

Table of Contents – Section 1134 (Pavement Markings and Delineation)

1134.01 — GENERAL REQUIREMENTS	2
A. Description of Work	2
B. Layout	2
C. Tolerances and Appearance	2
1134.02 — OBLITERATION OF EXISTING PAVEMENT DELINEATION	3
A. Description	3
B. Method of Removal	3
C. Payment	3
1134.03 — PAVEMENT MARKINGS AND TRAFFIC STRIPES - PAINT	3
A. Description	3
B. Materials	4
C. Installation	4
1134.04 — PAVEMENT MARKINGS AND TRAFFIC STRIPES - TAPE	5
A. Description	5
B. Materials	5
C. Installation	5
1134.05 — PAVEMENT MARKINGS AND TRAFFIC STRIPES - THERMOPLASTIC.....	6
A. Description	6
B. Materials	6
C. Installation	9
1134.06 — PAVEMENT MARKINGS AND TRAFFIC STRIPES - EPOXY	9
A. Description	9
B. Materials	9
C. Installation	9
1134.07 — GLASS BEADS.....	10
1134.08 — TEMPORARY STRIPING	10
1134.09 — DELINEATORS.....	11
A. Materials	11
B. Installation	11
1134.10 — SURFACE MOUNT CHANNELIZERS	11
A. Materials	11
B. Installation	12
1134.11 — RAISED PAVEMENT MARKERS (RPMs)	12
A. Description	12
B. Materials	12
C. Installation	13
1134.12 — MEASUREMENT AND PAYMENT	14
A. Measurement	14
B. Payment	14

1134.01 — GENERAL REQUIREMENTS

(Revised 11/4/11)

A. Description of Work

This work shall consist of furnishing and installing traffic stripes and pavement markings upon the roadway surface and delineators adjacent to the roadway at locations shown in the Plans or as directed by the ACHD Traffic Engineer. This work shall also consist of installing surface mount channelizers as shown on the Plans or as directed by the ACHD Traffic Engineer. Removal of existing traffic stripes, pavement markings, raised pavement markers, channelizers and delineators shall be incidental to these items, unless other provisions are made in the contract documents.

All traffic stripes, pavement markings, channelizers and delineators shall be installed in conformance with the latest edition of the **Manual on Uniform Traffic Control Devices (MUTCD)**, or as modified by the Plans and these Supplemental Provisions.

B. Layout

The Contractor shall layout all work and shall receive approval from the ACHD Traffic Engineer prior to installing traffic stripes and pavement markings. Layout shall consist of spot painting marks or lines which will delineate the traffic stripes and pavement markings to be installed. The ACHD Traffic Engineer shall require two business days notice to schedule layout inspection.

C. Tolerances and Appearance

Traffic stripes and pavement markings shall conform to the details shown in the plans and these Supplemental Provisions (see ACHD Standard Details TS-1112 and TS-1113).

Completed traffic stripes shall have clean and well defined edges without running or deformation, shall be uniform, shall be straight on tangent alignment, and shall be on a true arc on a curved alignment. The widths of completed traffic stripes shall not deviate more than $\frac{1}{4}$ inch on tangent nor more than $\frac{1}{2}$ inch on curves from the widths shown on the plans. Broken traffic stripes shall also conform to the following requirements:

1. The lengths of the gaps and individual stripes that form broken traffic stripes shall not deviate more than two inches from the lengths shown on the plans and these Supplemental Provisions.
2. The lengths of the gaps and individual stripes shall be of such uniformity throughout the entire length of each broken traffic stripe that a typical striping machine will be able to repeat the pattern and superimpose additional stripes upon the traffic stripe being applied.

The completed pavement markings shall have clean and well defined edges without running or deformation and shall conform to the dimensions shown on the plans and these Supplemental Provisions, except that minor variations may be accepted by the ACHD Traffic Engineer.

