

**EATON COUNTY ROAD COMMISSION
CHARLOTTE, MICHIGAN
2020 HMA SURFACING PROPOSAL**

CONTRACT D

**To: Board of Eaton County Road Commissioners
1112 Reynolds Road
Charlotte, Michigan 48813**

The undersigned has examined the Plans, Specifications, and the Location of the work described herein and is fully informed as to the nature of the work and the conditions relating to its performance, and understands that the quantities shown are approximate only and are subject to either Increase or Decrease.

The undersigned hereby proposes to furnish all necessary equipment, tools, apparatus, and other means of construction; do all the work and furnish all the materials; and, for the unit prices named in the itemized bid, complete the work herein described, in strict accordance with the plans thereof, and in strict conformity with the requirements of the 2012 Michigan Department of Transportation Standard Specifications for Construction and such other special provisions and supplemental specifications included as part of this proposal.

The undersigned further proposes to do such extra work as may be authorized by the Eaton County Road Commission, prices for which are not included in the itemized bid. Compensation shall be made on the basis agreed upon prior to commencing with extra work.

The undersigned encloses a certified or cashiers check on an open solvent bank, in the amount of \$25,000, payable to the Eaton County Road Commission as a guarantee of good faith. If the undersigned is the successful bidder and fails to enter into a contract to furnish satisfactory bonds to the Eaton County Road Commission within 15 days after being furnished with the necessary contract and bond forms, the Bid Deposit will be forfeited to the Eaton County Road Commission as liquidated damages. It is understood that the Bid Deposit of the successful bidder will not be returned until the contract has been executed and that the proposal guarantees of all other bidders will be returned promptly.

Company Name _____

Address _____

Phone # _____

Fax # _____

Signed by _____

Date _____

EATON COUNTY ROAD COMMISSION

2020 HMA SURFACING BID BLANK

CONTRACT D

ITEM OF WORK	QUANTITY	UNIT	UNIT PRICE	TOTAL AMOUNT
HMA, 13A	12,593	TON	\$ _____	\$ _____
Cold Milling HMA Surface	91,967	SYD	\$ _____	\$ _____
Cold Milling HMA Surface, Special	18,843	SYD	\$ _____	\$ _____
Base Repair	100	SYD	\$ _____	\$ _____
Shoulder, CL II	88	TON	\$ _____	\$ _____
Intersection Grading	200	SYD	\$ _____	\$ _____
Aggregate Base, 6", 21AA	150	SYD	\$ _____	\$ _____
Dr Structure Cover, Adj	241	EACH	\$ _____	\$ _____
Dr Structure Cover, Reconstruct	40	EACH	\$ _____	\$ _____
Curb Reconstruct	2,397	FT	\$ _____	\$ _____
Curb, Concrete, Det B2, Special	120	FT	\$ _____	\$ _____
Monument Box Adjust	1	EACH	\$ _____	\$ _____
Watershutoff, Adjust	5	EACH	\$ _____	\$ _____
Pavt Mrkg, Type NR, 4 inch, Temp.	72	FT	\$ _____	\$ _____
TOTAL BID CONTRACT D				\$ _____

EATON COUNTY ROAD COMMISSION

2020 HMA SURFACING

BID BLANK

CONTRACT D

****Mix design percent RAP binder by weight of total binder _____ %**

The undersigned agrees that the quantities provided on the Contract D Bid Blank are estimates. Actual quantities paid will be based on final field measurements. The Eaton County Road Commission reserves the right to increase or decrease quantities, or add or eliminate entire projects from the contract. No unit price changes will be allowed as a result of increased or decreased quantities, or for added or eliminated projects.

