furnished Prefabricated Bridge Superstructure.

Furnish the following items for approval prior to delivery of the bridge component:

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

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

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

(d) Certification of galvanizing process used.

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

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

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

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

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

571.09 Government-Furnished Prefabricated Bridge Superstructure.

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

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

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571.10 Non-pressure Epoxy Grout Anchors.

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

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

571.11 Acceptance.

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

Measurement

571.12

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

Payment

571.13

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

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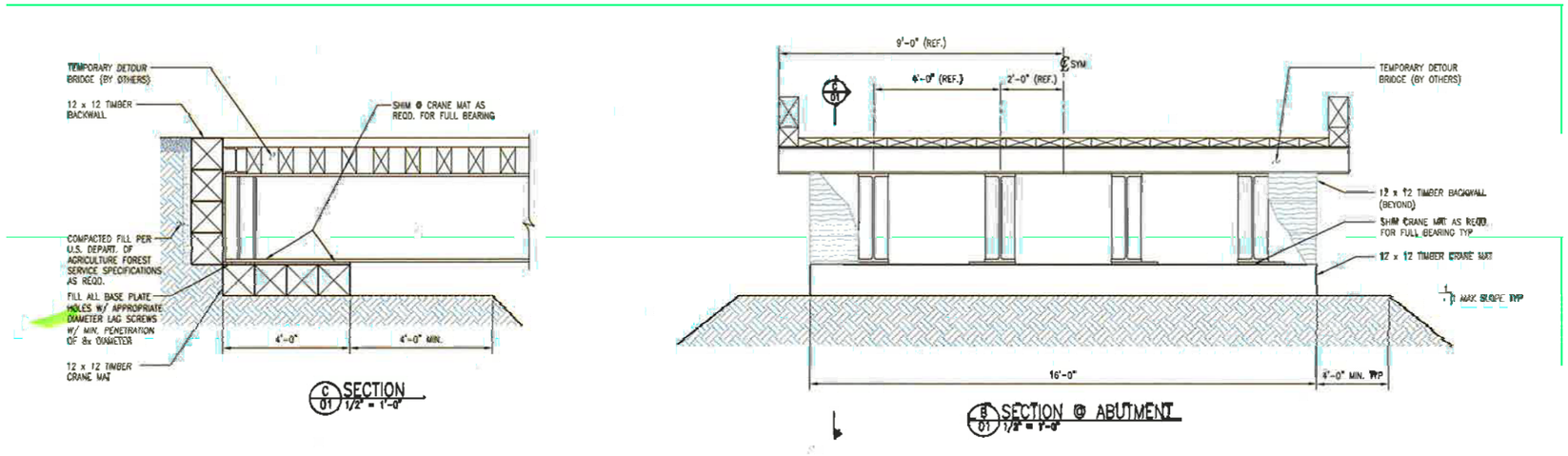
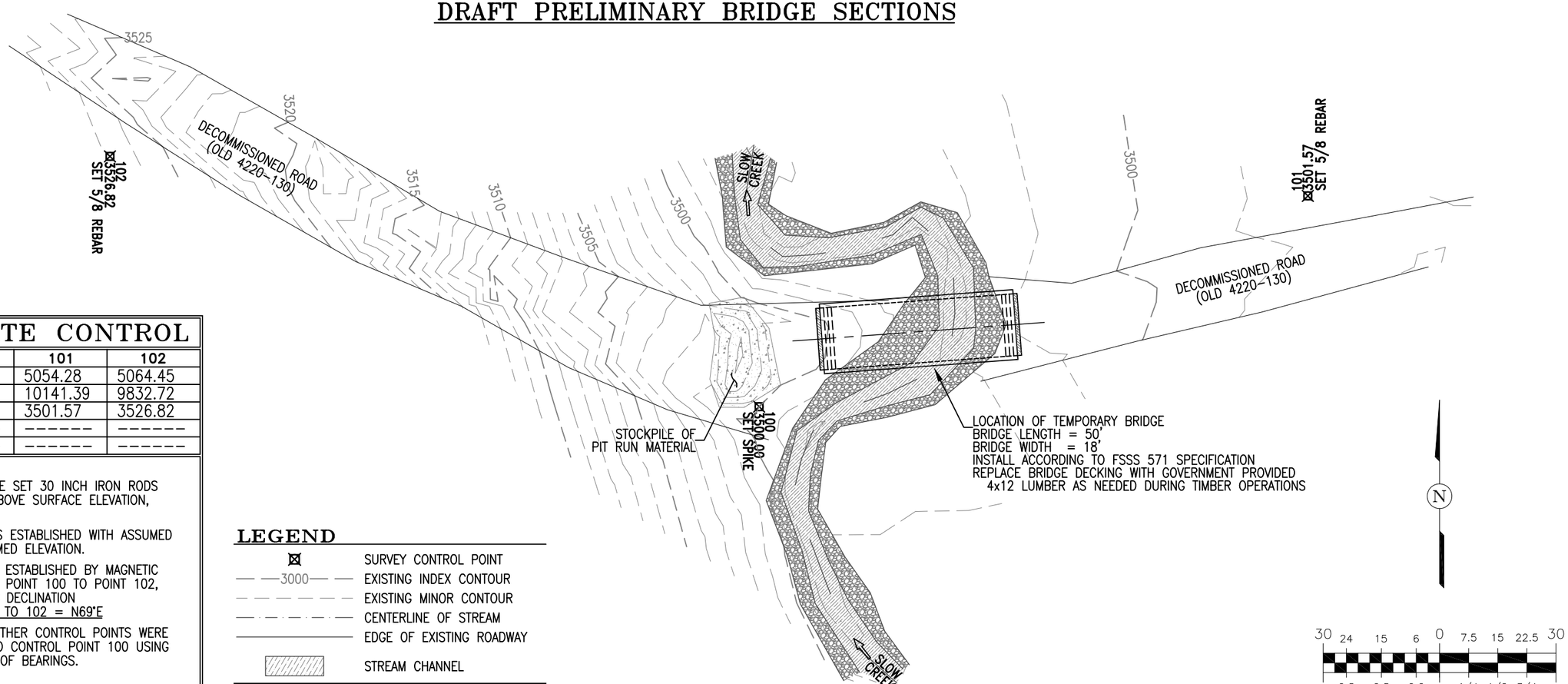


