



COMMONWEALTH OF KENTUCKY
TRANSPORTATION CABINET

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Andy Beshear
GOVERNOR

Jim Gray
SECRETARY

January 14, 2020

CALL NO. 301
CONTRACT ID NO. 202038
ADDENDUM # 1

Subject: MCLEAN COUNTY, FD04 075 1412 004-005
Letting January 24, 2020

- (1) Revised - Special Notes for Slide Repair - Pages 10-15 of 55
- (2) Revised - Traffic Control Plan - Pages 23-25 of 55
- (3) Revised - Summary Sheet - Page 28 of 55
- (4) Revised - Detail Drawings - Pages 35-36 of 55
- (5) Revised - Proposal Bid Items - Page 55 of 55

Proposal revisions are available at <http://transportation.ky.gov/Construction-Procurement/>.

If you have any questions, please contact us at 502-564-3500.

Sincerely,

Rachel Mills, P.E.
Director
Division of Construction Procurement

RM:mr
Enclosures

SPECIAL NOTES FOR SLIDE REPAIR

I. DESCRIPTION

Except as provided herein, perform all work in accordance with the Department's 2019 Standard and supplemental Specifications, Special Provisions and Special Notes, and Standard and Sepia Drawings, current editions. Article references are to the Standard Specifications.

Perform the following work: (1) Maintain and Control Traffic; (2) Site Preparation and Erosion control; (3) Excavation; (4) Furnish and install Drilled Railroad Rails; (5) Furnish and install wall cribbing; (6) Place geotextile fabric and backfill the cribbed railroads rails; (7) Install new culvert pipe; (8) Reconstruct roadway (8) Staking; (9) Restoration and Final Dressing; and (10) All other work required by the contract.

II. MATERIALS

Except as provided herein or as directed by the Engineer, the Department will sample and test all materials in accordance with the Department's Sampling Manual. Make the materials available for sampling a sufficient time in advance of the use of the materials to allow for the necessary time for testing unless otherwise specified in these Notes.

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Erosion Control. See Erosion Control Plan.

C. Railroad Rails. Furnish new or recycled used railroad rails classified with a nominal weight of 136 lb/yd or greater. Use only visibly straight recycled railroad rails with no splices. The Engineer will verify rail nominal weights by manufacturer's stamp. Provide Certification for nominal weight if the manufacturer's stamp is unidentifiable.

D. Wall Cribbing. Furnish Steel "W" Beam Guardrail elements, new or used, for wall cribbing. Use only structurally sound, rust free, un-spliced, straight elements. The Engineer will use visual inspection to determine acceptability.

E. Backfill material for Drilled Sockets. Use the following for backfill material for drilled sockets: concrete; free flowing sand; pea gravel, crushed limestone, or crushed sandstone. Use backfill material with one hundred percent (100%) passing a one-half (1/2) inch sieve. Do not use auger tailings. The Engineer will use visual inspection and/or material testing, as applicable to determine acceptability.

F. Backfill for Crib Wall. Use Crushed Limestone Size No. 2 meeting the requirements of Section 805. The Engineer will use visual inspection and/or material testing, as applicable to determine acceptability.

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G. DGA. Furnish Dense Graded Aggregate (DGA). See Section 305. Do not use Crushed Stone Base in lieu of DGA.

H. Culvert Pipe. Furnish 18 inch culvert pipe, bedding, and backfill materials conforming to 701.02 and the Standard Drawings, except reinforced concrete pipe will not be allowed. Select pipe for minimum fill cover height and pH range medium.

I. Seeding and Protection. See Special Note for Erosion Control. Furnish Seed Mixture No. 1.

J. Geotextile Fabric. Furnish Geotextile Fabric Class 2 according to Section 843.

K. Guardrail. See Special Note for Guardrail.

III. CONSTRUCTION METHODS

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Staking. See Special Note for Staking,

C. Erosion Control. See Erosion Control Plan.

D. Site Preparation. Be responsible for all site preparation, including but not limited to, clearing and grubbing, excavation, embankment, and removal of all obstructions or any other items; regrading, reshaping, adding and compacting of suitable materials on the existing roadway and shoulders to provide proper template for surfacing; temporary pollution and erosion control; disposal, of excess and waste materials and debris; and final dressing, cleanup, and seeding and protection. The Department has not determined the area to be Cleared and Grubbed and the bidder must draw his own conclusions. Obtain the Engineer's approval of all site grading. Provide positive drainage upon completion of construction.