Drips, overspray, improper markings, and paint and thermoplastic material tracked by traffic shall be immediately removed from the pavement surface by methods approved by ACHD. All such removal work shall be at the Contractor's expense.

1134.02 — OBLITERATION OF EXISTING PAVEMENT DELINEATION

(Revised 6/3/05)

A. Description

Existing traffic stripes, pavement markings, raised pavement markers, channelizers and delineators that conflict with the proposed project shall be removed as shown on the plans or as directed by ACHD; this work includes conflicting items outside of the rebuild or overlay limits.

B. Method of Removal

Painted markings and traffic stripes shall be removed by hydroblasting, sandblasting, or other methods approved by ACHD. Any damage to the road surface as a result of the Contractor's operations shall be repaired by the Contractor, at the Contractor's expense, as directed by ACHD. Painting over existing traffic stripes and pavement markings with paint, asphaltic products, etc., does not meet the requirements for obliteration.

Traffic stripes and pavement markings shall be removed to the fullest extent possible. The removal process shall be performed in a random pattern to prevent the creation of a recognizable pattern on the pavement surface. The removal process shall not be accepted if the "removed" pavement markings or traffic stripes can be confused with new pavement markings or traffic stripes.

Pavement markings shall be completely removed before any change is made to traffic patterns.

C. Payment

Removal of existing pavement markings, traffic stripes, raised pavement markers, channelizers and delineators shall be paid for as provided in the contract documents. If no bid item is provided for obliteration of existing pavement delineation, then removal of existing pavement markings, traffic stripes, raised pavement markers, channelizers and delineators shall be incidental to other bid items in the contract and no further compensation will be allowed.

1134.03 — PAVEMENT MARKINGS AND TRAFFIC STRIPES - PAINT

(Revised 6/3/05)

A. Description

This item shall consist of furnishing and applying painted traffic stripes and pavement markings, including glass beads.

B. Materials

1. Paint

The paint formula shall conform to **Federal Paint Specifications TT-P-115, Type II Fast Dry or TT-P-1952, Water Emulsion Base**. The viscosity range shall be between 70 Krebs units and 90 Krebs units (Ku).

The ACHD Resident Project Representative or the ACHD Traffic Engineer may, at their discretion, require the contractor to supply paint samples at random intervals for testing. When required, the Contractor shall provide ACHD with one quart samples of each color of paint to be used. One quart containers shall be supplied by ACHD. When testing is required by ACHD, the Contractor shall not install pavement markings and traffic stripes until ACHD has tested and approved the paint samples.

All pavement markings and traffic stripes placed with paint that does not meet the requirements specified herein shall be rejected and removed at the Contractor's expense.

Mechanical mixers shall be used to mix paint. Prior to applying, the paint shall be mixed a sufficient length of time to thoroughly mix the pigment and the vehicle together, and shall be kept thoroughly agitated during its application. Paint shall be homogeneous, free of contaminate and of a consistency suitable for use. Dispersion of pigment in vehicle shall be such that the pigment does not settle excessively, does not cake or thicken in the container, and does not become granular or curdled. Thinning of paint will not be allowed.

2. Glass Beads

Contractor shall supply glass beads suitable for both solvent based paint and water borne paint. Glass beads shall comply with Section 1134.07 of these Supplemental Provisions.

C. Installation

Marking configurations shall be in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) and the project plans.

New asphalt pavement should have a minimum cure time of 24 hours prior to applying any pavement markings or traffic stripes. On new surfacing, pavement markings and traffic stripes shall be applied in two coats unless otherwise shown on the plans. The first coat of paint shall be dry before application of the second coat.

On existing surfacing, pavement markings and traffic stripes shall be applied in one coat.

Paint shall be applied only when the roadway surfaces are clean, thoroughly dry, and when the pavement temperature is between 50 and 85 degrees Fahrenheit and the relative humidity is less than 80%. Work conducted outside the stated temperature and humidity ranges shall be considered unacceptable. In the event of rain, work will be discontinued until the rain ceases and the above mentioned conditions are met. Any materials placed just prior to a rainstorm

shall be considered unacceptable work if the applied materials exhibit any loss of integrity or are destroyed.

