CONTRACT NO. 02625

Backsfed.010325

STATE OF MONTANA
DEPARTMENT OF TRANSPORTATION
BID PACKAGE

Sealed bids for construction of this project will be received by the Montana Department of Transportation, Construction Contracting Section, Room 101, 2701 Prospect, Helena, Montana until 9:00 a.m. on June 5, 2025. All bids will then be publicly opened, reviewed for correctness, and then publicly read.

Federal Aid Project(s):

STPB-STPP-SSS 82-1(6)5 Flathead River 3M NW Bigfork

Bid proposals, Plans, Standard Specifications, Detail Drawings, and Standard Contract Forms are on file for examination and may be obtained from the Construction Contracting Bureau of the Montana Department of Transportation, 2701 Prospect Avenue, P.O. Box 201001, Helena, Montana 59620-1001.

Prime bidders use the Electronic Bid System or bid on-line through Bid Express to produce a bid containing Proposal Forms, Schedule of Items, and Disadvantaged Business Enterprises (DBE) Requirements (if applicable).

CONTRACT #02625
AWARDED ON: JUNE 17, 2025
TO: SLETTEN CONSTRUCTION COMPANY

MONTANA DEPARTMENT OF TRANSPORTATION

Loran Frazier, Chairperson
Montana Transportation Commission

Christopher Dorrington
Director of Transportation

Contract No.02625
EM:ST:6850000AWD

AWARD COPY

CURRENT QUESTIONS & ANSWERS

101 - FLATHEAD RIVER-3M NW BIG FORK - June 05, 2025

Notifications
No Notices available for this project.

Amendments
-1-
Submitted: Wednesday 04-JUN-2025 02:02 PM
An Amendment has been posted for this project: **AMENDMENT**
To download the amendment bid files: Bid Express™ Secure Internet Bidding

Clarifications
-1-
Submitted: Monday 12-MAY-2025 01:13 PM
See special provision #10, Small Business Enterprise (SBE). The contractor must achieve at least 4.4% SBE participation.
-2-
Submitted: Monday 19-MAY-2025 08:57 AM
Road Plan Sheet No.'s 14, 15, 19, 22, & 43 have been revised to correct an error and can be viewed at the following link: **REVISED ROAD PLAN SHEETS**
Cross Section Plan Sheet No.'s 39 & 58-76 have been revised to correct an error and can be viewed at the following link: **REVISED X-SECTION PLAN SHEETS**
Bid Item #203 020 100 EXCAVATION-UNCLASSIFIED is hereby decreased to 54,230 CUYD.
Bid Item #203 020 310 SPECIAL BORROW-NEAT LINE is hereby increased to ~~132,425~~ 133,195 CUYD.
Bid Item #622 011 084 GEOTEXTILE STABILIZATION is hereby increased to 47,210 SQYD.

An amendment will be issued, updated bid files will be posted.
UPDATED
Submitted: Tuesday 2-MAY-2025 03:05 PM
~~**UPDATED PLAN SHEET 19**~~

UPDATED
Submitted: Wednesday 04-JUN-2025 01:23 PM
A correction to Plan Sheet 19 has been made. Updated Plan Sheet 19 can be viewed here: **CORRECTED PLAN SHEET 19**
Bid Item #203 020 200 EXCAVATION-UNCLASS BORROW is hereby increased to 2,790 CUYD
Bid Item #301 020 252 BRIDGE END BACKFILL-TYPE 1 is hereby increased to 4,365 CUYD
-3-
Submitted: Friday 30-MAY-2025 09:08 AM
The following special provisions are hereby added to the contract:
REMOTE WEATHER MONITORING SYSTEM & WEATHER MONITORING SYSTEM REQUIREMENTS

CURRENT QUESTIONS & ANSWERS

SERVICE CONNECTIONS (See end of Q&A)
Bid Item #699 010 025 – ROAD WEATHER INFORMATION SYSTEM – 1.0 LS is hereby added to the contract.
An amendment will be issued, updated bid files will be posted.

Questions
-1-
Submitted: Friday 09-MAY-2025 03:26 PM
Company: Wadsworth Brothers Construction
Contact: Mark Miller
Can the department provide a new bid item for "Contractor Access" for barges or temporary work items for working in the river to construct the bridge? We prefer to not put these costs in multiple pay items.
Answer
Submitted:Thursday 15-MAY-2025 03:43 PM
The following special provision is hereby added to the contract: **CONTRACTOR ACCESS FACILITIES (See end of Q&A).**
Bid Item #552 010 010 TEMPORARY ACCESS FACILITIES – LS is hereby added to the contract.
An amendment will be issued, updated bid files will be posted.
-2-
Submitted: Monday 12-MAY-2025 08:00 AM
Company: LHC
Contact: Sam Weyers
Please post all design files.
Answer
Submitted: Tuesday 20-MAY-2025 2:34 PM
The design files for the requested project are posted here: **DESIGN FILES**
The requested files do not represent the staked project but are only design files. The Department cannot guarantee the accuracy of the electronic data, particularly as it may be called up by your computer, nor does any data in these files supersede the data in the contract documents.
In addition, the Department will not make any revisions to the electronic files pertaining to the staked project, change ordered work, or changes that are made during construction to fit field conditions.
-3-
Submitted: Sunday 11-MAY-2025 01:29 AM
Company: Knife River
Contact: Kurtis Paulson
Will the department please post design files, mass diagram, and dirt runs?
Answer
Submitted: Tuesday 20-MAY-2025 03:24 PM
Please see response to Question #2. A mass diagram and/or dirt runs are not available for this project.
-4-
Submitted: Sunday 11-MAY-2025 01:30 AM
Company: Knife River
Contact: Kurtis Paulson

CURRENT QUESTIONS & ANSWERS

Will the department please post the additional geotechnical information?
Answer
Submitted: Thursday 15-MAY-2025 03:20 PM
Attached are PDF Files of the available project alignment and/or structures geotechnical report(s), geotechnical report supplements, and geotechnical laboratory summaries. There is remaining geotechnical information that is voluminous and very difficult to compile in a concise manner. Contractors are welcome to come to MDT Headquarters to inspect rock samples taken for the project that are stored here or to look through the complete set of Geotechnical field investigation notes, laboratory testing, analytical, or other data in our project files. It should be noted that the project may have undergone significant changes during the design process after the original geotechnical report and supplements were issued. Thus, some of the information contained in these documents may be out of date or not applicable with regard to the advertised project. Some of the changes include, but are not limited to: Project splits (for funding, ROW issues, etc.) alignment and grade changes; and changes due to environmental factors (sensitive areas, etc.). The documents can be found at: **GEOTECHNICAL REPORTS**

-5-
Submitted: Monday 12-MAY-2025 01:07 PM
Company: Wadsworth Brothers Construction
Contact: Mark Miller
Please provide all proposed and existing cadd files including linework and surface models.
Answer
Submitted: Tuesday 20-MAY-2025 03:25 PM
Please see response to Question #2.

-6-
Submitted: Friday 16-MAY-2025 01:37 PM
Company: Wadsworth Brothers Construction
Contact: Mark Miller
Please provide the complete detailed copy of the following Permits Nationwide Permit 23 SPA 124 Authorization
Answer
Submitted: Wednesday 21-MAY-2025 01:37 PM
Please find copies of the CWA 404 Permit documents at the following link: **USACE NATIONWIDE PERMIT DOCS**
Please find copies of the SPA 124 Authorization and Extension documents at the following link: **FWP SPA 124 PERMIT DOCS**

-7-
Submitted: Monday 19-MAY-2025 10:45 AM
Company: LHC
Contact: Sam Weyers
Will MDT please clarify SP # 35.B regarding one lane traffic in each direct at all times? Based on current X-sections and alignment, this will not be possible.
Answer
Submitted: Thursday 22-MAY-2025 09:50 AM
Maintain two-lane, two-way traffic at all times possible to minimize impacts to the traveling public. Single lane traffic will be approved by the EPM on a case-by-case basis if two-lane traffic is not practical. Temporary lane closures are also allowed as called out

in Special Provision #36. Please refer to plan sheet 38, Special Provision #56 and #63 in regard to temporary shoring and phasing.

-8-

Submitted: Tuesday 20-MAY-2025 02:44 PM
Company: Montana Fence Company
Contact: Jim Ritter

1. We understand that MDT is working on a solution for more accurate quantities of single panels, double panels and ROW breaks. For wood paneled R/W breaks we will use MDT's detail drawing in 607-20. For metal panel R/W breaks we will use a metal double panel with an off-set middle post. For this job, please specify the number of R/W breaks in wood post sections as well as metal post sections.
2. Station 332+48.10 RT to 372+75.00 RT calls for Type F6W with Wood Single and Wood Double panels. However, in the Remarks column it calls for "Corner bracing with round steel posts" for Parcel 16/16C E. We assume that these steel braces are equivalent to MDT's detail for Metal Double Panels. If so, please specify the number of metal braces required for this Parcel. If not, please clarify.

Answer
Submitted: Tuesday 27-MAY-2025 02:56 PM

1. The quantity of single and double panels has been updated. The ROW breaks have been quantified as double panels in the revised summary frame and call outs to each ROW break has been added to the revised plan sheets
2. The station range for this segment was revised on Sheets 19 and 40. The new stopping station is 342+75. All panels are quantified as Metal Panels.

Updated Plan Sheet No.'s 19, 39 & 40 can be viewed here: **REVISED FENCING PLAN SHEETS**

The affected Bid Items are hereby revised as follows:
607100291 – FARM FENCE-TYPE F6W – 1,067.0 LNFT
607100360 – FARM FENCE-PANEL/SINGLE FW – 5.0 EACH
607100362 – FARM FENCE-PANEL/SINGLE FM – 5.0 EACH
607100380 – FARM FENCE-PANEL/DOUBLE FW – 5.0 EACH
607100385 – FARM FENCE-PANEL/DOUBLE FM – 8.0 EACH
607100440 – FARM GATE-METAL-TYPE G-3 – 96.0 LNFT
607100551 – FENCE-TEMPORARY – 1,067.0 LNFT
607100720 – DEADMAN – 20.0 EACH
An amendment will be issued, updated bid files will be posted.

-9-

Submitted: Wednesday 21-MAY-2025 02:57 PM
Company: Schellinger Construction Co., Inc.
Contact: Grant Roberts

Other recent projects in this area have used Special Borrow with a maximum particle size of 6 inch, would MDT consider changing the maximum particle size for Special Borrow from 4 inch to 6 inch for this project?

Answer
Submitted: Friday 23-MAY-2025 09:25 AM

Maximum particle size of 4-inch special borrow is required to fully encapsulate each geogrid layer as shown in the plans and cross sections with a minimum of 8" cover above and below the geogrid. 6" maximum particle size is acceptable for all other areas of special borrow.

CURRENT QUESTIONS & ANSWERS

-10-
Submitted: Thursday 22-MAY-2025 08:55 AM
Company: LHC
Contact: Sam Weyers
Other than SP #67, would MDT add a bid item for the necessary clearing and grubbing of the ROW?
Answer
Submitted: Wednesday 28-MAY-2025 08:30 AM
Bid Item #201 130 005 CLEARING AND GRUBBING is hereby added to the contract with a quantity of 18.0 ACRES. The intent of this item is to establish a pay item for those ROW areas not covered in Special Provision #67 Timber Decking for Private Landowners. Special Provision #67 is intended only for the areas designated within the provision.
An amendment will be issued, updated bid files will be posted.

-11-
Submitted: Thursday 22-MAY-2025 02:55 PM
Company: Pipe and Piling Supplies USA
Contact: Josh Klapperich
In regards to the 48" cutting shoes, will an A27 Gr. 65/35 or A148 Gr. 90/60 be acceptable for this application? Also, will welding the cutting shoes to manufacturer's recommendations be acceptable for attach (minimum 5/16" fillet weld)?
Answer
Submitted: Tuesday 27-MAY-2025 12:20 PM
A148 Gr. 90/60 cutting shoes with a minimum 5/16” fillet weld meeting the manufacturer’s recommendations will be acceptable.

-12-
Submitted: Tuesday 27-MAY-2025 05:34 PM
Company: Condon-Johnson
Contact: Ty Jahn
Please provide the raw CPT data.
Answer
Submitted: Thursday 29-MAY-2025 01:57 PM
Raw CPT data files can be viewed at the following link: **CPT DATA**

-13-
Submitted: Tuesday 27-MAY-2025 05:32 PM
Company: Condon-Johnson
Contact: Ty Jahn
Compaction grouting is contractor design, yet estimated quantities are provided for pricing for both drilling and grouting. These quantities could vary greatly from contractor to contractor. Consider revising this to a Lump Sum.
Answer
Submitted: Friday 30-MAY-2025 08:32 AM
Please bid compaction grouting as advertised. Payment for altered quantities will be administered in accordance with 109.03 of the standard specifications.

-14-
Submitted: Wednesday 28-MAY-2025 02:21 PM
Company: Contech Engineered Solutions LLC
Contact: Brad Eberspecher

CURRENT QUESTIONS & ANSWERS

Would ClearCast transparent bridge deck forms be an acceptable alternative to removing conventional bridge deck forms?
https://www.conteches.com/media/mdjhmyum/clearcast_brochure.pdf
Answer
Submitted: Thursday 29-MAY-2025 01:42 PM
Stay in place forms are not permitted. Bid the project as advertised.

-15-

Submitted: Wednesday 28-MAY-2025 02:48 PM
Company: Hamilton Construction Co.
Contact: Wendell Snook
Per Standard Specification 559.03.5 "Temporary welded plates for aligning field splices or hoisting may be used with the Project Manager's approval. Remove temporary plates and grind welds smooth. " To support pier cap falsework would temporary welded steel brackets be approved for use?
Answer
Submitted: Monday 02-JUN-2025 09:48 AM
Welding of temporary support plates for pier cap formwork may be used with the Project Manager's approval. Submit **welding plan** ~~approach~~ to the Project Manager. Ensure **the welding plan** ~~approach~~ does not damage the pile, concrete, or effect the long-term performance. Remove temporary support plates, grind welds smooth, and ensure soundness of the final pile paint system.
UPDATED: Monday 02-JUN-2025 02:33 PM

-16-

Submitted: Thursday 29-MAY-2025 11:15 AM
Company: Alpine Sign Inc
Contact: John
Please provide Sign Design Calculations for this project
Answer
Submitted: Thursday 29-MAY-2025 01:17 PM
The sign design files for the requested project are posted here: **SIGN DESIGN CALCS** The requested files are only design files. The Department cannot guarantee the accuracy of the electronic data, particularly as it may be called up by your computer, nor does any data in these files supersede the data in the contract documents. In addition, the Department will not make any revisions to the electronic files prior to award. Changes needed via change ordered work, or changes that are made during construction to fit field conditions, will be provided at that time. See the requirements of Subsection 619.03.2.

-17-

Submitted: Friday 30-MAY-2025 11:21 AM
Company: Wadsworth Brothers Construction
Contact: Ashford Galbreath
The Activity 130 Geotechnical report provided in response to Q&A # 4 recommended the use of an ICE I-80 pile hammer with a maximum rated energy of 208,300 ft-lbs. The increased wall thickness since this recommendation and the increased pile depth has caused this hammer to be dramatically undersized based on the required driving energies shown on the contract plans. Will the department provide a recommended minimum hammer driving energy?
Answer

CURRENT QUESTIONS & ANSWERS

Submitted: Monday 02-JUN-2025 10:58 AM
Please review Activity 158 Report – Flathead R – 3 M NW Bigfork for most recent geotechnical report. Pile hammer will be evaluated per Section 559.

-18-
Submitted: Friday 30-MAY-2025 11:20 AM
Company: Wadsworth Brothers Construction
Contact: Ashford Galbreath
The Activity 130 Geotechnical report provided in response to Q&A # 4 shows the bent 2, 3, and 4 piles as 0.75" wall thickness vs. 1" in the contract plans and also shows shorter pile lengths than shown in the contract plans. What caused the change in foundation size and depth, and can the department provide the supplemental report that supports this change?
Answer
Submitted: Monday 02-JUN-2025 11:24 AM
Please review Activity 158 Report - Flathead R - 3 M NW Bigfork for most recent geotechnical report.

-19-
Submitted: Friday 30-MAY-2025 11:43 AM
Company: Wadsworth Brothers Construction
Contact: Mark Miller
Special Provision 44 Surcharge Embankment, Note D.3 states "Where 1.5H: 1V slopes cannot be constructed as shown in the plans, construct surcharge with geosynthetic wrapped layers, or other methods approved by the Project Manager." Does the department require a vertical temp wall for the surcharge materials near the future abutment face at both Bent 1 & Bent 5?
Answer
Submitted: Monday 02-JUN-2025 11:25 AM
A vertical temporary wall constructed transverse to the roadway centerline is not required behind the abutment wall, but the surcharge is to be completed prior to abutment construction per Special Provision 44. Vertical walls are required as necessary parallel to roadway centerline to maintain two lanes of traffic.

-20-
Submitted: Friday 30-MAY-2025 01:05 PM
Company: LH Contracting LLC
Contact: Lewis Heil
Could you please update the SBE bin file?
Answer
Submitted: Monday 02-JUN-2025 08:45 AM
The DBE.bin file has been updated in Bid Express. Please download the new DBE.bin file here: https://www.infotechinc.com/bidding/

-21-
Submitted: Friday 30-MAY-2025 02:12 PM
Company: Wadsworth Brothers Construction
Contact: Eric Nelson
Special Provision 35E in Sequence of Operations notes that the contractor always provides access to the sportsman's fishing access site, but there are no requirements as to what constitutes keeping access. How is access supposed to be always provided with the new alignment of the roadway and fill slope going to the R/W line?

CURRENT QUESTIONS & ANSWERS

Answer
Submitted: Tuesday 03-JUN-2025 03:04 PM
The Sportsman's Fishing Access Site (FAS) is being moved to the west bank of the Flathead River as part of a separate Montana Fish Wildlife and Parks Project. Construction of the new FAS is anticipated to be complete prior to Notice to Proceed (NTP) for this project. The new FAS will have an approach onto Oldenburg Road. Access to the FAS will need to be incorporated into providing access to Oldenburg Road and the residences on that corridor. This access should be incorporated into the Contractor's traffic control plan.

-22-
Submitted: Friday 30-MAY-2025 03:05 PM
Company: Advanced Geosolutions, Inc
Contact: Drew Flack
Regarding the Special Provisions for the Stone Column and Compaction Grouting work, can MDT define the quantity required or testing frequency of CPTs to verify liquefaction potential is mitigated?
Answer
Submitted: Monday 02-JUN-2025 11:37 AM
A minimum of one CPT test will be required within the initial test stone columns and the initial test compaction grout columns at both Bent 1 and Bent 5, or 4 CPT tests total. CPT tests to be extended to elevation of test columns, or lower. Provide additional CPT tests for any additional test column spacings, different equipment or methods proposed. Additional CPT tests are not required between Phase 1 and Phase 2, unless different spacings, equipment or methods are used.

-23-
Submitted: Friday 30-MAY-2025 03:02 PM
Company: Advanced Geosolutions, Inc
Contact: Drew Flack
Special provision section 63.E.6.A (Stone Columns) requires test columns to verify that the liquefaction potential is mitigated. Results are to be evaluated by Geotechncial Representative selected by MDT. The time required to evaluate the test program will generate standby cost for the contractor. Can MDT provide an allotted time for the evaluation?
Answer
Submitted: Monday 02-JUN-2025 01:18 PM
Evaluation of CPT Results for Test Columns will be completed within 3 business days upon receipt of CPT Results.

-24-
Submitted: Friday 30-MAY-2025 05:11 PM
Company: LHC
Contact: Sam Weyers
1. Our preliminary calculations with the design files that were provided do not match the quantities in the summary table for grading shown on plan sheet 19. Please confirm which is correct.
2. With respect to QA #7 above, would MDT allow a longer single lane closure period than 4 hours? Resource allocations for labor and equipment are not cost effective for 4 hours each night.
3. Please refer to cross section sheets 31 and 32. It appears that surcharge material is

being called out underneath the existing PTW. After traffic is routed onto the new alignment, then excavation of PTW can occur and then additional surcharge materials can be placed. Please clarify if this is the intent and if additional waiting periods will be required.
4. Will MDT add an item for temporary barrier rail and remove and reset when needed where finished 6:1 slopes cannot be completed due to conflict with PTW and in areas where permanent guardrail is not installed yet?
5. Please clarify SP 35.B if traffic is to be unimpeded or if flaggers will be allowed to stop traffic for any time, even just to let haul units in and out of excavation/embankment zone.
6. Spec section 203.03.1.E states to only use borrow material after the roadway excavation has been placed in the embankment. With requirements of SP35 and keeping traffic on the existing PTW until safely shifting onto the new alignment, our calculations show there is not enough excavation material to achieve subgrade on new alignment without additional unclassified borrow and then subsequent "cut to waste" with the remaining PTW. Please add a bid item for excavation-unclassified borrow and excavation-street excavation to allow for cut to waste.
7. Will traffic be allowed on a gravel surface, whether on the PTW or new alignment, during anytime throughout the project?
8. Please add an item for traffic gravel, pending answer above.

Answer
Submitted: Wednesday 24-JUN-2025 11:25 AM
1. The summary frame quantities for grading on Sheet 19 are correct.
2. Single lane closures are allowable from 8pm to 6am Sunday through Friday.
3. The cross sections on Sheets 31 and 32 depict bridge end backfill extending across the PTW, not surcharge material. As the Contractor excavates across the existing PTW, the bridge end backfill material will be extended as shown in the cross sections.
4. No separate payment will be made for temporary barrier rail. Use of temporary barrier rail is based on Contractor's means and methods and sequencing. Use the information provided in the plans and cross sections to prepare bid based with consideration to Standard Specification 618.03.8.
5. Traffic will be allowed to be stopped to let haul units in and out of excavation and embankment zones. If Contractor operations cause an accumulative delay to the traveling public of over 20 minutes, unimpeded two-way traffic requirement will be enforced.
6. Grading quantities are provided for the entire project and are not based on Contractor means and methods or sequencing. Prepare bid based on individual Contractor means and methods and sequencing.
7. Traffic will be allowed on a gravel surface. A traffic gravel item will be added to the contract. Please see revised Sheet 20 for quantities: **REVISED SHEET 20**
8. Per the answer above, a Traffic Gravel bid item has been added.

Bid Item #301 020 268 TRAFFIC GRAVEL is hereby added to the contract with a quantity of 1,000 CUYD.
An amendment will be issued, updated bid files will be posted.

-25-
Submitted: Friday 30-MAY-2025 02:09 PM
Company: Wadsworth Brothers Construction

CURRENT QUESTIONS & ANSWERS

Contact: Mark Miller
We request the SBE goal be reduced or eliminated. Starting on May 12, 2025, we have sent RFQ's with all the project files to a large number of SBE's on the MDT DBE directory and we are receiving very little interest in this project. We have followed up with additional direct phone calls and still are receiving very little interest. We do anticipate receiving a few quotes for minor items which will only amount to a small amount (Less than 1.00 percent) and not nearly enough to satisfy the 4.40 percent goal. How did the department come up with the goal for this project and what bid items did the department consider would receive SBE's participation?
Answer
Submitted: Tuesday 03-JUN-2025 09:23 AM
The SBE goal will remain at 4.4%. If the SBE goal cannot be met, the bidder must provide documentation that they made a good faith effort by 5:00 pm on the day of the bid opening to mdtdbeprogram@mt.gov.

MDT's SBE Program and Goals were implemented to address FHWA's Shortfall Analysis. The project specific goals are calculated in accordance with 49 CFR 26.39 and 49 CFR 26.51 (a). For further information on MDT's SBE and DBE programs go to the following link:
Disadvantaged Business Enterprise & Small Business Enterprise | Montana Department of Transportation (MDT)

Good Faith Efforts Procedures can be found in the Program Plan beginning on page 13: https://www.mdt.mt.gov/other/webdata/external/civilrights/dbe/program-guide.pdf
-26-
Submitted: Monday 02-JUN-2025 09:09 AM
Company: Wadsworth Brothers Construction
Contact: Mark Miller
We request the department extend the completion date from August 31, 2027 to October 31, 2027.
Answer
Submitted: Wednesday 04-JUN-2025 09:17 AM
The completion date is hereby changed to October 30, 2027.
Special Provision #2 Contract Time – Completion Date is hereby replaced with the following revised special provision: **CONTRACT TIME-COMPLETION DATE** **(See end of Q&A).**
-27-
Submitted: Monday 02-JUN-2025 09:24 AM
Company: Wadsworth Brothers Construction
Contact: Mark Miller
Paint for 48 Inch steel pile, will the department require an MDT certified painter for painting piles and painting pile splices in the field?
Answer
Submitted: Wednesday 04-JUN-2025 08:16 AM
Paint the piling in accordance with special provision #61, Section 559, and Section 612. Refer to 612.03.8 for certification requirements for the paint QC inspector.
-28-
Submitted: Monday 02-JUN-2025 09:57 AM

CURRENT QUESTIONS & ANSWERS

Company: LHC
Contact: Sam Weyers
Will MDT require complete dewatering and isolation from work/water areas while installing the rip rap? Current information shows bottom of rip rap excavation will be +-7 feet below lowest water surface elevation.
Answer
Submitted: Wednesday 04-JUN-2025 08:14 AM
Appropriate BMP’s will be required to isolate the water from the work zone. MDT will not dictate the contractors means and methods for this installation.

RWIS Specials Provisions

1. REMOTE WEATHER MONITORING SYSTEM

A. Description. A new Remote Weather Information System (RWIS) will be installed at approximately Station 330+00 RT, including a roadway surface sensor; sub-probe; conduits; pull boxes; cable; Remote Processing Unit (RPU); tower; tower foundation; wind-speed/direction sensor; precipitation sensor; temperature/relative humidity sensor; Pan-Tilt-Zoom (PTZ) color camera; 120 volt AC, 30 amp single pole circuit breaker in the electrical service assembly; 2" schedule 80 PVC conduit from the electrical service to the pull box at the base of the RWIS tower; 3 AWG number 8 stranded copper conductors between the electrical service and the RWIS RPU; and all peripheral equipment to ensure a complete and functional RWIS station.

B. Construction Requirements. Contact the Communications Bureau Chief at (406)444-6305 a minimum of two weeks prior to beginning any construction of the RWIS site to assist in determining the final location of the RWIS tower and all peripheral equipment including the roadway surface sensor, sub-surface probe, and pull boxes to ensure a complete and functional system per the manufacturer's specifications.

For more information, contact Phill Balsley, Communications Bureau, 2701 Prospect Avenue, P.O. Box 201001, Helena, MT 59620. Phone: (406)444-6305, E-mail: pbalsley@mt.gov.

2. WEATHER MONITORING SYSTEM REQUIREMENTS

A. Description. This work consists of furnishing all materials, equipment, and labor necessary for the installation of a complete, fully functioning Remote Weather Information System (RWIS) including the installation of a 120 volt AC, 30 amp single pole, single throw circuit breaker in the electrical service; 2" schedule 80 PVC conduit from the electrical service to the pull box at the base of the RWIS tower; three (hot, neutral, and ground) AWG number 8 stranded copper conductors from the service to the Remote Processing Unit (RPU); and all required wiring for a complete and functional RWIS station. Work with the Communications Bureau and the Engineering Project Manager to determine the final location of the RWIS station. The RWIS includes a roadway surface sensor, sub-probe, conduits, pull boxes, cable, RPU, tower, tower foundation, wind-speed/direction sensor, precipitation sensor, temperature/relative humidity sensor, Pan-Tilt-Zoom (PTZ) color camera, concrete foundation, the concrete pad for the RWIS station, and all peripheral equipment not specifically identified to ensure a complete and fully functional RWIS.

B. Materials. The following is a list of RWIS components necessary for the completion of this work:

Quantity	Description
1	RWS200 Remote Processing Unit (RPU) Base Structure Including all interface cards, system boards, station software license, and NEMA 4 aluminum RPU enclosure.
1	DRS511AB Embedded Road Sensor with 150' of cable and interface for the RPU
1	DRS511 Installation kit with Fabick Sealant
1	Fabick MP55 Caulking Applicator
1	DST12G Subsurface Temperature Probe with 150' of cable and interface for the RPU.
1	HMP155E Air Temperature and Relative Humidity Sensor.
1	DTR503A Radiation Shield for HMP155E and Mounting Kit including M12 30' connection cable and RPU interface for the HMP155A/E sensor with PWD.
1	PWD12 Heated visibility/present weather sensor including 45' mast cable for PWD sensors and interface for the RPU.
1	RM Young combined analog wind sensor with 45' cable and RMYFIX60.

1	Bracket Kit D=60 for sensor arm fixing interface for RM Young combo analog wind sensor including sensor arm and mounting kit for lattice mast.
1	Axis PTZ Camera for 60 Hz AC – US – model number Q6055E including power injector, RPU interface, and tower mount for attaching the camera to the tower.
1	Roadway Fold-over 30' Tower Kit 24" Cross member mounting bracket, Tower top section, Tower fold-over assembly, Tower middle section, Tower bottom section, Fixed base assembly for concrete foundation, Two (2) center tower mounts, Anti-climb panels, and Atmospheric mounting pole.
1	Tower Grounding Kit, RPU
1	Roadway System Installation Manual
1	Sensor/Sub Probe Installation/Splice Manual
1	Field Maintenance Guide on CDROM
1	Quazite pull boxes with pull box covers

Most of these components may be obtained from:
Vaisala, Inc.
194 South Taylor Avenue
Louisville, CO 80027, USA
Tel: 720-237-8586
Or by contacting Vaisala's main office at:
Vaisala Inc.
194 South Taylor Avenue
Louisville, CO 80027
Tel: 1-877-VAISALA (824-7252)

1) Furnish and install all equipment in conformance with the manufacturer's requirements and guidance from the MDT Communications Bureau. Coordinate with the manufacturer, the Communications Bureau, and the Project Manager a mutually agreeable date for the commissioning of the site. Allow a minimum of two weeks advance notice for this date. The commissioning process brings the installed RWIS equipment into a fully operational condition and ensures the site meets the manufacturer's warranty requirements. The Communications Bureau will calibrate and terminate the pavement sensor cables. Correct any deficiencies in installation or workmanship noted by MDT Communications Bureau personnel at the time of commissioning at the sole expense of the contractor and prior to final acceptance by MDT Communications. Protect all RWIS equipment/materials from damage during the entire construction project. Replace any damaged equipment at the sole expense of the contractor.

2) Measurement and Payment. Measurement for the above described work is made on a lump sum basis for the installation of all RWIS related equipment including the circuit breaker, conduit, stranded copper conductor, pull boxes, and all peripheral equipment associated with the RWIS site and provides full compensation for all materials, labor, tools, equipment, site commissioning expenses, and other incidentals necessary to complete the work in accordance with the manufacturer's specifications and as directed by the Engineering Project Manager.

1. SERVICE CONNNECTIONS [617] (ADDED 4-03-25 M)

A service connection/relocation/disconnect/reconnect is required for this project for a remote weather monitoring system. The proposed location for service is approximately Station 330+00 RT (the southeast corner of MT-82 and Hanging Rock Dr). Notify the Project Manager a minimum of 30 calendar days prior to the installation or modification of each service so that the utility application can be started.

The following utility companies and their contact information is as follows:

Flathead Electric Cooperative	Mark Sanders (406) 471-0932 m.sanders@flathead.coop

Refer to construction memo ENG 20-01 located here https://www.mdt.mt.gov/business/contracting/memos/const_memos.shtml for additional information on the Service Application process.

1. CONTRACTOR ACCESS FACILITIES

A. Description. This work includes temporary Contractor access facilities such as access roads, work bridges, barges, etc. Access requirements are solely dependent on the Contractor's selected equipment, means, and methods of construction.

B. Construction Requirements. Design, construct, remove and reclaim Contractor access facilities necessary to access and perform the work. Acquire temporary facilities permits for Contractor access facilities as required elsewhere in the contract. Locate and construct roads and other facilities used for access to the work to minimize disturbance to the existing terrain and vegetation. Do not use private property without the landowner's or lessee's written permission. Furnish copies of the written permission to the Project Manager.

C. Submittals.

1) Submit one set of plans and a written description of access facilities to the Project Manager for approval. At a minimum, show or describe access to all bents and piers, and areas to be used for staging, and erection of the structure. Detail all locations, methods of construction, methods of removal and restoration, topsoiling, fertilizing, seeding, and temporary erosion control measures to be used.

Perform no work on access roads or other access facilities until the submitted proposal is reviewed and approved. An on-site review of the proposal will be held with attendance including the Contractor, the Project Manager, and representatives of other concerned agencies.

D. Method of Measurement. Lump sum measurement for work described in this special provision will be made under the item Temporary Access Facilities – LS.

E. Basis of Payment. Periodic payments for Temporary Access Facilities – LS will be made based on percentage of completion, subject to the total payments for this item not exceeding:

1) 20% to be paid on the first estimate.

2) 40% to be paid on the estimate after the start of construction of the foundation at Pier 2.

3) 70% to be paid on the estimate after the start of construction of the foundation at Pier 3.

4) 90% to be paid on the estimate after the start of construction on the foundation at Pier 4.

5) 100% to be paid on the estimate after removal of all temporary access.

Consider all work related to constructing, removing and reclaiming temporary Contractor access a subsidiary obligation of the contract and include all costs in connection therewith in the lump sum bid amount.

Payment at the contract lump sum price is full compensation for all resources necessary to complete this item of work under the contract.

1. CONTRACT TIME - COMPLETION DATE [108] (REVISED 1-21-16)

This contract is a completion date contract. The work begins on the effective date stated in the Notice to Proceed (NTP) and all work is to be completed no later than October 30, 2027. Unusually severe weather is not considered as a delay cause. The NTP will be issued with an effective date of August 4, 2025.

CONTRACT NO. 02625

Montana Department of Transportation
Construction Contracting Section

Date(s) Issued:
June 4, 2025

A M E N D M E N T S

For The Following Project(s)
To Be Let On:
June 5, 2025

101 – Flathead River - 3M NW Bigfork
STPB-STPP-SSS 82-1(6)5

REVISED SCHEDULE OF ITEMS
Adding Bid Item #s:
201 130 005 – Clearing and Grubbing – 18.0 ACRE
301 020 268 – Traffic Gravel – 1000.0 CUYD
552 010 010 – Temporary Access Facilities – 1.0 LS
699 010 025 – Road Weather Information System – 1.0 LS
Changing quantity for Bid Item #s:
203 020 100 – Excavation-Unclassified – 54,230.0 CUYD
203 020 200 – Excavation-Unclass Borrow – 2,790.0 CUYD
203 020 310 – Special Borrow-Neat Line – 133,195.0 CUYD
301 020 252 – Bridge End Backfill-Type 1 – 4,365.0 CUYD
607 100 291 – Farm Fence-Type F6W – 1,067.0 LNFT
607 100 360 – Farm Fence-Panel/Single FW – 5.0 EACH
607 100 362 – Farm Fence-Panel/Single FM – 5.0 EACH
607 100 380 – Farm Fence-Panel/Double FW – 5.0 EACH
607 100 385 – Farm Fence-Panel/Double FM – 8.0 EACH
607 100 440 – Farm Gate-Metal-Type G-3 – 96.0 LNFT
607 100 551 – Fence-Temporary – 1,067.0 LNFT
607 100 720 – Deadman – 20.0 EACH
622 011 084 – Geotextile Stabilization – 47,210 SQYD

INSTRUCTIONS – READ CAREFULLY
Amendments: Consist of contract revisions to the electronic bid files including added bid items, deleted bid items, or bid item quantity changes. Load the electronic amendment file while in the opened bid file to apply the amendment. The Schedule of Items printout on projects with amendments must show the amendment(s) applied at the bottom of each page to be considered responsive. Bid files for AASHTOWare Project Bids will only be updated for Amendments.

