

Kalkaska County Road Commission

1049 Island Lake Road
Kalkaska, MI 49646
Telephone: 231.258.2242
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The Kalkaska County Road Commission is an Equal Opportunity Provider and Employer

February 28, 2024

REQUEST FOR BIDS – HMA REMOVAL, AGGREGATE BASE, HMA PLACEMENT, AND AGGREGATE SHOULDERS.

Sealed bids will be received until 9:00 a.m. May 8th, 2024, at which time they will be publicly opened and read. Bids shall be received at the office of the Kalkaska County Road Commission, 1049 Island Lake Road, Kalkaska, MI 49646. Bids will be tabulated and a recommendation will be made to the Board of Road Commissioners.

The Kalkaska County Road Commission requests bids for the following:

North Underhill Road from 600 feet north of Valley Road to East Underhill Road, and East Underhill Road from the west HMA limits to the east HMA limits.

Reconstruction of Underhill Road with 11' lanes and 2' aggregate shoulders. The road structure will consist of 2" HMA and 6" of aggregate.

Bids must be submitted on Kalkaska County Road Commission's Contractor Bid Form.

All mix shall be 4EML as specified on bid form, PG 58-28 liquid asphalt that complies with the Kalkaska County Road Commission Special Provision for Acceptance of HMA Mixture.

The contractor will coordinate the work with the Kalkaska County Road Commission. Project shall be completed by October 01, 2024 unless otherwise agreed to by the contractor and the Road Commission. Traffic control will be provided by the contractor, performed in accordance with the current Michigan Manual of Uniform Traffic Control Devices and shall be included in the unit prices on the bid forms. Mobilization will be included in the unit price for each pay item and will not be a separate pay item.

Bid price shall include mixing, hauling, placing and compacting the mix in accordance with the current MDOT Standard Specifications for Construction and the Kalkaska County Road Commission Special Provision for Acceptances of HMA Mixture. Bid price shall also include all pay items listed on the "Contractor Bid Form".

The Kalkaska County Road Commission reserves the right to adjust quantities, to accept or reject any or all bids, to waive any irregularity or defect in a bid, or to accept the bid, which, in the opinion of the Road Commission is in the best interest of the county.

The successful bidder shall enter into a contract with and provided by the Road Commission.

Label bid "**Underhill Road Reconstruction Bid**" plainly on the outside of a sealed envelope.

John S. Rogers Manager

Progress Clause

The Owner anticipates that construction can begin no earlier than April 10, 2024.

In no case shall any work be commenced prior to receipt of formal notice of award by the Owner.

The Contractor shall prepare and submit a complete, detailed, and signed MDOT Form 1130, Progress Schedule, according to 12SP-101A.

The Progress Schedule shall include, at minimum, the controlling work items for the completion of the project, as well as the planned dates or work days that these work items will be controlling operations. All contract dates including open to traffic, project completion, interim completion and any other controlling dates in the contract, must be included in the progress schedule.

If the bidding Proposal specifies other controlling dates, these shall also be included in the Progress Schedule.

The Project shall be completed in its entirety including final site restoration and clean-up

On or before October 01, 2024

Once work begins, it shall be continuous and be complete within 90 calendar days

After award and prior to the start of work, the Contractor must attend a preconstruction meeting with the Engineer. The Engineer will determine the day, time and place for the preconstruction meeting. The meeting will be conducted after project award and may be rescheduled if there are delays in the award of the project. The named subcontractor(s) for Designated and/or Specialty Items, as shown in the Proposal, should attend the preconstruction meeting if such items materially affect the work schedule.

Liquidated Damages shall be assessed in accordance with Section 108.10 of the 2020 Standard Specifications.

A bridge reconstruction project will be completed on North Underhill Road over the Rapid River from Valley Road to 600 feet north of Valley Road. Contractor shall coordinate their operations with the bridge Contractor.

HMA Application Estimate

Description.

This work shall be done in accordance with the requirements of Division 5 of the Michigan Department of Transportation 2020 Standard Specifications for Construction except as herein specified.

Materials.

The HMA, 4EML (Identity 1) for Top Course shall have a yield of 220 pound per square yard.

The HMA, 4EML (Identity 2) for Approaches shall have a yield of 220 pound per square yard.

The Aggregate Wear Index for all top course applications shall be 220 minimum.

The Performance Grade Asphalt Binder for the Mixture shall be 58-28.

Target Air Voids shall be regressed to 3.0%.

Use of Recycled Asphalt Shingles (RAS) is prohibited.

The HMA Bond Coat material shall be per subsection 501.02.

Construction.

The Nuclear Gauge Method of testing compaction shall apply.

The HMA Bond Coat shall be constructed per subsection 501.03.D. The uniform rate of application shall be 0.05 to 0.15 gallons per square yard. This is for information only and is included in the cost of associated pay items.

Contractor shall provide a lab, testing equipment, and materials for acceptance testing conducted on behalf of the owner that is certified in accordance with 12SP-501I-01 series (Acceptance of Hot Mix Asphalt Mixture on Local Agency Projects).

Measurement and Payment.

Measurement and Payment shall be at the contract unit price per ton.

ACCEPTANCE OF HMA MIXTURE

Description.

This special provision provides acceptance-testing requirements for use on this project. The HMA mixture and mixture quality assurance and acceptance shall conform to section 501 of the Michigan Department of Transportation 2020 Standard Specifications for Construction except where modified herein. The MDOT HMA Production Manual, current edition, applies to this work.

Submittals.

Submit a mix design previously approved by MDOT (or equivalent independent verification approved by the Engineer) from within 1 year of the project start date, for the Engineer's review and approval. The Contractor shall not place any HMA without an approved mix design by the Road Commission.