E. Drilled Railroad Rails. See summary for site locations and estimated quantities of materials required. Contrary to the attached tables and drawings for drilled railroad rails, install only one (1) row of railroad rails on three (3) foot centers. The depth to rock shown on the location summary and drawings is approximate only and the bidder must draw his own conclusions. Use a minimum length of 20 feet of rail in each socket.

THE DEPARTMENT WILL ALLOW ABSOLUTELY NO CHANGE IN SCOPE OF WORK OR INCREASE IN QUANTITIES WITHOUT PRIOR WRITTEN APPROVAL FROM THE TEBM (Transportation Engineering Branch Manager) FOR PROJECT DELIVERY AND PRESERVATION. THE DEPARTMENT

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WILL NOT BE LIABLE FOR PAYMENTS DUE TO UNAUTHORIZED ADDITIONAL WORK.

Install used railroad rail piling in drilled sockets in rock or stable material under the landslides (see figure 1) or the eroded areas (see figure 2) as project location dictates or as directed by the Engineer. Drill the socket and install the railroad rails into holes at slide locations. Drill sockets into solid rock, if possible. The Department will monitor each hole, which will serve as a sounding for the rail to be installed in it. Embed the railroad rail into solid rock no less than one-half the free end length of the rail (See figure 1 and figure 2). If solid rock cannot be obtained, the Engineer will determine the length of embedment required in other stable foundation. Allow adequate size of the drilled socket to allow free insertion of the railroad rail, but the maximum socket size is 1 foot in diameter.

After drilling each hole, immediately install railroad rail with the flanges positioned perpendicular to the direction of the landslide or break (see figure 3). Determine the length of rail needed to reestablish pavement and shoulder typical section. Cut off excess rail flush with the proposed ground line. Use cutoffs elsewhere in the project if possible; retain possession of unusable cutoffs.

After installing each railroad rail, immediately backfill the drilled hole with the approved materials. Shovel the backfill material into the hole in small amounts. Avoid bridging between the rail and the sides of the hole. Do not use auger tailings as backfill material.

If the Engineer determines double or triple rows are required, stagger the rows to obtain the required spacing. Keep the spacing between the rows of rails as close as is practical; do not space between the rows of more than two (2) feet, if possible. See figure 3 (Case II and Case III) for the diagrams showing two (2) or three (3) rows of rails. Select the spacing as per Table 1 for all rail. The Department shall approve the selection prior to work being performed.

F. Installation of Wall Cribbing. Crib any exposed portion of railroad rail before placing backfill. Install cribbing as shown on Figure 1 or Figure 2 or as directed by the Engineer. Extend wall cribbing 12 feet below the existing ground line. If bedded rock is encountered, install the cribbing to the bedded rock only. Install wall cribbing on the railroad rail piling. Lap, bolt or weld, and attach cribbing solid to the drilled railroad rails. The Engineer may direct changes to these procedures.

G. Excavation and Backfill. Excavate the repair area to provide a platform for drilling the used railroad rails. Excavate as necessary for slopes, ditches, shoulders, and drainage. Place geotextile geotextile fabric as directed by the Engineer, and then backfill behind cribbed railroad rails. Construct backfill up to approximately the existing shoulder elevation. Provide positive drainage upon completion of construction.

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H. Culvert Pipe. Construct 18 inch culvert pipe at a location above the slide area determined by the Engineer at the time of construction according to Section 701.03, with positive projection rather than end structures. The Department will not require wrapping joints with geotextile fabric. Provide positive drainage upon completion of construction.

I. Pavement and Shoulder Restoration. Restore pavement and shoulders by milling the existing asphalt pavement and constructing DGA, Asphalt Base, and Asphalt Surface as shown on the Typical Section and as directed by the Engineer. Provide positive drainage upon completion of construction.

J. Embankment Restoration. Do not use excavated spoil material from the site as fill material. Warp and tie slopes and ditches into adjacent undisturbed slopes and ditches. Provide positive drainage upon completion of construction.