Wade Salyards

Wade Salyards, ECCS Supervisor
Construction Engineering Services

MONTANA DEPARTMENT OF TRANSPORTATION
SCHEDULE OF ITEMS

CONTRACT ID: 02625

PROJECT: STPB-STPP-SSS 82-1(6)5 6850006000 FLATHEAD RIVER-3M NW BIGFORK

SECTION: 0001 - BRIDGE REPLACEMENT

PROP LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY
0010	103000000	TRAINING PROGRAM	HOUR	1,500.00
0020	104030010	MISCELLANEOUS WORK	UNIT	50,000.00
0030	104030011	MISCELLANEOUS ITEMS-LS	LS	1.00
0040	104030045	MISCELLANEOUS ITEMS-EACH	EACH	1.00
0050	104030060	MISCELLANEOUS ITEMS-CUYD	CUYD	276.30
0060	104030065	MISCELLANEOUS ITEMS A-LNFT	LNFT	2,487.70
0070	104030070	MISCELLANEOUS ITEMS-REMOVAL	LS	1.00
0080	105070000	CONTRACTOR SURVEY AND LAYOUT	LS	1.00
0090	108000000	CRITICAL PATH SCHEDULE	LS	1.00
0100	108000010	STRUCTURE ANALYSIS	LS	1.00
0110	109200005	MOBILIZATION	LS	1.00
0115	201130005	CLEARING AND GRUBBING	ACRE	18.00
0120	202020041	REMOVE STRUCTURE	LS	1.00
0130	202020358	ABANDON WELL	EACH	2.00
0140	203020100	EXCAVATION-UNCLASSIFIED	CUYD	54,230.00
0150	203020200	EXCAVATION-UNCLASS BORROW	CUYD	2,790.00
0160	203020310	SPECIAL BORROW-NEAT LINE	CUYD	133,195.00
0170	203020405	SITE MONITORING	LS	1.00
0180	203080100	TOPSOIL-SALVAGING AND PLACING	CUYD	8,288.00
0190	204010185	BLASTING CONSULTANT	LS	1.00
0200	208010150	TEMPORARY EROSION CONTROL-LS	LS	1.00
0210	208010200	TEMPORARY EROSION CONTROL-FIXED	UNIT	500.00
0220	209010160	TEMPORARY SHORING	LS	1.00
0230	301020252	BRIDGE END BACKFILL-TYPE 1	CUYD	4,365.00
0235	301020268	TRAFFIC GRAVEL	CUYD	1,000.00
0240	301020340	CRUSHED AGGREGATE COURSE	CUYD	14,176.00
0250	301020348	DRAIN AGGREGATE	CUYD	1,145.00
0260	301020625	AGGREGATE TREATMENT	SQYD	36,627.00
0270	401020046	PLANT MIX BIT SURF-MISC	TON	290.00
0280	401020048	PLANT MIX SURF-1/2 IN	TON	7,897.00

SECTION: 0001 - BRIDGE REPLACEMENT

PROP LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY
0290	401020300	HYDRATED LIME	TON	115.00
0300	402020090	ASPHALT BINDER PG 58H-34	TON	458.90
0310	402020315	EMULSIFIED ASPHALT-TACK COAT	GAL	4,092.00
0320	402020320	EMULSIFIED ASPHALT-FOG SEAL	GAL	2,744.00
0330	402020375	EMULSIFIED ASPHALT CHFRS-2P	TON	79.10
0340	409000020	COVER-TYPE 2	SQYD	38,928.00
0350	411010000	COLD MILLING	SQYD	8,899.00
0360	411011130	CENTERLINE RUMBLE STRIPS-TYPE 3	MILE	1.30
0370	411011135	RUMBLE STRIPS	MILE	2.60
0380	551020035	CONCRETE-CLASS STRUCTURE	CUYD	571.50
0390	551020036	CONCRETE-CLASS STRUCTURE LOW	CUYD	1,007.10
0400	551020120	CEMENT GROUT	CUYD	793.00
0410	551020166	CONCRETE-CLASS DRILLED SHAFT	CUYD	461.70
0415	552010010	TEMPORARY ACCESS FACILITIES	LS	1.00
0420	552010090	COMPACTION GROUT SET CASING LENGTH	LNFT	3,025.00
0430	552010140	TRANSVERSE DECK GROOVING	SQYD	3,295.40
0440	552011020	EXPANSION JOINT-MODULAR	LNFT	46.00
0450	555010100	REINFORCING STEEL	LB	31,174.00
0460	555010200	REINFORCING STEEL-EPOXY COATED	LB	376,633.00
0470	555010400	REINFORCING STEEL-SEISMIC	LB	89,037.00
0480	556010011	STRUCTURAL STEEL - GIRDER	LS	1.00
0490	557010110	HAND RAIL	LNFT	1,478.00
0500	559010028	STONE COLUMNS	LNFT	11,670.00
0510	559010202	RE-DRIVE TEST PILE	EACH	5.00
0520	559040035	DYNAMIC LOAD TEST	EACH	5.00
0530	559050115	FURN STEEL PILE-PIPE	LB	1,789,432.0
0540	559060115	DRIVE STEEL PILE	LNFT	3,051.30
0550	559060200	PILE CUTTING SHOE	EACH	30.00
0560	565000010	ELASTOMERIC BEARING DEVICES	EACH	25.00
0570	565000040	DISC BEARINGS	EACH	5.00
0580	603010025	PLUG ENDS AND ABANDON PIPE	EACH	1.00
0590	603012530	RCP 18 IN	LNFT	150.00
0600	603012555	RCP 24 IN	LNFT	302.00
0610	603013412	PIPE-CORR POLYETHYLENE 10 IN	LNFT	118.00
0620	603013495	PIPE-CORR POLYETHYLENE DR 6 IN	LNFT	352.00
0630	603015270	EMBANKMENT PROTECTOR 18 IN	LNFT	301.00

SECTION: 0001 - BRIDGE REPLACEMENT

PROP LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY
0640	603587020	REMOVE PIPE CULVERT	LNFT	292.50
0650	604010273	INLET MEDIAN-TYPE 2	EACH	1.00
0660	605000092	36 IN SS CONCRETE BARRIER RAIL-BR	LNFT	1,486.00
0670	606010330	MGS GUARDRAIL	LNFT	250.00
0680	606010335	MASH W-BEAM TERMINAL SECTION	EACH	4.00
0690	606010337	MGS GUARDRAIL/LONG POSTS	LNFT	1,725.00
0700	606010342	MASH THRIE BEAM BR APPRCH SECTION	EACH	4.00
0710	606010385	REMOVE GUARDRAIL	LNFT	4,674.00
0720	607100111	FARM FENCE-TYPE F2W-39 IN WW	LNFT	1,614.00
0730	607100151	FARM FENCE-TYPE F3W-39IN WW	LNFT	1,723.00
0740	607100291	FARM FENCE-TYPE F6W	LNFT	1,067.00
0750	607100360	FARM FENCE-PANEL/SINGLE FW	EACH	5.00
0760	607100362	FARM FENCE-PANEL/SINGLE FM	EACH	5.00
0770	607100380	FARM FENCE-PANEL/DOUBLE FW	EACH	5.00
0780	607100385	FARM FENCE-PANEL/DOUBLE FM	EACH	8.00
0790	607100430	FARM GATE-WIRE-TYPE G-2	LNFT	16.00
0800	607100440	FARM GATE-METAL-TYPE G-3	LNFT	96.00
0810	607100551	FENCE-TEMPORARY	LNFT	1,067.00
0820	607100720	DEADMAN	EACH	20.00
0830	609010112	CURB 4 IN-CONCRETE	LNFT	135.00
0840	610100101	SEEDING AREA NO 1	ACRE	12.40
0850	610100102	SEEDING AREA NO 2	ACRE	1.70
0860	610100103	SEEDING AREA NO 3	ACRE	5.50
0870	610100326	FERTILIZING AREA NO 1	ACRE	12.40
0880	610100327	FERTILIZING AREA NO 2	ACRE	1.70
0890	610100560	RIPRAP REVEGETATION	SQYD	1,349.00
0900	610100565	EROSION CONTROL BLANKET-HIGH-	SQYD	2,896.00
0910	610220050	MULCH-COMPOST	ACRE	1.70
0920	611010016	CATTLE GUARD 16 FT-LIGHT DUTY	EACH	1.00
0930	613100050	RIPRAP-CLASS 3 RANDOM	CUYD	1,425.30
0940	613300050	BANK PROTECTION-TYPE 3	CUYD	12.00
0950	618030005	TRAFFIC CONTROL DEVICES CB	UNIT	650,000.00
0960	618100001	MOTORCYCLE ADVISORY SIGN	EACH	2.00
0970	618100005	PORTABLE VARIABLE MESSAGE SIGN	EACH	2.00
0980	618110010	INSTALL, REMOVE CAMERA SYSTEM	EACH	1.00
0990	619010062	SIGNS-ALUM SHEET INCR XI	SQFT	51.00

SECTION: 0001 - BRIDGE REPLACEMENT

PROP LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY
1000	619010090	SIGNS-ALUM REFL SHEET XI	SQFT	115.10
1010	619010230	REMOVE SIGN	EACH	11.00
1020	619010240	REMOVE SIGN-GUIDE	EACH	2.00
1030	619010310	POSTS-STEEL U SIGN	LB	19.00
1040	619010320	POSTS-STEEL STRUCTURAL SIGN	LB	490.00
1050	619010480	POLES-TREATED WOOD 4 IN	LNFT	132.00
1060	619010490	POLES-TREATED WOOD 5 IN	LNFT	52.00
1070	619010722	FRANG SIGN POST BKWY-S4 X 7.7	EACH	4.00
1080	619011090	DELINEATOR TYPE 1	EACH	42.00
1090	620011105	WORDS AND SYMBOLS-WHITE PAINT	GAL	18.00
1100	620011110	WORDS AND SYMBOLS-YELLOW PAINT	GAL	26.00
1110	620011260	WORDS AND SYMBOLS-WHITE EPOXY	GAL	10.00
1120	620011265	WORDS AND SYMBOLS-YELLOW EPOXY	GAL	18.00
1130	620012955	TEMPORARY STRIPING	LNFT	9,194.00
1140	620013000	STRIPING-WHITE PAINT	GAL	112.00
1150	620013960	STRIPING-WHITE EPOXY	GAL	74.00
1160	620014000	STRIPING-YELLOW PAINT	GAL	112.00
1170	620014960	STRIPING-YELLOW EPOXY	GAL	74.00
1180	622010075	GEOGRID - BIAXIAL	SQYD	8,910.00
1190	622010082	GEOGRID - UNIAXIAL	SQYD	19,860.00
1200	622011022	SUBSURFACE DRAIN FILTER-HIGH SURV	SQYD	2,036.00
1210	622011043	PERM EROSION CONTROL-HIGH SURV	SQYD	1,349.00
1220	622011084	GEOTEXTILE STABILIZATION	SQYD	47,210.00
1230	622011086	SEPARATION GEOTEXTILE - HIGH	SQYD	1,290.00
1240	623000180	MAILBOX-LARGE	EACH	6.00
1250	699010025	ROAD WEATHER INFORMATION SYSTEM	LS	1.00

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SPECIAL PROVISIONS

FEDERAL AID PROJECT NO(S). STPB-STPP-SSS 82-1(6)5

(REVISED 4-03-25)

The following special provisions are hereby made part of the contract and supplement and/or supersede any sections of the Standard Specifications of Road and Bridge Construction, adopted by the Montana Department of Transportation and the Montana Transportation Commission and all supplements thereto in conflict therewith.

The following documents are hereby incorporated by reference into this contract:

- "Question and Answer Forum":

Question and Answer Forum

- "Standard Specifications for Road and Bridge construction":

Standard Specifications January 2025

- The most recent version of the Detailed Drawings:

Detailed Drawings

- The most recent version of the Materials Manual:

Materials Manual January 9, 2025

The latest version of the Standard Specifications, Biannual updates, and revision summaries can be found at the following website: Standard Specifications

The Question-and-Answer Forum opens at 5:00 p.m. on the bid letting advertisement date and closes at 10:00 a.m. on the Monday before the bid letting. If Monday is a state holiday, the forum will close on Friday before the bid letting at 3:00 p.m. Answers provided by the Department to the questions, clarifications, and notifications can be posted up to 5:00 p.m. on the day before the letting.

The U.S. Department of Transportation (DOT) operates a toll-free number at 1-800-424-9071, 24 hours a day - 7 days a week. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use this number to report such activities. All information will be treated confidentially, and callers may remain anonymous.

The Department attempts to provide reasonable accommodations for any known disability that may interfere with a person participating in any service, program, or activity of the Department. Alternate accessible formats of this document will be provided upon request. If reasonable accommodation is needed to participate in Department bid lettings, call the Civil Rights Bureau at 444-6331 or TTY 406-444-7696 [TTY 1-800-335-7592 (toll free)].

1. PROJECT DESCRIPTION [102]

Bridge replacement (Sportsman's Bridge) including grading, and plant mix bituminous surfacing on the Flathead River-3M NW Bigfork project. The project is located along Montana Highway 82 from RP 5.0 to RP 6.4 in Flathead County, approximately 3 miles northwest of Bigfork.

~~2. CONTRACT TIME - COMPLETION DATE [108] (REVISED 1-21-16)~~

~~This contract is a completion date contract. The work begins on the effective date stated in the Notice to Proceed (NTP) and all work is to be completed no later than August 31, 2027. Unusually severe weather is not considered as a delay cause. The NTP will be issued with an effective date of August 4, 2025.~~

~~All items except for final striping, condition seedbed, seeding and fertilizing need to be completed by August 31, 2027. An additional 15 working days will be added to the contract after August 31, 2027, for completing final striping, condition seedbed, seeding and fertilizing operations. 108.07.3 will apply for these days after August 31, 2027.~~

3. DEPARTMENT CONSTRUCTION TRAINING [108] (REVISED 4-24-25 M)

Do not work during the Department's statewide construction training which will be held March 2, 2026 through March 6, 2026. No time will be charged for Contracts with active construction during this period.

4. CONTRACT DOCUMENTS [102] (REVISED 6-5-25)

The following documents are now available within the Contractors Reference Material on the Department's Contracting and Bidding webpage https://www.mdt.mt.gov/business/contracting/ :

1) Table of Contractor's Submittals. (Revised 6-5-25)
2) Traffic Control Rate Schedule (Revised 3-9-23)
3) Erosion Control Rates (Revised 1-09-25)

5. VOLUNTARY PRE-BID NETWORKING CONFERENCE [102] (REVISED 8-8-24 M)

A pre-bid networking conference was held at the following time and location:
November 18, 2024, 2:00PM, 1140 2nd St W, Kalispell, MT.

The pre-bid networking conference included a formal sign-in process that is the official record of attendance.

Attendance at this conference was voluntary. Contractors, subcontractors, and suppliers were encouraged to attend, but attendance is NOT required for bidders.

The contract time on this project will be increased by 10 working days for a working day contract or 10 calendar days for a completion date contract via change order if the Prime Contractor attended the voluntary pre-bid networking conference.

Representatives of the Department will describe projects in the Missoula District and answer questions. The pre-bid networking conferences are for information only. The Department is not bound by any statement or representation concerning conditions or description of the work given by Department employees or agents at the pre-bid networking conference. The answers to any questions raised are non-binding oral explanations or instructions and relying on them is solely at the Bidder's risk. Any project specific issues raised at the pre-bid networking conference must be posted on the Q&A to be considered an enforceable provision of the contract to be let.

6. DBE-SBE BIDDING REQUIREMENTS [102] (ADDED 6-05-25)

A. Rescind Standard Specification 103.10 Subcontractor Report.

B. Rescind Standard Specification 102.07B and replace it with the following:

Ensure bids submitted using the EBS format contain a Proposal guarantee, an EBS generated Proposal, Schedule of Items, and DBE requirements when applicable.

Written changes to the Schedule of Items, or a bidder's non-submission of every page from the AASHTOWare Project BidsTM EBS file, (including all Schedule of Items pages, Bidders List page, and all DBE pages), automatically renders the bid non-responsive, and the bid will not be read or considered.

Acknowledge addenda using the amended EBS project file to generate the Proposal, Schedule of Items and DBE requirements. It is the bidder's responsibility to ensure that they acquire and apply addenda files when applicable.

C. Standard Specification 102.07C Determination of Bid Responsiveness, is modified to include the following:

1) Bidders List. The bidders list file must be attached and include the required information for the prime contractor and subcontractors that provided a quote for this project.

D. Standard Specification 102.08 Rejection of Bid Proposals, is modified to include the following:

1) Failure to provide a complete Bidders List.

7. LABOR REQUIREMENTS [102] (REVISED 9-19-24)

Pay the minimum wage rates contained elsewhere in the bid package. Comply with the required contract provisions contained in the form FHWA 1273 included with this contract. To obtain more information, contact the Department's Construction Engineering Services Bureau at 2701 Prospect, Helena, MT (406)475-2258, (800)335-7592 (TTY) or (406)444-7297 (Fax).

Executive Orders 13658 and 13706 do not apply to this contract.

8. TRAINING PROGRAM [102] (REVISED 7-15-21 M)

Provide on-the-job training for 3 trainees. For more information and requirements of the job training program, see Subsection 109.12.

9. NEW SUBCONTRACTORS [102] (ADDED 4-04-24)

The contract amount will be increased by a maximum of $10,000 via change order if the Prime Contractor uses a DBE or SBE certified firm that has not worked on a federal-aid MDT contract in the past three years. The incentive amount will be applied in accordance with the following table.

Subcontract Amount	Added Contract Amount
≤ $15,000	$1,000
$15,001-$50,000	$2,500
$50,001-$100,000	$5,000
≥ $100,000	$7,500

Note: The table is representative for one subcontract.

Payment will be made once the subcontract has been fully executed and will be paid under the bid item NEW DBE-SBE INCENTIVE.

10. SMALL BUSINESS ENTERPRISE (SBE)

The Contractor must achieve at least 4.4% SBE participation through subcontracts for this contract. An on-line SBE Directory is available at: https://app.mdt.mt.gov/ess-dbe/.

Use the AASHTOWare EBS to submit the SBE participation. SBE participation is entered on the "DBE/SBE List" Tab in AASHTOWare Project Bids. If the contract does not have a project-specific goal, zero percent (0.00%) will be displayed in the "Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE) Requirements" Tab in AASHTOWare Project Bids.

Download the most recent SBE bin file and complete the SBE commitments in the EBS file. SBE companies approved after the project advertisement will not be listed in the advertised AASHTOWare Project Bids DBE.bin file. Submit requests for the Department to post an updated dbe.bin file in the Q & A Forum 7 calendar days prior to the bid opening if required to include SBE's added after advertisement.

If the SBE goal cannot be met, the bidder must provide documentation that they made a good faith effort by 5:00 pm on the day of the bid opening to mdtdbeprogram@mt.gov. The Bidder must follow the DBE Good Faith Efforts Procedure outlined in the Department's DBE Program Plan. A separate process will not be established for SBE Good Faith Efforts.

If the bidder fails to show good faith effort to meet the goal as outlined in the DBE Program Plan, the bid may be deemed non-responsive at that time. Inclusion of SBE participation in the Subcontractor Report and not in the electronic bid submission does not meet the requirements of this provision.

Do not terminate, replace, or perform work of the SBE firm selected without prior written approval from the Project Manager.

11. SMALL BUSINESS ENTERPRISES REQUIREMENTS [102] (ADDED 5-16-24)

Rescind “DBE requirements” and replace with “DBE and SBE requirements” within the following subsections:

1) 102.02 Contents of Bid Package.
2) 102.07 Bidding Requirements.
3) 102.08J Rejection of Bid Proposal.

12. SOIL BORING INFORMATION [102] (REVISED 1-16-14)

The Department routinely conducts subsurface investigations and laboratory testing to collect soil, rock and groundwater information (“geotechnical information”) within the anticipated limits of upcoming projects and maintains a comprehensive set of this information in its geotechnical file. For this contract, geotechnical information has been collected by the Department and logs of boring summarizing this information have been included in the Special Provisions and Plans. “Logs of Borings” in the Special Provisions and Plans are based on an interpretation of the field investigation and laboratory testing data, and do not include all the geotechnical information that may be available. The geotechnical information contained in the “Logs of Borings” has been edited or abridged and may not reveal all the geotechnical information which might be useful or of interest to the bidder.

The comprehensive set of geotechnical information is considered too voluminous to include in the bidding package. The geotechnical information that the Department has is available for review or copying upon request. Rock core samples are regularly retained as well. All bidders are expected to fully review all of the geotechnical information prior to submitting their bid. The prime bidder is responsible for ensuring that a firm submitting a subcontractor quote for the prime's use is aware of all available geotechnical information.

Submission of a bid without fully reviewing the Department's comprehensive set of geotechnical information or accepting a quote from a subcontractor without verifying that the subcontractor reviewed all available geotechnical information is a business decision by the bidder. Failing to fully review all available geotechnical information waives the contractor from making any claim, whether termed "superior knowledge", "justifiable reliance", "differing site condition", or otherwise, against the Department for any information that may be included in the comprehensive geotechnical information file and not shown, or not fully shown, in the “Logs of Borings” contained in the contract documents.

Soil, rock, and groundwater conditions shown on the logs of boring apply only at the specific boring locations and at the time the borings were made. They are not warranted to be representative of subsurface conditions at other locations or times. Groundwater conditions commonly vary seasonally and from that encountered during drilling. Determination of a material's classification is based in part on judgment and opinion. The Department assumes no responsibility for any variation or misinterpretation of the classification of materials.

Utilize the Question and Answer forum to request additional geotechnical information or to submit questions regarding the geotechnical information. To review all available geotechnical information, submit a request in writing to the Department’s Geotechnical Section to schedule a time to review the available geotechnical information. Requests for access should be made a minimum of 10 business days prior to the bid opening.

13. BIDDER’S PROPOSED AGGREGATE SOURCE(S) [103] (REVISED 4-28-22)

No later than 7 calendar days after the date of bid-opening (the date of bid opening to count as the first full day), submit to ECCB form MDT-CON-106-02-3 in accordance with Subsection 103.11.

14. ESCROW OF BID DOCUMENTS [103] (REVISED 4-28-22)

Escrow of bid documents under 103.09 is required for this contract.

15. CONTRACTOR SURVEYING AND LAYOUT - DEPARTMENT STAKING [105] (REVISED 6-06-24)

Furnish Contractor Survey and Layout in accordance with Subsection 105.08.2 with the following exceptions:

- The Department will conduct all right-of-way and monumentation surveys.
- The Department will determine the slope stake catch point and provide copies of the slope staking notes to the Contractor. Replace any stakes that are obliterated by the Contractor or by construction activities.

Unclassified Excavation, Embankment in Place and Unclassified Borrow items will be measured for payment.

16. PARTNERING [105] (ADDED 1-11-24 M)

In accordance with Subsection 105.05.1, this contract requires Level (I) facilitation.

17. STEEL PRICE ADJUSTMENT [106] (REVISED 11-14-24)

In accordance with Subsection 106.09.1, the base price per pound of steel for this contract is: $1.05.

18. BUILD AMERICA, BUY AMERICA (BABA) [106] (REVISED 1-11-24)

Furnish construction materials manufactured in the United States. Construction materials include articles, materials, or supplies that are or consist primarily of:

- Non-ferrous metals.
- Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables).
- Glass (including optic glass).
- Fiber optic cable (including drop cable).
- Optical fiber.
- Lumber.
- Drywall, and
- Engineered wood.

Construction materials exclude cement and cementitious materials, aggregates including stone, sand, or gravel, or aggregate binding agents (e.g., asphalt binder) or additives (e.g., polymer modifiers and admixtures).

Manufacturing processes for the construction material must occur in the United States. Manufacturing processes for each of the bulleted construction materials above are defined in 2 CFR 184.6 and are summarized below.

a) Non-ferrous metals: Initial smelting or melting through final shaping, coating, and assembly.

b) Plastics: Initial combination of plastic, polymer based, or composite materials until item is in its final form.

c) Glass: Initial batching and melting, annealing, cooling, and cutting.

d) Fiber Optic Cable: Initial ribboning, buffering, and fiber stranding and jacketing.

e) Optical Fiber: Initial preform fabrication through completion of draw.

f) Lumber: Initial debarking, treatment, and planing.

g) Drywall: Initial blending of gypsum, cutting, and drying of sandwiched panels.

h) Engineered Wood: Initial combination of constituents until item is in its final form.

BABA preference applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to a project. It does not apply to tools, equipment, and supplies brought to the construction site and removed at or before the completion of the project (e.g., temporary aluminum scaffolding). Buy America preference does not apply to equipment and furnishings that are used at or within the finished infrastructure project but are not

permanently affixed to the structure (e.g., movable chairs, desks, or computer equipment used at or within the project but are not integral or permanently affixed to a structure).

2 CFR 184 applies to all construction materials on projects receiving federal financial assistance funds. Submit Form MDT-MAT-407 “Manufacturer’s Certificate of Compliance” for every material identified as a construction material in the Department’s Materials Manual Section MT 601 furnished to the project. For all other materials, documentation will be required upon request. Do not incorporate construction materials into the project until all required documentation is submitted to the Department. Ensure that suppliers and manufacturers understand the BABA and contract requirements to supply the required documentation.

The Department will not accept items installed until all supporting documentation has been reviewed and is found to be in accordance with the contract requirements. Insufficient or unavailable documentation or documentation showing products containing construction materials of foreign origin are grounds for removal and replacement at the contractor’s expense.

The Department has designated contract materials as “construction materials” by their respective 9-digit material codes in section MT 601 of the Montana Materials Manual. However, the Department recognizes there will be situations where a product or material may not fit the designation indicated in section MT 601. In these cases, submit documentation demonstrating or justifying the supplier or manufacturer’s position that their specific item has been misclassified to the Project Manager at least 10 business days in advance of installation. The Department, in conjunction with FHWA, will review the submitted documentation and decide as to how that specific product or material will be classified. These determinations will be final and will require the appropriate necessary documentation as defined above.

The US DOT has found that it is in the public interest to issue a waiver of BABA’s domestic preferences in certain situations. For Construction Materials, the domestic preference may be waived if the total value of non-compliant material is under $1,000,000 or 5% of the total applicable project costs, whichever is less. Submit actual individual material costs, minus manufacturing costs outside the defined manufacturing processes outlined above, along with justification in the form of invoices, bills of lading, or other appropriate documents to the Department if requesting the waiver.

The above waiver does not apply to iron and steel and the existing de minimis standard for iron and steel under 23 CFR 635.410(b)(4) continues to apply.

Projects with a total contract value of $500,000 or less are exempt from all domestic preference regulations including steel and iron.

19. CONSTRUCTION EQUIPMENT ON STRUCTURES [107] (REVISED 9-21-23)

A. Description: Requirements associated with the operation of equipment on structures.

B. Definition. The following definition applies to this special provision:

1) Equipment. Any vehicle or machine weighing more than 5000 pounds.

C. Construction Requirements. Do not use bridges as work platforms, work bridges, or to support or move equipment without the Project Manager's written approval.

1) For bridges having no posted load restrictions and no removal of deck concrete (not milled), provide a full engineering submittal for approval for all equipment utilizing outriggers on the structure and for any equipment not already approved under one of the following conditions:

a) Legal Loads. A vehicle that is a legal load as defined by Section 61-10 MCA.

b) Pre-Approved Equipment. The equipment is currently listed on MDT’s Approved Construction Equipment List (ACEL) and will be operated according to any conditions stated in the ACEL.

2) For bridges with a posted load restriction or if bridge deck concrete is partially milled or removed, submit a full engineering submittal for approval for any of the following cases:

a) Equipment weight exceeds 25 tons.

b) Vehicle weight and configuration does not satisfy the posted load restriction.

c) More than one piece of equipment will be simultaneously located on a span.

d) Concrete removal results in significant debonding of the top mat of deck reinforcing steel. The Project Manager, in conjunction with the Bridge Bureau, will determine if significant debonding is present.

e) Repairs to bridge beams or truss members are specified in the contract and repairs are not complete.

f) Equipment outriggers will be used.

3) Full engineering submittal requirements. Submit an engineering analysis and report performed by a Professional Engineer registered in Montana.

a) Engineering analysis. Clearly describe loading conditions and assumptions and provide calculations. Investigate an envelope within which the equipment may function without damaging the structure or endangering workers or the public. MDT proposes the following topics, at a minimum. Provide additional information when necessary.

(1) Load Cases.

(a) Minimum suggested live load vehicles are Type 3 and Type 3S2 trucks in live load combinations from AASHTO "Manual for Condition Evaluation of Bridges."

(b) Consider all loads on the bridge including axle loads, outriggers, equipment dynamic forces, and wind forces on the load, the boom, and the equipment. Consider deflection and secondary force effects. Include traffic live load if the structure will carry traffic during equipment operations.

(c) Investigate different loading combinations for all configurations. Include the distribution of dead load and changing center-of-gravity of the equipment with and without load at different boom extensions, rotations, and elevations.

(2) Structural Effects. Identify critical members. Determine any conditions under which the equipment cannot safely operate.

(a) Written Report. Provide a report containing a narrative summarizing the results of the analysis. Describe special measures necessary to protect the structure through all phases of the equipment's positioning and use. Include drawings as necessary and indicate any minimum equipment clearances to relevant portions of the structure and to traffic flow. Estimate the work's duration.

D. Method of Measurement. Work associated with this provision is not measured for payment.

E. Basis of Payment. Include all costs associated with the requirements of this provision in the lump sum bid for Structure Analysis. Exception: If a full engineering analysis is required as a result of top mat debonding alone (none of the other criteria listed under C.2 are met) then it will be considered extra work and considered for time extension under 108.07.5.

20. STATUS OF UTILITIES [108] (ADDED 1-1-03)

Utility relocation work is not complete and will not be complete as of the letting date and contract award date. Project work must be coordinated with the utility company relocation activities until the utility relocation work is complete. Under no circumstances will a delay in relocating utility facilities be considered as justification for additional compensation.

Should unforeseen conditions arise which substantially delay the utility relocation work, and the delay results directly in a delay to the project work, make a written request to the department for a time extension, see Subsection 108.07.4.

21. SUBCONTRACTING CONSULTANTS [108] (REVISED 2-27-14 M)

The following consultants performed work on the project.

- Big Sky Public Relations
- Morrison-Maierle

- SK Geotechnical
- Tetra Tech

22. NOTICE TO BIDDERS [108] (ADDED 11-21-08)

This project is funded in whole or in part by funds received from the Federal Highway Administration (FHWA), and its construction is wholly contingent on the state's continued receipt of those federal funds. If the federal funds are reduced or not received, the Department may choose to terminate the contract for convenience under the provisions of Subsection 108.10. Any bidder on this project, by submitting its bid, understands and accepts the possibility of the contract being terminated in the event federal funds are reduced or not available and by submitting a bid, each bidder waives any claims for costs or damages other than as specifically allowed by Subsection 108.10.2. In particular, bidders understand and accept that no payment will be allowed for any claimed anticipated profit for work not performed.

23. MOISTURE SENSITIVE SOILS [203] (REVISED 9-11-14)

A. Description. Subsurface investigation for this project indicates that subgrade and/or foundation soils located within the project limits are sensitive to changes in moisture content, and may cause construction difficulties. Use construction methods and equipment appropriate for moisture-sensitive soils.

B. Construction. Unless otherwise specified in the contract or by the Project Manager, limit the length of subgrade exposed to precipitation events to an amount that can be adequately sealed by the contractor within 30 minutes of the start of a precipitation event.

Many possibilities are available to facilitate construction and to achieve proper compaction of the subgrade or foundation soils in the project limits. The Department does not direct the use of any of them. However, in preparing bids, identify measures to address the identified conditions. Some possibilities to consider are:

1) Sealing the surface of all exposed subgrade/foundation by rolling with a smooth drum roller whenever work at a particular location is interrupted for 6 or more hours and at the end of each work day;

2) Grading and sloping the surface of all exposed subgrade/foundation to facilitate unimpeded surface drainage away from the work area; and/or,

3) Allowing soils to adequately dry (including after precipitation events) before attempting any type of construction work on the subgrade/foundation soils.

C. Method of Measurement and Basis of Payment. Include all costs for the method(s) chosen to effectively address construction on moisture sensitive soils in the bid item for unclassified excavation/borrow. No additional compensation will be allowed or given for claimed increased costs to address that portion of the work addressed by this provision.

24. ENVIRONMENTAL SPECIFICATIONS [208] (ADDED 9-9-21M)

The Contractor is required to review and meet the specifications of the following subsections:

Water Pollution Control	Subsection 208.03.1
Aquatic Resource Protection	Subsection 208.03.2
AIS Watercraft and Equipment Inspection	Subsection 208.03.2D
Migratory Bird Treaty Act Compliance – Vegetation Removal	Subsection 208.03.4A(1)
Migratory Bird Treaty Act Compliance – Structures	Subsection 208.03.4A(2)
Work in Bear Habitat	Subsection 208.03.4E

25. MONTANA FLOODPLAIN AND FLOODWAY MANAGEMENT ACT [208] (REVISED 9-9-21 M)

This contract is located within the regulated floodplain of the Flathead River, Flathead County Unincorporated Areas, Community Panel Number 30029C2305J. The Department has obtained a conditional preconstruction floodplain permit from the Flathead County Planning & Zoning, 40 11th Street West, Suite 220, Kalispell, MT, (406) 751-8200 for the permanent features associated with this contract. A copy of this conditional floodplain permit is available upon request from the Project Manager.

Review Subsection 208.03.3(J) for more information.

26. STORM WATER PERMITTING REQUIREMENTS UNDER THE MT POLLUTANT DISCHARGE ELIMINATION SYSTEM (MPDES) [208] (REVISED 8-10-23)

A. Description. The DEQ regulates storm water discharges under the MPDES program. If the bid package contains blank erosion control plans, a construction storm water discharge permit authorization will be required. If not, a storm water discharge permit authorization may be required for this project depending on Contractor's operations. Sum the disturbance area (as defined by DEQ) identified in the contract with the area of disturbance caused by contractor operations to determine if the permit acreage threshold is exceeded. Contractor operations can include, but are not limited to, the following support activities: staging areas, access roads, material storage areas, temporary concrete, or asphalt batch plants, borrow areas, areas used for fill placement, etc. If the summed disturbance area is one acre or more, use the DEQ authorization to discharge under the MPDES General Permit for Storm Water Discharges Associated with Construction Activity (General Permit) for this project. In order to facilitate permit transfer, separate NOI packages are required for areas within the right-of-way and areas outside of the right-of-way. A NOI package includes a Notice of Intent, with a topographic map, a SWPPP, the erosion control plans, sage grouse consultation letter, if applicable, and supporting documentation.

Blank Erosion Control Plans, and a topographic map, are provided with the plans if the plans include greater than 1 acre of disturbance. Complete the erosion control plans as required by the general permit. Complete the SWPPP using DEQ's most current SWPPP Form.

B. Materials. Follow the requirements described in the Department's *Erosion and Sediment Control Best Management Practices Manual (December 2016).* Rescind Section 208 detailed drawings. Submit to the Project Manager for review and acceptance BMPs proposed for use that are not included in the Manual.

C. Construction Requirements.

1) MPDES Permit Required.

a) Submit one NOI package and the associated fees to DEQ for ground disturbance areas shown in the plans or within the right-of-way. For ground disturbance areas shown in the plans and any other areas within the right-of-way where Contractor activities causing ground disturbance are planned, the Contractor is the sole permittee until construction is complete and the General Permit is transferred to the Department or another entity.

The Department is not responsible for delays caused by incomplete or inaccurate submittals by the Contractor.

Comply with the requirements of the General Permit and implement the SWPPP. Provide an electronic copy of the NOI Package submitted to DEQ and confirmation for receipt of a complete NOI Package from DEQ to the Project Manager prior to conducting any ground disturbance activities.

Do not begin construction activities until the required copy of the NOI Package submitted to DEQ and confirmation for receipt of a complete NOI Package from DEQ is received by the Project Manager.

b) Furnish and install public signage as required by the General Permit. Include the cost of the required sign(s) in the Temporary Erosion Control Lump Sum bid item. Submit a

separate NOI package and the associated fees to DEQ for ground disturbance and support activity areas outside the right-of-way and not shown in the plans. Contractor furnished material sources, staging areas, plant sites, or any other Contractor caused ground disturbance outside the right-of-way and not shown in the plans, are the Contractor's responsibility and must be submitted under a separate NOI package from the ground disturbance within the right-of-way. For all support activities outside the right-of-way which are not part of a larger commercial operation serving multiple unrelated construction activities and will not continue operation beyond the completion of the contracted road construction activity, a notice of intent package must be submitted to DEQ to obtain an authorization under the General Permit. Sand and gravel borrow area operations, gravel pits, and/or concrete batch plants that will continue operation beyond the completion of the contracted road project, are part of a larger commercial operation, or serving multiple unrelated construction activities, must obtain permit coverage under the Multi-Sector General Permit for Storm Water Discharges Associated with Industrial Activity (MSGP) regardless of acreage size of the activity if the activity does not already have MSGP authorization. The Contractor is the sole permittee until stabilization is complete and the General Permit is terminated or transferred to another entity. The Department is not responsible for delays caused by incomplete or inaccurate submittals to DEQ by the Contractor.

Provide copies of all NOI Packages submitted to DEQ and confirmations for receipt of complete NOI Packages from DEQ to the Project Manager prior to conducting any ground disturbance activities.

Be responsible for all temporary erosion, sediment, and pollution prevention controls for Contractor furnished material sources, staging areas, plant sites, or any other Contractor caused ground disturbance outside the right-of-way and not shown in the plans.

c) Complete and document all inspections in accordance with the requirements of the General Permit. Use DEQ's most current self-inspection form available online at: https://deq.mt.gov/files/Water/WQInfo/Documents/WPBForms/2023-Attachment-B-MTR100000.pdf. Provide a copy of all inspection reports to the Project Manager within 7 calendar days of the inspection.

Report potential noncompliance in accordance with applicable regulations, guidance, and permit conditions. Submit to the Project Manager within 7 calendar days of sending or receiving all correspondence to or from regulatory agencies regarding potential noncompliance or violations.

The temporary erosion and sediment control measures and devices to prevent pollution and control sediment transport and soil erosion will be inspected as part of the final inspection to ensure they are maintained and functioning properly. Do not transfer or terminate the General Permit coverage until the BMPs are inspected and accepted and all records required under the permit, including inspection and monitoring reports, are furnished to the Project Manager and authorization is received from the Department. The Department may require that certain BMPs be replaced by another type of BMP as a condition of permit transfer.

Upon approval of site conditions, measures, devices and all pertinent records, the Department will notify the Contractor to begin the Permit Transfer Notification in DEQ FACTS. Once completed, provide verification that all fees have been paid and the permit is ready for transfer in DEQ FACTS. The Department is not liable for the completeness or accuracy of Contractor records completed prior to the permit transfer. Ensure permit conditions and responsibilities are met until confirmation of the transfer is received from DEQ. Defend and hold the Department harmless from any violations, claims, enforcement actions, penalties or fines issued for Contractor activities or recordkeeping that occurred prior to the transfer of the General Permit.

If the Department concurs that final stabilization has been met during the final walk-through, the Contractor may submit a Notice of Termination form to DEQ. Pay the annual fee invoice due at the time of termination. Submit the annual fee invoice to the Project Manager for reimbursement.

2) MPDES Permit not Required.

The BMP-Administration item is included in contracts that may not meet either criteria for an MPDES permit but include ground disturbing activities. Complete BMP inspections and install BMPs, if necessary, in accordance with Section 208, if no storm water permit is required. Utilize form MDT-ENV-014, Water Pollution Control Inspection Report. A certified SWPPP Administrator is not required to conduct the inspections if no permit is required.

D. Method of Measurement. DEQ MPDES fees and monitoring costs associated with obtaining and maintaining the General Permit for ground disturbance areas both within and outside the right-of-way are not measured separately for payment.

If no permit is necessary, include the cost of all erosion control, devices, and inspections in the BMP-Administration bid item.

E. Basis of Payment. No additional payment will be made for the DEQ MPDES fees and monitoring costs associated with the General Permit. Include these costs in the Temporary Erosion Control-Lump Sum bid item.

For project including the BMP-Administration item, include the cost of all erosion control, devices, and inspections in the BMP-Administration bid item. Partial payment for the BMP-Administration will be monthly based on the lump sum contract price in accordance with Table 208-2 in Subsection 208.05.1.

Payment for BMPs required by an event or extra work, and approved by the Project Manager, will be measured and paid for in accordance with the Erosion Control Rate Schedule contained in the contract at a unit price of $1.00 per unit.

27. INCREASE IN TURBIDITY [208] (REVISED 10-8-15)

A. Description. Montana Fish, Wildlife and Parks (FWP) has determined that this project may cause a significant increase in turbidity.

B. Requirement. Contact the Department of Environmental Quality (DEQ) to determine narrative conditions required to meet short-term (318 Authorization) water quality standards and protect aquatic biota.

1) Complete and submit the Joint Application for Proposed Work in Montana's Streams, Wetlands, Floodplains, and Other Water Bodies (Application Revised 6-5-2015) and all required attachments, according to the applications instructions. Form can be down loaded from: http://dnrc.mt.gov/licenses-and-permits/stream-permitting.

2) Application fees are the responsibility of the Contractor.

3) Do not begin any work that will affect a Montana stream, wetland, floodplain, and/or other water body until a valid 318 Authorization is received from DEQ. Other permits/authorizations may also be required for the proposed work.

C. Basis of payment. Include the cost to obtain this permit in the mobilization bid item.

28. CLEAN WATER ACT SECTION 404 PERMIT AND SECTION 401 CERTIFICATION

A. Description. This provision describes the project work that has been authorized under Sections 404 and 401 of the Clean Water Act (CWA) and the associated conditions that must be adhered to for compliance with CWA requirements.

B. Section 404 CWA Nationwide Permit 23 Description. The permanent features of this project are authorized under a US Army Corps of Engineers Nationwide Permit 23 – Approved Categorical Exclusions, (Army Corps File Number NWO-2011-00403-MT).

1) The permit for this project authorizes the following project work to be performed within waters of the US.

a) The project consists of replacing the existing Highway 82 Bridge across the Flathead River at the north end of Flathead Lake. The project alignment will be shifted 57-feet to the south of the existing bridge to maintain traffic flow during construction. The proposed bridge will contain two 12-foot travel lanes and two 10-foot shoulders. The bridge will be replaced with a 706-foot-long bridge with four spans and three intermediate piers. The existing bridge piers

will be removed to ten feet below the low water elevation of the Flathead River, roughly 22 feet above the thalweg, to an elevation of 2,875.0 msl. The three new large-diameter pile piers will be installed by driving the piles into the riverbed. The project will permanently impact 0.753 acre of wetland; 0.24 acre below the Ordinary Highwater Mark of the Flathead River; 0.143 acre of the manmade lagoon; and 0.199 acre of a French drain.

2) This authorization is valid until March 14, 2026

3) Obtain the Nationwide Permit 23 Fact Sheet that fully describes the Nationwide Permit 23 and lists the General Conditions that must be adhered to for this authorization to remain valid. Adhere to the General Conditions.

C. Section 404 CWA Nationwide Permit 33 Description. Obtain authorization for the temporary features of this project (e.g. work bridges, work pads, cofferdams, diversions, etc.) under US Army Corps of Engineers Nationwide Permit 33 – Temporary Construction, Access, and Dewatering.

1) Acquire an additional Section 404 Permit and 401 Certification authorization for temporary discharges that are:

a) Located within 100 feet of the water source in natural spring areas;

b) Within the boundaries of any Tribal Reservation or Tribal trust lands;

c) Within the following waterways and their impoundments: Kootenai River, Missouri River, Yellowstone River, Bitterroot River, Clark Fork River (tributary to the Columbia River), Flathead River, Flathead Lake, and Milk River; or,

d) Within Special River Management Zone of the Upper Yellowstone River.

