



Wisconsin Department of Transportation

December 16, 2024

Division of Transportation Systems Development

Bureau of Project Development
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NOTICE TO ALL CONTRACTORS:

Proposal #41: 9925-00-70, WISC 2025178
Mellen – USH 2
STH 13 to Ashland/Iron County Line
STH 169
Ashland County

9925-00-71, WISC 2025179
Mellen – USH 2
Vandenbroek Rd Overpass
STH 169
Ashland County

Letting of January 14, 2025

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

Special Provisions:

Added Special Provisions	
Article No.	Description
32	Base Repair for Stabilized Base Reclamation Layer, Item SPV.0034.01
33	Stabilized Base Reclamation, Item SPV.0180.01; Asphalt Stabilizing Agent, Item SPV.0195.01.

Deleted Special Provisions	
Article No.	Description
20	Base Repair for CIR Layer, Item 211.0800.S

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

9925-00-70

December 16, 2024

Special Provisions

20. DELETED

32. Base Repair for Stabilized Base Reclamation Layer, Item SPV.0035.01

A Description

This special provision describes base repair for stabilized base reclamation layer in accordance with standard specification 211, and as hereinafter provided.

B (Vacant)

C Construction

After any contract required surface mill, the engineer and contractor shall visually inspect the milled surface for yielding areas.

Repair any yielding areas prior to the Stabilized Base Reclamation Layer. Install relief trench as directed by the engineer to drain the subgrade. Excavate the identified yielding areas and relief trenches to a maximum depth of 34-inches (24-inches select crushed material, 10-inches base) and repair with Select Crushed Material according to standard specification 312 to the top of the subgrade and with Base Aggregate Dense 1 1/4-inch according to standard specification 305 for the remainder.

In areas of existing asphaltic base or areas that have already been stabilized, substitute re-laid milled asphaltic pavement according to standard specification 330 for the upper 5-inches of base material.

Stabilize areas repaired after the initial stabilized base reclamation layer is completed per SPV.0180.01 Stabilized Base Reclamation and SPV.0195.01 Asphalt Stabilizing Agent.

Add the following to standard spec 211.3.5:

Prior to and during the placement of the Stabilized Base Reclamation Layer the contractor shall also be responsible for the work covered under this item.

Perform work under this bid item in accordance with standard specification 205.

Remove soft and/or yielding areas of base to a maximum depth of 34-inches. Document all areas and provide this information to the project engineer. If areas are found after paving operation begins, the project engineer will be notified of locations. Fill and compact excavated area with material that meets the material requirements of standard specification 305 and Base Aggregate Dense 1 1/4-inch, or standard specification 330 and Mill and Relay.

Do not exceed plan quantity without written approval from the engineer.

D Measurement

The department will measure Base Repair for Stabilized Base Reclamation Layer by the cubic yard, acceptably completed.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0035.01	Base Repair for Stabilized Base Reclamation Layer	CY

Payment is full compensation for removing and excavating areas of base to a maximum of 34-inches including areas for installing a relief trench (Weep) to drain subgrade; required saw cuts; providing, placing, and compacting select crushed material and dense graded base course; relaying and compacting milled asphaltic pavement; restabilizing areas repaired after initial stabilization; restoration items and efforts around relief trenches (Weeps); and traffic control.

33. Stabilized Base Reclamation, Item SPV.0180.01; Asphalt Stabilizing Agent, Item SPV.0195.01.

A General

This special provision describes the stabilizing of reclaimed pavement and base, at depths and limits shown on the plans, including a blending of an asphaltic stabilizing agent to produce a stabilized base course layer as specified in the contract.

B Materials

B.1 Stabilizing Agent

Furnish a stabilizing agent that is an engineered emulsion equivalent to Virtus SE2 Structurally Engineered Emulsion meeting the requirements in section 455.2.4.3 of the standard specifications and AASHTO M208 (CCS-1) for Cationic emulsions as approved by the engineer.

Ensure the material is furnished by a supplier from the Combined State Binder Group Certified Supplier List.

Stabilizing agent shall be added at the following rate to produce a stabilized base:

1. 4.5% (by weight) of stabilizing agent for the section to produce a stabilized recycled asphaltic base by reclamation of existing asphaltic base and existing aggregate base.

The stabilizing agent application rate will be within 0.50 percent of the specified application rate when adjusted for field conditions. The 4.5% application rate assumes around 1" of existing aggregate base will be incorporated into the pulverized layer.

B.2 Reclaimed Asphalt Pavement (RAP) Material

Pulverized and processed existing asphalt pavement or RAP material shall meet the following gradation based on visual inspection:

<u>Sieve Size</u>	<u>Percent Passing</u>
2"	100

B.3 Quality Control / Quality Verification

B.3.1 Personnel

Provide HTCP Nuclear Density Technician I or ACT certified technician for the performance of field density and field moisture content testing.

Provide HTCP Aggregate Technician I or ACT certified technician for material sampling and sieve analysis.

A Transportation Materials Sampling (TMS) certified technician is allowed for materials sampling.