Materials.

Aggregates, mineral filler (if required), and asphalt binder shall be combined as necessary to produce a mixture proportioned within the master gradation limits called for in the project and meeting the uniformity tolerances listed in Table 1 and the quality assurance testing tolerances in Table 2 of this special provision. The master gradation range is to be used for establishing mix design only. Topsoil, clay, or loam shall not be added to aggregates which are to be used in plant mixed HMA mixtures.

Asphalt Binder.

Liquid asphalt binder shall be a Performance Graded (PG) binder as specified in the bid requests and/or approved by the Road Commission.

Air Voids.

Design air voids will be 4.0% and shall be regressed to 3.0% in production by the addition of virgin liquid asphalt.

Recycled Asphalt Pavement (RAP).

RAP is limited to Tier 1. The binder grade shall be PG 58-28.

Tier 1 - (0% to 17% RAP binder by weight of the total binder in the mixture). No binder grade adjustment is required to compensate for the stiffness of the asphalt binder in RAP.

Construction.

After the job-mix-formula is established, the aggregate gradation and the binder content of the HMA mixture furnished for the work shall be maintained within the Range 1 uniformity tolerance limits permitted for the job-mix-formula specified in Table 1. However, if deviations are predominantly either below or above the job-mix-formula, the Engineer may order alterations in the plant to bring the mixture to the job-mix-formula. If two consecutive aggregate gradations on one sieve, or binder contents as determined by the field tests, are outside Range 1 but within Range 2 tolerance limits, the Contractor shall suspend all operations. Contract time will continue during these times when the plant is down. Before resuming any production, the Contractor shall propose, for the Engineer's approval, all necessary alterations to the materials or plant so that the job-mix-formula can be maintained. The Engineer, after evaluating for effects on AWI and mix design properties, will approve or disapprove such alterations.

At no time shall the asphalt binder content fall below 5.0% regardless of the tolerance listed.

Random liquid asphalt binder samples will be taken by the Road Commission. The Road

Commission reserves the right to test any or all samples taken.

The crushed particle content of the aggregate used in the HMA mixture shall not be more than 10 percentage points above or below the crushed particle content used in the job-mix-formula nor less than the minimum specified for the aggregate in the project documents.

The Road Commission will perform quality assurance sampling and testing, using the sampling and testing option selected by the Road Commission. Mixture QA testing will be performed at the Contractor’s facility, using the Contractor’s equipment, at no additional cost to the Owner. Quality control measures to ensure job control are the responsibility of the Contractor. Quality assurance and acceptance testing will be as follows:

1. Sampling
Acceptance sampling and testing will be performed by the Road Commission using the sampling method and testing option selected by the Road Commission. Each day of production, random samples will be obtained for each mix type. Acceptance testing will be performed at a frequency specified by the Road Commission.
2. Mixture Testing
Mixture samples will be tested to verify gradation, binder content and volumetric properties.
3. Density
Pavement density may be measured by the Road Commission, with a Nuclear Density Gauge or by 6-inch core sampling. The Gmm from the JMF will be used for the density control target. The in-place density of the HMA mixture shall be at least 92.0% of the density control target. In place density will be calculated by averaging a minimum of four QA density test locations.

Table 1: Uniformity Tolerance Limits for HMA Mixtures

Parameter	TOP & LEVELING COURSE	
	* Range 1	Range 2
% Passing # 8 and Larger Sieves	± 5.0	± 8.0
% Passing # 30 Sieve	± 4.0	± 6.0
% Passing # 200 Sieve	± 1.0	± 2.0
*This range allows for normal mixture and testing variations. The mixture shall be proportioned to test as closely as possible to the Job-Mix-Formula.		

Table 2: HMA Quality Assurance Testing Tolerances (±) from the JMF

Parameter	Double Test per Lot (c)	Lot Average
Air Voids	1.00%	0.60%
Voids in Mineral Aggregate VMA (a)	1.20%	0.75% (b)
Maximum Specific Gravity (Gmm) (a)	0.019	0.012
Binder Content (a) (d)	0.50%	0.35%
a. Parameters with target values b. Or less, determined by VMA value in contract documents c. “Double Tests per Lot” refers to any two subplot tests in any one lot d. Binder content shall not fall below 5.0% at any time regardless of the tolerance listed		

Rejected Mixtures.

1. Gradation

If for any one mixture, two consecutive aggregate gradations on one sieve as determined by field tests exceed the uniformity tolerance of Range 2 under Table 1, or do not meet the minimum requirements for crushed particle content specified in the project documents, the mixture will be rejected. If such mixtures are placed in a pavement, the remaining portions of the failing field samples (split sample) will be sent to an independent laboratory to confirm the field test results. If the laboratory's results do not confirm the field test results and there are no price adjustments required due to test failures on the asphalt binder, then no price adjustments will be made for the mixture involved. If the laboratory's results confirm the field test results and if, in the Engineer's judgment, the defective mixture can remain in place and there are no price adjustments required due to test failures on the asphalt binder, the contract unit price for the defective mixture involved, as determined from field tests, will be decreased on the following basis:

The contract unit price for material outside of Range 2 or with a crushed particle content below that specified in the project documents will be decreased 25 percent.

If three consecutive aggregate gradations on one sieve, or asphalt binder contents as determined by field tests are outside Range 1 but within Range 2 tolerance limits, the mixture produced from the time the third sample was taken until the gradation, or asphalt binder content is corrected back into Range 1 will be decreased in contract unit price by 10 percent. Field tests indicating that mixtures are subject to the 10 percent penalty will be confirmed in the same manner as mixtures subject to the 25 percent penalty as described herein.

