CONTRACT NO. 02324

Backsfed.020124

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 Bureau, Room 101, 2701 Prospect, Helena, Montana until 9:00 a.m. on March 7, 2024. All bids will then be publicly opened, reviewed for correctness, and then publicly read.

Federal Aid Project(s):

IM NHFP 90-1(228)3 TAFT - WEST

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 #02324
AWARDED ON: MARCH 19, 2024
TO: ACME CONCRETE PAVING, INC.

MONTANA DEPARTMENT OF TRANSPORTATION

Loran Frazier, Chairperson
Montana Transportation Commission

Malcolm “Mack” Long
Director of Transportation

Contract No.02324
EM:BB:9487000AWD

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CURRENT QUESTIONS & ANSWERS

101 - TAFT - WEST - March 07, 2024

Notifications

-1-

Submitted: Thursday 15-FEB-2024 03:28 PM

The addendum process has been modified. Addendum Inserts will no longer be issued for contract time changes. Bid files will not be updated for contract time changes. Addendum Inserts will now be referred to as Amendment Inserts and only issued for bid item changes. Please see the Bulletin Board for additional information regarding the process changes.

Amendments

-1-

Submitted: Wednesday 06-MAR-2024 12:24 PM

An Amendment has been posted for this project: **AMENDMENT**

To download the amendment bid files: Bid Express Secure Internet Bidding (bidx.com)

Clarifications

-1-

Submitted: Tuesday 13-FEB-2024 10:54 AM

Voluntary Pre-Bid Networking Conference

The following special provision is hereby added to the contract:

VOLUNTARY PRE-BID NETWORKING CONFERENCE

A voluntary pre-bid networking conference will be held in person Tuesday, February 13, 2024 at 3:00pm at the Holiday Inn Downtown, 200 S Pattee St, Missoula, MT. Attendance at this conference is voluntary. Contractors, subcontractors, and suppliers are encouraged to attend, but attendance is NOT required for bidders. The contract time will be increased by 10 working days via change order if the prime contractor attends the voluntary pre-bid conference.

UPDATED: Friday 03-MAR-2023 08:00 AM

Attendance List from the Voluntary Pre-Bid Networking Conference: **MEETING ATTENDANCE**

(See end of Q&A)

-2-

Submitted: Friday 16-FEB-2024 09:19 AM

The Department will begin the project using the standard sample and test frequencies provided in MT 601 for concrete paving. The frequency may be reduced by the Project Manager if the contractor demonstrates a consistent operation and production rates provided the test results meet the requirements of the contract.

-3-

Submitted: Wednesday 21-FEB-2024 12:04 PM

Special Provision 42. Class Pave Concrete is hereby replaced with the following special provision: **CLASS PAVE CONCRETE** **(See end of Q&A)**

Questions

-1-

Submitted: Tuesday 13-FEB-2024 02:28 PM

Company: Riverside Contracting, Inc.

Contact: Estimating

Is there a dirt run available for this project? Also, could you please post the design files for the project.

Answer

Submitted: Thursday 22-FEB-2024 10:30 AM

A dirt run is not available for this project. This project is not Department staking. Please refer to standard specification 105.08.2 and the grading frame on plan sheet RD-17.

CURRENT QUESTIONS & ANSWERS

The design files for the requested project are posted here: **DESIGN FILES**

- 9487000RDALNZ01 – Mainline alignments. This contains the alignment information that was previously found in GEOPAK.
- 9487000RDALNZ02 – Ramp alignments. This contains the alignment information that was previously found in GEOPAK.
- 9487000RDMAPZ01 – 3D representation of the corridor with feature lines (currently a dynamic file, not static).
- The construction model export files:
  - 9487000COCRRZ001.dwg - Model Feature Lines for Beginning Undivided Section
  - 9487000COCRRZ002.dwg - Model Feature Lines for East Bound Divided Section
  - 9487000COCRRZ003.dwg - Model Feature Lines for West Bound Divided Section
  - 9487000COCRRZ004.dwg - Model Feature Lines for End Undivided Section

TIN Surfaces: Take the files from construction model export (Activity 963):

- 9487000COETRZ001.xml - Existing Terrain Model
- 9487000CODTMZ001.xml - FG and SG Terrain Models for Beginning Undivided Section
- 9487000CODTMZ002.xml - FG and SG Terrain Models for East Bound Divided Section
- 9487000CODTMZ003.xml - FG and SG Terrain Models for West Bound Divided Section
- 9487000CODTMZ004.xml - FG and SG Terrain Models for End Undivided Section

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.

-2-
Submitted: Monday 19-FEB-2024 09:19 AM
Company: Core and Main LP
Contact: Tyler Miller
There seems to be a difference between the specified pipe and the spec section. 6" corrugated HDPE is called out, but the specification section referenced is actually for ABS pipe, not HDPE. Should SP 33 reference 708.02 rather than 708.07 in order to supply the corrugated polyethylene pipe?
Answer
Submitted: Thursday 22-FEB-2024 09:11 AM
Special Provision 33 (Edge Drains) specifies the correct materials for edge drains and is consistent with MDT Standard Specification 708.07 for Corrugated Polyethylene Drainage Pipe. MDT Standard Specification 708.02 is for Concrete Pressure Pipe which is not applicable for the edge drains specified on this project.

-3-
Submitted: Tuesday 20-FEB-2024 09:47 AM
Company: Riverside Contracting, Inc.
Contact: Estimating
Could you please post the original "As Built" drawings for this section of the interstate?

Answer
Submitted: Thursday 22-FEB-2024 12:43 PM
The As Built drawings can be found at the following link: **AS BUILTS**

The files linked above represent the as-built drawings. MDT provides them for informational purposes only. They do not include drawings for modifications to the structures, such as joint replacements and guardrail revisions and may not completely represent current conditions. Thus, some of the information contained in these documents may be out of date or not applicable with regard to the advertised project. The contractor should not rely solely on the as-built drawings provided for bidding purposes nor does any data in these files supersede the data in the contract documents.
UPDATED: Tuesday 27-FEB-2024 01:25 PM
The link above has been updated to include the As-Built drawings and as-let proposal for the crack and seat project completed in 2012.
-4-
Submitted: Friday 23-FEB-2024 09:46 AM
Company: Acme Concrete Paving, Inc
Contact: Steve Clark
The existing concrete underneath the current HMA has it already been broken up from a previous contract (crack and seat) if so, what was the specification on the size - example 2' x 2'?
Answer
Submitted: Tuesday 27-FEB-2024 02:22 PM
The as-built plans and related proposal for project IM 90-1(184)0 found in the response for Q&A #3 details that crack and seating occurred with 18” to 30” spacing transversely to centerline on the entire 24-foot PCCP travel way, with no more than 20 percent of the spacing greater than 24”. Pavement was cracked full depth of the PCCP (8”).
-5-
Submitted: Friday 23-FEB-2024 09:49 AM
Company: Acme Concrete Paving, Inc.
Contact: Steve Clark
The State of Montana's yard at the Taft Interchange - is it available to the contractor as a staging area and a site for a concrete batch plant?
Answer
Submitted: Wednesday 28-FEB-2024 07:45 AM
The area within MDT R/W on the south side of the Taft Interchange is available for staging and a concrete batch plant, however no permitting has been acquired for this area. R/W plans for this area can be found at the following link: **Taft Interchange R/W**
Two-way traffic must be provided for Old Hwy 10 to the west of the interchange, and Randolph Creek/Rainy Creek roads to the east of the interchange. A traffic/pedestrian control plan will need to be submitted for approval for this area along with staging and plant area blueprint to be occupied.

Access to all MDT maintenance facilities must be provided at all times. The area inside the red lines in the following link: **Taft Sand Shed** is to be free of any contractor equipment or supplies for the duration of the project**.** The entire site, if occupied, will be brought back to original condition or better at the end of the project prior to final acceptance being granted by the project manager. A land use agreement covering these stipulations will be signed and agreed upon between the contractor and Missoula District Maintenance chief prior to any occupation of the property.

CURRENT QUESTIONS & ANSWERS

Property outside MDT R/W as shown on the exhibit is USFS ownership. Contact information for the Lolo National Forest Service is Bruce Paulsen: bruce.paulsen@usda.gov (406) 210-1843.

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Submitted: Saturday 24-FEB-2024 03:19 PM
Company: Acme Concrete Paving, Inc.
Contact: Steve Clark
Are dowel bars for the concrete paving required regarding the following situations:
Ramp taper and gore areas at the rest area EB and WB.
Tapers into the chain up and chain removal area. The 15 foot lane at the chain up and chain removal area.
Tapers and gore areas at the Taft Interchange.
Answer
Submitted: Tuesday 27-FEB-2024 4:05 PM
Transition details found in the plans are for PCCP to PMS transverse joints and include dowels. All other joints, including the areas noted, should reference MDT Detail Drawing 501-00. Based on this detail, the driving lane areas would receive transverse joint dowels as well as longitudinal joint tie bars.

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Submitted: Monday 26-FEB-2024 01:49 PM
Company: Northwest Grading Inc
Contact: Andrew Reed
Can we get the Full Comprehensive set of Geotechnical information?
Answer
Wednesday: 28-FEB-2024 07:35 AM
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 INVESTIGATION AND PAVEMENT REPORT**
UPDATED: Thursday 29-FEB-2024 10:48 AM
The link above has been updated with additional geotechnical reports and relevant information, including a more recent version of the Geotechnical Investigation and Pavement Report. Use this current link: **GEOTECHNICAL REPORTS AND INFORMATION**

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Submitted: Tuesday 27-FEB-2024 11:15 AM
Company: Acme Concrete Paving, Inc.
Contact: Brenda Day
Could you please clarify the DBE goal ? Special Provisions #6 DBE Requirements states: 0.00%. Special Provisions #8 DBE Usage states: 6.3% and 16%. What is expected to be submitted on AASHTOWARE ?
When I read "established an aspirational goal of 16" DBE usage", then read " utilization is not mandatory" - it's confusing. I just want to confirm the commitment level.
Thank you.

CURRENT QUESTIONS & ANSWERS

Answer
Submitted: Friday 01-MAR-2024 07:55 AM
MDT's overall statewide DBE goal for FHWA-assisted contracts is 6.3%. MDT sets aspirational goals on a project basis to inform prime bidders of the level of DBE availability based on work types and project location. This goal is solely for informational purposes. Meeting the aspirational goal is encouraged but not a condition for award, and good faith effort documentation will not be required if the aspirational goal is not achieved. The aspirational goal for this project is 16%.

-9-
Submitted: Tuesday 27-FEB-2024 01:37 PM
Company: HighMark Traffic Services, Inc.
Contact: Bradley Meyer
Will MDT consider using previous specifications for the Stripe Grooving bid item which the method of measurement converts all line width to a 4" equivalent line? IF Not can MDT give us individual line widths and lengths for the project so we can accurately figure our costs of the groove? Also could you look at the previous specifications for the groove depth for epoxy which was 80 mills which is more than sufficient for epoxy versus the 140 mills specified?
Answer
Submitted: Monday 04-MAR-2024 04:10 PM
Pavement markings and grooving for this project are hereby changed. Striping-6 In White-High Perf Tape, and Striping-6 In Black-High Perf Tape will be added by amendment to the contract for centerline pavement markings. Quantities for the high performance tape, updated edge line quantities for Striping-White Epoxy and Striping-Yellow Epoxy, and updated quantities for Stripe Grooving, will be revised by amendment, and all associated special provisions will be posted on the Q&A Forum on March 5, 2024.
Updated
Submitted: Tuesday 05-MAR-2024 03:50 PM
Special Provision 55. Grooving for Pavement Markings is hereby replaced with the following special provision: **PAVEMENT MARKINGS GROOVING** **(See end of Q&A)**
The following special provision is hereby added to the contract: **HIGH-PERFORMANCE PAVEMENT MARKING TAPE** **(See end of Q&A)**
Updated plan sheet pages RD-17 and SI-09A are included here: **SHEETS RD-17 & SI-09A**

Bid Item quantities are updated/added as follows:

620 011 335	STRIPING-6 IN WHITE-HIGH PERF TAPE	5,480 LF
620 011 337	STRIPING-6 IN BLACK-HIGH PERF TAPE	5,480 LF
620 013 960	STRIPING-WHITE EPOXY	230 GAL
620 013 970	STRIPE GROOVING	129,440 LF (4-In Equivalent)
620 014 960	STRIPING-YELLOW EPOXY	175 GAL

An amendment will be issued, updated bid files will be posted.

UPDATED: Wednesday 06-MAR-2024 11:33 AM
Minor edits were made to Sheet SI-09A. Please see the updated link above.

-10-
Submitted: Wednesday 28-FEB-2024 10:51 AM
Company: Acme Concrete Paving, Inc
Contact: Steve Clark
Can the milled asphalt and the existing concrete that is to be removed be used for the base as long as it meets the "Special Crushed Aggregate Course" sieve specifications?

CURRENT QUESTIONS & ANSWERS

Answer
Submitted: Monday 04-MAR-2024 12:37 PM
Blending Recycled Concrete Aggregate to the base course is not allowed on this project. Blending Recycled Asphalt Pavement in the base course will be allowed within the requirements as stated in standard specification 301.02.3.2, and special provision 31.

-11-
Submitted: Thursday 29-FEB-2024 12:31 PM
Company: Poteet Construction
Contact: Estimating
The Wide Load Marshalling bid item is listed as Lump Sum. The meetings attended in regard to wide loads, we were under the impression this bid item would be LS Per Day. Will MDT consider Wide Load Marshalling Per Day, rather than Lump Sum?
Answer
Submitted: Monday 04-MAR-2024 02:08 PM
Please bid Wide Load Marshalling as detailed in Special Provision 52.

-12-
Submitted: Friday 01-MAR-2024 07:44 AM
Company: ACME Concrete Paving, Inc.
Contact: Robert Seghetti
The safety edge detail indicates that the safety edge is integral to the PCCP shoulder. There are locations where the safety edge needs to be placed after the pavement has been placed. 1) Will a construction joint be allowed at the interface of the safety edge and the edge of full depth PCCP?
Answer
Submitted: Tuesday 05-MAR-2024 09:10 AM
The contractor will be required to submit a joint plan to the project manager for review and approval, for any areas that the safety edge cannot be poured integral with the PCCP.

-13-
Submitted: Friday 01-MAR-2024 11:32 AM
Company: Mountain West Holding Company
Contact: Cody Cunningham
Construction sequencing will require stripe removal and temporary striping for each phase of two-way traffic. Similar to the I-15 Bridge Rehab project in Jefferson City, will MDT please add item 620 013 955 - Remove Pavement Markings. Will MDT also provide a breakdown of the Temporary Striping item.
Answer
Submitted: Monday 04-MAR-2024 04:23 PM
Stripe removal and temporary striping for phasing is included in the Traffic Control-Crossover bid item as detailed in special provision 50. Temporary striping to be applied at the request of the project manager and not already covered under the requirements in special provision 50 will be paid under bid item 620 012 955 Temporary Striping.

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Submitted: Monday 04-MAR-2024 09:44 AM
Company: Montana Lines, Inc.
Contact: Bidding
SP #36.C.1) indicates the removal of existing equipment is the responsibility of the Utility. SP #38.A lists several items, as called for on the plans, to be removed and salvaged to Missoula. The electrical plans appear to mention two items to be replaced, but no other information on existing electrical elements.
Please clarify what work is to be included in the LS Remove & Salv Misc Elec bid item, what specifically the contractor is to remove, and reissue Sheets EL-06 & 07 to identify the items, if

appropriate.
Answer
Submitted: Tuesday 05-MAR-2024 11:32 AM
The last sentence of Special Provision 36.C.1 “Removal of the existing equipment is the responsibility of the Utility” is hereby deleted from the contract. Remove and Salvage all electrical equipment as stated in Special Provision 38. Provide a two week notice to the project manager prior to delivery of the salvaged material to the Missoula yard so necessary arrangements can be made with MDT maintenance.

-15-
Submitted: Monday 04-MAR-2024 09:47 AM
Company: Montana Lines, Inc.
Contact: Bidding
Please provide some, or at least one, stationing reference on Sheet EL-07, not only for construction, but also for analysis of SP #16, #26, #28, etc.
Answer
Submitted: Tuesday 05-MAR-2024 01:13 PM
Plan sheet pages EL-06 and EL-07 have been updated: **SHEETS EL-06 & EL-07**

Q&A

NON-MANDATORY PRE-BID CONFERENCE
OFFICIAL RECORD OF ATTENDANCE
District 1

Holiday Inn
200 S Pattee St, Missoula
Tuesday, February 13th

Employee Name	Title	Firm	Email	Prime/Sub/Supplier
Trina Lariviere	V.P.	Inland Traffic Control	trina@inlandtrafficcontrol.com	Sub
SHANN SHEA	V.P.	MORRISON-MAIERLE	sshea@mm.net	REPRESENTING AIRPORTS
Scott Randall	V.P.	~~SRE~~ TCPA	Srandall@rpa-hln.com	Prime
APRIL GERTH	PM	RPA	agerth@rpa-hln.com	Prime
Gina Bjorkman	CEO	Tricon Commercial Const.	ginab@tc-const.com	Prime
Trever Inman	Principal	WGM	tinman@wgmgroup.com	
Spencer Morgan	Development Manager	Jackson Contracting Group	spencerm@jacksoncontractorgroup.com	GC
Darlene Craven	Exec Asst	Mountain Line	dcraven@mountainline.com	Recip

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Q&A

NON-MANDATORY PRE-BID CONFERENCE
OFFICIAL RECORD OF ATTENDANCE
District 1

Holiday Inn
200 S Pattee St, Missoula
Tuesday, February 13th

Employee Name	Title	Firm	Email	Prime/Sub/Supplier
Abby Omdahl	Procurement Specialist	NADC	aomdahl@nadc-nabn.org	Other
Lowell F. Klocke	Testing Manager	ALLWEST	lklocke@allwesttesting.com	Consultant
Brent Donnelly	District Director	SBA	brent.donnelly@sba.gov	
Tyrel Goebel	Owner	Produze	Tyrel.Goebel@Produze.us	SUB
Gabriela Burac	Owner	Services	Mggburac@gmail.com	
Andrew Reed	Project Manager	Northwest Grading Inc	andrew.reed@northwestgrading.com	Prime/Sub
Patty Cox	Gov't Affairs	UM Mountain	patty.cox@umontana.edu	
Glen Wysel	Owner	Treasure State Traffic	gemstone3939@gmail.com	SUB
BOB SHIELS	OWNER	TREASURE STATE TRAFFIC	GEMSTONE3939@	SUB
Forrest Walker	Engineer	RPA	fwalker@rpa-hln.com	Consultant
Cade Jensen	Project Engineer	Sletten Construction	crjensen@slettoninc.com	Prime/Sub
Jim Vargovich	Owner	Double J Fencing Inc	doublejfencing@yahoo.com	Prime/Sub
Ivan Ulberg	TRAFFIC LEAD	WSP	ivan.ulberg@wsp.com	PRIME/SUB
Jeremy Keene	Public Works Director	City of Msla	keenejc@ci.missoula.mt.us	
Craig Hebbard	Engineer	Michael Baker Int'l	Craig.Hebbard@mbakerintl.com	Consultant
Kaylin Hampson	CADD Supervisor	Michael Baker Int'l	Kaylin.Hampson@mbakerintl.com	Consultant
Matt Straub	DACE	MDT	MStraub@MT.GOV	
DEB POTEET	PRESIDENT	POTEET CONSTRUCTION	dpoteet@poteetconstruction.com	SUB / PRIME
Tammy Linton	Pivesidut	Flintstone Paving	tammylinton@ymail.com	Sub
Cathie Bailey	Pivesident	Inland Traffic Control	cathie@inlandtrafficcontrol.com	Sub

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1. CLASS PAVE CONCRETE [551] (1-1-24)

A. Description. Class Pave Concrete for mainline slip-form paving is specified at locations shown on the plans.

B. Materials.

1) Class Pave. Furnish Class Pave Concrete meeting the requirements of Section 551 and the following.

a) Design and produce a mixture with a paste volume not exceeding 25% (liquid and binder).

b) Design and produce a mixture with a maximum cementitious materials content not exceeding 550 lb./yd3.

c) Design and produce a mixture with a minimum of 25% Class F Fly ash or GGBFS or a combination thereof as a replacement for Portland Cement or Type IL Blended Cement.

d) Design and produce a mixture with an edge slump less than 0.25 inches (6 mm) and having a surface void rating of 2 or less in accordance with AASHTO TP 137 (Box Test). Submit Box Test results with the mix design.

e) Design and produce a mixture having an Optimized Gradation meeting the following requirements.