Each coat of paint shall be applied at the minimum rate of 1 gallon per 100 square feet. Beads shall be applied at the minimum rate of 6 pounds per gallon of paint. Beads shall be applied immediately following the application of the paint in such a manner as to insure good adhesion and reflection. Unless otherwise directed by the ACHD Traffic Engineer, glass beads shall be uniformly incorporated in all coats of paint concurrently with the application of the paint. Beads shall be embedded in the coat of traffic paint being applied to a depth of one-half their diameters.

The volume of paint applied shall be measured by stabbing the paint tank with a calibrated rod. At the option of the ACHD Resident Project Representative, if the striping machine is provided with paint gages, the volume of paint may be determined by using such gages.

The amount of glass beads applied shall be measured by stabbing the glass bead tank with a calibrated rod.

All equipment used in the application of traffic stripes and pavement markings shall produce traffic stripes and pavement markings of uniform quality that conform to the specified requirements.

Stencils and hand spray equipment shall be used to paint pavement markings. Stencils shall conform to the dimensions shown on the Plans and these Supplemental Provisions.

1134.04 — PAVEMENT MARKINGS AND TRAFFIC STRIPES - TAPE

(Revised 6/3/05)

A. Description

This item shall consist of furnishing and applying tape for traffic stripes and pavement markings.

B. Materials

Tape used for permanent pavement markings and traffic stripes shall be manufactured by **3M Company, Flint Trading Inc.** or an ACHD approved equal. Tape to be used for traffic stripes shall be **3M Series 380, Flint Trading Premark** or an ACHD approved equal; tape for pavement markings (symbols, word markings, crosswalks, stop bars, etc.) shall be **3M Series 420, Flint Trading Premark** or an ACHD approved equal.

C. Installation

Pavement markings and traffic stripes shall be installed in compliance with the manufacturer's installation instructions. Pavement marking and traffic stripe configurations shall be in compliance with the latest edition of the **Manual on Uniform Traffic Control Devices (MUTCD)**.

When tape traffic stripes and pavement markings are to be applied to newly paved asphalt concrete surfaces, they shall be applied before public traffic is allowed on the freshly paved surface unless otherwise approved by the ACHD Traffic Engineer. Traffic stripes and pavement markings may be inlaid in the fresh surface during final rolling of the mat.

The Contractor shall provide application equipment, manual or automatic, as necessary for the job requirements. These applicators shall be capable of applying two 4 inch lines simultaneously with a 4 inch space between lines. These units shall be capable of applying an unlined pre-coated pressure sensitive adhesive tape for traffic stripes.

The manual unit shall have a manually actuated tape advance system and a foot operated cutting mechanism.

When tape is installed on portland cement concrete, the surface where the tape is to be installed shall be grooved (tined).

1134.05 — PAVEMENT MARKINGS AND TRAFFIC STRIPES - THERMOPLASTIC

(Revised 12/30/11)

A. Description

This item shall consist of furnishing and applying thermoplastic traffic stripes and pavement markings, including glass beads. The finished product shall provide a durable, high skid resistant, retroreflective pavement marking material suitable for use on travel routes open to the public.

The markings shall be a resilient white, yellow or other color thermoplastic product, the surface of which must contain glass beads and abrasives in an alternating pattern. The markings shall be resistant to the detrimental effects of motor fuels, lubricants, hydraulic fluids, etc. Lines, legends and symbols shall be capable of being affixed to bituminous and/or Portland cement concrete pavements by the use of the normal heat of a propane torch.

The markings shall be capable of conforming to pavement contours, breaks and faults through the action of traffic at normal pavement temperatures. The markings shall have resealing characteristics, such that it is capable of fusing with itself and previously applied thermoplastic when heated with the torch.

The markings shall not have minimum ambient and road temperature requirements for application, storage, or handling.