Prepare and submit a joint application in accordance with Section 208.03.3. MDT is not responsible for delays caused by incomplete or inaccurate submittals by the Contractor.

2) For all other temporary discharges, submit a written description to the Project Manager detailing the temporary facilities planned for the project, along with the associated restoration plan. Allow 5 working days for the Project Manager to review the plan and confirm CWA 404 pre-construction notification is not required. For temporary discharges authorized under Nationwide Permit 33 without pre-construction notification, the authorization is valid until March 14, 2026.

3) Obtain the Nationwide Permit 33 Fact Sheet that fully describes the Nationwide Permit 33 and lists the General Conditions that must be adhered to for this authorization to remain valid. Adhere to the General Conditions.

D. CWA Section 404 Regional Conditions. Obtain the 2021 Nationwide Permits Regional Conditions, Omaha District, State of Montana, Effective February 25, 2022, that also apply to this project and must be adhered to for these authorizations to remain valid. Adhere to the Regional Conditions, including but not limited to the following:

1) Temporary fills in wetlands must be placed on a horizontal marker layer, such as fabric or certified weed-free straw, to delineate the pre-project ground elevation and facilitate complete fill removal and site restoration.

E. All erosion control blanket or fabric used in or adjacent to waters of the United States must be comprised of degradable material to ensure decomposition. Do not use material that includes stabilized netting or stabilized open mesh, as these products take a long time to degrade, and they can trap small animals, birds, amphibians and fish. This prohibition also applies to mesh materials used for wattles, rolled materials, and bank wraps. Erosion control blanket or fabrics that break down within 24 months are acceptable. Non- degradable blankets or fabric may be allowed on a case-specific basis if it will be buried beneath riprap or structures and it is not likely to be exposed. Non-degradable blanket or fabric that becomes exposed within waters of the United States must be removed. CWA Section 401 Water Quality Certification is granted for Nationwide Permit 23 by the Montana Department of Environmental Quality (DEQ), provided that certain general and special conditions are met.

1) Obtain the water quality certification requirements issued by DEQ on December 14, 2020. Adhere to those general and special conditions.

2) Notification in accordance with General Condition E.1 has been fulfilled by MDT.

F. Copies of the 2021 Nationwide Permit Fact Sheets for Nationwide Permits 23 and 33, the 2021 Nationwide Permit Regional Conditions for the State of Montana, and DEQ's 401 Water Quality Certification Requirements for the 2021 Nationwide Permits are available upon request from Environmental Services or on the web at http://www.mdt.mt.gov/business/contracting/environmental/cwa.shtml .

Coordinate with the engineering project manager if you have questions regarding this authorization. Proposed changes to the permanent structures should be directed to the project manager for coordination with the District Project Development Engineer in the Environmental Services Bureau. Temporary facility permitting and/or general permit questions should be directed to the project manager for coordination with the District Environmental Engineering Specialist.

29. STREAM PROTECTION ACT 124 [208]

A. Description. The proposed project has been authorized by Preconstruction Stream Protection Act (SPA) 124 Permit No.: MDT-R1-61-22-Extension by the Montana Department of Fish, Wildlife, and Parks (FWP); provided the General and Special Conditions listed below are followed. This Preconstruction SPA 124 authorizes the permanent features at the following locations:

1) Flathead River – Station 306+95

B. General Conditions

1) Adhere to the general provisions listed in Subsection 208.03.3 of the current MDT Standard Specifications for Road and Bridge Construction.

2) Comply with all additional agreed upon conditions established by stakeholders as well as the Special Conditions indicated below.

C. Special Conditions

1) Ensure any on-site displaced riprap is recycled and incorporated into the proposed design.

2) Minimize the volume of riprap installed to the extent necessary to complete the project.

3) Ensure all disturbed areas are top soiled and reseeded according to MDT's regional seed mix.

4) Ensure FWP is updated as project designs and volumes change.

5) Notify the Project Manager a minimum of 10 working days prior to starting work authorized under this permit. The Project Manager will notify the District Biologist a minimum of 5 working days prior to starting this work.

6) Obtain a Short-Term Water Quality Standard for Turbidity (318 Authorization) from DEQ in accordance with Subsection 208.03.3D.

D. Contact the Project Manager for coordination with the District Biologist on questions regarding this authorization. Copies of the Preconstruction SPA 124 Authorization are available upon request from Environmental Services.

30. PROTECTION OF AQUATIC RESOURCES AND THREATENED AND ENDANGERED SPECIES [208]

A. Description. The following approximate location(s) have been identified as apparent aquatic resources in the project limits:

1) Flathead River is a documented bull trout occupied waterbody and is designated bull trout critical habitat within the project limits.

B. Construction. Conduct work in a manner that avoids impacts to aquatic resources. Prevent all non-permitted material from entering aquatic resources through the implementation of BMP's for aquatic resource protection. Meet all applicable requirements

contained within the current MDT Standard Specifications subsections 208.03.1 Water Pollution Control and 208.03.2 Aquatic Resource Protection.

1) Submit an aquatic resource protection plan to the Project Manager detailing the BMPs or alternate methods proposed for each location a minimum of 10 business days prior to start of work. Modification(s) to the Contractor's aquatic resource protection plan or BMPs requires approval from the Project Manager.

2) Stop work and immediately notify the MDT Project Manager if any material enters any aquatic resource. The Project Manager will direct the resumption of work only after the non-compliance is resolved.

3) Remove and dispose of any physical BMPs upon completion of the project work.

31. CONSERVATION AND COORDINATION MEASURES FOR BULL TROUT [208]

A. Description. Bull trout and bull trout critical habitat, protected under the Endangered Species Act, are documented as residents of the Flathead River in the vicinity of this project and the river is designated critical habitat. Contact the Project Manager for coordination with the District Biologist if you have any questions regarding this authorization.

B. Construction Requirements.

1) To minimize the risk of barotrauma and fish mortality from driving piles for construction of the new bridge and any temporary work bridges, both on dry land and in water, according to the Biological Opinion rendered by the U.S. Fish and Wildlife Service:

a) Limit the periods of impact pile driving to no more than 12 hours per day, except in rare circumstances when safety issues require the work to be completed that day. The project manager must be notified and approve pile driving that exceeds 12 hours per day. The project manager will notify the Department's District Biologist, who will then notify the Service.

b) Conduct hydroacoustic monitoring. Through hydroacoustic monitoring, it is possible that the physical harm thresholds of the peak sound pressure level (SPL) of 206 decibels (dB; re: 1 micropascal [µPa]) or the cumulative sound exposure level (SEL) of 187 decibel (re: 1 µPa) may be attained or exceeded during the calibration exercise. The calibration period will be limited in duration with the purpose of obtaining a representative sample of piles (e.g., size and materials) and locations to ensure that the appropriate sound information is collected for use in the National Marine Fisheries Service Calculator Tool. In combination with hydroacoustic monitoring, use one of the following measures:

(1) Use a vibratory hammer to drive piles to a point where an impact hammer will be required to drive the pile to the point of completion, OR

(2) For production piledriving, use a "soft start" or "ramp up" pile driving method (e.g., driving does not begin at 100% energy) to encourage fish to vacate the surrounding area. Use the information collected during the hydroacoustic monitoring calibration and the National Marine Fisheries Service Calculator Tool to determine how many pile strikes can occur during a day, based on pile type and size, before reaching the cumulative SEL threshold of 187 dB. Once the number of strikes has been attained, impact pile driving must be stopped for the day. If pile driving with an impact hammer over consecutive days, do not drive piling between the hours of 9:00 PM and 6:00 AM, OR

(3) Use Department-approved noise reduction methods, such as those offered in Leslie and Schwertner (2013; e.g., bubble curtains).

2) The Department and Administration will coordinate with the Service so that a representative of the Service may be present during the calibration exercise(s).

3) To the maximum extent practicable, disassemble and remove the existing bridge without pieces being allowed to fall into the river. If debris or portions of the existing bridge enter the river during demolition, remove them from the river without dragging the material along the streambed.

4) Any blasting required during demolition will be contained to the maximum extent practicable using some type of containment shielding device to attenuate the blast's pressure

wave within the water and to prevent debris from entering the river. Meet all applicable requirements contained within the current MDT Standard Specifications Section 204 – Blasting.

5) Instream work conducted within the channel should be kept to the minimum amount necessary, preferably during periods of low flow. This includes, but is not limited to, construction and removal of pilings for any temporary support structures that may be necessary. Instream construction work shall be completed in the shortest amount of time possible.

6) Visually monitor all dewatering activities to ensure bull trout are not trapped. In the unlikely event a live bull trout is found within a dewatering area, immediately return it to the river.

7) Upon locating dead or injured bull trout, notify the MDT Project Manager and contact the USFWS Field Office at (406) 449-5225 within 24 hours. Record information relative to the date, time, and location of dead or injured bull trout when/if found. Include any activities that were occurring at the location and time of injury and/or death of each fish and provide this information to the USFWS.

8) Conduct project-related activities outside of construction limits in a manner which will not adversely affect species and/or designated critical habitat listed under the Endangered Species Act.

9) Additional standard BMPs will be implemented with the project to include the following:

a) Minimizing the site disturbance to only the area absolutely necessary to complete the project.

(1) Clearing and grubbing should not be allowed within the ROW beyond the construction limits or required clear zone. Any temporary clearing outside the construction limits (e.g., for culvert installation, etc.) but within the ROW should be kept to the smallest area possible and reclaimed immediately following construction.

b) Minimize impact on riparian vegetation fringing the project area and the Flathead River to the greatest extent practicable.

c) All excavated material that cannot be reused as backfill will be contained and hauled off site.

d) Stabilize exposed soils with a desirable native vegetation community as soon as feasible.

C. Measurement and Payment. The environmental mitigation and coordination measures for bull trout is considered incidental to the work and is not measured or paid separately.

32. BRIDGE LEAD-BASED PAINT

A. Description. Description. Lead and other heavy metal-based paint removed from highway bridge structures is considered a hazardous waste. United States Department of Housing and Urban Development (HUD) defines lead-based paint (LBP) as a surface coating containing lead in a concentration equal to or greater than (≥) 1.0 milligram per square centimeter (mg/cm^2) or 0.5% by weight. The paint structure was tested utilizing field X-Ray Fluorescent (XRF) methodology that determined that lead is present at concentrations of 1.2 millgrams mg/cm^2. Lead can cause serious health effects on workers and the environment if precautionary measures are not conducted.

B. Construction Requirement.

1) Do not remove any paint covering the existing steel if not necessary for demolition. Salvage steel coated with lead-based paint with the paint left on. Do not allow paint to escape into the environment. Immediately halt work if lead-based paint waste is observed to be entering the environment and re-evaluate work procedures to prevent any release of lead-based paint to the environment.

2) If lead paint is disturbed as necessary for demolition, containerize and dispose of any lead-based paint waste in accordance with applicable regulations, which may include RCRA regulations (40 CFR Parts 266-299). Comply with all storage and transportation requirements.

3) Salvage or recycle the existing steel structure in accordance with applicable state and federal regulations. Recycling is the preferable method of dealing with metal components collated with lead paint.

4) Adhere to all requirements of Standard Specification 612.03 when impacting lead-based paint on the structure.

C. Contractor Responsibilities

1) Be familiar with and perform all work in accordance with all applicable standards provided in the Code of Federal Regulations, Title 29 Part 26, including the OSHA Hazard Communication Standard (29 CFR 1926.59), the OSHA Lead Standard (29 CFR 1926.62), and the OSHA Respiratory Standard (29 CFR 1926.134); the Resource Conservation and Recovery Act (40 CFR Parts 266-299) and Administrative Rules of Montana Title 17 Chapter 53. To obtain copies of the Federal regulations, contact the U.S. Governments Printing Office at (202) 783-3238. Questions concerning state regulations or to obtain copies of state regulations, contact the Montana Department of Environmental Quality, Hazardous Waste Program at 406-444-5300.

2) Be entirely responsible for all health and safety requirements for workers when cutting and handling any bridge material coated with lead-based paint.

D. Basis of Payment. Include the costs associated with the requirements of this special provision in the cost of other items.

33. BRIDGE DEMOLITION NOTIFICATION

A. Description. Prior to demolition or rehabilitation of structures in Montana, including highway bridges, a notification form is required to be submitted to the Montana DEQ Asbestos Control Program. The Montana Demolition Notification form MTACP02 is available through the program internet site at http://deq.mt.gov/Public/asbestos/Forms.

An inspection of the bridge has been conducted in the planning stage of the project, including a review of as-built drawings and inspection photos for the bridge structures, and sampling of suspect materials. No asbestos containing materials have been identified. A copy of the asbestos inspection is available from the Department.

Review the inspection, verify that the condition of materials on the bridge have not changed since the inspection and that the sample quantities and analytical methods conform to ARM 17.74.354, and certify the inspection with a licensed inspector prior to submitting the Demolition Notification Form.

B. Contractor Responsibilities. Submit the completed form to the DEQ and the Project Manager at least 10 calendar days prior to commencement of any bridge activities. Provide a copy of the notification acknowledgement to the Project Manager upon receipt from the DEQ.

C. Basis of Payment. Include all costs for submitting the notification in the price bid for Remove Structure.

34. PROTECTION OF FLATHEAD RIVER UNDER STRUCTURES (REVISED 5-28-04)

A. Description. Provide complete protection at all times to the Flathead River and traveling public crossing under any structure. Employ positive means such as netting, tarpaulins, wood, or metal covering to prevent tools, materials, etc., from falling into the river. Positive protection may include traffic control methods, or other approved means to ensure complete protection.

B. Submittals. Submit the proposed method and any modifications of the proposed method of protection for approval to the Project Manager a minimum of 2 days prior to the start of this work. Do not begin work until the protection plan is approved and installed to the

satisfaction of the Project Manager. Failure to maintain such safeguards in an effective manner may result in an immediate shutdown of work until corrected.

C. Basis of Payment. Include all costs associated with this provision in the costs of other items.

35. SEQUENCE OF OPERATIONS

A. In addition to the requirements of Subsection 104.05, Maintenance of Work, Subsection 203.03.7, Limitation on Grading Operations, and Subsection 108.04, Limitation of Operations, schedule operations as described herein.

B. Maintain one lane of traffic for each direction of travel at all times, unless an approved temporary lane closure or other traffic management plan has been approved by the Project Manager.

C. Maintain traffic on the PTW until traffic can safely be transferred to the new alignment and to the new Flathead River bridge.

D. Grading operations and new bridge construction will not be restricted as long as no disruption to the PTW or any impact on the traveling public occurs.

E. Provide recreational access to the operational Sportsmans Fishing Access Site at all times.

F. Measurement and Payment. The sequence of operations is considered incidental to the project and is not measured or paid separately.

36. OPTIONAL TEMPORARY LANE CLOSURES

A. Description. Temporary lane closures may be allowed at night for construction activities. These lane closures will be limited in duration to four (4) hours maximum. No temporary lane closures will be permitted on Sundays.

B. Submittals. The Contractor will submit a traffic control plan for utilizing nighttime lane closures 72-hours in advance of the proposed lane closure(s).

C. Construction Requirements. The Contractor will notify the Project Manager 72-hours in advance of any temporary lane closures. No temporary lane closures will be allowed without Project Manager approval.

D. Method of Measurement and Basis of Payment. No separate measurement will be made for temporary lane closure coordination. Include in the cost of other items.

37. ROAD CLOSURES FOR BLASTING (2-1-22)

A. Description. This work consists of road closure times related to blasting operations only.

B. Construction. The following maximum road closure times are allowed on this project for specific work. Include the proposed road closure times and number in the traffic control plan.

1) Blasting operations. Up to 30 minutes of road closure is allowed for blasting operations including clean-up activities as defined in Section 204. Coordinate road closures with the Project Manager, other requirements of the contract, and local authorities.

2) Scaling operations. A Maximum of 30 minutes of road closure is allowed for performing scaling operations. The 30 minutes includes cleaning up the scaled debris prior to allowing traffic to flow.

3) Do not close the road from 7:30 a.m. to 8:30 a.m., and 4:00 p.m. to 6:00 p.m.

4) Do not close the road starting at 12:00 p.m. (noon) on Friday until 8:30 a.m. the following Monday.

5) All road closure durations and times are at the discretion of the Project Manager. The Project Manager has the authority to adjust these times to better fit field conditions.

C. Method of Measurement and Basis of Payment. No separate measurement will be made for road closure coordination. Include in the cost of other items.

38. DECOMMISSION EXISTING FISHING ACCESS SITE

A. Description. This work is the furnishing of labor, equipment, materials, and other services to decommission the existing Sportsmans Bridge Fishing Access Site (FAS) on the east bank of the Flathead River.

B. Construction Requirements.

1) Coordinate activities required to decommission the existing FAS with Jamie Mongoven, Montana Department of Fish, Wildlife & Parks (FWP), JMongoven@mt.gov, (406) 841-4011, and the Project Manager.

2) Salvage approximately 70 boulders of varying sizes that define the existing parking FAS areas to Montana FWP at the newly constructed FAS on the west bank of the Flathead River. Place the boulders as directed by the FWP contact and the Project Manager.

3) Obliterate all existing drive aisles and parking areas outside of the Highway 82 footprint by grading and contouring abandoned areas to blend with the existing terrain.

4) Revegetate all disturbed areas within the existing FAS in accordance with Section 610.

5) Protect the traveling public at all times.

6) Dispose of all waste materials in accordance with approved methods and applicable rules, laws and regulations for disposal of solid waste.

C. Method of Measurement. Measurement of decommissioning the FAS is made as one lump sum.

D. Basis of Payment. Include in the contract unit price per lump sum bid for Miscellaneous Items - Removal all costs for salvaging the existing boulders to FWP, obliterating and revegetating drive aisles and parking areas, including furnishing all tools, material, labor, and equipment necessary to complete the work in accordance with this provision

39. EMBANKMENT FOUNDATION TREATMENT STA. 310+90 TO 319+00

A. Description. This work consists of constructing an embankment foundation treatment consisting of Geotextile, Geogrid and Special Borrow in conformity to the lines and grades shown on the plans or as directed by the Project Manager.

B. Materials.

1) Provide Stabilization Geotextile meeting the requirements of Section 716.

2) Provide Geogrid meeting the requirements within these Special Provisions.

3) Provide Special Borrow meeting the requirements within these Special Provisions.

C. Construction Requirements.

1) In the area of embankment placement, cut all vegetation greater than 1-inch in diameter flush with the ground. Remove all brush and trees. Leave grass and cattails and lay flat. Otherwise, do not disturb existing vegetation/vegetative root mat.

2) Place geotextile and geogrid over the embankment subgrade area, as shown on the plans, and terminate the geotextile and geogrid at the embankment toe, in conformance with Subsection 622.03. Overlap the adjoining edges of the geotextile and geogrid a minimum of 3 feet with the edge of the upgrade sheet over the edge of the downgrade sheet.

3) Place the first 24 inches, or depth shown on the plans, of Special Borrow over the geotextile without any specific compaction effort and with the least amount of equipment traffic possible.

4) Place the next lift of Special Borrow in an 8-inch loose thickness and compact to a minimum 90% of the maximum dry density, as determined by MT 210.

5) Place subsequent lifts of Special Borrow material in accordance with Subsection 203.03.3.

D. Method of Measurement.

1) Special Borrow – Neat Line is measured in accordance with Section 203.

2) Geotextile is measured in accordance with Section 622.

3) Geogrid is measured in accordance with these special provisions.

E. Basis of Payment. Payment is full compensation for all labor, tools, equipment and other incidentals necessary to complete the work in accordance with the specifications and as directed by the Project Manager.

1) Special Borrow is paid for in accordance with Section 203.

2) Geotextile is paid for in accordance with Section 622.

3) Geogrid is paid in accordance with these special provisions.

40. GEOTECHNICAL INSTRUMENTATION AND MONITORING (REVISED 2-2-22 M)

A. Description. Geotechnical instrumentation and monitoring will be completed by others, under the direction of the Project Manager, in coordination with the Geotechnical Representative, and with the cooperation and assistance of the Contractor.

B. Instrumentation. The instrumentation for this project is shown in Table 1:

Table 1. Geotechnical Instrumentation

Station	Type	Offset	Surface Elevation of Install	Bottom Elevation of Install	Approximate Cable Run Trench Length (feet)	Horizontal Inclinometer Pipe Trench Length (feet)
303+15	Settlement Point	CL	2901.1	2830	130	--
	Vibrating Wire Piezometer	CL	2901.1	2865	130	--
	Vibrating Wire Piezometer	CL	2901.1	2845	130	--
	Horizontal Inclinometer	--	2901.1	2900	--	130
310+75	Settlement Point	CL	2897.5	2815	90	--
	Vibrating Wire Piezometer	CL	2897.5	2845	90	--
	Vibrating Wire Piezometer	CL	2897.5	2830	90	--
	Horizontal Inclinometer	--	2897.5	2896.5	--	90
316+00	Settlement Point	CL	2898.0	2858	100	--
	Push In Vibrating Wire Piezometer	30' R	2894.6	2892	70	--
	Push In Vibrating Wire Piezometer	50' R	2894.6	2888	50	--
	Vibrating Wire Piezometer	CL	2898.0	2863	100	
	Horizontal Inclinometer	--	2898.0	2897	--	100
	Vertical Inclinometer	75' R	2898.0	2853	--	--
318+00	Settlement Point	CL	2898.0	2858	100	--
	Push In Vibrating Wire Piezometer	30' R	2895.0	2892	70	--
	Push In Vibrating Wire Piezometer	50' R	2894.0	2885	50	--
	Vibrating Wire Piezometer	CL	2898.0	2858	100	--
	Horizontal Inclinometer	--	2898.0	2897	--	110
	Vertical Inclinometer	75' R	2898.0	2853	--	--
				Total	1,300	520

C. Materials. Provide Bedding Sand meeting requirements of Table 701.2.

D. Construction.

1) Installation Surface.

a) Instrumentation at Station 303+15 and 310+75 will be installed after ground improvement and drainage layer installation is complete.

b) Instrumentation at Station 316+00 and Station 318+00 will be installed after Stage 1 embankment has been constructed.

c) Push In Vibrating Wire Piezometers at Station 316+00 and 318+00 will be installed prior to any fill placement. Data cables will be temporarily attached to a pole to allow the Stage 1 embankment to be placed. Carefully place Stage 1 embankment around poles to avoid damage.

2) Survey and place wooden stakes at the instrumentation locations with the station, offset and surface elevation of the ground surface indicated. Grade installation surface to a level surface to allow access to a truck mounted drill rig provided by others.

3) Notify the Project Manager a minimum of 30 days prior to the anticipated date of completion of the ground improvement and drainage layer construction and Stage 1 embankment construction. Instrumentation will be installed by Geotechnical Representative. The instrumentation will be completed with a truck mounted drill rig and will require up to two weeks for installation.

4) After instrumentation installation is complete, construct data cable trenches and horizontal inclinometer trenches a minimum of 2 feet deep by 2 feet wide. Extend the trenches from the instrumentation location to data logger locations established outside the construction limits of the embankments.

5) Place a minimum of 4 inches of Bedding Sand across trench bottom and spread uniformly to allow for data cable and conduit installation.

6) After data cable and conduit has been placed, carefully place a minimum of 8 inches of Bedding Sand over the conduit and lightly tamp with hand equipment, taking care to prevent damage to the cable or conduit.

7) Fill remaining trench with on-site material and compact to the requirements of the Contract.

8) Survey the horizontal and vertical locations of the instrumentation locations, data cable trenches, and data logger locations prior to embankment construction.

E. Monitoring Requirements. The monitoring for this project completed by the Geotechnical Representative will include the following:

1) Readings of the settlement points and piezometers will be obtained hourly by the data loggers. Inclinometer measurements and datalogger readings will be obtained or downloaded weekly during placement of embankment fill, or as directed by the Project Manager and the Geotechnical Representative.

2) Discontinue construction of the embankments immediately if the instrumentation results indicate embankment foundation instability, as determined by the Geotechnical Representative. Do not resume embankment construction without approval from the Project Manager.

3) The rate of construction and the length of the waiting period of the staged construction will be determined by the Project Manager, based on the results of the instrumentation and monitoring as interpreted by the Geotechnical Representative. See the Staged Construction Special Provision for reference.

4) Access to the site for installation, maintenance, and monitoring of the instrumentation must be maintained at all times for MDT and their designated representatives.

5) Repair damage to instrumentation installations at no additional cost to the Department. Costs related to repairing damaged instrumentation, up to and including complete replacement of damaged instrumentation, are the sole responsibility of the Contractor.

F. Measurement and Payment. No additional compensation is provided for cooperation with the Geotechnical Representative required to complete these tasks.

41. REINFORCED SOIL SLOPE (REVISED 2-2-22 M)

A. Description. This work is the excavation, placement, compaction, and disposal of unsuitable material necessary to construct the reinforced soil slope(s) as shown in the plans or as directed by the Project Manager.

B. Materials.

1) All materials provided must meet the requirements of the Build America Buy America (BABA) special provision as applicable.

2) Geosynthetic. Provide Uniaxial and Biaxial Geogrid meeting the requirements found elsewhere in the Contract.

3) Special Borrow. Provide Special Borrow for backfill meeting the requirements within these Special Provisions.

C. Construction.

1) Embankment Foundation Treatment. Prepare reinforced embankment subgrade by completing Embankment Foundation Treatment meeting the requirements found elsewhere in the Contract.

2) After Embankment Foundation Treatment is constructed, create a subgrade surface that is level, free from organics and other deleterious materials, as well as soft or otherwise unsuitable soils. Scarify and compact the subgrade in accordance with Section 203 prior to reinforced soil slope construction to provide a uniform and firm surface.

a) Notify the Project Manager a minimum of 5 working days prior to anticipated subgrade completion in order to arrange for subgrade inspection. The Geotechnical Representative will inspect the subgrade prior to construction of the reinforced soil slope.

b) If the subgrade soils are determined to be unstable by the Geotechnical Representative, subexcavate the subgrade to the depth specified by the representative. Scarify and compact the new subgrade and replace and compact subexcavated material with special borrow in accordance with the requirements below.

3) Geosynthetic Placement.

a) Place each layer of geosynthetic as shown on the plans and cross sections, oriented such that the principal strength direction is perpendicular to slope face (i.e. roll out the Biaxial Geogrid parallel to the slope face and the Uniaxial Geogrid perpendicular to the slope face).

b) Lay the geosynthetic in horizontal layers. Overlapping of the geosynthetic is not required except as detailed in the plans or at angle points or corners in the reinforced slope. Do not splice or overlap the geosynthetic in the machine direction.

c) Hand tension the geosynthetic to remove all wrinkles. Use pins, stakes, soil piles, or the manufacturer’s approved method to anchor the geosynthetic ahead of the special borrow placement to ensure flat contact between the geosynthetic and underlying material.

d) Do not operate construction equipment over the geosynthetic without a minimum of 8 inches of cover.

e) Place special borrow by off-loading at one end of the area to be covered by the embankment and then drifting the material out in front of the construction equipment.

f) Place and compact special borrow in accordance with Section 203. Compact the special borrow to 95% of the maximum density as determined by MT 230.

g) Place backfill evenly so that the elevation of the fill progression is the same across the entire length of the reinforced soil slope. Place soil from the backslope outward to ensure tension in the soil reinforcement. Place soils using a method that eliminates the development of wrinkles and movement of the geosynthetic.

h) Operate compaction equipment parallel to the slope face. Do not operate equipment directly on the geosynthetic. Do not use Sheep’s Foot or studded compaction equipment to compact the backfill.

D. Method of Measurement.

1) Geosynthetics are measured in accordance the requirements found elsewhere in the Contract.

2) Special Borrow is measured in accordance with Subsection 203.04.

3) Subexcavation below the planned footing elevation is measured in accordance with Subsection 203.04.

E. Basis of Payment. Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

1) Geosynthetics are paid in accordance with the requirements found elsewhere in the Contract.

2) Special Borrow is paid in accordance with Subsection 203.05.

3) Subexcavation is paid for as Unclassified Excavation in accordance with Subsection 203.05.

42. STAGED CONSTRUCTION STATION 310+90 TO 322+00

A. Description. Staged construction of the embankments between Stations 310+90 and 322+00 is required. This work requires pauses in embankment construction to allow settlement and excess pore water pressures to dissipate. The results of the Geotechnical Instrumentation and Monitoring Program and the staged embankment detail drawing will determine when work must stop on embankment construction and when work can resume for embankment construction.

Staged construction requirements contained herein are estimated only. Actual results of the instrumentation and monitoring will be the controlling factor in the rate of staged construction components. Daily coordination between the Contractor, the Project Manager, and the Geotechnical Representative concerning the results of instrumentation and monitoring is required to determine when construction can continue after embankment construction has been halted.

B. Materials. Vacant.

C. Construction. The requirements for staged construction of the embankments are outlined below:

1) Instrumentation will be installed to monitor the performance of the embankments during construction. The instrumentation will consist of the components listed in the Geotechnical Instrumentation and Monitoring Special Provision. The installation and monitoring, except as noted below, will be performed by the Geotechnical Representative.

2) Settlement instrumentation must be installed per the Geotechnical Instrumentation and Monitoring special provision.

3) After instrumentation installation is complete, construct the embankment areas in accordance with the requirements of the Contract.

4) Do not place additional fill prior to instrumentation installation in accordance with the Geotechnical Instrumentation and Monitoring Special Provision.

5) Construction equipment traversing these sections of embankment must be routed around the data cable trenches and instrumentation until a minimum of 3 feet of embankment has been placed over the equipment and trenches.

6) As necessary, discontinue construction of the embankments immediately in accordance with the Geotechnical Instrumentation and Monitoring Special Provision, or as directed by the Project Manager and the Geotechnical Representative.

7) Construct the embankments to the following elevations, contingent upon results of the instrumentation data.

a) Stage 1: Elevation 2898.0

b) Stage 2: Elevation 2903.0

c) Stage 3: Elevation 2908.0

d) Stage 4: Elevation 2913.0

e) Stage 5: Top of subgrade, elevation varies

f) Waiting Period: A minimum waiting period of 14 calendar days will be required following completion of one stage and prior to beginning the next stage. A minimum waiting period of 14 calendar days is also required after Stage 5 before placement of CAC pavement section. The waiting periods are necessary for occurrence of settlement and pore water pressure dissipation.

g) All times required for settlement and pore water pressure dissipation as specified in this Special Provision are estimated only and subject to change based upon the results of the instrumentation data.

h) The Project Manager may modify the fill increments or the waiting period required between embankment construction stages at these locations based on the results of the instrumentation and monitoring program.

i) If the total directed duration for settlement exceeds 90 calendar days, a contract time extension will be considered under 108.07.5.

D. Method of Measurement. This item is not measured for payment.

E. Basis of Payment. No additional compensation is provided for completion of the work in accordance with this Special Provision.

43. VIBRATION AND BENCHMARK (SITE) MONITORING (REVISED 12-11-15 M)

A. Description. This work is retaining a Vibration Monitoring Consultant to monitor vibrations and monitor settlement induced during construction activities such as pile driving, vibro-replacement/stone columns, vibratory compaction, demolition, and blasting. This includes pre- and post-construction surveys of the existing Highway 82 Sportsman Bridge, the new Highway 82 Sportsman Bridge and other structures within a 300-foot radius of the construction activity, and appurtenances identified by the Vibration Monitoring Consultant as potentially vulnerable to vibration or settlement induced damage from applicable construction activities.

B. Pre-Construction and Post-Construction Surveys.

1) Pre-Construction Condition Survey. Have the Vibration Monitoring Consultant arrange for a pre-construction survey of the existing bridge and any other nearby buildings, structures, utilities, or other appurtenances that may potentially be at risk of vibration induced damage. Use a survey method acceptable to the Contractor’s insurance company. Set permanent benchmarks on south end of each substructure of the existing bridge and determine pre-construction elevation of each benchmark to nearest 0.005 feet. Submit copies of all pre-construction survey records to the Project Manager for review before applicable construction operations begin. Notify occupants/owners of local buildings, structures, utilities, or other appurtenances a minimum of 48 hours prior to the start of applicable construction operations.

1) Post-Construction Condition Survey. Perform a post-construction survey of the items in the pre-construction survey with 72 hours of the completion of applicable construction operations. Use a survey method acceptable to the Contractor’s insurance company. The Contractor is responsible for any damage as described in Subsection 107.15. Submit copies of all post-construction survey records to the Project Manager for review. Notify the Project Manager of any damage or annoyance claims from occupants/owners of local buildings, structures, utilities, or other appurtenances within 2 hours of the complaint.

C. Construction.

1) Have the Vibration Monitoring Consultant establish a vibration control and monitoring program. Submit the vibration control and monitoring program to the Project Manager for review a minimum of 15 working days before the start of construction operations.

2) Monitor vibrations using an approved seismograph(s) located, as approved, between the work area and the closest structure subject to damage whenever vibration damage to adjacent structures is possible. Use a seismograph(s) capable of recording peak particle velocity for three mutually perpendicular components of vibration in the ranges typical for the construction activity being performed.

3) Monitor elevation benchmarks on existing bridge after completion of first pile or vibro/replacement column prior to driving additional pile or installing additional vibro/replacement columns. Do not allow pile installation or vibro/replacement columns to cause more than 0.04 feet of settlement of the existing bridge structure.

4) Place and monitor elevation benchmarks on the new bridge ends during installation of Phase 2 stone columns. Do not allow vibro/replacement columns to cause more than 0.02 feet of settlement of the new bridge end or pavement.

5) Do not allow peak particle velocity of each component to exceed the safe limits of the nearest structure subject to vibration damage. Have the Vibration Monitoring Consultant analyze the seismograph records to ensure that the seismograph data is effectively utilized in the control of the construction operations with respect to the existing structures.

6) Provide the data recorded for the construction activity performed to the Project Manager prior to performing sustained periods of the activity. For pile driving activities provide the data from the first pile driven at each bent prior to driving additional piles. Recorded data must include the following:

a) Identification of instrument used.

b) Name of qualified observer and interpreter.

c) Distance and direction of recording station from activity area.

d) Type of ground at recording station and material on which the instrument is sitting.

e) Maximum peak particle velocity in each component.

f) A dated and signed copy of photographic records of seismograph readings.

g) Elevation survey of benchmarks.

h) Table 1 below gives suggested limits for maximum peak particle velocity.

TABLE 1

Structure Type	Maximum Peak Particle Velocity, Inches per Second	Minimum Vibration Frequency, Hertz
Standard Construction: Timber Frame, Brick, and Concrete Buildings	2	30
Reinforced Concrete Structures	2	30
Steel Structures	2	30
Buried Utilities	2	30
Wells, Springs, and Aquifers	2	30
Green Concrete (less than 7 days)	1	18

a) Structures subjected to prolonged vibrations, older deteriorated structures, utilities, or structures housing sensitive equipment, may require lower peak particle velocity limits than given in Table 1. Additionally, buried pipelines, fiber optic cables, or other appurtenances owned by private utility companies or structures owned by other agencies may be subject to lower limiting values imposed by the owner. It is the responsibility of the Vibration Monitoring Consultant to identify safe limits for the project and nearby structures and reduce the maximum peak particle velocities in Table 1 if necessary.

2) The Vibration Monitoring Consultant is responsible for all necessary materials and equipment utilized in the performance of this work.

3) The Vibration Monitoring Consultant must be available and perform the required evaluation, monitoring, and record keeping as described above and as directed by the Project Manager.

B. Method of Measurement. Vibration Monitoring Consultant is measured as Lump Sum.

C. Basis of Payment. Include all costs associated with retaining a consultant, monitoring, providing materials, documenting, and any necessary modification to construction methods required to complete this task in the lump sum price for Site Monitoring.

44. SURCHARGE EMBANKMENT AND SETTLEMENT WAITING PERIOD

A. Description. Construct surcharge for embankments at the locations shown in the plans. Complete all surcharging prior to construction of the bridge end backfill, bridge abutment caps, and dead man anchors. The approximate station limits, surcharge heights and times are shown below.

Station	Surcharge Height (feet)	Estimated Surcharge Time* (calendar days)
Bridge over Flathead River		
Bent No. 1, 303+15.20 to 303+40.20	11-1/2	90
Bent No. 5, 310+49.80 to 310+74.80	11-1/2	90

* Construct to finished subgrade and provide surcharge time prior to paving.

B. Materials. Provide Special Borrow meeting the requirements of these Special Provisions to construct surcharges. Alternate materials may be used with prior approval by the Project Manager.

C. Submittals. Submit four copies of the material and construction methods that will be used to construct the sloped surcharges. Include drawings and details showing the surcharge layout and materials to be used.

D. Construction.

1) Surcharge height is measured from subgrade elevation as shown on the plans and cross sections.

2) The side slopes of the surcharge must not be steeper than 1.5H:1V (horizontal: vertical). Provide a 20H:1V transition zone between the end of the surcharge and subgrade elevation on the side away from the future bridge end. The Standard Specifications pertaining to normal roadway embankment construction apply to construction of the surcharge embankment. Use embankment material meeting Subsection 203.03.2 requirements. Compact the Surcharge Embankment to a minimum of 90% of the maximum dry density as determined by MT 210.

3) Where 1.5H:1V slopes cannot be constructed as shown in the plans, construct surcharge with geosynthetic wrapped layers, or other methods approved by the Project Manager.

4) Surcharge Embankment must remain in place for the period of time directed by the Project Manager. The estimated period of time from the completion of the surcharge embankment until the removal can begin is shown above. The actual period of time is dictated by results of instrumentation and monitoring conducted by the Geotechnical Representative.

5) If the total directed waiting periods for settlement exceed those specified herein, a contract time extension will be considered under 108.07.5.

E. Measurement and Payment. Surcharge Embankment is measured and paid for as Special Borrow – Neat Line, for the in-place volume in cubic yards calculated from dimensions shown in the plans or ordered in writing by the Project Manager. No allowance for shrink, swell, compaction, waste, or other adjustments will be made.

No additional measurement or payment is made for removal and disposal of the surcharge embankment. Payment at the contract unit price is full compensation for all labor, materials, tools, equipment, and other incidentals necessary to complete these items of work.

45. REMOVE STRUCTURE

A. Description. This work includes the removal of the structure over the Flathead River in accordance with these special provisions, Section 202, and as approved by the Project Manager. The structure is located at RP 5.58. The superstructure consists of four steel plate girder spans and concrete T beam approach spans with a cast-in-place concrete deck. End bents are deep spill through type with reinforced concrete columns and reinforced concrete caps. Intermediate piers consist of reinforced concrete solid wall piers. The end bents and intermediate piers are founded on timber piles. The structure has an approximate length of 686 feet and an approximate width of 28 feet.

Remove the entire existing structure including but not limited to the deck slab, beams, bridge rails, curbs, piles, end bents, intermediate piers, foundations, asphalt surfacing, and all incidental items. Do not waste any materials within the project limits or any wetland.

Remove existing piers No. 3, 4 and 5, as shown on the record drawings, to elevation 2875.0 which is 20.26 feet below the Q2 elevation shown on the plans. Use underwater removal methods that produce low turbidity and do not leave any rubble on the river floor. Do not leave any exposed reinforcing above elevation 2875.0.

For a set of existing structure plans, contact the MDT Bridge Bureau at (406) 444-6265.

B. Submittals. Submit a written proposal in Adobe Acrobat Reader (.pdf) format that describes the plan for removal of the existing structures to the Project Manager for approval. Allow 10 working days for each review of the submittal. Do not begin removal operations prior to receiving approval of the plan. Include in the proposal a narrative of all operations required for the removal of the existing bridge. Approval of the plan is contingent on the review by the Project Manager.

