Wisconsin Department of Transportation

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August 4, 2016

NOTICE TO ALL CONTRACTORS:

Proposal #09: 9180-22-71, WISC 2016 292
Oconto Falls – USH 141
Highland Drive – USH 141
STH 22
Oconto County

Letting of August 9, 2016

This is Addendum No. 01, which provides for the following:

Special Provisions

Added Special Provisions	
Article No.	Description
25	Select Borrow
26	HMA Pavement 3 MT 58-28 S 3.0% Va Regression Special, Item SPV.0195.01; HMA Pavement 4 MT 58-34 S 3.0% Va Regression Special, Item SPV.0195.02

Schedule of Items

Revised Bid Item Quantities					
Bid Item	Item Description	Unit	Old Quantity	Revised Quantity	Proposal Total
208.0100	Borrow	CY	9,911	3,116	13,027
311.0110	Breaker Run	TON	166	3,629	3,795
311.0115	Breaker Run	CY	3,795	-3,629	166
460.6223	HMA Pavement 3 MT 58-28 S	TON	13,844	48	13,892
460.6244	HMA Pavement 4 MT 58-34 S	TON	8,322	36	8,358

Added Bid Item Quantities					
Bid Item	Item Description	Unit	Old Quantity	Revised Quantity	Proposal Total
SPV.0195.01	HMA Pavement 3 MT 58-28 S 3.0% Va Regression Special	TON	0	13,892	13,892
SPV.0195.02	HMA Pavement 4 MT 58-34 S 3.0% Va Regression Special	TON	0	8,358	8,358

Plan Sheets

Revised Plan Sheets	
Plan Sheet	Plan Sheet Title (brief description of changes to sheet)
6	Modified existing lane widths
14	Modified existing lane widths
17	Added detail for pavement transition
49	Updated some of the earthwork quantities
53	Updated HMA Pavement quantities

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

Mike Coleman

Proposal Development Specialist
Proposal Management Section

ADDENDUM NO. 01

9180-22-71

August 4, 2016

Special Provisions

25. Select Borrow.

Conform to the requirements of standard spec 208 and as hereinafter provided.

Material.
Furnish and use material that consists of granular material meeting the following requirements: Not more than 25% of that portion passing the No. 4 sieve shall pass the No. 200 sieve.

If the engineer approves, the contractor may substitute Breaker Run conforming to standard spec 311 for select borrow.

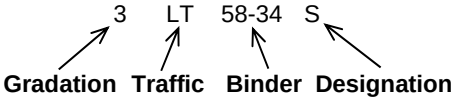
26. HMA Pavement 3 MT 58-28 S 3.0% Va Regression Special, Item SPV.0195.01.
HMA Pavement 4 MT 58-34 S 3.0% Va Regression Special, Item SPV.0195.02.

HMA
A Description
This special provision describes providing HMA pavement including the binder under a combined bid item along with air void regression as described here within.

Define gradations, traffic levels, and asphaltic binder designation levels as follows:

GRADATIONS (NMAS)		TRAFFIC VOLUME		DESIGNATION LEVEL	
1	37.5 mm	LT	Low	S	Standard
2	25.0 mm	MT	Medium	H	Heavy
3	19.0 mm	HT	High	V	Very Heavy
4	12.5 mm			E	Extremely Heavy
5	9.5 mm				
6	4.75 mm				

Construct HMA pavement of the type the bid item indicates encoded as follows:



Conform to standard spec 460 as modified in this special provision.

B Materials

Add the following to standard spec 460.2:
Design mixtures conforming to tables 460-1 and 460-2 to 4.0% air voids to establish the aggregate structure.

Determine the target JMF Asphalt Binder content for production from the mix design data corresponding to 3.0% air voids (97% Gmm) target at Ndes. The air voids at the design number of

gyrations, (Ndes) shall be achieved by the addition of liquid asphalt meeting the contract specifications.

Production shall conform to VMA and Dust to Binder Ratio requirements of table 460-1 and 460-2.

Replace standard spec table 460-1 with the following to change the footnotes to refer to LT and MT mixes instead of E-0.3 and E-3 mixes:

TABLE 460-1 AGGREGATE GRADATION MASTER RANGE AND VMA REQUIREMENTS

SIEVE	PERCENTS PASSING DESIGNATED SIEVES						
	NOMINAL SIZE						
	37.5 mm (#1)	25.0 mm (#2)	19.0 mm (#3)	12.5 mm (#4)	9.5 mm (#5)	SMA 12.5 mm (#4)	SMA 9.5 mm (#5)
50.0-mm	100						
37.5-mm	90 –100	100					
25.0-mm	90 max	90 -100	100				
19.0-mm	___	90 max	90 -100	100		100	
12.5-mm	___	___	90 max	90 -100	100	90 - 97	100
9.5-mm	___	___	___	90 max	90 -100	58 - 72	90 - 100
4.75-mm	___	___	___	___	90 max	25 - 35	35 - 45
2.36-mm	15 – 41	19 - 45	23 - 49	28 - 58	20 - 65	15 - 25	18 - 28
75-µm	0 – 6.0	1.0 - 7.0	2.0 - 8.0	2.0 - 10.0	2.0 - 10.0	8.0 - 12.0	10.0 - 14.0
% MINIMUM VMA	11.0	12.0	13.0	14.0[1]	15.0[2]	16.0	17.0

[1] 14.5 for LT and MT mixes
[2] 15.5 for LT and MT mixes

Replace standard spec table 460-2 with the following to switch from E mixes to LT, MT, and HT mixes; and change the tensile strength ratio requirements to 0.75 without antistripping additive and 0.80 with antistripping additive:

TABLE 460-2 MIXTURE REQUIREMENTS

Mixture type	LT	MT	HT	SMA
ESALs x 106 (20 yr design life)	<2.0	2 - <8	>8	> 5 mil
LA Wear (AASHTO T96)				
100 revolutions(max % loss)	13	13	13	13
500 revolutions(max % loss)	50	45	45	40
Soundness (AASHTO T104) (sodium sulfate, max % loss)	12	12	12	12
Freeze/Thaw (AASHTO T103) (specified counties, max % loss)	18	18	18	18
Fractured Faces (ASTM 5821) (one face/2 face, % by count)	65/ __	75 / 60	98 / 90	100/90
Flat & Elongated (ASTM D4791) (max %, by weight)	5 (5:1 ratio)	5 (5:1 ratio)	5 (5:1 ratio)	20 (3:1 ratio)
Fine Aggregate Angularity (AASHTO T304, method A, min)	40	43	45	45
Sand Equivalency (AASHTO T176, min)	40	40	45	50
Gyratory Compaction				