Company Name _____ Date _____

Address _____ Phone # _____

_____ Fax # _____

Signed by _____

EATON COUNTY ROAD COMMISSION

2020 HMA SURFACING PROGRAM
 BID BLANK SUMMARY

04/14/20

ROAD	FROM TO	LENGTH	WIDTH	SHOULDER WIDTH	MILLING WIDTH	HMA APPLICATION RATE	HMA OVERLAY	HMA WEDGING	TOTAL HMA, 13A	COLD MILLING, SPECIAL	COLD MILLING HMA SURFACE	SLOPE RESTORATION	SHOULDER, CL II	PAVT MRKG, TYPE NR, 4 INCH, TEMP	PAVT. MRKG, WATERBORNE, 4 INCH,	DR. STRUCTURE COVER, ADJ.	DRAINAGE STRUCTURE RECONSTRUCT	CURB RECONSTRUCT	CURB, CONC, Det. B2-SPECIAL	AGGREGATE BASE 6", 21AA	INTERSECTION GRADING
						#/SYD	TON	TON	TON	SYD	SYD	SYD	TON FT	FT	EACH	FT	FT	FT	TON	SYD	
Amberina Dr	Ruby Glass Dr to Cardinal Ln	1200	27		27	220	396		396		3600						3	12			
Armstrong Dr	Willow Hwy to Webster Rd	1200	24	2		220	352	40	392			30	88	72	600	5			120	150	200
Aspen Dr	Powderhorn Dr to Snow Rd	1175	27		27	220	388		388	3525							10	50			
Birchwood Way	Boxwood Ln to Elmwood Rd	850	27		27	220	281		281		2550						4	40			
Bobsyl Ln	Denmark Ave to Countryside Dr	780	27		27	220	257		257		2340						5	90			
Cardinal Ln	Lindy Dr to Amberina Dr	604	27		27	220	199		199		1812						2	70			
Chimneyrock Dr	Powderhorn Dr to Durnago Dr.	910	27		27	220	300		300	2730							11	30			
Clearview Ave	Edmund Way to Grand Woods Dr	861	27		27	220	284		284		2583						8	90			
Countryside Dr	Denmark Ave to Dead End	660	27		27	220	218		218		1980						5	60			
Denmark Ave	Bobsyl Ln to Corkery Ln	700	27		27	220	231		231		2100						3				
Durango Dr	Otter Dr to Chimneyrock Dr	1540	27		27	220	508		508		4620						17	30			
Dutch Hill Dr	St. Joe Hwy to Omar St.	1780	22-33		22-33	220	645		645		5866						14	40			
Edmund Way	Willow Hwy to River Ridge Dr	565	27		27	220	186		186		1695						2	20			
Elmwood Rd	Willow Hwy to Greenbriar Rd	600	27		27	220	198		198		1800						5				
Fairbanks Dr	Powderhorn Dr to Durnago Dr.	916	27		27	220	302		302	2748							6	10			
Grand Woods Dr	Willow Hwy to Dead End	2333	27		27	220	770		770		6999						17	660			
Greenbriar Rd.	Holiday Ln to Elmwood	850	27		27	220	281		281		2550						4	20			
Hamlet Ct	Countryside Dr to Dead End	235	27		27	220	78		78		705						3	125			
Hilltop Dr	Toboggan Ln to Lindy Dr	285	27		27	220	94		94		855						2				
Holiday Ln	Willow Hwy to River Ridge Dr	1200	27		27	220	396		396		3600						8	100			
Jade Dr	Dutch Hill Dr to Omar St	1115	27		27	220	368		368		3345						6	40			
Lindy Dr	Willow Hwy to Pony Tr	425	27		27	220	140		140		1275						2				