If a liquid asphalt binder sample does not meet the required specification, the mix produced from the point of the last liquid asphalt binder sample meeting specification to the failed sample shall be considered defective and shall be replaced at the sole expense of the contractor. This may also result in the termination of the contract and/or the right to bid on any future work.

2. Volumetric Properties

Acceptability tolerance for Air Void, VMA Gmm and Binder Content are shown in Table 2. Material produced outside of Table 2 tolerance limits will be rejected.

3. Pavement Density

A negative 10% adjustment in the HMA mixture unit contract price will be imposed on the lot or subplot if either the lot pavement density (average of all lot gauge readings or core results) is less than 92%, but equal to or greater than 91%; or if 2 or more readings or cores in any given subplot are less than 91%.

A negative 25% adjustment in the HMA mixture unit contract price will be imposed on the lot or subplot if either the lot pavement density (average of all lot gauge readings or core results) is less than 91%, but equal to or greater than 90%; or if 2 or more readings or cores in any given subplot are less than 90%.

If any subplot has an average density of less than 90%, the Contractor shall remove and replace the entire subplot at no cost to the owner.

Slope Restoration

Description.

This work shall consist of all labor, equipment, and materials required to provide screened topsoil, fertilizer, seed, and mulch on disturbed areas and newly graded surfaces of the project. The Work shall consist of preparing the foundation, machine grading to place the topsoil, fertilizing, seeding, and mulching areas as required.

Material.

Provide materials in accordance with Section 816 of the Standard Specifications for Construction.

Construction.

As directed by the Engineer, **Slope Restoration** may include, but is not limited to, the following work: placing and grading screened topsoil, fertilizer, seed, mulch, and mulch anchoring. All disturbed areas shall be restored.

Unless otherwise specified herein, all work shall be in accordance with sections 816, 911, and 917 of the Standard Specifications for Construction.

Supplier's certifications for all materials used for slope restoration shall be supplied to the Engineer prior to commencing slope restoration efforts. Engineer will verify that all materials adhere to Sections 816, 911, and 917 of the Standard Specifications for Construction prior to the commencement of slope restoration efforts. All certifications shall be supplied to the Engineer a minimum of 5 working days prior to scheduled date of starting slope restoration.

Hay Mulch will not be permitted unless otherwise directed by the Engineer.

Hydro Seeding may be an acceptable alternate method of slope restoration. All areas restored using this method shall receive straw mulch unless otherwise approved by the Engineer.

Any washouts or damage caused by rain or for reasons attributable to the Contractor's activity or failure to take proper precautions shall be cleaned up and repaired at the Contractor's expense within five (5) days of notice.

If weeds are determined by the Engineer to account for more than 10% of the area that slope restoration efforts are applied to, the Contractor shall provide weed control in accordance with Subsection 816.03 of the Standard Specifications for Construction. Additional payment will not be made for weed control.

Slope Restoration will be accepted when at least 85% vegetative coverage is achieved, unless otherwise approved by the Engineer.

If the seeded area does not reach the acceptable level of vegetative coverage, as defined in this special provision, at the end of the first growing season as defined as May 1st to October 1st, the Contractor is responsible to provide additional slope restoration in accordance with this special provision until slope restoration is accepted by the Engineer. Additional payment will not be made for these activities.

All waste generated shall be disposed of in accordance with subsection 205.03 of the Standard Specifications for Construction at the Contractor's expense. All disturbed areas shall be restored.

Measurement and Payment.

Measurement for **Slope Restoration** shall be in stations, defined as 100 foot in length, along the proposed centerline of Hoiles Drive (**one side** being included in one station), with no deductions for driveways or intersections. The completed work as measured for Slope Restoration will be paid for at the contract unit price for the following contract item (pay item):

Pay Item

Slope Restoration

Pay Unit

Station

Payment for Slope Restoration shall include all labor, equipment, and materials to complete this work.

Payment will be made to the Contractor as follows:

A payment of 50% of the total pay item will be paid upon completion of placing and grading topsoil, fertilizer, seed, mulch, and mulch anchoring on all disturbed areas within the project limits.

The remaining 50% of the total pay item will be paid upon completion of all other necessary work to comply with this special provision and final acceptance is granted by the Engineer.

Sign, Rem

Description. This work shall be done in accordance with the requirements of section 810 of the 2020 Standard Specifications except as herein specified.

Materials. Provide materials in accordance with the requirements of section 810 of the 2020 Standard Specifications.

Construction. In accordance with the requirements of section 810 of the 2020 Standard Specifications.

Measurement and Payment. Measurement and Payment includes removing supports, posts, sign bands, attaching or fastening hardware, removing signs from supports, and stacking by shape and size on the jobsite for pickup by the Kalkaska County Road Commission.

Pay Item

Sign, Rem

Pay Unit

Each

Post, Mailbox, Modified

Description. This work shall be done in accordance with the requirements of Section 807 of the 2020 Standard Specifications except as herein specified.

Materials. Provide materials in accordance with Section 807 of the 2020 Standard Specifications.

Construction. Move existing mailbox supports, mailboxes, and newspaper receptacles, but maintain serviceability during construction. Install a new post at the permanent location after construction is complete. Attach the existing mailbox and newspaper receptacle to the new post. If a newspaper receptacle is on its own post, then it shall be reinstalled at the permanent location on the existing post.

Measurement and Payment. Measurement and payment shall be at the contract unit price of Each. If an existing mailbox post has a newspaper receptacle attached to it, additional payment will not be given for reattaching the existing newspaper receptacle to the new post or replacement on its own post.