Gyrations for Nini	6	7	8	8
Gyrations for Ndes	40	75	100	65
Gyrations for Nmax	60	115	160	160
Air Voids, %Va (%Gmm Ndes)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)	4.0 (96.0)
% Gmm Nini	<= 91.5[1]	<= 89.0[1]	<= 89.0	___
% Gmm Nmax	<= 98.0	<= 98.0	<= 98.0	___
Dust to Binder Ratio[2] (% passing 0.075/Pbe)	0.6 - 1.2	0.6 - 1.2	0.6 - 1.2	1.2 - 2.0
Voids filled with Binder (VFB or VFA, %)	68 - 80[4] [5]	65 – 75[3] [4]	65 - 75[3] [4]	70 - 80
Tensile Strength Ratio (TSR) (ASTM 4867)				
no antistripping additive	0.75	0.75	0.75	0.75
with antistripping additive	0.80	0.80	0.80	0.80
Draindown at Production Temperature (%)	___	___	___	0.30

[1] The percent maximum density at initial compaction is only a guideline.

[2] For a gradation that passes below the boundaries of the caution zone (ref. AASHTO MP3), the dust to binder ratio limits are 0.6 - 1.6.

[3] For #5 (9.5mm) and #4 (12.5 mm) nominal maximum size mixtures, the specified VFB range is 70 - 76%.

[4] For #2 (25.0mm) nominal maximum size mixes, the specified VFB lower limit is 67%.

[5] For #1 (37.5mm) nominal maximum size mixes, the specified VFB lower limit is 67%.

Replace standard spec 460.2.8.2.1.7 paragraph six with the following to base payment adjustment on the combined bid item unit price:

(6) The department will reduce payment for nonconforming QMP HMA mixtures, starting from the stop point to the point when the running average is back inside the warning limits, as follows:

PAYMENT FOR MIXTURE*[1] [2]*

ITEM	PRODUCED WITHIN WARNING BANDS	PRODUCED OUTSIDE JMF LIMITS
Gradation	90%	75%
Asphalt Content	85%	75%
Air Voids	70%	50%
VMA	90%	75%

[1] For projects or plants where the total production of each mixture design requires less than 4 tests refer to CMM 8-36.

[2] Payment is in percent of the contract unit price for the HMA Pavement bid item. The department will reduce pay based on the nonconforming property with lowest percent pay. The department will administer pay reduction under the Nonconforming QMP HMA Mixture administrative item.

Replace standard spec 465.2 with the following:

(1) Under the Asphaltic Surface, Asphaltic Surface Detours, and Asphaltic Surface Patching bid items; submit a mix design. Furnish asphaltic mixture meeting the requirements specified for either

type LT or MT mix under 460.2; except the engineer will not require the contractor to conform to the quality management program specified under 460.2.8.

(2) Under the other 465 bid items, the contractor need not submit a mix design. Furnish aggregates mixed with a type AC asphaltic material. Use coarse and fine mineral aggregates uniformly coated and mixed with the asphaltic material in an engineer-approved mixing plant. The contractor may include reclaimed asphaltic pavement materials in the mixture.

C Construction

Replace standard spec table 460-3 with the following to switch from E mixes to LT, MT, and HT mixes and to increase field density requirements by 1.5% when operating under this HMA Pavement 3.0% Va Regression SPV:

TABLE 460-3 MINIMUM REQUIRED DENSITY[1]

LOCATION	LAYER	PERCENT OF TARGET MAXIMUM DENSITY		
		MIXTURE TYPE		
		LT AND MT	HT	SMA[5]
TRAFFIC LANES[2]	LOWER	93.0[3]	93.5[4]	____
	UPPER	93.0	93.5	____
SIDE ROADS, CROSSOVERS, TURN LANES, & RAMPS	LOWER	93.0[3]	93.5[4]	____
	UPPER	93.0	93.5	____
SHOULDERS & APPURTENANCES	LOWER	91.0	91.0	____
	UPPER	92.0	92.0	____

[1] The table values are for average lot density. If any individual density test result falls more than 3.0 percent below the minimum required target maximum density, the engineer may investigate the acceptability of that material.

[2] Includes parking lanes as determined by the engineer.

[3] Minimum reduced by 2.0 percent for a lower layer constructed directly on crushed aggregate or recycled base courses.

[4] Minimum reduced by 1.0 percent for a lower layer constructed directly on crushed aggregate or recycled base courses.

[5] The minimum required densities for SMA mixtures are determined according to CMM 8-15.

Delete standard spec 460.2.8.2.1.5(1) and replace with the following:

(1) Conform to the following control limits for the JMF and warning limits based on a running average of the last 4 data points:

ITEM	JMF LIMITS	WARNING LIMITS
Percent passing given sieve:		
37.5-mm	+/- 6.0	+/- 4.5
25.0-mm	+/- 6.0	+/- 4.5
19.0-mm	+/- 5.5	+/- 4.0
12.5-mm	+/- 5.5	+/- 4.0
9.5-mm	+/- 5.5	+/- 4.0
2.36-mm	+/- 5.0	+/- 4.0
75-µm	+/- 2.0	+/- 1.5
Asphaltic content in percent	- 0.3	- 0.2

Air voids in percent	+ 1.3/-1.0	+ 1.0/-0.7
VMA in percent[1]	- 0.5	- 0.2

[1] VMA limits based on minimum requirement for mix design nominal maximum aggregate size in table 460-1.

Delete standard spec 460.2.8.3.1.6(1) and replace with the following:

(1) The engineer will provide test results to the contractor within 2 mixture-production days after obtaining the sample. The quality of the product is acceptably verified if it meets the following limits:

- Va is within a range of 2.0 to 4.3 percent.
- VMA is within minus 0.5 of the minimum requirement for the mix design nominal maximum aggregate size.

D Measurement

The department will measure HMA Pavement (type) 3.0% Va Regression Special conforming to standard spec 460.4.

E Payment

Add the following to standard spec 460.5 to switch from E mixes to LT, MT, and HT mixes; to combine the pavement and binder bid items; and to specify a pay reduction for pavement placed with nonconforming binder:

The department will pay for measured quantities at the contract unit price under the following bid items:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0195.01	HMA Pavement 3 MT 58-28 S 3.0% Va Regression Special	TON
SPV.0195.02	HMA Pavement 4 MT 58-34 S 3.0% Va Regression Special	TON

Payment is full compensation for providing HMA Pavement including asphaltic binder.