Optimized Aggregate Gradation	
Sieve Size	Percent Retained
2 Inch	0
1 ½ Inch	≤ 5
1 Inch	≤ 16
3/4 Inch	≤ 20
½ Inch	4 - 20
3/8 Inch	4 - 20
No. 4	4 – 20
No. 8	≤ 12
No. 16	≤ 12
No. 30	4 – 20
No. 50	4 – 20
No. 100	≤ 10
No. 200	≤ 2
Coarse Sand Percent (No. 8 To No. 30 Sieve)	> 15
Fine Sand Percent (No. 30 To No. 200 Sieve)	24 - 34

(1) Incentive for optimized gradations as specified in Section 551.03.8 will only be applied if all gradations representing the lot fall within the specified bands as well as meet the requirements of 701.01.3.

C. Construction Requirements. Section 501.03.11(B) is rescinded for this contract and replaced with the following:

Ride Specification. Pavement surface smoothness for this project includes International Roughness Index (IRI) testing.

Construct all surface courses to provide completed Portland cement concrete pavement (PCCP) that meets surface smoothness and profile levels. Surface smoothness and surface profile will be analyzed from data collected by the Department using a Class I laser road profiler

following Department procedures for profiler operations. The IRI will be measured in inches/mile, regardless of the unit of measure used on the contract.

The Department will test for smoothness and profile on the final surface of PCCP. IRI testing will consist of 2 passes in each travel lane. For each pass, data collected for each wheel path will be averaged for that lane (Mean Roughness Index or MRI). The results of the two passes will then be averaged to arrive at an MRI result for that lane. Tests will be performed within 10 business days (extended by rain or other inclement weather conditions) of completion of all mainline paving. The Department will test divided highways within 10 business days (extended by rain or other inclement weather conditions) of completion of mainline paving for each direction of travel. Ensure that the entire finished lane width to be tested is not impeded and is available to Department personnel at the time of testing. Test results will be furnished within 2 business days.

If the entire final surface of PCCP cannot be completed before winter suspension, data will be collected for all roadway sections paved through the final surface. Evaluation of the remaining pavement will be performed once the paving is completed.

The surface smoothness analysis will be used to determine the actual IRI for calculating pay factors for the surfacing section.

Actual IRI values will be determined on all mainline travel lanes, climbing lanes, passing lanes, and ramps that have 1000 feet (0.30 km) of (cumulative) ridable length or longer. Ridable length is defined as the total (cumulative) length of the lane minus any section lengths identified as not to be evaluated below.

IRI data will not be evaluated for the following roadway sections:

- Climbing lanes, passing lanes, and ramps less than 1000 feet (0.30 km) long.
- Turning lanes.
- Acceleration and deceleration lanes less than 1000 feet (0.30 km) long.
- Shoulders and gore areas.
- Road approaches.
- Horizontal curves 900 feet (275 m) or less in centerline radius, and pavement within the super-elevation transitions of these short radius curves.
- Bridge decks, pavement within 50 feet (15 m) of bridge decks, and the terminal paving points of the project.

Areas requiring corrective work will be identified using the surface profile measurements of the finished surface.

Correction of profile defects will not be cause to reevaluate any section for surface smoothness except for locations where the PCCP is removed and replaced full depth at either the contractor's option as corrective action or by direction from the Department. Quality incentive allowances will be used to offset any price reductions on progress estimates.

All work to prepare the roadway for testing, including sweeping, grinding, and traffic control prior to the ride test, is incidental to the work and is not measured for payment. All work to complete any corrective action and re-testing, including but not limited to sweeping and traffic control, is incidental to the work and is not measured for payment. Include all costs and resources to prepare the roadway for surface tolerance testing in the PCCP bid item. Surface smoothness will be evaluated in accordance with the following table:

MAXIMUM ALLOWABLE VARIANCE AND DIVERGENCE

Actual MRI (Average of wheel path IRIs – inches/mile)	Pay Factor
< 50	1.1

50 – 55	2.100 – 1/50 x IRI
> 55 – < 60	1
60 – 95	1.343 – 1/175 x IRI
> 95	Corrective Action (Initially assumed zero pay)

Notes: 1. The pay factor is the same whether the PCCP is measured in English or metric units. Final pay factors are rounded to 2 decimals and used in calculating the value of the incentive/disincentive.
2. The MRI used to calculate the Pay Factor is the average of 2 runs on each travel lane evaluated.

Incentive or disincentive for surface smoothness will be calculated based on the entire project length in each travel lane or measured section using the following equation. The calculated value will be applied as a line-item adjustment to the PCCP item on the estimate. Calculate the pay adjustment as follows:

- Pay adjustment = (Pay Factor -1) x L x Unit Cost
- Pay Factor = Value based on MRI and table above
- L = Measured lane length
- Unit Cost = $6.425/foot

Shoulders, tapers, and other areas not included in MRI testing will not be subject to incentive adjustments. All work is subject to parallel and transverse 10-foot straightedge requirements, corrective work, and disincentive adjustments.

The entire profile will be analyzed. The first 50 feet (15 m) after the start of the paving operations, the last 50 feet (15 m) prior to the end of the paving operations, and the first 50 feet (15 m) on either side of bridge structures will be excluded from IRI evaluation. MRI results are reported in inches per mile and horizontal distance measurements in project stationing to the nearest foot.

Corrective work for pavement smoothness may be taken by the Contractor prior to MRI testing. Corrective work is required for pavement identified by the Department that does not meet the following requirements:

- The completed surface is uniform in texture, smooth, uniform as to crown and grade, and free from defects of all kinds.
- The completed surface does not vary more than ¼ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline.
- The completed surface does vary not more than ¼ inch in 10 feet (3 m) from the rate of transverse slope shown in the contract.

Complete all corrective work at no additional expense to the Department, including traffic control. Do not begin corrective work until the concrete has reached design strength. Repair pavement by one or more of the following methods:

- Diamond grinding: ensure repairs do not reduce pavement thickness by more than ¼ inch less than the thickness shown in the contract. The Project Manager may verify the thickness of the concrete pavement by coring.
- Removal and replacement.
- By other method allowed by the Project Manager.

The repaired area will be checked with a 10-foot straightedge to ensure it no longer requires corrective work. The Project Manager may use an inertial profiler in place of the 10-foot straight edge.

1) Dowel Bars. Place dowel bars parallel to the substrate surface and parallel to the centerline of the pavement. Before placing the concrete, mark the location on both sides of each transverse joint as approved by the Project Manager. Ensure the proposed sawcut is centered on the dowel bars and that the dowels remain parallel to the Roadway centerline. Transfer the markings to the top surface of the fresh concrete immediately after completing the final finishing operations.

2) Dowel Basket Assemblies. Secure dowel bar assemblies with anchors to hold the dowel bars in the correct position and alignment while preventing movement during concrete placement. Fasten the baskets to the substrate surface so that they do not move vertically or horizontally more than 1/4 inch.

a) Provide dowel bar assemblies manufactured in single units for the lane widths shown on the Plans, unless otherwise approved by the Project Manager. For non-typical lane widths, do not (splice) use more than two dowel bar assemblies in any one doweled joint.

b) Within 1 hour before covering with concrete, coat the dowel bars with a uniform coating of a form coating material or form release agent.

3) Dowel Bar Inserter. The Contractor may use a mechanical dowel bar inserter to place dowel bars in the pavement as approved by the Project Manager, in conjunction with the State Materials Project Manager.

a) Immediately before inserting the dowel bars, coat the dowel bars with a uniform coating of a form coating material or form release agent.

b) If using a dowel bar inserter, initially and on each production day, demonstrate to the Project Manager that the inserted dowel bars in the completed concrete pavement are parallel to the surface and centerline slab and are located at mid-depth of the slab thickness. The Project Manager may disallow the use of a dowel bar inserter at any time if insertion operations are detrimental to the PCCP surface.

D. Method of Measurement. Class Pave Concrete is measured in accordance with Section 551.

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

1. PAVEMENT MARKINGS GROOVING [620] (REVISED 2/22/24)

A. Description. This work is grooving the road surface to provide inlaid pavement markings as shown or described in the contract or as directed by the Project Manager.

B. Materials Requirements. Furnish pavement marking materials meeting the requirements of Section 714.

C. Construction Requirements.

1) Grooving. Furnish a self-propelled grooving machine equipped with stacked diamond cutting blades to perform the work. Furnish a machine capable of providing uniform depth and alignment. Do not use grinder type heads.

a) Provide a groove depth of 120 mils ± 10mils.

b) Furnish equipment meeting the following requirements:

(1) Capable of cutting the intended groove in a single pass.

(2) Leaves the groove clean, dry, and ready for pavement marking application.

(3) Captures dust and debris during grinding operation.

c) Do not allow debris to enter waterways, storm drains, wetlands, drainages, or other aquatic resources.

d) Ensure the bottom of the groove is smooth and does not contain ridges between the blades.

e) When grooving is near a longitudinal joint, ensure the edge of the groove is at least 1 inch from the joint unless directed otherwise by the Project Manager. Stop grinding operations if damage occurs to pavement joints, joint sealant material(s), etc. Repair damaged areas to the satisfaction of the Project Manager. Repair areas at no cost to the Department.

f) Ensure groove placement/alignment allows the pavement marking to be placed entirely in the bottom of the groove in accordance with the following tolerances:

(1) Longitudinal Lines. Provide a grooved area not wider than 1 inch (25mm) and not longer than 5 inches (100mm) past the pavement stripe to be applied in the bottom of the groove.

(2) Words and Symbols. Cut grooves for words and symbols so that the marking fits within the grooved area without an excessive border. Provide a grooved area not exceeding 5 inches (125mm) surrounding the letter, word, or symbol, as measured to the nearest point of the pavement marking.

g) Do not grind or groove bridge decks. Apply all pavement markings on bridge decks to the surface unless otherwise specified in the contract.

2) Pavement Marking Application. Align the markings within the grooved area.

a) Complete marking application the same day as grooving. If the markings cannot be completed in their entirety the same day, furnish traffic control in accordance with Section 618 at the Contractor’s expense.

b) Apply pavement markings in accordance with the provisions found elsewhere in the contract.

D. Measurement and Payment.

1) Linear pavement marking grooves are measured by the linear foot based on a 4-inch (100mm) width for the actual quantity of stripe grooved. Lines wider and narrower than 4 inches (100mm) are converted to the equivalent linear feet of 4-inch (100mm) wide line and paid for at the contract unit price per linear foot of Stripe Grooving.

2) Words and Symbols are measured and paid for at the unit price per square foot of Stripe Grooving.

1. HIGH-PERFORMANCE PAVEMENT MARKING TAPE

A. Description. This work is the application of high-performance pavement marking tape in accordance with the manufacturer's recommendations at the locations shown in the plans or as directed by the Project Manager.

B. Materials. Furnish 3M Stamark 380I ES high performance white or black tape. Submit to the Project Manager the following:

1) Manufacturer's product specification
2) Product warranty data
3) Equipment requirements
4) Work methods and procedures
5) Material application temperature range
6) Ambient and surface temperature requirements
7) Weather limitations
8) Adhering methods and product to be used
9) Pressing/tamping methods and requirements
10) Patching and repairing
11) Precautions
12) Traffic restriction
13) Any additional specific application/installation instructions.

C. Construction Requirements. Apply the high-performance tape in accordance with the submitted manufacturer's installation instructions at the locations shown in the plans or as directed by the Project Manager. Repair any damage during installation in accordance with the submitted information and to the satisfaction of the Project Manager.

D. Method of Measurement. High performance pavement marking tape is measured by the LNFT accepted and in-place for the specified width for longitudinal and transverse lines. Preformed words and symbols are measured by the SQFT accepted and in-place.

E. Basis of Payment. Payment at the contract unit price for STRIPING HIGH PERFORMANCE or WORDS & SYMBOLS HIGH PERFORMANCE by the LNFT or SQFT respectively is full compensation for the items of work required under the contract.

CONTRACT NO. 02324

Montana Department of Transportation
Construction Contracting Bureau

Date(s) Issued:
March 6, 2024

A M E N D M E N T S

For The Following Project(s)
To Be Let On:
March 7, 2024

101 – Taft – West
IM-NHFP 90-1(228)3

REVISED SCHEDULE OF ITEMS
Adding Bid Item #s:
620 011 335 – Striping-6 In White-High Perf Tape – 5,480 LF
620 011 337 – Striping-6 In Black-High Perf Tape – 5,480 LF
Changing quantity for Item #s:
620 013 960 – Striping-White Epoxy – 230 GAL
620 013 970 – Stripe Grooving – 129,440 LF
620 014 960 – Striping-Yellow Epoxy – 175 GAL

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.

Darin Reynolds, Bureau Chief
Construction Contracting Bureau

MONTANA DEPARTMENT OF TRANSPORTATION
SCHEDULE OF ITEMS

CONTRACT ID: 02324

PROJECT: IM-NHFP 90-1(228)3 9487228000 TAFT - WEST

SECTION: 0001 - RECONSTRUCTION, GRADING

PROP LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY
0010	103000000	TRAINING PROGRAM	HOUR	500.00
0020	103500005	ESCROW OF BID DOCUMENTS	LS	1.00
0030	104030010	MISCELLANEOUS WORK	UNIT	75,000.00
0040	105070000	CONTRACTOR SURVEY AND LAYOUT	LS	1.00
0050	108000000	CRITICAL PATH SCHEDULE	LS	1.00
0060	108000010	STRUCTURE ANALYSIS	LS	1.00
0070	109200005	MOBILIZATION	LS	1.00
0080	202020136	REMOVE CONCRETE PAVEMENT	SQYD	63,532.00
0090	202020140	REMOVE BITUMINOUS PAVEMENT	SQYD	133,515.00
0100	203020100	EXCAVATION-UNCLASSIFIED	CUYD	58,692.00
0110	203080100	TOPSOIL-SALVAGING AND PLACING	CUYD	2,998.00
0120	208010150	TEMPORARY EROSION CONTROL-LS	LS	1.00
0130	208010200	TEMPORARY EROSION CONTROL-FIXED	UNIT	500.00
0140	210020165	MISCELLANEOUS EQUIPMENT	LS	1.00
0150	210020170	TEST TRAILER-TRANSPORT,SETUP	MILE	198.00
0160	301020340	CRUSHED AGGREGATE COURSE	CUYD	58,018.00
0170	301020416	SHOULDER GRAVEL	CUYD	5,593.00
0180	401020063	COMMERCIAL MIX-1/2 IN-PG 70-28	TON	2,018.00
0190	402020315	EMULSIFIED ASPHALT-TACK COAT	GAL	685.00
0200	402020375	EMULSIFIED ASPHALT CHFRS-2P	TON	22.60
0210	409000000	FINAL SWEEP AND BROOM	CRMI	0.70
0220	409000020	COVER-TYPE 2	SQYD	12,680.00
0230	411010000	COLD MILLING	SQYD	11,473.00
0240	411011135	RUMBLE STRIPS	MILE	7.60
0250	501010210	PORT CEM CONC PAVE 10 IN	SQYD	115,102.00
0260	551020030	CONCRETE-CLASS GENERAL	CUYD	3.60
0270	603010566	CSP 30 IN	LNFT	85.00
0280	603012625	RCP 30 IN	LNFT	944.00
0290	603012705	RCP 48 IN	LNFT	164.00
0300	603012725	RCP 54 IN	LNFT	212.00

SECTION: 0001 - RECONSTRUCTION, GRADING

PROP LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY
0310	603013212	RCPA 30 IN EQ DIA	LNFT	240.00
0320	603013216	RCPA 36 IN EQ DIA	LNFT	88.00
0330	603013495	PIPE-CORR POLYETHYLENE DR 6 IN	LNFT	22,976.00
0340	603015275	EMBANKMENT PROTECTOR 24 IN	LNFT	357.00
0350	603017050	STORM DRAIN PIPE-18 IN	LNFT	768.60
0360	603017060	STORM DRAIN PIPE-24 IN	LNFT	145.10
0370	603017080	STORM DRAIN PIPE-36 IN	LNFT	178.50
0380	603587020	REMOVE PIPE CULVERT	LNFT	2,001.50
0390	603587030	REMOVE STORM DRAIN	LNFT	120.60
0400	604000140	REMOVE DROP INLET	EACH	1.00
0410	604010184	CONCRETE APRON	EACH	1.00
0420	604010220	INLET DROP-SPECIAL DESIGN	EACH	6.00
0430	604010274	INLET MEDIAN-TYPE 3	EACH	1.00
0440	604010301	INLET STRUCTURE BASE 32 IN (810 MM)	EACH	5.00
0450	604010302	MANHOLE STRUCTURE BASE 48 IN (1220	EACH	5.00
0460	604010306	MANHOLE STRUCTURE BASE 72 IN	EACH	1.00
0470	604010352	ADDITIONAL BARREL 48 IN	LNFT	2.00
0480	604010356	ADDITIONAL BARREL 72 IN	LNFT	5.00
0490	604010662	DROP INLET FRAME AND GRATE	EACH	11.00
0500	605000050	RESET CONCRETE BARRIER RAIL	EACH	30.00
0510	605000060	ONE-WAY DEPART CONC BARRIER SECT	EACH	2.00
0520	605000070	REMOVE CONCRETE BARRIER RAIL	EACH	1,154.00
0530	605000080	TALL CONCRETE BARRIER RAIL	EACH	529.00
0540	605000090	CONCRETE BARRIER RAIL	EACH	623.00
0550	606010385	REMOVE GUARDRAIL	LNFT	150.00
0560	606011503	RESET TEMP IMPACT ATTENUATOR	EACH	6.00
0570	606011518	TEMPORARY IMPACT ATTENUATOR	EACH	6.00
0580	606011520	IMPACT ATTENUATOR	EACH	5.00
0590	608010100	CONCRETE 4 IN	SQYD	2,996.00
0600	610100102	SEEDING AREA NO 2	ACRE	11.30
0610	610220100	MULCH	ACRE	0.90
0620	613100030	RIPRAP-CLASS 1 RANDOM	CUYD	31.90
0630	616343920	CONDUIT-PLASTIC 2 IN	LNFT	3,470.00
0640	616783007	PULL BOX-COMPOSITE TYPE 2	EACH	2.00
0650	617000000	FOUNDATION-CONCRETE	CUYD	11.90
0660	617033212	CABLE-COPPER 3AWG12-600V	LNFT	80.00