Pay Item

Post, Mailbox, Modified

Pay Unit

Each

Maintaining Traffic

General.

Traffic shall be maintained in accordance with Subsections 104.07C, 104.11 and Section 812 of the 2020 Standard Specifications, including any Supplemental Specifications, and as herein specified. Traffic shall be maintained using single lane closures. The Contractor shall coordinate his operations with Contractors performing work on other projects within or adjacent to the Construction Influence Area (CIA).

Construction Influence Area (CIA).

The CIA shall include the right-of-way of the following roadways, within the approximate limits described below:

Hoiles Drive from the furthest placed construction sign east and west of the project limits to the furthest placed construction sign north and south of the project limits.

In addition, the CIA shall include the right-of-way of any intersecting roads adjacent to the work zone to the furthest placed construction sign.

Traffic Restrictions.

No work shall be permitted on Sundays, or during any holiday period as defined below:

Memorial Day from 3:00 pm, Friday, 05/24/24 to 6:00 am, Tuesday, 05/28/24
Independence Day from 3:00 pm, Wednesday, 07/03/24 to 6:00 am, Monday, 07/08/24
Labor Day from 3:00 pm, Friday, 08/30/24 to 6:00 am, Tuesday, 09/03/24

Access shall be provided for School Buses and Emergency Services at all times. Commercial and residential driveways shall remain accessible at all times. The Contractor shall maintain access to the residents within this project at all times through the use of the following:

WZD 100A	Ground Driven Sign Supports for Temp Signs
WZD 125-E	Temporary Traffic Control Devices
100-GEN-KEY	Typical Numbering Key
100-GEN-SPACING-CHARTS	“B”, “D”, and “L” Tables, Channelizing Device Spacing, Sign Border Key, and Roll-Ahead Spacing
102-GEN-NOTES	Traffic Control Typical Note Sheet
103-GEN-SIGNS	Traffic Control Typical Sign Sheet
110-TR-NFW-2L	Lane Closure Utilizing Traffic Regulators on a 2-Lane Undivided Roadway

Sign W5-18b will not be required. Lane closure will be limited to 1 mile in length.

Traffic Control Devices.

All traffic control devices and their usage shall conform to the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), 2011 edition as revised, and as specified herein.

Utility Coordination Clause

The contractor shall cooperate and coordinate construction activities with the owners of utilities as stated in subsection 104.08 of the 2020 Standard Specifications. In addition, for the protection of underground utilities, the contractor shall follow the requirements in subsection 107.12 of the MDOT 2020 Standard Specifications. Contractor delay claims, resulting from a utility, will be determined based upon subsection 108.09 of the MDOT 2020 Standard Specifications.

Public Utilities

The following Public Utilities have facilities located within the Right-of-Way:

Coli, Inc. Fiber Optics, Rapid City, MI 49676; ph: 231-331-4622

Frontier Communications, 3840 US 23 North, Alpena, MI 49707; Contact Person: John Kuziel, ph: 989-357-6659.

Great Lakes Energy Cooperative, 1323 Boyne Ave, Boyne City, MI 49712; Contact Person: Steve Murray, ph: 1-800-442-2796, ext. 1314.

Riverside Energy Michigan, LLC, Gas, ph: 989-786-7046

The owners of existing service facilities that are within grading or structure limits will move them to locations designated by the Engineer or will remove them entirely from the highway Right-of-Way. Owners of Public Utilities will not be required by the County to move additional poles or structures in order to facilitate the operation of construction equipment unless it is determined by the Engineer that such poles or structures constitute a hazard to the public or are dangerous to the Contractor's operations.

For protection of underground utilities and in conformance with Public Act 174, 2013, the Contractor shall dial 811 a minimum of three full working days, excluding Saturdays, Sundays, and holidays prior to beginning each excavation in areas where public utilities have not been previously located. Members will thus far be routinely notified. This does not relieve the contractor of the responsibility of notifying utility owners who may not be a part of the "Miss-Dig" alert system.

Michigan Department of Transportation Specifications

All work will be completed in accordance with the Michigan Department of Transportation (MDOT) 2020 Standard Specifications for Construction, as amended, and as here-in modified. The specifications can be found at the following website.

<https://www.michigan.gov/mdot/0,1607,7-151-9622---,00.html>

Schedule of Items (Itemized Bid Sheet)

Letting Date: Wednesday, May 8, 2024 9:00 AM

Contract ID: 23.120 Road
Location: Underhill Road Reconstruction
Description:

Project Number: 23.120 Road	Project Engineer: REBECCA RIVARD
Estimate Number: 1	Date Created: 2/28/2024
Project Type: Miscellaneous	Fed/State #:
Location: Underhill Road Reconstruction	Fed Item:
	Control Section:

Description:

Instructions to Bidders:

IMPORTANT NOTICE:

If the proposal establishes a maximum price for any of the following work items, and if you bid a price higher than that maximum price, your bid will be considered to have quoted the maximum price and your bid total will be adjusted to reflect that maximum price.

If the proposal provides a specified price for any of the following work items, and if you bid a price higher or lower than that specified price, your bid will be adjusted to reflect that specified price.

If your bid is the lowest accepted bid, and if you refuse to accept the award of the contract due to the change in what you quoted as a maximum or specified price, you will forfeit your proposal guaranty.

