Hennepin

Hennepin County Transportation Department

ADDENDUM

TO PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS FOR
BITUMINOUS MILL AND OVERLAY
HENNEPIN COUNTY TRANSPORTATION DEPARTMENT

(To be opened Tuesday, May 19, 2015 at 2:00 P.M.)

ADDENDUM NO. 2 **CSAH 1, 3, 6, 15, 17, 43, 66 & 156; C.P. 1453**

NOTICE TO ALL BIDDERS:

PROPOSAL

1. Add the following to Division S-40 (1803) PROGRESS SCHEDULES on page 56-S:

   S-40.7.5 City of Bloomington: The Pursuit for Living Well 8K Race (August 13, 2015)

2. Division S-77 (2582) PERMANENT PAVEMENT MARKINGS shall be **Replaced** with the following on page 113-S:

   S-77 Not used.

3. **Add** the following to Division S-78 (2582) PERMANENT PAVEMENT MARKINGS (EPOXY GROUND IN) on page 119-S:

   S-78.7 The contractor is required to use specified beads for the CSAH 1 and CSAH 156 roadway segments. All costs for materials, equipment and installation of epoxy markings for the two segments of CSAH 1 and the segment of CSAH 156, as specified in sections 3590 and 3592, are incidental to the unit prices for the respective markings noted in 2582.5 and no direct payment will be made.

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4. Division S-78 (2582) PERMANENT PAVEMENT MARKINGS (EPOXY GROUND IN), second paragraph on page 119-S shall be **Replaced** with the following:

   S-78.7 The County will pay for permanent pavement markings on the basis of the following schedule:

ITEM NO.	ITEM	UNIT
2582.502	4" Solid Line White-Epoxy-GR IN	Lineal Foot
2582.502	6" Solid Line White-Epoxy-GR IN	Lineal Foot
2582.502	4" Broken Line White-Epoxy-GR IN	Lineal Foot
2582.502	4" Solid Line Yellow-Epoxy-GR IN	Lineal Foot
2582.502	24" Solid Line Yellow-Epoxy-GR IN	Lineal Foot
2582.502	4" Broken Line Yellow-Epoxy-GR IN	Lineal Foot
2582.502	4" Dble Solid Line Yellow-Epoxy-GR IN	Lineal Foot

5. **Add** the following to Division S-84 (3590) EPOXY RESIN PAVEMENT MARKINGS (FREE OF TOXIC HEAVY METALS) on page 124-S:

   S-84.1.B.6 The epoxy wet film thickness for both segments of CSAH 1 (W. Old Shakopee Road) and the segment of CSAH 156 (Winnetka Avenue N.) shall be 22-26 mils.

6. **Add** Attachment A – Division S-90 (2582) THERMOPLASTIC PAVEMENT MARKINGS (FUSED).

7. **Add** Attachment B – Division S-91 (3592) DROP-ON GLASS BEADS.

8. **Add** Attachment C – Supplemental Glass Bead Specification as Attachment A to Division S.

JJT:jj
May 12, 2015
Attachment(s)

Receipt of this addendum must be acknowledged in accordance with the provisions of 1210 of the specifications.

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Attachment A – Division S-90 (2582) THERMOPLASTIC PAVEMENT MARKINGS (FUSED)

S-90 (2582) THERMOPLASTIC PAVEMENT MARKINGS (FUSED)

The provisions of MnDOT 2582 are hereby modified and/or supplemented with the following:

S-90.1 The language below applies to resilient white or yellow thermoplastic pavement markings.

S-90.2 The pavement marking material utilized for this Project must be listed within **Preformed Thermoplastic Marking** category on the MnDOT Approved/Qualified Products Lists.

S-90.3 The provisions of MnDOT 2582.5 are hereby deleted and replaced with the following:

2582.5 BASIS OF PAYMENT

Payment for pavement markings installed at Contract prices per unit of material shall be compensation in full for all costs incurred in materials, traffic control, installation, surface preparation, use of primers, in accordance to Contract documents or as approved by the Engineer.

ITEM NO.		ITEM UNIT
2582.501	Pavt Mssg (LT Arrow) Thermoplastic-GR IN	Each
2582.501	Pavt Mssg (RT Arrow) Thermoplastic-GR IN	Each
2582.502	12” Stop Line White-Thermoplastic (GR IN)	Lineal Foot
2582.602	Pavt Mssg (RR Xing) Thermoplastic (GR IN)	Each
2582.603	4” Dotted Line White-Thermoplastic (GR IN)	Lineal Foot
2582.603	24” Stop Line White-Thermoplastic (GR IN)	Lineal Foot
2582.618	Crosswalk Marking-Thermoplastic (GR IN)	Square Foot

Attachment B – Division S-91 (3592) DROP-ON GLASS BEADS

S-91 (3592) DROP-ON GLASS BEADS

The provisions of MnDOT 3592 are hereby modified and/or supplemented with the following:

S-91.1 The beads used for ALL ground-in epoxy pavement markings specified for both segments of CSAH 1 (W. Old Shakopee Road) shall be VisimaxTM Plus beads, or approved equal. Specifications and application rates shall conform to the manufacturer's recommendations (See Attachment A).