SECTION: 0001 - RECONSTRUCTION, GRADING

PROP LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY
0670	617033314	CABLE-COPPER 5AWG14-600V	LNFT	25.00
0680	617123106	CONDUCTOR-COPPER AWG6-600V	LNFT	2,040.00
0690	617123108	CONDUCTOR-COPPER AWG8-600V	LNFT	4,985.00
0700	617123110	CONDUCTOR-COPPER AWG10-600V	LNFT	3,530.00
0710	617183056	STANDARD-STL TYPE 10-A-500-6	EACH	18.00
0720	617303300	HIGH EFFICACY LUMINAIRE LED	EACH	18.00
0730	617333100	SERV ASSEMBLY	EACH	1.00
0740	617523010	SOL SIG-TRAF 1 COLOR-1 WAY 12	EACH	3.00
0750	617673200	SIG STANDARD TYPE 1-200	EACH	3.00
0760	617763410	RADAR VEHICLE DETECTION	EACH	2.00
0770	617781000	REMOVE AND SALVAGE MISC ELECTRICAL	LS	1.00
0780	618030005	TRAFFIC CONTROL DEVICES CB	UNIT	750,000.00
0790	618030180	TRAFFIC CONTROL-CROSSOVER	EACH	4.00
0800	618030190	TRAFFIC CONTROL-TWO WAY TRAF	MILE	5.00
0810	618030215	WIDE LOAD MARSHALLING	LS	1.00
0820	618030240	RAMP CROSSOVER	EACH	4.00
0830	618030310	CROSSOVER-MEDIAN BARRIER RAIL	EACH	8.00
0840	618100000	SINGLE USE SIGNS	SQFT	471.00
0850	618100005	PORTABLE VARIABLE MESSAGE SIGN	EACH	4.00
0860	618190100	TEMPORARY BARRIER RAIL	LNFT	4,450.00
0870	618190110	RESET TEMP BARRIER RAIL	LNFT	4,450.00
0880	619010062	SIGNS-ALUM SHEET INCR XI	SQFT	701.80
0890	619010090	SIGNS-ALUM REFL SHEET XI	SQFT	709.30
0900	619010230	REMOVE SIGN	EACH	66.00
0910	619010240	REMOVE SIGN-GUIDE	EACH	16.00
0920	619010300	POSTS-TUBULAR STEEL	LB	1,381.00
0930	619010310	POSTS-STEEL U SIGN	LB	218.00
0940	619010320	POSTS-STEEL STRUCTURAL SIGN	LB	308.00
0950	619010340	POSTS-TUBULAR STEEL-SQ-PERF	LB	27.00
0960	619010480	POLES-TREATED WOOD 4 IN	LNFT	64.00
0970	619010490	POLES-TREATED WOOD 5 IN	LNFT	230.00
0980	619010722	FRANG SIGN POST BKWY-S4 X 7.7	EACH	4.00
0990	619010724	FRANG SIGN POST BKWY-S5 X 10	EACH	3.00
1000	619010740	FRANG SIGN POST BKWY-3 IN RD	EACH	1.00
1010	619011001	DELINEATOR SNOWPOLE-DES A	EACH	93.00
1020	619011003	DELINEATOR SNOWPOLE-DES B	EACH	20.00

SECTION: 0001 - RECONSTRUCTION, GRADING

PROP LINE NO.	ITEM NUMBER	ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY
1030	619011005	DELINEATOR SNOWPOLE-DES D	EACH	6.00
1040	619011006	DELINEATOR SNOWPOLE-DES G	EACH	57.00
1050	619011007	DELINEATOR SNOWPOLE-DES H	EACH	68.00
1060	619011085	DELINEATOR DES BJ	EACH	46.00
1070	619011087	DELINEATOR DES GJ	EACH	20.00
1080	619011200	DELINEATION-LINEAR-BARRIER-WHITE	EACH	556.00
1090	619011205	DELINEATION-LINEAR-BARRIER-YELLOW	EACH	398.00
1100	620011105	WORDS AND SYMBOLS-WHITE PAINT	GAL	10.00
1110	620011260	WORDS AND SYMBOLS-WHITE EPOXY	GAL	5.00
1112	620011335	STRIPING-6 IN WHITE-HIGH PERF TAPE	LNFT	5,480.00
1114	620011337	STRIPING-6 IN BLACK-HIGH PERF TAPE	LNFT	5,480.00
1120	620012955	TEMPORARY STRIPING	LNFT	21,915.00
1130	620013000	STRIPING-WHITE PAINT	GAL	215.00
1140	620013960	STRIPING-WHITE EPOXY	GAL	230.00
1150	620013970	STRIPE GROOVING	LNFT	129,440.00
1160	620014000	STRIPING-YELLOW PAINT	GAL	180.00
1170	620014960	STRIPING-YELLOW EPOXY	GAL	175.00
1180	622011043	PERM EROSION CONTROL-HIGH SURV	SQYD	18.00
1190	622011084	GEOTEXTILE STABILIZATION	SQYD	47.00

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SPECIAL PROVISIONS

FEDERAL AID PROJECT NO(S). IM NHFP 90-1(228)3

(REVISED 1-11-24)

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": https://www.mdt.mt.gov/business/contracting/qacurrent.shtml
- "Standard Specifications for Road and Bridge construction": https://www.mdt.mt.gov/other/webdata/external/const/specifications/2020/SPEC-BOOK/2020-SPEC-BOOK-V5-0.pdf
- The most recent version of the Detailed Drawings: https://www.mdt.mt.gov/business/contracting/detailed_drawings.shtml
- The most recent version of the Materials Manual: https://www.mdt.mt.gov/other/webdata/external/materials/materials_manual/MDT-MATERIALS-MANUAL-011124-LETTING.pdf

The latest version of the Standard Specifications, Biannual updates, and revision summaries can be found at the following website: https://www.mdt.mt.gov/business/contracting/standard_specs.shtml

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]

Concrete pavement replacement, wildlife accommodations, and drainage and culvert replacements on the Taft – West project located in Mineral County. The project is located on I-90 from RP 3.4, beginning west of the Dena Mora rest area, and extending approximately 2.3 miles to RP 5.7, east of the Taft Interchange bridge.

2. CONTRACT TIME – FLEX TIME PROCEED DATE [108] (REVISED 1-21-16)

A. General. This provision modifies Subsection 108.02 of the Specifications.

B. Notice to Proceed. The notice to proceed will be issued with an effective date of April 8, 2024. The Contractor may change the notice to proceed date to an earlier date if written notification is received at least ten calendar days in advance of the date selected and the selected date is approved by the Project Manager. Include an updated schedule with the notification.

C. Contract Time. Contract time assessment will begin on the notice to proceed date issued by the Department or as changed by the Contractor, whichever is earlier. Work is to be completed in 230 working days.

3. EXPEDITED NOTICE TO PROCEED [108]

This project will have an expedited Notice to Proceed. The awarded Contractor is required to submit the completed performance and material bonds, and insurance certificates ten calendar days after the project is awarded, with the day after the award counting as the first day. The Notice to Proceed will be issued with an effective date of April 8, 2024, for Migratory Bird requirements. Once the requirements of standard specification 208.03.4. A Migratory Bird Treaty Act are met, contract time will be suspended until May 6, 2024. The contractor may change the May 6, 2024, date to an earlier date if written notification is received at least 14 calendar days in advance of the date selected and the date selected is approved by the project manager. Include an updated schedule with the notification.

4. CONTRACT DEFINITIONS (101) (ADDED 1-11-24)

The following definitions have been revised or added:

1) Addendum. A contract revision developed after advertisement and before opening proposals. Addenda includes the Question and Answer Forum and amendments.

2) Amendment. Contract revision to the electronic bid files including added bid items, deleted bid items, or bid item quantities.

3) Contract. The written agreement between the Department and the Contractor detailing the obligations of the parties for performing the prescribed work.
The contract includes the proposal; signed contract award form; contract bond; Q&A forum; specifications; general and detail plans; Detailed Drawings; Notice to Proceed; Materials Manual; change orders; extra work orders; and authorized contract time extensions required to complete the project.

4) Question and Answer Forum (Q&A forum). Information which documents contract amendments and addenda posted during advertisement and prior to the opening of proposals. Q&A Forum information includes notifications, clarifications and the answers provided by the Department to questions posed by prospective bidders. Unanswered questions posed by prospective bidders are not considered modifications to the contract. Questions posed by prospective bidders are considered contextual information only.

5. CONTRACT DOCUMENTS [102] (REVISED 3-7-24)

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 3-7-24)
2) Traffic Control Rate Schedule (Revised 3-9-23)
3) Erosion Control Rates

6. DISADVANTAGED BUSINESS ENTERPRISES (DBE) REQUIREMENTS [102] (REVISED 5-18-23)

The DBE goal for this contract is 0.00%. Use the AASHTOWare Project BidsTM Electronic Bid System (EBS) to print the DBE submittal and timing requirements. If the contract does not have a project-specific goal, the field will display in the AASHTOWare Project BidsTM bid file as a blank field.

List the DBE commitments in the EBS file. An on-line DBE Directory is available at: https://app.mdt.mt.gov/ess-dbe/.

If the DBE goal cannot be met, show a good faith effort per the Good Faith Effort Criteria and supporting forms, available at: http://www.mdt.mt.gov/publications/forms.shtml. Submit the Good Faith Effort documentation within 48 hours of the bid opening.

7. DBE QUOTES [102] (REVISED 3-10-16)

The Department has a quick and easy way for you to request quotes from Montana DBE-certified companies. The information goes to the DBE companies that same day. The on-line form is located at web site: https://app.mdt.mt.gov/dbeqt/.

Call the Department DBE Supportive Services, 1-800-883-5811, for further assistance. Using this online request form will be considered for good faith efforts, but it does not constitute meeting all requirements of good faith efforts.

8. DBE USAGE [102] (REVISED 11-16-23 M)

Contract specific goals are not placed on contracts; however, the Department has an overall 6.3% DBE goal it must achieve. To assist contractors in determining their DBE commitment level, the Department has reviewed the estimates for this contract, and has established an aspirational goal of 16% DBE usage. Although not a contract requirement, the Department believes that the aspirational goal can realistically be achieved through race neutral measures based on current availability of DBEs and standard competitive procurement processes. While the utilization is not mandatory to be awarded the project, continuing utilization of DBE firms on contracts supports the success of Montana's DBE Program.

Any project listing a 0% DBE aspirational goal does not mean that a DBE may not be used on that project. A 0% DBE aspirational goal may have been established due to any of the following reasons:

- Limited identified subcontracting opportunities;
- Minimal contract days; and/or,
- Small contract dollar amount.

Contractors are encouraged to identify any opportunities to subcontract to DBEs.

The Department's DBE directory may be found at the following website: https://app.mdt.mt.gov/ess-dbe/.

9. LABOR REQUIREMENTS [102] (REVISED 9-5-19)

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). The local employment service office, designated by the Workforce Service Division, Department of Labor & Industry, for this project is Missoula.

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

10. CERTIFIED PAYROLL COMPLIANCE ELECTRONIC PAYROLL SUBMISSION [102] (REVISED 5-18-23)

The Contractor and all subcontractors must use AASHTOWare Project Civil Rights & Labor™ (CRL) to submit Certified Payrolls (CPRs). Ensure that all subcontractors have submitted their Vendor Access Form which can be found on the following page: https://www.mdt.mt.gov/business/contracting/prevailing-wage.shtml to the Department and have received their login IDs prior to work.

Request the contract number and project ID(s) from the Project Manager. Provide the information to all subcontractors subject to the FHWA 1273 requirements. This information is also available using the Search Awarded Contracts located at: https://app.mdt.mt.gov/ess-awardedproj/.

Provide assistance and ensure all subcontractors submit CPRs electronically into CRL within the required timeframe.

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

Provide on-the-job training for 1 trainees. For more information and requirements of the job training program, see Subsection 109.12.

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

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

16. STEEL PRICE ADJUSTMENT [106] (REVISED 2-22-24)

In accordance with Subsection 106.09.1, the base price per pound of steel for this contract is: $0.95.

17. 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.

18. 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.

19. 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 with the exception of coordination work which is outlined below. 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.

Utility	Utility Type	Contact	Phone	Email
Blackfoot Telephone Co-op	Communications	Jordan Johnson	406.541.5000	jjohnson@blackfoot.com
Status: Blackfoot has some lines in the areas that will be abandoned prior to construction.				
AT&T	Fiber	JT Andrews	208.841.5093	jt@cwc64.com
Status: STA 266+07 RT F/O Facilities will be lowered in advance of construction. STA 276+94 RT F/O Facilities are approximately 6’ to 8’9 through the area. With the 5’ to 6’ cuts, the F/O Facilities will be lowered a couple feet in advance of construction. STA 286+36 RT F/O Facilities appear to be deep enough. STA 2000+93 RT F/O Facilities will be lowered 2-3’ feet in advance of construction. STA 2055+34 RT F/O Facilities are approximately 10’-5” deep and may need to be shifted up or down. The issue here will be the depth of the existing F/O Facilities, a vertical shift down would be dangerous due to the existing depths. There is the possibility of doing a vertical shift				

up or down when the Contractor has it opened and shored for the removal of the old Culvert. See Coordination Item for this issue. MDT 407+19 F/O Facilities are approximately 3'7" to 4' deep in the area. With cuts 12 to 14 feet, the new 30" Culvert will be able to go underneath, and the Contractor will need support the Facilities.				
Northwestern Energy	Electric	Reece Magnuson	406.425.4537	Reece.magnuson@contractor.northwestern.com
Status: No direct conflicts, however there is a Coordination Special that provides requirements for working close to one of their overhead power lines.				
Avista	Electric	Kevin Neubauer	208.784.3987	Kevin.neubauer@Avistacorp.com
Status: Avista lines in the area are associated with service to the message board and a weather station and should be coordinated with new service locations for this project.				

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.

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

The following consultants performed work on the project.

- HDR, Inc.
- Yeh & Associates
- DJ&A, PC
- Utility Mapping Services, Inc.

21. 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.

22. 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
Regulations & Permitting – Aquatic Resources	Subsection 208.03.3
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
AIS Watercraft and Equipment Inspection	Subsection 208.03.2D

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

This contract is located within the regulated floodplain of the St. Regis River, Mineral County, Community Panel Number 3001590001B. The Department has obtained a preconstruction floodplain permit from Mineral County, P.O. Box 396, Superior MT 59872, 406-822-3525 for the permanent features associated with this contract. A copy of this floodplain permit is available upon request from the Project Manager.

Review Subsection 208.03.3(J) for more information.

24. 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.

25. GRIZZLY BEAR – ENDANGERED SPECIES ACT

A. Description. This project is located within grizzly bear habitat. Comply with this provision to minimize impacts to the grizzly bear, which is a federally listed species under the Endangered Species Act. Not following the conditions set forth in this special provision may result in a violation of the Endangered Species Act.

B. Requirements.

1) Follow the requirements of Subsection 208.03.4(E) for all project activities.

2) Notify the Project Manager of any animal carcasses found in the area. The Project Manager will contact MDT Maintenance to promptly remove and dispose of carcasses.

3) Notify the Project Manager of any bears observed in the vicinity of the project. The Project Manager will promptly inform the MDT District Biologist of bear observations.

4) Conduct project-related activities outside of construction limits in accordance with the requirements above and Subsection 208.03.4(E).

C. Measurement and Basis of Payment. Requirements in this provision are not measured for payment.

26. 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 14 Description. The permanent features of this project are authorized under US Army Corps of Engineers Nationwide Permit 14 – Linear Transportation Projects, (Army Corps File Number NWO-2023-01268-MT).

1) The permit for this project authorizes the following permanent features within waters of the US.

a) Culvert Replacement at Chippy Creek. (STA 2047+84 LT) Section 11, Township 19N, and Range 32W. Latitude 47.422487, Longitude -115.633943.

b) Culvert Replacement at Chippy Creek. (STA 2055+34 LT) Section 11, Township 19N, and Range 32W. Latitude 47.422487, Longitude -115.633943.

c) Culvert replacement at Unnamed Stream 5 (STA 3011+92) Section 11, Township 19N, and Range 32W Latitude 47.430602, Longitude -115.641824.

d) Culvert replacement at Unnamed Stream 6 (STA 3054+11) Section 11, Township 19N, and Range 32W. Latitude 47.421434, Longitude -115.631333.

e) Culvert Rehabilitation at Mephisto Creek (STA 428+71) Section 12, Township 19N, and Range 32W. Latitude 47.419694, Longitude -115.614506.

f) Permanent impact of 0.003 acres of wetland WL04 (1040+65 EB to 2041+53 EB); Section 11, Township 19N, and Range 32W Latitude 47.423366, Longitude -115.635981 .

g) Permanent impact of 0.001 acres of Wetland WL06 (404+41 to 409+09); Section 11, Township 19N, and Range 32W Latitude 47.422776, Longitude -115.622813.

h) Permanent impact of 0.099 acres of wetland WL07A (3033+66 WB to 3047+95 WB) Section 11, Township 19N, and Range 32W Latitude 47.418036, Longitude -115.631383.

i) Permanent impact of 0.001 acres of wetland WL07B (3048+63 WB to 3055+24 WB) Section 11, Township 19N, and Range 32W Latitude 47.418036, Longitude -115.631383.

j) Permanent impact of 0.018 acres of wetland WL09 (3013+93 WB to 3015+13 WB); Section 11, Township 19N, and Range 32W Latitude 47.430169, Longitude -115.640967.

k) Permanent impact of 0.001 acres of wetland WL10 (3024+54 WB to 3026+26 WB); Section 11, Township 19N, and Range 32W Latitude 47.427779, Longitude -115.638563.

l) Permanent impact of 0.082 acres of wetland WL11A (3051+38 WB to 3054+54 WB); Section 11, Township 19N, and Range 32W Latitude 47.421455, Longitude -115.630719.

m) Permanent impact of 0.033 acres of wetland WL11B (3055+33 WB to 3061+41 WB); Section 11, Township 19N, and Range 32W Latitude 47.421455, Longitude -115.630719.

2) This authorization is valid until March 14, 2026.

3) Obtain the 2021 Nationwide Permit 14 Fact Sheet that fully describes the Nationwide Permit 14 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 2021 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 2011 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.

2) All erosion control blanket or fabric used in or adjacent to waters of the U.S. 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 US must be removed.

E. CWA Section 401 Water Quality Certification is granted for Nationwide Permits 14 and 33 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 14 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 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.

27. STREAM PROTECTION ACT 124

A. Description. The proposed project has been authorized by Preconstruction Stream Protection Act (SPA) 124 No.: MDT-R2-50-2023, 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:

Station	Waterbody
128+80	Unnamed Stream 1
129+82	Unnamed Stream 2
139+13	Unnamed Stream 3
180+54	Unnamed Stream 4
203+74	St. Regis River
249+11	St. Regis River
267+82	St. Regis River

2047+84 LT	Chippy Creek
2055+34	Chippy Creek
3011+92	Unnamed Stream 5
3054+11	Unnamed Stream 6
428+71	Mephisto Creek

B. General Conditions

1) Adhere to the general provisions listed in Subsection 208.03.3 of the 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) For in-stream activities, work will be conducted from July 1 to April 1.

2) 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.

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

Copies of the Preconstruction SPA 124 Authorization are available upon request from Environmental Services.

Contact the Project Manager for coordination with the District Biologist on questions regarding this authorization.