Pay Item	Description	Quantity	Units	Unit Price		Bid Amount	
				Dollars	Cts	Dollars	Cts
2030001	Culv, Rem, Less than 24 inch	2	Ea				
2050041	Subgrade Undercutting, Type II	180	Cyd				
3020001	Aggregate Base	2,025	Ton				
3050002	HMA Base Crushing and Shaping	6,900	Syd				
3070021	Approach, CI II	170	Ton				
3070121	Shld, CI II	140	Ton				
3070200	Trenching	60	Sta				
4010200	Culv, CI A, CSP, 15 inch	48	Ft				
4010202	Culv, CI A, CSP, 24 inch	48	Ft				
4021260	Trench Undercut and Backfill	10	Cyd				
5010061	HMA Approach	50	Ton				
5012025	HMA, 4EML	850	Ton				
8007050	_ Sign, Rem	1	Ea				
8077050	_ Post, Mailbox, Modified	9	Ea				
8100371	Post, Steel, 3 pound	16	Ft				
8100404	Sign, Type IIIA	6.25	Sft				
8167002	_ Slope Restoration	120	Sta				

Pay Item	Description	Quantity	Units	Unit Price		Bid Amount		
				Dollars	Cts	Dollars	Cts	
Total Bid:								

Contractor: _____

(Signature)

(Date)

LOG OF PROJECT

North Underhill Road from 600 feet north of Valley Road to East Underhill Road, and East Underhill Road from the west HMA limits to the east HMA limits, Clearwater Township, Kalkaska County, Michigan.

DESCRIPTION OF WORK

The project includes HMA Removal, Aggregate Base, HMA placement, and aggregate shoulders.

CRITICAL STATIONING

North Underhill Road

Sta 10+00	Centerline of Valley Road and North Under Hill Road
Sta 16+00	Point of Beginning
Sta 23+72	Point of Ending
Sta 23+95	Centerline of North Underhill Road and East Underhill Road

East Underhill Road

Sta 50+38	Point of Beginning and end of existing HMA
Sta 58+15	Centerline of North Underhill Road and East Underhill Road
Sta 58+32	Quarter Corner Common to Sections 13 and 14
Sta 72+38	Point of Ending and end of existing HMA

MISCELLANEOUS ITEMS OF WORK

Monument preservation and box installation will be completed by the Owner.

Post, Mailbox, Modified	9	Ea
Slope Restoration	120	Sta

MAINLINE

Remove existing HMA, place aggregate base, HMA, and shoulder material as detailed in Typical Sections. Earthwork will be paid at plan quantities unless there are known changes.

Trenching	60	Sta
Aggregate Base	1900	Ton
Shld, CI II	140	Ton
HMA Base Crushing and Shaping	6500	Syd
HMA, 4EML	850	Ton

DRAINAGE IMPROVEMENTS

East Underhill Road Sta 15+40. Replace the existing culvert at the same inverts and location.

Culv, Rem, Less than 24 inch	1	Ea
Culv, CI A, CSP, 15 inch	48	Ft
Subgrade Undercutting, Type II	90	Cyd
Trench Undercut and Backfill	5	Cyd

East Underhill Road Sta 67+62 – replace the existing culvert as indicated on the detail sheet.

Culv, Rem, Less than 24 inch	1	Ea
Culv, CI A, CSP, 24 inch	48	Ft
Subgrade Undercutting, Type II	90	Cyd
Trench Undercut and Backfill	5	Cyd

INTERSECTIONS

Construct the intersection of North Underhill Road and East Underhill Road as detailed in the log.

Aggregate Base	125	Ton
HMA Base Crushing and Shaping	400	Syd
HMA Approach	50	Ton

DRIVEWAYS

Shape existing aggregate driveways in accordance with the detail. There are 19 existing aggregate driveways and 1 field drive.

Approach, CI II	170	Ton
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PERMENANT SIGNING

Place a 30" Stop Sign at the intersection of North Underhill Road and East Underhill Road.

Sign, Rem	1	Ea
Sign, Type IIIA	6.25	Sft
Post, Steel, 3 lb	16	Ft

Removed Signs shall be salvaged and stockpiled as indicated in the special provision for Sign, Rem.

All signs not proposed to be replaced and requiring relocation due to construction operations shall be salvaged and carefully protected to not damage the sign face. The signs will be reset by the contractor at the location designated by the Engineer. Compensation for this work will be considered as having been included in the pay item **Minor Traf Devices**.

STANDARD PLANS

Where the following items are called for, they are to be constructed according to the Standard Plan listed below unless otherwise indicated.

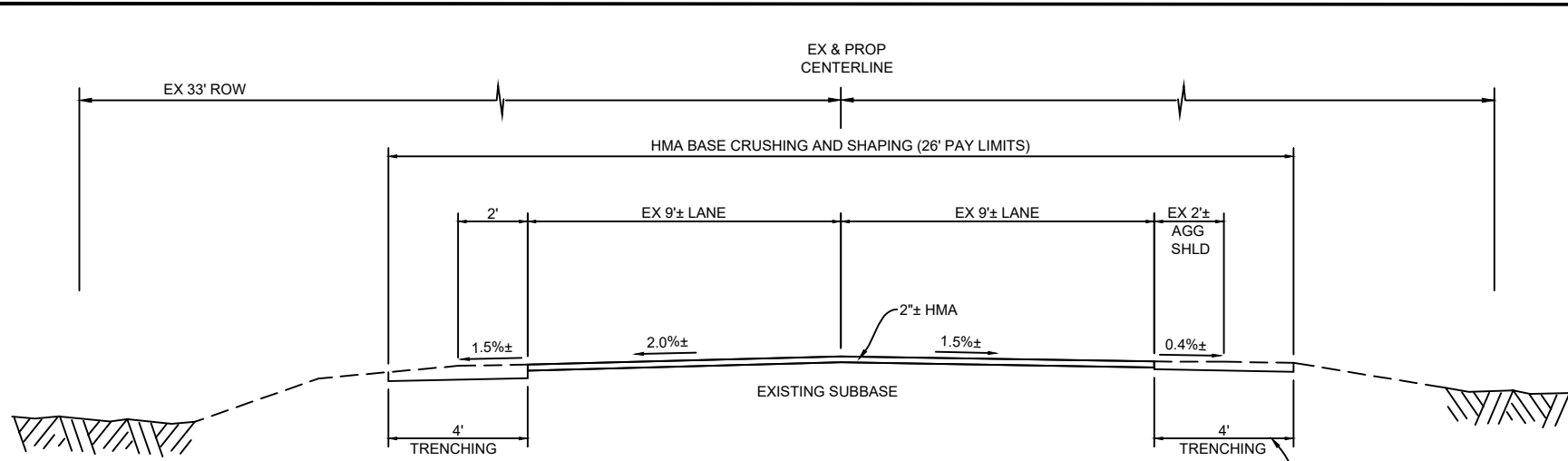
R-11-E	Monument Boxes
R-105-D	Grading Cross Sections