In addition to any pay adjustment under standard spec 460.2.8.2.1.7(6), the department will adjust pay for nonconforming binder under the Nonconforming QMP Asphaltic Material administrative item. The department will deduct 25 percent of the contract unit price of the HMA Pavement bid item per ton of pavement placed with nonconforming PG binder the engineer allows to remain in place.

Delete standard spec 460.5.2.3(1) and replace with the following:

(1)If the lot density is greater than the minimum specified in table 460-3 and all individual air voids test results for that mixture placed during the same day are within 2.5 - 4.0 percent, the department will adjust pay for that lot as follows:

INCENTIVE PAY ADJUSTMENT FOR HMA PAVEMENT DENSITY

PERCENT LOT DENSITY ABOVE SPECIFIED MINIMUM	PAY ADJUSTMENT PER TON[1]
From -0.4 to 1.0 inclusive	$0
From 1.1 to 1.8 inclusive	$0.40
More than 1.8	$0.80

[1] The department will prorate the pay adjustment for a partial lot.

APPENDIX A: Test Procedures for HMA Pavement 3% Va Regression SPV

Delete CMM 8-15.10.1 Target maximum Density and replace with the following:

For pavement density determination, the target value in lb/ft^3 (PCF) is established using the mixture maximum specific gravity (G_{mm}). For the first day of a paving mixture design, the target maximum density will be the G_{mm} value corresponding to 3.0% air voids on the mix design multiplied by 62.24 lb/ft^3 (PCF). The target maximum density for all other days will be the four G_{mm} test running average value from the end of the previous days' production multiplied by 62.24 lb/ft^3 (PCF). If four tests have not been completed by the end of the first day, the average of the completed G_{mm} test values multiplied by 62.24 lb/ft^3 (PCF) will be used until a running average of 4 is established.

The following data must be recorded for each test on the worksheet for MRS entry

- Density standard and moisture standard
- Density count, moisture counts or contact and air gap counts
- Total wet density or bulk density
- % Compaction
- Manufacturer name and serial number
- Operators name
- Mix design number (WisDOT 250 ID) and daily Target max density target number (G_{mm} x 62.24 lb/ft^3)

Delete CMM 8-15.15.2.1 Examples of Computing Incentive/Disincentive for Density and replace with the following:

Example 1 (nominal tonnage lots):

HMA Pavement, Type 4 HT 58-34 S Lot 2R
Total HMA Tonnage for Project: 20,000 Tons
% Density of Target Maximum (G_{mm}) = 90.9%
Required % Density of the G_{mm} = 93.5%
Lot Tonnage = 750
Contract Price per Ton = $26.50

From Table 460-3 of this SPV.0195 and 460.5.2.2:

- Amount below Specified Minimum (Table 460-3 of this SPV) = 93.5 - 90.9 = 2.6
- Payment Factor (SS 460.5.2.2) = 70% (30% Credit to the Department)
- Credit to the Department (HMA Mix) = 30% x $26.50/Ton x 750 Tons = $5,962.50

If this were the only failing lot on the project, the final quantities on the estimate would be as shown in Table 3.

Example 2 (nominal tonnage lots):

HMA Pavement, Type 4 HT 58-34 S Lot 3R
% Density of Target Maximum (G_{mm}) = 95.1%
Required % Density of the G_{mm} = 93.5%
Lot Tonnage = 750
Air Voids for day = 2.9-3.2%
Payment Factor = 95.1 – 93.5 (Table 460-3)= 1.6

Adjusted Unit Price = $0.40/Ton x 750 Tons (SS 460.5.2.3(1) of this SPV)= $300

If this is the only lot with a higher density than required on the project, the final quantities on the estimate would be as shown in Table 3 below:

Table 3 Estimate for Pay Adjustment for Incentive/Disincentive Density

Bid Item	Description	Unit	Cost/Unit	Total Quantity	Total
460.7244	HMA Type 4 HT 58-34 S	TON	$26.50	20,000	$530,000.00
460.2000	Incentive Density HMA Pavement	DOL	$1.00	300.00	$300.00
804.2005	Disincentive Density HMA Pavement	DOL	$1.00	-(5,962.5)	-($5,962.50)

Project Information for Examples 3 and 4 (daily tonnage lots & linear sublots):

A project begins at station 56+78 and ends at station 234+25. It is a 2-lane roadway with a shoulder on each side. The traffic lanes are 12 feet wide and the shoulders are 3 feet wide. Shown in the figure below is the eastbound traffic lane and shoulder for the length of the project. The contractor will be paving the shoulder integrally with the traffic lane. The pavement is a 2-inch overlay and the same HMA mix type is used on the entire project. The HMA mixture includes 5.5% asphaltic material. The bid price for the HMA pavement item is $41.75 per ton. The specified target density for the traffic lane is 93.5%. The target density for the shoulder is 92.0%.

Day 1:

The contractor begins paving at station 56+78 and ends the day at station 102+97, a total length of 4,619 feet. A quantity of 677 tons was placed on the eastbound traffic lane, and 169 tons was placed on the integral shoulder.

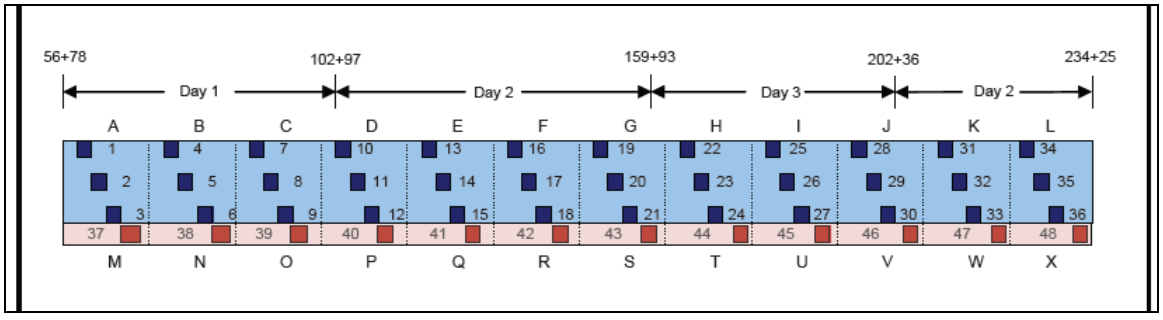
Day 2:

The contractor begins paving at station 102+97. Due to traffic staging requirements, the contractor stops paving at station 159+93, 5,696 feet, and begins paving again at station 202+36. They end the day at the end of the project, station 234+25, 3,189 additional feet. A quantity of 1303 tons was paved on the eastbound traffic lane, and 326 tons was placed on the integral shoulder.