28. PETROLEUM CONTAMINATED SOIL – HIGHWAY SPILLS

A. Description. Petroleum-contaminated soils may exist in areas where highway spills have occurred at approximately RP 1 (CVIDs 16571, 14294, 22218), RP 2.5 (CVIDs 13414 and 14637), RP 2.75 (CVID 9846), RP 3 (CVIDs 9903 and 11790), RP 5 (CVID 22851 and 19788), RP 5.5 (CVID 21037), and RP 6 (CVIDs 19584 and 19607), within the project corridor. The spills are closed and have been remediated, however, potential for residual contamination remains. CVID 16571 was a spill of 25-gallons of diesel on the eastbound lane. CVID 14294 was a spill of an unknown amount of diesel on the westbound lane. CVID 22218 was a spill of an unknown amount of diesel and automotive fluids. CVID 13414 was a spill of an unknown amount of diesel on the westbound lane. CVID 14637 was a spill of 8-gallons of motor oil to the shoulder on the westbound lane. CVID 9846 was a spill of 100-gallons of diesel on the eastbound lane. CVID 9903 was a spill of 60-gallons of diesel on the eastbound lane. CVID 11790 was a spill of 750-gallons of diesel on the westbound lane. CVID 12851 was a spill of 60-gallons of diesel on the westbound lane. CVID 19788 was a spill of 100-gallons of diesel on the westbound lane. CVID 21037 was a spill of 50-gallons of diesel on the westbound lane. CVID 19584 was a spill of 50-gallons of diesel and an unknown amount of antifreeze on the eastbound lane. CVID 19607 was a spill of 24-gallons of automotive fluids on the eastbound lane. Petroleum contaminated soils may exist at the surface and into the underlying shallow soils. Petroleum contaminated soil is recognized by a strong petroleum odor and dark staining of soil.

B. Materials. Reserved

C. Construction Requirements. Notify Project Manager and MDT Environmental Services if petroleum contaminated soil is encountered. Upon approval from the Department,

remove visibly stained and odorous material and dispose of at a license landfill accepting such waste. Keep out of water.

D. Measurement and Payment. Transport and disposal of the contaminated soil is measured by the unit of contaminated soil for the work performed as directed in writing by the Engineer. Such payment will be in full compensation for all resources necessary to complete this item of work and in accordance with Standard Specification 109.04.1

29. SEQUENCE OF OPERATIONS [108]

A. Description. This special provision outlines the basic requirements of the contract related to the project sequence of operations. However, this is not intended to cover every situation that may arise in the field as a result of the Contractor operations or otherwise. In addition to the requirements of Subsection 104.05, Maintenance of the Work, and Subsection 108.04, Limitation of Operations schedule operations in the sequences outlined below and in accordance with the traffic control details provided in the contract plans package to provide the least amount of inconvenience possible to the traveling public.

B. Construction Requirements.

1) Coordination. Participate in coordination meetings with MDT, emergency services, and project stakeholders as determined by the Project Manager. Provide updates on work progress and upcoming work items. Provide accommodations for movement of oversized loads or as directed by the Project Manager.

2) Schedule the work to minimize inconvenience to the traveling public and trucking industry.

3) Maintain access for emergency services at all times.

4) Ensure that all temporary traffic shifting/routing, unless otherwise noted, facilitates the movement of commercial truck traffic (WB-20LM/ WB-67) and permitted oversized and/or overweight vehicles. Provide lane widths that are a minimum of 12 feet (clear of channelization devices) and include widened radii to accommodate truck turning. Work with MDT Project Manager to develop a plan for accommodating wide-loads and coordinate with MCS.

5) Provide a plant mix or concrete surface for traffic at all times. Route traffic on the appropriate surfacing section between October 15 and April 15 of the 2024 and 2025 seasons. Sequence the work so that traffic is routed on the completed surfacing section or the undisturbed or restored existing surfacing section, from October 15 to April 15 for the 2024 and 2025 seasons. If traffic is not routed as described a Road User Cost (RUC) of $1500 per day will be assessed for every day that traffic is not restored to normal traffic flow on the completed section after October 15. MDT will pay the contractor $1500 for every calendar day traffic is returned to normal flow before October 15, 2024 and 2025. A maximum incentive of $22,500 will be paid per season.

6) Sequence of Operations. Sequence work to promote safety and minimize disruptions to the traveling public in accordance with the Traffic Control Details provided in the contract plans. After installation of crossovers, develop a sequence of operations to accomplish the work according to the following generalized sequence:

a) Phase 1: Install temporary concrete barrier along undivided Westbound I-90 roadway and reconstruct Eastbound I-90 roadway.

(1) Implement a crossover so that both directions of traffic are traveling on the westbound side of Interstate 90 while maintaining 2-lane, 2-way traffic.

(2) Construct the new eastbound roadway, median and eastbound drainage elements.

(3) Additional sub-phases may be required based on means and methods. Contractor to coordinate with Project Manager on additional traffic control required to construct work elements in Phase 1.

(4) Restore interstate traffic to normal traffic flow (2-lanes in each direction with all ramps open to traffic) prior to October 15.

b) Phase 2: Install temporary concrete barrier along undivided Eastbound I-90 roadway and reconstruct Westbound I-90 roadway.

(1) Utilize Crossovers to maintain 2-lane, 2-way traffic during Phase 2.

(2) Construct the new westbound roadway and drainage elements.

(3) Complete all westbound mainline construction including grading, drainage, surfacing, paving, median barrier, and guardrail.

(4) Additional sub-phases may be required based on means and methods. Contractor to coordinate with Project Manager on additional traffic control required to construct work elements in Phase 2.

(5) Restore interstate traffic to normal traffic flow (2-lanes in each direction with all ramps open to traffic) prior to October 15.

c) Phase 3: Includes mill/fill operations at the Taft Interchange. This phase can also include pavement markings, crossover removal, signs, and other work per subsection 105.17.2.

7) Ramp Construction: Maintain ramp access at the Taft Interchanges at all times. Work requiring shoulder closures or other lane closures on ramps will be considered for off-peak hours and/or during nighttime work. Utilize advanced signage and public media notification to inform the traveling public of the construction activities and potential delays.

8) Mainline Culvert Crossings: Maintain traffic utilizing crossovers. Construct half of the mainline culvert crossings following the sequence of operations. Install temporary shoring and temporary concrete barrier near the median as needed to maintain safe operations of two-way traffic.

a) Maintain cross drains at the following locations to provide positive drainage along the interstate during winter shut down. Either permanent or temporary systems maybe used at the contractor’s discretion and within all regulatory requirements.

9) Provide the Project Manager with a detailed traffic control plan and sequence of operations in accordance with this special provision and contract plans for approval 20 working days prior to initiating construction. When changes are needed to this plan, allow Project Manager 48-hours to approve changes prior to initiating the changes in workflow.

10) Two construction seasons are anticipated to substantially complete the overall project. From October 15 to April 15, route traffic onto two travel lanes in each direction. Protect all roadside hazards with appropriate traffic control at contractor’s expense. Crossovers will not be operational during winter shutdown.

11) Always maintain two-directional traffic through work area; speed reductions will be. Crossovers are included in the contract plans to facilitate this.

12) Wide Loads: Stage wide loads and pilot through the project construction site in accordance with the special provision. Coordinate with Motor Carriers Services and the Project Manager.

13) Emergency Detour: Provide an emergency detour plan to the Project Manager for approval three weeks prior to initiating construction. The plan is required to mitigate issues arising from a potential accident on the temporary two-lane, two-way facilities during construction. Should modifications be required to the plan, provide a modified plan to Project Manager for approval three weeks prior to requested change.

C. Measurement and Payment. All work associated with this special provision will be measured and paid for at the unit quantities and prices for the respective items of the contract. Where work is specified and not distinctly covered by a unit quantity and price, that work is considered incidental to the contract and no separate payment will be made.

30. CONSTRUCTION OFFICE TRAILER

A. Description. This work is furnishing a mobile office trailer to be transported, blocked, and furnished to the location and requirements provided in this provision.

B. Requirements.

1) Office Trailer. Furnish a mobile office trailer which meets the following requirements:

a) Minimum length of 24 feet.

b) Working heat and HVAC capable of maintaining a temperature between 70 and 75 degrees.

c) Minimum of 4 work stations, each having minimum dimensions of 30” deep by 48” wide; office chairs (5 legs), and power access.

2) Location. Transport the office to the Taft Interchange (Exit 5) to a location near the Department’s loader shed on the South side of Interstate-90.

a) Level and block the trailer at a location approved by the Project Manager.

b) Update the electrical service and connection as needed for an operational office trailer to the satisfaction of the Project Manager.

3) Site Improvements.

a) Provide a level parking area adjacent to the office trailer to accommodate a minimum of 5 vehicles.

b) Provide an additional level pad (12’ x 12’) adjacent to the office trailer to be used for a storage shed. Provide a power source adjacent to the pad. Shed to be provided by the Department.

c) Furnish and maintain a portable bathroom to be located adjacent to the office trailer. The Contractor is responsible for scheduling and maintaining the services required to maintain the portable bathroom or as directed by the Project Manager.

d) Have all work complete and the office fully functional 7 calendar days prior to the NTP.

C. Measurement and Payment. All work described in this provision to furnish, transport, improve site conditions, and set up the mobile office is measured and paid for under Miscellaneous Equipment – LS bid item.

Work not defined within this provision will be paid for in accordance with Subsection 109.04.

31. CRUSHED AGGREGATE COURSE - SPECIAL

A. Description. Place Crushed Aggregate Course (CAC) - Special at the locations shown on the project plans and cross sections.

B. Materials. Provide embankment material consisting of Crushed Aggregate Course (CAC) Type A modified to meet the following gradation requirements:

Percentage By Weight Passing Square Mesh Sieves		
Sieve Size	Grade 5A	Grade 6A
2-inch (50 mm)	100	--
1½-inch (37.5 mm)	94-100	100
¾-inch (19.0 mm)	70-88	74-96
⅜-inch (9.5 mm)	50-70	40-76
No. 4 (4.75 mm)	34-58	24-60

No. 40 (0.425 mm)	6-30	6-34
No. 200 (0.075 mm)	0-5	0-5

C. Construction. Place CAC - Special in accordance with Section 301.

D. Method of Measurement. CAC - Special is measured in accordance with Section 301.04.

E. Basis of Payment. CAC - Special is paid as Crushed Aggregate Course in accordance with Section 301.05.

32. EMULSIFIED ASPHALT CHFRS-2P [402] (ADDED 10-10-19)

Furnish CHFRS-2P for areas specified in the contract. Furnish CHFRS-2P in accordance with the table below. Polymerize CHFRS-2P emulsions using at least 3% polymer by weight (mass) of the asphalt binder.

POLYMER MODIFIED CHFRS-2P EMULSIFIED ASPHALT

Property	Test Method	CHFRS-2P
Viscosity at 122 °F (50 °C), sec.	AASHTO T 59	100-400
Sieve, %	AASHTO T 59	0.1 max.
Settlement, 5 days, %	AASHTO T 59	5 max.
Demulsibility, %	AASHTO T 59	60 min.
Storage stability test, 1 day, %	AASHTO T 59	1 max.
Particle charge	AASHTO T 59	Positive
Tests on residue by evaporation: % residue[1] Oil Distillate penetration, 100 g, 5 sec. at 77 °F (25 °C), dmm ductility at 77 °F (25 °C), 5 cm per minute, cm elastic recovery, % Softening Point, °F Float Value @ 140 °F, Sec Viscosity @ 140 °F, Poise Solubility in Trichloroethylene, %	 AASHTO T 59 AASHTO T 59 AASHTO T 49 AASHTO T 51 AASHTO T 301 AASHTO T 53 AASHTO T 50 AASHTO T 202 AASHTO T 44	 65 min. 0.2 max. 90-160 75 min. 55 min. 130 min. 1800 min. 1300 min. 95 min.

33. EDGE DRAINS

A. Description. This work consists of installing subsurface drains, with geotextile, drainage pipe, and backfill material as shown in the plans or as directed by the Project Manager.

B. Materials:

1) Provide Drain Aggregate meeting the requirements of Subsection 701.10.

2) Provide Subsurface Drainage Geotextile Filter, High Survivability, Class B, meeting the requirements of Section 716.

3) Provide 6-inch Corrugated Polyethylene Drainage Pipe meeting the requirements of Subsection 708.07, Type SP with Class 2 perforations.

4) Provide 6-inch Corrugated Polyethylene Drainage Pipe meeting the requirements of Subsection 708.07, Type S for drain outlets/connections.

5) 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.

6) 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.

7) Provide precast concrete headwalls according to the plans and details for all outlets to slopes or ditches.

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 Drainage Pipe on top of the geotextile at the bottom of the excavated trench.

4) Place Drain Aggregate immediately following Drainage Pipe placement and otherwise in accordance with Section 622.

5) Do not operate construction equipment directly on the geotextile until there is a minimum cover of 12 inches.

6) Do not use vibratory, studded or sheepsfoot compaction equipment on the first lift. Compact the first lift in accordance with Subsection 622.03.3.

7) Place all remaining lifts in accordance with Section 203.

8) Repair any Geotextile damaged during construction at Contractor's expense.

9) Construct drain outlets, including slope and daylighting requirements, as shown in the plans.

D. Method of Measurement:

1) Accepted quantities of Edge Drain are measured by the linear foot as calculated from the plan dimensions including Drainage Geotextile Filter, Drain Aggregate and perforated and non-perforated Corrugated Polyethylene Drainage Pipe. Connectors, splices, fittings, precast concrete headwalls, rodent guards, trench excavation, and all labor necessary for placement of Edge Drain system 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 Edge Drain are paid at the contract unit bid price per linear foot.

34. AT & T INVOLVEMENT AND COORDINATION

A. At 2005 + 34RT, AT & T has high volume fiber optic lines that are approximately 10.5' below the existing culvert. Lowering the existing F/O Facilities prior to construction would be dangerous due to the depth. This work should be coordinated with Contractor to determine if this line can go over the new culvert, if it needs to be supported in place or if AT & T needs to lower it after the old culvert is out and prior to the new one going in.

B. Construction Requirements.

1) Contact AT & T two weeks in advance of any construction activities related to removing the existing culvert. Allow AT & T the opportunity to perform on-site inspection during any construction activities that occur within 25 feet of these fiber optic lines. Invite AT & T to the Pre-Construction Conference.

Utility	Contact	Phone	Email
AT & T	JT Andrews	(208) 841-5093	jt@cwc64.com

2) If work is not in compliance with the special provisions, the AT & T inspector will notify the MDT Project Manager, who may issue a stop work order for the portion of work within the vicinity of the fiber optic lines.

C. Method of Measurement and Basis of Payment.

1) The work described in this provision is not measured separately for payment. Consider all costs associated with this provision incidental to performance of the work. Any damage to the fiber optic lines as a result of the project construction will be repaired at the contractor's expense and at no cost to MDT and/or AT & T.

35. NORTHWESTERN ENERGY INVOLVEMENT AND COORDINATION

At 407+19, NorthWestern Energy has a 7.2kV single-phase overhead line over the top of where a new pipe with significant cut will be installed. The pipe location is sitting in between pole locations so it is not thought that the poles will need to be replaced or moved, however, NorthWestern Energy would like to have coordination with the contractor before they start work on this pipe.

A. Construction Requirements.

1) Do not perform any work with large equipment within 25 feet on either side of the overhead power prior to contacting NorthWestern Energy. Exercise extreme caution when working near overhead power as wind may cause the line to swing laterally. NorthWestern Energy requires the contractor to have a spotter designated to observe clearance of all operation of equipment when working within 10' of either side of the overhead power.

2) Contact NorthWestern Energy two weeks in advance of any construction activities within 25 feet of the overhead power. Allow NorthWestern Energy Inspector the opportunity to perform on-site inspection during any construction activities that occur within 25 feet of the overhead power. Invite NorthWestern Energy to the Pre-Construction Conference.

Contact	Phone #	Email
Bradley Gilchrist NorthWestern Energy – Construction Superintendent	(406) 454-7137	Bradley.Gilchrist@northwestern.com
Shawn Medland NorthWestern Energy – Missoula Construction Superintendent	(406) 542-5975	Shawn.Medland@northwestern.com
Brian Sterling NorthWestern Energy Transmission	(406) 880-1375	Brian.Stelling@contractor.northwestern.com

3) If work is not in compliance with the special provisions, the NorthWestern Energy inspector will notify the MDT Project Manager, who may issue a stop work order for the portion of work within the vicinity of the overhead power.

4) The construction equipment needed to perform the removal and installation of the pipe will need to be placed in a manner that follows the instructions of this special provision.

A crane or large equipment which has the potential to impact overhead power may not be parked within 20' of the overhead power. Refer all questions of equipment placement and usage through the EPM to NorthWestern Energy.

B. Method of Measurement and Basis of Payment. The work described in this provision is not measured separately for payment. Consider all costs associated with this provision incidental to performance of the work. Any damage to the overhead power as a result of the project construction will be repaired at the contractor's expense and at no cost to MDT and NorthWestern Energy.

36. ELECTRICAL

A. Description of Work. This work includes furnishing and installing all electrical wiring, conduits, pull boxes, luminaire foundations, and other incidentals for the new lighting system. Install all conduit (underground and above grade), contactors, fittings, splices, boxes, meter base, poles, switches, ground rods, lugs, and conductors including all required associated excavation and backfilling, concrete and concrete reinforcement, anchor bolts and miscellaneous equipment required for complete and operable lighting system.

B. Materials. Provide and install in conformance with Sections 616, 617, and 703 of the Standard Specification for Road and Bridge Construction.

C. Construction Requirements.

1) Coordinate the removal of the existing overhead conductor, luminaires, and luminaire poles with Northwestern Energy 3 weeks before construction will affect existing luminaires. Removal of the existing equipment is the responsibility of the Utility.

2) Install foundations for luminaire poles with no more than 4-inches of the foundation or anchor bolts protruding above the ground line at any point. Contour backfill to slope away from the foundation no steeper than 6:1 where applicable.

3) Install plastic and rigid metal conduit as shown on the plans and per NEC requirements. Use plastic conduit to terminate plastic conduit runs in pull boxes, foundations, etc. Install conduit before new plant mix surfacing and concrete work are put into place.

4) Make the conduit and metal poles mechanically and electrically secure so that they form a continuously bonded system. Install bushing adapters on the ends of the plastic and steel conduits prior to installation of wires/cabling. When not included as part of the new foundation, furnish, install, and include all work and materials (such as grounding straps and bare AWG No. 6 wire) necessary to make a continuously bonded system.

5) Service Assembly – 200A.

a) Install an electrical service assembly at the location indicated in the plans for Service S-2. No new service or modifications are required for the Dena Mora Rest Area. Service will be 120/240V, three-wire, 200A single-phase meter mounted on a 6-inch by 6-inch 10-foot treated wood pole and per the Standard Specifications.

b) Provide an auto-off-manual switch in conjunction with a photoelectric controlled contactor for street light circuits. House the lighting contactor and all associated wiring in a NEMA 3R enclosure. Mount the lighting contactor panel as shown in the plans.

c) Provide photoelectric control installed in accordance with manufacturer's specification and mounted on service as shown in the plans. Photoelectric control will turn on luminaires at 1.3 footcandles (+/- 0.5 fc) and off at 6 footcandles (+/- 0.5 fc). Photoelectric control and photoelectric control wiring is incidental to the cost of the service. Photoelectric control does not control luminaire out footcandles.

d) Electrical service will be checked and tagged by the County Electrical Inspector prior to final acceptance. Service will also need to meet all requirements set forth by utility. Comply with these requirements and revise the work if necessary and as approved by the Project Manager.

e) Coordinate the disconnection of existing lighting service and reconnection of new lighting service S-2 with NorthWestern Energy prior to construction. After service disconnect,

remove existing service panel, lighting contactor and enclosure, and pedestal. Install new service assembly and reconnect per NWE Requirements. Replace existing conduit and service entrance conductor as necessary if it is in poor condition or per NWE Requirements.