B. Materials

Thermoplastic pavement markings used for permanent installation shall be **Premark 125 mil ViziGrip manufactured by Flint Trading, Inc.** or approved equal.

Materials shall be composed of an ester modified rosin resistant to degradation by motor fuels, lubricants, etc. in conjunction with aggregates, pigments, binders, abrasives, and glass beads which have been factory produced as a finished product, and meets the requirements of the current edition of the **Manual on Uniform Traffic Control Devices**. The thermoplastic material shall conform to AASHTO designation M249-79 (98), with the exception of the relevant differences due to the material being supplied in a preformed state.

The preformed thermoplastic markings shall be placed in protective plastic film with cardboard stiffeners where necessary to prevent damage in transit. Linear material must be cut to a maximum of 3' long pieces. Legends and symbols must also be supplied in flat pieces. The cartons in which packed shall be non-returnable and shall not exceed 40" in length and 25" in width, and be labeled for ease of identification. The weight of the individual carton must not exceed seventy (70) pounds. A protective film around the box must be applied in order to protect the material from rain or premature aging.

1. Graded Glass Beads

The material shall contain a minimum of thirty percent (30%) intermixed graded glass beads by weight. The intermixed beads shall be clear and transparent; not more than twenty percent (20%) shall consist of irregular fused spheroids or silica. The index of refraction shall not be less than 1.50.

The material shall have factory applied coated surface beads and abrasives in addition to the intermixed beads at a rate of 1/2 lb. (± 20%) per 11 square feet. The surface beads and abrasives shall be applied in an alternating arrangement across the surface of the material so that the surface is covered in a “checkerboard” pattern of glass beads and abrasive materials. The abrasive material shall have a minimum hardness of 8 on the Mohs scale. Factory applied coated surface beads shall have the following specifications:

1. Minimum 80% rounds;
2. Minimum refractive index of 1.5;
3. Minimum silicon dioxide content of 70%;
4. Maximum iron content of 0.1%

Size Gradation		Retained, %	Passing, %
US Mesh	Um		
12	1700	0 - 2%	98 - 100%
14	1400	0 - 6%	94 - 100%
16	1180	1 - 21%	79 - 99%
18	1000	28 - 62%	38 - 72%
20	850	62 - 71%	29 - 38%
30	600	67 - 77%	23 - 33%
50	300	86 - 95%	5 - 14%
80	200	97-100%	0 - 3%

2. Pigments

White: The material shall be manufactured with sufficient titanium dioxide pigment to meet FHWA Docket No. FHWA-99-6190 Table 5 and Table 6 as revised and corrected.

Red, Blue, and Yellow: The material shall be manufactured with sufficient pigment to meet FHWA Docket No. FHWA-99-6190 Table 5 and Table 6 as revised and corrected. The yellow pigments must be organic and must be heavy-metal free.

Other Colors: The pigments must be heavy-metal free.

3. Heating indicators

The top surface of the material (same side as the factory applied surface beads) shall have regularly spaced indents. These indents shall act as a visual cue during application that the material has reached a molten state so satisfactory adhesion and proper bead embedment has been achieved and a post-application visual cue that the installation procedures have been followed.

4. Skid Resistance

The surface of the preformed retroreflective marking materials, wherein every other shaped portion contains glass beads, or abrasives with a minimum hardness of 8 (Mohs scale), shall upon application provide a minimum skid resistance value of 60 BPN when tested according to ASTM: E 303.

5. Thickness

The material shall be supplied at a minimum thickness of 90 mils (2.29 mm) or 125 mils (3.15 mm).