Day 3:

The contractor begins paving at station 159+93 and ends the day at station 202+36, 4,243 feet. A total of 622 tons was placed on the eastbound traffic lane, and 156 tons was placed on the integral shoulder.

Figure 6 Linear Sublot Example Project



Example 3 (daily tonnage lot & linear sublots):

Use the example project information and the following test results from day 1. All of the day's air voids tests were acceptable. (Density Calculated off the PCF value, sublot is the average of the density %)

Sublot ID	Test ID	% Density	Sublot Avg % Density
A 56+78 to 71+78	1	94.3	94.6
	2	94.7	
	3	94.9	
B 71+78 to 86+78	4	94.6	95.0
	5	95.2	
	6	95.1	
C 86+78 to 101+78	7	94.1	94.6
	8	95.0	
	9	94.8	
M	37	93.2	93.2
N	38	94.2	94.2
O	39	93.0	93.0

1. Compute the average density for each traffic lane sublot and each shoulder sublot.

SOLUTION: See the results in the table above.

2. Compute the density incentive or disincentive for the day's paving.

SOLUTION:

- Traffic Lane:

The specified target density for the traffic lane is 93.5%. All of the sublot averages were no more than one percent below the target density, so all of the day's traffic lane test results are used to compute the daily lot density and the lot incentive pay.

- Lot density = (94.3 + 94.7 + 94.9 + 94.6 + 95.2+ 95.1+ 94.1 + 95.0 + 94.8) / 9 tests = 94.7%

According to 460.5.2.3(1) of this SPV, this lot density is eligible for incentive pay of $0.40 per ton. 677 tons of HMA was placed on the traffic lane on day 1, therefore the contractor receives $270.80 density incentive for the day 1 traffic lane lot. This is for all of sublot A, B & C and the 119' in sublot D that did not reach the random number.

- Shoulder:

The minimum required density is 92.0%. All of the sublot averages were acceptable, so all of the day's shoulder tests are used to compute the shoulder lot density. The average of all the shoulder tests is 93.5%. According to the specification, this lot density is eligible for incentive pay of $0.40 per ton. 169 tons of HMA was placed on the shoulder on day 1, therefore the contractor receives $67.60 density incentive for the day 1 shoulder lot.

Example 4 (daily tonnage lot & linear sublots):

Use the example project information and the following test results from day 3. All of the day's air voids tests were acceptable.

Sublot ID	Test ID	% Density	Sublot Avg % Density
H 161+78 to 176+78	22	92.3	92.3
	23	92.4	
	24	92.2	
I 176+78 to 191+78	25	95.6	95.4
	26	95.3	
	27	95.4	
J 191+78 to 202+36	28	92.5	92.4
	29	92.3	
	30	92.4	
T	44	91.9	91.9
U	45	94.4	94.4
V	46	92.1	92.1

Compute the density incentive or disincentive for the day's paving.

SOLUTION:

1. Traffic Lane:

   According to the specification, a minimum density of 93.5% is required for the traffic lane. When verifying whether or not the sublot densities meet the requirements, it is found that sublot H and sublot J have average densities that are more than one percent below the required minimum. According to the specification, the quantity of HMA pavement placed this day in each of these sublots is subject to disincentive, and the day's test results within these sublots are not included when computing the incentive for the remainder of the lot.

2. Sublot H:

   Day 3 began inside the limits of sublot G, at station 159+93, but beyond its random test location. The tests for sublot G represent material placed on day 2. The tests in sublot H represent the day 3 material from station 159+93 to 176+78, a total length of 1685 feet long (185' from sublot G, paved on day 3, and 1500' in sublot H) by 12 feet wide.

   Quantity represented by tests in sublot H =

$$\frac{(1685' \times 12')}{(9\ sf/sy)} \times \frac{(2\ in. \times 110\ lb/sy/in)}{(2000\ lb/ton)} = 247\ tons$$

   According to the disincentive pay table in the specification, the quantities are subject to a pay factor equal to 95 percent of the contract price. This is equivalent to a 5 percent pay reduction.

   Disincentive Density HMA Pavement = 247 tons x ($41.75/ton x 0.05) = -$515.61

3. Sublot I:

   Quantity represented by tests in sublot I =

$$\frac{(1500' \times 12')}{(9\ sf/sy)} \times \frac{(2\ in. \times 110\ lb/sy/in)}{(2000\ lb/ton)} = 220\ tons$$

   According to the incentive pay table, 220 tons of the HMA pavement item are eligible for an incentive of $0.80 per ton, or a total of $176.00.

4. Sublot J:

   Day 3 ended within the limits of sublot J, beyond its random test location. The day 3 quantity placed within sublot J, from station 191+78 to 202+36, at length of 1,058 feet, is represented by its tests. The day 2 quantity placed toward the end of sublot J is represented by the tests taken on day 2 within sublot K.

   Quantity represented by tests in sublot J=

$$\frac{(1058' \times 12')}{(9\ sf/sy)} \times \frac{(2\ in. \times 110\ lb/sy/in)}{(2000\ lb/ton)} = 155\ tons$$

   According to the disincentive pay table in the specification, the quantities are subject to a pay factor equal to 95 percent of the contract price. This is equivalent to a 5 percent pay reduction.

   Disincentive Density HMA Pavement = 155 tons x ($41.75/ton x 0.05) = -$323.56

5. Shoulder:

   All of the day 3 shoulder sublots have acceptable density values, so we use all of the results to compute the day's shoulder lot density.

   Day 3 shoulder lot density = (91.9 + 94.4 + 92.1) / 3 tests = 92.8%

   The lot density of 92.8% is not more than 1.0% above the required minimum of 92.0%, therefore the day 3 shoulder pavement does not receive any density incentive.