D. Method of Measurement and Basis of Payment. Measurement and payment for all work associated with installing conduit (underground and above grade), contactors, fittings, splices, boxes, meter base, poles, switches, grounding rods, lugs, conductors including all required associated excavation and backfilling, concrete and concrete reinforcement, anchor bolts and miscellaneous equipment required for a complete and operable lighting system are per the respective items defined in the Standard Specifications. Unless noted otherwise, include payment for all included in this special provision not specifically measured for payment incidental to other items.

37. HIGH EFFICACY LUMINAIRE LED

A. Description. Install luminaires that use light-emitting diodes (LED) as a light source.

B. Materials. Provide luminaires with a die cast aluminum housing and a universal four-bolt slip fitter mount. Provide luminaires utilizing arrayed discreet LEDs - COB (chip-on-board) LEDs will not be accepted. Provide luminaires with a light distribution of type 3. Provide luminaires rated at 17,600 delivered lumens. Provide luminaires having a field adjustable drive current selector with a range of 350 milliamps to 700milliamps. Specify a drive current setting of 450mA. Submit Backlight, Uplight, and Glare (BUG) ratings. Provide luminaires that have an uplight rating of U0. Provide luminaires that meet ANSI C136.37 standards for solid state light sources. Provide luminaires with an LED optical assembly that has an ingress protection rating of IP66. Provide luminaires that are photometrically tested by certified independent testing laboratories in accordance with IES LM-79 testing procedures. Use a correlated color temperature (CCT) of 4000 K and a minimum color rendering index (CRI) of 70. Use LEDs that are mercury and lead free. Use LEDs that are tested in accordance with IES LM-80 testing procedures. Use LEDs rated to produce a minimum of 90% intensity at 100,000 hours of life based on IES TM-21 (L90). Submit a TM-21 report for the LEDs. Provide a power supply with a minimum power factor of 0.90 and a maximum total harmonic distortion (THD) of 20% or less. Provide surge protection with a minimum of ANSI/IEEE C62.41 category C protection. Wire luminaires for 240-volt operation. Provide access to electrical components without the use of tools. Provide luminaires that are UL listed for use in wet locations. Provide a minimum 10-year manufacturers' warranty for the entire luminaire assembly including material, workmanship, photometrics, power supply and LED modules. If more than 10% of the LED's fail within an individual luminaire within the warranty period, the luminaire must be repaired or replaced.

C. Construction Requirements. Adjust luminaires at night to provide the best roadway lighting distribution. Adjust luminaires so they are level from side to side to limit glare.

D. Method of Measurement and Basis of Payment. Payments is for each LED luminaire in place and operational, which includes furnishing and installing LED luminaires, mounting hardware, and making all necessary electrical connections. Provide any additional equipment required as part of this bid item.

38. REMOVE AND SALVAGE

A. Description. Remove and salvage existing luminaire poles, luminaires, and associated hardware, electrical services, pull boxes, controller cabinets, and conductors as called for on the plans. Abandon existing conduit in place as required. Deliver all salvaged items to the MDT shops at 2100 W Broadway, Missoula, MT 59807.

B. Construction Requirements.

Wherever possible, abandon existing pole base foundations at locations indicated on the plans by cutting off the top 24 inches of the existing foundation, including anchor bolts and rebar and fill hole to subgrade elevation with flowable fill. If existing foundation is in conflict with new

installation, remove entire foundation, and restore area by filling holes with native soils and compacting in 6 inch lifts prior to installation of new foundation.

Contractor to coordinate removal of facilities with NorthWestern Energy (Dena Mora Rest Area) who has installations in the area. Verify equipment to be removed with the Project Manager prior to removal.

C. Method of Measurement and Basis of Payment. Payment will be made for one lump-sum price bid to remove and salvage all equipment, including delivery to the above-designated location.

39. SOLAR SIGNAL – FLASHING BEACON

A. Description. Provide and install solar powered 12" flashing beacons.

B. Materials. Furnish and install the Solar Beacon System including control cabinet, signal, solar panel, battery, and all hardware required for installation for the flashing beacons. Evaluate site conditions at each location with respect to solar angle, surrounding topography, and seasonal weather prior to ordering. Provide a solar panel size per manufacturer's recommendation for year-round operation at each location. Provide mounting hardware to mount the signs and solar equipment on a Type I-200 steel pole.

C. Construction Requirements. Install the flashing beacons as shown on the Plans and per manufacturer's recommendation. Mount the solar panel as approved by the manufacturer.

D. Flasher Operation. The control unit will operate in the following fashion. The radar detector will detect a vehicle. The detector will actuate a timer causing the beacon to flash. The timer will either time out causing the beacon to quit flashing or extend the time due to another detected vehicle. Configure the flashing beacons at Sta. 436+03 to operate in an alternating sequence.

E. Basis of Payment. Payment will be for each solar signal flashing beacon in place and operational. Include mounting hardware, connections and wiring and any other items to make this a functional unit. Payment for the signs and radar detector are covered under separate bid items.

40. RADAR DETECTOR

A. Description. Provide and install a radar detector.

B. Material. Provide a solar power radar detector that operates with the solar flashing beacon and detects vehicles up to 600 feet.

C. Construction Requirements. Mount the radar detector per manufacturer's recommendations on the Type I-200 steel poles with the flashing beacon.

D. Method of Measurement and Basis of Payment. Measurement and payment for all work associated with installing each radar detector in place and operational including mounting hardware, connections and wiring and any other items to make this a functional unit as a vehicle detected flashing beacon in the unit price bid for Radar Vehicle Detection.

41. SERVICE CONNNECTIONS

A service disconnect and reconnect is required for this project. Please see Plan Sheet EL-07 for the proposed locations. 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:

Utility	Contact	Email
NorthWestern Energy	Reece Magnuson	Reece.Magnuson@contractor.northwestern.com

42. CLASS PAVE CONCRETE [551] (1-1-24)

A. Description. Class Pave Concrete for mainline slip-form paving is specified at locations shown on the plans.

B. Materials.

1) Class Pave. Furnish Class Pave Concrete meeting the requirements of Section 551 and the following.

a) Design and produce a mixture with a paste volume not exceeding 25% (liquid and binder).

b) Design and produce a mixture with a maximum cementitious materials content not exceeding 550 lb./yd3.

c) Design and produce a mixture with a minimum of 25% Class F Fly ash or GGBFS or a combination thereof as a replacement for Portland Cement or Type IL Blended Cement.

d) Design and produce a mixture with an edge slump less than 0.25 inches (6 mm) and having a surface void rating of 2 or less in accordance with AASHTO TP 137 (Box Test). Submit Box Test results with the mix design.

e) Design and produce a mixture having an Optimized Gradation meeting the following requirements.

Optimized Aggregate Gradation	
Sieve Size	Percent Retained
2 Inch	0
1 ½ Inch	≤ 5
1 Inch	≤ 16
3/4 Inch	≤ 20
½ Inch	4 - 20
3/8 Inch	4 - 20
No. 4	4 – 20
No. 8	≤ 12
No. 16	≤ 12
No. 30	4 – 20
No. 50	4 – 20
No. 100	≤ 10
No. 200	≤ 2
Coarse Sand Percent (No. 8 To No. 30 Sieve)	> 15
Fine Sand Percent (No. 30 To No. 200 Sieve)	24 - 34

(1) Incentive for optimized gradations as specified in Section 551.03.8 will only be applied if all gradations representing the lot fall within the specified bands as well as meet the requirements of 701.01.3.

C. Construction Requirements. Section 501.03.11(B) is rescinded for this contract and replaced with the following:

Ride Specification. Pavement surface smoothness for this project includes International Roughness Index (IRI) testing.

Construct all surface courses to provide completed Portland cement concrete pavement (PCCP) that meets surface smoothness and profile levels. Surface smoothness and surface profile will be analyzed from data collected by the Department using a Class I laser road profiler

~~following Department procedures for profiler operations. The IRI will be measured in inches/mile, regardless of the unit of measure used on the contract.~~

~~The Department will test for smoothness and profile on the final surface of PCCP. IRI testing will consist of 2 passes in each travel lane. For each pass, data collected for each wheel path will be averaged for that lane (Mean Roughness Index or MRI). The results of the two passes will then be averaged to arrive at an MRI result for that lane. Tests will be performed within 10 business days (extended by rain or other inclement weather conditions) of completion of all mainline paving. The Department will test divided highways within 10 business days (extended by rain or other inclement weather conditions) of completion of mainline paving for each direction of travel. Ensure that the entire finished lane width to be tested is not impeded and is available to Department personnel at the time of testing. Test results will be furnished within 2 business days.~~

~~If the entire final surface of PCCP cannot be completed before winter suspension, data will be collected for all roadway sections paved through the final surface. Evaluation of the remaining pavement will be performed once the paving is completed.~~

~~The surface smoothness analysis will be used to determine the actual IRI for calculating pay factors for the surfacing section.~~

~~Actual IRI values will be determined on all mainline travel lanes, climbing lanes, passing lanes, and ramps that have 1000 feet (0.30 km) of (cumulative) ridable length or longer. Ridable length is defined as the total (cumulative) length of the lane minus any section lengths identified as not to be evaluated below.~~

~~IRI data will not be evaluated for the following roadway sections:~~

- ~~Climbing lanes, passing lanes, and ramps less than 1000 feet (0.30 km) long.~~
- ~~Turning lanes.~~
- ~~Acceleration and deceleration lanes less than 1000 feet (0.30 km) long.~~
- ~~Shoulders and gore areas.~~
- ~~Road approaches.~~
- ~~Horizontal curves 900 feet (275 m) or less in centerline radius, and pavement within the super-elevation transitions of these short radius curves.~~
- ~~Bridge decks, pavement within 50 feet (15 m) of bridge decks, and the terminal paving points of the project.~~

~~Areas requiring corrective work will be identified using the surface profile measurements of the finished surface.~~

~~Correction of profile defects will not be cause to reevaluate any section for surface smoothness except for locations where the PCCP is removed and replaced full depth at either the contractor's option as corrective action or by direction from the Department. Quality incentive allowances will be used to offset any price reductions on progress estimates.~~

~~All work to prepare the roadway for testing, including sweeping, grinding, and traffic control prior to the ride test, is incidental to the work and is not measured for payment. All work to complete any corrective action and re-testing, including but not limited to sweeping and traffic control, is incidental to the work and is not measured for payment. Include all costs and resources to prepare the roadway for surface tolerance testing in the PCCP bid item. Surface smoothness will be evaluated in accordance with the following table:~~

~~MAXIMUM ALLOWABLE VARIANCE AND DIVERGENCE~~

~~Actual MRI (Average of wheel path IRIs – inches/mile)~~	~~Pay Factor~~
~~< 50~~	~~1.1~~
~~50 – 55~~	~~2.100 – 1/50 x IRI~~

> 55 – < 60	1
60 – 95	1.343 – 1/175 x IRI
> 95	Corrective Action (Initially assumed zero pay)

Notes: 1. The pay factor is the same whether the PCCP is measured in English or metric units. Final pay factors are rounded to 2 decimals and used in calculating the value of the incentive/disincentive.
2. The MRI used to calculate the Pay Factor is the average of 2 runs on each travel lane evaluated.

Incentive or disincentive for surface smoothness will be calculated based on the entire project length in each travel lane or measured section using the following equation. The calculated value will be applied as a line-item adjustment to the PCCP item on the estimate. Calculate the pay adjustment as follows:

- Pay adjustment = (Pay Factor -1) x L x Unit Cost
- Pay Factor = Value based on MRI and table above
- L = Measured lane length
- Unit Cost = $6.425/foot

Shoulders, tapers, and other areas not included in MRI testing will not be subject to incentive adjustments. All work is subject to parallel and transverse 10-foot straightedge requirements, corrective work, and disincentive adjustments.

The entire profile will be analyzed. The first 50 feet (15 m) after the start of the paving operations, the last 50 feet (15 m) prior to the end of the paving operations, and the first 50 feet (15 m) on either side of bridge structures will be excluded from IRI evaluation. MRI results are reported in inches per mile and horizontal distance measurements in project stationing to the nearest foot.

Corrective work for pavement smoothness may be taken by the Contractor prior to MRI testing. Corrective work is required for pavement identified by the Department that does not meet the following requirements:

- The completed surface is uniform in texture, smooth, uniform as to crown and grade, and free from defects of all kinds.
- The completed surface does not vary more than ¼ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline.
- The completed surface does vary not more than ¼ inch in 10 feet (3 m) from the rate of transverse slope shown in the contract.

Complete all corrective work at no additional expense to the Department, including traffic control. Do not begin corrective work until the concrete has reached design strength. Repair pavement by one or more of the following methods:

- Diamond grinding: ensure repairs do not reduce pavement thickness by more than ¼ inch less than the thickness shown in the contract. The Project Manager may verify the thickness of the concrete pavement by coring.
- Removal and replacement.
- By other method allowed by the Project Manager.

The repaired area will be checked with a 10-foot straightedge to ensure it no longer requires corrective work. The Project Manager may use an inertial profiler in place of the 10-foot straight edge.

1) Dowel Bars. Place dowel bars parallel to the substrate surface and parallel to the centerline of the pavement. Before placing the concrete, mark the location on both sides of each transverse joint as approved by the Project Manager. Ensure the proposed sawcut is centered on the dowel bars and that the dowels remain parallel to the Roadway centerline. Transfer the markings to the top surface of the fresh concrete immediately after completing the final finishing operations.

2) Dowel Basket Assemblies. Secure dowel bar assemblies with anchors to hold the dowel bars in the correct position and alignment while preventing movement during concrete

~~placement. Fasten the baskets to the substrate surface so that they do not move vertically or horizontally more than 1/4 inch.~~

~~a) Provide dowel bar assemblies manufactured in single units for the lane widths shown on the Plans, unless otherwise approved by the Project Manager. For non-typical lane widths, do not (splice) use more than two dowel bar assemblies in any one doweled joint.~~

~~b) Within 1 hour before covering with concrete, coat the dowel bars with a uniform coating of a form coating material or form release agent.~~

~~3) Dowel Bar Inserter. The Contractor may use a mechanical dowel bar inserter to place dowel bars in the pavement as approved by the Project Manager, in conjunction with the State Materials Project Manager.~~

~~a) Immediately before inserting the dowel bars, coat the dowel bars with a uniform coating of a form coating material or form release agent.~~

~~b) If using a dowel bar inserter, initially and on each production day, demonstrate to the Project Manager that the inserted dowel bars in the completed concrete pavement are parallel to the surface and centerline slab and are located at mid-depth of the slab thickness. The Project Manager may disallow the use of a dowel bar inserter at any time if insertion operations are detrimental to the PCCP surface.~~

~~D. Method of Measurement. Class Pave Concrete is measured in accordance with Section 551.~~

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

43. CLASS GENERAL CONCRETE [551] (ADDED 11-16-23)

The Project Manager may allow “cast in place” placement of Class General Concrete without a formal mix design for items not related to sidewalks, curbs, or gutters. Submit a batch proportioning sheet meeting the requirements for Class General Concrete in accordance with Table 551-2 three calendar days prior to placement. Include all material in the mixture on a cubic yard basis. Class General Concrete will be tested and accepted in accordance with MT 601.

44. CORRUGATED POLYETHYLENE APPROACH PIPE [603] (REVISED 12-12-19)

A. Description. Corrugated polyethylene pipe is an option to RCP, CSP or CAP for approach drainage pipes as indicated in the Approach Pipe Summary.

B. Material. Meet the requirements of Subsection 708.07 of the Standard and Supplemental Specifications for Road and Bridge Construction, and of Type S pipe as defined in Section 4 of AASHTO M294.

C. Construction Requirements. Provide steel Flared End Terminal Sections (FETS) or Road Approach Culvert End Treatment (RACET) in accordance with Detailed Drawing 603-02 and 603-14. Provide hardware for connection of the end section to the polyethylene pipe as approved by the Project Manager.

D. Basis of Payment. Cost of materials, handling, tools, equipment and labor necessary to accomplish the work is included in the contract unit price bid per foot (meter) of drainage pipe.

45. BASIC BID PIPE – CONCRETE [603] (ADDED 6-12-14)

The type and quantity of material for bidding is listed in the contract in columns under the heading “Basic Bid Items”. The information in these columns is what would be required to complete the planned installation using the “Basic Bid Pipe,” which is concrete, when it is an option. If concrete is not an option, steel pipe is the basic bid pipe. Include terminal sections, and connection hardware, where required.

46. REINFORCED CONCRETE PIPES, BOXES, INLETS AND MANHOLES [603] (ADDED 12-13-18)

Furnish RCB, RCP, inlets, and manholes from a plant listed on the Department's QPL.

47. IMPACT ATTENUATOR [606] (REVISED 9-11-14)

Install a Test Level 3, 24-inch (610 mm) wide impact attenuator at the location shown in the plans. The device must be rated for 60 mph (100 kph) and conform to the detail drawings.

Obtain complete detailed drawings and material costs for construction and bidding purposes from the manufacturer. Install the impact attenuator in accordance with manufacturer's specifications. Use Class General concrete, following the requirements of Subsection 551.03.2, for the required concrete pad.

Ensure existing concrete pad meets manufacturer's specifications if replacing existing impact attenuator.

Do not remove the existing guardrail until the impact attenuator is at the project site, and has been inspected and approved for use by the Project Manager.

Measurement and payment will be at the contract unit price per each, which includes all materials, labor and equipment to install complete in place.

48. IMPACT ATTENUATOR – TEMPORARY [606] (REVISED 1-21-21)

A. Description. This work is furnishing, installation, maintenance, and removal of temporary impact attenuator and crash cushion devices when construction activities expose blunt ends, ends of barriers, fixed objects, or other obstacles within the clear zone.

B. Materials. Furnish devices, including required transition sections that meet MASH crash test requirements. Devices meeting NCHRP 350 requirements are acceptable if manufactured before January 1, 2020.

C. Construction Requirements. Submit the manufacturer's installation instructions and proof of crash test compliance 14 calendar days prior to any work that will require the installation of devices.

Install devices at the locations shown of blunt or exposed ends of barriers or fixed objects in accordance with the manufacturer's installation instructions. The device must be installed within 12 hours from the time the obstacle is exposed.

Maintain at least one complete set of repair parts on the project at all times to repair or replace attenuators, which may be damaged during construction.

Attach the impact attenuator to the concrete barrier rail or other fixed objects using the manufacturer's approved transition section. Follow all manufacturers' instructions and guidance during the installation. Furnish and install all transitions, mounting hardware, and other necessary items.

Repair or replace damaged attenuators within 12 hours.

Remove the device within 48 hours of when the obstacle no longer exists. The devices remain the property of the Contractor after completion of the project.

D. Method of Measurement.

1) Temporary impact attenuators are measured for each complete installation shown on the plans. This includes furnishing, installing and the removal of one attenuator, one time.

2) Reset Temporary Impact Attenuator is measured by each and includes the complete reinstallation and removal of a temporary attenuator that was previously installed on the project and was moved to a new location.

Temporary removal/resetting of an attenuator to protect the same obstacle will not be measured for payment.

Removal, replacement, and repair of installations shown on the plans damaged by traffic will be paid in accordance with subsection 109.04. Installations and not shown on plans or the

repair or replacement of temporary impact attenuators damaged by the Contractor will not be measured for payment.

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

Pay Item	Pay Unit
Temp Impact Attenuator	Each
Reset Impact Attenuator – Temporary	Each

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

49. CONCRETE WARRANTY [608] (ADDED 4-23-20)

Concrete sidewalk, curb and gutter, median curb, and median cap are subject to a 1-year performance warranty.

The Project Manager has sole authority to determine concrete performance following the 1-year warranty period. The 1-year warranty period starts on the date of the completion of the final concrete placement in each calendar year and ends one year from that defined date. The Project Manager will give written notice to the Contractor of the beginning of the warranty period.