6. Retroreflectivity

The preformed retroreflective marking materials upon application shall exhibit adequate and uniform nighttime retroreflectivity. The marking materials shall have the following retroreflectivity as measured using a **Delta LTL 2000** or **LTL-X Retroreflectometer**:

White preformed reflective marking materials – *minimum of 275 mcd·m⁻²·lx⁻¹*

(Note: Initial retroreflection and skid resistance are affected by the amount of heat applied during installation. When ambient temperatures are such that greater amounts of heat are required for proper installation, initial retroreflection and skid resistance levels may be affected. Consequently, glass beads shall be added to material while in molten state and must be applied (dropped, not thrown or tossed) in order to cover all material. Beads shall be applied to the top of all white thermoplastic markings).

C. Installation

Asphalt – The materials shall be applied using the propane torch method recommended by the manufacturer. The material must be able to be applied without minimum requirements for ambient and road temperatures and without any preheating of the pavement to a specific temperature. The material must be able to be applied without the use of a thermometer. The pavement shall be clean, dry and free of debris. Supplier must enclose application instructions with each box/package.

Portland Concrete: The same application procedure shall be used as described for asphalt. However, a compatible primer sealer may be applied before application to assure proper adhesion.

1134.06 —PAVEMENT MARKINGS AND TRAFFIC STRIPES - EPOXY

(Revised 5/20/99)

A. Description

This item shall consist of furnishing and applying epoxy traffic stripes and pavement markings, including glass beads.

B. Materials

1. Epoxy

Epoxy permanent pavement markings and traffic stripes shall be manufactured by **3M Company, Morton Company** or an ACHD approved equal. The manufacturer of the epoxy traffic stripes and pavement markings shall provide a minimum of a three year warranty.

Material Safety Data Sheets (MSDS) shall be provided by the manufacturer to include health hazard information on the material.

2. Glass Beads

Contractor shall supply glass beads suitable for epoxy traffic stripes and pavement markings. Glass beads shall comply with Section 1134.07 of these Supplemental Provisions.

C. Installation

Pavement markings and traffic stripes shall be installed in compliance with the manufacturer's installation instructions. Pavement marking and traffic stripe configurations shall be in compliance with the latest edition of the **Manual on Uniform Traffic Control Devices (MUTCD)**.

Glass beads shall be applied to the surface of the epoxy pavement markings and traffic stripes at a rate of not less than 8 pounds per 100 square feet. Glass beads shall be applied simultaneously with or immediately after the application of the epoxy traffic stripes and

pavement markings. The amount of glass beads applied shall be measured by stabbing the glass bead tank with a calibrated rod.

Unless otherwise specified in these Supplemental Provisions, the epoxy material for traffic stripes shall be applied at a minimum thickness of 0.060 inch. Epoxy material for pavement markings shall be applied at a thickness of 0.100 inch to 0.150 inch.

Contractor shall provide a three year warranty for all epoxy pavement markings and traffic stripes. Warranty shall include all labor and materials. After three years, all pavement markings and traffic stripes shall retain a minimum of 10% of the original reflectivity and a minimum of 80% of the original coverage area.

1134.07 — GLASS BEADS

(Revised 12/30/11)

Glass beads shall conform to **AASHTO M247-81, Glass Beads Used in Traffic Paints, Type I** with the following exceptions:

APPEARANCE – The spheres shall be transparent, clean, dry, free flowing, smooth, spherically shaped, and shall be free from milky, pits, excessive air bubbles, and foreign matter. The beads shall be colorless to the extent that they do not impart a contrasting color (i.e. brown, yellow or green) when applied to the white paint used for traffic stripes.

ROUNDNESS – The glass beads shall contain not less than 70% by weight of true spheres.

DUAL CHEMICAL COATING – The beads shall be coated with chemical compounds that provide both anti-wetting and adherence properties. The Contractor shall submit a certification statement that the beads will contain the dual coatings. The Contractor shall provide the names of the chemicals used and the appropriate testing methodology to confirm the presence of their coating. The Contractor shall submit the Materials Safety Data Sheets (MSDS) for the chemicals used in providing the dual coatings. If the Contractor feels that this information is proprietary, he shall mark all supplied pertinent information as confidential. All confidential information will be maintained by ACHD and not released. Contractor shall not install the glass beads until after this information has been submitted to and approved by ACHD. ACHD has the right to conduct testing as required to confirm that the dual chemical coatings are present.