C. Construction Requirements. Protect the traveling public at all times. All superstructure and substructure materials will become property of the Contractor. Comply with all OSHA requirements for lead-based paint handling, removal and disposal. Dispose of all materials in accordance with approved methods and applicable rules, laws and regulations for disposal of solid waste.

D. Method of Measurement. Measurement is made as one lump sum.

E. Basis of Payment. Include in the contract unit price per lump sum bid for Remove Structure, all costs for removing and disposing of the existing structure including furnishing all tools, material, labor, and equipment.

46. SPECIAL BORROW (REVISED 2-2-22)

A. Description. Place special borrow at the locations shown in the plans, cross sections, or as directed by the Project Manager.

B. Materials. Provide material for special borrow consisting of a well-graded sand and gravel, free of organic and other deleterious material, meeting the AASHTO M 145 requirements for A-1-a group classification, with 100% passing the 4-inch sieve and a maximum of 8% by weight passing the number #200 sieve.

C. Construction. Compact special borrow in accordance with Section 203.

D. Method of Measurement. Special borrow is measured in accordance with Subsection 203.04.

E. Basis of Payment. Special Borrow is paid in accordance with Subsection 203.05.

47. PLANT MIX SURFACING MIX DESIGN TRANSFERS [401] (ADDED 5/15/2025)

Submit a mix design in accordance with Section 401. The following mix design considerations will be made for contracts requiring binder meeting the requirements of AASHTO M 332.

1) For contracts specifying 58V-34 or 58H-34, an unexpired, verified and approved PG 70-28 mix design may be considered for transfer provided it is modified to use the contract specified M 332 MSCR binder.

2) For contracts specifying 58H-34, an unexpired, verified and approved PG 64-28 or 58V-34 mix design may be considered for transfer provided it is modified to use the contract specified M 332 MSCR binder.

3) For contracts specifying 58S-34, an unexpired, verified and approved mix design utilizing the binder grades above will be considered for transfer provided it is modified to use the contract specified M 332 MSCR binder.

The contract specified binder will not be changed and not all mix designs described above may be eligible for transfer. Submit form MDT-MAT-009 to document the original mix design change of binder grade to the contract specified M 332 binder grade.

48. RIDE SPECIFICATION CATEGORY (SINGLE) [401] (REVISED 12-13-12)

This is a Category I project.

49. ELASTOMERIC BEARING DEVICES

A. Description. Furnish and install elastomeric bearing pads conforming to the lines, dimensions, design and material composition shown on the plans and in this provision. This work includes the fabrication or manufacture, packaging, handling, transportation, and installation of the bearings.

B. Materials. Use only new materials for the manufacture of the bearings with no reclaimed material incorporated into a finished bearing. The dimensions of the finished bearings must be within plus or minus 1/16 inch of the plan dimensions. Unless otherwise approved by the Project Manager, furnish bearing assemblies, including the sole plates, as a complete unit from one manufacturing source.

C. Elastomeric Pad. Use elastomeric pads meeting the requirements of AASHTO M 251 and as indicated on the plans.

D. Steel Laminates. Use steel laminates for reinforced bearings meeting the requirements of AASHTO M 270 Grade 36 or ASTM A 1011. Thoroughly deburr or otherwise round laminated edges.

E. Plates. Use steel for all plates meeting the requirements of AASHTO M 270 Grade 50W. Paint end bent and pier No. 3 sole plates in accordance with subsection 710.02.1. Coordinate the paint system with the steel girder fabricator to ensure compatible primer to the girders. Finish and bevel plates as shown on the plans.

F. Construction Requirements.

1) Certification. With each shipment, furnish two copies of written certification by the bearing manufacturer that the furnished bearings conform to all of the requirements shown on the plans and stipulated herein. Submit fabrication drawings in accordance with subsection 556.03.2 to Project Manager in Adobe Acrobat Reader (.pdf) format for approval. Do not fabricate bearings prior to receiving approval of the fabrication drawings.

2) Packaging. Package and protect the bearings from damage during handling, transporting, and storing. Replace any bearing damaged by handling, transporting or storing at no cost to the Department.

3) Installation. Place bearings on a level surface. Correct any misalignment of the support to form a level surface. Align bearing assembly as shown on the plans. Correct girder or plate location as necessary.

4) Weld each elastomeric bearing device sole plate to the bottom flange of the steel beams only when the average temperature of each girder, as measured by the method defined in Girder Temperature Requirements for Welding special provision, has been determined to be between 15- and 60-degrees Fahrenheit. Relieve loading on bearing device to ensure no elongation or distortion in elastomeric bearing pad prior to welding. Complete the welding at

both ends of each girder so that the temperature of the girder does not change between the times the welds are placed.

5) The instantaneous temperatures of the sole plates must not exceed 300°F when field welding the sole plate to the bottom flange. Replace any bearing damaged during installation at no cost to the Department.

50. BOLTED CONNECTIONS

A. Description: Additional requirements for Bolted Connections – High Tensile Strength Bolts.

B. Construction Requirements. Use DuraSquirt Direct Tension Indicator (DTI) washers, manufactured to ASTM F959-23 specifications, produced/supplied by Applied Bolting Technology. Follow manufacturer's instructions and recommendations for installation and tensioning.

C. Method of Measurement. Work associated with this provision is not measured for payment.

D. Basis of Payment. Include all costs associated with the requirements of this provision in the lump sum bid for Structural Steel - Girder.

51. WATERPROOFING MEMBRANE

A. Description. This work is the installation of sheet membrane waterproofing between the bridge end backfill/ cellular concrete and concrete substructure and superstructure elements as shown on the plans.

B. Materials. Use a polymeric or rubberized asphalt self-adhering waterproofing membrane, 60-mils thick consisting of 56-mils of membrane and 4-mils of cross-laminated polyethylene carrier film. Meet or exceed the following requirements:

Thickness	60-mils	ASTM D 3767
Tensile Strength (Membrane)	5000-psi	ASTM D 412
Tensile Strength (Film)	325-psi	ASTM D 882
Elongation	350% min	ASTM D 412
Permeance	0.05 Perm, max	ASTM E 96
Flexibility @ -20°F	Unaffected	ASTM D 1970
Crack Cycling @ -25°F (100 cycles)	Unaffected	ASTM C836
Peel Strength	10.0 lb/in	ASTM D903
Lap Adhesion	8.0 lb/in	ASTM D 1876
Puncture Resistance	48-lb, min	ASTM E 154
Soil Burial	16-weeks, No affect	GSA-PBS 07121
Water Absorption	0.1% by wt.	ASTM D 570
Hydrostatic Head	230-ft	ASTM D 5385

C. Construction Requirements

1) Quality Assurance. The applicator must have experience installing the same or similar material waterproofing membrane systems.

2) Deliver materials to the project site in original factory-sealed, unopened containers. Protect materials from direct sunlight until ready for use.

3) Install the waterproofing membrane at the proper temperature, with the adequate surface preparation, and in the layers and overlap specified in the product manufacturer's printed installation instructions.

D. Submittals. Submit the manufacturer's product literature and installation instructions for approval by the Project Manager.

E. Method of Measurement and Basis of Payment. Include all costs associated with the requirements of this provision in the cost of Concrete – Class Structure.

52. BASE PRICE FOR CONCRETE [551] (REVISED 12-17-20)

Price reductions measured by the cubic yard will be calculated using the greater of the contract bid price or $500 per cubic yard for the following items:

- Class Deck
- Class Overlay
- Class Structure
- Class Structure – Low Slump

Price Reductions for Class Drilled Shaft item will be calculated using the greater of the contract bid price or $300 per cubic yard.

53. STEEL STRUCTURES [556] (ADDED 6-05-25)

Rescind Section 556 Steel Structures and replace with the following:

A. Description. This work is the furnishing, fabricating, painting, and erecting of steel structures and the steel structure portions of composite structures.

The Department uses 490 pounds per cubic foot to calculate the weight of structural steel.

The weights of rolled shapes and plates up to and including 36 inches in width are computed based on their nominal weights and dimensions as shown on the shop drawings. One-half of the allowed percentage of overrun in weight as tabulated in ASTM A6 will be added to the nominal weights of plates exceeding 36 inches in width. The weight is computed on the basis of rectangular dimensions for all plates and overall lengths for all structural shapes with no deductions for copes, slips, sheared edges, punching, borings, milling, or planing. When parts can be economically cut in multiples from materials of larger dimension, the calculated weight is that of the material from which the parts are cut.

Bolts, nuts, and washer weights are the calculated weight in the AISC Manual of Steel Construction.

Weld metal weight is not computed.

B. Materials. Furnish materials in accordance with the following subsection requirements:

Bearing Assembly Anchor Bolts for Bridges	711.13
Bolts and Nuts	711.07
Castings	711.12
Compression Joint Seals	711.15
Elastomeric Bearing Devices	711.14
Fiber-reinforced Pads for Bearing Plates	711.16
Galvanized Metal	711.08
High Strength Bolts	711.06
Pins and Rollers	711.04
Structural Steel	711.02
Structural Steel Tubing	711.03
Welding Electrodes	711.05
Welded Stud Shear Connectors	711.09

C. Construction Requirements

For the fabrication of steel structures, follow AASHTO LRFD Bridge Construction Specifications, and the AASHTO LRFD Steel Bridge Fabrication Specifications. unless otherwise specified in the contract.

D. 556.03.1 Pre-Qualification for Steel Fabricators

Use metal fabricators that are pre-qualified under the AISC Quality Certification Program for the items listed below. The Department will make an exemption for new manufacturing plants that are of the same ownership as an existing certified plant, provided the new manufacturing plant operates under the same quality assurance and control programs as the certified plants, modified to address any production differences, and all fabrication is performed under the direct supervision of a quality assurance and control manager provided by an existing pre-qualified plant. Direct supervision means that the quality assurance and control manager is on site during all fabrication performed in the new fabrication plant and is responsible for the quality assurance and control activities. For new manufacturing plants, submit and receive approval of any proposed modifications to the parent plant's quality assurance and control program prior to beginning production. Allow 30 business days from the date submitted for Department review and approval. New manufacturing plants may operate under the parent plant's quality assurance and control programs for a maximum of 18 months from the date of opening. Items not listed may be fabricated by non-certified shops. Use metal fabricators having the following AISC quality certification categories:

1) Use fabricators having Advanced Bridges (ABR) certification to fabricate the following:

a) Fracture critical members and attachments. Fabricators must have the Fracture Critical Endorsement (F).

b) Tub, trapezoidal or closed box girders, large or non-preassembled trusses [over 200 feet] cable supported bridges, bascule bridges, arches, and bridges with tight radius.

2) Use fabricators having Intermediate Bridges (IBR) certification to fabricate the following:

a) Fracture critical members and attachments. Fabricators must have the Fracture Critical Endorsement (F).

b) Rolled beams with field or shop splices, either straight or with a radius over 500 feet.

c) Built-up I-shaped plate girders with constant depth, either straight or with a radius over 500 feet.

d) Built-up I-shaped plate girders with variable web depth (e.g., haunched), either straight or with a radius over 1000 feet.

e) A truss with a length of 200 feet or less that is entirely or substantially pre-assembled at a certified facility and shipped in no more than three sub-assemblies.

f) Welded floor beams.

g) Diaphragms for horizontally curved girders.

3) Use fabricators having Simple Bridges (SBR) certification to fabricate the following:

a) Non-spliced rolled beams.

b) Non-spliced rolled floor beams.

c) Non-spliced rolled diaphragms for straight girders (does not include diaphragms used for concrete beams).

4) Use fabricators having an SBR or Bridge and Highway Metal Component Manufacturers certification to fabricate the following:

a) Bridge expansion joints.

b) Steel grid decking.

c) Bridge expansion bearings.

d) Overhead sign bridge and cantilever sign structures.

e) Lighting poles and anchor bases.

E. 556.03.2 Submittals

1) Fabrication Drawings. Prior to fabricating members, submit fabrication drawings and include the following information. The Department will have 20 calendar days to review.

a) An erection layout with each member assigned a production number.

b) A tentative fabrication schedule.

c) Denote any changes from the details in the contract.

d) All dimensions, geometrical information, details, and other data required for fabrication. Include camber information, blocking diagrams and shop splices.

e) Denote specification, grade, finish, required toughness testing and required surface preparation for all steel plates, shapes, pipes, tubes, bars, and all miscellaneous hardware such as shear studs, bolts, stud bolts, threaded rods, nuts, and washers.

f) Identify the applicable specification for galvanized items. Specify paint type, manufacturer and recommended dried film thickness for each coat applied in the shop for painted items. Also identify surface preparation for each item to be painted. For paint requirements see Sections 612 and 710.

g) A list of field bolts and other items furnished by the fabricator:

h) Appropriate weld sizes, symbols, requirements for non-destructive testing, heat cambering and bending procedures. Provide welding certifications and welding procedure specifications and any supporting documentation for all welding required for fabrication. For welding requirements see Section 624; and

i) Welding Procedure Specification (WPS) identification is required in the weld symbol tail for all weld symbols shown on the shop drawings.

Submit shop drawings of welding procedures and design calculations. Ensure the submittal includes all information required to check the structural accuracy and fabrication procedures for the structure.

Structural shop drawings must be designed and stamped by a professional engineer registered and licensed to conduct engineering in the State of Montana.

Do not begin fabrication until the Department approved drawings are received by both the plant and the Project Manager. Coordinate the fabrication schedule with the Project Manager.

2) Certificate of Compliance. Furnish a manufacturer’s Certificate of Compliance for all bolts, nuts, washers, and load indicator washers. Include documentation in accordance with Subsection 106.09 and test reports performed on the finished bolt confirming that all of the materials provided meet the requirements of the applicable AASHTO or ASTM specification. The documentation must include the name and address of the test laboratory, the date of testing, lot identification and the sample sizes of bolts and nuts used for each test performed for the certification.

Submit the following items before installation: The Department will have 20 calendar days to review.

a) The certification from the supplier showing that all tests required by the AASHTO and ASTM specifications have been performed. Include the date and location of those tests, as well as the production lot numbers, and the sample sizes used for each test performed with the certification.

b) The certification from the supplier showing that the wedge tests and rotational capacity tests have been performed. Also show production lot numbers, dates, locations, and sample sizes of these tests and who performed them.

c) Three bolt, nut, and washer assemblies from each rotational capacity test lot for verification by the Department.

d) Do not install fasteners prior to receiving approval.

F. 556.03.3 Mill and Shop Inspection

1) Inspection of Work. Do not begin manufacturing or shop fabrication until the Department’s Inspector has inspected the shop.

2) Facilities for Inspection. Furnish facilities for inspecting the material and workmanship in the mill and shop. Always allow the Inspector free access to the work.

3) Inspector's Authority. The Inspector may reject material or work not in accordance with the specifications. In case of dispute, the Contractor may appeal the Inspector's decision to the Project Manager.

4) Mill Test Reports. Provide the Project Manager signed documentation in accordance with Subsection 106.09. Certify all steel meets the project specifications. Identify each piece of steel with a mark number on the mill test report.

5) Facilities for Testing. Furnish, at Contractor expense, test specimens, labor, testing machines, and tools to make the specimens and tests.

6) Rejections. Material or finished members accepted by the Inspector may be rejected if the material is subsequently found defective. Replace or repair rejected material at Contractor expense.

G. 556.03.4 Storage and Handling of Materials

Mark alloy and high-strength steels as required by the AASHTO LRFD Bridge Construction Specifications. Mark material required to meet a Charpy requirement for identification.

1) Store materials off the ground and keep them clean and dry.

2) Place and store girders upright.

3) Support long members, including but not limited to columns, chords, and girders on blocks spaced to prevent deflection.

4) Store high-strength fastener components in accordance with the manufacturer's recommendations.

5) Store the bolts and nuts in the original containers until used.

6) Protect from dirt and moisture.

7) Remove only as many fasteners from protected storage as can be tightened during a work shift and return unused fasteners to protected storage at the end of each work shift.

H. 556.03.5 Quality Control

Prepare and submit a quality control (QC) plan for ensuring the quality of all work and conformance to specifications. The Department will have 20 calendar days to review.

Ensure that all nondestructive testing (NDT) is performed by personnel qualified in conformance with the American Society for Nondestructive Testing (ASNT) Recommended Practice No. SNT-TC-1A to minimum Testing Level II for the individual methods. Ensure that the QC plan meets the following minimum requirements:

Include descriptions of any necessary pre-work meetings, procedures to verify materials meet approved submittals, and QC testing plan.

1) NDT, Radiographic Inspection. Inspect 100% of all complete joint penetration (CJP) groove welds.

2) NDT, Ultrasonic Inspection. Inspect 100% of all CJP groove welds on plates thicker than ¼-inch.

3) NDT, Magnetic Particle Inspection. Randomly inspect 25% of all welding for each member throughout the entire structure in accordance with AWS D1.5 bridge welding code. The Project Manager reserves the right to select locations for testing.

4) Personnel qualifications. Include the qualifications of the specific individuals that will be performing the QC testing.

5) Quality control manager. Identify the QC manager that will be the primary contact person for all QC communication. Ensure that this person is responsible for all QC work.

6) NDT, Phased Array Ultrasonic Testing (PAUT). This method may be used in place of RT and UT for the inspection of CJP groove welds. Perform all aspects of PAUT inspection in accordance with AWS D1.5, Annex K. Provide, for approval, a submittal package 30 days prior to inspection. Provide all information, qualifications, etc. needed to determine the requirements of Annex K can be met. Include the inspector's history of successful NDT projects specific to PAUT and the requirements of AWS D1.5.

Complete reports of all QC testing as the testing is performed. Identify in the reports any deviations from specifications, standards, or the QC plan and a discussion of why the deviation occurred. Submit any reports containing any deviations, defects, or non-compliance to the Project Manager within 24 hours. Make other reports available upon request. Submit repair plans for approval. The Department will have 3 working days to review.

At the completion of fabrication, and before shipment, provide all QC reports and a certification signed by the quality control manager that contains the following statement and supporting information:

Required Statement: “This is to certify that the quality control plan was followed and that the results of the quality control program indicate that the materials and the construction operations controlled by the quality control plan are in conformity with the approved plans and specifications. Exceptions to the plans, specifications, and quality control plan are described below.”

I. 556.03.6 Pilot and Driving Nuts for Pins.

Furnish 2 pilot nuts and 2 driving nuts for each size of pin unless otherwise specified. Pilot and driving nuts are not required when shoes are assembled at the fabrication plant.

J. 556.03.7 Bolts and Bolted Connections

1) General.

a) When galvanized fasteners are specified, furnish assemblies manufactured with a visible dye, so a visual check verifies the presence of lubricant at installation.

b) When uncoated fasteners are specified, use black fasteners oily to the touch at installation.

c) Use beveled washers to provide full bearing to the head or nut where bolts are used on beveled surfaces.

2) Definitions. Terms are defined in the Steel Structures Technology Center, Inc. Structural Bolting Handbook, 2022 ed. (Bolting Handbook).

3) Unfinished Bolts. Furnish standard unfinished bolts. Furnish bolts that extend through the nuts a maximum ¼-inch.

a) Breakaway Connections. Install breakaway connections in accordance with the breakaway device manufacturer’s recommendations.

b) Temporary Bolts. When used, temporary bolts are required to be of the same diameter as the production bolt and clearly marked or coated to distinguish them from permanent bolts. They are exempt from testing and storage requirements and may be re-used as temporary bolts.

K. 556.03.8 Bolted Connections - High-Tensile-Strength Bolts

Submittals. Prior to installing bolts, submit the following for review and approval. The Department will have 20 calendar days to review.

- Erection Plan. Submit an erection plan meeting 556.03.14.
- Installation Method. Submit the method(s) that will be used:
- Turn of the nut,
- Calibrated wrench,
- Direct Tension Indicator (DTI),
- Tension Control Bolts (twist-off),
- Combined Method (Torque Nut Angle)

1) General. Make bolted connections in accordance with the most current version of Steel Structures Technology Center’s Structural Bolting Handbook (Bolting Handbook), which is a compilation of the Research Council on Structural Connections (RCSC 2020 ed.), AISC (2022 ed.), and AASHTO (4th ed. 2017 with interim) code requirements.

In the event of a conflict between this Special Provision, a code, and the Bolting Handbook, the hierarchy is as follows: 1. This Special Provision, 2. code, 3. Bolting Handbook. All provisions termed as “recommendations” in the Bolting Handbook are contract requirements.

Jobsite Storage. Store bolting components as required in the Bolting Handbook.

Production Lot Traceability. Protect bolt container labels from damage. Maintain lot traceability of each component during storage and handling, so that any component's lot number will be identifiable until the point of installation.

Component Assembly Condition. Do not install components that are rusty, dirty, or otherwise damaged/compromised.

Tension Control (Twist-Off) Assemblies. Reject tension control components that are rusty or dirty, or otherwise compromised, or have them cleaned and relubricated by the original manufacturer.

Other Components. Reject other components that are rusty or dirty or clean/relubricate according to the Bolting Handbook. Suppliers written recommendations for type and application of lubrication are required and must be applied to all remaining components of the lot(s) in question.

a) Bolt Lengths. Use bolt lengths having the grip-length values in Table 556-1 plus the total thickness of connected material. The values in Table 556-1 consider nut, one flat washer, and bolt point.

Increase the bolt length ⅛-inch if direct tension indicator washers are used.

Adjust the length to the next ¼-inch increment up to a 5-inch bolt and to the next ½-inch increment for bolts over 5 inches.

Table 556-1
Bolt Length Determination

Bolt Diameter	Added Grip Length1
English	
½-inch	⅞-inch
⅝-inch	1-inch
¾-inch	1⅛-inch
⅞-inch	1⅜-inch
1-inch	1½-inch
1⅛-inch	1⅝-inch
1¼-inch	1¾-inch
Metric	
M16	25 mm
M20	30 mm
M22	35 mm
M24	40 mm

Note: Add to total thickness of connected material.

Where beveled washers are used, adjust bolt lengths to account for the use of nonstandard or beveled washers.

b) Bolted Parts. Ensure bolted surfaces in contact with the bolt head and nut do not have a slope of more than 1V:20H to a plane normal to the bolt axis.

Provide a Class B finish, in accordance with AASHTO LRFD Bridge Construction Specifications for all faying surfaces. Restore the Class B finish for faying surfaces that have degraded prior to joint assembly.

c) Washers. Install hardened washer(s) under the turned component and in accordance with the Bolting Handbook.

Pre-Erection Meeting. Schedule a pre-erection meeting to be at least seven calendar days before beginning steel erection and prior to installation of permanent high strength bolts, to

review the bolting requirements and the approved erection sequence. The Project Manager, Steel Fabrication Specialist (or their designee), and the bolting crew supervisor(s) are required to attend the meeting. Repeat annually for multi-year projects.

2) Pre-Installation Verification (PIV) Testing. Perform Pre-installation verification procedures in accordance with the Bolting Handbook. Retest when directed by the Project Manager. Use a Skidmore Wilhelm Bolt Tension Measuring Device (BTMD) or equal that has been calibrated by the manufacturer or testing laboratory within the last 12 months. Keep calibration documentation with the BTMD. Notify the Project Manager at least seven calendar days prior to PIV testing. The Steel Fabrication Specialist or their designee must be present during PIV testing.

For all installation methods, use the same tools for PIV testing that will be used during the installation.

The Steel Fabrication Specialist or their designee will issue a written certification for passing lots. Do not install components without certification.

a) Reuse of previously pretensioned components. Do not reuse previously pretensioned components.

3) Production Bolting. Do not install components from any lot until the lot has passing PIV and Department Lab testing. Repeat sampling and testing (PIV and Lab) for subsequent construction seasons.

Condition. Verify that the condition of the assembly is equivalent to that of the Pre-installation Verification test. Conditions of the assembly and the efficiency of the lubricant can be affected by many factors, including:

a) Exposure to the elements.
b) High temperatures during storage.
c) High temperatures during tightening.
d) Low temperatures during tightening.
e) Additional moisture from snow and rain during pretensioning.
f) Contaminants such as dirt, dust, rust.
g) Loss of lubrication.

If these conditions occur, or if untensioned bolts have been exposed to weather for more than two days, or if bolts have been cleaned and relubricated, repeat the pre-installation verification test on at least 3 assemblies of each length. If any of the test fails, replace or relubricate all components within the affected connection(s).

Re-lubrication. If bolts require relubrication, submit for approval the supplier’s written recommendations for type and application of lubrication. Re-lubrication of tension control bolts may only be performed by the manufacturer.

Snugging. Snug tighten structural connections in accordance with the snugging procedures and systematic approach given in the Bolting Handbook. Repeat the snugging cycle over the connection as necessary until all plies are brought into firm contact. A minimum of 2 snugging cycles is required. If firm contact is not achievable, notify the Project Manager.

Pretensioning. Fully tighten bolts in accordance with the pre-tensioning procedures given in the Bolting Handbook.

Turn of the Nut Method. Match mark as described in the Bolting Handbook.

Failures. Report fastener assembly stripping, breaking, or other failures to the Project Manager immediately and stop bolting until the cause of failure has been determined and documented, and the Project Manager approves continuation of pretensioning. Provide broken fastener(s) to the Project Manager.

Connection Acceptance. In the presence of the Inspector, verify each structural connection within 72 hours of completing installation and pretensioning of bolts as described below.

Access. Provide arms-length access to the connection for the Inspector so that they can observe installation or perform verification.

Bolt selection and marking. The Inspector will select and circle ten percent (two minimum) of every bolt length within the connection for verification testing.

Pretension Verification.

Connections with Direct Tension Indicating (DTI) Washers (including Self Indicating DTI washers).

For verification of a completed joint, use a metal feeler gauge to inspect DTI washers on the selected fasteners. Connection fastener tension is acceptable if the selected fasteners meet the feeler gage refusal/acceptance requirements listed in the Bolting Handbook and manufacturer recommendations/instructions. For passing results, the Inspector will mark the connection, indicating acceptance.

If any fastener checked does not meet the requirements, inspect each bolt in the connection with the feeler gage and continue/complete pretensioning each as necessary. Resubmit the connection for inspection.

Other Connections. Furnish and use a torque wrench that indicates torque by means of a readout or that may be adjusted to give an indication that a defined torque has been reached, to verify tension as follows.

Calibration. Calibrate the torque wrench at least once each inspection day using five fastener assemblies of the same grade, size, and condition as those under inspection. Use a washer under the part turned in tightening each bolt if washers are used on the connection. Use the same material that abuts the part turned in the tension measuring device as used on the connection if washers are not used on the connection. In the calibration device, tighten each bolt to the exact value listed in the Required Minimum Bolt Pretension table in the Bolting Handbook. Apply the torque wrench to the tightened bolt to determine the torque required to turn the nut or head five degrees (approximately one inch at a 12-inch radius), in the tightening direction. Discard the high and low torque values. The inspection torque is the average of the torque values for the other three bolts. Discard any bolts used for calibration.

Verification. Verify the bolts represented by the test bolts by applying, in the tightening direction, the inspection torque to the bolts selected by the Inspector.

Connection fastener tension is acceptable if no nut or bolt head is turned. The Inspector will mark acceptable connection(s) with an indelible marker.

If any nut or bolt head is turned with the inspecting torque, apply the inspection torque to all fasteners in the connection. Once the inspection torque has been applied to all fasteners, the connection is acceptable and the Inspector will mark the connection, indicating acceptance.

L. 556.03.9 Welded Stud Shear Connectors

The type, size or diameter, and length of stud shear connectors are specified in the contract.

Furnish fabrication material and perform welding in accordance with Section 624.

1) Shop Drawing Review. Provide alternate stud locations that will avoid conflict with safety and lifting devices. Ensure that all shear studs are a minimum of 6 inches away from top flange shop splices. Obtain approval from the Bridge Bureau before installing any studs in these alternate locations.

2) Field Removal. Stud shear connectors that are removed in the field must use one of the following removal methods:

a) Cut completely through the stud above the weld.

b) Partially cut the stud above the weld and break off the stud the rest of the way. Prevent damaging the base metal during stud removal.

3) Field Replacement. Replace all stud shear connectors that are removed in the field. Replacement shear studs must be within 3 inches of the original stud location, no closer than 1½ inches from base metal edges, and at least 1 inch between adjacent studs. Follow all the surface preparation, field welding, and testing requirements in accordance with AWS D1.5.

4) Additional Payment. No additional payment will be made for field removal and replacement of stud shear connectors and base metal inspection, repair, or replacement.

M. 556.03.10 Field Welding

Notify the Project Manager and Steel Fabrication Specialist at least 3 working days prior to field welding. Do not weld temporary construction supports to beams, girders, or other main members. Any member with unauthorized field welds, tack welds, or arc strikes will be rejected. Perform welding in accordance with Section 624.

N. 556.03.11 Assembling Steel

Field or shop assemble steel parts as follows:

1) Shop Work. Clean all contacting metal surfaces of deleterious materials before assembling, bolting, or welding. Paint may be applied to contact surfaces after bolting or welding.

Shop assemble and adjust to line and camber all bolted trusses, continuous plate girders, curved steel elements, box girders, I-beam spans, skew portals, skew connections, rigid frames, bents, and towers.

Drill and ream the field splice holes during assembly. Holes for other field connections may be shop drilled or reamed with the connecting parts assembled or drilled or reamed to metal templates with hardened bushings, without assembling.

Use an approved alternate procedure where shop space prevents complete shop assembly of continuous span girders or trusses. The procedure may require adjusting the line and camber of at least two abutting sections of girder for drilling or reaming of field splices if all girder lines for the complete structure are assembled consecutively.

Field butt joints for welded girders may be assembled with abutting members adjusted for line and camber and prepared to fit for welding, subject to Project Manager approval.

Bridge expansion devices must be initially shop assembled to establish the proper fit between the joint parts.

2) Field Work. Assemble the parts as specified in the contract, following the match-marks. Prevent damaging the material while handling. Clean all bearing and member surfaces in permanent contact before assembly.

Splices and field connections must have a minimum of ½ of the holes filled with bolts or erection pins before removing temporary supports or releasing the load from erecting equipment.

Do not place deck forms or other loads on straight steel girders except in accordance with an approved erection plan.

Use erection pins 1⁄32-inch larger than the nominal diameter of the permanent bolts.

3) Drifting of Holes. Use a minimum of two drift pins during assembly to the extent necessary to bring the parts into position without enlarging or distorting the holes or metal. Do not ream holes during field fitting without approval from the Project Manager.

4) Match-marking. Match-mark parts assembled in the shop for reaming field connection holes and provide the Project Manager a diagram showing the marks.

O. 556.03.12 Marking and Shipping

Paint or mark each member with an erection mark and furnish the Project Manager an erection diagram detailing the erection marks.

Furnish copies of material orders, shipping statements, and erection diagrams. Show the individual member weights on the statements.

A shipping statement must accompany the material and be marked to clearly identify it with the delivered material and the relevant domestic material and contract specification certifications.

Mark the weight on members weighing 3 tons or more. Load and unload structural members on trucks or cars without stressing or causing damage.

Pack bolts, loose nuts, or washers of each size separately. Ship pins, small parts, bolts, washers, and nuts in boxes, crates, kegs, or barrels, with the gross weight of each package not exceeding 300 pounds. Plainly mark each shipping container, listing and describing the contents on the outside of each shipping container.

Keep structural material clean and free from damage.

P. 556.03.13 Painting

Clean and paint all iron and steel surfaces in accordance with Section 612.

Q. 556.03.14 Erection

Submit a steel erection plan and specifications meeting the latest editions of the AASHTO LRFD Bridge Construction Specifications and the AASHTO Steel Bridge Erection Guide Specification, that ensures safety, prevents overstressing of the steel, maintains stability, prevents damage to the work or surroundings, and achieves the proper final geometry. Submit a complete erection plan and specifications for erection of the steel and for any necessary falsework, temporary bracing, temporary bolts, or other items. Describe the sequencing of bolt snugging and pretensioning.

The erection plan and specifications must bear the signature and seal of a professional engineer licensed to practice in Montana. Check and approve before submitting. The Department has 20 calendar days to review and return the submittal.

R. 556.03.15 Falsework

Design, construct, and maintain falsework to support the maximum construction loadings. Check and approve falsework drawings before submitting. The Department has 20 calendar days to review and return the submittal.

S. 556.03.16 Bearing and Anchorage

Place masonry bearing plates in accordance with Subsection 565.03.2.

T. 556.03.17 Placing Anchor Bolts

Place anchor bolts in accordance with Subsection 552.03.13.

U. 556.03.18 Straightening Bent Material

Submit a plan to the Project Manager for approval, for straightening bent material. The Department has 20 calendar days to review and return the submittal.

V. 556.03.19 Pin Connections

Furnish the Project Manager the pilot and driving nuts provided with the steelwork once the work is complete. The members must take full bearing on the pins. Bring pin nuts up tight and burr the threads at the nut face.

W. 556.03.20 Misfits

Correct all misfits, errors, and injuries as a part of the assembly and erection work. Report to the Project Manager all shop work errors that prevent the assembly and fitting of parts with a minimum use of drift pins, reaming, slight chipping or cutting. Obtain Department approval for the correction method. Corrections must be inspected and approved.

X. 556.03.21 Cleanup

Remove all falsework, excavated or unused materials, rubbish, and temporary buildings. Restore all public and private property damaged during construction to its original condition.

Pull, cut off or otherwise remove all falsework piling 1-foot below finished the ground line or streambed, unless otherwise directed. Perform all work affecting the stream channel in accordance with Subsection 208.03.4 before final acceptance.

Y. 556.03.22 Rejections

An Inspector’s acceptance of material or finished members does not prevent later rejection if defects are found. Replace or repair rejected material and work at Contractor expense.

Z. 556.03.23 Girder Profile Survey. Survey the top flange 10th points under steel dead load after completion of erection and before adding any additional dead load. Submit to the Project Manager a minimum of 14 calendar days prior to deck placement.

AA. 556.04 Measurement and Payment. Structural Steel is measured and paid for by the lump sum.

The weight of structural steel in the contract is an estimate only. No guarantee is made that the estimated weight is the correct weight to be furnished. No adjustment in the contract unit price is made if the weight furnished is more or less than the estimated weight.

If changes in the work ordered by the Project Manager vary the weight of steel to be furnished, the lump sum payment is adjusted as follows:

The value per pound of a decrease or increase in the weight of structural steel involved is determined by the following:

Value per Pound = Contract Lump Sum Bid/Estimated Contract Weight

The adjusted contract lump sum amount paid is the contract lump sum bid plus or minus the value of steel involved in the change.

Should the ordered change materially alter the character of the work and the unit cost, compensation for that work is made at an agreed price established before the work is performed. Detail in writing, the changes in procedures and the resulting costs for labor, equipment, and materials to support the agreed price.

Partial payments for structural steel will be made based on the lump sum contract unit price as follows:

1) 90% when erected.
2) 97% when bolted and spot painted.
3) 100% when fully in compliance with the plans and specifications.

54. CONCRETE - CLASS STRUCTURE LOW SLUMP (REVISED 9-9-21)

A. Description. Furnish Concrete – Class Structure Low Slump for all full depth bridge deck concrete, bridge barrier rail, and metal bridge rail curbing.

B. Construction Requirements. Furnish material meeting the requirements of Concrete – Class Structure, with the following modifications:

1) The maximum target value for slump is 3-inches with a tolerance of plus 1½-inches to minus 2-inches.

2) When used in bridge barrier rail or metal bridge rail curbing, the target slump may be adjusted to a maximum of 6-inches.

3) Overall Lot Pay Factor. The overall lot pay factor will be calculated for all bid items using Concrete – Class Structure Low Slump, except metal bridge rail.

4) Applicable Pay Factors. See Table 551-9 for applicable pay factors. Pay factors for strength, air content, and gradation are applicable. The pay factor for permeability is not applicable.

C. Measurement. Concrete – Class Structure Low Slump is measured by the cubic yard.

D. Basis of Payment. Include all costs associated with this provision in the bid price for Concrete – Class Structure Low Slump (CUYD).

55. BRIDGE DECK REINFORCING STEEL COVER [564] (REVISED 10-28-21)

A. Description. The Department may measure the depth of the concrete cover over the top reinforcing steel of the bridge deck(s) and the deck thickness, using Ground Penetrating Radar (GPR) equipment.

B. Construction Requirements. Schedule 3 business days for the Department to access the deck. Ensure the deck is completely bare during the 3 business-day period, or until the test is complete, to allow full access to the entire surface. The timeframe for access to the bridge deck is after the water cure has been completed and prior to opening the bridge deck to traffic. The Department will perform the test only on a dry deck. The test may be completed either prior to or after transverse deck grooving or rail construction. If inclement weather prevents the test from being performed within the 3 business days provided, the test will be cancelled or rescheduled. Provide the Project Manager a minimum of 14 calendar days' notice for the 3 business-day access period. The Project Manager will coordinate the test with the Department's CES Bridge Reviewer.

C. Method of Measurement and Basis of Payment. Consider all costs associated with this provision and its requirements incidental to performance of the work. Include the costs in the cost of other items.

56. TEMPORARY SHORING

A. Description. Provide temporary retaining systems to facilitate construction of the following: Bridge Over Flathead River, miscellaneous embankments and structures, culverts, temporary roadways, stone columns, compaction grouting, and incidental elements.

B. Submit temporary retaining systems or shoring proposal to the Project Manager in Adobe Acrobat Reader (.pdf) format for approval before the work begins. Include in the proposal drawings and details showing the shoring system and layout, and copies of design calculations, all stamped and signed by a Professional Engineer licensed to practice in Montana. Proceed with the temporary shoring protection measures only after MDT approval of the submittal. Allow 10 working days for each review of the submittal.

C. Construction Requirements. Install temporary retaining and / or shoring systems as necessary to construct bridge elements or structures, maintain traffic, construct embankments, and accomplish construction. Design temporary shoring to accommodate excavation, phasing and vibration levels from stone column installation. Fully implement the plan prior to modifying any existing structure.

D. Basis of Payment. Include all costs associated with providing, designing, installing, maintaining and removal of temporary shoring and excavation, in the Lump Sum Bid for Temporary Shoring.

57. DISC BEARING DEVICES

A. Description. Design, fabricate, test, and install disc bearing and mating surfaces as shown on the plans and as described in this provision. Pot bearings will not be allowed. This work includes the design, fabrication or manufacture, packaging, handling, transportation, and installation of the bearings. Design and fabricate disc bearings so that they can be readily inspected and easily removed and replaced during the service life of the bridge. Design all components of the bearing device, except sole plates, to be replaceable by lifting the superstructure no more than 3/8 inch.

1) Design the disc shear resisting mechanism to allow free rotation and withstand the specified horizontal forces. Design the mechanism to withstand the design forces on the bearing without exceeding the shear, bending, and bearing capacities. Do not use the shear resistance of the Polyether urethane disc in computing the capacity.

2) Unless noted otherwise, conduct the design, fabrication, testing, and installation of the bearings in accordance with the AASHTO LRFD Design Specifications Section 14, and the AASHTO LRFD Bridge Construction Specifications Section 18.

B. Materials. Use only new materials for the manufacture of the bearings with no reclaimed material incorporated into a finished bearing. Unless otherwise approved by the Project Manager, furnish bearing assemblies, including the sole plates, as a complete unit from one manufacturing source.

1) Polyether Urethane. Use polyether urethane conforming to Section 18.3.2.8 and table 18.3.2.8-1 of the AASHTO LRFD Bridge Construction Specifications.

2) Anchor Bolts. Use anchor bolts meeting the requirements of ASTM F 1554.

3) Plates and Bars. Use steel for plates and bars meeting the requirements of AASHTO M 270 Grade 50W. Finish and bevel plates as shown on the plans.

4) Adhesive Material. Use epoxy resin, fluorinated ethylene propylene (FEP) film or approved equal meeting the requirements of ASTM D6412.

5) Stainless Steel: Use stainless steel meeting the requirements of ASTM A240, Type 304, with a minimum No. 8 mirror finish.