Defective concrete is defined as the presence of scaling, cracking, pop-outs, spalling, or any other deficiency identified by the Project Manager. Deficient Concrete is referenced in the Department's Concrete Warranty Administration Guide. The Project Manager will notify the Contractor in writing of observed deficiencies that occur within the warranty period. Submit a detailed repair plan to the Project Manager within 14 calendar days of the notification of required repairs.

Damage from Department or local maintenance activities, vandalism or other causes beyond the control of the Contractor is not subject to the warranty.

Replace deficient concrete to the nearest contraction joint or as approved in the repair plan. Acceptance of repair work will be in accordance with Subsection 105.03.1. Restore pavement markings and furnish traffic control at no additional cost to the Department.

Complete warranty work within 30 calendar days of the approved repair plan unless otherwise approved in writing by the Project Manager.

50. CROSSOVER TRAFFIC CONTROL [618] (REVISED 12-7-23)

A. Description. This work is the furnishing, installing, and maintaining of traffic signs, barricades, lights, signals, pavement markings, and other specified traffic control devices on contracts utilizing crossovers.

B. Materials. Furnish materials meeting Subsection 618.02

C. Construction Requirements. Provide traffic control in accordance with Section 618. Furnish a traffic control plan in accordance with Subsection 618.03.2.

1) Traffic Control – Crossover. Construct and sign crossovers as specified in the contract, including plan details and Detailed Drawing 618-30. Remove existing striping and re-stripe and sign for first phase of the cross-over. Upon completion of that phase of work, remove striping and re-stripe and sign for the opposite phase.

2) Traffic Control – Two-Way Traffic. Sign, stripe, and divide traffic between crossovers meeting contract requirements. Furnish and install surfaced mounted hinged flexible guideposts for two-way traffic operation. Install 36-inch tall flexible, self-erecting delineators capable of withstanding numerous impacts from any direction without splitting, breaking, or detaching from the base or the surface to which the base is attached. Replace and reset any flexible delineator incapable of withstanding traffic impacts.

3) Traffic Control. Install traffic control meeting the contract requirements for work not performed while traffic is on crossovers and for additional traffic control or signing not shown on the plans.

Upon completion of all phases of work, apply epoxy traffic paint to all mainline pavement markings in their final configuration. Ensure pavement markings are completed to the satisfaction of the Project Manager.

D. Method of Measurement.

1) Traffic Control – Crossover. Each phase of the crossover is measured as one Traffic Control – Crossover and includes the furnishing, installing, maintaining and removal of traffic control devices, pavement markings, striping, and the replacement of all damaged devices.

2) Traffic Control – Two-Way Traffic. Two-way traffic control is measured by the mile (kilometer) along the double yellow striping and includes the furnishing, installing, maintaining and removal of traffic control devices, pavement markings, striping, and all replacement of damaged devices.

3) Traffic Control. Traffic control required for work performed while traffic is not on crossovers or for additional work not shown in the contract will be measured by the unit used and accepted according to the value shown in the “Traffic Control Rate Schedule.”

Epoxy traffic paint will be measured and paid for in accordance with Section 620.

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

Pay Item	Pay Unit
Traffic Control – Crossover	Each
Traffic Control – Two-Way Traffic	Mile (kilometer)
Traffic Control	Unit

51. LONG TERM VARIABLE MESSAGE BOARDS [618]

A. Description. Furnish, install, maintain, and remove 4 portable variable message boards (VMS).

B. General.

1) Install VMS at the following locations or as approved by the Project Manager.

Location	Description
Prior to Wide Load Staging	EB and WB
Prior to project limits	EB and WB

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 at the end of Phase I, and Install again prior to Phase II operations. 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.

52. WIDE LOAD AND SUPERLOAD ACCOMMODATION [618] (REVISED 12-7-23 M)

Coordinate with the Project Manager to accommodate wide loads and superloads during construction.

A. Wide Loads. Provide passage of loads greater than 12-feet wide through the project area at least 5 consecutive days/ week and two hours/day. Wide load passage must begin no earlier than 9 P.M. and be completed by 6 A.M. Coordinate with the Project Manager to facilitate passage of wide loads on other projects on the same route or in proximity.

Place wide load information signs at the following locations or as directed by the Project Manager. Furnish and install signs shown on the following detail, meeting Detailed Drawing 618-01. The *Route* will specify the route number, *Dir* will specify the direction of the construction, and *Mp* will specify the milepost(s) of the work. Remove signs within 24 hours of removing the wideload restriction.



Sign information, if known:
12’ Width Restriction
I-90 DIR MP 3.4 -5.7
Additional Information

Sign Location	Location Description
WB I-90	West of US-93/Wye Interchange
SB Hwy 135	Just north of St. Regis
EB I-90	Couer d’Alene area TBD by Project Manager
EB I-90	Wallace area TBD by Project Manager

Hwy 135/Hwy 200 Junction	TBD by Project Manager

B. Superloads. Loads greater than 18'0" wide, 150'0" long, or 17'0" high must contact the Prime Contractor Monday – Friday, 8:00 AM to 5:00 PM, before traveling to make special arrangements to be escorted through the project site on a case-by-case basis. Notify the Project Manager and provide justification before denying carriers access to the project.

C. Measurement and Payment.

1) Wide Loads. Traffic control necessary for wide load staging areas including wide load staging signs, staging information signs, arrow boards, lane closures, cameras, and wide load passage/marshaling will be included in the traffic control bid item Wide Load Marshalling - L.S.

Devices damaged by wide load passage will be replaced by the Contractor and paid for in accordance with contract's Traffic Control Rate Schedule.

2) Superloads. Traffic control necessary for marshaling superloads that require an escort outside of the contract required marshaling times is paid for by the Department. Pilot cars, flaggers, damaged devices, and Category #2-Adjustments will be paid for in accordance with the contract's Traffic Control Rate Schedule.

3) Super Load Administration. A flat fee of $275 will be paid to cover administration cost for each permitted superload that necessitates an escort. The $275 fee will be paid for superloads that require an escort outside of the contract required marshaling times. To receive payment for superload administration provide written documentation to the Project Manager 24 hours prior to the superload's arrival on project. This fee is paid under Miscellaneous Work.

4) Wide load information signs will be paid for as Single Use Signs (SQ FT). Cover the signs during the winter suspension if necessary. No separate payment will be made to cover wide load detour signs during winter suspension.

53. TEMPORARY BARRIER RAIL [618] (REVISED 7-15-21)

A. Description. This work includes furnishing, installing, maintaining, and removing temporary barrier rail used for lane separation or protection of construction work zones from traffic.

B. Materials. Furnish concrete barrier rail in accordance with Section 605 and the Detailed Drawings. Alternative barrier design meeting NCHRP 350 TL-3 or MASH TL-3 crash testing may be used. Submit proof of crash testing compliance 14 calendar days prior to installation.

C. Construction Requirements. Furnish, install, maintain, and remove temporary barrier as required by the contract or manufacturer's instructions. Terminate the ends of temporary concrete barrier with a temporary impact attenuator or with approved blunt end protection as stated in the contract. Blunt end protection not shown on the plans is at Contractor expense.

Place 3" x 4" retroreflective markers every 10' on the top of the temporary rail. Chip Seal tabs and raised rigid pavement markers are prohibited. Ensure reflective markers are in place on existing barrier rail and/or guardrail adjacent to temporary rail.

D. Method of Measurement. Temporary barrier rail will be measured by the foot (m) of barrier placed to protect or channelize traffic as specified in the plans. Transition pieces and terminal ends will be measured for payment. Installation or resetting of barrier rail; required by the Contractor's operations and not shown on plans or the repair or replacement of temporary barrier rail damaged by the Contractor will not be measured for payment. Removal and replacement of installations damaged by traffic will be measured for payment.

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

Pay Item	Pay Unit
Temp Barrier Rail	Foot (m)
Reset Temp Barrier Rail	Foot (m)

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

54. TEMPORARY CLOSED MEDIAN CROSSOVER

A. Description. Construct Temporary Closed Median Crossover at the locations shown in the plans according to field conditions approved by the Project Manager and meeting the requirements in the Detailed Drawings.

1) Remove concrete median barrier rail where necessary and install temporary impact attenuators as needed. Temporary paving may be necessary to patch beneath the existing median rail to provide a smooth transition surface. Sign, stripe and place traffic control devices in accordance with the Detailed Drawings, MUTCD, and Standard Specifications.

2) Maintain the surfacing, striping, signing, drainage, concrete barrier rail, attenuators, erosions control, and all traffic control associated with the crossovers. Maintain crossovers in a manner that will provide the traveling public with a safe and smooth riding surface to the satisfaction of the Project Manager.

3) Remove crossover upon completion of construction activities. If the existing concrete barrier rail is not three loop, replace with new three loop concrete median barrier rail. Remove temporary impact attenuators and all temporary striping and traffic control devices. Obliterate any conflicting pavement markings.

B. Measurement and Payment. Payment for Crossover-Median Barrier Rail will be for each Temporary Closed Median Crossover, with the exception of the new three loop concrete barrier rail. This includes materials, labor, equipment and all costs necessary to construct, sign, maintain, and remove the crossovers. The new three loop concrete barrier will be paid for as Concrete Barrier Rail per each.

~~55. GROOVING FOR PAVEMENT MARKINGS~~

~~A. Description. The work consists of grooving concrete surfacing to provide inlaid pavement markings.~~

~~B. Material. Reserved.~~

~~C. Construction.~~

~~1) Grooving. Furnish a self-propelled grooving machine equipped with stacked diamond cutting blades to perform the work. Furnish a machine that is capable of providing uniform depth and alignment. Do not use grinder type heads. Use equipment that leaves the groove clean, dry and ready for pavement marking application. Ensure the bottom of the groove is smooth and does not contain ridges between the blades. Provide a grooved area 1-inch (25 mm) +/- 1/8-inch (3 mm) wider and 4 inches (100 mm) +/- 1-ince (25 mm) longer than the designed pavement marking within the groove. Furnish a groove depth of 140 mils +/- 10 mils. Ensure groove placement/alignment allows the pavement markings to be placed entirely in the bottom of the groove in accordance with the alignment stated in the contract. Grooves for letter and symbols shall be cut in a square or rectangular shape so that the entire marking will fit within the limits of the grooved area. Immediately prior to the application of the pavement marking material, the groove shall be cleaned with high pressure air blast.~~

~~2) Pavement Marking Application. Within the grooved area, furnish markings in accordance with the contract. Center the markings within the grooved area. Complete marking application the same day as grooving. If marking cannot be completed in their entirety the same day, furnish traffic control in accordance with Section 618 at Contractor expense. Apply pavement markings in accordance with Section 620.~~

~~D. Method of Measurement and Basis of Payment. Pavement markings will be measured and paid for in accordance with Section 620. Stripe grooving will be measured by the linear foot of striping on the roadway. Payment for stripe grooving is by the linear foot. The maximum linear feet of stripe grooving paid will be the same as the linear feet of striping applied with the grooving.~~

56. REVEGETATION

A. Description. This work consists of providing the necessary equipment and materials to accomplish revegetation of all areas disturbed by construction activities, and/or as directed by the project manager.

B. Materials.

1) Mulch. Furnish wood fiber hydro mulch from the Department's QPL that contains tackifier.

2) Furnish the following seed mix. Use substitute species only if the recommended species is not available and substitution is approved by MDT's reclamation specialist.

Reclamation Seed Mixture			Drill Seeding Rate		
Scientific Name	Common Name	Variety	PLS / sq. ft.	% of Mix	Pounds PLS/ acre
Elymus trachycaulus	Slender wheatgrass	Pryor	6	9	2.0
Elymus canadensis	Canada wildrye	VNS	21	30	8.0
Bromus marginatus	Mountain brome	Bromar or Garnet	15	21	8.0
Deschampsia cespitosa	Tufted hairgrass	Peru Creek or Nortran	28	40	0.5
		GRAND TOTAL	70	100	18.5

C. Construction Requirements.

1) Salvage sufficient quantities of topsoil to place 4 inches over disturbed areas where available. Immediately following topsoil placement, condition and drill seed with the seed mix and equivalent rates.

2) Drill Seed in accordance with Subsection 610.03.2

3) Areas that are too steep, narrow or otherwise inaccessible to drill seeding equipment can be dry broadcast seeded at double the drill seeding rates. Following broadcast seeding, scarify the areas to incorporate the seed into the upper ¼ to ½ inch of soil.

4) Apply hydraulic mulch following broadcast seeding in accordance with 610.03.02F on disturbed slopes 3:1 or steeper. Do not apply hydraulic mulch on rock slopes.

D. Method of Measurement and Basis of Payment. Topsoil salvage, replacement, seeding and mulch are paid for per item as shown in the plans.

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.

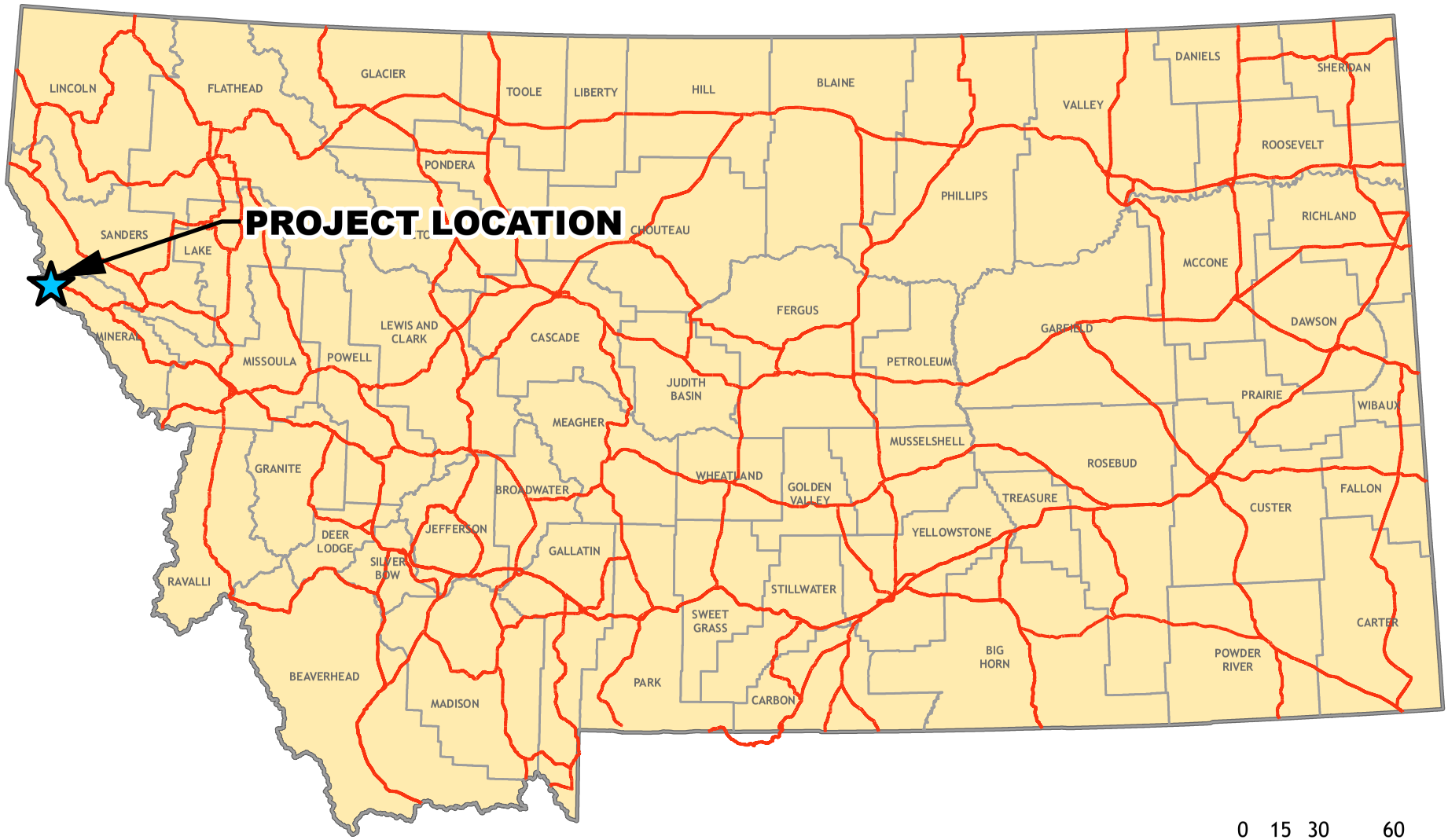
(8) Incorporation of Provisions: The PARTY will include the provisions of paragraph one through seven in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and/or directives issued pursuant thereto. The PARTY will take action with 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.

SECTION II

FEDERAL AID PROJECT IM-NHFP 90-1(228)3
GRADING, GRAVEL, PCCP SURF, DRAINAGE
TAFT - WEST
CONTROL NUMBER 9487000
PROJECT LOCATION STATE MAP - MONTANA

MONTANA
Department of Transportation

N



Page 1 of 2

AWARD COPY

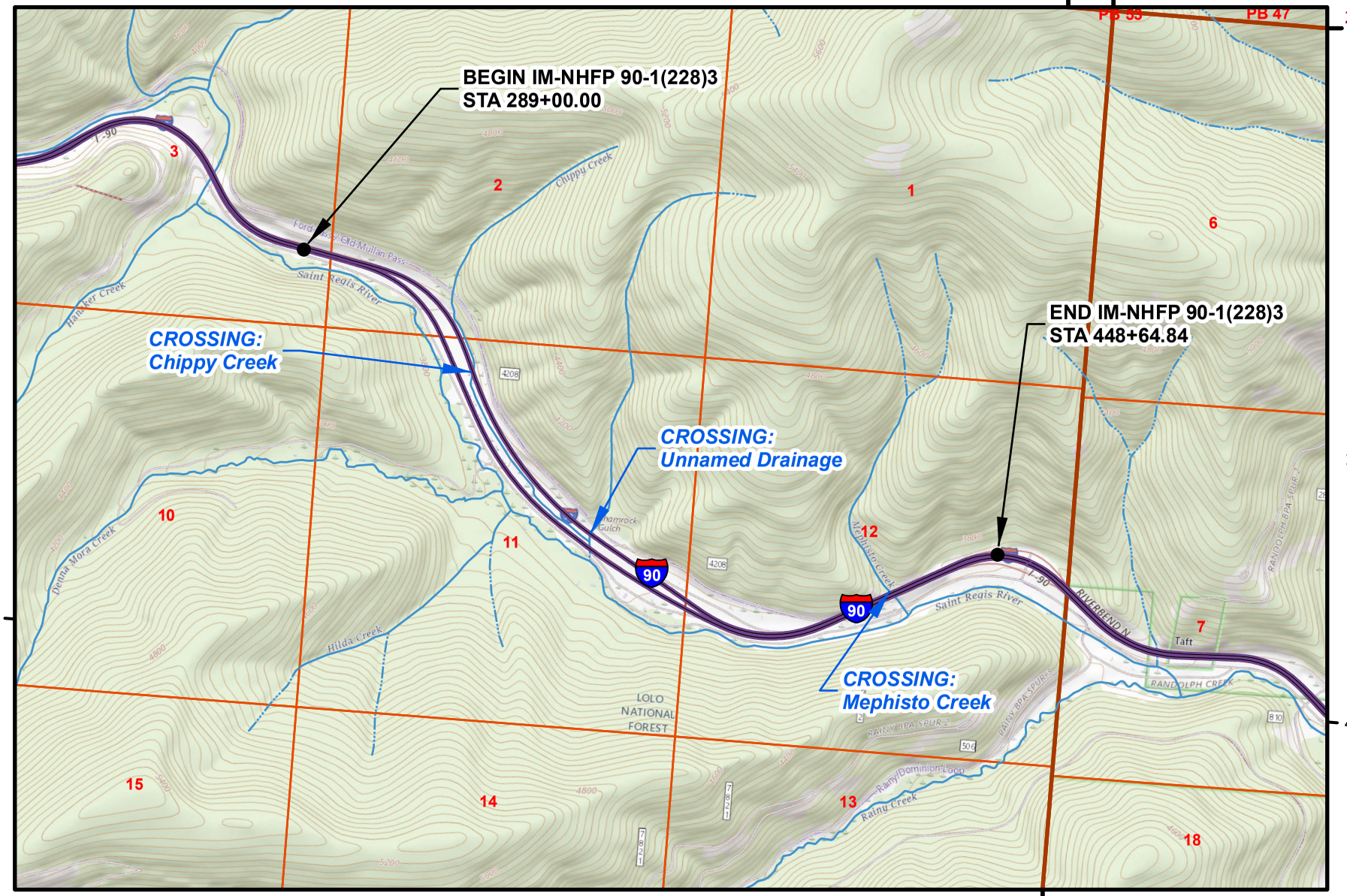
FEDERAL AID PROJECT IM-NHFP 90-1(228)3
GRADING, GRAVEL, PCCP SURF, DRAINAGE
TAFT - WEST
CONTROL NUMBER 9487000
PROJECT LOCATION QUAD MAP - MINERAL COUNTY