If an ACT is performing sampling or testing, a certified technician must coordinate and take responsibility for the work an ACT performs. Have a certified technician ensure that all sampling and testing are performed correctly, analyze test results, and post resulting data. No more than one ACT can work under a single certified technician.

B.3.2 Equipment

Furnish the necessary equipment and supplies for performing quality control testing. Ensure that all testing equipment conforms to the equipment specifications applicable to the required testing methods. The

engineer may inspect the measuring and testing devices to confirm both calibration and condition. Calibrate all testing equipment according to the CMM and applicable AASHTO and/or ASTM specifications and maintain a calibration record at the laboratory.

Furnish nuclear gauges from the department's approved product list at:

<https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrcs/tools/appr-prod/default.aspx>

Ensure that the nuclear gauge manufacturer or an approved calibration service calibrates the gauge the same calendar year it is used on the project. Retain a copy of the calibration certificate with the gauge.

Conform to AASHTO T310 and CMM 8.15 for density testing and gauge monitoring methods.

B.3.4 Quality Control (QC) Testing

Roadway production lots will be defined as 4000 lane feet. Each roadway production lot will consist of two 2000 lane feet sublots. The contractor will notify the department before sampling.

Conduct and report density testing at a minimum frequency of three individual random tests per sublot.

Conduct and report daily moisture content of the finished stabilized layer representing each day's placement. Moisture content shall be based on the average of three random tests, from each day's placement. The moisture content shall be determined from a sample retrieved over the full depth of the stabilized layer by weighting and drying to a constant weight using an oven at $230^{\circ}\pm 9^{\circ}\text{F}$. Engineer-directed tests are in addition to the above three tests representing the day's placement.

Test results shall be provided to the engineer by the end of the business day.

B.3.5 Quality Verification (QV) testing

The department will conduct QV testing to validate the quality of the product.

The department will conduct random QV tests at the minimum frequency of 10% of the required QC tests and will be at locations independent of the contractor's QC work

The department will use the same methods specified for QC testing.

The department will assess QV results by comparing them to the appropriate specification limits. If QV test results conform to this special provision, the department will take no further action. If QV test results are nonconforming, a re-evaluation of the entire process must be completed before production can resume.

C Construction

C.1 General

Perform stabilization when the atmospheric temperature is at least 50°F and rising. Do not perform stabilization during foggy or rainy conditions or when freezing temperatures are forecast within 48 hours after stabilization.

Base course stabilization equipment shall conform to pulverizing equipment per Standard Specification 325 and be fitted with an integrated additive injection system capable of introducing bituminous stabilizing agent into the cutting drum during the mixing process.

The bituminous stabilizing agent metering device shall be capable of automatically adjusting the flow of the bituminous stabilizing agent to compensate for any variation in the amount of reclaimed material introduced into the mixing chamber.

The injection rate of bituminous stabilizing agent shall be calculated on a volumetric basis tied to a foot per minute gauge using a calibrated meter that is capable of accurately measuring the amount of bituminous stabilizing agent to within $\pm 2.0\%$ of the specified rate. Display automatic readings for the flow rate, reclaimed material, and asphalt stabilizing agent in units of weight and time.

Provide means of automatically cleaning nozzles and continual observation and measurement by the operator.

Immediately after pulverizing, relay the material with a paver, grader, or both. Use equipment with

automatic grade and slope control systems for adjusting the slope through super-elevated curves, transitions, and tangent sections and an averaging device to achieve a smooth profile. If the automatic control systems break down, the contractor may use manual controls for the remainder of that day only.

The processed material shall be uniformly compacted in one layer to a minimum of 95% of control strip target density.

Initial compaction with the breakdown padfoot roller shall not be behind the reclaimer by more than 500 feet (150 m). The padfoot vibratory roller shall be 12.5 tons or heavier, applying high amplitude and low frequency, shall perform initial compaction at a sufficient number of passes until it “walks out” of the material. Walking out for the padfoot roller is defined as light being clearly evident between all of the pads at the material–padfoot drum interface and the indentations being no more than 3/16 inch (4.75 mm) deep.

After completion of padfoot rolling, any remaining pad foot marks shall be removed, and the material spread using a motor grader cutting no deeper than necessary to remove the padfoot marks. Desired slope and shape shall be achieved. For intermediate and final compaction, a vibratory steel wheel roller being 8 tons or heavier and/or pneumatic roller being 25 tons or heavier, shall compact the bladed material.

The combination of number of passes and order of rollers shall be used to meet compaction requirements. Finish rolling shall not be performed in vibratory mode.

The reclaimer, roller, and motor grader shall adjust production rates to match the capacity of other equipment involved in the placement of the stabilized base. All stabilized material shall have final grading and compaction shall commence while the stabilized material is still workable and completed when operations are halted at days end.

Grade shoulders adjacent to pulverized areas by the end of each workday to drain the pavement.

Repair surface damage caused by construction or public travel immediately before paving.

C.2 Control Strip

On the first day of production, construct a control strip to identify the target wet density for the stabilized base layer using a nuclear moisture-density gauge in backscatter measurement. Nuclear gauge test duration in backscatter measurement shall be for a total of one-minute test per location in the direction of paving. The control strip construction and density testing will occur under the direct observation and/or assistance of the department QV personnel.