K. Disposal of Waste. Dispose of all removed concrete, debris, and other waste and debris off the Right-of-Way at sites obtained by the Contractor at no additional cost to the Department. See Special Note for Waste and Borrow.

L. On-Site Inspection. Each Contractor submitting a bid for this work shall make a thorough inspection of the site prior to submitting his bid and shall thoroughly familiarize themselves with the existing conditions so that the work can be expeditiously performed after a contract is awarded. Submission of a bid will be considered evidence of this inspection having been made.

M. Right of Way Limits. The Department has not established exact limits of the Right-of-Way. Limit work activities to obvious Right-of-Way, permanent or temporary easements, and work areas secured by the Department through consent and release of the adjacent property owners. Be responsible for all encroachments onto private lands.

N. Property Damage. Be responsible for all damage to public and/or private property resulting from the work. Restore damaged roadway features and private property at no additional cost to the Department.

O. Coordination with Utility Companies. Utility locations are not shown on plans or in the proposal for this project and have not been located by the Department. Locate all underground, above ground and overhead utilities prior to beginning construction. Be responsible for contacting and maintaining liaison with all utility companies that have utilities located within the project limits. **Notify the Engineer and the utility owner(s) immediately when it is discovered or anticipated that any utility conflict could delay the Contractor's operations.** Do not disturb existing overhead or underground utilities. Be responsible for repairing all utility damage that occurs as a result of the work.

It is anticipated that an overhead power line will need to be temporarily de-energized and/or adjusted. Working days will not be charged for those days on which work on the

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controlling item is delayed, as provided in the Specifications. If the total delay exceeds ten working days, an extension of the specified completion date will be negotiated with the Contractor for delay to the Contractor's work; however no extension will be granted for any delay caused by the Contractor's failure to notify the Engineer and/or the utility company as specified above when a conflict is discovered or anticipated as specified. Comply with applicable sections of Chapter 107.

P. Final Dressing, Clean Up, and Seeding and Protection. Apply Final Dressing; Class A to all disturbed earthen areas, both on and off the right-of-way. Sow with Seed Mixture No. 1. See Special Note for Erosion Control

IV. METHOD OF MEASUREMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. The Department will measure Site Preparation as a single Lump Sum.

C. Erosion Control. See Erosion Control Plan.

D. Railroad Rails-Drilled. The Department will measure Drilled Railroad Rails in Linear Feet of finished in-place length. The Department will not measure cutoffs, excess, and waste. If the Engineer determines from the sounding obtained at a drilled socket that railroad rail piling cannot be used in that socket, the depth of the socket shall be measured, and 50% of the depth shall be paid as "Railroad Rails-Drilled".

E. Wall Cribbing. The Department will measure Wall Cribbing in square feet of finished in-place area. The Department will not measure laps, cutoffs, excess, and waste.

F. Geotextile Fabric Class 2. The Department will measure Geotextile Fabric Class 2 in square yards of finished in-place area. The Department will not measure laps, cut offs, or waste.

G. Excavation and Backfill. The Department will field measure Excavation and Backfill in cubic yards according to 204.04.08 or other accepted methods of measurement as directed by the Engineer.

H. Culvert Pipe. See Section 701.04.01. Contrary to Sections 701.04.10 through 701.04.13, the Department will not measure Embankment in Place, Roadway Excavation, Pipe Undercut, or Structure Excavation Unclassified.

I. Clearing and Grubbing, Seeding and Protection, Fertilizer, Temporary and Permanent Erosion Control, Temporary and Permanent Pollution Control, and

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Waste Disposal. The Department will not measure Clearing and Grubbing, Final Dressing, Seeding and Protection, Temporary and Permanent Erosion Control, Temporary and Permanent Pollution Control, and Waste Disposal, but shall be incidental to Site Preparation.

V. BASIS OF PAYMENT

A. Maintain and Control Traffic. See Traffic Control Plan.

B. Site Preparation. Accept payment at the Contract Lump Sum unit price as full compensation for all materials, labor, and equipment for all site preparation, including but not limited to, clearing and grubbing, excavation, embankment, and removal of all obstructions or any other items; temporary pollution and erosion control; disposal, of excess and waste materials and debris; and final dressing, cleanup, and seeding and protection.