Day 3 Incentive/Disincentive Summary:

Incentive Density HMA Pavement (Lot I) = $176.00

Disincentive Density HMA Pavement (Lot H) = -$515.61

Disincentive Density HMA Pavement (Lot J) = -$323.56

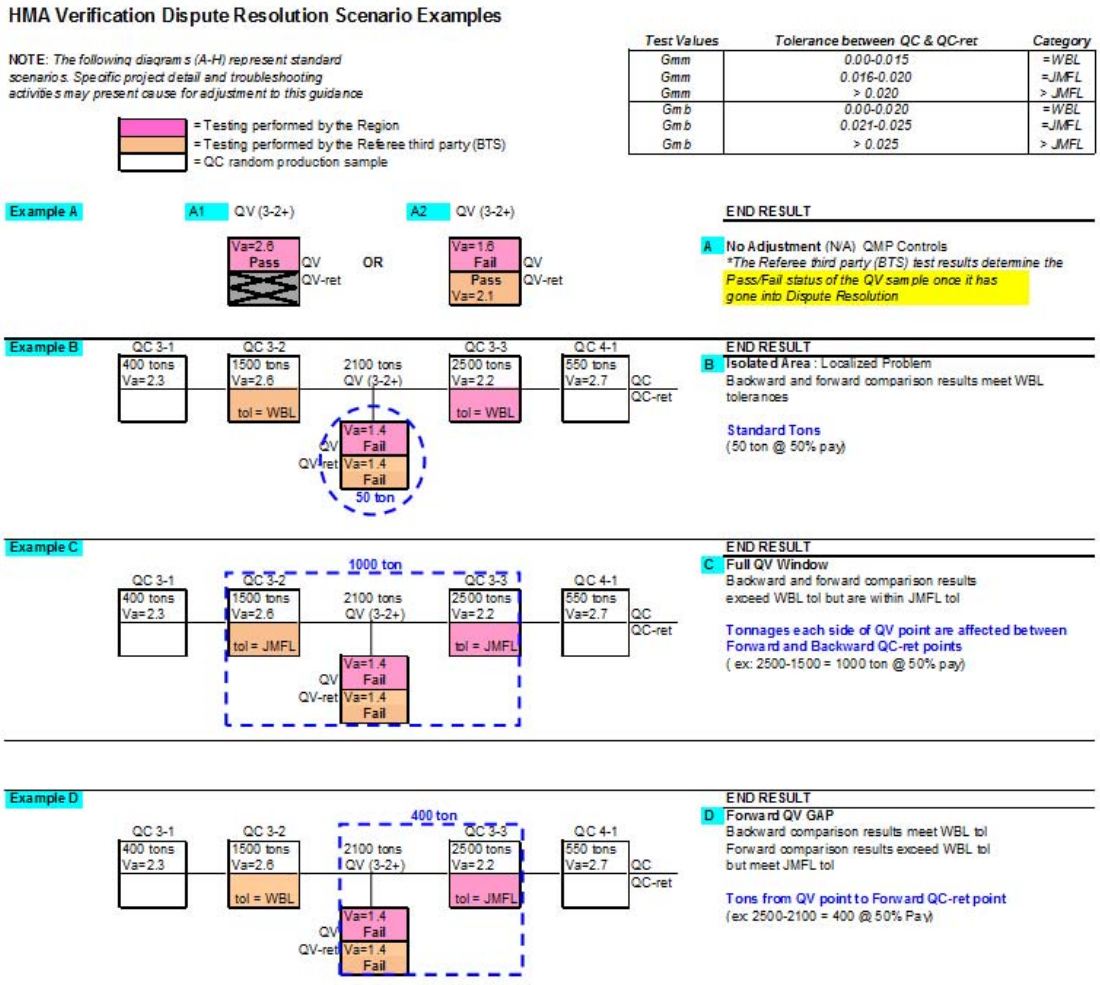
Delete CMM 8-36.6.1 QC Tests and replace with the following:

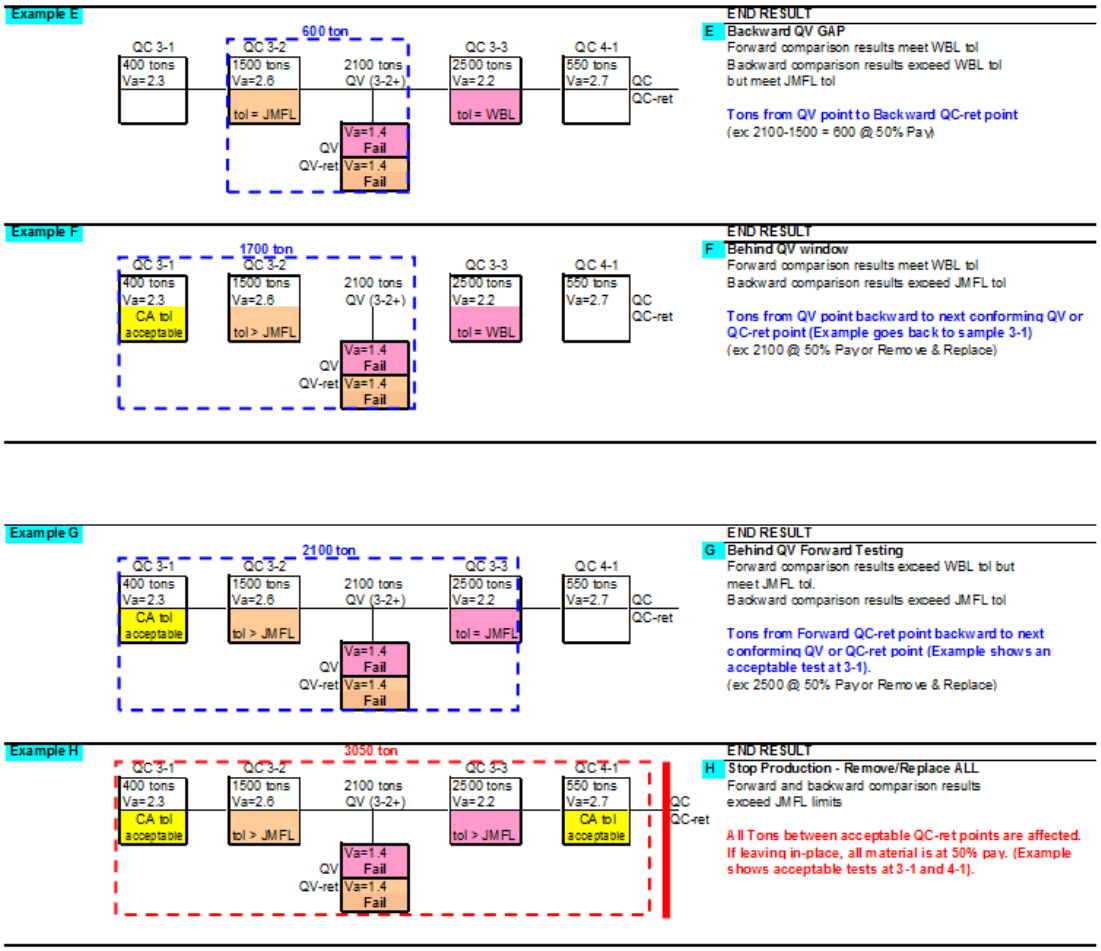
QC testing must be completed, and data posted, on the day the sample was taken or as approved by the engineer**.**