Unless the engineer approves otherwise, construct control strips to a minimum dimension of 500 feet long and one full lane width. Begin the control strip at a location of at least 200 feet beyond the start of the project.

Construct control strips using equipment and methods representative of the operations to be used for constructing the stabilized base layer.

After compacting the control strip as described in section C with a pads foot roller walking out, depression bladed out, and on the 2nd pass of the steel drum roller in vibratory mode and/or pneumatic roller, mark and take density measurements at 3 random locations, at least 1 ½ feet from the edge of the stabilized base layer. Subsequent density measurements will be taken at the same 3 locations.

After each subsequent pass of compaction equipment over the entirety of the control strip, take density measurements at the 3 marked locations. Continue compacting and testing until the increase in density measurements is less than 2.0 lb/ft³, or the density measurements begin to decrease.

Upon completion of control strip compaction, take 10 randomly located density measurements within the limits of the control strip, at least 1 ½ feet from the edge of the base. The final measurements recorded at the 3 locations under article paragraph (4) of this section may be included as 3 of the 10 measurements. Average the 10 measurements to obtain the control strip target density.

After the construction of the control strip, the stabilization process shall be permitted to continue until the project's first asphalt binder tanker truck is empty. Any further stabilization process shall be halted until the completion of the test rolling of the control strip.

Completed control strips may remain in place to be incorporated into the final roadway cross-section.

C.3 Maintaining the Work

After compaction is complete, the contractor will determine when the stabilized base layer is suitable to be opened to traffic.

After opening to traffic, and prior to placement of the final surfacing (for single layer) or leveling/lower layer of HMA, the surface of the stabilized base shall be maintained in a condition suitable for the safe movement of traffic.

The recycled base and shoulders shall be protected and maintained from standing water, deleterious substances, and/or other damage.

Any damage to the stabilized base, excluding department-directed test sections, shall be repaired by the contractor prior to placement of the upper layer at no additional cost to the department.

C.4 Curing

The stabilized layer will be considered cured when the moisture content reaches 3.0 percent. This will be on a per lot basis. If the moisture content of the lot of stabilized base layer does not reduce to 3.0 percent; the final surfacing (for single layer) or leveling/lower layer of HMA may be applied after the change in moisture content is less than 0.30 percentage points for three consecutive calendar days.

The moisture content shall be determined from a sample retrieved over the full depth of the stabilized base layer by weighting and drying to a constant weight using an oven at $230^{\circ}\pm 9^{\circ}\text{F}$. The department will obtain a sample(s) to verify the contractor's final moisture content values.

C.5 Surfacing

Paving of final surfacing (for single layer) or leveling/lower layer of HMA on the stabilized base layer shall not be conducted until a minimum of 3 calendar days after compaction on the lot and when the lot of stabilized base layer is considered cured.

The surface shall be prepared, and tack coat applied meeting the requirements of standard specification 455.3.2. Surfacing materials, equipment, and construction methods shall be in accordance with the applicable sections of the standard specifications or contract special provisions.

The final surfacing (for single layer) or leveling/lower layer shall be placed on the stabilized base layer within 10 calendar days once a lot of the stabilized base layer is considered cured.

Prior to placement of the final surfacing (for single layer) or leveling/lower layer of HMA, the engineer and contractor shall visually inspect the stabilized base layer for distresses including, but not limited to raveled areas, rutted areas, and areas of excess or deficient stabilizing agent, or deficient surface tolerance areas. Raveled areas, rutted areas, and areas of excess or deficient stabilizing agent shall be re-processed or repaired. Reprocessing shall consist of milling, blending of additional stabilizing agent, placement with a paver, and compaction with determined rolling patterns as determined by the control strip.

Test the recycled pavement base layer surface at regular intervals, and engineer selected locations, using a 10-foot straightedge or other engineer-specified devices.

The engineer may direct the repair of surface deviations greater than $\frac{1}{2}$ inch between two surface contact points. High points shall be corrected by trimming, milling, or grinding. Depressions may be corrected by having a tack coat applied and be filled with HMA immediately prior to placement of the surface treatment.

D Measurement

The department will measure Stabilized Base Reclamation by the square yard acceptably completed, measured using the centerline length and the width from outside to outside of completed base, but limited to the width the plans show or the engineer directs.

The department will measure Asphalt Stabilizing Agent per standard spec 455.4, including volume corrections per standard specification 455.4.2.

E Payment

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

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0180.01	Stabilized Base Reclamation	SY
SPV.0195.01	Asphalt Stabilizing Agent	TON

Payment is full compensation for pulverizing, injecting, and mixing asphalt stabilizing agent, relaying, adding water, shaping, and compacting; and for furnishing all materials including asphalt stabilizing agent.

The department will pay separately for the repair of yielding areas under the bid items Base Repair for Base Stabilization Process.

The department will pay separately for removing or blading away of the adjacent shoulder material under the bid item Shaping Shoulders

The department will pay separately for surfacing treatments, including tack coat, under the appropriate bid items.

END OF ADDENDUM