EATON COUNTY ROAD COMMISSION

2020 HMA SURFACING PROGRAM
 BID BLANK SUMMARY

04/14/20

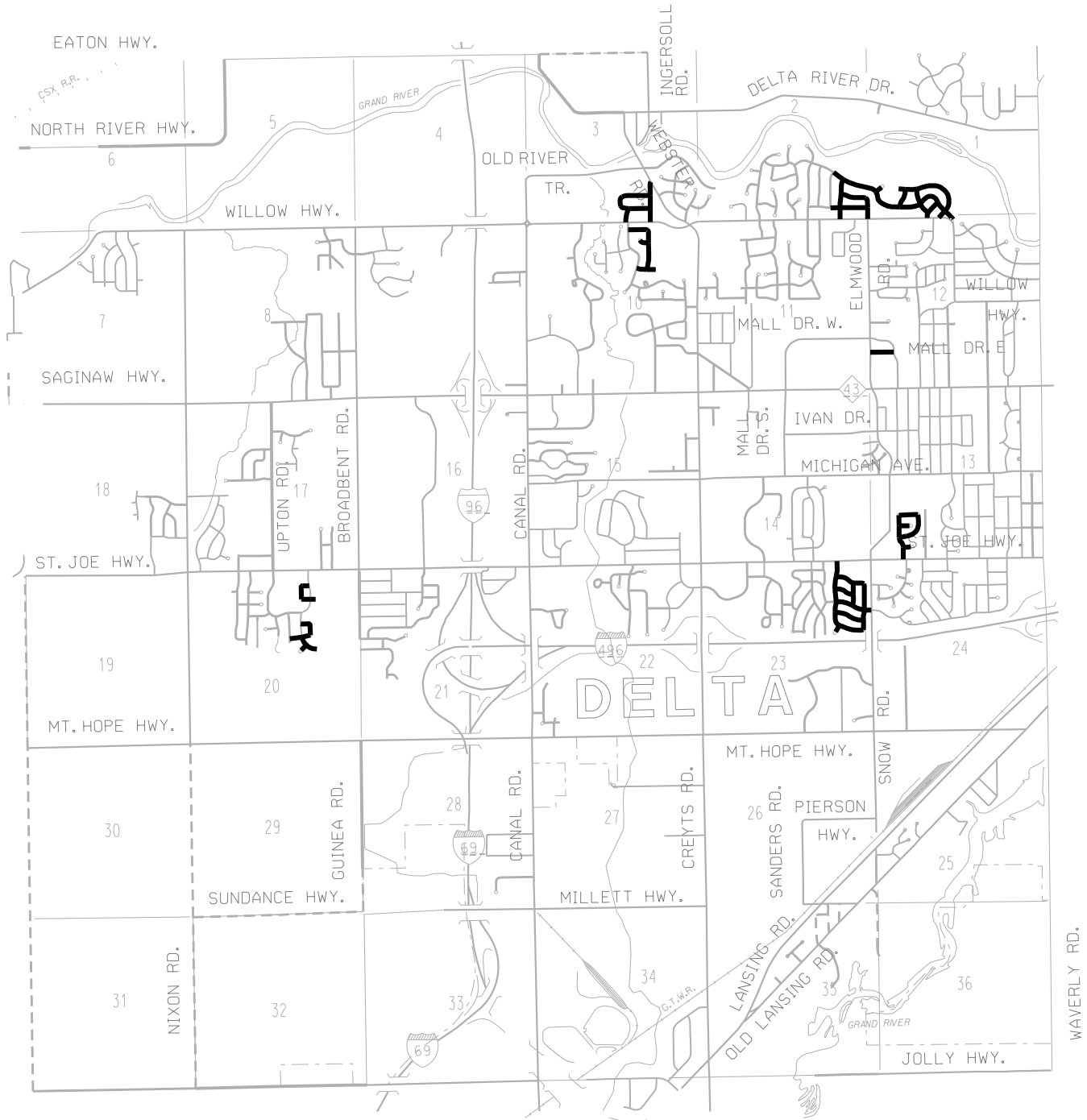
ROAD	FROM TO	LENGTH	WIDTH	SHOULDER WIDTH	MILLING WIDTH	HMA APPLICATION RATE	HMA OVERLAY UNIT	HMA WEDGING	TOTAL HMA, 13A	COLD MILLING, SPECIAL	COLD MILLING HMA SURFACE	SLOPE RESTORATION	SHOULDER, CL II	PAVT MRKG, TYPE NR, 4 INCH, TEMP	PAVT. MRKG, WATERBORNE, 4 INCH,	DR. STRUCTURE COVER, ADJ.	DRAINAGE STRUCTURE RECONSTRUCT	CURB RECONSTRUCT	CURB, CONC, Det. B2- SPECIAL	AGGREGATE BASE 6", 21AA	INTERSECTION GRADING
Malta Cir	Dutch Hill Dr to Dead End	460	27		27	220	152		152	1380						2					
Midland Dr	Elmwood to E. Mall Dr	700	42-33		42-33	220	350		350	3067											
Moultrie Cir	Dutch Hill Dr to Dead End	510	27		27	220	168		168	1530						2					
Omar St	Dutch Hill Dr to Jade Dr	710	27		27	220	234		234	2130						2		30			
Otter Dr	Southfork Cir to Durango Dr	880	27		27	220	290		290	2640						6					
Pepperwood Dr	Aspen Dr to Chimney Rock Dr	710	27		27	220	234		234	2130						4		30			
Pony Trl	Toboggan Ln to Armstrong Dr	906	27		27	220	299		299	2718						4		60			
Powderhorn Dr	Southfork Cir to St. Joe Hwy	1950	27		27	220	644		644	5850						15		40			
Provincial Ave	Wildon Way to Dead End	475	27		27	220	157		157	1425						1		20			
River Ct.	River Ridge Dr to Dead End	350	27		27	220	116		116	1050						2		50			
River Ridge Dr	Boxwood Ln to Grand Woods Park dr	4625	27		27	220	1526		1526	13875						45		380			
Rubina Way	Amberina Dr to Dead End	400	27		27	220	132		132	1200						2					
Ruby Glass Rd	Lindy Dr to Dead End	560	27		27	220	185		185	1680						2		60			
Sierra Dr	Powderhorn to Pepperwood Dr	620	27		27	220	205		205	1860						5		10			
Southfork Cir	Powderhorn to Dead End	424	27		27	220	140		140	1272								10			
Toboggan Ln	Hilltop dr to Armstrong	1180	27		27	220	389		389	3540						2		80			
Wayland Dr	River Ridge Dr to Grand Woods Dr	575	27		27	220	190		190	1725						4		120			
Wildon Way	Provincial Ave to Countryside Dr	820	27		27	220	271		271	2460						1		20			
									40	12593	18843	91967	30	88	72	600	241	2397	120	150	200