Traffic and Safety Standard Plans

WZD-100-A	Ground Driven Sign Supports for Temp Signs
WZD-125-E	Temporary Traffic Control Devices

Pavement Marking and Permanent Signing Standard Plans

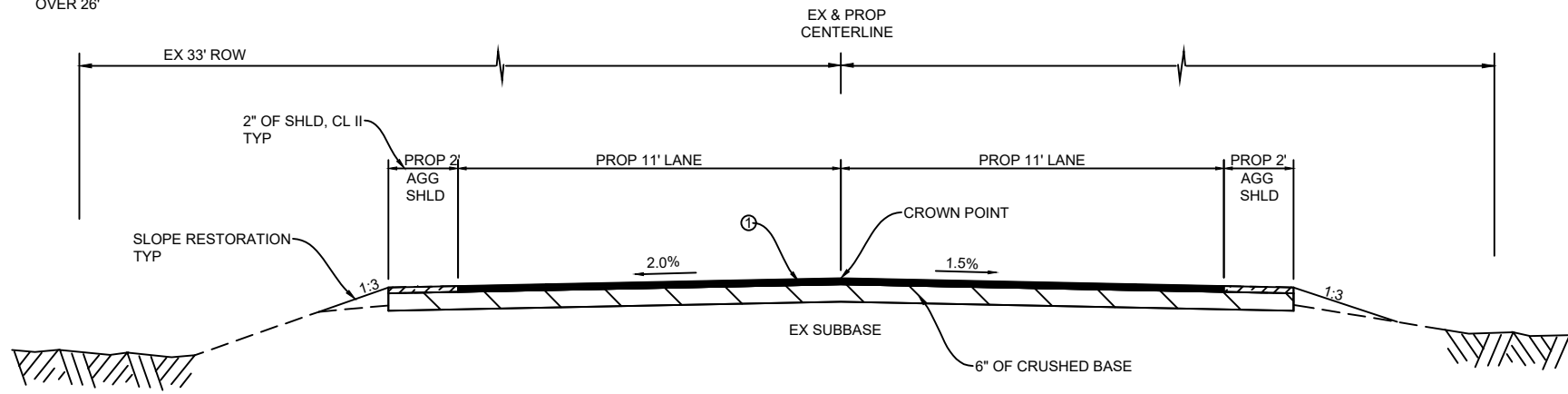
SIGN-100-G	Standard Sign Installations
SIGN-120-E	Roadside Sign Locations and Support Spacing
SIGN-200-E	Steel Posts



EXISTING SECTION

TO APPLY: NORTH UNDERHILL ROAD STA 16+00 TO STA 23+72
 SOUTH UNDERHILL ROAD STA 50+38 TO STA 72+38

PLACE 6" OF AGGREGATE BASE ON THE EXISTING HMA SURFACE AND CRUSH ALONG WITH THE EXISTING HMA, SPREAD CRUSHED MATERIAL OVER 26'



PROPOSED SECTION

TO APPLY: NORTH UNDERHILL ROAD STA 16+00 TO STA 23+72
 SOUTH UNDERHILL ROAD STA 50+38 TO STA 72+38

HMA APPLICATION TABLE

IDENT.	PAY ITEM	RATE #/SYD	PERFORMANCE GRADE	REMARKS
①	HMA, 4EML	220	58-28	TOP COURSE, AWI=220
②	HMA, APPROACH	220	58-28	HMA, 4EML
HMA BOND COAT		0.05-0.15 GAL/SYD (FOR INFORMATION ONLY)		