For administration of projects requiring only one, two, or three single tests per mix design, apply the following tolerances table for mixture evaluation:

- Va = 2.0 – 5.0%
- VMA = - 1.3 from required minimums for Table 460-1 as revised in STSP 460-025
- AC = within -0.1of JMF Pb after regression

Delete CMM 8-36 Figure 8 HMA Verification Dispute Resolution Scenarios and replace with the following:





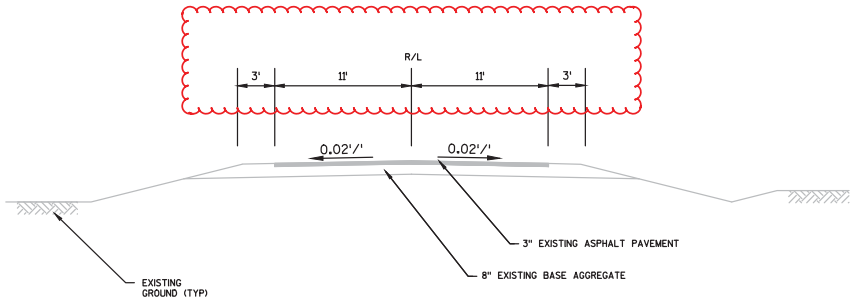
Delete CMM 8-66.2.2(3) and replace with the following:

3. Determine trial asphalt binder contents (estimated by experience or by calculation based on aggregate properties of trial blends).
   - Compact gyratory specimens using a minimum of 3 asphalt binder contents (0.5% increments) and covering a range to include the estimated optimum design binder content as well as 3.0% air voids. Use N_{des} for compaction effort.
   - Compare trial binder content results. The design binder content (by either graphing or interpolating the trial data results) is determined as that meeting requirements stated in standard spec 460. The department will determine the optimum binder content corresponding to 3.0% air voids by linear regression of the trial gyratory specimens.

Schedule of Items
Attached, dated August 4, 2016, are the revised Schedule of Items Pages 2 – 4 and 13.

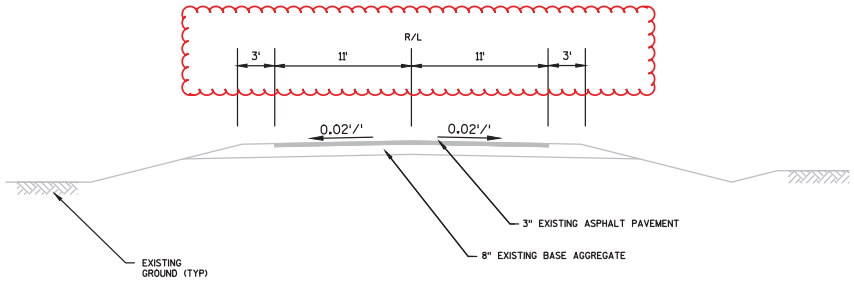
Plan Sheets
The following 8½ x 11-inch sheets are attached and made part of the plans for this proposal:
Revised: 6, 14, 17, 49, and 53.

END OF ADDENDUM



TYPICAL EXISTING CROSS SECTION FOR LARSON LANE

STA 28+00 TO STA 29+18



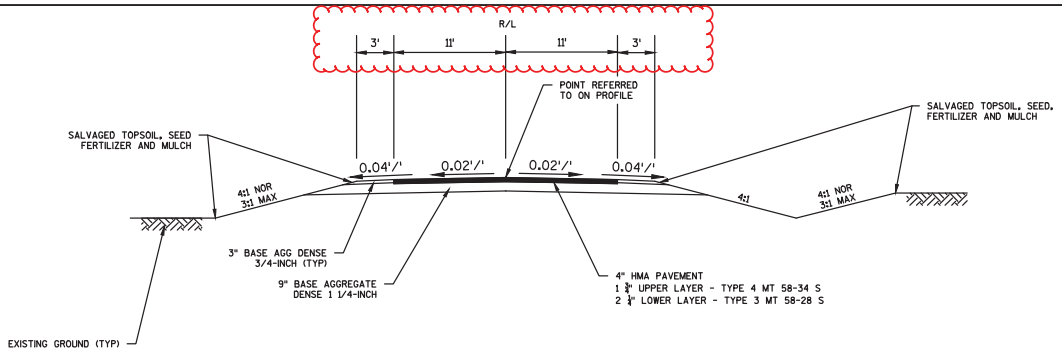
TYPICAL EXISTING CROSS SECTION FOR YOUNGER ROAD

STA 38+00 TO STA 39+18

STA 50+80 TO STA 52+50

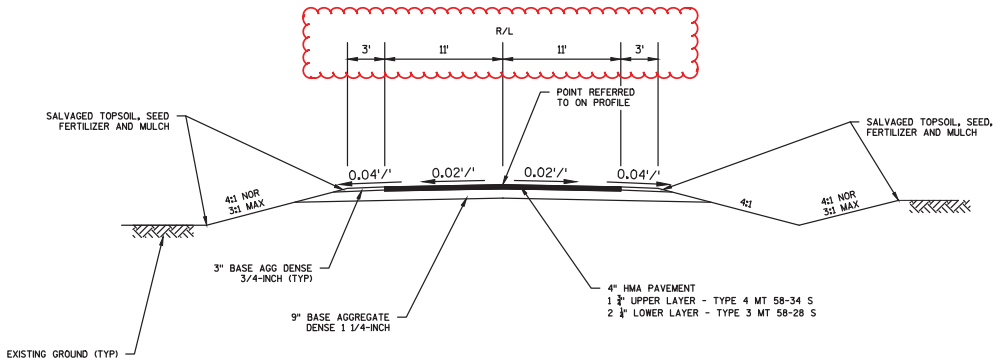
Addendum No. 01
ID 9180-22-71
Revised Sheet 6
August 4, 2016