EATON COUNTY, MICHIGAN 2020 HMA PAVING

CONTRACT D

— HMA PAVING

04/13/20



EATON COUNTY ROAD COMMISSION

SPECIFICATIONS
FOR
HMA SURFACING PROGRAM

ECRC

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04-13-20

- A. All work included in the 2019 HMA Surfacing Program shall follow the 2012 Michigan Department of Transportation Standard Specifications for Construction, except as modified herein.
- B. Prepare the existing asphalt surface in accordance with section 501.03.C of the Standard Specifications. Joint cleanout will not be required. The contractor shall provide the Road Commission one week's notice prior to beginning pavement cleaning to provide for blading the shoulder or berm. Material left on the existing pavement resulting from the blading operations shall be removed as part of pavement cleaning. Payment for pavement cleaning shall be included in the unit price bid for HMA work items and will not be paid for separately.
- C. Place the bond coat in accordance with section 501.03.D of the Standard Specifications. Payment for the bond coat shall be included in the unit price bid for HMA work items and will not be paid for separately.
- D. Cold Milling HMA Surface shall be in accordance with section 501.03.C.5 of the Standard Specifications. Cold Milling HMA Surface includes edge milling or milling the entire road surface.

The quantities and project locations where cold milling is indicated on the Bid Blank Summary are estimates only and will be paid based on final measurements. Any deletion or addition of project locations, or increases or decreases in milling quantities, will not change the unit prices bid. Cold milling will be paid by the square yard as **Cold Milling HMA Surface**.

Where indicated on the bid blank, specified locations will be cold milled and the material salvaged and hauled to the Eaton County Road Commission garage closest to the milling operation. Refer to the **Cold Milling HMA Surface, Special** special provision in the proposal.

Butt joints shall be milled wherever new HMA will abut adjacent pavement to remain. Payment of butt joints shall be included in the unit price bid for HMA work items and will not be paid for separately.

Where directed by the Engineer, edge milling shall be performed to remove the existing HMA surface at the curb line to a depth as necessary to match the proposed yield. Where edge milling is indicated, the existing HMA surface shall be milled to a maximum width of 7 feet from the curb edge.

Where the entire road width is milled, the pavement shall be milled at a 2% cross slope, or as near as possible. The depth at the existing curb edge shall be as necessary to match the proposed yield. Where the milled depth creates a drop of 3" or greater, the contractor shall immediately place temporary ramps at all drives and butt joints and remove them immediately prior to surfacing. Payment for temporary ramps shall be included in the unit price bid for **Cold Milling HMA Surface** or **Cold Milling HMA Surface, Special** and will not be paid for separately.

The contractor should expect to be milling into the subsurface on entire roads and on portions of some roads to obtain the specified depth and cross slope. No additional payment will be made where milling subsurface material occurs.

- E. **Driveways:** Any driveway with a drop from the new pavement surface of more than 2 inches SHALL have material placed to allow temporary access until final driveway approach work is complete. The temporary material SHALL be placed the same day paving occurs. The temporary driveway approach slope shall be no greater than 10%.

Final driveways shall be replaced at a slope no greater than 5%, unless otherwise directed by the engineer. Driveway paving and gravel shall go no farther than 33 feet from the road centerline unless otherwise directed by the engineer.

- F. Adjust monument boxes in accordance with Section 821 of the Standard Specifications. Quantities shown on the bid blank are estimates and payment will be for the actual number of monument boxes adjusted.

The unit price for **Monument Box Adjust** includes the cost of sawcutting existing pavement, adjusting the cover up or down, and removing and replacing the pavement adjacent to the monument box. Metal riser rings are not allowed to adjust monument boxes.

- G. Adjust drainage structure covers, water manhole covers, and water valve boxes in accordance with Sections 403 and 823 of the Standard Specifications. Quantities shown on the bid blank are estimates and payment will be for the actual number of covers adjusted.

Adjusting manhole covers, catch basin covers, and water valve manhole covers will be measured and paid for as **Dr Structure Cover, Adj - Each**. Water valve boxes will be measured and paid for as **Water Shutoff, Adj - Each**.

Temporary lowering and/or protection of existing drainage structure covers for cold milling operations will be required. All costs for temporary lowering of covers shall be included in the unit price bid for **Cold Milling HMA Surface** or **Cold Milling HMA Surface, Special**. Covers and boxes that do not require adjustment, but which require removal of the existing HMA surface (hand chipping) prior to surfacing will be paid for at 50% of the bid price for the respective adjust work item.

Drainage structure covers shall be adjusted with concrete blocks, bricks or concrete adjusting rings supported on a full bed of mortar. Water valve boxes shall be adjusted by turning casting up to the required elevation.

Metal riser rings will not be allowed to adjust drainage structure covers or valve boxes.