C. Railroad Rail-Drilled. Accept payment at the Contract unit price as full compensation for all materials, labor, equipment, and incidentals for drilling the socket, furnishing and installing the railroad rails, and backfilling the installed rail.

D. Wall Cribbing. Accept payment at the Contract unit price as full compensation for all materials, labor, equipment, and incidentals for the completed and accepted quantities.

E. Geotextile Fabric Class 2. Accept payment at the contract bid price per square yard as full compensation for all labor, equipment, materials, and incidentals for furnishing and constructing the fabric.

F. Excavation and Backfill. Accept payment at the Contract unit price as full compensation for all materials, labor, equipment, and incidentals for excavating and backfilling the cribbed railroad rails.

G. Culvert Pipe. See Section 701.05.

TRAFFIC CONTROL PLAN

TRAFFIC CONTROL GENERAL

Except as specified herein, maintain and control traffic in accordance with the 2019 Standard and Supplemental Specifications, Special provisions and Special Notes, and the Standard and Sepia Drawings, current editions. Except for the roadway and traffic control bid items listed, furnish all other items necessary to maintain and control traffic incidental to the Contract lump sum price Maintain and Control Traffic.

Contrary to Section 106.01, furnish new, or used in like new condition, traffic control devices, at the beginning of the work and maintain the devices in like new condition until completion of the work.

PROJECT PHASING & CONSTRUCTION PROCEDURES

At the discretion of the Engineer, the Department may specify days and hours when lane closures will not be allowed. Prior to beginning work, provide a proposed lane closure and work schedule for the approval of the Engineer. The Department will provide public notification. Notify the Engineer immediately and obtain prior approval of any proposed deviations from the approved schedule.

Maintain alternating one way traffic during construction. Unless directed otherwise by the Engineer, provide a minimum clear lane width of 9 feet. If traffic should be stopped due to construction operations, and a school bus on an official run arrives on the scene, immediately make provisions for the passage of the bus.

If the Engineer determines that work site conditions require all traffic be stopped while drilling operations are in progress, stop traffic for the length of time required to drill and set one rail. Allow all waiting traffic to pass before starting the next hole. If an emergency vehicle or school bus is present in the queue, stop drilling and allow traffic to pass immediately.

LANE CLOSURES

Except as permitted by the Engineer, do not leave lane closures in place during non-working hours. If permitted, the Engineer may require additional signing and/or traffic control devices.

CHANGEABLE MESSAGE SIGNS

Provide changeable message signs in advance of and within the project at locations determined by the Engineer. If work is in progress concurrently in both directions or if more than one lane closure is in place in the same direction of travel, provide additional changeable message signs as directed by the Engineer. The Engineer may vary the designated locations as the work progresses. The

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Engineer will determine the messages to be displayed. In the event of damage or mechanical/electrical failure, repair or replace the Changeable Message Sign within 24 hours. The Department will measure for payment the maximum number of Changeable Message Signs in concurrent use at the same time on a single day on all sections of the contract. The Department will measure individual Changeable Message Signs only once for payment, regardless of how many times they are set, reset, removed, and relocated during the duration of the project. The Department will not measure replacements for damaged Changeable Message Signs or for signs the Engineer directs be replaced due to poor condition or readability. Retain possession of the Changeable Message Signs upon completion of the work.

SIGNS

Sign posts and splices shall be compliant with NCHRP 350 or MASH. Manufacturer's documentation validating this compliance shall be provided to the Engineer prior to installation. Signs, including any splices, shall be installed according to manufacturer's specifications and installation recommendations. Contrary to section 112.04.02, only long-term signs (signs intended to be continuously in place for more than 3 days) will be measured for payment. Short-term signs (signs intended to be left in place for 3 days or less) will not be measured for payment but will be incidental to Maintain and Control Traffic.

BARRICADES

The Department will not measure Barricades used in lieu of barrels and cones for channelization or delineation, but shall be incidental to Maintain and Control Traffic according to Section 112.04.01. The Department will measure Barricades used for protection of pavement and/or shoulder removal areas according to Section 112.04.04. Retain possession of the barricades upon completion of the work.