6) Polytetrafluoroethylene (PTFE). Use PTFE sheet manufactured from pure virgin unfilled TFE resin conforming to the material requirements of AASHTO LRFD Bridge Construction Specification, Section 18.8.2.

7) Grout. Provide one of the following cementitious grouts, or an approved equal which meets the requirements of the table below.

- BASF MasterFlow 928
- Dayton Superior D490 Sleeve-Lock Grout
- Sika SikaGrout 328

Compressive Strength	4,000 psi 8,000 psi	(at 1 day) (at 28 days)	(ASTM C-942)
Flexural Strength	1,150 psi	(at 28 days)	(ASTM C-293)
Splitting Tensile Strength	600 psi	(at 28 days)	(ASTM C-496)
Tensile Adhesion Strength	1,900 psi	(at 28 days)	(ASTM C-882)
Flowability	124-145%		(ASTM C-1437)
Set Time	3.0-4.0 hrs 5.0-7.0 hrs	(initial) (final)	(ASTM C-266)
Color	Gray		
Composition	Cementitious		

C. Submittals. Provide shop drawings, installation instructions, and design calculations to the Project Manager meeting the requirements of Section 556.03.2 of the Standard Specifications. Submit shop drawings in Adobe Acrobat Reader (.pdf) format. Have a professional engineer licensed in Montana sign, stamp or seal these plans and design calculations. Design the disc bearing to meet the current edition of the AASHTO LRFD Bridge Design Specifications.

1) Clearly show the load capacities and movements of the disc bearing system downward, upward, and horizontally in the calculations and on the shop drawings, as applicable. Show forming, anchoring, height, finishes, tolerances, plinth, anchor bolt details including projection, and miscellaneous requirements as noted in the plans. Include all applicable requirements of Section 14 of the AASHTO LRFD Bridge Design Specifications and Section 18 of the AASHTO LRFD Bridge Construction Specifications on the shop drawings and calculations.

2) Clearly show all construction and fabrication tolerances on disc bearing shop drawings. Show top of column and bearing seat elevations. Verify disc bearing anchor rod locations and bearing dimensions are compatible with bridge drawings and layout to ensure fit-up and avoiding conflicts with reinforcing.

3) Coat all disc bearing components or elements of components that are not otherwise protected from corrosion by the inherent design of the bearing device with zinc metalizing per AWS C2.23M/NACE No. 12 SSPC-CS 23.00, with a total thickness between 10 and 16 mils. Clearly show the areas to be metalized on the shop drawings. For areas not proposed to be metalized, indicate the reasons why metalizing is not required or practicable and propose an alternative method of corrosion protection. The use of methods of corrosion protection other than zinc metalizing is subject to review and approval by the Project Manager. Do not fabricate bearings prior to receiving approval of the shop drawings and design calculations. Do not deviate from the approved shop drawings and design calculations.

D. Construction Requirements.

1) Fabrication. Fabricate according to the AASHTO LRFD Bridge Construction Specifications Section 18. Acceptance of the disc bearings will be in accordance with the AASHTO LRFD Bridge Construction Specifications section 18.3.

2) Testing. Upon completion of fabrication, test at least one representative guided disc bearing in accordance with AASHTO LRFD Construction Specifications – Section 18.

a) Submit testing protocol and procedures with fabrication drawings to the Engineer for approval.

b) Bearings are to be of a design configuration which is shown to pass long-term deterioration testing in accordance with Section 18.1.5.2.7. Submit past long-term testing results from similar systems for review. Project specific long-term deterioration tests are not required.

3) Certification. With each shipment, furnish two copies of written certification by the bearing manufacturer that the furnished bearings conform to all of the requirements shown on the plans and stipulated herein.

4) Packaging. Package and protect the bearings from damage during handling, transporting, and storing. Replace any bearing damaged by handling, transporting or storing at no cost to the Department.

5) Installation. Verify that the overall disc bearing height, bolt locations, and bearing plate dimensions prior to construction of columns. Install disc bearings in strict accordance with the Contract Plans and the manufacturer's instructions. Take measures to limit the rotation of the bearings to within the maximum design rotation during construction.

a) Weld each disc bearing device sole plate to the bottom flange of the steel beams only when the average temperature of each girder, as measured by the method defined in Girder Temperature Requirements for Bearing Welding special provision, has been determined to be between 15- and 60-degrees Fahrenheit. Relieve loading on bearing device to ensure no elongation or distortion in disc bearing prior to welding. Complete the welding as specified herein and manufacturer's instructions. Include temperature and placement instructions and tables in shop drawings.

b) The instantaneous temperatures of the sole plates must not exceed 225°F when field welding the sole plate to the bottom flange. Do not expose the urethane disc to direct flame or sparks. Do not pass weld current between bearing plates on either side of the urethane disc. Replace any bearing damaged during installation at no cost to the Department.

E. Method of Measurement. A complete bearing device includes the sole plate, top bearing plate, bottom bearing plate, masonry plate, guide bars, slide plates, shear resisting mechanisms, anchor bolts, stainless steel, PTFE and urethane disc required for one beam seat. Include all costs associated with designing, fabricating, packaging, testing, shipping and installing the device in unit price bid.

F. Basis of Payment. Payment for each complete bearing device and all associated resources is at the unit price bid for Disc Bearing Devices each.

58. MODULAR EXPANSION JOINT SYSTEM

A. Description. This item of work consists of furnishing materials, services, labor, tools, equipment and incidentals necessary to design, fabricate, inspect, test and install the expansion joint system as specified. Provide an expansion joint assembly consisting of a modular, multiple seal joint system that will allow movements as shown and noted in the plans. Configure the expansion joint system to consist of preformed neoprene strip seals mechanically held in place by steel edge and separation beams. Support each separation beam by an independent support bar which is welded to the separation beam. Suspend the support bars over the joint opening by sliding elastomeric bearings. Incorporate an equidistant control system which develops its maximum compressive force when the joint is at its maximum opening. Do not incorporate any bolted connections between the separator beams and support bars. Provide an expansion joint system that is continuous across the full width of the clear opening and continues into the bridge rail curb as shown on the plans.

1) Use a joint system designed to withstand an HL - 93 truck loading and impact in accordance with AASHTO Specifications. Design the expansion joint system to accommodate

all expected longitudinal movements (i.e. thermal, etc.) as well as vertical and horizontal rotations. Incorporate strip seal glands with a maximum movement range of 3 inches per seal in the design. Design the springs and bearings to be removable and replaceable. Design and detail the joint system to minimize conflicts with transverse and longitudinal deck steel.

B. Materials. Use materials conforming to the following:

1) Use steel members meeting the requirements of AASHTO M270 Grade 50. Use stainless steel meeting the requirements of ASTM A240, Type 304. Do not use aluminum members. Use PTFE that is made from pure virgin resin. Use a flexible, non-reinforced, extruded neoprene compound for the elastomeric seals.

C. Submittals. Furnish shop drawings, design calculations and written installation instructions to the Project Manager. Show all material specifications and dimensions of the individual parts of the fabricated joint assembly on the shop drawings. Shop drawings submitted without written installation instructions will be rejected. Show the total anticipated movements for the joint and the required setting width for the joint assembly at various temperatures. Submit in Adobe Acrobat Reader (.pdf) format. Show all joint setting data on the drawings. Meet all other requirements of sub-section 556.03.2. Do not begin fabrication of the joint until the Department has approved all of the information contained on the shop drawings.

D. Construction Requirements. Galvanize all steel in accordance with the AASHTO M 111. Use a fabricator meeting the requirements of Section 556.03.1. All splice welds must develop full strength. Grind smooth all welds in contact with the elastomeric strip seals. Provide factory attached lifting devices and brackets to facilitate installation. Protect the joint system from damage during handling, transporting, storage and installation. Replace the joint if damaged by handling, transporting, storage, and installation at no cost to the Department.

1) Provide a manufacturer's installation technician on-site during the entire installation process. Install the modular expansion joint system in strict accordance to the written installation instructions and recommendations made by the joint manufacturer's installation technician. The manufacturer's installation technician will provide written certification that all installation instructions were followed. Install the joint to conform to the roadway cross-section. Clean any foreign material from the elastomeric strip seals and edge members prior to installation.

2) Use an assembly with provision for final field adjustment at the time of installation. Perform final adjustment of the assembly as directed. Adjust assembly as required to account for thermal movements immediately prior to casting concrete around the assembly. Flood the joint system for a minimum of one hour after installation is complete. Repair the joint system as recommended by the manufacturer and approved by the Project Manager if leaking is observed.

E. Method of Measurement. This work will be measured in linear feet along the centerline of the joint, parallel to the plane of the finished joint surface.

F. Basis of Payment. Payment will be made at the contract unit price bid per linear feet for Modular Expansion Joint. Include material, labor, tools, equipment, and incidentals necessary.

59. <u>WATERWAY PASSAGE AND SIGNING</u>

A. General. Provide and sign at all times during the bridge work a passable waterway channel for waterway users. When a clear and present risk to public safety is anticipated, follow the temporary river and/or Sportsman's FAS closure process of notification and signing. It is anticipated that waterway users may approach the structure from both upstream and downstream and may include motorized and non-motorized craft.

B. Construction Requirements

1) Construct falsework and work bridges to provide 8 feet of vertical clearance and a clear waterway opening of a minimum 20 feet wide as measured perpendicular to the flow as directed by the Project Manager. Review the site with the Project Manager and Fish, Wildlife

and Parks (FWP) contact to determine the best placement(s) of the opening considering channel depth and current. The minimum specified waterway opening must be provided through all instream structures including but not limited to the falsework, work bridges, existing, and new structures in combination with each other. Establish the vertical clearance using a water surface elevation of 2896. Monitor the 8-foot clearance daily and immediately remove the structure over the waterway opening if rising water reduces the vertical clearance to less than 8 feet. Provide a 24-hour contact phone number for the person monitoring the river in case of an emergency.

2) If using a barge, submit a work barge plan to the Project Manager for approval prior to beginning barge work. Detail in the plan the barge mooring, barge dimensions, operations to be performed from the barge, and the period of use including the estimated calendar dates. Do not permit the barge or its moorings to encroach into the waterway channel marked by the buoys as described in this provision.

3) If blasting to remove the existing substructures, submit a river access closure plan meeting the following requirements:

a) Develop the river closure plan in cooperation with the Project Manager, FWP Contact, the Blaster-in-Charge, and US Army Corps of Engineers Montana Program Manager (406) 441-1376. Obtain approval of signing and the river closure plan 14 calendar days before blasting/demolition operations.

b) Close the Flathead River in the vicinity of the existing structure to all access before daily blasting/demolition activities commence.

c) Warn the public in advance of temporary river or Sportsmans FAS closures by means such as radio/TV announcements, articles in local and state newspapers, and via the internet.

d) Install signs and other traffic control devices on the Flathead River upstream and downstream of the closure, and at the fishing access sites specified in this provision.

4) Notify FWP, at least 48 hours prior to commencing any work which creates a clear and present risk to the safety of floaters traveling through the work site or users of the Sportsmans FAS in order to activate the temporary river closure process. Include in the notification the activity necessitating the closure, the risk to safety of the floating public, specific dates, times and anticipated durations of closure required.

a) Primary FWP Contact Information: Dillon Tabish, Regional Communication and Education Program Manager, Montana Fish, Wildlife & Parks, Region 1, 490 N. Meridian Road, Kalispell, MT 59901, Ph: (406) 751-4564.

b) If the Primary FWP Contact is unavailable, contact: Tony Powell, Regional Recreation Specialist Parks and Outdoor Recreation Division, Montana Fish, Wildlife & Parks, Region 1, 490 N. Meridian Road, Kalispell, MT 59901, Ph: (406) 751-5423

5) Notify the following entities of temporary river or Sportsman's FAS access closures at least 48 hours in advance of the temporary closure:

- The Montana Board of Outfitters
  301 S. Park, Room 428, Helena, MT 59620, (406) 841-2370
  dlibsdout@mt.gov
- Fishing Outfitters Association of Montana (FOAM)
  PO Box 67, Gallatin Gateway, MT 59730, (406) 684-5564
  foam@gmail.com
- Montana Outfitters and Guides Association (MOGA)
  PO Box 1248, Helena, MT 59624, (406) 449-3578
  moga@mt.net

6) Contact FWP immediately upon completion of this work to lift the temporary river closure.

The maximum time allowed for each instance of work requiring temporary river closure is 48 hours. Expedite this work to minimize the temporary river closure period necessary.

a) Signing. Sign the waterway for the bridge work as follows:

(1) Install “8 FOOT MAXIMUM CLEARANCE AT FLATHEAD RIVER – HWY 82 BRIDGE" signs at the following waterway access sites:

UPSTREAM			
Site(s)	Controlling Entity	Town	Phone
Ranchettes Rd	Flathead County	Creston	758-5727
Church Slough	Flathead County	Creston	758-5727
Old Steel Bridge	MT FWP	Evergreen	751-5423
Eagle Bend Yacht Harbor	Private	Bigfork	837-3662
DOWNSTREAM			
Site(s)	Controlling Entity	Town	Phone
Bigfork Fishing Access Site	MT FWP	Bigfork	837-3041
Wayfarers State Park	MT FWP	Bigfork	837-3041
Somers Fishing Acecss Site	MTFWP	Somers	751-5423

(2) Install signs and other traffic control devices on the Flathead River as follows:

b) Install 5 ½-ft x 3-ft "NAVIGATION RESTRICTION AHEAD" signs on both banks at approximately 500 feet and 1500 feet upstream and downstream of the structure. Attach two Type C Steady burn lights to the top corners of each sign. Place the signs at a point above the high-water level, or as directed by the Project Manager, facing oncoming waterway users. See Section II for sign design.

c) Channel Marker Buoys. Furnish and install hanging can or anchor buoys to delineate a channel to the falsework opening. Use buoys having the hazard-warning symbol with the "HAZARD AREA" message.

Space the buoys on 25 ft centers starting from the falsework and/or bridge to at least 100 feet upstream and downstream, measured perpendicular to the upstream structure face.

Follow the buoy manufacturer's installation recommendations. Consult with the Project Manager and determine a mutually agreeable date for removing and installing buoys due to river icing. Use buoys and channel markers following the U.S. Aids to Navigation (ATON) system. Contact the U.S. Coast Guard District Aids to Navigation office at (206) 220–7270.

d) Hanging Can Buoys. Use an aerial cable to suspend the hanging can buoys approximately two feet from the water's surface. Flare the cables out from both sides of the falsework/bridge opening to both shorelines.

e) Surface Buoys. Lay and anchor the cables to the river/stream bottom for attaching the buoy mooring lines. Ensure the anchor cable is ballasted to prevent it from rising from the river/stream bottom. Flare the cable out from both sides of the falsework/bridge opening to both shorelines.

f) Falsework and Bridge Opening Lighting. Install Type C Steady burn lights, spaced on maximum 3 ft centers, on the top and sides of the false work opening or bridge opening to be used by waterway users.

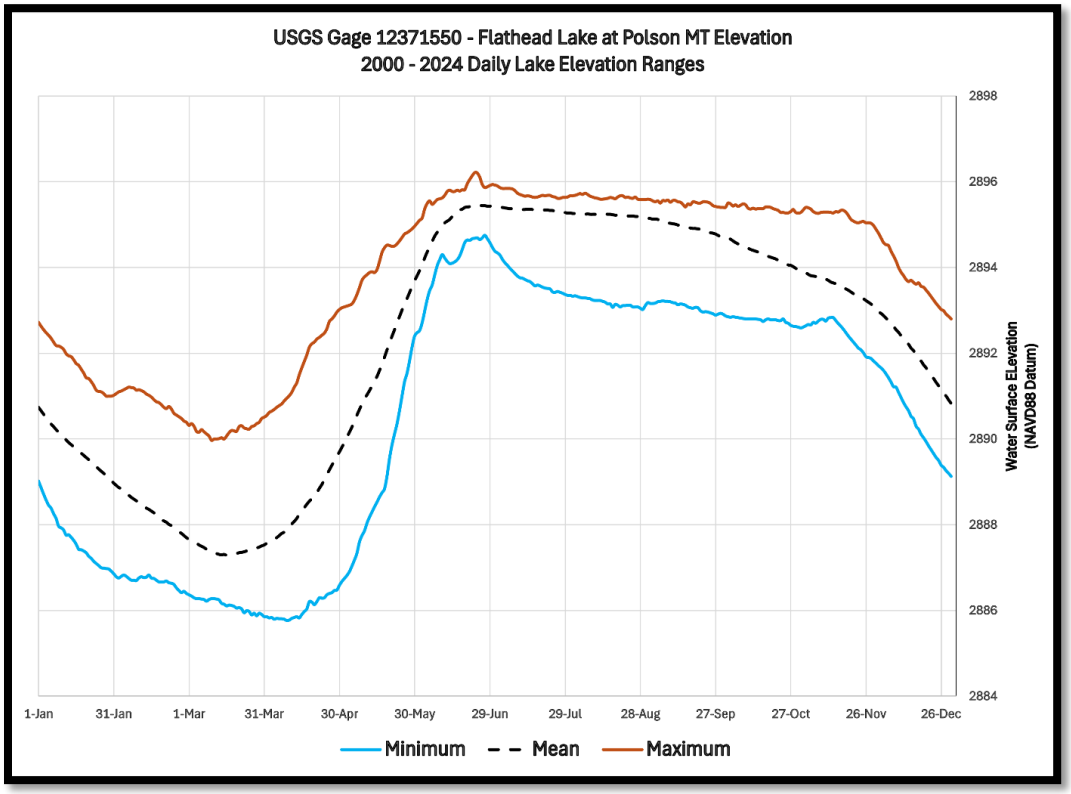
g) During temporary river closure periods, cover or replace “NAVIGATION RESTRICTION AHEAD” signs with the same size and type signs in the same location reading “RIVER CLOSED AHEAD”.

C. Basis of Payment. Include all costs of materials, handling, tools, equipment and labor necessary to accomplish this work under Miscellaneous Items – Each.

60. FLATHEAD RIVER WATER ELEVATIONS

A. The water elevations illustrated below are provided for information only. The annual elevation variances are a graphical representation of historic data recorded from the year 2000 through the year 2024 at the south end of Flathead Lake by US Geological Survey Gage #12371550 – Flathead Lake at Polson, Montana. The MT-82 bridge over the Flathead

River is approximately 2.5 miles upstream of Flathead Lake and river water levels at the bridge site are strongly influenced by the lake water level.



B. The source USGS gage data has been converted for this graphic to the project's vertical datum: NAVD88, U.S. feet.

61. 48-INCH STEEL PIPE PILE

A. Description. This work includes the construction of driving templates, installation of 48-inch driven steel pipe piling at the locations and to the resistances as shown on the Plans, and partial removal of soil within the pile and replacement with reinforced concrete.

B. Materials.

1) Steel Pile. Provide 48-inch diameter steel pipe pile with a wall thickness of 1.0-inch in accordance with Section 559 and meeting the requirements of the Contract. Pile to meet requirements of Subsection 106.09 Domestic Materials. Pile are to be rolled and welded steel pipe. Spiral welded pile are not allowed.

2) Template and Frame. Provide steel template and frame designed to maintain pile horizontal alignment and plumbness.

3) Concrete. Furnish Class Drilled Shaft concrete in accordance with Section 551 and the requirements of the Contract.

4) Reinforcing Steel. Furnish Reinforcing Steel in accordance with Section 555 and the requirements of the Contract.

C. Submittals.

1) A minimum of 30 calendar days prior to installing pile, submit to the Project Manager the requirements of Section 559 and the following:

a) Template Design and supporting calculations. Template must be designed by a professional engineer registered in the State of Montana.

b) Description of equipment to be used to remove soil from pile

c) Description of methods and equipment to be used to maintain pile verticality.

D. Construction Requirements.

Provide a Template and Frame capable of supporting the anticipated horizontal and vertical forces for pile installation and driving.

1) Establish benchmarks on the Template Frame and survey template and pile at the beginning and end of each segment of pile installation to verify pile alignment is being maintained and meeting the requirements of the Contract.

2) Install pile at plan locations in accordance with Section 559 and the requirements of the Contract.

3) Maintain verticality of pile to achieve final verticality within 0.5 percent of vertical (less than 3 inches in 50 feet). Maintain horizontal location so the pile head at cutoff elevation is horizontally within 2 inches of the plan location. At a minimum, measure both horizontal location and plumbness:

a) At initial pile positioning,

b) At every 1-foot vertical interval for the first five feet of ground penetration,

c) At every 2-foot vertical interval for the next ten feet of ground penetration,

d) At every 5-foot vertical interval for the next twenty feet of ground penetration,

e) At every splice interval thereafter, and

f) Final pile embedment.

If during driving it is determined verticality and horizontal location are outside of tolerance requirements, halt driving and submit corrective action plan including proposed method of extraction, equipment, vibration monitoring program, and revised methods for meeting verticality and horizontal requirements. Do not install additional pile until corrective action plan has been reviewed and approved and revised methods are shown to meet the specified tolerances.

4) Monitor vibration and settlement in accordance with the Vibration and Benchmark Monitoring Special Provision.

5) Install pile to specified resistance and tip elevation as required elsewhere in the Contract.

6) Drive final 40 feet of pile at each pier in one continuous operation.

7) Conduct Dynamic Load Test during installation of first pile at each pier in accordance with Section 559. Complete Redrive a minimum of 72 hours after completion of initial drive if required resistance is not obtained during the initial drive.

8) After all piles have been installed at each pier, remove soil from within piles to a depth of 90.0 feet below the specified top of pile elevation. Maintain water level inside of pile within 5 feet of the current river level outside the pile at all times during excavation.

9) After soil has been removed and the excavation depth approved by the Project Manager, place reinforcing steel and concrete by the tremie method in accordance with Section 558 and the requirements of the Contract.

10) Provide positive support of steel reinforcement to prevent settlement of reinforcement.

11) Paint all pile in accordance with Section 559 using finish coat paint color Concrete Gray.

E. Method of Measurement.

1) Furnish Pile is measured by the pound based on the plan quantity.

2) Drive 48-Inch Pile is a miscellaneous item and is measured by the lineal foot of pile driven into the ground. Pile above the ground is not measured for payment.

3) Pile Splice. When the pile tip extends more than 1-foot below the plan estimated pile tip elevation, additional pile splices required are measured for payment. Pile splices are measured by the number of pile splices performed in the field and approved by the Project Manager. Splices made for Contractor convenience, to facilitate driving operations, or to

produce pile sections in accordance with specified design lengths are not measured for payment.

4) Pile Cutting Shoes are measured by the unit for the quantity specified in the Contract.

5) Soil Removal is a miscellaneous item and will be measured by the cubic yard.

6) Drilled Shaft Concrete will be measured by the cubic yard for the linear feet of open pile between the bottom of the removed soil within the pile and the top of pile shown on the Contract.

7) Reinforcing steel will be measured by the pound in accordance with Subsection 555.04.

8) Template design, template installation and painting of steel pile are not measured for payment.

F. Basis of Payment. Payment for the completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Miscellaneous Items A LNFT	Lineal Foot
Furnish Pile	Pound
Pile Cutting Shoe	Each
Pile Splice	See Subsection 109.04 Extra Work
Miscellaneous Item - CUYD	Cubic Yard
Drilled Shaft Concrete	Cubic Yard
Dynamic Load Test	Each
Redrive Test Pile	Each
Redrive of Service Pile	Force Account
Reinforcing Steel	Pound

62. BACKFILL OF HIGH WATER BOAT LAUNCH – STATION 310+40 TO 312+40 RT

A. Description. This work is the backfilling of the existing high water boat launch with Geotextile and Special Borrow in conformity to the lines and grades shown on the plans or as directed by the Project Manager.

B. Materials.

1) Provide Stabilization Geotextile meeting the requirements of Section 716.

2) Provide Special Borrow meeting the requirements within these Special Provisions.

C. Construction Requirements.

1) If water is present, remove water prior to placing Stabilization Geotextile.

2) In the area of embankment placement, cut all vegetation greater than 1 inch in diameter flush with the ground. Remove all brush and trees.

3) Place geotextile over the embankment subgrade area as shown on the plans and cross sections in conformance with Subsection 622.03. Overlap the adjoining edges of the geotextile a minimum of 3 feet with the edge of the upgrade sheet over the edge of the downgrade sheet.

4) Place the first 16 inches of Special Borrow over the geotextile without any specific compaction effort and with the least amount of equipment traffic possible.

5) Place the next lift of Special Borrow in an individual lift of 8-inch loose thickness and compact to a minimum 90% of the maximum dry density, as determined by MT 210.

6) Place subsequent lifts of Special Borrow in accordance with Subsection 203.03.3.

D. Method of Measurement.

1) Special Borrow – Neat Line is measured in accordance with Section 203.

2) Geotextile is measured in accordance with Section 622.

E. Basis of Payment. Payment is full compensation for all labor, tools, equipment and other incidentals necessary to complete the work in accordance with the specifications and as directed by the Project Manager.

1) Special Borrow is paid for in accordance with Section 203.

2) Geotextile is paid for in accordance with Section 622.

63. STONE COLUMNS

A. Description.

1) Construct stone columns by vibro-replacement methods, complete in-place, including layout and required site preparation, preservation of site stability, and restoration, in accordance with requirements in the Contract. The purpose of the stone columns is to reinforce, confine and improve the drainage characteristics of the foundation soils to provide the required static and seismic stability as well as expedite the time/rate of settlement.

2) Alternative installation methods proposed by the Contractor are subject to the Project Manager's approval and in accordance with ground conditions and the design intent.

3) The primary items of work included in this specification include construction of stone columns, layout and required site preparation, preservation of site stability, and restoration as required.

B. Materials.

1) Furnish backfill for stone columns that is a crushed gravel or stone aggregate meeting the requirements for Coarse Aggregate for Concrete Subsection 701.01.2 Gradation No. 1 or No. 3. For purposes of this specification, crushed aggregate is defined as having at least one mechanically fractured face on 35% of the particles.

2) Determine the Maximum and Minimum Index Densities and Unit Weights in accordance with ASTM D 4253/4254 in order to calculate the dry unit weight of aggregate necessary to achieve a target Relative Density, RD = 70%.

3) Furnish High Survivability, Nonwoven, Class A Subsurface Drainage Geotextile Filter meeting requirements of Subsection 716.04.

4) Furnish Drain Aggregate meeting requirements of Subsection 701.10.

C. Contractor Experience and Submittals.

1) Experience. The Contractor must be properly experienced and equipped for accomplishing ground reinforcement in compliance with the project objectives. The contractor and specialty superintendent must have documented a minimum of 5 years of experience with the methods of installation proposed for this project and have completed a minimum of 5 projects with a minimum of 200 stone columns per project. Provide pdf copies of this documentation for review and approval of the Project Manager at least 15 days prior to beginning the work.

2) Work Plan. A minimum of 15 days prior to beginning the work, provide a documented work plan including following items:

a) Schedule, personnel, and equipment.

b) Methods for site preparation, preservation of site stability, finished grading methods, and water control.

c) Method for installation and quality control for stone columns.

D. Acceptance Criteria.

1) Backfill. Acceptance for this material is based on satisfactory compliance with the requirements of Item B, above, as documented by testing performed by an independent testing laboratory with AASHTO accreditation. Perform supplemental production gradation testing on a frequency of one test per 300 cubic yards with results provided to the Project Manager for review and approval prior to continued site delivery.

2) Test Columns. Test Columns must verify that the methods and vibratory equipment used by the Contractor can achieve the required stone weight, saturated surface dried (SSD) in-place per unit length of column in compliance with the relative density and

liquefaction mitigation criterion. Verify continuous documentation of vibrator amperage, stone density, and compaction procedures for subsequent monitoring of installation consistency and reproducibility in terms of densification effort.

a) Verify that the laboratory determined target RD = 70% dry density of stone and minimum column diameter are achieved in-place by observation and measurement of stone input and lift thickness.

b) Retain an independent testing company to conduct Cone Penetration Testing (CPT) per ASTM D5778 at continuous intervals within the test unit cell to verify that necessary ground improvement has been achieved to mitigate liquefaction potential per the criterion below in this item. Conduct the work using a CPT rig that has been calibrated within the project year. Provide CPT results to the Project Manager for evaluation by the Geotechnical Representative. Successful mitigation of liquefaction potential will be considered as having achieved a minimum Factor of Safety of 1.5 against liquefaction utilizing the CPT results and the Robertson Method of analysis for liquefaction evaluation with a peak ground acceleration of 0.13 g at Bent 1 and 0.10 g at Bent 5.

E. Construction.

1) Furnish vibratory probe and related equipment, electrical power, and any other necessary items for stone column installation. Provide vibrator with a minimum 100kW of power and a minimum centrifugal force of 34,000 pounds about the vertical axis.

2) Control and dispose of water resulting from stone column construction and associated site preparation consistent with regulatory requirements applicable to this Contract. Contractor is to install stone columns using techniques and construction practices that will not destabilize the banks or adversely impact the water quality of the Flathead River.

3) If vibration and settlement monitoring during initial stone column installation indicates stone columns cannot be installed near the existing bridge, replace stone column locations determined to be unsuitable with sufficient compaction grout columns to meet acceptance criteria of the Contract.

4) Prepare and maintain a stable working platform of Drainage Aggregate over the stone column and compaction grout installation area as necessary to accommodate project-specific construction equipment, maintain site stability, and prevent foundation drainage or construction-related turbidity increases to the Flathead River. This work may include subexcavation, temporary shoring and related grading for equipment access, possible use of geotextile/geogrid at the Contractor’s discretion and expense, and requires collection, diversion, and containment of construction and runoff waters as necessary to preserve Flathead River water quality.

5) Initiate stone column work with installation of one (1) unit cell consisting of four (4) test columns in rectangular pattern as shown on plans at approximate station 310+35 on centerline. Do not begin production work until installation procedures for test columns have substantiated that the Contractor can achieve a stone column with a consistent in-place stone weight Saturated Surface Dry, (SSD, in stockpile) per unit column length which attains the required relative density, and which satisfies the Test Column Acceptance Criteria of this special provision. Test column construction is to establish a relationship between vibrator amperage and stone quantity per unit column length and density for use in evaluation of production column compliance. More than one unit cell of test columns may be required to satisfactorily establish acceptable results and project criteria.

6) During installation of test columns, monitor vibration in accordance with Vibration Monitoring special provision to evaluate if columns can be installed at planned locations near existing bridge. If it is determined a portion of the planned columns cannot be installed near the existing bridge, replace the unsuitable stone column locations with a suitable number of compaction grout columns meeting requirements of the Contract.

a) Test column results are to be evaluated by the Geotechnical Representative and the Project Manager. If the results of the test program indicate that the desired liquefaction

mitigation has not been achieved per the requirements of this special provision, alternate column spacing, or installation methods will be required.

b) If the Contractor has not achieved the target relative density in the columns per the requirements of this special provision, the Contractor must at his expense employ alternate installation procedures to attain the specified relative density in additional test columns in unit cells and provide additional Cone Penetration Test data as necessary to evaluate liquefaction mitigation.

c) If the Contractor has achieved the target relative density and the desired liquefaction mitigation has not been achieved, additional columns may be necessary; any such columns and materials will be paid for at the contract unit rates.

d) Proceed with production installation of stone columns only after approval by the Project Manager. Test columns may be incorporated as production elements if they meet project criteria. Installation of production columns are to be monitored per observations and testing as specified elsewhere in this special provision.

7) Construct stone columns at locations, depths, and with dimensions as shown on the Plans and as described herein unless otherwise directed by Project Manager. Conduct pre-drilling as necessary to penetrate the working platform, frozen or stiff ground, and obstructions. Construct columns with a continuous diameter of 3.0 feet extending to embedment tip elevation of 2883.0 at Bent 1 and 2852.0 at Bent 5 as shown in the plans. Install columns to completion in one continuous operation.

8) Construct columns meeting requirements below.

a) Maximum lift thickness is 36 inches.

b) Minimum column diameter is 36 inches.

c) Column verticality, 2 percent, or less.

d) Column stone volume, within 10 percent of calculated volume.

9) Replace or add additional columns not meeting requirements as determined by the Project Manager at no expense to the Department.

10) Maintain a stable column hole at all times and maintain a constant hole diameter over the column length. The Contractor is further responsible for achieving the required in-place stone density consistent with the Acceptance Criteria.

11) After completing the stone column installation at the Bents, remove any spoils and heaved or disturbed ground to facilitate placement of Subsurface Drainage Geotextile.

12) Place Subsurface Drainage Geotextile and Drain Aggregate to the lines and grades shown in the plans. Place Subsurface Drainage Geotextile in accordance with Subsection 622.03.2. Place Drain Aggregate in accordance with Section 203.

13) Remove and reclaim any temporary detention or drainage diversion features constructed for the stone column installation.

14) Construct stone columns during Phase 2 as indicated on the plans with the same methods and equipment used for Phase 1. If different equipment is used for Phase 2, construct four additional test columns and complete Acceptance Testing as required by this special provision.

F. Quality Control

1) Conduct full-time quality control monitoring with daily documentation provided to the Project Manager as the basis for review, approval, and continuation of the work. Monitor and report on the following:

a) Stone column identified by number and location

b) Date constructed

c) Elevation of top and bottom of each column

d) Measured ground heave or subsidence

e) Vibrator power consumption during penetration and compaction of each lift of stone column constructed

f) Jetting or advancement pressure for vibrator

g) Details of construction, delays, and any unusual ground conditions or movements

h) Quantity or SSD weight of aggregate placed in each column lift and total aggregate used per column

i) Provide graphical records for each column presenting the following data versus time/ depth as appropriate.

(1) Amperage draw

(2) Stone quantities with depiction of calculated in-place column diameter

(3) Compaction cycling

(4) Vibrator inclination

G. Method of Measurement.

1) Stone columns, including initial test columns accepted as production columns, are measured by the lineal foot of column complete in-place, as measured from the plan column top elevation at each column to Elevation 2883.0 at Bent 1 and 2854.0 at Bent 5, to the nearest foot, and as approved by the Project Manager.

2) Subsurface Drainage Filter is measured in accordance with Subsection 622.04.

3) Accepted quantities of Drain Aggregate are measured by the cubic yard as calculated from the plan dimensions.

H. Basis of Payment. Payment for the completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Stone Column Final Installed Length	Linear Feet
Subsurface Drainage Filter	Square Yards
Drain Aggregate	Cubic Yards

This payment is full compensation for all items, materials, testing, monitoring, labor and equipment required to complete the item.

64. COMPACTION GROUTING

A. Description. This work consists of installing compaction grout columns where shown on the plans and where Stone Columns cannot be installed due to excessive vibration levels or other reasons. Submit a Grout Plan meeting the acceptance criteria of this provision. Furnish all labor, equipment, and materials necessary to treat the areas shown on the Plans or as established by the Project Manager. Acceptance of work will be based on review and approval of the Grout Plan, coupled with the results of Cone Penetration Testing (CPT) testing, secondary and (if necessary) tertiary grout injections.

B. Experience Requirements. The Contractor must be properly experienced and equipped for accomplishing ground reinforcement in compliance with the project objectives. The contractor and specialty superintendent must have documented a minimum of 5 years of experience with the methods of installation proposed for this project and have completed a minimum of 5 projects with a minimum of 100 compaction grout columns per project.

C. Materials.

1) Cement Grout. Furnish cement grout consisting of a combination of Portland cement, soil, and water. Cement grout must have a minimum unconfined compressive strength of 300 psi at 28 days when measured in accordance with AASHTO T22 and a maximum slump of 3 inches in accordance with AASSHTO T119. Fly ash may be added as approved by the Project Manager. No bentonite or other clay of medium to high plasticity may be used. No ready mix will be accepted.

2) Cement. Provide Portland cement meeting the requirements of Subsection 551.02.1.

3) Soil. Provide material consisting of sand, silty sand and gravel meeting the gradation requirements of Table 1.

TABLE 1 - SOIL GRADATION LIMITS FOR COMBINED AGGREGATES

Sieve Size	Percentage By Weight Passing Square Mesh Sieves
3/8”	100
No. 4	70 to 100
No. 200	10 to 30

The soil fines must have a liquid limit of 25 or less and a plasticity index of 10 or less when tested according to AASHTO T 89 and T 90, respectively. Fly ash used to achieve the specified percent passing the No. 200 sieve must meet the requirements of Subsection 551.02.2.

4) Admixtures. Do not use admixtures without testing and written approval from the Project Manager. If approved, they must meet the requirements of Subsection 551.02.05.

5) Air-entraining Agents. Do not use air-entraining agents without testing and written approval from the Project Manager. If approved, they must meet the requirements of Subsection 551.02.6.

6) Water. Provide water meeting the requirements of Subsection 551.02.7.

D. Equipment.

1) Supply equipment capable of advancing the grout pipe through subsurface materials, and to the depths specified.

2) Supply all equipment necessary to operate a compaction grouting system capable of supplying the specified grout at variable flow rates and pressures, up to 500 psi and at rates of 0.1 to 5 cubic feet per minute.

3) Provide a mixer with sufficient capacity capable of uniform mixing and of sufficient capacity to continuously provide the pumping unit with mixed grout within the required pumping range.

4) Gauges are required at the pump and grout pipe head to measure pressure, rate of flow, and volume injected. Gauges must be graduated in appropriate units based on the contractor’s work plan and certified to an accuracy of ± 2 percent.

5) Flush joint steel casing is required. The steel casing must have adequate diameter and strength to maintain the hole, allow pumping of grout mix and to withstand the required jacking and pumping pressures.

6) Supply and install all equipment necessary to monitor surficial ground movement.

E. Submittals.

1) Contractor Experience. Provide documented experience meeting requirements of this special provision for review and approval of the Project Manager at least 15 days prior to beginning the work.

2) Grout Plan. After completing initial Stone Column installation and Vibration Monitoring as required elsewhere in the Contract submit a Grout Plan outlining planned grout column locations and number and location of Stone Columns that will be replaced with Compaction Grout. Submit a Grout Plan 10 business days before the start of work that describes the following:

a) A list of key personnel performing the work, including individual experience and qualifications.

b) A grout mix design, including independent laboratory test results verifying the requirements for cement grout and cement grout components.

c) An equipment list including major components to be used such as pumps, pipe, fittings, and drilling equipment. Manufacturers’ data on size, type, pressure rating, capacity, and other critical characteristics should also be included for each equipment item.

d) A work schedule including mobilization, sequencing, and demobilization.

e) The compaction grout grids presented in the Plans are for estimating purposes only. Provide a grout pipe installation plan including the spacing, location, inclination, and depth

of the primary and secondary grout pipes. Describe the installation methods, control criteria, and equipment to be used.

f) The grout quantities presented in the Plans are for estimating purposes only. Provide the grout sequence and incremental advancement criteria for the grouting. The advancement criteria must define the grout pressure limits at the grout pipe head, amount of grout take, and allowable surface ground heave for each grouting stage. Include criteria for primary and secondary grouting.

g) Provide an estimated quantity of Compaction Grout Set Casing Length (LF) and Cement Grout (CY) to achieve the acceptance criteria outlined in this special provision.

h) Describe the program to monitor the work including means of grout pressure, grout take, and ground movement measurements. Include gauge certifications.

The Department has 10 business days to review submittals as outlined in Subsection 105.02. Approval of the grout plan does not relieve the Contractor of responsibility for the successful completion of the work. Do not begin compaction grouting until the submittal requirements are satisfied and approved by the Project Manager.

3) Daily Records. Submit records of the grout pipe installation, compaction grouting quantities, including stage data, volume, pressure and depth for each grout pipe location to the Project Manager at the end of each working day.

F. Acceptance.

1) Grout. Acceptance for this material is based on material meeting requirements of this special provision.

2) Test Columns. Test Columns must substantiate the methods and equipment used by the Contractor can achieve the required depth and densification of in-place soils to mitigate against liquefaction as described in this provision.

3) Production Columns. Production Columns must be constructed in the same method, diameter, and depth as the final approved Test Columns.