- H. Reconstruct drainage structures where the existing chimney, or top section of the drainage structure, has failed, and where directed by the Engineer. Prior to commencing work, the Engineer will mark those drainage structures that require reconstruction. If a drainage structure is not marked for reconstruction, but the Contractor feels the condition is such that it should be, the contractor shall contact the Engineer for inspection prior to performing the work.

All work, materials, and equipment shall meet the requirements of Section 403 of the Standard Specifications. The drainage structure shall be reconstructed using new concrete blocks, bricks, or precast concrete sections. Chimney sections shall be reconstructed using new concrete blocks, bricks, or precast riser rings supported on a full bed of mortar. The outside of the reconstructed section of the drainage structure shall be wrapped with non-woven geotextile fabric prior to backfilling.

Drainage Structure Reconstruct will be measured by the foot from the lowest depth of drainage structure required to be removed to 6" below the bottom of the casting. Payment shall be in full for all

work, materials, and equipment necessary to perform drainage structure reconstruction. **Dr Structure Cover, Adj** will also be paid on those structures where **Drainage Structure Reconstruct** is paid. Curb and gutter that must be removed and replaced to facilitate the pay item **Drainage Structure Reconstruct** will be paid for as **Curb Reconstruct**.

Prior to commencing **Dr Structure Cover, Adj** and **Drainage Structure Reconstruct**, the inside of the manholes will be photographed. It will be the contractor's responsibility to remove all material that has fallen into the manholes during the course of the work, at no cost to the contract. The contractor shall take all proper and OSHA approved safety measures required to remove the material from the drainage structures.

- I. New curb and gutter will be required on those projects designated on the bid blank or as determined by the Engineer and shall be in accordance with section 802 of the Standard Specifications.

Where directed by the Engineer, existing curb and gutter shall be removed and replaced with curb and gutter of the same cross section. Work required will be removing the existing curb and gutter; excavating to prepare the grade; placing, grading, and compacting aggregate base for the new curb and gutter; constructing the curb and gutter; HMA hand patching; and restoration behind the curb. All work, labor, materials, and equipment for removing the existing curb and gutter, excavating, placing new aggregate base, placing new curb and gutter, hand patching, backfill and slope restoration will be measured by the foot and paid for as **Curb Reconstruct**.

Where there is no existing curb and gutter, the grade will be excavated; Aggregate Base, 21AA, 6 inch placed, graded, and compacted for the new curb and gutter and new HMA between the new curb and existing pavement; new curb and gutter constructed; and the slope restored. Refer to the Proposed Intersection Curb Construction detail. All work, labor, materials, and equipment for constructing the new curb and gutter where there is no curb and gutter will be measured by the foot and paid for as **Curb, Conc, Det B2 – Special**. All work, labor, materials, and equipment for preparing the aggregate base including excavation between the existing asphalt to 6" behind the proposed curb and gutter, placing and compacting **Aggregate Base, 6 inch – 21AA** over the entire excavated area, backfill, and slope restoration will be measured by the square yard and paid for as **Intersection Grading**.

HMA placed between the new curb and gutter and existing pavement will be paid for as **HMA, 13A**. HMA Application Rates will be as shown on the bid blank summary.

- J. All HMA (HMA mixtures) shall meet the requirements of the 2012 MDOT Standard Specifications for Construction, the attached Special Provisions, and as specified herein.

The final asphalt binder grade shall meet or exceed PG 58-28.

The HMA mix shall be designed at 4.00% air voids and field regressed to 3.5% air voids during production.

Prior to the start of production of any mixture, the contractor shall submit an MDOT approved mix design on MDOT Form 1911 for any mix to be used and shall provide manufacturer certifications for all asphalt cement used on the project. All materials used shall be as specified in the MDOT Material Source Guide.

Wedging of uneven areas of the existing pavement prior to placing the surface course will be required as designated on the project summary. Wedging will be paid for at the unit price bid for HMA and will not be paid for separately. Bidders shall note that projects with wedging will include variable

thicknesses placed in one pass. The bidders should expect the screed of the paver to be dragging stones during wedging operations. Application rates for wedging will not be increased to eliminate this condition. The maximum application rate for one pass is 250 lbs per square yard.

- K. Aggregate shoulder construction shall be in accordance with section 307 of the Standard Specifications. Aggregate shoulder material shall meet MDOT Specification 23A. Aggregate shoulder construction will be required in rural and urban areas where there is no curb and gutter, as designated on the project summary. Aggregate shoulders shall be placed no wider than 2 feet unless otherwise directed by the Engineer. Any spillage or surplus material shall be removed and the area shall be left with a clean-neat appearance. Additional aggregate shall be placed and compacted in gravel driveways as needed to build approaches as directed by the Engineer. Driveway slopes shall be 5% or flatter, unless otherwise directed by the Engineer.

The Eaton County Road Commission will test gravel furnished by the Contractor, and will reject gravel that does not meet the specifications.