PAVEMENT EDGE DROP-OFFS

Do not allow a difference in elevation of a pavement edge between opposing directions of traffic or lanes that traffic is expected to cross in a lane change situation greater than 1½". Place warning signs ((MUTCD W8-9, W8-9A, or W8-11) in advance of and at 1500 feet intervals throughout the drop-off area. Dual post the signs on both sides of the traveled way. Wedge transverse transitions between newly surfaced pavement and the existing pavement areas that traffic may cross with asphalt mixture for leveling and wedging. Remove wedges prior to placement of the final surface course.

Treat pavement edges that traffic is not expected to cross, except accidentally, as follows:

Less than 2" - No protection required.

2" to 4" - Place plastic drums, vertical panels, or barricades every 50 feet. The

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Engineer will allow cones in lieu of plastic drums, panels, and barricades during daylight working hours only. Wedge drop-offs within 10 feet of traffic with DGA or asphalt mixture for leveling and wedging as directed or approved by the Engineer with a 1:1 or flatter slope in daylight working hours, or 3:1 or flatter slope during nighttime hours or when work is not active in the drop-off area.

Greater than 4" – Protect drop-offs greater than 4 inches within 10 feet of traffic by placing drums, vertical panels, or barricades every 25 feet. The Engineer will not allow the use of cones in lieu of drums, vertical panels, or barricades for drop-offs greater than 4". Place Type III Barricades directly in front of the drop-off facing on coming traffic in both directions of travel. Provide warning signs as shown on the Standard Drawings or as directed by the Engineer.

Guardrail Installations – Either existing or new guardrail shall be in place during periods when lane closures are prohibited by the Traffic Control Plan. Protect with lane closure during active operations. Protect partially completed guardrail installations with a shoulder closure during non-working hours.

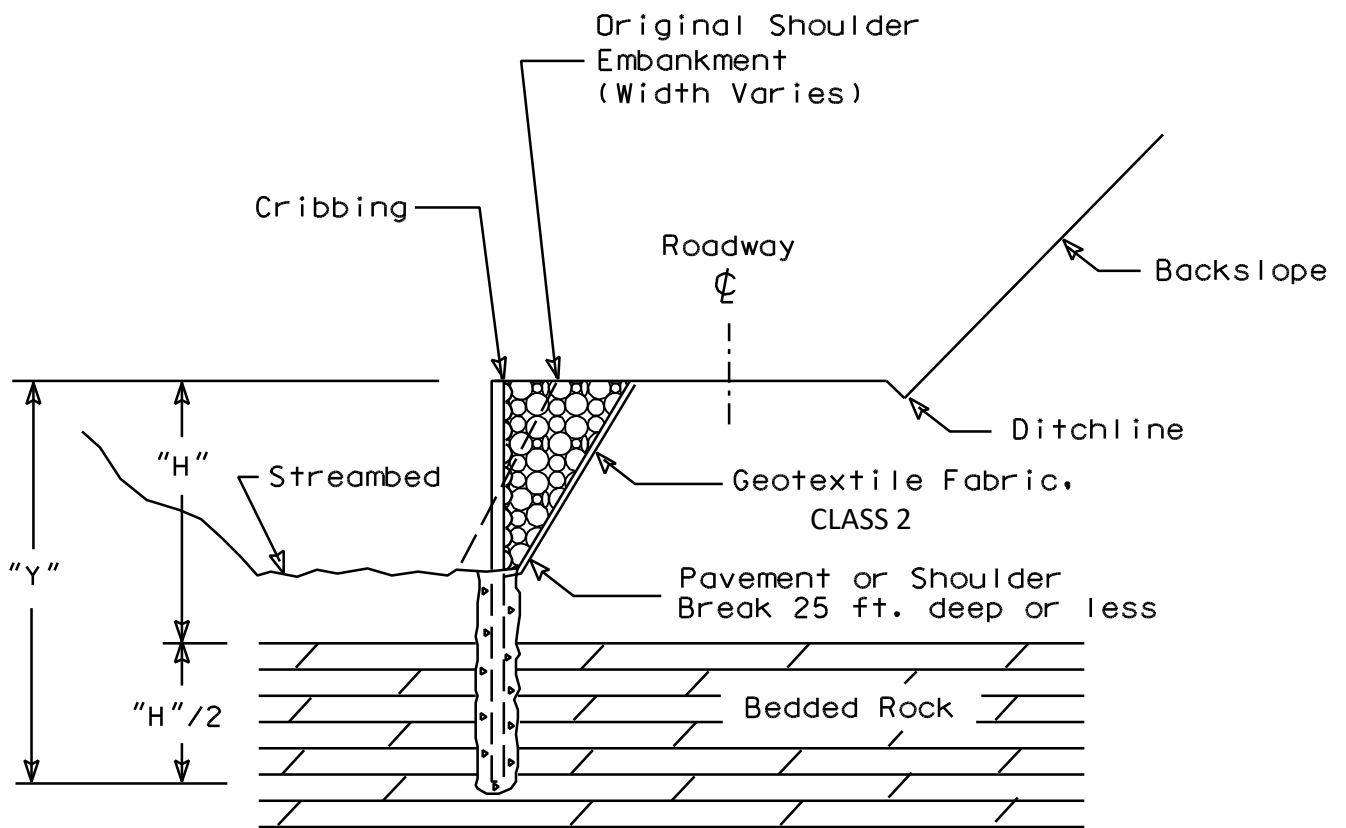
Pedestrians and Bicyclists – Protect Pedestrians and Bicyclists as directed by the Engineer.