TYPICAL CROSS SECTIONS

SCALE
N/A

ENGINEER
RIVARD

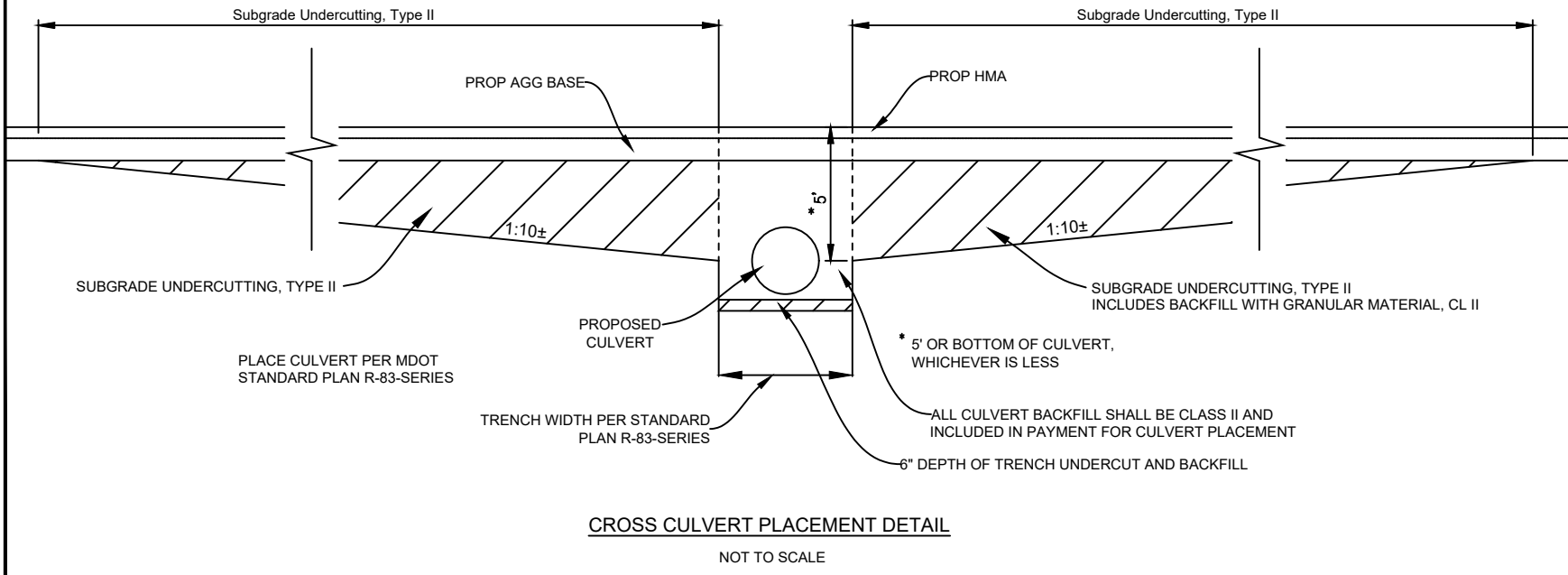
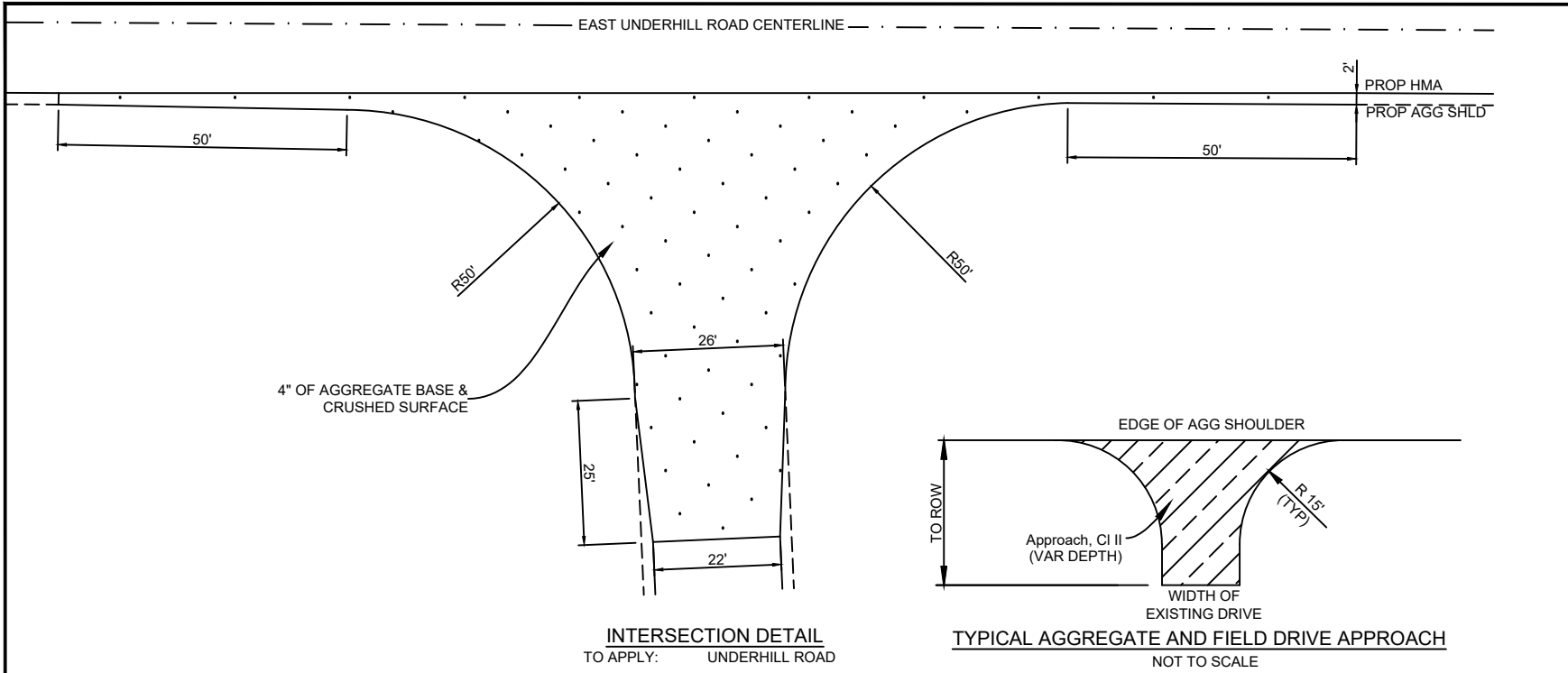
DATE
FEBRUARY 28, 2024