The HMA pay items on each individual project will not be paid for until the aggregate shoulders for that project have been completed. Shoulder construction, including driveway approaches, will be paid for at the unit price per ton for **Shoulder, CI II**.

- L. Slope restoration shall be done in accordance with section 816 of the Standard Specifications. Slope restoration may be necessary in rural and subdivision areas that do not have curb and gutter, behind replaced and new curb and gutter, and where directed by the Engineer. Topsoil shall be visually inspected and approved by the Engineer. Seed mixture shall be TGM. Seed shall be sowed into topsoil. Straw mulch and mulch anchoring shall be placed on the finished, seeded grade. Mulch blanket is an acceptable alternative for mulch and mulch anchoring. All labor, equipment, topsoil, seed, fertilizer, mulch, mulch anchoring, and mulch blankets will be paid for at the unit price bid for slope restoration and will not be paid for separately. Slope restoration will be measured by the square yard and paid for as **Slope Restoration**.

Schedule: Slope restoration shall be completed within 2 weeks of paving the surface. All slope restoration shall be completed prior to September 15, 2019. The contractor shall schedule the work to have streets requiring slope restoration completed prior to this date.

- M. Railroad Tracks, Remove, FT, shall be done in accordance to section 204.03 of the Standard Specifications and as herein modified. Contractor shall remove and disposing of tracks, ties, timbers, and other related crossing items and fill with Aggregate Base, 21AA to bottom of existing HMA, then place HMA patch flush with existing pavement surface. Pay item includes removing and disposing of tracks, ties, timbers and related items and placing Aggregate Base, 21AA. HMA will be paid for separately. Railroad Tracks, Remove, FT, shall be measured and paid in length from where the rails start to where they end.

- N. TRAFFIC CONTROL - Supply, install, and maintain the proper signs and the necessary traffic regulators per the MMUTCD, MDOT Maintaining Traffic Typical, and as directed by the Engineer. No road closures will be allowed during paving operations and traffic regulators will be required to perform the work. On projects that include shoulder gravel or slope restoration, this requirement includes the furnishing, installation, maintenance, moving, and removal of low shoulder and all other signs and/or barricades needed to maintain traffic safety until the shoulders are placed and the project completed. Payment for traffic control shall be included in the bid prices for the other contract pay items and will not be paid for separately.

- O. Proof of ADEQUATE INSURANCE COVERAGE by the successful bidder will be required as part of this contract. The successful Bidder shall furnish proof of Workers Compensation Insurance and a separate Liability Insurance Policy in favor of the Road Commission naming the Road Commission, its Commissioners, and Employees as an additional named insured, in the amount of \$1,000,000.

The successful Bidder will be required to provide a PERFORMANCE BOND in the amount of 50% of the total contract amount and a LIEN BOND in the amount of 50% of the total contract amount prior to award.

- P. PAY ESTIMATES will be prepared twice monthly by the Engineer for the work completed on the project. Payment of 95% of such estimates will be made upon approval by the Road Commission. Final Payment will be made on an Approved Final Estimate after acceptance of the completed work by the Road Commission.
- Q. **Schedule:** The completion date for all work in this contract is October 30, 2020. On-site work shall occur between the hours of 7:00 AM and 7:00 PM with the exception that equipment or lane closures shall occur no earlier than 15 minutes before sunrise no later than 15 minutes after sunset regardless of the time.

The Board reserves the right to cancel any of the individual projects and/or cancel Contracts in their entirety. The Board reserves the right to add other similar projects to the contract. Any such cancellations or additions shall not change the unit prices bid and all unit prices bid shall remain firm through November 15, 2020.

EATON COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
Base Repair

ECRC

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03-22-18

a. Description. **Base Repair** shall be performed in areas directed by the Engineer. **Base Repair** shall consist of providing all labor, equipment, and materials required to remove existing HMA and underlying base materials and replacing that material with HMA, 13A.

Areas where **Base Repair** will be performed may be know prior to work beginning, or may be designated by the Engineer after milling operations and prior to HMA surfacing.

b. Construction: Remove the existing HMA base and aggregate base to a depth directed by the engineer. This material shall become the property of the contractor and shall be removed from the site.

Place and compact HMA, 13A to the top of the existing surface elevation. The work will require excavation or milling, loading, hauling, grading, and compacting as directed to prepare the subgrade and placing and compacting the HMA, 13A.