DRILLED RAILROAD RAILS SUMMARY

Site	Begin	End	Length (FT)	Cribbing Depth (FT)	Excavation Width (FT)	Depth to Rock (FT)	Number of Rows	Rail Spacing (FT)	Cribbing (SQ FT)	Drilled RR Steel (LF)	Excav. & Backfill (CU YD)	Class 2	
												Geotextile Fabric (SQ YD)	
KY 1412	4.900	4.926	140	12	4	12	1	3	1680	940	1000	850	
TOTALS										940	1000	850	

TYPICAL CROSS SECTION OF ROADWAY REPAIRS UTILIZING RECYCLED RAILROAD RAILS IN DRILLED SOCKETS FOR EMBANKMENT EROSION CORRECTION

NOTE:
Spacing from edge to
edge of drilled
socket : 3 ft. max.



NOTE :
"H"/2 Depth of Rail into bedded rock =
1/3 total length where rock is present.

Figure 2

TYPICAL SECTION DEPICTING INSTALLATION OF RECYCLED RAILROAD RAIL PLACED IN DRILLED SOCKET FOR LANDSLIDE CORRECTION

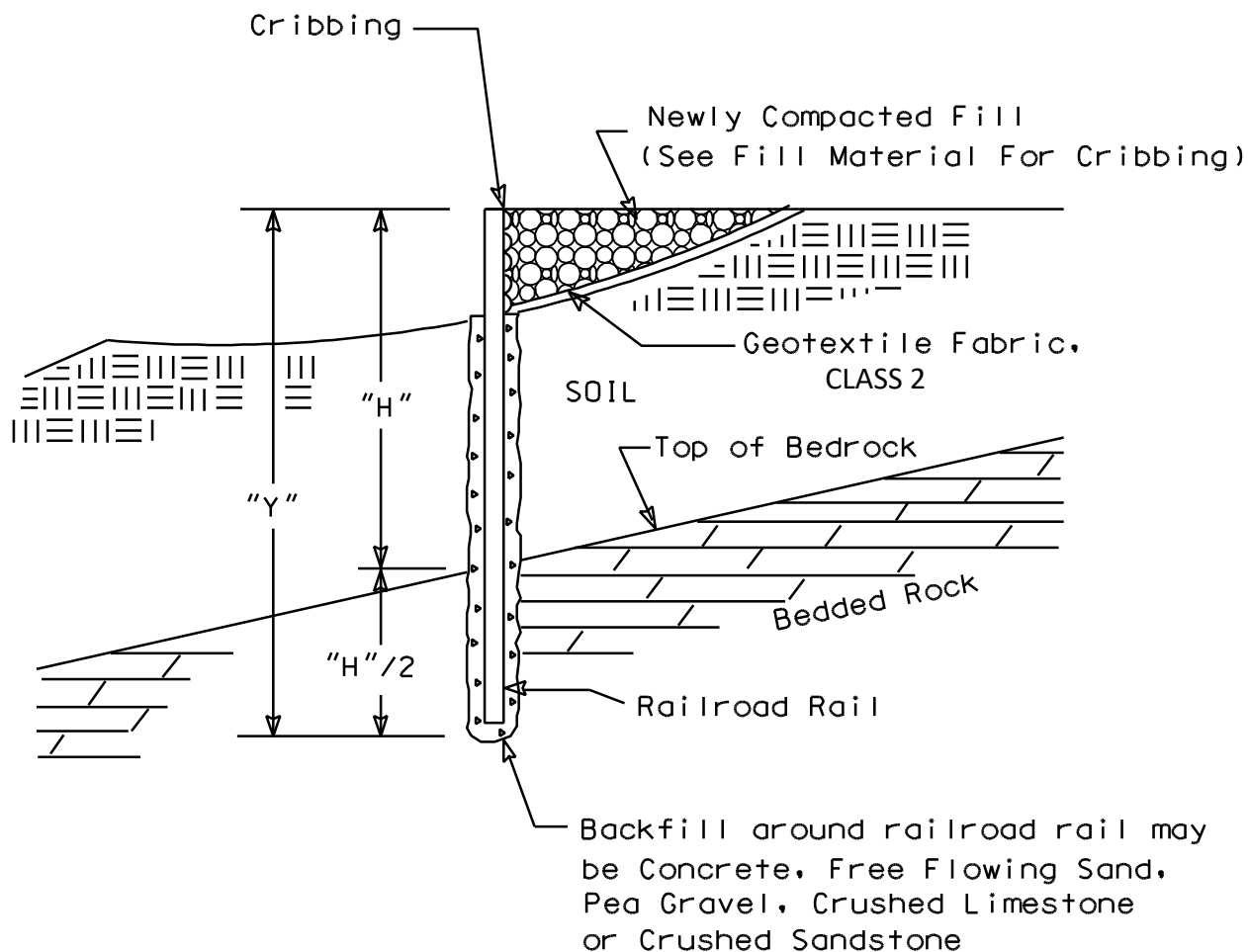


Figure 1

PROPOSAL BID ITEMS

Report Date 1/14/20

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Section: 0001 - SLIDE REPAIR

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0010	00001		DGA BASE	500.00	TON		\$	