DRAFT PRELIMINARY BRIDGE SECTIONS



SURVEY SITE CONTROL

	100	101	102
NORTHING:	5000.00	5054.28	5064.45
EASTING:	10000.00	10141.39	9832.72
ELEVATION:	3500.00	3501.57	3526.82
STATION:	------	------	------
OFFSET:	------	------	------

NOTES:

ALL CONTROL POINTS ARE SET 30 INCH IRON RODS PROTRUDING 0.1 FEET ABOVE SURFACE ELEVATION, WITH RED PLASTIC CAPS.

CONTROL POINT 100 WAS ESTABLISHED WITH ASSUMED COORDINATES AND ASSUMED ELEVATION.

BASIS OF BEARINGS WAS ESTABLISHED BY MAGNETIC COMPASS READING FROM POINT 100 TO POINT 102, ADJUSTED FOR MAGNETIC DECLINATION
BASIS OF BEARINGS 100 TO 102 = N69°E

COORDINATES FOR ALL OTHER CONTROL POINTS WERE ESTABLISHED RELATIVE TO CONTROL POINT 100 USING THE ESTABLISHED BASIS OF BEARINGS.

LEGEND

- SURVEY CONTROL POINT
- 3000 EXISTING INDEX CONTOUR
- EXISTING MINOR CONTOUR
- CENTERLINE OF STREAM
- EDGE OF EXISTING ROADWAY
- STREAM CHANNEL

DRAFT PRELIMINARY BRIDGE PLAN

REV	DATE	DESCRIPTION
-	-	-

DESIGNED BY:
DRAWN BY: L. JIMENEZ
CHECKED BY:
SCALE: 1" = 30'

USDA FOREST SERVICE
The Pacific Northwest Region

MT. HOOD NATIONAL FOREST
16400 Champion Way
Sandy, OR 97055

Project: Lemiti Fuels Reduction Project Temporary Creek Crossing

Sheet Title: PRELIMINARY BRIDGE PLAN

SHEET 1 of 1