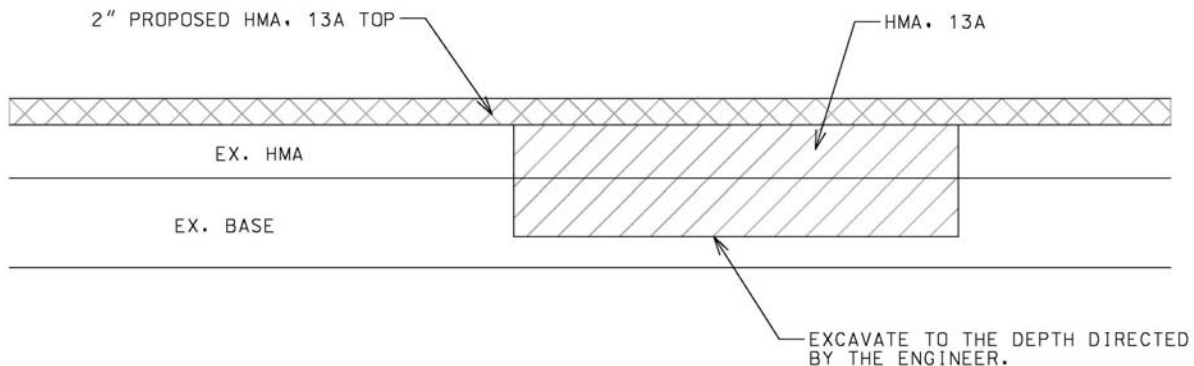
c. Measurement and Payment. The work of **Base Repair** will be measured and paid for by the ton of HMA, 13A placed in the excavated area, which price shall be payment in full for HMA removal, base removal, and placing and compacting HMA, 13A placed in the excavated area. HMA, 13A top will be measured and paid for separately.

PAY ITEM

PAY UNIT

Base Repair

Ton



MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
RECYCLED HOT MIX ASPHALT MIXTURE ON LOCAL AGENCY PROJECTS

CFS:KPK

1 of 2

APPR:JWB:CJB:03-13-14
FHWA:APPR:03-13-14

Add the following subsection to subsection 501.02.A.2, on page 234 of the Standard Specifications for Construction.

- c. **Reclaimed Asphalt Pavement (RAP) and Binder Grade Selection.** The method for determining the binder grade in HMA mixtures incorporating RAP is divided into three categories designated Tier 1, Tier 2 and Tier 3. Each tier has a range of percentages that represent the contribution of the RAP binder toward the total binder, by weight. The tiers identified below apply to HMA mixtures with the following exception: Superpave mixture types E3, E3 High Stress, E10, E10 High Stress, E30, E30 High Stress, E50, and E50 High Stress used as leveling or top course must be limited to a maximum of 27 percent RAP binder by weight of the total binder in the mixture.

Recycled materials may be used as a substitute for a portion of the new materials required to produce HMA mixtures in accordance with contract.

- **Tier 1 (0% to 17% RAP binder by weight of the total binder in the mixture).** No binder grade adjustment is made to compensate for the stiffness of the asphalt binder in RAP.
- **Tier 2 (18% to 27% RAP binder by weight of the total binder in the mixture).** For all mixtures no binder grade change will occur in Tier 2 for all shoulder and temporary road mixtures.

The required asphalt binder grade must be at least one grade lower for the low temperature than the design binder grade required for the specified project mixture type. Lowering the high temperature of the binder one grade is optional. For example, if the design binder grade for the mixture type is PG 58-22, the required grade for the binder in the HMA mixture containing RAP would be a PG 52-28 or a PG 58-28.

For Marshall Mixes, no binder grade change will be required when Average Daily Traffic (ADT) is above 7000 or Commercial Average Daily Traffic (CADT) is above 700. No binder grade change will occur for LVSP, E03 and E1 mixtures used as leveling or top course.

The asphalt binder grade can also be selected using a blending chart for high and low temperatures. Supply the blending chart and the RAP test data used in determining the binder selection according to *AASHTO M 323*.

- **Tier 3 ($\geq 28\%$ RAP binder by weight of the total binder in the mixture).** The binder

grade for the asphalt binder is selected using a blending chart for high and low temperatures per *AASHTO M 323*. Supply the blending chart and the RAP test data used in determining the binder selection.

EATON COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
SAMPLING ASPHALT BINDER

ECRC:MMH

1 of 1

05-08-15

Original samples of asphalt binder shall be taken by the Contractor and delivered to the Engineer prior to incorporation into the mixture. The Contractor shall allow the Engineer access to witness the sampling. The frequency of sampling shall be each day material is placed as part of this contract unless otherwise determined by the Engineer. The cost of obtaining and delivering the samples to the Engineer will be included in the hot mix asphalt (HMA) pay items.

The Contractor must certify in writing that the materials used in the HMA mixture are from the same source as the materials used in developing the HMA mixture design and the bond coat is from an approved supplier as stated in MDOT's Material Quality Assurance Procedures Manual.