4) The performance of the grouting will be evaluated by the secondary and (if necessary) tertiary holes. Higher grout pressures and lower grout takes in the secondary holes (compared to the primary holes) will provide evidence of the success from the primary holes. Tertiary casing advancement and grouting may be required if poorly grouted zones are suspected. Any additional compaction grouting must be approved by the Project Manager.

5) Retain an independent testing company to conduct Cone Penetration Testing per ASTM D5778 at continuous intervals within the test unit cell to verify that necessary ground improvement has been achieved to mitigate liquefaction potential per the criterion below in this item. Conduct the work using a CPT rig that has been calibrated within the project year. Provide CPT results to the Project Manager for evaluation by the Geotechnical Representative.

6) Successful mitigation of liquefaction potential will be considered as having achieved a minimum Factor of Safety of 1.5 against liquefaction utilizing the CPT results and the Robertson Method of analysis for liquefaction evaluation with a peak ground acceleration of 0.13 g at Bent 1 and 0.10 g at Bent 5. Conduction additional CPT testing if initial test cell does not meet mitigation criteria.

G. Construction Requirements.

1) Grout Pipe Installation.

a) Initiate grout column work with installation of five (5) test columns in pattern as shown on plans at approximate Station 310+35, 30 feet left of centerline. Do not begin production work until installation procedures for test columns have substantiated that the Contractor can achieve required densification to meet the liquefaction mitigation requirements of this special provision. The test columns will be evaluated by the Geotechnical Representative and the Project Manager. If the results of the test program indicate that the desired liquefaction mitigation has not been achieved, reduce column spacing and install additional test columns in the test area to determine if the mitigation criteria can be met. Based on accepted test columns, revise Grout Plan to meet mitigation criteria. Submit to the Project Manager and the

Geotechnical Representative for final review and approval before proceeding with production installation.

b) Install the grout pipes at the locations and to the depths indicated on the approved Grout Plan.

c) Use drilling methods capable of simultaneously drilling the hole and advancing the casing to prevent collapsing of the hole. Install casing such that there is intimate contact with the drilled hole in order to prevent grout leakage and/or premature upward movement of the casing during injection of high pressure compaction grout. External packing or other means of assuring grout delivery to the bottom of the hole may be used as approved by the Project Manager.

d) Do not use drilling media other than air or air-injected foam to install grout pipes.

2) Grout Injection.

a) Grout the primary pipes prior to secondary pipes.

b) Advance the grout pipe incrementally as proposed in the grout plan or as approved by the Project Manager.

c) Limit the cumulative surface ground heave to 6 inches or less.

3) Protection and Cleanup. During work operations, take all necessary precautions to contain drill cuttings, oil, wash water, and grout to the immediate work area. Furnish pumps necessary to handle wastewater and grout from the operations and clean up all waste resulting from the operations. Containment and site cleanup measures must be in accordance with all applicable laws and regulations, and also in accordance with the environmental requirements of the Contract.

4) Daily Records. Submit records of the compaction grout set casing installation and compaction grouting quantities including stage data, volume, pressure and depth for each compaction grout set casing location to the Project Manager at the end of each working day.

H. Field Quality Control.

1) The field quality control testing, monitoring, and logging of the compaction grouting operations will be provided by the grouting contractor.

a) Record and check grout mix proportions at least once daily.

b) Perform slump tests and record measurements of the grout mix quantities to verify the mix design(s). Conduct slump tests after any change in the mix design and at least twice daily.

c) Cast grout cylinder set (minimum of 3 inch by 6 inch) and submit to the Department. A set will consist of 4 cylinders each. The Department will conduct 7-day (for information) and 28-day (for acceptance) strength tests. Cast one set of cylinders daily or every 100 cubic yards of grout injected, whichever is less.

d) Verify the location of the injection points.

e) Submit testing results daily or as tests are completed to the Project Manager.

I. Method of Measurement.

1) Compaction Grout Set Casing Length. Compaction Grout Set Casing Length is measured by the linear foot of casing acceptably advanced below plan column top elevation at each column to Elevation 2883.0 at Bent 1 and 2852.0 at Bent 5, to the nearest foot and as approved by the Project Manager.

2) Cement Grout. Cement Grout is measured by cubic yard of grout acceptably pumped below the depth of the ground surface as approved by the Project Manager.

J. Basis of Payment. Payment is full compensation for all equipment, labor, materials, tests, and incidentals necessary to complete the work in accordance with the Contract.

1) Compaction Grout Set Casing Length. Compaction Grout Set Casing Length is paid at the unit price bid per linear foot.

2) Cement Grout. Cement Grout is paid at the unit price bid per cubic yard.

Pay Item	Pay Unit
Compaction Grout Set Casing Length	Linear Foot
Cement Grout	Cubic Yards

Additional casing installation and grouting work directed by the Project Manager, based on the results of the grouting operation and the conditions encountered, will be paid in accordance with Section 109.04.

65. SUBSURFACE DRAINS (REVISED 2-1-22 M)

A. Description. This work consists of installing subsurface drains, with geotextile, pipe and backfill material as shown in the plans or as directed by the Project Manager.

B. Materials.

1) All materials provided must meet the requirements of the Build America Buy America (BABA) special provision as applicable.

2) Provide Drain Aggregate meeting the requirements of Subsection 701.10.

3) Provide Subsurface Drainage Geotextile Filter, High Survivability, Class C, meeting the requirements of Section 716.

4) Provide 10-inch Corrugated Polyethylene Drainage Pipe meeting the requirements of Subsection 708.07, Type SP with Class 2 perforations.

5) Provide 10-inch Corrugated Polyethylene Drainage Pipe meeting the requirements of Subsection 708.07, Type S for drain outlets/connections.

6) Provide splices, fittings, and connectors that will not impede flow or damage the drainage pipe and have sufficient strength to withstand construction handling and permanent loading.

7) Provide rodent guards for each drain outlet consisting of steel screen with ½ inch by ½ inch openings and a stainless steel clamp or pre-manufactured guards meeting the opening requirements.

C. Construction Requirements:

1) Unless otherwise specified by the Project Manager, excavate the trench area as shown in the Details in the Plans.

2) Place Drainage Geotextile over the bottom and sides of the excavated trench in conformance with Subsection 622.03.3.

3) Place Drain Aggregate and Drainage Pipe in accordance with Section 622 and plan details.

4) Do not operate construction equipment directly on the geotextile until there is a minimum cover of 14 inches.

5) Do not use vibratory, studded or sheepsfoot compaction equipment on the first lift. Compact the first lift in accordance with Subsection 622.03.3.

6) Place all remaining lifts in accordance with Section 203.

7) Repair any Geotextile damaged during construction at Contractor’s expense.

8) Construct drain outlets, including slope and daylighting requirements, as shown in the plans.

D. Method of Measurement:

1) Accepted quantities of Drain Aggregate are measured by the cubic yard as calculated from the plan dimensions.

2) Subsurface Drainage Geotextile Filter is measured in accordance with Subsection 622.04.

3) Accepted quantities of perforated and non-perforated Corrugated Polyethylene Drainage Pipe are measured by the linear feet. Connectors, splices, fittings, rodent guards, trench excavation, and all labor necessary for placement of drainage pipe are not measured for separate payment.

E. Basis of Payment. Payment is full compensation for all labor, tools, equipment, and other incidentals necessary to complete the work in accordance with the specifications and as directed by the Project Manager.

1) Accepted quantities of Drain Aggregate are paid at the contract unit bid price per cubic yard.

2) Subsurface Drainage Geotextile Filter is paid in accordance with Subsection 622.05.

3) Accepted quantities of perforated and non-perforated Corrugated Polyethylene Drainage Pipe are paid for at the contract unit price per linear foot.

66. ABANDON SPRING DEVELOPMENT

A. Description. This work includes abandoning spring developments for domestic water supply. The following information was provided by a landowner as the best available information for the spring developments:

1) Southern Spring Development – 326+50, 110' RT

This is a three-feet diameter concrete pipe spring development constructed to a depth of approximately eight feet. The top access is a three feet diameter concrete lid. There is an eight-inch steel well casing installed in the center of the vault in which the pump for the domestic water supply is installed. The waterline and powerline for the pump are routed to the east to a pressure control system and power supply immediately west of the Hanging Rock Drive approach to Highway 82. The water line is routed to the residence on the hillside above Hanging Rock Drive (304 Pineneedle Lane, Bigfork, MT 59911).

2) Northern Spring Development – 326+57, 63' RT

This is a hand-built masonry block spring development constructed in a bottle shape to a depth of approximately six to ten feet deep with a base diameter of six to ten feet. The top access is three to four feet in diameter and is covered with a wooden cover. A pipe is plumbed into the masonry vault to convey water north of Highway 82 by gravity to the residence (2595 MT Hwy 82, Bigfork, MT 59911).

B. Materials

1) Furnish Drain Aggregate meeting the requirements of Subsection 701.10

2) Furnish Non-Woven Separation Geotextile meeting the requirements of Section 716.02.

3) Furnish Topsoil meeting the requirements of Section 713.05.

C. Construction Requirements

1) Advise the Project Manager 24 hours prior to initiating work on this item.

2) Remove water line, pump and power line components from the spring developments.

3) Remove power lines from the pump controller and pressure controller vault to the power pedestal supplied by the electrical utility near Hanging Rock Drive.

4) Remove the pressure controller vault and dispose at an appropriate facility off site.

5) Plug water lines and abandon in place.

6) Remove spring development vault to a minimum of three feet below ground. Dispose of non-native materials at an appropriate facility off-site.

7) Remove well casing and dispose the casing at an appropriate facility off-site.

8) Place non-woven separation geotextile to the bottom of the well casing and around the circumference of the well casing and around the excavation to remove the pressure controller vault.

9) Place and compact drainage aggregate as required to ensure all voids in the spring development well casing and vault are filled. Fill the spring development vault and excavation hole with drainage aggregate to within 2-feet of existing ground.

10) Wrap the top of the drainage aggregate with non-woven separation geotextile to ensure the total volume of drainage aggregate is wrapped with the geotextile.

11) Backfill the remaining 2-feet with topsoil.

D. Method of Measurement. Abandon Spring Development is measured per each spring development removed.

E. Basis of Payment. Payment for Abandon Spring Development is paid as Abandon Well at the contract unit price per each. Payment at the contract unit price is full compensation for all resources necessary to complete the abandonment work in accordance with the contract. Payment for all costs associated with labor, excavation, materials, filling, compaction, and disposal of all components of each spring development are included in the unit price for each spring development abandoned.

67. TIMBER DECKING FOR PRIVATE LANDOWNERS

A. Description. Clear and deck selective timber larger than 6 inches in diameter at the locations indicated below. Leave any trees that do not pose risk to the traveling public. The Project Manager will make the final determination on tree removal. Only the timber from the designated areas will be handled in the manner covered in this special provision.

B. Materials. See Section 201.

C. Construction.

1) The clearing is to be performed in accordance with Section 201. In the specified locations all efforts will be made to not disturb and preserve any live timber that is outside areas necessary to complete construction.

2) Decked timber from each location is to be placed in a corresponding designated area on the private property adjacent to the right-of-way. The area designated as the landing for the timber will be identified prior to commencing construction on the project. Coordinate with the Project Manager and the private property owner(s) (listed below) for the designated landing location(s). MDT and/or its agents are granted the right to enter the private property for the purpose of placing the decked trees in the designated areas.

3) Cleared and decked timber from each location will become property of the corresponding landowner.

4) Clear and Deck Locations:

a) Station 325+70 +/- to 336+28 +/- LT (Parcel 12)

b) Station 336+28 +/- to 347+60 +/- LT (Parcel 17)

Contact Information:
Kirt Taylor: 406-253-4703
Lynn Taylor: 406-253-0374
Leoma M. Taylor
2645 MT HWY. 82
Bigfork, MT 59911-6150

D. Method of Measurement and Basis of Payment. All timber clearing, decking, and placement in designated locations is paid under the pay item Miscellaneous Items with a lump sum pay unit. Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

68. BIAXIAL GEOGRID (REVISED 2-2-22 M)

A. Description. This work is the furnishing of labor, equipment and materials to construct a biaxial geogrid layer as detailed in the plans or as directed in writing by the Project Manager.

B. Materials. Provide geogrid manufactured using long-chain synthetic polymers, composed of at least 95 percent by weight of polyolefin, polyesters, or polyamides.

1) The geogrid must meet the requirements of the Build America Buy America (BABA) special provision.

2) Fabricate the geogrid into a stable network such that the ribs, filaments, or yarns retain their dimensional stability relative to each other, including selvages. Conform to Table 1 for subgrade stabilization geogrid property values. All property values, with the exception of maximum opening size represent minimum average roll values (MARV). Identify, store, and handle geogrid according to ASTM D 4873.

TABLE 1. BIAXIAL GEOGRID PROPERTY REQUIREMENTS

PROPERTY	TEST METHODS	UNITS	REQUIRED VALUE[1,2]
Ultimate Tensile Strength	ASTM D 6637	lb/ft	1300
Tensile Strength at 2% Strain	ASTM D 6637	lb/ft	400
Geogrid Percent Open Area	CW-02215	%	50
Minimum Opening Size	Direct measure with caliper	inches	0.75
Maximum Opening Size	Direct measure with caliper	inches	2
Junction Strength	GRI GG2[3]	lb	150
Ultraviolet Stability	ASTM D 4355	% at 500 hrs	95

Notes:

- Values, except Ultraviolet Stability, are MARVs (average value minus two standard deviations).
- Minimum strength direction
- Geosynthetic Research Institute (Drexel University, Philadelphia, PA) GG2 Individual Geogrid Junction Strength

C. Construction. Install geogrid in accordance with the manufacturer's recommendations. Place geogrid directly above geotextiles when both are specified, shown in the plans, or directed by the Project Manager.

D. Measurement. Geogrid is measured by the square yard. Measurement excludes laps, seams, and joints.

E. Basis of Payment. Accepted quantities of Biaxial Geogrid are paid at the contract unit price Geogrid – Biaxial. Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

69. UNIAXIAL GEOGRID (REVISED 2-2-22 M)

A. Description. This work is the furnishing of labor, equipment and materials to construct a uniaxial geogrid layer as detailed in the plans or as directed by the Project Manager.

B. Materials. Provide geogrid manufactured using long-chain synthetic polymers, composed of at least 95 percent by weight of polyolefin, polyesters, or polyamides.

1) The geogrid must meet the requirements of the Build America Buy America (BABA) special provision.

2) Fabricate the geogrid into a stable network such that the ribs, filaments, or yarns retain their dimensional stability relative to each other, including selvages. Conform to Table 1 for geogrid property values. All property values represent minimum average roll values (MARV). Identify, store, and handle geogrids according to ASTM D 4873.

TABLE 1. UNIAXIAL GEOGRID PROPERTY REQUIREMENTS

PROPERTY	TEST METHODS	UNITS	REQUIRED VALUE[1,2]
Ultimate Tensile Strength	ASTM D 6637	lb/ft	4,800
Tensile Strength at 5% Strain	ASTM D 6637	lb/ft	1,300
Ultraviolet Stability	ASTM D 4355	% at 500 hrs	95

Notes:

- Values, except Ultraviolet Stability, are MARVs (average value minus two standard deviations)
- Machine direction strength

C. Construction. Install geogrid in accordance with the manufacturer's recommendations. Place geogrid directly above geotextiles when both are specified, shown in the plans, or directed by the Project Manager.

D. Measurement. Geogrid is measured by the square yard. Measurement excludes laps, seams, and joints.

E. Basis of Payment. Accepted quantities of Uniaxial Geogrid are paid at the contract unit price bid for Geogrid – Uniaxial. Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

70. RIPRAP REVEGETATION

A. Description. This work is the incorporation of infill material between riprap voids and revegetating material on riprap surfaces as shown in the contract plans.

B. Materials.

1) Riprap infill material. Provide Filter Material No. 2, or native material of a similar gradation approved by the Project Manager.

2) Furnish topsoil meeting Subsection 713.05, in accordance with Subsection 610.03.1, or a locally obtained topsoil with less than 30% coarse fragments (>0.2 inch) by weight.

3) Rolled Erosion Control Blanket. Furnish Long Term Blanket from the Department's QPL. Use only 100% biodegradable blanket that does not contain polypropylene plastic.

4) Seed. Furnish the following seed mix. Use individual substitute species only if the recommended species is not available and substitution is approved by MDT's Reclamation Specialist.

Reclamation Seed Mixture			Broadcast Seeding Rate		
Scientific Name	Common Name	Variety	PLS/ sq.ft.	% of Mix	Pounds PLS/ Acre
Elymus trachycaulus	Slender wheatgrass	Pryor, First Strike or Revenue	13	10	4.0
Elymus canadensis	Canada wildrye	Mandan or Helena Valley	21	17	8.0
Pascopyrum smithii	Western wheatgrass	Rosana or Recovery	21	17	10.0
Elymus lanceolatus spp. riparium	Streambank wheatgrass	Sodar	24	20	7.0
Nassella viridula	Green needlegrass	Lodorm	26	21	6.0
Bromus marginatus	Mountain brome	Bromar or Garnet	18	15	10.0
		GRAND TOTAL	123	100	45.0

C. Construction Requirements.

1) Fill the spaces and voids between the rocks with riprap infill material. Place a sufficient amount of material over the riprap, so that after settling, the level of filter material comes to the very top of the rock.

2) Place the topsoil to a 6-inch depth over the infill material. Place material in a manner that creates a smooth, uniform surface for seeding.

3) Hand broadcast seed immediately after soil placement, regardless of time of year, with the seed mixture and rates listed. Scarify, harrow or rake the soil immediately prior to and following seeding to incorporate seed to a depth of ¼ to ½ inch into the soil.

4) Install the long-term erosion control blanket immediately following broadcast seeding and scarification as shown in the plan details. Secure blanket with 12-inch wooden stakes per manufacturer spacing recommendation.

D. Basis of Measurement. The infill material, topsoil placement, erosion blanket/mulch, and seeding are measured by the square yard in place, parallel to the ground surface.

E. Basis of Payment. Payment is full compensation for all labor, tools, equipment and other incidentals necessary to complete the work in accordance with the specifications and as directed by the Project Manager.

The infill material, topsoil placement, erosion blanket/mulch, and seeding are paid for as RIPRAP REVEGETATION at the contract unit bid price per square yard.

71. LONG TERM VARIABLE MESSAGE BOARDS [618] (ADDED 3-09-23 M)

A. Description. Furnish, install, maintain, and remove 2 portable variable message boards (VMS).

B. General.

1) Install VMS at the following locations or as approved by the Project Manager.

Location	Description
MT Hwy 82	Prior to Work Zone

2) Install VMS 7 working days prior to the start of initial traffic control setup and construction operations. Provide traffic a warning message as approved by the Project Manager and shown in the Contractor's Traffic Control Plan. This message will alert traffic to the upcoming project limits and suggest alternate route(s).

3) At the start of construction operations, provide a message warning traffic of the anticipated project delays and suggest alternate route(s) as approved by the Project Manager.

4) Remove VMS as directed by the Project Manager. VMS not removed within 12 hours of notification will be subject to a 15% deduction in the unit bid price for each instance.

5) Furnish VMS that meet MUTCD requirements.

6) VMS must be capable of providing 2 phases with 3 lines and 8 characters per line. Characters must be a minimum of 18 inch in height.

7) If a safe and visible installation location cannot be found, construct a pad that provides a safe, level location to install the message board adjacent to traffic.

C. Method of Measurement. Portable variable message boards will be measured by each.

Construction of pad(s) will be measured and paid for in accordance with Subsection 109.04.

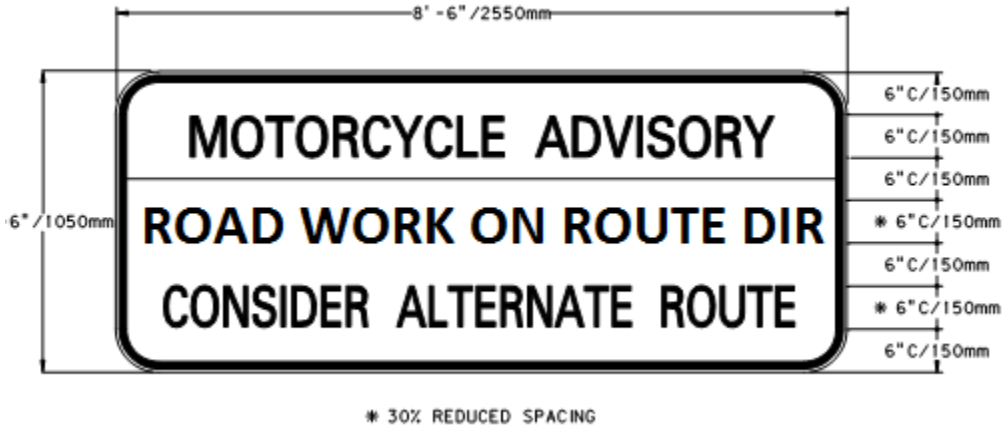
D. Basis of Payment. Portable variable message sign will be paid by each and includes all costs associated with installing, maintaining, and removing the boards. This item will be paid under bid item 618 100 005 Portable Variable Message Sign.

72. MOTORCYCLE ADVISORY SIGNS [619] (REVISED 7-16-20)

A. Description. This work is the furnishing, installing, maintaining, and removal of motorcycle advisory signs.

B. Materials. Furnish materials meeting the requirements of Subsection 618.02. Furnish ASTM D4956 type VI or higher retro-reflective sheeting.

C. Construction Requirements. Furnish and install the signs shown on the following detail to the required typical cross section and profile grade, meeting Detailed Drawing 618-01, two-post installation, at the locations listed in the contract. The ROUTE will specify the route number and the DIR will specify the direction of the construction. The sign must meet the height requirements specified on the Detailed Drawing.



For rural intersections install sign(s) on the right shoulder within 1000 feet to 1500 feet (300 m to 450 m) in advance of the roadway's intersection. For urban intersections install sign(s) within 200 feet (60 m) of the roadway's intersection. Adjust sign within the specified distance to prevent obstruction from existing signs.

Install sign(s) no more than 2 calendar days before construction activities begin that change the roadway surface from a paved surface to an unpaved surface. Remove sign(s) within 2 calendar days after the roadway surface has a paved surface.

Coordinate with the Project Manager the date the sign(s) are to be installed, the verification of the sign locations, and the date of removal.

D. Method of Measurement. Motorcycle advisory signs, including all costs associated with labor, materials, tools and equipment required to provide, install and remove are measured by the Each.

E. Basis of Payment. Payment for the completed and accepted quantities is made under the following:

Pay Item	Pay Unit
Motorcycle Advisory Signs	Each

Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.

END OF SECTION I

MDT NONDISCRIMINATION AND
DISABILITY ACCOMMODATION NOTICE

Montana Department of Transportation ("MDT") is committed to conducting all of its business in an environment free from discrimination, harassment, and retaliation. In accordance with State and Federal law MDT prohibits any and all discrimination and protections are all inclusive (hereafter "protected classes") by its employees or anyone with whom MDT does business:

Federal protected classes	State protected classes
Race, color, national origin, sex, sexual orientation, gender identity, age, disability, income-level & Limited English Proficiency	Race, color, national origin, parental/marital status, pregnancy, childbirth, or medical conditions related to pregnancy or childbirth, religion/creed, social origin or condition, genetic information, sex, sexual orientation, gender identification or expression, ancestry, age, disability mental or physical, political or religious affiliations or ideas, military service or veteran status, vaccination status or possession of immunity passport

For the duration of this contract/agreement, the PARTY agrees as follows:

(1) Compliance with Regulations: The PARTY (hereinafter includes consultant) will comply with all Acts and Regulations of the United States and the State of Montana relative to Non-Discrimination in Federally and State-assisted programs of the U.S. Department of Transportation and the State of Montana, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

(2) Non-discrimination:

a. The PARTY, with regard to the work performed by it during the contract, will not discriminate, directly or indirectly, on the grounds of any of the protected classes in the selection and retention of subcontractors, including procurements of materials and leases of equipment, employment, and all other activities being performed under this contract/agreement.
b. The PARTY will provide notice to its employees and the members of the public that it serves that will include the following:
    i. A statement that the PARTY does not discriminate on the grounds of any protected classes.
    ii. A statement that the PARTY will provide employees and members of the public that it serves with reasonable accommodations for any known disability, upon request, pursuant to the Americans with Disabilities Act as Amended (ADA).
    iii. Contact information for the PARTY's representative tasked with handling non-discrimination complaints and providing reasonable accommodations under the ADA.
    iv. Information on how to request information in alternative accessible formats.

c. In accordance with Mont. Code Ann. § 49-3-207, the PARTY will include a provision, in all of its hiring/subcontracting notices, that all hiring/subcontracting will be on the basis of merit and qualifications and that the PARTY does not discriminate on the grounds of any protected class.

(3) Participation by Disadvantaged Business Enterprises (DBEs):

a. If the PARTY receives federal financial assistance as part of this contract/agreement, the PARTY will make all reasonable efforts to utilize DBE firms certified by MDT for its subcontracting services. The list of all currently certified DBE firms is located on the MDT website at mdt.mt.gov/business/contracting/civil/dbe.shtml

b. By signing this agreement, the PARTY assures MDT that:

The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

c. The PARTY must include the above assurance in each contract/agreement the PARTY enters.

(4) Solicitation for Subcontracts, Including Procurement of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation, made by the PARTY for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the PARTY of the PARTY's obligation under this contract/agreement and all Acts and Regulations of the United States and the State of Montana related to Non-Discrimination.

(5) Information and Reports: The PARTY will provide all information and reports required by the Acts, Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information and its facilities as may be determined by MDT or relevant US DOT Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the PARTY will so certify to MDT or relevant US DOT Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

(6) Sanctions for Noncompliance: In the event of a PARTY's noncompliance with the Non- discrimination provisions of this contract/agreement, MDT will impose such sanctions as it or the relevant US DOT Administration may determine to be appropriate, including, but not limited to:

a. Withholding payments to the PARTY under the contract/agreement until the PARTY complies; and/or

b. Cancelling, terminating, or suspending the contract/agreement, in whole or in part.

(7) Pertinent Non-Discrimination Authorities: During the performance of this contract/agreement, the PARTY, for itself, its assignees, and successor in interest, agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

Federal

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21;
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.*), (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airways Improvement Act of 1982, (49 U.S.C. § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (broadened the scope, coverage, and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975, and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients, and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibits discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration's Non-Discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which prevents discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of Limited English Proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);

- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. § 1681 *et seq.*).

- Executive Order 13672 prohibits discrimination in the civilian federal workforce on the basis of gender identity and in hiring by federal contractors on the basis of both sexual orientation and gender identity.

State

- Mont. Code Ann. § 49-3-205 Governmental services;

- Mont. Code Ann. § 49-3-206 Distribution of governmental funds;

- Mont. Code Ann. § 49-3-207 Nondiscrimination provision in all public contracts.

(8) Incorporation of Provisions: The PARTY will include the provisions of paragraph one through seven in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and/or directives issued pursuant thereto. The PARTY will take action with respect to any subcontract or procurement as MDT or the relevant US DOT Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the PARTY becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the PARTY may request MDT to enter into any litigation to protect the interests of MDT. In addition, the PARTY may request the United States to enter into the litigation to protect the interests of the United States.

SEEDING SPECIAL PROVISIONS

Project No: STPB-STPP 82-1(6)5 Project Name: Flathead River – 3M NW of Bigfork
Project length: 1.4 miles CN: 6850000

Area Descriptions	
Area 1	Areas with slopes 3:1 and flatter
Area 2	Areas with slopes steeper than 3:1 or inaccessible to drill seed equipment
Area 3	A 15-foot wide strip adjacent and parallel to the finished pavement, on both sides.

1) Topsoil. Salvage and/or furnish sufficient quantities of topsoil in accordance with Subsection 713.05 and/or 610.03.1 of the Standard Specifications to place an average 4inch loose depth over all disturbed areas. Place the topsoil in accordance with Subsection 203.03.6 of the Standard Specifications immediately following grading.

2) Fertilizer.

	Nitrogen lbs per acre	P2O5 lbs per acre
Area 1 & 2	10—15	30—35
Area 3	None	None

3) Mulch requirements.

Area 1	None
Area 2	Apply a combination of compost and mulch in 2 separate operations. 1) Following broadcast seeding, apply compost that complies with Subsection 713.13. Apply a dry weight of 14 tons per acre. Surface depth should average ¼ to ½ inch across the application site. 2) Within 24 hours of compost application, apply a wood fiber hydro mulch from the Department's QPL that contains tackifier. Apply in accordance with Subsection 610.03.2.F. Use a rate specified by the manufacturer, with a minimum rate of 2,000 lbs. per acre.

4) Seedbed preparation and application. Condition all drill seeded areas within 24 hours prior to seeding. Rake, harrow or otherwise scarify broadcast seeded areas to incorporate the seed ¼ to ½ inch into the soil. Seeding outside the designated seeding period is allowed only with prior approval from MDT's Reclamation Specialist.

	Method	Seeding Depth	Season of Seeding
Area 1	Drill Seed	0.25 – 0.5 in	10/1—5/15
Area 2	Dry Broadcast Seed		10/1—5/15
Area 3	Drill Seed	0.25—0.5in	10/1—5/15

5) Provide the following reclamation seed mixtures. Use substitute species only if the recommended species is not available and substitution is approved by MDT's Reclamation Specialist.

Area 1			Drill Seeding Rate		
Scientific Name	Common Name	Variety	PLS / sq. ft.	% of Mix	Pounds PLS/ acre
Elymus trachycaulus	Slender wheatgrass	Pryor Revenue or First Strike	6	5	2.0
Elymus lanceolatus	Thickspike wheatgrass	Critana	14	13	4.0
Pascopyrum smithii	Western wheatgrass	Rosana	11	10	5.0
Bromus marginatus	Mountain brome	Bromar	9	9	5.0
Nassella viridula	Green needlegrass	Lodorm	13	12	3.0
Sporobolus cryptandrus	Sand dropseed	VNS	33	30	0.25
Festuca idahoensis	Idaho fescue	Joseph or Nezpurs	13	12	1.25
Monarda fistulosa	Bee balm	VNS	7	7	0.25
Linum lewisii	Lewis flax	Maple Grove	2	2	0.25
		GRAND TOTAL	108	100	21.00

Area 2 = Area 1	Broadcast seeding rate is 2X drill seeding rate of Area 1.

Area 3			Drill Seeding Rate		
Scientific Name	Common Name	Variety	PLS / sq. ft.	% of Mix	Pounds PLS/ acre
Elymus trachycaulus	Slender wheatgrass	Pryor, Revenue or First Strike	6	7	2.0
Elymus lanceolatus	Thickspike wheatgrass	Critana	14	15	4.0
Pascopyrum smithii	Western wheatgrass	Rosana	11	11	5.0
Poa secunda	Big bluegrass	Sherman	20	21	1.0
Sporobolus cryptandrus	Sand dropseed	VNS	33	35	0.25
Festuca idahoensis	Idaho fescue	Joseph or Nezpurs	10	11	1.0
		GRAND TOTAL	94	100	13.25

FEDERAL AID PROJECT STPB-STPP-SSS 82-1(6)5
GRADE, GRAVEL, PL. MIX SURF. & STRUCTURE
FLATHEAD RIVER - 3 M NW BIGFORK
CONTROL NUMBER 6850000
PROJECT LOCATION STATE MAP - MONTANA

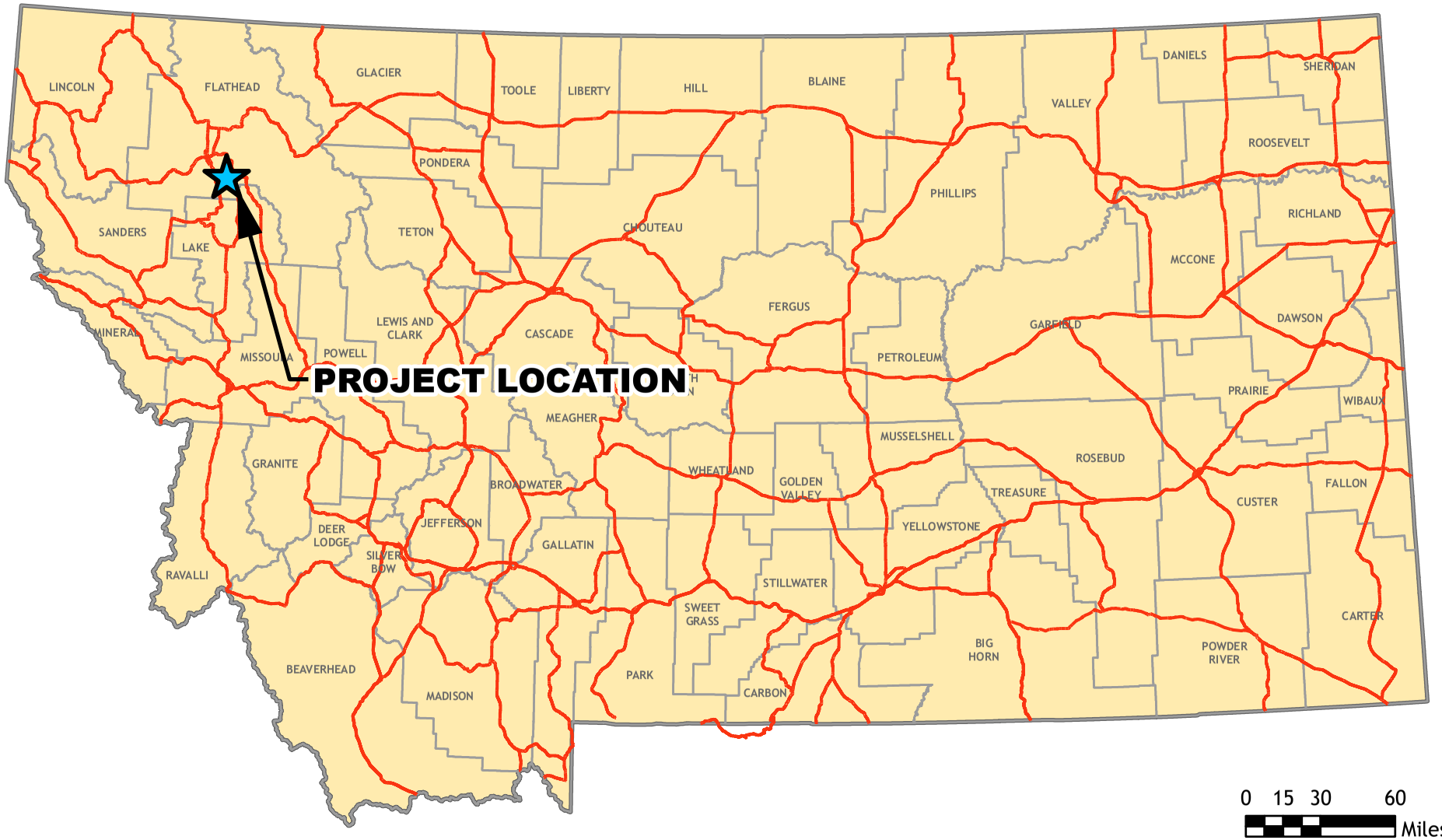
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SECTION II

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FEDERAL AID PROJECT STPB-STPP-SSS 82-1(6)5
GRADE, GRAVEL, PL. MIX SURF. & STRUCTURE
FLATHEAD RIVER - 3 M NW BIGFORK
CONTROL NUMBER 6850000
PROJECT LOCATION QUAD MAP - FLATHEAD COUNTY

MONTANA
Department of Transportation

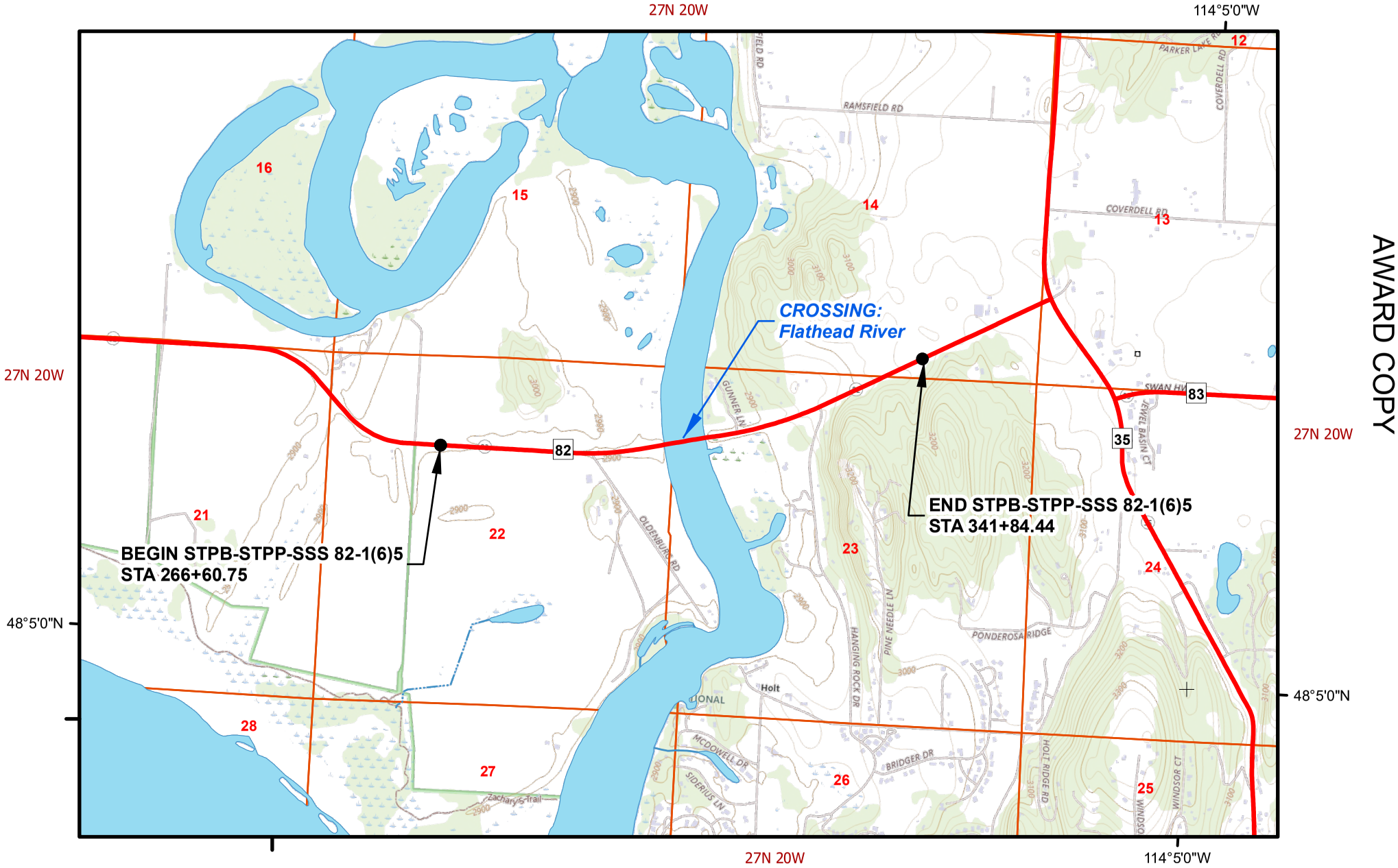
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SECTION II

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SK Geotechnical Boring Log Descriptive Terminology
Key to Soil Symbols and Terms

12/06/12

SK GEOTECHNICAL

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	Well-graded gravels, gravel sand mixtures, little or no fines.
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE			GP	Poorly graded gravels, gravel-sand mixtures, little or no fines.
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	Silty gravels, gravel-sand-silt mixtures.
				GC	Clayey gravels, gravel-sand-clay mixtures.
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	Well-graded sands, gravelly sands, little or no fines.
				SP	Poorly graded sands, gravelly sands, little or no fines.
	MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	Silty sands, sand-silt mixtures.
				SC	Clayey sands, sand-clay mixures.
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
				OL	Organic silts and organic silty clays of low plasticity.
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
				CH	Inorganic clays of high plasticity, fat clays.
				OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS				PT	Peat and other highly organic soils.