MONTANA
Department of Transportation

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0 500 1,000 2,000
Feet

SECTION II



Page 2 of 2

AWARD COPY

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project: ES MDT Taft I-90

Project Number: 220-281

Legend for Symbols Used on Borehole Logs

Sample Types


Standard Penetration Test (ASTM D1586)

Drilling Methods


CORING


HOLLOW-STEM AUGER

Lithology Symbols

(see Boring Logs for complete descriptions)


Fill


Asphalt


Concrete


Fill


Fill with Gravel as major soil


Fill with Sand as major soil

Lab Test Standards

Moisture Content	ASTM D2216
Dry Density	ASTM D7263
Sand/Fines Content	ASTM D421, ASTM C136, ASTM D1140
Atterberg Limits	ASTM D4318
AASHTO Class.	AASHTO M145, ASTM D3282
USCS Class.	ASTM D2487

(Fines = % Passing #200 Sieve
Sand = % Passing #4 Sieve, but not passing #200 Sieve)

Other Lab Test Abbreviations

pH	Soil pH (AASHTO T289-91)
S	Water-Soluble Sulfate Content (AASHTO T290-91, ASTM D4327)
Chl	Water-Soluble Chloride Content (AASHTO T291-91, ASTM D4327)
S/C	Swell/Collapse (ASTM D4546)
UCCS	Unconfined Compressive Strength (Soil - ASTM D2166, Rock - ASTM D7012)
R-Value	Resistance R-Value (ASTM D2844)
DS (C)	Direct Shear cohesion (ASTM D3080)
DS (phi)	Direct Shear friction angle (ASTM D3080)
Re	Electrical Resistivity (AASHTO T288-91)
PtL	Point Load Strength Index (ASTM D5731)

Notes

1. Visual classifications are in general accordance with ASTM D2488, "Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)".
2. "Penetration Resistance" on the Boring Logs refers to the uncorrected N value for SPT samples only, as per ASTM D1586. For samples obtained with a Modified California (MC) sampler, drive depth is 12 inches, and "Penetration Resistance" refers to the sum of all blows. Where blow counts were > 50 for the 3rd increment (SPT) or 2nd increment (MC), "Penetration Resistance" combines the last and 2nd-to-last blows and lengths; for other increments with > 50 blows, the blows for the last increment are reported.
3. The Modified California sampler used to obtain samples is a 2.5-inch OD, 2.0-inch ID (1.95-inch ID with liners), split-barrel sampler with internal liners, as per ASTM D3550. Sampler is driven with a 140-pound hammer, dropped 30 inches per blow.
4. "ER" for the hammer is the Reported Calibrated Energy Transfer Ratio for that specific hammer, as provided by the drilling company.

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-101**

Boring Began: 8/25/2022
Boring Completed: 8/25/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 9.4 ft
Ground Elevation:
Coordinates: Lat: 47.456047 Long: -115.695333
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 55°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.9 ft. ASPHALT (11 inches).									
							0.9 - 1.0 ft. Base Course (1 inches) **(Fill)**.									
				12-17-22	39		**1.0 - 9.4 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, brown, reddish brown with white, gray, moist to dry, dense to very dense, angular.	*6.1*		25.4	38.8	35.8	*25*	*5*	*A-4 (0) SC-SM*	
	5			9-18-24	42											
				50:5	50:5											**6.5 ft** - gravel and cobbles in silty sand matrix to bottom of hole

Bottom of Hole at 9.4 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-102**

Boring Began: 8/23/2022
Boring Completed: 8/23/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 11.0 ft
Ground Elevation:
Coordinates: Lat: 47.453656 Long: -115.694489
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 80°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.6 ft. ASPHALT (7 inches).									
							0.6 - 1.3 ft. CONCRETE (8 inches), deteriorated.									
							1.3 - 11.0 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill), brown, yellowish brown with gray, dark gray, moist, dense to very dense.									
				13-16-14	30			*3.3*		43.2	42.1	14.7	*25*	*5*	*A-1-a (0) GC-GM*	S=0.009% Chl=0.0152%
	5			7-32-31	63											
																7.0 ft - cobbles for approx. 1 ft; gray, dark-gray, moderately weathered, hard
	10			15-17-19	36											

Bottom of Hole at 11.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-103**

Boring Began: 8/25/2022
Boring Completed: 8/25/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 9.2 ft
Ground Elevation:
Coordinates: Lat: 47.450958 Long: -115.693814
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 65°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7.5 inches) **(Fill)**.									
							1.8 - 9.2 ft. Clayey GRAVEL with sand (GC) (Fill), brown, tan, rust and gray, white, dry, very dense.									
				10-37-32	69			*3.1*		51.6	27.5	20.9	*29*	*9*	*A-2-4 (0) GC*	
	5			10-15-50:3	65:9											**5.9 ft** - gravel and cobbles in silty sand matrix to bottom of hole
				50:2	50:2											

Bottom of Hole at 9.2 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-104**

Boring Began: 8/23/2022
Boring Completed: 8/23/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 5.9 ft
Ground Elevation:
Coordinates: Lat: 47.448239 Long: -115.693711
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Drizzle, 80°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.3 ft. CONCRETE (9 inches).									
							1.3 - 1.8 ft. Asphalt Treated Base (6 inches) **(Fill)**.									
				35-22-13	35		**1.8 - 5.9 ft. Well-graded SAND with silt and gravel (SW-SM) (Fill)**, brown, gray, tan, dry, dense to very dense.	*2.4*		31.8	57.4	10.8	*24*	*3*	*A-1-a (0) SW-SM*	
	5			26-29-50:5	79:11											**5.5 ft** - cobbles to bottom of hole; gray, light gray, moderately weathered, hard.
							Bottom of Hole at 5.9 ft.									

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Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-105**

Boring Began: 8/25/2022
Boring Completed: 8/25/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.445633 Long: -115.692294
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (5 inches).									
							0.4 - 1.1 ft. CONCRETE (8.5 inches).									
							1.1 - 1.7 ft. Asphalt Treated Base (6.5 inches) **(Fill)**.									
							1.7 - 6.0 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill), brown, reddish brown with gray, olive-gray, dry, dense to medium dense, subangular.									
				6-15-31	46			*4.2*		42.7	33.7	23.6	*27*	*7*	*A-2-4 (0) GC-GM*	
	5			23-14-9	23											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-106**

Boring Began: 8/24/2022
Boring Completed: 8/24/2022
Drilling Method(s): Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.443133 Long: -115.690508
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									**0.0 ft** - augered through pavement - no pavement core sample
							0.5 - 1.3 ft. CONCRETE (9 inches).									
							1.3 - 1.8 ft. Asphalt Treated Base (6 inches) **(Fill)**.									
				8-11-25	36		**1.8 - 6.0 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill)**, brown, reddish brown to dark brown, black, gray, dry, dense, subrounded to subangular.	*5.2*		40.1	35.7	24.2	*28*	*7*	*A-2-4 (0) GC-GM*	S=0.006% Chl=0.0152%
	5			19-14-26	40											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-107**

Boring Began: 8/25/2022
Boring Completed: 8/25/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.441303 Long: -115.687547
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (9 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7.5 inches) **(Fill)**.									
				14-21-50:5	71:11		**1.8 - 6.0 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill)**, brown, tan, rust with gray, white, dry, very dense to medium dense.	*4.9*		34.8	34.2	31.0	*25*	*5*	*A-2-4 (0) GC-GM*	
	5			26-7-18	25											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-108**

Boring Began: 8/24/2022
Boring Completed: 8/24/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.437628 Long: -115.681664
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (9 inches).									
							1.2 - 1.7 ft. Asphalt Treated Base (6 inches) **(Fill)**.									
				25-50:5	50:5		**1.7 - 6.0 ft. Poorly graded SAND with silt and gravel (SP-SM) (Fill)**, brown and dark gray-brown, light gray, moist, very dense to dense.	*3.9*		25.1	64.1	10.8	*NV*	*NP*	*A-1-b (0) SP-SM*	
5				30-14-32	46											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-109**

Boring Began: 8/25/2022
Boring Completed: 8/25/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.4361 Long: -115.678319
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 75°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (6.5 inches) **(Fill)**.									
				12-24-35	59		**1.8 - 6.0 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill)**, brown, gray, olive, rust, dry, very dense, subangular.	*1.8*		52.9	35.0	12.1	*25*	*5*	*A-1-a (0) GC-GM*	
	5			14-24-34	58											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-110**

Boring Began: 8/24/2022
Boring Completed: 8/24/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.434825 Long: -115.674725
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (5.25 inches).									
							0.4 - 1.3 ft. CONCRETE (10.75 inches).									
							1.3 - 1.6 ft. Base Course (3 inches) **(Fill)**.									
							1.6 - 6.0 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill), and cobbles, gray - brown, wet, very dense to dense, subrounded to subangular.									
				13-35-26	61			*5.8*		70.0	17.6	12.4	*26*	*6*	*A-1-a (0) GC-GM*	
	5			17-16-18	34											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-111**

Boring Began: 8/26/2022
Boring Completed: 8/26/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.433708 Long: -115.671022
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.1 ft. CONCRETE (7.5 inches).									
							1.1 - 1.9 ft. Asphalt Treated Base (10 inches) **(Fill)**.									
				11-27-50:4	77:10		**1.9 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, brown, light brown with gray, light gray, dry, very dense to dense, angular.	*3.3*		40.8	42.9	16.3	*25*	*4*	*A-1-b (0) SC-SM*	
	5			21-15-18	33											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-112**

Boring Began: 8/24/2022
Boring Completed: 8/24/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.433669 Long: -115.666969
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Rain, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (9 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7.5 inches) **(Fill)**.									
				14-18-21	39		**1.8 - 6.0 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill)**, brown, light brown, moist, dense to medium dense.	*3.4*		42.0	38.5	19.5	*26*	*7*	*A-2-4 (0) GC-GM*	
5				13-7-7	14											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-113**

Boring Began: 8/26/2022
Boring Completed: 8/26/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.434283 Long: -115.663319
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.2 ft. CONCRETE (8 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (8 inches) **(Fill)**.									
							1.8 - 2.0 ft. Base Course (2 inches) **(Fill)**.	2.6		35.6	49.7	14.7	NV	NP	*A-1-a (0) SM*	
				28-24-29	53		**2.0 - 6.0 ft. Silty SAND with gravel (SM) (Fill)**, brown, gray, tan with white, gray, dry, very dense to dense, angular.									
	5			13-11-21	32											

Bottom of Hole at 6.0 ft.

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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-114**

Boring Began: 8/24/2022
Boring Completed: 8/24/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 3.9 ft
Ground Elevation:
Coordinates: Lat: 47.435731 Long: -115.659675
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 68°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									**0.0 ft** - no pavement core sample
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (8 inches) **(Fill)**.									
				25-27-26	53		**1.8 - 3.9 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, brown and gray + white, dry, dense to very dense.	*4.4*		35.4	40.5	24.1	*26*	*6*	*A-1-b (0) SC-SM*	**2.8 ft** - gravel and cobbles with depth
				50:1	50:1		Bottom of Hole at 3.9 ft.									**3.8 ft** - auger refusal

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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-115**

Boring Began: 8/26/2022
Boring Completed: 8/26/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 4.4 ft
Ground Elevation:
Coordinates: Lat: 47.435492 Long: -115.655822
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 65°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (9 inches).									
							1.2 - 2.0 ft. Asphalt Treated Base (9.5 inches) **(Fill)**.									
		X		50:5	50:5		**2.0 - 4.4 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, brown and gray, light gray, dry, very dense, subangular to angular.	*1.6*		26.6	58.8	14.6	*22*	*4*	*A-1-b (0) SC-SM*	**2.2 ft** - cobbles with depth
		X		50:5	50:5											

Bottom of Hole at 4.4 ft.

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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-116**

Boring Began: 8/24/2022
Boring Completed: 8/24/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.433297 Long: -115.653369
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.3 ft. CONCRETE (10 inches).									
							1.3 - 2.0 ft. Asphalt Treated Base (8 inches) **(Fill)**.									
				10-16-21	37		**2.0 - 6.0 ft. Clayey GRAVEL with sand (GC) (Fill)**, brown, light brown with gray, dark gray, dry, dense to very dense, subangular to angular.	*3.6*		48.9	32.1	19.0	*28*	*8*	*A-2-4 (0) GC*	
	5			10-21-32	53											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-117**

Boring Began: 8/26/2022
Boring Completed: 8/26/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.431811 Long: -115.650114
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (8 inches) **(Fill)**.									
				20-35-26	61		**1.8 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, black, dark brown with blue-gray, dry, very dense to medium dense.	*3.4*		34.6	49.5	15.9	*24*	*4*	*A-1-b (0) SC-SM*	
	5			21-14-15	29											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-118**

Boring Began: 8/26/2022
Boring Completed: 8/26/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.431219 Long: -115.646136
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				14-10-9	19		**1.8 - 6.0 ft. Silty GRAVEL with sand (GM) (Fill)**, brown, dark brown, black, tan, gray, dry, medium dense to dense, angular.	*4.0*		43.9	40.2	15.9	*26*	*4*	*A-1-b (0) GM*	S=0.008% Chl=0.0145%
	5			28-20-19	39											

Bottom of Hole at 6.0 ft.

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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-119**

Boring Began: 8/26/2022
Boring Completed: 8/26/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.430289 Long: -115.642383
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				21-29-23	52		**1.8 - 6.0 ft. Silty SAND with gravel (SM) (Fill)**, and minor cobbles, brown, reddish brown with gray, dark gray, dry, very dense to dense, subangular to angular.	*2.7*		42.5	43.5	14.0	*23*	*3*	*A-1-a (0) SM*	
	5			7-10-34	44											

Bottom of Hole at 6.0 ft.

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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-120**

Boring Began: 8/26/2022
Boring Completed: 8/26/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.428081 Long: -115.640033
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 65°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.1 ft. CONCRETE (8 inches).									
							1.1 - 1.8 ft. Asphalt Treated Base (8 inches) **(Fill)**.									
				12-11-9	20		**1.8 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, brown, tan, rust with gray, dry to moist, medium dense.	*6.0*		22.7	50.8	26.5	*25*	*4*	*A-2-4 (0) SC-SM*	
	5			8-8-6	14											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-121**

Boring Began: 8/26/2022
Boring Completed: 8/26/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.425672 Long: -115.638075
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 75°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (4.5 inches).									
							0.4 - 1.2 ft. CONCRETE (9.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				12-12-12	24		**1.8 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, brown, dark brown, gray and brown, reddish-brown, gray, dry, medium dense to very dense.	*3.5*		39.2	41.6	19.2	*26*	*5*	*A-1-b (0) SC-SM*	
	5			23-29-26	55											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-122**

Boring Began: 8/26/2022
Boring Completed: 8/26/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.423411 Long: -115.635783
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				12-14-10	24		**1.8 - 6.0 ft. Silty SAND with gravel (SM) (Fill)**, brown, reddish-brown, gray, dry, medium dense, angular.	*3.6*		37.9	43.5	18.6	*25*	*3*	*A-1-b (0) SM*	S=0.012% Chl=0.0108%
	5			11-7-8	15											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-123**

Boring Began: 8/27/2022
Boring Completed: 8/27/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.421694 Long: -115.632647
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (9.25 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7.5 inches) **(Fill)**.									
				23-34-42	76		**1.8 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, brown, dark brown with gray, dry to moist, very dense to loose.	*2.6*		37.3	47.4	15.3	*25*	*4*	*A-1-a (0) SC-SM*	
	5			11-5-4	9											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-124**

Boring Began: 8/27/2022
Boring Completed: 8/27/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 11.0 ft
Ground Elevation:
Coordinates: Lat: 47.420261 Long: -115.629256
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 55°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (9 inches).									
							1.2 - 1.7 ft. Asphalt Treated Base (6 inches) **(Fill)**.									
							1.7 - 11.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill), and minor cobbles, brown, dark brown with gray, white, dry, very dense to dense, angular.									
				31-28-38	66			*3.1*		34.7	49.4	15.9	*24*	*5*	*A-1-b (0) SC-SM*	
	5			9-23-31	54											
	10			9-24-22	46											

Bottom of Hole at 11.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-125**

Boring Began: 8/27/2022
Boring Completed: 8/27/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 11.0 ft
Ground Elevation:
Coordinates: Lat: 47.419086 Long: -115.625606
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.1 ft. CONCRETE (7.5 inches).									
							1.1 - 1.8 ft. Asphalt Treated Base (9 inches) **(Fill)**.									
				21-33-50:5	83:11		**1.8 - 11.0 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill)**, and minor cobbles, brown, light brown, reddish-brown with gray, white, dry to moist, very dense to medium dense, angular.	*2.6*		46.4	38.7	14.9	*25*	*5*	*A-1-a (0) GC-GM*	
5				10-14-35	49											
10				14-15-8	23											

Bottom of Hole at 11.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-126**

Boring Began: 8/27/2022
Boring Completed: 8/27/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 11.0 ft
Ground Elevation:
Coordinates: Lat: 47.418192 Long: -115.6216
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.9 ft. Asphalt Treated Base (9 inches) **(Fill)**.									
				25-43-31	74		**1.9 - 11.0 ft. Silty GRAVEL with sand (GM)**, and minor cobbles, brown, light brown, reddish-brown with gray, dry, very dense to dense.	2.7		45.0	38.5	16.5	26	4	*A-1-b (0) GM*	S=0.011% Chl=0.0145%
	5			18-24-18	42											
	10			47-18-16	34											

Bottom of Hole at 11.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-127**

Boring Began: 8/27/2022
Boring Completed: 8/27/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 2.7 ft
Ground Elevation:
Coordinates: Lat: 47.418861 Long: -115.617794
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.8 ft. ASPHALT (9 inches).									
				20-35-50:5	85:11		**0.8 - 2.7 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill)**, and cobbles, gray + white, dry, very dense, angular.	*3.7*		50.3	35.1	14.6	*25*	*4*	*A-1-a (0) GC-GM*	
				50:0	50:0		Bottom of Hole at 2.7 ft.									**2.7 ft** - auger refusal