S-91.2 The beads used for ALL ground-in epoxy pavement markings specified for CSAH 156 (Winnetka Avenue N.) shall be VisiBlendTM 4-50 beads, or approved equal. The blend shall be a 50/50 mix of the AASHTO M-247, Type 1 and a Type 4 (direct melt) beads, applied at an application rate of 12 lbs. per gallon each using a double drop.

Attachment C – Supplemental Glass Bead Specification

Potters Industries Inc.
an affiliate of PQ Corporation

POTTERS RECOMMENDED SPECIFICATION FOR THE VISIMAX™ BLEND TP 4 GLASS BEAD MARKING SPHERES DOUBLE DROP FOR 22-26 MIL EPOXY

SCOPE

This specification covers glass beads to be applied upon 22-26 mils of epoxy to produce a reflective pavement marking using a double drop process utilizing **VISIMAX™ BLEND TP 4** Glass Beads. ***NOTE:*** Refer to *Section 3.0 Application Specifications* for specific drop rate and coating information.

The glass beads and the coatings offered shall be specifically designed and manufactured for the purposes specified herein. Furthermore, those making offers (the offeror or the supplier) shall have specific knowledge and experience in the manufacturing and application of glass beads for the pavement marking industry. In addition, the offeror shall have the capacity to meet the states needs and provide consistent and periodic technical and field service, training and inspection, support and processes with regards to the proper use and application of glass beads.

COATING

The **VISIMAX™ BLEND TP 4** Glass Bead System Beads may or may not be coated (depending on the application and binder type). ***NOTE:*** Refer to *Section 3.0 Application Specifications* for specific drop rate and coating information.

Consult the safety sphere manufacturer regarding coating recommendations as proper bead surface properties are of paramount importance to the successful installation and long life of the marking.

QUALITY ASSURANCE CONTROL

The sampling shall be random. Material shall be reduced in a sample splitter. Statistical Process Control Methods may be used to monitor the quality of the product so that it meets the requirement of the applicable detail specification.

GENERAL REQUIREMENTS

The beads shall be white or yellow and within the color box specifications for the particular binder, spherically shaped and slightly larger than an E-16 bead. It must conform to the following specific requirements.

SPECIFIC PROPERTIES

1.1 ***Gradation*** – The **VISIMAX™ BLEND TP 4** Beads are uniform in size with over 90% of the spheres falling within the range of 1.19 and 1.41 mm. The beads shall meet the gradation requirements as given in Table 1 & Table 2 below:

Table One **VISIMAX™ BLEND TP 4 - White** U. S. Standard		
Sieve No.	Standard, mm	% Retained
12	1.68	0-5
14	1.41	5-25
16	1.19	40-85
18	1.00	0-10
20	.841	0-5

Table Two **VISIMAX™ BLEND TP 4 - Yellow** U. S. Standard		
Sieve No.	Standard, mm	% Retained
12	1.68	0-5
14	1.41	5-25
16	1.19	40-85
18	1.00	0-10
20	.841	0-5

1.2 ***Roundness*** – **VISIMAX™ BLEND TP 4** safety spheres shall be at least 85% round by visual method.

1.3 ***Refractive Index*** – The **VISIMAX™ BLEND TP 4** glass beads on the outside of the core shall have a refractive index of 1.7 to 2.4.

1.4 ***Specific Gravity*** – **VISIMAX™ BLEND TP 4** beads shall be in a range of 2.0-3.3 g/cm^3.

1.5 ***Coating*** – The proprietary **VISIMAX™ BLEND TP 4** coating is designated with the letters ***EC (Epoxy Coated)***.

METHODS OF SAMPLING AND TESTING

2.0 The sampling shall be random in the following ratios – Two 50 lb samples (100 lb) (in full bags) per 10,000 lb shipped. Upon receipt, material shall be reduced in a sample splitter to a size of approximately 1 kg.

2.1 ***Gradation*** – test in accordance with **ASTM D1214 (PIAP #105)**.

2.2 ***Roundness*** – beads shall be tested microscopically using the two highest quantity sieve fractions. Rounds concentration procedure **PIAP #107** (Equipment required = microfiche reader or equivalent).

2.3 ***Specific Gravity*** – Test the beads using the method for ground glass and glass spheres called **PIAP #115**.

2.6 ***Coating*** – Test for the presence of the coating using **PIAP #113 (Spoon Test)**.

3.0 APPLICATION SPECIFICATIONS

3.1 ***Drop rates*** – 1st: **VISIMAX™ BLEND TP 4** Glass Beads at 8 lbs / 100ft^2

2nd: Standard AASHTO Type 1 Beads at 8 lbs / 100ft^2

3.2 ***Coating*** – ALL Epoxy Formulations require ***EC coating*** designation on the **VISIMAX™ BLEND TP 4** safety sphere product.