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

Order of Descriptors

- Group Name
- Consistency or Relative Density
- Moisture Condition
- Color
- Particle size descriptor(s) (coarse grained soils only)
- Angularity of coarse grained soils
- Other relevant notes

Criteria For Descriptors

Consistency of Fine Grained Soils

Consistency	N-Value (uncorrected)
Very Soft	< 2
Soft	2 - 4
Medium Stiff	5 - 8
Stiff	9 - 15
Very Stiff	16 - 30
Hard	> 30

Apparent Density of Coarse Grained Soils

Relative Density	N-Value (uncorrected)
Very Loose	< 4
Loose	4 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

Moisture Condition

Dry -Absence of moisture, dusty, dry to the touch.
Moist -Damp, but no visible water.
Wet -Visible free water.

Definition of Particle Size Ranges

Soil Component	Size Range
Boulder	> 12 in (300 mm)
Cobble	3 in (75 mm) - 12 in (300 mm)
Gravel	No. 4 Sieve (4.75 mm) to 3 in (75 mm)
Sand	No. 200 (0.075 mm) to No. 4 Sieves (4.75 mm)
Silt	< No. 200 Sieve (0.075 mm)*
Clay	< No. 200 Sieve (0.075 mm)*

*Atterberg limits and chart below to differentiate between silt and clay.

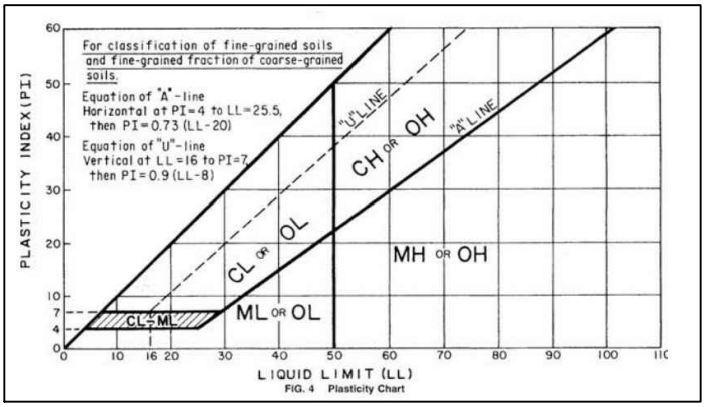


FIG. 4 Plasticity Chart

Notes

See Soil Boring Information Special Provision.

SPT (Standard Penetration Test-ASTM D1586):
The number of blows of a 140 lb (63.6 kg) hammer falling 2.5 ft (750 mm) used to drive a 2 in (50 mm) O.D. Split Spoon sampler for a total of 1.5 ft (0.45 m) of penetration.
Written as follows:
first 0.5 ft (0.15 m) - second 0.5 ft (0.15 m) - third 0.5 ft (0.15 m) (ex: 1-3-9)
Note: if the number of blows exceeds 50 before 0.5 ft (0.15 m) of penetration is achieved, the actual penetration rounded to the nearest 0.1 ft (0.03 m) follows the number of blows in parentheses (ex: 12-24-50 (0.09 m), 34-50 (0.4 ft), or 100 (0.3 ft)).WR denotes a zero blow count with the weight of the rods only.
WH denotes a zero blow count with the weight of the rods plus the weight of the hammer.

MC=Moisture Content, LL=Liquid limit, PL=Plastic Limit
-200%=percent soil passing 200 sieve, DD=Dry Density

Soil Classifications are Based on the Unified Soil Classification System, ASTM D2487 and D2488.
Also included are the AASHTO group classifications (M145).
Descriptions are based on visual observation, except where they have been modified to reflect results of laboratory tests as deemed appropriate.

Angularity of Coarse-Grained Particles

Angular -Particles have sharp edges and relative plane sides with unpolished surfaces.
Subangular -Particles are similar to angular description, but have rounded edges.
Subrounded-Particles have nearly plane sides, but have no edges.
Rounded -Particles have smoothly curved sides and well-rounded corners and edges.

Example soil description: Sandy FAT CLAY (CH), soft, wet, brown. (A-7)

SK Geotechnical Boring Log Descriptive Terminology
Key to Rock Symbols and Terms

12/06/12

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Rock Type	Symbol	Rock Type	Symbol	Rock Type	Symbol
Argillite		Dolomite		Quartzite	
Basalt		Gneiss		Rhyolite	
Bedrock (other)		Granitic		Sandstone	
Breccia		Limestone		Schist	
Claystone		Siltstone		Shale	
		Conglomerate			

Order of Descriptors

- Rock Type
- Color
- Grain size (if applicable)
- Stratification/Foliation (as applicable)
- Field Hardness
- Other relevant notes

Criteria For Descriptors

Grain Size

Description	Characteristic
Coarse Grained	-Individual grains can be easily distinguished by eye
Fine Grained	-Individual grains can be distinguished with difficulty

Stratum Thickness

Thickly Bedded	3-10 ft (1-3 m)
Medium Bedded	1-3 ft (300 mm - 1 m)
Thinly Bedded	2-12 in (50-300 mm)
Very Thinly Bedded	< 2 in (50 mm)

Rock Field Hardness

Very Soft	-Can be carved with knife. Can be excavated readily with point of rock hammer. Can be scratched readily by fingernail.
Soft	-Can be grooved or gouged readily by knife or point of rock hammer. Can be excavated in fragments from chips to several inches in size by moderate blows of the point of a rock hammer.
Medium	-Can be grooved or gouged 0.05 in (2 mm) deep by firm pressure of knife or rock hammer point. Can be excavated in small chips to pieces about 1 in (25 mm) maximum size by hard blows of the point of a rock hammer.
Moderately hard	-Can be scratched with knife or pick. Gouges or grooves to 0.25 in (6 mm) can be excavated by hard blow of rock hammer. Hand specimen can be detached by moderate blows.
Hard	-Can be scratched with knife or pick only with difficulty. Hard hammer blows required to detach hand specimen.
Very Hard	-Cannot be scratched with knife or sharp rock hammer point. Breaking of hand specimens requires several hard blows of a rock hammer.

Notes:

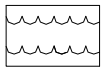
UCS = Unconfined Compressive Strength obtained from laboratory testing at the given depth.

See Soil Boring Information Special Provision.

Miscellaneous Soil/Rock Symbols and Terms

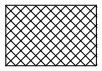

Concrete

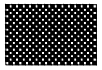

Asphalt

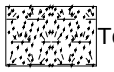

Water


Boulders and Cobbles


Coal


Fill


Millings


Topsoil

Explanation of Text Fields in Boring Logs:

Material Description: Lithologic Description of soil or rock encountered.

Remarks: Comments on drilling, including method, bit type, and problems encountered.

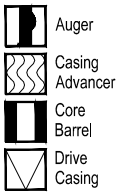
Unless stated on logs as being surveyed by district survey, all locations are considered approximate.

General Notes

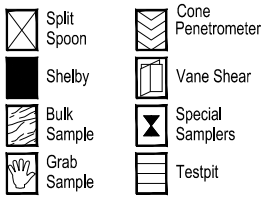
- Descriptions on these boring logs apply only at the specific boring, and at the time the time the borings were made. These logs are not warranted to be representative of subsurface conditions at other locations or times.
- Water level observations apply only at the specific boring, and at the time the borings were made. Due to the variability of groundwater measurements given the type of drilling used, and the stratification of the soil in the boring, these logs are not warranted to be representative of groundwater conditions at other locations or times.
- Other terms may be used as descriptors, as defined by the profession.

-Soil and Rock descriptions are based on visual observation, except where they have been modified to reflect results of laboratory tests as deemed appropriate.

Operation Types:



Sample Types:



Example Rock Log

SANDSTONE, gray, fine grained, thickly bedded, hard field hardness.

Page 2 of 2

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LOG OF BORING

Boring 6850000-ST-1

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location** N: 1433958 ft **Coordinates** E: 837996 ft	**Station:** 270 + 00 **Offset:** 10 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2903.7 ft
Date Started: 11/6/12	**Date Finished:** 11/6/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - BDB	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Asphalt.	0.3 *2903.4*						
							Crushed Aggregate Course.							
			66		10 - 23 - 6		FILL, Silty SAND with gravel (SM), loose to medium dense, moist, brown, fine grained, [A-1-b].	2.1 *2901.6*	2 5	0	0	16		Bag sample 2.1'-4.5'
5 *2898.7*			100		16 - 10 - 8		Woven geotextile fabric at 4½'.	4.5 *2899.2*	9					
							Silty SAND (SM), medium dense, moist, brown, fine grained, [A-2-4]. (Alluvium).	5.5 *2898.2*						
			72		5 - 6 - 5		Poorly-Graded SAND with silt (SP-SM), medium dense, moist, brown, fine grained, [A-2-4]. (Alluvium).		9					
10 *2893.7*			83		8 - 5 - 5				22					
							Boring Depth: 10.5 ft, *Elevation: 2893.2 ft*	10.5 *2893.2*						

Water Level Observations		Remarks
▽ After Drilling: Not Encountered, Augers In	▽ During Drilling: Not Encountered ▼ After Drilling: *()*	Remarks: Water not observed to dry cave-in depth of 5.5' immediately after withdrawal of auger.

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 11/22/13 13:06 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-2

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location** N: 1433862.91 ft **Coordinates** E: 839894.08 ft	**Station:** 289 + 00 **Offset:** 5 ft L
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2901.4 ft
Date Started: 11/6/12	**Date Finished:** 11/6/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - ABD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Asphalt.	0.3						
							Crushed Aggregate Course.	2901.1						
			72		12 - 26 - 23				5					
							Sandy SILT (ML), medium dense, moist, black-brown, [A-4]. (Buried Topsoil/Alluvium).	2.8 2898.6	9	0	0	55		Bag sample 3.0'-8.0' Pen: 4½+ tsf
5 2896.4			50		6 - 7 - 4				19					
			94		4 - 6 - 6		Poorly-Graded SAND with silt (SP-SM), medium dense, moist, brown, fine grained, [A-2-4]. (Alluvium).	7.0 2894.4	23					
10 2891.4			66		3 - 5 - 5				27					Waterbearing at 9½'.
							Boring Depth: 10.5 ft, *Elevation: 2890.9 ft*	10.5 2890.9						

Water Level Observations		Remarks
After Drilling: **9.5 ft** ***(2891.9 ft), Augers In***	During Drilling: **9.5 ft** ***(2891.9 ft)***	Remarks: Water not observed to dry cave-in depth of 7.0' immediately after withdrawal of auger.
	After Drilling: *()*	

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LOG OF BORING

Boring 6850000-ST-3

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location** N: 1433851.02 ft **Coordinates** E: 840891.96 ft	**Station:** 299 + 00 **Offset:** On CL
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2900.7 ft
Date Started: 11/6/12	**Date Finished:** 11/6/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - ADB	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			44		2 - 3 - 5		TOPSOIL, CLAY with organic soil (OL), medium stiff, moist, black.	1.0 *2899.7*	24	21	20	66		
			72		4 - 5 - 3		Sandy SILT (ML), loose, moist, tan, [A-4]. (Alluvium).		7 12	0	0	62		Bag sample 1.0'-3.0'
5 *2895.7*			78		3 - 3 - 4			5.0 *2895.7*	25					
			78		3 - 4 - 4		Silty CLAY (CL-ML), loose, wet, tan, [A-2-4]. layers of Silty SAND. (Alluvium).		24					
			100						50	0	0	16	82	UCS: 480 psf
10 *2890.7*			66		1 - 3 - 6				26					
			100		3 - 4 - 3		Sandy SILT (ML), loose to very loose, wet, tan, [A-4]. (Alluvium).	11.0 *2889.7*	31					
15 *2885.7*			66		1 - 1 - 1				37					
			0											
							Silty CLAY (CL-ML), very loose, wet, tan, [A-4]. (Alluvium).	17.0 *2883.7*						
20 *2880.7*			89		WH - WH - WH				35					
25 *2875.7*			89		WH - WH - WH				39					
							Boring Depth: 25.5 ft, *Elevation: 2875.2 ft*	25.5 *2875.2*						

Water Level Observations		Remarks
After Drilling: **9.0 ft** ***(2891.7 ft), Augers In***	During Drilling: **9.1 ft** ***(2891.6 ft)***	Remarks: Water not observed to wet cave-in depth of 9.6' immediately after withdrawal of auger.
	After Drilling: *()*	

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LOG OF BORING

Boring 6850000-ST-4

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location** N: 1434095.07 ft **Coordinates** E: 842511.39 ft	**Station:** 315 + 37 **Offset:** 19 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2896.1 ft
Date Started: 11/7/12	**Date Finished:** 11/7/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			44		WH - 6 - 7		FILL, Well-Graded GRAVEL with silt (GW-GM), moist, brown, fine to coarse grained, subrounded, [A-1-a].	1.0 *2895.1*	6					
			39		4 - 4 - 4		FILL, Clayey SAND (SC), loose, moist, gray, fine to coarse grained, [A-2-6].	2.0 *2894.1*	29					
							Lean CLAY (CL), medium stiff, moist, gray, [A-6]. (Lacustrine).							
5 *2891.1*			100		WH - WH - WH		Sandy SILT (ML), very loose, wet, brown, [A-4]. (Alluvium).	4.5 *2891.6*	29	0	0	59		
			100		1 - 1 - 1		Poorly-Graded SAND with silt (SP-SM), very loose, wet, brown, fine grained, [A-2-4]. layers of Silty SAND. (Alluvium).	6.0 *2890.1*	31	0	0	28		
			100						24	0	0	11		
10 *2886.1*			44		WH - WH - 2		Sandy SILT (ML), very loose, wet, brown, [A-4]. (Alluvium).	9.5 *2886.6*	26					
			100		WH - 1 - 1				39					
15 *2881.1*			66		WH - 1 - 2		Poorly-Graded SAND with silt (SP-SM), very loose, wet, gray, fine grained, [A-2-4]. (Alluvium).	13.5 *2882.6*	32					
20 *2876.1*			100		WH - 1 - 2				27					
25 *2871.1*			66		2 - 3 - 3				30					
30			11		1 - 2 - 2				27					
2866.1														

Water Level Observations

- During Drilling: **2.0 ft** *(2894.1 ft)*
- After Drilling: **1.9 ft** *(2894.2 ft), Augers In*
- After Drilling: **1.7 ft** *(2894.4 ft), Augers Out*

Remarks: Water not observed to wet cave-in depth of 8.2' immediately after withdrawal of auger.

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LOG OF BORING

Boring 6850000-ST-4

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location** N: 1434095.07 ft **Coordinates** E: 842511.39 ft	**Station:** 315 + 37 **Offset:** 19 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2896.1 ft
Date Started: 11/7/12	**Date Finished:** 11/7/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBD	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
35 2861.1			11		1 - 4 - 3		Poorly-Graded SAND with silt continued.	35.5 2860.6	26					
							Boring Depth: 35.5 ft, *Elevation: 2860.6 ft*							

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Water Level Observations		
▼ After Drilling: **1.9 ft** *(2894.2 ft), Augers In*	▽ During Drilling: **2.0 ft** *(2894.1 ft)* ▼ After Drilling: **1.7 ft** *(2894.4 ft), Augers Out*	Remarks: Water not observed to wet cave-in depth of 8.2' immediately after withdrawal of auger.

SK GEOTECHNICAL

LOG OF BORING

Boring 6850000-ST-5

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location** N: 1434052.91 ft **Coordinates** E: 842525.64 ft	**Station:** 315 + 43 **Offset:** 63 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2895.4 ft
Date Started: 11/8/12	**Date Finished:** 11/8/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			83		WH - WH - WH		TOPSOIL, CLAY with organic soil (OL), very soft, wet, black and brown.	1.0 *2894.4*	16	40	27	45	87	Pen: ¼ tsf UCS: 420 psf
			0				Lean CLAY (CL), very soft, wet, brown, [A-6]. (Alluvium).							
			11		WH - WH - 1				43					
							Sandy SILT (ML), very loose, wet, brown, [A-4]. (Alluvium).	3.5 *2891.9*						Pen: ½ tsf
5 *2890.4*			100		2 - 1 - 1				28					
			100							0	0	51	96	UCS: 700 psf
			100		WH - WH - WH				28					
							Silty SAND (SM), very loose, wet, brown, [A-2-4]. (Alluvium).	8.5 *2886.9*						
10 *2885.4*			100		2 - 2 - 2				29					
							Poorly-Graded SAND with silt (SP-SM), very loose to loose, wet, gray, [A-3]. (Alluvium).	11.0 *2884.4*						
			100		WH - 2 - 2				33					
15 *2880.4*			100		1 - 4 - 4				32	0	0	7		
20 *2875.4*			100		2 - 2 - 2				30	0	0			
25 *2870.4*			100		WH - 2 - 2				31					
30			100		3 - 4 - 3				25					
2865.4														

Water Level Observations		Remarks:
After Drilling: 13.0 ft *(2882.4 ft), Augers In*	During Drilling: 4.0 ft *(2891.4 ft)*	
	After Drilling: 1.0 ft *(2894.4 ft), Augers Out*	

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LOG OF BORING

Boring 6850000-ST-5

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location** N: 1434052.91 ft **Coordinates** E: 842525.64 ft	**Station:** 315 + 43 **Offset:** 63 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2895.4 ft
Date Started: 11/8/12	**Date Finished:** 11/8/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBD	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
35 *2860.4*			100		3 - 2 - 2		Poorly-Graded SAND with silt continued.	35.5 *2859.9*	25					
							Boring Depth: 35.5 ft, *Elevation: 2859.9 ft*							

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Water Level Observations		Remarks:
▽ After Drilling: 13.0 ft *(2882.4 ft), Augers In*	▽ During Drilling: 4.0 ft *(2891.4 ft)* ▼ After Drilling: 1.0 ft *(2894.4 ft), Augers Out*	

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LOG OF BORING

Boring 6850000-ST-6

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location Coordinates** N: 1434155.64 ft E: 842712.08 ft	**Station:** 317 + 46 **Offset:** 3 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2895.5 ft
Date Started: 11/8/12	**Date Finished:** 11/8/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			61		4 - 6 - 8		FILL, Well-Graded GRAVEL with silt (GW-GM), medium dense, moist, gray, fine to coarse grained, subangular, [A-1-a].	1.0 *2894.5*						
			33		6 - 4 - 4		FILL, Clayey SAND with gravel (SC), loose, moist, brown, fine to coarse grained, [A-2-6].	2.8 *2892.7*	15 17	21	19	33	107	
			38				Sandy SILT (ML), loose, wet, gray, [A-4]. layers of silty sand. (Alluvium).							Pen: 1½ tsf UCS: 1260 psf
5 *2890.5*			100		1 - 3 - 4				31					
			100		1 - 3 - 2				26					Pen: 1¼ tsf
								8.5 *2887.0*						
10 *2885.5*			100		WH - 3 - 4		Poorly-Graded SAND with silt (SP-SM), loose, wet, gray, fine grained, [A-2-4]. (Alluvium).		29					
			50		WH - 1 - 1				36					
15 *2880.5*			100		3 - 5 - 5				26	0	0	11		
20 *2875.5*			100		1 - 1 - 2				31					
25 *2870.5*			100		1 - 1 - 2				28					
30			100		WH - WH - 2				29					
2865.5														

Water Level Observations

- During Drilling: **3.7 ft** ***(2891.8 ft)***
- After Drilling: **14.1 ft** ***(2881.4 ft), Augers In***
- After Drilling: **1.2 ft** ***(2894.3 ft), Augers Out***

Remarks: Water not observed to wet cave-in depth of 6.5' immediately after withdrawal of auger.

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LOG OF BORING

Boring 6850000-ST-6

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location** N: 1434155.64 ft **Coordinates** E: 842712.08 ft	**Station:** 317 + 46 **Offset:** 3 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2895.5 ft
Date Started: 11/8/12	**Date Finished:** 11/8/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
35 2860.5			100		WH - 1 - 2		Poorly-Graded SAND with silt continued.	35.5 2860.0	23					

Boring Depth: 35.5 ft, *Elevation: 2860.0 ft*

Water Level Observations	
After Drilling: **14.1 ft** ***(2881.4 ft), Augers In***	During Drilling: **3.7 ft** ***(2891.8 ft)***
	After Drilling: **1.2 ft** ***(2894.3 ft), Augers Out***

Remarks: Water not observed to wet cave-in depth of 6.5' immediately after withdrawal of auger.

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LOG OF BORING

Boring 6850000-ST-7

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location** N: 1434113.66 ft **Coordinates** E: 842800.56 ft	**Station:** 318 + 20 **Offset:** 66 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2895.7 ft
Date Started: 11/9/12	**Date Finished:** 11/9/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			0 0		WR - WR - WR WR - WR - WR		CLAY with organic soil (OL), very soft, wet, black. (Swamp Deposit).		67 48	39	25	90		Pen: ½ tsf
							SILT (ML), very soft, wet, tan, [A-4]. (Alluvium).	1.5 2894.2						
5 2890.7			100						28	0	0	74	95	
			100		WR - WH - 1		Silty SAND (SM), very loose, wet, tan, [A-2-4]. (Alluvium).	6.5 2889.2	31	0	0	31		
							Silty SAND (SM), very loose, wet, brown, [A-2-4]. (Alluvium).	8.5 2887.2						
10 2885.7			100		WR - WH - 1				34	0	0	26		
							Silty SAND (SM), very loose, wet, brown, [A-2-4]. (Alluvium).	11.0 2884.7	31					
			100		WH - WH - WH									
							Poorly-Graded SAND with silt (SP-SM), loose to very loose, wet, gray, [A-2-4]. (Alluvium).	13.5 2882.2						
15 2880.7			100		3 - 3 - 3				28	0	0	10		
20 2875.7			50		3 - 2 - 2									
25 2870.7			100		WH - 2 - 2				33	0	0	11		
30			100		WH - 1 - 2				27					
2865.7														

Water Level Observations		Remarks:
▽ After Drilling: 17.8 ft *(2877.9 ft), Augers In*	▽ During Drilling: 0.0 ft *(2895.7 ft)* ▼ After Drilling: 0.0 ft *(2895.7 ft), Augers Out*	

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LOG OF BORING

Boring 6850000-ST-7

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location** N: 1434113.66 ft **Coordinates** E: 842800.56 ft	**Station:** 318 + 20 **Offset:** 66 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2895.7 ft
Date Started: 11/9/12	**Date Finished:** 11/9/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBD	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
35 *2860.7*			100		WH - WH - WH		Poorly-Graded SAND with silt continued.	35.5 *2860.2*	31					
							Boring Depth: 35.5 ft, *Elevation: 2860.2 ft*							

Water Level Observations		Remarks:
▽ During Drilling: **0.0 ft** *(2895.7 ft)*		
▼ After Drilling: **17.8 ft** *(2877.9 ft), Augers In*	▼ After Drilling: **0.0 ft** *(2895.7 ft), Augers Out*	

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LOG OF BORING

Boring 6850000-ST-8

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location Coordinates** N: 1434187.93 ft E: 843102.05 ft	**Station:** 321 + 24 **Offset:** 85 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2901.3 ft
Date Started: 11/8/12	**Date Finished:** 11/8/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BAC	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			66		WH - 2 - 4		TOPSOIL, CLAY with organic soil (OL), moist, black.	0.7 2900.6	29					
			50		2 - 3 - 4		Silty CLAY (CL-ML), medium stiff, moist to wet, tan, [A-4]. (Alluvium).		29 28	29	22	78	96	Pen: 2¼ tsf UCS: 1200 psf
			100					4.0 2897.3						Pen: ¾ tsf
5 2896.3			100		2 - 2 - 3		SILT with sand (ML), loose, wet, tan, [A-4]. (Alluvium).		26	0	0	75		
			72		1 - 3 - 8		Sandy SILT (ML), loose, wet, tan, [A-4]. (Alluvium).	6.0 2895.3	34	0	0	53		
10 2891.3			100		WH - WH - 11		Lean CLAY (CL), medium stiff, wet, tan, [A-6]. (Lacustrine).	8.5 2892.8	36					Pen: 1 tsf
			50		2 - 14 - 12		Poorly-Graded SAND with silt (SP-SM), very loose, wet, gray, [A-2-4]. (Alluvium).	11.0 2890.3	15					
							Silty GRAVEL (GM), medium dense, wet, brown, [A-1-b]. (Alluvium).	12.0 2889.3						
15 2886.3			100		5 - 7 - 5		Silty SAND (SM), loose, wet, tan, [A-2-4]. (Alluvium).	15.0 2886.3	13					
							Boring Depth: 15.5 ft, *Elevation: 2885.8 ft*	15.5 2885.8						

Water Level Observations

- During Drilling: 8.3 ft *(2893.0 ft)*
- After Drilling: 8.3 ft *(2893.0 ft), Augers In*
- After Drilling: 4.1 ft *(2897.2 ft), Augers Out*

Remarks:

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LOG OF BORING

Boring 6850000-ST-9

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location Coordinates** N: 1434615.04 ft E: 843877.34 ft	**Station:** 330 + 10 **Offset:** 10 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2972.7 ft
Date Started: 11/7/12	**Date Finished:** 11/7/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BAA	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Asphalt.	0.7						
							Crushed Aggregate Course.	*2972.0*	2	19	17	39		
			100		13 - 25 - 22		Silty SAND (SM), dense, moist, brown, fine grained, [A-4].	1.5 *2971.2*	10					Bag sample 1.5'-3.5'
							Silty, Clayey SAND with clay (SC-SM), medium dense, moist, black, fine grained, [A-4]. (Buried Topsoil).	2.9 *2969.8* 4.0 *2968.7*						
5 *2967.7*			33		7 - 6 - 5		Silty SAND with gravel (SM), medium dense, moist, gray, fine to coarse grained, subangular, [A-2-4]. (Alluvium).		6					
			33		6 - 8 - 2			7.5 *2965.2*	7					
							Silty SAND (SM), very loose, moist, tan, fine grained, [A-4]. (Lacustrine).	9.2						
10 *2962.7*			100		5 - 7 - 8		Lean CLAY (CL), stiff, moist, tan, [A-6]. (Alluvium).	*2963.5*	23					Pen: 4 tsf
							Boring Depth: 10.5 ft, *Elevation: 2962.2 ft*	10.5 *2962.2*						

Water Level Observations		Remarks: Water not observed to dry cave-in depth of 6.5' immediately after withdrawal of auger.
During Drilling: **Not Encountered**		
After Drilling: **Not Encountered, Augers In**	After Drilling: **Not Encountered, Augers Out**	

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LOG OF BORING

Boring 6850000-ST-10

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 550 **Hammer:** Auto	**Boring Location** N: 1434973.87 ft **Coordinates** E: 844593.34 ft	**Station:** 338 + 01 **Offset:** 10 ft L
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 7"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 3019.3 ft
Date Started: 11/6/12	**Date Finished:** 11/6/12	**Drilling Fluid:** None	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: S. Eddy **Logger:** C. Rice		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - ABB	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Asphalt.	0.8 / 3018.5						
							Crushed Aggregate Course.							
			100		18 - 19 - 19		Sandy SILT (ML), dense to loose, moist, tan, fine grained, [A-4]. (Alluvium).	2.0 / 3017.3	3 7	0	0	52		Bag sample 2.0'-4.0'
5 / 3014.3			100		7 - 9 - 8				19					
			72		2 - 5 - 5				5					
10 / 3009.3			83		4 - 5 - 4				5					
							Boring Depth: 10.5 ft, *Elevation: 3008.8 ft*	10.5 / 3008.8						

Water Level Observations		Remarks
After Drilling: Not Encountered, Augers In	During Drilling: Not Encountered After Drilling: Not Encountered, Augers Out	Remarks: Water not observed to wet cave-in depth of 6.4' immediately after withdrawal of auger.

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LOG OF BORING

Boring 6850000-SW-11

Project: Flathead R - 3 M NW Big Fork		**Rig:** Visual **Hammer:** N/A	**Boring Location Coordinates**	**Station:** 332 + 50 **Offset:** 55 ft L
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** N/A	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2998.5 ft
Date Started: 12/9/12	**Date Finished:** 12/9/12	**Drilling Fluid:** N/A	**Location Source:** Plan Stationing	**Elevation Source:** Cross Section
Driller: **Logger:** C. Rice		**Abandonment Method:** N/A	**Township, Range, and Section:** 27N 20W 23 - BAA	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
0 2998.5							3" topsoil and root zone. ARGILLITE, dark gray, fine grained. moderately weathered, highly fractured.							
5 2993.5														Bedrock dips down approximately 25° - 30° to NE.
10 2988.5														
15 2983.5							Boring Depth: 15.0 ft, *Elevation: 2983.5 ft*	15.0 2983.5						

Water Level Observations		Remarks:
▽ During Drilling: 0	▽ During Drilling: 0	
▼ After Drilling: 0	▼ After Drilling: 0	

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LOG OF BORING

Boring 6850000-SW-12

Project: Flathead R - 3 M NW Big Fork		**Rig:** Visual **Hammer:** N/A	**Boring Location Coordinates**	**Station:** 337 + 00 **Offset:** 115 ft L
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** N/A	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 3032.0 ft
Date Started: 12/9/12	**Date Finished:** 12/9/12	**Drilling Fluid:** N/A	**Location Source:** Plan Stationing	**Elevation Source:** Cross Section
Driller: **Logger:** C. Rice		**Abandonment Method:** N/A	**Township, Range, and Section:** 27N 20W 23 - ABB	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
5 3027.0 10 3022.0 15 3017.0 20 3012.0							Poorly-Graded SAND with silt (SP-SM), moist, brown, fine grained, [A-2-4]. 4" topsoil and root zone. (Alluvium).	22.0 3010.0						

Boring Depth: 22.0 ft, *Elevation: 3010.0 ft*

Water Level Observations		Remarks:
▽ During Drilling: 0	▽ During Drilling: 0	
▼ After Drilling: 0	▼ After Drilling: 0	

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 11/22/13 13:07 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

SK GEOTECHNICAL

LOG OF BORING

Boring 6850000-ST-101

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location** N: 1433907.54 ft **Coordinates** E: 841297.5 ft	**Station:** 303 + 10 **Offset:** 3 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2901.5 ft
Date Started: 11/9/12	**Date Finished:** 11/12/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			44		1 - 3 - 2		CLAY with organic soil (OH), very soft, moist, brown, fine grained, rounded. (Topsoil and Root Zone).	0.5 *2901.0*	25					
			17		2 - 1 - 2		Sandy Lean CLAY (CL), soft, moist, brown, fine grained, [A-6]. (Tilled Field).	2.5 *2899.0*	21					
			66				SILT with sand (ML), very loose, moist to wet, tan, [A-4]. (Alluvium).							
5 *2896.5*			66		1 - 1 - 2				28		NP	74		
			66		2 - 1 - 2				28					
			0											
10 *2891.5*			6		1 - 1 - 1		Silty SAND (SM), very loose to loose, wet, tan, fine grained, [A-2-4]. (Alluvium).	9.0 *2892.5*	33		NP	27		
			100		3 - 4 - 3				28					
			0											
15 *2886.5*			100		WH - 4 - 3				28					
							Sandy SILT (ML), very loose, wet, tan, [A-4]. (Alluvium).	17.5 *2884.0*						
20 *2881.5*			100		WR - WH - 1				38		NP	56		
25 *2876.5*			0		1 - 1 - 1									
							SILT with sand and silty clay (ML), soft to medium stiff, wet, gray, [A-4]. (Alluvium).	28.0 *2873.5*						
30 *2871.5*			100		WR - WH - WH				36					

Water Level Observations

- During Drilling: **12.0 ft** ***(2889.5 ft)***
- After Drilling: **Not Encountered, Augers Out**
- After Drilling: **Not Encountered, Augers Out**

Remarks:

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:50 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-101

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location** N: 1433907.54 ft **Coordinates** E: 841297.5 ft	**Station:** 303 + 10 **Offset:** 3 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2901.5 ft
Date Started: 11/9/12	**Date Finished:** 11/12/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							SILT with sand and silty clay continued.							
35 2866.5			100		WR - WH - WH				38					
40 2861.5			100		WR - WH - WH				37	26	25	84		
45 2856.5			100		WR - WH - 2				34					
							SILT with silty clay and sand (ML), soft to medium stiff, wet, brown, [A-4]. (Alluvium).	48.0 2853.5						
50 2851.5			100		1 - 3 - 3				32	26	25	82	89	UCS: 1040 psf
55 2846.5			100		WR - WH - WH				34	27	26	86		
							SILT with silty clay and sand (ML), soft, wet, brown, [A-4]. (Alluvium).	58.0 2843.5						
60 2841.5			100		WR - WH - WH				33					

Water Level Observations

During Drilling: **12.0 ft** ***(2889.5 ft)***

After Drilling: **Not Encountered, Augers Out**

After Drilling: **Not Encountered, Augers Out**

Remarks:

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:50 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-101

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location** N: 1433907.54 ft **Coordinates** E: 841297.5 ft	**Station:** 303 + 10 **Offset:** 3 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2901.5 ft
Date Started: 11/9/12	**Date Finished:** 11/12/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							SILT with silty clay and sand continued.							
65 2836.5			100		WR - WH - 1				33					
70 2831.5			100		WR - WH - WH				31					
75 2826.5			100		WH - 1 - 2				31		NP	80		
80 2821.5			100		WR - WR - WH				30					
85 2816.5			100		WR - WR - WH				30					
							Silty CLAY (CL-ML), soft, wet, brown, [A-4]. (Alluvium).	87.5 2814.0						
90 2811.5			100		WR - WR - WH				37	30	26	90		

Water Level Observations

- During Drilling: **12.0 ft** *(2889.5 ft)*
- After Drilling: **Not Encountered, Augers Out**
- After Drilling: **Not Encountered, Augers Out**

Remarks:

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:50 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-101

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location** N: 1433907.54 ft **Coordinates** E: 841297.5 ft	**Station:** 303 + 10 **Offset:** 3 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2901.5 ft
Date Started: 11/9/12	**Date Finished:** 11/12/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Silty CLAY continued.							
95 *2806.5*			100		WR - WR - WH				33					
							Lean CLAY (CL), soft to medium stiff, wet, brown, [A-6]. (Alluvium).	97.5 *2804.0*						
100 *2801.5*			100		2 - 5 - 5				37	38	25	93	79	UCS: 860 psf
105 *2796.5*			0		WR - WR - WR									
110 *2791.5*			100		WR - WR - WH				35					
							Lean CLAY (CL), soft, wet, gray, [A-4]. (Alluvium).	112.0 *2789.5*						
115 *2786.5*			100		WR - 1 - 2				41					Pen: ¼ tsf
120			100		WR - WH - 1				39					
2781.5														

Water Level Observations

- During Drilling: **12.0 ft** ***(2889.5 ft)***
- After Drilling: **Not Encountered, Augers Out**
- After Drilling: **Not Encountered, Augers Out**

Remarks:

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:50 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-101

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location Coordinates** N: 1433907.54 ft E: 841297.5 ft	**Station:** 303 + 10 **Offset:** 3 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2901.5 ft
Date Started: 11/9/12	**Date Finished:** 11/12/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Lean CLAY continued.							
125 2776.5														Pen: ¼ tsf
130 2771.5			100		WR - WR - WH				39					Pen: ¼ tsf
							Lean CLAY (CL), very soft, wet, brown, [A-4]. (Alluvium).	132.5 2769.0						
135 2766.5			100		WR - 1 - 1		Silty SAND (SM), very loose to medium dense, wet, gray, fine grained, [A-2-4]. (Alluvium).	135.0 2766.5	43					
140 2761.5			100		5 - 10 - 12				22					
145 2756.5			100		WH - 5 - 5				26		NP	24		
150 2751.5			100		2 - 3 - 5				24					

Water Level Observations

- During Drilling: **12.0 ft** ***(2889.5 ft)***
- After Drilling: **Not Encountered, Augers Out**
- After Drilling: **Not Encountered, Augers Out**

Remarks:

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:50 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-101

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location** N: 1433907.54 ft **Coordinates** E: 841297.5 ft	**Station:** 303 + 10 **Offset:** 3 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2901.5 ft
Date Started: 11/9/12	**Date Finished:** 11/12/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Silty SAND continued.	151.0 2750.5						
							Boring Depth: 151.0 ft, *Elevation: 2750.5 ft*							

Water Level Observations		Remarks:
During Drilling: **12.0 ft** ***(2889.5 ft)***		
After Drilling: **Not Encountered, Augers Out**	After Drilling: **Not Encountered, Augers Out**	

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:50 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-102

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 5500-1 **Hammer:** Safety	**Boring Location** N: 1433939.7 ft **Coordinates** E: 841555.9 ft	**Station:** 305 + 71 **Offset:** 5 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2898.0 ft
Date Started: 9/5/13	**Date Finished:** 9/12/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** C. Rice/D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Barge deck.							
							Water.	2.8 2895.2						
5 2893.0														
10 2888.0														
15 2883.0														
20 2878.0														
25 2873.0														
30														
2868.0														

Water Level Observations		Remarks: Depth from barge deck.
After Drilling: 0	During Drilling: 2.8 ft (2895.2 ft) After Drilling: 0	

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:50 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-102

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 5500-1 **Hammer:** Safety	**Boring Location** N: 1433939.7 ft **Coordinates** E: 841555.9 ft	**Station:** 305 + 71 **Offset:** 5 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2898.0 ft
Date Started: 9/5/13	**Date Finished:** 9/12/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** C. Rice/D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
35 2863.0							Water continued.							
40 2858.0														
45 2853.0								46.0 2852.1						
50 2848.0			100		1 - 1 - 1		SILT with silty CLAY (ML), soft, wet, gray, [A-4]. (Alluvium).		37					Pen: < ¼ tsf
55 2843.0			94		1 - 1 - 1				38					Pen: < ¼ tsf
60 2838.0														

Water Level Observations

During Drilling: **2.8 ft** ***(2895.2 ft)***

After Drilling: ***0***

After Drilling: ***0***

Remarks: Depth from barge deck.

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:50 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-102

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 5500-1 **Hammer:** Safety	**Boring Location** N: 1433939.7 ft **Coordinates** E: 841555.9 ft	**Station:** 305 + 71 **Offset:** 5 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2898.0 ft
Date Started: 9/5/13	**Date Finished:** 9/12/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** C. Rice/D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			100				SILT with Silty CLAY continued.							
65 2833.0			89		1 - 1 - 2				33					Pen: < ¼ tsf
70 2828.0			100		1 - 1 - 2				35					Pen: < ¼ tsf
							SILT with sand (ML), very loose, wet, gray, [A-4]. (Alluvium).	70.5 2827.5						
							Silty CLAY (CL-ML), soft, wet, gray, [A-4]. (Alluvium).	73.5 2824.5						
75 2823.0			100		1 - 1 - 2				32					Pen: < ¼ tsf
80 2818.0			100											
85 2813.0			100		1 - 2 - 2				30					Pen: < ¼ tsf
90									37					Pen: ½ tsf
2808.0														

Water Level Observations

During Drilling: **2.8 ft** ***(2895.2 ft)***

After Drilling: *0*

After Drilling: *0*

Remarks: Depth from barge deck.