PROJECT NO: 9180-22-71	HWY: STH 22	COUNTY: OCONTO	TYPICAL SECTIONS	SHEET 6 _____	E



TYPICAL FINISHED CROSS SECTION FOR LARSON LANE

STA 28+00 TO STA 29+18



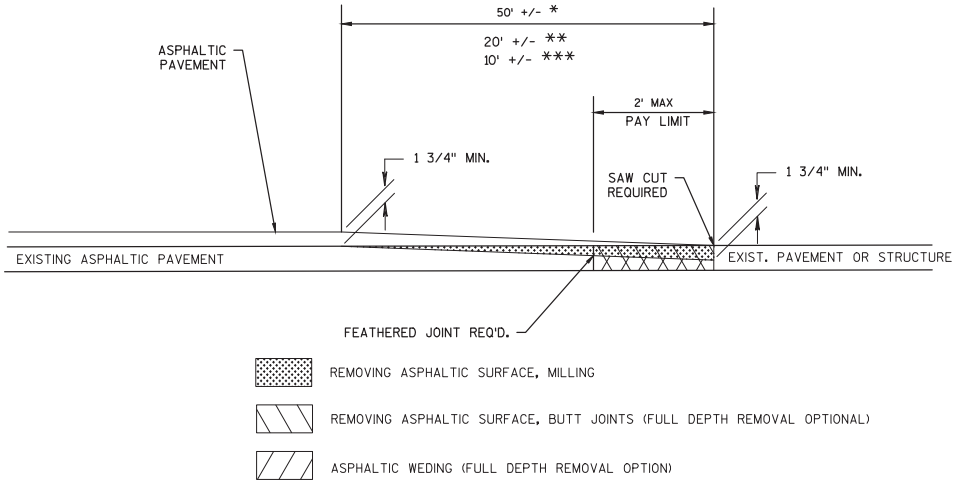
TYPICAL FINISHED CROSS SECTION FOR YOUNGER ROAD

STA 38+00 TO STA 39+18

STA 50+80 TO STA 52+50

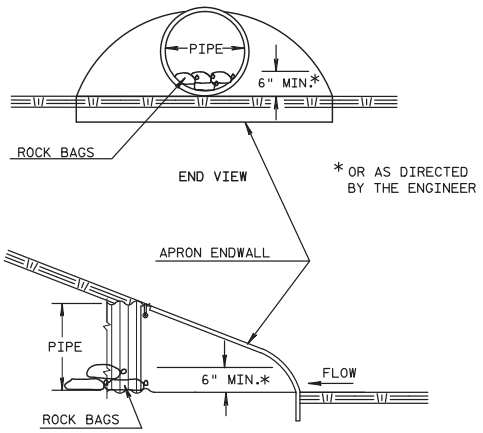
Addendum No. 01
ID 9180-22-71
Revised Sheet 14
August 4, 2016

PROJECT NO:9180-22-71	HWY:STH 22	COUNTY:OCONTO	TYPICAL SECTIONS	SHEET 14 _____	E

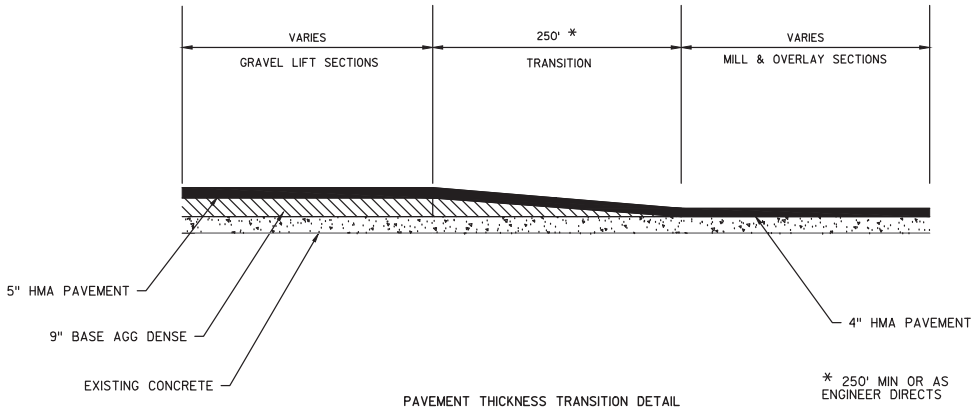


BUTT JOINT DETAIL FOR MILLED ASPHALTIC PAVEMENTS

* MAINLINE
** SIDE ROADS
*** PRIVATE ENTRANCES



CULVERT PIPE DITCH CHECK



* 250' MIN OR AS ENGINEER DIRECTS

PAVEMENT THICKNESS TRANSITION DETAIL

STATIONS 68+00, 106+50, 125+00
STATIONS 162+50, 181+00
STATIONS 216+00, 248+00

Addendum No. 01
ID 9180-22-71
Revised Sheet 17
August 4, 2016

PROJECT NO:9180-22-71	HWY: STH 22	COUNTY:OCONTO	CONSTRUCTION DETAIL	SHEET 17 _____	E

3

3

EARTHWORK SUMMARY

Division	From/To Station	Common Excavation (1)	(Item # 205.0100)	Salvaged/Unusable Pavement Material (4)	Available Material (5)	208.1100 Select Borrow (Expanded EBS Backfill)	Marsh Excavation (6)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	Borrow
Division 1		Cut (2)	EBS Excavation (3)			Factor 1.33	(Item #205.0500)		Factor 1.15			(Item #208.0100)
STH 22 (A)	49+89 - 180+50	5,549	2,199	3,556	1,993	2,924	858	7,233	8,318	-6326	0	6326
STH 22 (B)	181+00 - 272+80	3,434	1,579	2,658	776	2,100	0	7,130	8,200	-7424	0	7424
Chestnut Road	61+19 - 64+00	357	0	0	357	0	0	64	74	283	283	-283
REA Road	65+53 - 68+00	295	0	0	295	0	0	37	43	252	252	-252
CTH I	18+00 - 22+50	653	0	0	653	0	0	434	499	154	154	-154
Larson Lane	28+14 - 29+50	76	0	0	76	0	0	119	137	-61	0	0
Younger Road South	37+65 - 39+50	192	0	0	192	0	0	137	158	34	34	-34
Younger Road North	50+50 - 52+60	106	0	0	106	0	0	219	252	-146	0	0
Grand Total		10,662	3,777	6,214	4,448	5,024	858	15,373	17,679	-13,232	724	13,027
		Total Common Exc	14,439									

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

2) Salvaged/Unsuable Pavement Material is included in Cut.

3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.

