INTER-MIX SAFETY MARKING SPHERE SYSTEM – STATE WIDE CONTRACT

INTER-MIX SAFETY MARKING SPHERE SYSTEM – STATE WIDE CONTRACT, NEW AND OF CURRENT DESIGN, AS ADVERTISED BY THE MANUFACTURER, TO MEET OR EXCEED THE FOLLOWING **MINIMUM** SPECIFICATIONS:

REFLECTIVE PRODUCT PROPOSED: MAKE _____ DESIGNATION _____

SPECIFICATIONS

SCOPE: This specification covers glass beads to be applied upon waterborne paint to produce a reflective pavement marking using a single drop process utilizing the INTER-MIX Safety Marking Sphere System.

The glass beads and their 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. Additionally, the offeror shall have the capacity to meet the state's 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.

COMPLY YES/NO: _____

COATING: The glass beads shall be coated with a performance enhancing single, dual or an equivalent formulated, performance-enhancing coating depending on the application. NOTE: Refer to Section 3.0 Application Specifications for specific drop rate and coating information.

COMPLY YES/NO: _____

QUALITY ASSURANCE CONTROL: The sampling shall be random in the following ratios – 2.5 lb. samples per 10,000 lbs. shipped. Upon receipt, the material shall be reduced in a sample splitter to a size appropriate for conducting the required testing. Alternatively, Statistical Process Control Methods following ASTM E 105 and E 1994, or ANSI/ASQ Z1.4 and Z1.9 may be used to monitor the quality of the product so that it meets the requirement of the applicable detail specification.

COMPLY YES/NO: _____

GENERAL REQUIREMENTS: The material shall be a mixture of: 1) glass beads, which are smooth and spherically shaped, free of milkiness, pits, or excessive air inclusions and conform to the following specific requirements & 2) Drying aid material, which is smooth, and spherically shaped and amber in color.

COMPLY YES/NO: _____

1.0 SPECIFIC PROPERTIES

1.1 Gradation – The material shall meet the graduation requirements as given in the table below:

Sieve	Type I D-2/3/4 % Passing
16	100
20	90 – 100
30	65 – 95
50	10 – 35
100	0 – 5

1.2 Roundness – The material shall have a 70% overall minimum round via Round-o-meter.

1.3 Health and Environmental – Glass bead manufacturers should be required to certify that their product does not exceed the following heavy metal contamination:

Heavy Metal	Concentration
Arsenic	< 75 ppm Lead
Lead	< 100 ppm

COMPLY YES/NO: _____

2.0 METHODS OF SAMPLING AND TESTING

2.1 Sampling – The sampling shall be random in the following ratios: Two – 50 lb. samples per 10,000 lbs. shipped. Upon receipt, the material shall be reduced in a sample splitter to a size appropriate for conducting the required testing.

2.2 Gradation – shall be tested in accordance with ASTM Method D1214 (PIAP #105).

2.3 Roundness – rounds and angular particle concentrations of the material shall be tested with the appropriate test method based on the material size. PIAP #106 round-o-meter test to be used on the material (Equipment required = round-o-meter).

2.4 Metals – The proper test methods required to detect heavy metal contamination are EPA Method 3052 followed by detection using inductively coupled plasma mass spectrometry (EPA Method 6010B) or XRF Procedure #PQ AP192. It is important that these specific test methods be referenced in your specifications to achieve proper heavy metals limitation compliance.

COMPLY YES/NO: _____

3.0 APPLICATION SPECIFICATIONS

3.1 Drop rate – (as stated in the SCOPE above) shall be applied according to manufacturer recommendations.

State Spec drop on beads shall be applied as per the state specified drop rate.

3.2 Coating – ALL Waterborne Latex Paint Formulations, including high build formulations, require the following coatings for drop on beads:

Drop On Bead	Coating
M247 & P40	AC110
L511 Type 3	AC07
E16	AC09
Direct Melt E16	Z1
1.9 High-index	AC200

COMPLY YES/NO: _____

LITERATURE: Descriptive literature is to be furnished to substantiate the details specified in bid.