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:50 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-102

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 5500-1 **Hammer:** Safety	**Boring Location** N: 1433939.7 ft **Coordinates** E: 841555.9 ft	**Station:** 305 + 71 **Offset:** 5 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2898.0 ft
Date Started: 9/5/13	**Date Finished:** 9/12/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** C. Rice/D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			100		1 - 2 - 2		Silty CLAY continued.							
							Lean CLAY (CL), soft to medium stiff, wet, gray, [A-6]. (Alluvium).	93.0 *2805.0*						
95 *2803.0*			100		1 - 2 - 2				36					Pen: ¼ tsf
100 *2798.0*			100											
105 *2793.0*			100		1 - 1 - 1				38					Pen: < ¼ tsf
110 *2788.0*			100		2 - 2 - 2				36					Pen: < ¼ tsf
115 *2783.0*			100		3 - 3 - 3				35					Pen: < ¼ tsf
120 *2778.0*														Pen: ¼ tsf

Water Level Observations

During Drilling: **2.8 ft** ***(2895.2 ft)***

After Drilling: ***0***

After Drilling: ***0***

Remarks: Depth from barge deck.

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:50 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-102

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 5500-1 **Hammer:** Safety	**Boring Location** N: 1433939.7 ft **Coordinates** E: 841555.9 ft	**Station:** 305 + 71 **Offset:** 5 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2898.0 ft
Date Started: 9/5/13	**Date Finished:** 9/12/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** C. Rice/D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			100				Lean CLAY continued.							
125 2773.0			100		2 - 2 - 2		Lean CLAY (CL), soft to medium stiff, wet, gray, [A-7]. (Alluvium).	124.0 2774.0	38					Pen: ¼ tsf
130 2768.0			100		2 - 3 - 3				44					Pen: < ¼ tsf
135 2763.0			100		2 - 2 - 3				40					Pen: < ¼ tsf
140 2758.0			100		2 - 1 - 3				37					Pen: < ¼ tsf
145 2753.0			67		5 - 7 - 9		Silty SAND (SM), medium dense, wet, gray, fine grained, subangular, [A-2-4]. (Alluvium).	143.0 2755.0	33					
150 2748.0														

Water Level Observations

During Drilling: **2.8 ft** ***(2895.2 ft)***

After Drilling: ***0***

After Drilling: ***0***

Remarks: Depth from barge deck.

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:50 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

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LOG OF BORING

Boring 6850000-ST-102

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 5500-1 **Hammer:** Safety	**Boring Location** N: 1433939.7 ft **Coordinates** E: 841555.9 ft	**Station:** 305 + 71 **Offset:** 5 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2898.0 ft
Date Started: 9/5/13	**Date Finished:** 9/12/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** C. Rice/D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			44		9 - 12 - 13		Silty SAND continued.							
155 2743.0			61		5 - 6 - 8				33					
160 2738.0			78		4 - 5 - 7				33					
165 2733.0			67		4 - 8 - 8				33					
170 2728.0			78		8 - 9 - 10				24					
175 2723.0			78		4 - 5 - 7				30					
180 2718.0									32					

Water Level Observations		Remarks: Depth from barge deck.
▽ After Drilling: 0	▽ During Drilling: 2.8 ft (2895.2 ft) ▼ After Drilling: 0	

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LOG OF BORING

Boring 6850000-ST-102

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 5500-1 **Hammer:** Safety	**Boring Location** N: 1433939.7 ft **Coordinates** E: 841555.9 ft	**Station:** 305 + 71 **Offset:** 5 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2898.0 ft
Date Started: 9/5/13	**Date Finished:** 9/12/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** C. Rice/D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			67		4 - 4 - 7		Silty SAND continued.	184.0 *2714.0*						
185 *2713.0*			44		16 - 15 - 37		Clayey GRAVEL with sand and cobbles (GC), medium dense to very dense, wet, light brown, fine to coarse grained, subrounded, [A-1-b]. (Glacial Till).		22					
190 *2708.0*			6		14 - 7 - 15									
195 *2703.0*			67		33 - 41 - 39				8					
200 *2698.0*			100		20 - 50/0.4ft				10					
205 *2693.0*			100		45 - 50/0.4ft				10					
210 *2688.0*			0		50/0.2ft									

Water Level Observations		Remarks: Depth from barge deck.
▽ During Drilling: **2.8 ft** ***(2895.2 ft)***	▽ After Drilling: *0*	

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LOG OF BORING

Boring 6850000-ST-102

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 5500-1 **Hammer:** Safety	**Boring Location** N: 1433939.7 ft **Coordinates** E: 841555.9 ft	**Station:** 305 + 71 **Offset:** 5 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2898.0 ft
Date Started: 9/5/13	**Date Finished:** 9/12/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** C. Rice/D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - AAD	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
215 2683.0			100		30 - 50/0.3ft		Clayey GRAVEL with sand and cobbles continued.		11					
								215.5 2682.5						
			90	54			ARGILLITE, gray, fine grained, very thinly bedded, hard to very hard field hardness, (Ye, Empire Formation).		6				158	UCS: 2021 psi
220 2678.0														
									1				167	UCS: 826 psi
			100	58										
								223.3 2674.7						
225 2673.0							LIMESTONE, green, fine grained, thickly bedded, hard to very hard field hardness, (Ye, Empire Formation).							
			80	50				226.5 2671.5	1				167	UCS: 6938 psi
230 2668.0							ARGILLITE, dark gray, fine grained, very thinly bedded, hard to very hard field hardness, (Ye, Empire Formation).							
								230.2 2667.8						
			80	0			LIMESTONE, green, fine grained, very thinly bedded, hard to very hard field hardness, (Ye, Empire Formation).							
235 2663.0														
			50	0										
								239.2 2658.8						

Boring Depth: 239.2 ft, *Elevation: 2658.8 ft*

Water Level Observations		Remarks: Depth from barge deck.
▽ After Drilling: *0*	▽ During Drilling: **2.8 ft** ***(2895.2 ft)***	
	▼ After Drilling: *0*	

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LOG OF BORING

Boring 6850000-ST-103

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location** N: 1433978.353 ft **Coordinates** E: 841818.005 ft	**Station:** 308 + 45 **Offset:** 9 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.8 ft
Date Started: 9/14/13	**Date Finished:** 9/18/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Barge Deck.							
							Water.	2.6 2895.2						
5 2892.8														
10 2887.8														
15 2882.8														
20 2877.8														
25 2872.8														
30							Poorly-Graded SAND with silt (SP-SM), very loose,	29.3 2868.5						
2867.8														

Water Level Observations		Remarks: Depth from barge deck.
▽ During Drilling: 2.6 ft (2895.2 ft)	▼ After Drilling: 0	

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LOG OF BORING

Boring 6850000-ST-103

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location** N: 1433978.353 ft **Coordinates** E: 841818.005 ft	**Station:** 308 + 45 **Offset:** 9 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.8 ft
Date Started: 9/14/13	**Date Finished:** 9/18/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							wet, gray, fine grained, [A-3]. (Alluvium).							
35 2862.8			55		1 - WH - 1				33		NP	9		
40 2857.8			44		1 - 1 - WH				32		NP	9		
								42.5 2855.3						
							Silty SAND (SM), loose, wet, gray, fine grained, [A-2-4]. (Alluvium).							
45 2852.8			28		5 - 3 - 3									Pen: < ¼ tsf
								47.6 2850.2						
							SILT with silty CLAY (ML), soft, wet, gray, [A-4]. (Alluvium).		35					
50 2847.8			100		1 - 1 - 1									Pen: < ¼ tsf
55 2842.8			100						39	27	26	95	86	Pen: < ¼ tsf See triaxial shear test.
60									36					
2837.8														

Water Level Observations

During Drilling: **2.6 ft** ***(2895.2 ft)***

After Drilling: ***0***

After Drilling: ***0***

Remarks: Depth from barge deck.

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LOG OF BORING

Boring 6850000-ST-103

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location** N: 1433978.353 ft **Coordinates** E: 841818.005 ft	**Station:** 308 + 45 **Offset:** 9 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.8 ft
Date Started: 9/14/13	**Date Finished:** 9/18/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			100		1 - 1 - 1		SILT with Silty CLAY continued.							Pen: < ¼ tsf
65 2832.8			100		1 - 1 - 1				35					Pen: < ¼ tsf
70 2827.8			100		1 - 1 - 2				36					Pen: < ¼ tsf
75 2822.8			100											Pen: < ¼ tsf
80 2817.8			100		1 - 1 - 3				35		NP	83		
							Silty SAND (SM), loose, wet, gray, fine grained, subrounded, [A-4]. (Alluvium).	80.6 2817.2						Pen: < ¼ tsf
							Silty CLAY with seams of silty sand (CL-ML), soft, wet, gray, [A-4]. (Alluvium).	82.6 2815.2						
85 2812.8			100		1 - 2 - 2				35					Pen: ¼ tsf
90 2807.8									33					

Water Level Observations

During Drilling: **2.6 ft** ***(2895.2 ft)***

After Drilling: *0*

After Drilling: *0*

Remarks: Depth from barge deck.

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LOG OF BORING

Boring 6850000-ST-103

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location** N: 1433978.353 ft **Coordinates** E: 841818.005 ft	**Station:** 308 + 45 **Offset:** 9 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.8 ft
Date Started: 9/14/13	**Date Finished:** 9/18/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			100		1 - 2 - 2		Silty CLAY continued.							Pen: < ¼ tsf
95 2802.8			100											Pen: ¼ tsf
100 2797.8			100		1 - 2 - 3				38					Pen: < ¼ tsf
105 2792.8			100		1 - 3 - 2				36					Pen: < ¼ tsf
110 2787.8			100		1 - 2 - 2				45					Pen: < ¼ tsf
115 2782.8			100				Lean CLAY (CL), soft, wet, gray, [A-6]. low plasticity. (Alluvium).	112.6 2785.2						Pen: < ¼ tsf
120 2777.8									36	32	22	100		

Water Level Observations

During Drilling: **2.6 ft** ***(2895.2 ft)***

After Drilling: *0*

After Drilling: *0*

Remarks: Depth from barge deck.

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LOG OF BORING

Boring 6850000-ST-103

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location** N: 1433978.353 ft **Coordinates** E: 841818.005 ft	**Station:** 308 + 45 **Offset:** 9 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.8 ft
Date Started: 9/14/13	**Date Finished:** 9/18/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			100		1 - 2 - 2		Lean CLAY continued.							Pen: < ¼ tsf
							Silty CLAY with sand (CL-ML), soft, wet, gray, [A-4]. (Alluvium).	122.6 *2775.2*						
125 *2772.8*			100		1 - 2 - 2				43					Pen: ½ tsf
130 *2767.8*			100		2 - 2 - 2				42					
135 *2762.8*			100				Lean CLAY with sand lenses (CL), medium stiff, wet, gray, [A-7]. medium plasticity. (Alluvium).	136.6 *2761.2*						Pen: ½ tsf
140 *2757.8*			100		1 - 2 - 3				46					Pen: < ¼ tsf
145 *2752.8*			100		1 - 2 - 3				44					Pen: < ¼ tsf
150 *2747.8*									38	47	23	100		

Water Level Observations

During Drilling: **2.6 ft** ***(2895.2 ft)***

After Drilling: *0*

After Drilling: *0*

Remarks: Depth from barge deck.

(2) MDT LOG OF BORING - MDT_REVISED_2009+(CPT_IMPORT).GDT - 12/3/13 10:51 - C:\PROGRAM FILES (X86)\BENTLEY\GINT\PROJECTS\BILLINGS\2901-3000\2935.GPJ

LOG OF BORING

Boring 6850000-ST-103

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location** N: 1433978.353 ft **Coordinates** E: 841818.005 ft	**Station:** 308 + 45 **Offset:** 9 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.8 ft
Date Started: 9/14/13	**Date Finished:** 9/18/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			100		1 - 2 - 3		Lean CLAY continued.							Pen: < ¼ tsf
155 2742.8			100											
							Silty SAND (SM), very loose to loose, wet, gray, fine grained, subrounded, [A-2-4]. (Alluvium).	157.1 2740.7						Driller indicated cobbles and possibly boulders were occasionally felt while drilling.
160 2737.8			89		1 - 1 - 2				40					
165 2732.8			100		1 - 1 - 3				39					
170 2727.8			94		2 - 2 - 5				38					
175 2722.8			100		2 - 3 - 7				29					
180 2717.8									16					

Water Level Observations

During Drilling: **2.6 ft** ***(2895.2 ft)***

After Drilling: *0*

After Drilling: *0*

Remarks: Depth from barge deck.

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LOG OF BORING

Boring 6850000-ST-103

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location** N: 1433978.353 ft **Coordinates** E: 841818.005 ft	**Station:** 308 + 45 **Offset:** 9 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.8 ft
Date Started: 9/14/13	**Date Finished:** 9/18/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			83		47 - 12 - 8		Silty GRAVEL with sand (GM), medium dense, wet, gray, fine to coarse grained, subrounded, [A-1-b]. (Alluvium).	180.1 *2717.7*						
							Silty SAND (SM), medium dense, wet, gray, medium grained, subrounded, [A-2-4]. (Alluvium).	181.6 *2716.2*						
185 *2712.8*			89		6 - 7 - 8				34					
190 *2707.8*			100		2 - 5 - 8				32					
195 *2702.8*			83		5 - 8 - 11				30					
200 *2697.8*			100		2 - 5 - 8				31					
205 *2692.8*			100		3 - 7 - 13				26					
210 *2687.8*									31					

Water Level Observations		Remarks: Depth from barge deck.
▽ After Drilling: *0*	▽ During Drilling: **2.6 ft** ***(2895.2 ft)***	
	▼ After Drilling: *0*	

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LOG OF BORING

Boring 6850000-ST-103

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location** N: 1433978.353 ft **Coordinates** E: 841818.005 ft	**Station:** 308 + 45 **Offset:** 9 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.8 ft
Date Started: 9/14/13	**Date Finished:** 9/18/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			78		7 - 7 - 13		Silty SAND continued.							
215 2682.8			100		2 - 5 - 8				37					
220 2677.8			100		4 - 9 - 17				24					
225 2672.8			72		8 - 7 - 9				30					
230 2667.8			0		15 - 14 - 17		Clayey GRAVEL with sand (GC), medium dense, wet, gray, fine to coarse grained, subrounded, [A-1-b]. (Glacial Till).	229.6 2668.2						
235 2662.8			33		41 - 50/0.4ft		Clayey SAND with gravel and cobbles (SC), very dense, wet, gray, fine to coarse grained, subrounded, [A-1-b]. (Glacial Till).	234.6 2663.2	20					
240 2657.8							Silty SAND with trace small gravels, some layers of silt (SM), very dense, wet, gray, fine to coarse grained, subrounded, [A-2-4]. (Glacial Till).	237.6 2660.2	27					

Water Level Observations

During Drilling: **2.6 ft** ***(2895.2 ft)***

After Drilling: *0*

After Drilling: *0*

Remarks: Depth from barge deck.

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LOG OF BORING

Boring 6850000-ST-103

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location** N: 1433978.353 ft **Coordinates** E: 841818.005 ft	**Station:** 308 + 45 **Offset:** 9 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.8 ft
Date Started: 9/14/13	**Date Finished:** 9/18/13	**Drilling Fluid:** Bentonite Slurry	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			89		25 - 40 - 50/0.4ft		Silty SAND continued.							
245 2652.8			61		12 - 32 - 50/0.4ft				21					
250 2647.8			67		33 - 39 - 50/0.5ft				24					
							ARGILLITE, dark gray, fine grained, very thinly bedded, hard to very hard field hardness, (Ye, Empire Formation).	251.6 2646.2						
255 2642.8			86	0										
260 2637.8			96	13										
			100	0					3				160	UCS: 5954 psi
265 2632.8			100	34										
			100	0										
			100	0										

Boring Depth: 268.1 ft, *Elevation: 2629.7 ft*

268.1
2629.7

Water Level Observations		Remarks: Depth from barge deck.
After Drilling: *0*	During Drilling: **2.6 ft** ***(2895.2 ft)***	
	After Drilling: *0*	

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SK GEOTECHNICAL

LOG OF BORING

Boring 6850000-ST-104

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location** N: 1433923.98 ft **Coordinates** E: 841430.25 ft	**Station:** 304 + 44 **Offset:** On CL
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2898.0 ft
Date Started: 9/18/13	**Date Finished:** 9/19/13	**Drilling Fluid:** None	**Location Source:** Google Earth	**Elevation Source:** USGS Website
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - ADA	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Barge deck.							
							Water.	2.5 *2895.5*						
5 *2893.0*														
10 *2888.0*														
15 *2883.0*														
20 *2878.0*														
25 *2873.0*														
30							SILT with silty CLAY (ML), soft, wet, gray, [A-4]. (Alluvium).	28.7 *2869.3*						
2868.0														

Water Level Observations		Remarks: Depth from barge deck.
After Drilling: *0*	During Drilling: **2.5 ft** ***(2895.5 ft)***	
	After Drilling: *0*	

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SK GEOTECHNICAL

LOG OF BORING

Boring 6850000-ST-104

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location Coordinates** N: 1433923.98 ft E: 841430.25 ft	**Station:** 304 + 44 **Offset:** On CL
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2898.0 ft
Date Started: 9/18/13	**Date Finished:** 9/19/13	**Drilling Fluid:** None	**Location Source:** Google Earth	**Elevation Source:** USGS Website
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - ADA	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							SILT with Silty CLAY continued.							Pen: < ¼ tsf
									37	26	21	89	85	See triaxial shear test.
35 2863.0			100											Pen: < ¼ tsf
									38					
40 2858.0			50		1 - 1 - WH									Pen: < ¼ tsf
									37		NP	91	87	See triaxial shear test.
45 2853.0			100											Pen: < ¼ tsf
									36					
50 2848.0			100		1 - 1 - 1									Pen: < ¼ tsf
									36		NP	95	87	See triaxial shear test.
55 2843.0			100											Pen: < ¼ tsf
									35					
60 2838.0			100		1 - 1 - 2									

Water Level Observations		Remarks: Depth from barge deck.
During Drilling: 2.5 ft (2895.5 ft)	After Drilling: 0	

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SK GEOTECHNICAL

LOG OF BORING

Boring 6850000-ST-104

Project: Flathead R - 3 M NW Big Fork		**Rig:** Burley 6000 **Hammer:** Safety	**Boring Location Coordinates** N: 1433923.98 ft E: 841430.25 ft	**Station:** 304 + 44 **Offset:** On CL
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 4.25"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2898.0 ft
Date Started: 9/18/13	**Date Finished:** 9/19/13	**Drilling Fluid:** None	**Location Source:** Google Earth	**Elevation Source:** USGS Website
Driller: N. Arneson **Logger:** D. Hutzenbiler		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 22 - ADA	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							SILT with Silty CLAY continued.							Pen: < ¼ tsf
									36					
65 2833.0			100		1 - 1 - 2									
														Pen: < ¼ tsf
									34					
			100		1 - 1 - 2									
70 2828.0							Boring Depth: 70.0 ft, *Elevation: 2828.0 ft*	70.0 2828.0						

Water Level Observations		Remarks: Depth from barge deck.
During Drilling: **2.5 ft** ***(2895.5 ft)***		
After Drilling: *0*	After Drilling: *0*	

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LOG OF BORING

Boring 6850000-ST-105

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location** N: 1434005.8 ft **Coordinates** E: 842051.65 ft	**Station:** 310 + 70 **Offset:** 30 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.5 ft
Date Started: 11/6/12	**Date Finished:** 11/9/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
			50		5 - 6 - 11		BASE COURSE, Poorly-Graded GRAVEL (GP), medium dense, dry, brown, fine to coarse grained, rounded, [A-1-a].	0.5 2897.0	4					Pen: < ½ tsf
			78		2 - 2 - 2		Poorly-Graded GRAVEL (GP), medium dense, dry, brown, fine to coarse grained, rounded, [A-1-a]. (Subbase).	1.5 2896.0 3.0 2894.5	37					
5 2892.5			1		WH - WH - 1		Silty CLAY (CL-ML), soft, moist to wet, brown, rounded, [A-4]. (Alluvium).		19			37		
			0				Silty SAND (SM), very loose, wet, brown, fine grained, [A-4]. with layers of Sandy SILT. (Alluvium). ▽							
			100		WH - WH - WH				38			53		
10 2887.5			100		WR - 1 - 1		Silty SAND (SM), very loose, wet, gray, fine grained, [A-4]. (Alluvium).	10.0 2887.5	34					
			72		1 - 1 - 1				34			47		
			0											
15 2882.5			83		1 - 2 - 2				35			46		
							Poorly-Graded SAND (SP), very loose, wet, gray, fine grained, [A-2-4]. (Alluvium).	18.0 2879.5						
20 2877.5			56		1 - 2 - 3				31			6		NW-casing advancer used to extend boring from 20' to 35'. After multiple attempts, unable to control sand heave with either water or bentonite slurry. Switched to hollow-stem auger techniques with water to control sand heave.
			56		WH - WH - WH				51					
25 2872.5														
			83		1 - 1 - 1				34			3		
30 2867.5														

Water Level Observations		Remarks:
▽ During Drilling: 6.5 ft (2891.0 ft)	▽ After Drilling: 0	

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LOG OF BORING

Boring 6850000-ST-105

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location** N: 1434005.8 ft **Coordinates** E: 842051.65 ft	**Station:** 310 + 70 **Offset:** 30 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.5 ft
Date Started: 11/6/12	**Date Finished:** 11/9/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Silty SAND (SM), very loose, wet, gray, fine grained, [A-4]. (Alluvium).	30.0 *2867.5*						
35 *2862.5*			67		2 - 2 - 4				33					
40 *2857.5*			56		1 - 1 - 2				24			15		
45 *2852.5*			89		3 - 1 - 2				29					
							SILT (ML), soft, wet, brown, [A-4]. layers of Lean CLAY and Silty CLAY. (Alluvium).	48.0 *2849.5*						Pen: < ¼ tsf
50 *2847.5*			56		1 - 1 - 1				35					
55 *2842.5*			56		2 - WH - 1				35	28	27	90		Pen: < ¼ tsf
60 *2837.5*			0		1 - 1 - 1									

Water Level Observations

During Drilling: **6.5 ft** ***(2891.0 ft)***

After Drilling: *0*

After Drilling: *0*

Remarks:

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LOG OF BORING

Boring 6850000-ST-105

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location** N: 1434005.8 ft **Coordinates** E: 842051.65 ft	**Station:** 310 + 70 **Offset:** 30 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.5 ft
Date Started: 11/6/12	**Date Finished:** 11/9/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							SILT continued.							
65 2832.5			0		WH - 1 - 1									
														Pen: < ¼ tsf
70 2827.5			100		WR - WH - 1				32					
														Pen: < ¼ tsf
75 2822.5			100		WR - 1 - 2				34	37	21			
														Pen: < ¼ tsf
80 2817.5			100		WR - WH - 1				29	28	24	87	95	
														Pen: < ¼ tsf
85 2812.5			0		WR - 1 - 2									
														Pen: < ¼ tsf
90 2807.5			100		1 - 1 - 2				32					

Water Level Observations

During Drilling: **6.5 ft** *(2891.0 ft)*

After Drilling: *0*

After Drilling: *0*

Remarks:

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LOG OF BORING

Boring 6850000-ST-105

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location** N: 1434005.8 ft **Coordinates** E: 842051.65 ft	**Station:** 310 + 70 **Offset:** 30 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.5 ft
Date Started: 11/6/12	**Date Finished:** 11/9/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							SILT continued.							
95 2802.5			100		WH - WH - 1				34	30	25	96		Pen: < ¼ tsf
100 2797.5			100		WH - WH - 3				32					Pen: < ¼ tsf
							Silty CLAY (CL-ML), very soft, wet, brown, [A-4]. organic odor, layers of Lean CLAY and SILT. (Alluvium).	102.5 2795.0						
105 2792.5			100		WR - WH - 3				39					
110 2787.5			100		WR - 1 - 3				34					
115 2782.5			100		WH - WH - WH				35					
120			100		WR - WH - 6				32	31	25	100	88	
2777.5														

Water Level Observations		Remarks:
After Drilling: *0*	During Drilling: **6.5 ft** *(2891.0 ft)* After Drilling: *0*	

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SK GEOTECHNICAL

LOG OF BORING

Boring 6850000-ST-105

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location** N: 1434005.8 ft **Coordinates** E: 842051.65 ft	**Station:** 310 + 70 **Offset:** 30 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.5 ft
Date Started: 11/6/12	**Date Finished:** 11/9/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) / Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) / Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
							Silty CLAY continued.							
							Lean CLAY (CL), very soft to medium stiff, wet, gray, [A-6]. organic odor. (Alluvium).	122.5 *2775.0*						
125 *2772.5*			100		WH - WH - 1				33					
130 *2767.5*			100		WH - 3 - 3				38	38	20	97		
135 *2762.5*			100		WH - 2 - 3				43					
							Lean CLAY (CL), medium stiff, wet, brown, [A-4]. (Alluvium).	138.5 *2759.0*						
140 *2757.5*			100		WH - 2 - 4				40					
							Lean CLAY (CL), very soft, wet, gray, [A-4]. (Alluvium).	142.5 *2755.0*						
145 *2752.5*			100		WH - WH - WH				37			99		
							Silty CLAY (CL-ML), very soft, wet, brown, [A-4]. (Alluvium).	146.0 *2751.5*						
150 *2747.5*									25					

Water Level Observations

During Drilling: **6.5 ft** ***(2891.0 ft)***

After Drilling: *0*

After Drilling: *0*

Remarks:

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SK GEOTECHNICAL

LOG OF BORING

Boring 6850000-ST-105

Project: Flathead R - 3 M NW Big Fork		**Rig:** CME 75HT **Hammer:** Auto	**Boring Location** N: 1434005.8 ft **Coordinates** E: 842051.65 ft	**Station:** 310 + 70 **Offset:** 30 ft R
Project Number: BR 82-1(5)5	**UPN:** 6850000	**Boring Diameter:** 8"	**System:** MT S.P. (E) **Datum:** NAD83	**Top of Boring Elevation:** 2897.5 ft
Date Started: 11/6/12	**Date Finished:** 11/9/12	**Drilling Fluid:** Water	**Location Source:** MMI Survey	**Elevation Source:** MMI Survey
Driller: J. Mattheis **Logger:** C. Binstock		**Abandonment Method:** Backfilled with Cuttings	**Township, Range, and Section:** 27N 20W 23 - BBC	

Depth (ft) Elev. (ft)	Operation	Sample Type	Recovery (%)	RQD (%)	Blow Count	Lithology	Material Description	Depth (ft) Elev. (ft)	MC (%)	LL	PL	-200 (%)	DD (pcf)	Remarks and Other Tests
		X	100		WR - WR - WH		Silty CLAY continued.	151.0 2746.5						
							Boring Depth: 151.0 ft, *Elevation: 2746.5 ft*							

Water Level Observations		Remarks:
During Drilling: **6.5 ft** ***(2891.0 ft)***		
After Drilling: *0*	After Drilling: *0*	

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STANDARD PROVISIONS INDEX

FEDERAL AID PROJECTS **CONTAINS**

Federal Wage Rates (Rev. 1-03-2025)..... 5 Pages

Requirements & Acknowledgement for Working on Railroad R/W ..... 1 Page

Required Contract Provisions Federal-Aid Const. Contracts (FORM FHWA-1273) [Rev.10-23-2023] ..... 14 Pages

Supplemental Revisions for Required Contract Provisions Federal-Aid Const. Contracts (FORM FHWA-1273) [Added 2-4-2016] ..... 1 Page

EEO Affirmative Action Req. on Federal-Aid Construction ..... 1 Page

General Decision Number: MT20250079 01/03/2025

Superseded General Decision Number: MT20240079

State: Montana

Construction Type: Highway

Counties: Montana Statewide

HIGHWAY CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30,2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022.	Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least $17.75 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2025.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022.	Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least $13.30 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours performing on that contract in 2025.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at https://www.dol.gov/agencies/whd/government-contracts

Modification Number	Publication Date
0	01/03/2025

SUMT2023-001 04/01/2022

	Rates	Fringes
CARPENTER		
Carpenter/Piledriverman	$ 36.05	14.23
Millwright	$ 40.87	14.70
CEMENT MASON/CONCRETE FINISHER	$ 33.41	16.51
DIVER		
Diver Tender	$ 45.30	18.38
Diving	$ 92.66	18.38
Stand-By	$ 46.33	18.38

The tender shall receive 2 hours at the straight time pay rate per shift for dressing and/or undressing when work is done under hyperbaric conditions.

Depth Pay (Surface Diving):
0-20 ft.: Free zone
>20-100 ft.: $2.00 per ft.
>100-150 ft.: $3.00 per ft.
>150-220 ft.: $4 00 per ft.
>220 ft.: $5.00 per ft.

Diving in Enclosures (Diver Only):
0-25 ft.: Free zone
>25-300 ft.: $1.00 per ft.

ELECTRICIAN (LINE CONSTRUCTION)		
Equipment Operator	$ 38.38	18.60
Groundman	$ 29.96	17.64
Lineman	$ 50.11	19.88
ELECTRICIAN		
All Areas	$ 39.08	20.00
IRONWORKER	$ 30.43	25.22
LABORER		
Group 1	$ 27.71	12.36
Group 2	$ 30.87	12.36
Group 3	$ 31.10	12.36
Group 4	$ 32.12	12.36

GROUP 1: Flag Person

GROUP 2: All General Labor work; Burning Bar; Bucket Man; Carpenter Tender; Caisson Worker; Cement Mason Tender; Cement Handler (dry); Chuck Tender; Choker Setter; Concrete Worker; Curb Machine-Lay Down; Crusher and Batch Plant Worker; Fence Erector; Form Setter; Form Stripper; Heater Tender; Landscaper; Pipe Wrapper; Pot Tender; Powderman Tender; Rail and Truck Loaders and Unloaders; Riprapper; Sealants for Concrete and other materials; Sign Erection, Guard Rail and Jersey Rail; Stake Jumper; Spike Driver; Signalman; Tail Hoseman; Tool Checker and Houseman; Traffic Control Worker

GROUP 3: Concrete Vibrator; Dumpman (Grademan); Equipment Handler; Geotextile and Liners; High-Pressure Nozzleman; Jackhammer (Pavement Breaker); Laser Equipment; Non-riding Rollers; Pipelayer; Posthole Digger (power); Power Driven Wheelbarrow; Rigger; Sandblaster; Sod- Cutter-power; Tampers

GROUP 4: Asphalt Raker; Cutting Torch; Grade Setter; High- Scaler; Power Saws (Faller & Concrete); Powderman ($1.00 per hour above Group 4 rate); Rock & Core Drill; Track or Truck Mounted Wagon Drill; Welder including Air Arc

PAINTER	$ 36.00	12.84

POWER EQUIPMENT OPERATOR:		
Group 1	$ 32.47	12.77
Group 2	$ 34.55	12.77
Group 3	$ 35.70	12.77
Group 4	$ 36.67	12.77
Group 5	$ 38.05	12.77
Group 6	$ 39.27	12.77
Group 7	$ 41.95	12.77

GROUP 1: Air Compressor; Auto Fine Graders; Belt Finishing Machine; Boring Machine (small); Cement Silo; Crane, A-Frame Truck Crane; Crusher Conveyor; DW-10, 15, and 20 Tractor Roller; Farm Tractor; Forklift; Form Grader; Front End Loader Under 1 CU Yard; Heavy Duty Drills; Herman Nelson Heater; Mulching Machine; Oiler, All Except Cranes & Shovels; Pumpman

GROUP 2: Air Doctor; Backhoe/Excavator/Shovel to and including 3 CU Yard; Bit Grinder; Bituminous Paving Travel Plant; Boring Machine Large; Broom, Self-Propelled; Concrete Travel Batcher; Concrete Float & Spreader; Concrete Bucket Dispatcher; Concrete Finish Machine; Concrete Conveyor; Distributor; Dozer; Rubber-Tired, Push & Side Boom; Elevating Grader/Gradall; Field Equipment Serviceman; Front End Loader 1 CU Yard to including 5 CU Yard; Grade Setter; Heavy Duty Drills, All Types; Hoist/Tugger, All; Hydralift & Similar; Industrial Locomotive; Motor Patrol, Except Finish; Mountain Skidder; Oiler - Cranes & Shovels; Pavement Breaker, EMSCO; Power Saw, Self-Propelled; Pugmill; Pumpcrete/Grout Machine; Punch Truck; Roller, Other Than Asphalt; Roller, Sheepsfoot, Self-Propelled; Roller, 25 Tons and Over; Ross Carrier; Rotomill Under 6 Ft; Trenching Machine; Washing/Screening Plant

GROUP 3: Asphalt Paving Machine; Asphalt Screed; Backhoe/Excavator/Shovel Over 3 CU Yard; Cableway Highline; Concrete Batch Plant; Concrete Curing Machine; Concrete Pump; Cranes; Creter; Cranes, Electric Overhead; Cranes 24 Tons and Under; Curb Machine/Slip Form Paver; Finish Dozer; Front End Loader Over 5 CU Yard; Mechanic/Welder; Pioneer Dozer; Roller Asphalt (Breakdown & Finish); Rotomill, Over 6 FT; Scraper, Single, Twin or Pulling Belly Dump; Yo-Yo Cat

GROUP 4: Asphalt/Hot Plant Operator, Cranes, 25 Tons to 44 Tons; Crusher Operator; Finish Motor Patrol; Finish Scraper

GROUP 5: Cranes, 45 Tons To Including 74 Tons

GROUP 6: Cranes, 75 Tons To Including 149 Tons; Crane, Whirley (All)

GROUP 7: Cranes, 150 Tons To Including 250 Tons (Add $ 1.00 For Every 100 Tons Over 250 Tons; Crane, Tower (All)

TRUCK DRIVER

Group 1	$ 28.21	12.57
Group 2	$ 35.74	12.57

GROUP 1: Pilot Car

GROUP 2: Combination Truck and Concrete Mixer and Transit Mixer; Dry Batch Trucks; Distributor Driver; Dumpman; Dump Trucks and Similar Equipment; Dumpster; Flat Trucks; Lumber Carriers; Lowboys; Pickup; Powder Truck Driver; Power Boom; Serviceman; Service Truck/Fuel Truck/ Tireperson; Truck Mechanic; Trucks With Power Equipment; Warehouseman, Partsman, Cardex and Warehouse Expeditor; Water Trucks

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at

https://www.dol.gov/agencies/whd/government-contracts

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than ""SU"", ""UAVG"", “”SA””, or “”SC”” denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers.0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ""SU"" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

“”SU”” wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ""SA"" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA

reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the “”SA”” identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

Has there been an initial decision in the matter? This can be:

*a survey underlying a wage determination
*an existing published wage determination
*an initial WHD letter setting forth a position on a wage determination matter
*an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION

"CONTRACTOR REQUIREMENTS AND ACKNOWLEDGMENT FOR WORKING ON RAILROAD RIGHT-OF-WAY"

This document must be dated and signed by the Contractor and submitted to the State before occupying or working on Railroad right-of-way.

1) No change, which has a direct effect on the Railroad, will be made to construction plans without submitting revised plans and receiving approval from the Railroad. Work covered by the plans, that requires flagging, will be covered by the Railroad/Highway Agreement. For work that is a result of the contractor's discretion, flagging protection will be required when equipment crosses or is working within 25 feet (7.62 meters) of center of any live track. When deemed necessary by local Railroad officers, a flagman may be required at all times while working on Railroad right-of-way in high density rail traffic area.

2) Crossing of any Railroad tracks must be done at approved locations and must be full depth timber, rubber, etc. Any equipment with steel wheels, lugs or tracks must not cross steel rails without the use of rubber tires or other approved protection. This shall apply specifically to, but not be limited to, access for Contractor furnished gravel, borrow or waste sites. The Contractor will be required to obtain a permit from the Railroad, and comply with any provisions thereof, before using any private Railroad crossings. All track crossing locations must be covered by a Private Roadway and Crossing Agreement. This does not apply to any public crossing.

3) Costs of flagging or planking protection of the tracks, which are a direct result of the planned construction, will be paid for by the State. Costs of flagging, planking for protection of the tracks, installation of new crossings or other work caused by the Contractor's discretion, will be paid by the Contractor.

4) When work to be performed by the Contractor is not covered in the Railroad/Highway agreement, the Contractor must furnish a plan to the Railroad for approval showing details as to how any work that may affect the Railroad will be accomplished.

5) Storing of construction materials or any other material, including dirt, sand, etc., within the Railroad right-of-way, will not be allowed unless covered by an easement, construction permit, or Contractor's permit/lease.

6) Construction within 25 feet (7.62 meters) of the center of any track not covered by the Railroad/Highway agreement will require plan approval and authorization by the Railroad Superintendent Maintenance and Engineering. This includes, but is not limited to, any excavation, slope work and driving of sheet piling.

7) No vehicles, equipment or machines shall be parked or stored unattended within 25 feet (7.62 meters) of any track, on railroad right-of-way, without specific written approval of the Railroad.

8) When any work is to be performed on Railroad property by the Contractor that is not shown in the construction plans, the Contractor must submit a detailed plan of the work to the Railroad for their approval.

CONTRACTOR'S ACKNOWLEDGMENT:

_____
Company

By: _____
Name

_____
Title

_____
Date

WORK SITE LOCATION:

_____
Town

_____
State

_____
Project #

Rev. 01/01/04

FHWA-1273 – Revised October 23, 2023

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Non-segregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
XI. Certification Regarding Use of Contract Funds for Lobbying
XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a wage determination may contain, pursuant to § 1.3(f), wage and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to *DBAconformance@dol.gov*. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to *DBAconformance@dol.gov*, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in § 5.28, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a “Statement of Compliance,” signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the “Statement of Compliance” required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of any of the applicable statutes referenced by § 5.1, available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be grounds for debarment action pursuant to § 5.12. In addition, any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) or § 5.12(a).

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same prime contractor (as defined in § 5.2). The necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

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3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B) This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

Supplemental Revisions for FHWA Form-1273 (Dated May 1, 2012)
Required Contract Provisions
Federal-Aid Construction Contracts

The following are supplementary or amendatory to the May 1, 2012, FHWA Form-1273 insofar as they apply to this contract:

Add the following provisions in accordance with the FHWA memo dated December 11, 2015:

Utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

Furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, ‘on-board’ commercial ocean bill-of-lading in English for each shipment of cargo described in above paragraph to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

SPECIAL PROVISIONS

EEO AFFIRMATIVE ACTION REQUIREMENTS ON FEDERAL & FEDERAL-AID CONSTRUCTION CONTRACTS

Federal-aid contractors are hereby notified they are subject to the OFCCP goals and economic areas for minority and female participation expressed below. Compliance with the goals and OFCCP affirmative action efforts for contracts and subcontracts consisting of $10,000 or more will be determined by OFCCP officials.

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)

1. The Offeror's or Bidder's attention is called to the Equal Opportunity Clause and "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

GOALS FOR FEMALE PARTICIPATION (statewide) 6.9%

GOALS FOR MINORITY PARTICIPATION IN EACH TRADE
Economic Areas:

152
Non-SMSA (Standard Metropolitan Statistical Area) Counties 4.4%
Daniels, Richland, Roosevelt, Sheridan

153 Great Falls, MT
SMSA Counties
3040 Great Falls, MT 3.2%
Cascade

Non-SMSA Counties 4.1%
Blaine, Broadwater, Chouteau, Fergus, Glacier, Hill, Jefferson, Judith Basin, Lewis & Clark, Liberty, Meagher, Petroleum, Phillips, Pondera, Teton, Toole, Valley, Wheatland

154 Missoula, MT
Non-SMSA Counties 2.7%
Beaverhead, Deer Lodge, Flathead, Granite, Lake, Lincoln, Madison, Mineral, Missoula, Powell, Ravalli, Sanders, Silver Bow

155 Billings, MT
SMSA Counties
0880 Billings, MT 3.3%
Yellowstone

Non-SMSA Counties 3.3%
Big Horn, Carbon, Carter, Custer, Dawson, Fallon, Gallatin, Garfield, Golden Valley, McCone, Musselshell, Park, Powder River, Prairie, Rosebud, Stillwater, Sweet Grass, Treasure, Wibaux, Yellowstone Nat'l Park

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

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

3. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.