4) Salvaged/Unusable Pavement Material

5) Available Material = Cut - Salvaged/Unusable Pavement Material

6) Marsh Excavation - to be backfilled with Select Borrow Material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well. Item number 205.0500

13) Expanded Fill Factor = 1.15

Depending on selections:

Expanded Fill = (Unexpanded Fill - Rock*Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock * Rock Factor - Reduced EBS) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock * Rock Factor - Reduced Marsh) * Fill Factor

Or Expanded Fill = (Unexpanded Fill - Rock * Rock Factor) * Fill Factor

14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

Addendum No. 01
ID 9180-22-71
Revised Sheet 49
August 4, 2016

ASPHALT ITEMS

ROADWAY	STATION			OFFSET	455.0605 TACK COAT GAL	460.4110.S REHEATING LONGITUDINAL JOINT LF	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6244 HMA PAVEMENT 4 MT 58-34 S TON	465.0120 ASPHALTIC SURFACE DRIVEWAY AND FIELD ENTRANCE TON	REMARKS
STH 22	49+25	-	272+80	RT/LT	--	44,560	--	--	--	
STH 22	50+00	-	68+00	RT/LT	426	--	1,322	711	--	
STH 22	68+00	-	82+00	RT/LT	309	--	666	518	--	
STH 22	82+00	-	106+50	RT/LT	525	--	1,629	878	29	
STH 22	106+50	-	125+00	RT/LT	397	--	853	664	76	
STH 22	125+00	-	162+50	RT/LT	750	--	2,328	1,253	11	
STH 22	162+50	-	174+14	RT/LT	233	--	501	390	--	
STH 22	174+14	-	175+98	RT/LT	74	--	158	61	--	
STH 22	175+69	-	176+16	RT/LT	4	--	9	4	--	
STH 22	176+16	-	179+70	RT/LT	86	--	269	144	--	
STH 22	179+70	-	181+00	RT/LT	34	--	84	45	--	
STH 22	181+00	-	216+00	RT/LT	706	--	2,191	1,181	30	
STH 22	216+00	-	248+00	RT/LT	703	--	1,513	1,176	11	
STH 22	248+00	-	272+80	RT/LT	500	--	1,551	835	21	
RAILROAD CROSSING	285+98	-	286+94	RT/LT	34	--	96	32	--	ROADWAY
RAILROAD CROSSING	285+98	-	286+94	RT/LT	6	--	14	7	--	SHOULDERS
CHESTNUT ROAD	62+72	-	63+07	RT/LT	18	--	57	31	26	
REA ROAD	65+53	-	66+00	RT/LT	7	--	21	11	24	
CTH I	20+24	-	22+50	RT/LT	52	--	162	88	11	
CTH I	18+00	-	19+76	RT/LT	47	--	146	79	--	
LARSON LANE	28+00	-	29+76	RT/LT	37	--	98	76	--	
YOUNGER ROAD	37+65	-	39+76	RT/LT	44	--	108	85	--	
YOUNGER ROAD	50+24	-	52+60	RT/LT	46	--	116	89	--	
PROJECT 9180-22-71 TOTALS					5,038	44,560	13,892	8,358	239	

Addendum No. 01
ID 9180-22-71
Revised Sheet 53
August 4, 2016

CONTRACT: 20160809009 PROJECT(S): 9180-22-71 FEDERAL ID(S): WISC 2016292

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0100	204.0150 Removing Curb & Gutter	313.000 LF		.		.
0110	204.0155 Removing Concrete Sidewalk	11.000 SY		.		.
0120	204.0165 Removing Guardrail	1,288.000 LF		.		.
0130	204.0175 Removing Concrete Slope Paving	40.000 SY		.		.
0140	204.0180 Removing Delineators and Markers	24.000 EACH		.		.
0150	205.0100 Excavation Common	14,439.000 CY		.		.
0160	205.0400 Excavation Marsh	858.000 CY		.		.
0170	206.2000 Excavation for Structures Culverts (structure) 01. C-42-0108	LUMP	LUMP			.
0180	206.2000 Excavation for Structures Culverts (structure) 02. C-42-109	LUMP	LUMP			.
0190	208.0100 Borrow	13,027.000 CY		.		.

CONTRACT: 20160809009 PROJECT(S): 9180-22-71 FEDERAL ID(S): WISC 2016292

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0200	208.1100 Select Borrow	5,024.000 CY		.		.
0210	209.0100 Backfill Granular	471.000 CY		.		.
0220	210.0100 Backfill Structure	1,175.000 CY		.		.
0230	211.0100 Prepare Foundation for Asphaltic Paving (project) 01. 9180-22-71	LUMP	LUMP			.
0240	213.0100 Finishing Roadway (project) 01. 9180-22-71	1.000 EACH		.		.
0250	305.0110 Base Aggregate Dense 3/4-Inch	4,052.000 TON		.		.
0260	305.0120 Base Aggregate Dense 1 1/4-Inch	40,157.000 TON		.		.
0270	305.0500 Shaping Shoulders	449.000 STA		.		.
0280	311.0110 Breaker Run	3,795.000 TON		.		.
0290	311.0115 Breaker Run	166.000 CY		.		.

CONTRACT: 20160809009 PROJECT(S): 9180-22-71 FEDERAL ID(S): WISC 2016292

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0300	371.1000.S QMP Base Aggregate Dense 1 1/4-Inch Compaction	40,157.000 TON		.		.
0310	415.0080 Concrete Pavement 8-Inch	247.000 SY		.		.
0320	416.0610 Drilled Tie Bars	24.000 EACH		.		.
0330	440.4410 Incentive IRI Ride	17,362.000 DOL	1.00000		17362.00	
0340	455.0605 Tack Coat	5,038.000 GAL		.		.
0350	460.2000 Incentive Density HMA Pavement	14,200.000 DOL	1.00000		14200.00	
0360	460.4110.S Reheating HMA Pavement Longitudinal Joints	44,560.000 LF		.		.
0370	460.6223 HMA Pavement 3 MT 58-28 S	13,892.000 TON		.		.
0380	460.6244 HMA Pavement 4 MT 58-34 S	8,358.000 TON		.		.
0390	465.0120 Asphaltic Surface Driveways and Field Entrances	239.000 TON		.		.
0400	465.0315 Asphaltic Flumes	151.000 SY		.		.

CONTRACT: 20160809009 PROJECT(S): 9180-22-71 FEDERAL ID(S): WISC 2016292

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
1240	SPV.0105 Special 01. Temporary Water Diversion - C-42-108	LUMP	LUMP			.
1250	SPV.0105 Special 02. Temporary Water Diversion - C-42-109	LUMP	LUMP			.
1260	SPV.0120 Special 01. Water for Seeded Areas	124.000 MGAL		.		.
1270	SPV.0195 Special 01. HMA Pavement 3 MT 58-28 S 3.0% Va Regression Special	13,892.000 TON		.		.
1280	SPV.0195 Special 02. HMA Pavement 4 MT 58-34 S 3.0% Va Regression Special	8,358.000 TON		.		.
	SECTION 0001 TOTAL					.
	TOTAL BID					.