JOB NUMBER
23.120



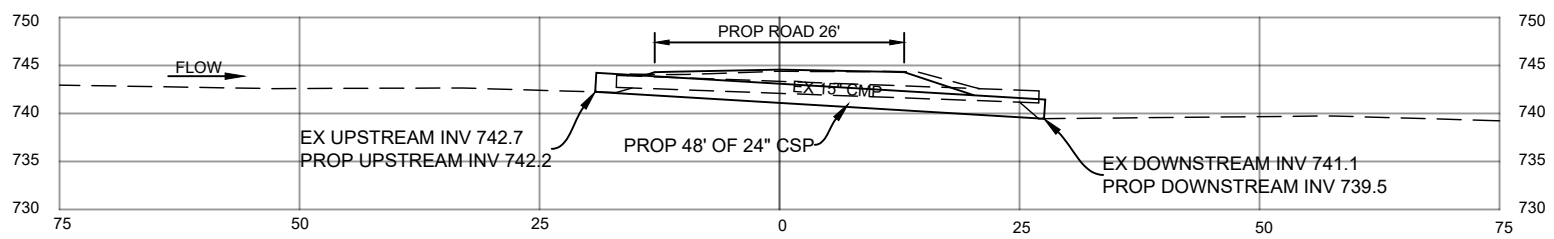
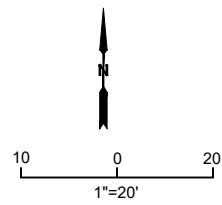
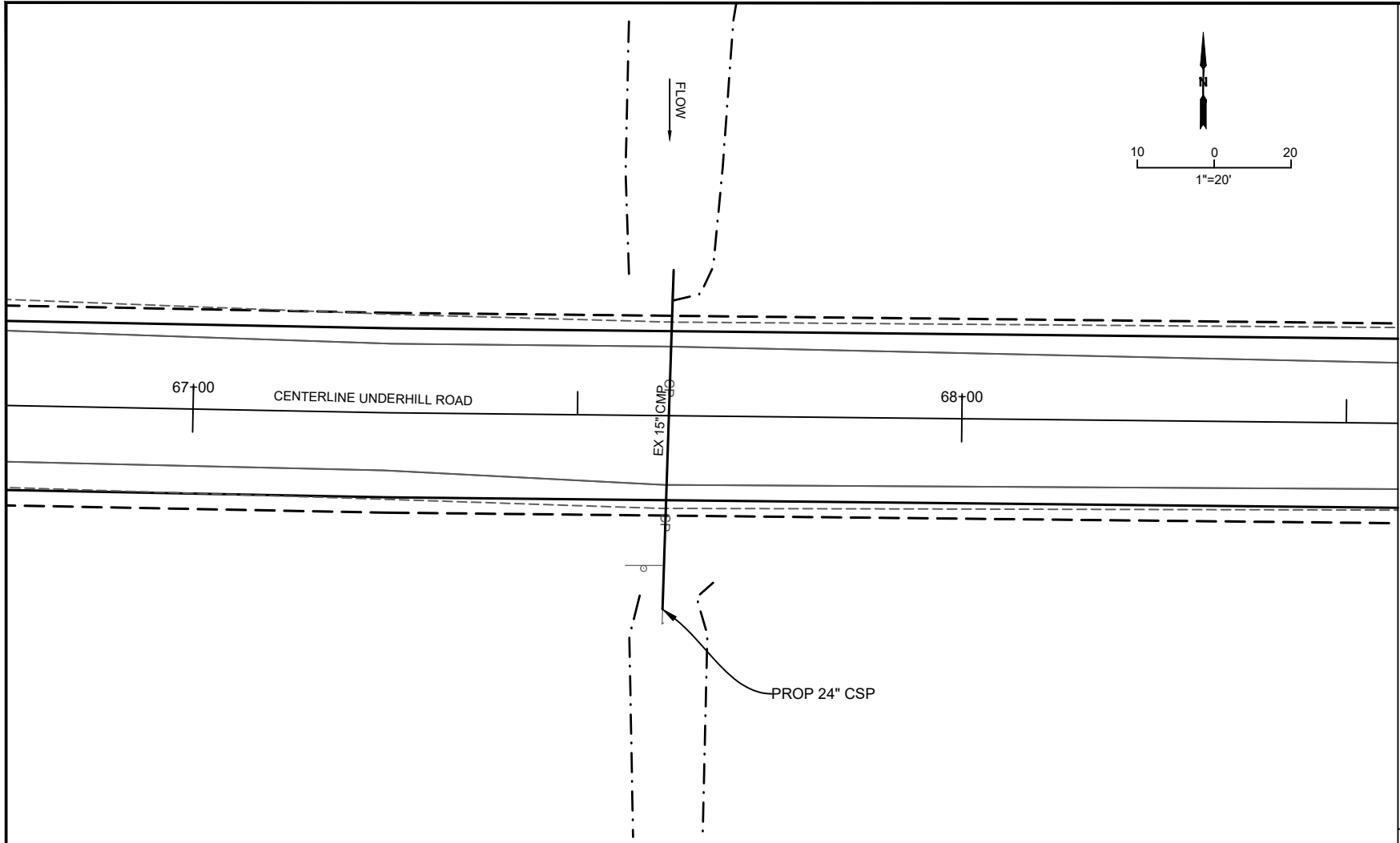
SHEET NO.

3



DETAIL SHEET	
DATE FEBRUARY 26, 2024	ENGINEER RIVARD
JOB NUMBER 23.120	SCALE N/A
SHEET NO. 4	





CULVERT DETAIL SHEET

JOB NUMBER 23.120	DATE FEBRUARY 28, 2024	ENGINEER RIVARD	SCALE N/A
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