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **EB-128**

Boring Began: 8/27/2022
Boring Completed: 8/27/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.421433 Long: -115.610642
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.1 ft. CONCRETE (7.5 inches).									
							1.1 - 1.9 ft. Asphalt Treated Base (9.5 inches) **(Fill)**.									
				6-9-17	26		**1.9 - 6.0 ft. Silty SAND with gravel (SM) (Fill)**, brown, reddish brown with gray, dark gray, dry, medium dense.	*5.8*		28.6	48.2	23.2	*26*	*4*	*A-1-b (0) SM*	
5				13-14-11	25											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-101**

Boring Began: 8/28/2022
Boring Completed: 8/28/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.420886 Long: -115.612431
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.3 ft. CONCRETE (10 inches).									
							1.3 - 1.9 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				13-29-20	49		**1.9 - 6.0 ft. Silty, clayey GRAVEL with sand (GC-GM)**, and minor cobbles, brown, reddish brown with gray + white, dry, dense to medium dense.	*4.3*		46.5	39.1	14.4	*24*	*4*	*A-1-a (0) GC-GM*	S=0.018% Chl=0.0145% Re=1950ohm·cm
	5			8-8-8	16											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-102**

Boring Began: 8/27/2022
Boring Completed: 8/27/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 3.2 ft
Ground Elevation:
Coordinates: Lat: 47.419606 Long: -115.616039
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.8 ft. ASPHALT (9.5 inches).									
				17-26-35	61		**0.8 - 3.2 ft. Silty SAND with gravel (SM) (Fill)**, light brown, brown, white, gray with gray, dark gray, dry, very dense, angular.	*4.1*		34.0	48.7	17.3	*25*	*5*	*A-1-b (0) SC-SM*	
				50:0	50:0		Bottom of Hole at 3.2 ft.									**3.2 ft** - auger refusal, cobbles

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Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-103**

Boring Began: 8/28/2022
Boring Completed: 8/28/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 11.0 ft
Ground Elevation:
Coordinates: Lat: 47.418397 Long: -115.619722
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 65°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels: Not Observed

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.7 ft. Asphalt Treated Base (6 inches) **(Fill)**.									
							1.7 - 11.0 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill), and minor cobbles, brown, light brown with gray + white, dry, very dense to dense, angular.									
				23-50:5	50:5			*4.3*		44.0	35.0	21.0	*25*	*6*	*A-1-b (0) GC-GM*	
	5			23-36-31	67											
	10			23-21-27	48											

Bottom of Hole at 11.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-104**

Boring Began: 8/27/2022
Boring Completed: 8/27/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 11.0 ft
Ground Elevation:
Coordinates: Lat: 47.418661 Long: -115.623681
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Cloudy, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol	▽		
Depth	9.5 ft	-	-
Date	8/27/22	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (5.25 inches).									
							0.4 - 1.1 ft. CONCRETE (8.5 inches).									
							1.1 - 1.6 ft. Asphalt Treated Base (6 inches) **(Fill)**.									
				16-25-31	56		**1.6 - 11.0 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill)**, and minor cobbles, brown, light brown with gray + white, dry to wet, very dense to medium dense.	*1.7*		56.4	33.5	10.1	*24*	*5*	*A-1-a (0) GP-GC*	
	5			9-17-26	43											
▽	10			3-7-9	16											**9.5 ft** - possibly surface water or runoff

Bottom of Hole at 11.0 ft.

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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-105**

Boring Began: 8/28/2022
Boring Completed: 8/28/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 11.0 ft
Ground Elevation:
Coordinates: Lat: 47.419803 Long: -115.626861
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (5.25 inches).									
							0.4 - 1.2 ft. CONCRETE (9.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				12-40-50:4	90:10		**1.8 - 11.0 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill)**, and minor cobbles, brown with gray + white, dry to moist, very dense to dense.	*3.9*		41.7	40.9	17.4	*25*	*4*	*A-1-b (0) GC-GM*	S=0.013% Chl=0.00985% Re=2450ohm·cm
	5			15-22-16	38											
	10			25-17-20	37											

Bottom of Hole at 11.0 ft.

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Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-106**

Boring Began: 8/28/2022
Boring Completed: 8/28/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.421389 Long: -115.630731
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 45°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.1 ft. CONCRETE (7.5 inches).									
							1.1 - 1.8 ft. Asphalt Treated Base (8 inches) **(Fill)**.									
				15-24-23	47		**1.8 - 6.0 ft. Silty SAND with gravel (SM) (Fill)**, and minor cobbles, brown, dark brown, light gray, reddish brown with gray + white, moist to dry, dense to medium dense, subangular to angular.	*5.1*		37.0	44.8	18.2	*NV*	*NP*	*A-1-b (0) SM*	
	5			17-15-16	31											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-107**

Boring Began: 8/28/2022
Boring Completed: 8/28/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.422961 Long: -115.634025
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (8 inches) **(Fill)**.									
				16-20-21	41		**1.8 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, and cobbles, tan-brown with gray + white, dry, dense to very dense, angular.	*3.5*		41.8	42.8	15.4	*24*	*4*	*A-1-a (0) SC-SM*	
5				38-45-50:6	95:12											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-108**

Boring Began: 8/28/2022
Boring Completed: 8/28/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.425019 Long: -115.636603
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 45°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (5.25 inches).									
							0.4 - 1.1 ft. CONCRETE (8.5 inches).									
							1.1 - 2.0 ft. Asphalt Treated Base (10 inches) **(Fill)**.									
				10-14-15	29		**2.0 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, and minor cobbles, brown, reddish brown with gray + white, dry, medium dense, subangular to angular.	*5.7*		29.7	45.9	24.4	*24*	*4*	*A-1-b (0) SC-SM*	
	5			18-13-8	21											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-109**

Boring Began: 8/28/2022
Boring Completed: 8/28/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.427406 Long: -115.638639
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.1 ft. CONCRETE (8 inches).									
							1.1 - 2.0 ft. Asphalt Treated Base (10 inches) **(Fill)**.									
				12-17-19	36		**2.0 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, and minor cobbles, brown, dark brown, light gray, reddish brown with gray + white, dry, dense.	*5.2*		34.1	45.1	20.8	*25*	*5*	*A-1-b (0) SC-SM*	S=0.013% Chl=0.0125% Re=2210ohm·cm
	5			13-19-19	38											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-110**

Boring Began: 8/28/2022
Boring Completed: 8/28/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.429797 Long: -115.640597
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 50°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7.5 inches) **(Fill)**.									
				16-25-50:4	75:10		**1.8 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, and minor cobbles, dark brown, light brown, reddish brown with gray + white, dry, very dense to dense, subangular to angular.	*5.6*		28.0	49.5	22.5	*25*	*4*	*A-1-b (0) SC-SM*	
	5			33-27-21	48											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-111**

Boring Began: 8/28/2022
Boring Completed: 8/28/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.431097 Long: -115.644481
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (9 inches).									
							1.2 - 1.9 ft. Asphalt Treated Base (8 inches) **(Fill)**.									
				24-38-41	79		**1.9 - 6.0 ft. Well-graded SAND with silt and gravel (SW-SM) (Fill)**, and cobbles, brown, dark brown with gray + white, dry, very dense.	*3.1*		43.8	45.0	11.2	*NV*	*NP*	*A-1-a (0) SW-SM*	
	5			31-34-36	70											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-112**

Boring Began: 8/28/2022
Boring Completed: 8/28/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.431611 Long: -115.647975
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 55°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (5 inches).									
							0.4 - 1.2 ft. CONCRETE (9.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				19-17-16	33		**1.8 - 6.0 ft. Well-graded GRAVEL with silt and sand (GW-GM) (Fill)**, and minor cobbles, light brown-brown with gray + white, dry to moist, dense, angular.	*2.8*		45.1	43.7	11.2	*NV*	*NP*	*A-1-a (0) GW-GM*	
	5			13-18-12	30											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-113**

Boring Began: 8/30/2022
Boring Completed: 8/30/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.432358 Long: -115.651847
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 85°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6.5 inches).									
							0.5 - 1.3 ft. CONCRETE (8.5 inches).									
							1.3 - 1.9 ft. Asphalt Treated Base (8 inches) **(Fill)**.									
				30-31-38	69		**1.9 - 6.0 ft. Silty SAND with gravel (SM) (Fill)**, and minor cobbles, brown, light brown to gray, olive-gray, dry, very dense to dense.	*2.0*		40.8	44.5	14.7	*24*	*3*	*A-1-a (0) SM*	S=0.018% Chl=0.0136% Re=1520ohm·cm
	5			13-13-22	35											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-114**

Boring Began: 8/29/2022
Boring Completed: 8/29/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 4.4 ft
Ground Elevation:
Coordinates: Lat: 47.434572 Long: -115.654289
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 85°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (5 inches).									
							0.4 - 1.2 ft. CONCRETE (9.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (6.5 inches) **(Fill)**.									
				20-47-50:5	97:11		**1.8 - 4.4 ft. Well-graded SAND with silt and gravel (SW-SM) (Fill)**, brown, brownish yellow with gray, dry, dense.	*2.0*		36.6	51.2	12.2	*23*	*3*	*A-1-a (0) SM*	**3.0 ft** - gravel/cobbles with minor silty sand to bottom of hole; gray, white and blue-gray rock fragments
				50:5	50:5											

Bottom of Hole at 4.4 ft.

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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-115**

Boring Began: 8/30/2022
Boring Completed: 8/30/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.435992 Long: -115.657719
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 80°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.2 ft. CONCRETE (8 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				18-19-22	41		**1.8 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, brown, light brown, reddish-brown with gray + white, dry, dense, angular.	*3.2*		33.7	49.7	16.6	*24*	*4*	*A-1-b (0) SC-SM*	
	5			20-21-21	42											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-116**

Boring Began: 8/29/2022
Boring Completed: 8/29/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 5.8 ft
Ground Elevation:
Coordinates: Lat: 47.435167 Long: -115.661517
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 80°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (5 inches).									
							0.4 - 1.1 ft. CONCRETE (8 inches).									
							1.1 - 1.7 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				20-50:6	50:6		**1.7 - 5.8 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, brown, light brown with gray + white, dry, very dense.	*3.1*		36.7	46.6	16.7	*25*	*4*	*A-1-b (0) SC-SM*	
	5			19-20-50:3	70:9											

Bottom of Hole at 5.8 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-117**

Boring Began: 8/30/2022
Boring Completed: 8/30/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.433997 Long: -115.665006
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 80°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.2 ft. CONCRETE (8.25 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				14-16-18	34		**1.8 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, brown with gray, dry, dense to medium dense.	*2.8*		30.8	50.2	19.0	*24*	*5*	*A-1-b (0) SC-SM*	
5				11-9-14	23											

Bottom of Hole at 6.0 ft.

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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-118**

Boring Began: 8/29/2022
Boring Completed: 8/29/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.433622 Long: -115.668981
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 80°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (4.5 inches).									
							0.4 - 1.0 ft. CONCRETE (7.5 inches).									
							1.0 - 1.8 ft. Asphalt Treated Base (9 inches) **(Fill)**.									
				25-35-34	69		**1.8 - 6.0 ft. Well-graded GRAVEL with silt and sand (GW-GM) (Fill)**, brown, light brown with gray + white, dry, very dense to medium dense, angular.	*2.5*		46.0	42.0	12.0	*26*	*5*	*A-1-a (0) GP-GC*	
5				18-13-11	24											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-119**

Boring Began: 8/30/2022
Boring Completed: 8/30/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.434247 Long: -115.672667
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 75°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.8 ft. ASPHALT (9 inches).									
				16-20-24	44		**0.8 - 0.8 ft. Base Course** (1 inches) **(Fill)**. **0.8 - 6.0 ft. Silty GRAVEL with sand (GM) (Fill)**, brown with gray + white, moist to dry, dense.	*0.7*		45.4	36.1	18.5	*22*	*3*	*A-1-b (0) GM*	
	5			32-32-16	48											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-120**

Boring Began: 8/29/2022
Boring Completed: 8/29/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.435567 Long: -115.676425
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 75°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (5 inches).									
							0.4 - 1.0 ft. CONCRETE (7.5 inches).									
							1.0 - 1.6 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				13-30-42	72		**1.6 - 6.0 ft. Silty GRAVEL with sand (GM) rock fragments (Fill)**, brown, light brown with gray + white, dry, very dense.	*3.3*		44.5	40.2	15.3	*NV*	*NP*	*A-1-a (0) GM*	
5				33-25-25	50											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-121**

Boring Began: 8/30/2022
Boring Completed: 8/30/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 3.7 ft
Ground Elevation:
Coordinates: Lat: 47.436831 Long: -115.679994
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.1 ft. CONCRETE (8 inches).									
							1.1 - 1.7 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				28-50:5	50:5		**1.7 - 3.7 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, dark brown, tan, gray, dry, very dense.	2.7		38.1	42.8	19.1	26	6	*A-1-b (0) SC-SM*	**2.4 ft** - gravel and cobbles in silty sand matrix to bottom of hole
				50:2	50:2											**3.5 ft** - auger refusal

Bottom of Hole at 3.7 ft.

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Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-122**

Boring Began: 8/29/2022
Boring Completed: 8/29/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.438694 Long: -115.682906
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 70°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.3 ft. ASPHALT (4 inches).									
							0.3 - 1.1 ft. CONCRETE (9.5 inches).									
							1.1 - 1.7 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
							1.7 - 6.0 ft. Silty GRAVEL with sand (GM) (Fill), brown, light brown with gray + white, dry, very dense.									
				35-38-22	60			2.2		51.3	33.7	15.0	27	4	*A-1-a (0) GM*	
	5			23-15-15	30											

Bottom of Hole at 6.0 ft.

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Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-123**

Boring Began: 8/30/2022
Boring Completed: 8/30/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 4.4 ft
Ground Elevation:
Coordinates: Lat: 47.4406 Long: -115.685817
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.2 ft. CONCRETE (8 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (8 inches) **(Fill)**.									
		X		50:5	50:5		**1.8 - 4.4 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, and minor cobbles, gray + white with yellowish brown, dry, very dense.	*3.1*		34.6	41.8	23.6	*26*	*6*	*A-1-b (0) SC-SM*	
		X		50:5	50:5											

Bottom of Hole at 4.4 ft.

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Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-124**

Boring Began: 8/29/2022
Boring Completed: 8/29/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.442208 Long: -115.689067
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 60°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.4 ft. ASPHALT (4.5 inches).									
							0.4 - 1.1 ft. CONCRETE (9 inches).									
							1.1 - 1.7 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				31-39-32	71		**1.7 - 6.0 ft. Silty SAND with gravel (SM) (Fill)**, brown, tan, rust with gray + white, dry, very dense to medium dense, angular.	*2.5*		50.5	35.8	13.7	*NV*	*NP*	*A-1-a (0) GM*	
	5			15-9-9	18											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-125**

Boring Began: 8/30/2022
Boring Completed: 8/30/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.444411 Long: -115.691375
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 55°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (6 inches).									
							0.5 - 1.1 ft. CONCRETE (7.25 inches).									
							1.1 - 1.6 ft. Asphalt Treated Base (6 inches) **(Fill)**.									
				16-13-12	25		**1.6 - 6.0 ft. Poorly graded GRAVEL with silt and sand (GP-GM) (Fill)**, brown, light brown with gray + white, dry, medium dense to loose.	*2.4*		58.8	30.2	11.0	*24*	*3*	*A-1-a (0) GP-GM*	S=0.014% Chl=0.01416% Re=1550ohm·cm
	5			6-5-3	8											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
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Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-126**

Boring Began: 8/29/2022
Boring Completed: 8/29/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 4.5 ft
Ground Elevation:
Coordinates: Lat: 47.446936 Long: -115.692989
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Sunny, 55°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:			
Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (9 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (7 inches) **(Fill)**.									
				18-26-30	56		**1.8 - 4.5 ft. Silty, clayey GRAVEL with sand (GC-GM) (Fill)**, brown, tan, gray with gray + white, dry, very dense, angular.	*3.4*		43.6	40.7	15.7	*24*	*4*	*A-1-b (0) GC-GM*	
				50:5	50:5											

Bottom of Hole at 4.5 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-127**

Boring Began: 8/30/2022
Boring Completed: 8/30/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 6.0 ft
Ground Elevation:
Coordinates: Lat: 47.449594 Long: -115.6937
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Clear, 55°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.2 ft. CONCRETE (8.5 inches).									
							1.2 - 1.8 ft. Asphalt Treated Base (8 inches) **(Fill)**.									
				15-20-19	39		**1.8 - 6.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill)**, brown, light brown, reddish-brown with gray + white, dry, dense to medium dense.	*8.4*		14.1	43.7	42.2	*27*	*7*	*A-4 (0) SC-SM*	
5				9-7-3	10											

Bottom of Hole at 6.0 ft.

01 BORING LOG 2021 - SPT CDOT STYLE I-90 TAFT FINAL PVMT.GPJ 2021 YEH COLORADO TEMPLATE.GDT 2021 YEH COLORADO LIBRARY.GLB 10/18/22

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

Project Name: ES MDT Taft I-90

Project Number: 220-281 *Boring No.:* **WB-128**

Boring Began: 8/29/2022
Boring Completed: 8/29/2022
Drilling Method(s): Coring, Hollow-Stem Auger
Driller: SK Geotechnical
Drill Rig: CME 75 Truck
Hammer: Automatic (hydraulic), ER: 88%

Total Depth: 11.0 ft
Ground Elevation:
Coordinates: Lat: 47.454872 Long: -115.694733
Location:
Logged By: K. Ross
Final By: K. Ross

Weather Notes: Clear, 45°F
Inclination from Horiz.: Vertical
Night Work: ☐

Groundwater Levels:

Symbol			
Depth	-	-	-
Date	-	-	-

Elevation (feet)	Depth (feet)	Sample Type/Depth	Drilling Method	Soil Samples: Blows per 6 in	Soil Samples: Penetration Resistance	Lithology	Material Description	Moisture Content (%)	Dry Density (pcf)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	Atterberg Limits: Liquid Limit	Atterberg Limits: Plasticity Index	AASHTO & USCS Classifications	Field Notes and Other Lab Tests
							0.0 - 0.5 ft. ASPHALT (5.5 inches).									
							0.5 - 1.1 ft. CONCRETE (7.5 inches).									
							1.1 - 1.7 ft. Asphalt Treated Base (7.5 inches) **(Fill)**.									
							1.7 - 11.0 ft. Silty, clayey SAND with gravel (SC-SM) (Fill), brown, dark brown, black, tan, gray and gray + white, dry to wet, very dense to medium dense, angular.									
				8-19-27	46			*4.3*		31.7	47.5	20.8	*26*	*5*	*A-1-b (0) SC-SM*	
	5			12-13-40	53											**6.5 ft** - gravel and cobbles for approx. 1.5 ft
	10			2-5-5	10											**9.0 ft** - no standing water in borehole, material wet in sampler

Bottom of Hole at 11.0 ft.

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STANDARD PROVISIONS INDEX

FEDERAL AID PROJECTS **CONTAINS**

Federal Wage Rates (Rev. 1-05-2024)..... 6 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: MT20240079 01/05/2024

Superseded General Decision Number: MT20230079

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 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 $17.20 per hour (or the applicable wage determination, if it is higher) for all hours spent performing on the contract in 2024.
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 $12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours performing on that contract in 2024.

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 http://www.dol.gov/whd/govcontracts .

Modification Number	Publication Date
0	01/05/2024

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

Pavement Marking/Milling and related work. Includes operating marking and all other equipment and all work involved in application of pavement markings including epoxies, paints, tape, buttons, thermo-plastics, and any other products applied for traffic marking purposes and for directing and regulating traffic and cutting rumble strips.

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) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four-letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which 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. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average

rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of 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. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write 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 by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) 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

4.) All decisions by the Administrative Review Board are final.

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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.