0020	00221		CL2 ASPH BASE 0.75D PG64-22	470.00	TON		\$	
0030	00301		CL2 ASPH SURF 0.38D PG64-22	120.00	TON		\$	
0040	00462		CULVERT PIPE-18 IN	75.00	LF		\$	
0050	02014		BARRICADE-TYPE III	8.00	EACH		\$	
0060	02562		TEMPORARY SIGNS	300.00	SQFT		\$	
0070	02603		FABRIC-GEOTEXTILE CLASS 2 (REVISED: 1-14-20)	850.00	SQYD		\$	
0080	02650		MAINTAIN & CONTROL TRAFFIC	1.00	LS		\$	
0090	02671		PORTABLE CHANGEABLE MESSAGE SIGN	2.00	EACH		\$	
0100	02676		MOBILIZATION FOR MILL & TEXT	1.00	LS		\$	
0110	02677		ASPHALT PAVE MILLING & TEXTURING	35.00	TON		\$	
0120	02726		STAKING	1.00	LS		\$	
0130	03234		RAILROAD RAILS-DRILLED	940.00	LF		\$	
0140	03235		EXCAVATION AND BACKFILL	1,000.00	CUYD		\$	
0150	03236		CRIBBING	1,680.00	SQFT		\$	
0160	06510		PAVE STRIPING-TEMP PAINT-4 IN	2,000.00	LF		\$	
0170	06514		PAVE STRIPING-PERM PAINT-4 IN	1,000.00	LF		\$	
0180	20257NC		SITE PREPARATION	1.00	LS		\$	

Section: 0002 - DEMOBILIZATION

LINE	BID CODE	ALT	DESCRIPTION	QUANTITY	UNIT	UNIT PRIC	FP	AMOUNT
0190	02569		DEMOBILIZATION	1.00	LS		\$	