EATON COUNTY ROAD COMMISSION

SPECIAL PROVISION
FOR
SLOPE RESTORATION, MODIFIED

ECRC

1 of 2

01/18/18

a. Description. This work consist of providing all labor, equipment and materials required to perform Slope Restoration in accordance with section 816 of the Standard Specifications for Construction, the standard plans, and as specified herein.

b. Construction. The work item of Slope Restoration, Modified shall meet all the requirements of Specification Sections 816.01.A through 816.01.H.

Salvage, furnish, haul, spread, grade, and trim topsoil on all disturbed slopes outside of the new road bed. The finished topsoil grade shall meet the tolerances of Class A Slopes.

Spread seed and chemical fertilizer nutrient on all new slopes and areas of disturbed earth outside the road surface as directed by the Engineer. Place high velocity mulch blankets in all ditch bottoms and swales to a width of 6 feet centered on the bottom, and on all slopes 1:2 or steeper. Other areas shall receive mulch blanket in accordance with the Standard Specifications and where directed by the Engineer.

Slope restoration shall be completed within 5 days of final earth change.

c. Materials. All materials and quantities shall be in accordance with Sections 816 and 917 of the Standard Specifications except as modified herein.

Materials and application rates shall be as follows:

Seed mixture TDS	220 LBS/ACRE
Chemical Fertilizer Nutrient (19-19-19)	253 LBS/ACRE
Spring Oats	20 LBS/ACRE

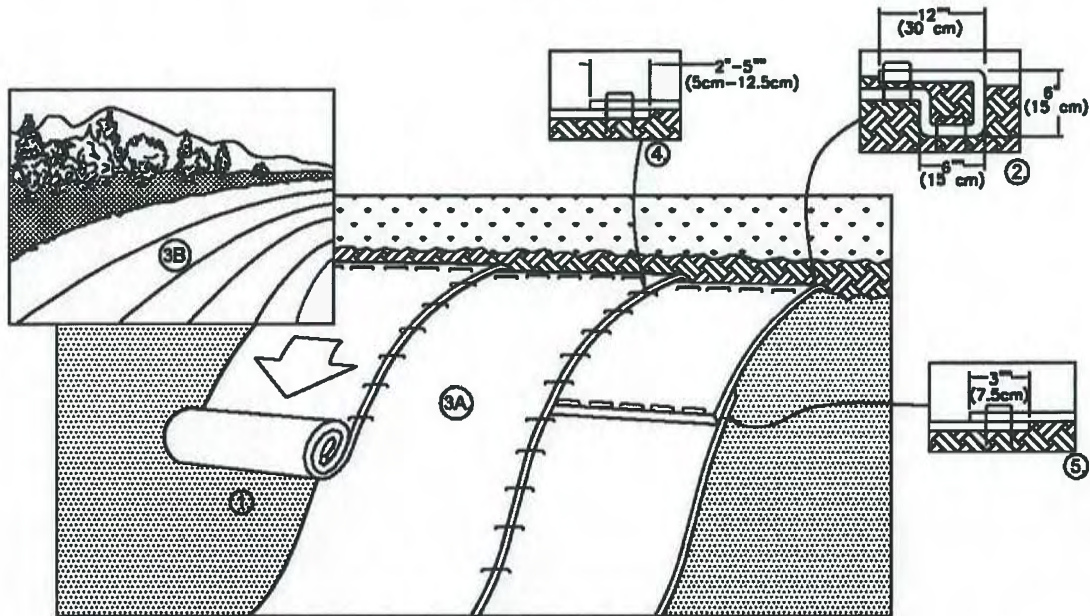
d. Measurement and payment. The Engineer will measure **Slope Restoration, Modified** in place. The unit price for **Slope Restoration, Modified** includes salvaging, furnishing, placing, grading, and trimming topsoil, and furnishing and spreading seed and chemical fertilizer nutrient.

Mulch Blanket, High Velocity and **Mulch Blanket** will be paid for separately.

PAY ITEM
Slope Restoration, Modified

PAY UNIT
Square Yard

MULCH BLANKET SLOPE INSTALLATION



1. PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP's IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF RECP's EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE RECP's WITH A ROW OF ANCHORS APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER ANCHORING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF RECP's BACK OVER SEED AND COMPACTED SOIL. SECURE RECP's OVER COMPACTED SOIL WITH A ROW OF ANCHORS SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE RECP's.
3. ROLL THE RECP's (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECP's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING ANCHORS IN APPROPRIATE LOCATIONS AND AS DIRECTED BY THE ENGINEER. WHEN USING THE DOT SYSTEM, ANCHORS SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. THE EDGES OF PARALLEL RECP's MUST BE ANCHORED WITH 2" OVERLAP.
5. CONSECUTIVE RECP's SPLICED DOWN THE SLOPE MUST BE OVERLAPPED SHINGLE STYLE WITH 6" OVERLAP. PLACE ANCHORS THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE RECP's WIDTH.