1134.08 — TEMPORARY STRIPING

(Revised 5/20/99)

The Contractor may be required to install and maintain temporary reflective tape striping as directed by the ACHD Traffic Engineer during all phases of construction until the permanent traffic stripes and pavement markings can be installed. The cost of providing, installing, maintaining, and removing temporary striping shall be incidental to other items of work.

Temporary striping shall be removed after the ACHD Traffic Engineer has determined it is no longer required.

1134.09 —DELINEATORS

(Revised 6/3/05)

A. Materials

Delineators shall be **FlexStake Highway Delineator HD 600 Series** or an ACHD approved equal and shall be 6 feet long unless otherwise shown on the plans. The color of the delineator shall be the same as the adjacent edgeline, unless otherwise directed by the ACHD Traffic Engineer.

B. Installation

All delineators shall be installed in compliance with the manufacturer's recommendations.

Delineators shall be installed in the locations shown on the project Plans, unless otherwise directed by the ACHD Traffic Engineer.

All delineator installations shall comply with the requirements of the latest edition of the **Manual on Uniform Traffic Control Devices (MUTCD)**.

Delineators shall be installed in such a manner that the top of the reflector is 4 feet above the adjacent roadway edge. They shall be placed between 2 feet and 6 feet outside the outer edge of the shoulder, or if appropriate, in line with the guardrail post. The face of the reflector shall be perpendicular to the line of oncoming traffic, unless otherwise directed by the ACHD Traffic Engineer.

Delineator spacing should be adjusted on approaches to and throughout horizontal curves so that several delineators are always visible to the motorist. On short radius curves it is necessary to orient the delineator several degrees toward the roadway so that it is perpendicular to the line of oncoming traffic.

Where normal uniform spacing is interrupted by driveways, intersections, etc., delineators may be moved a distance not exceeding 25% of the normal spacing. If this distance does not move the delineator to an acceptable location, then the delineator shall be eliminated.

1134.10 —SURFACE MOUNT CHANNELIZERS

(Revised 2/2/12)

A. Materials

When applicable, contractor shall coordinate channelizer pickup with the ACHD Traffic Operations Supervisor a minimum of three weeks in advance. The surface mount channelizers

shall be manufactured by **Pexco (Davidson Traffic Control Products, Flexi-Guide 300)** or an approved ACHD equal.

B. Installation

All channelizers shall be installed in compliance with the manufacturer's recommendations.

Channelizers shall be installed in the locations shown on the Plans, unless otherwise directed by the ACHD Traffic Engineer. All channelizer installations shall comply with the latest edition of the **Manual on Uniform Traffic Control Devices (MUTCD)**.

1134.11 — RAISED PAVEMENT MARKERS (RPMs)

(Revised 2/4/14)

A. Description

This item shall consist of furnishing and applying retroreflective raised pavement markers (RPMs) for application on asphalt and Portland cement concrete road surfaces. The markers shall be designed to provide effective, long-term nighttime visibility in areas that receive low to moderate snowfall.

Three types of retroreflective RPMs shall be available for installation on ACHD roadways: yellow/yellow (for center line and two way left turn lane applications), white/white (for dashed white markings and left turn lane applications), and white/red (for installation on dashed white markings on one way roadways).

B. Materials

1. Marker Body

Retroreflective RPMs used for permanent installation shall be **3M Raised Pavement Markers (Series 290)** or approved equal. The product shall be designed for application directly to the pavement surface and compatible with commercially available bitumen adhesives.

Maximum durability of retroreflective RPMs is achieved when markers are properly applied according to the manufacturer's recommendations provided in product bulletins and information folders. The lens of the RPM shall be coated with an abrasion-resistant material that provides acceptable reflective performance under normal traffic wear.

2. Thermoplastic Adhesive

The solid preformed thermoplastic adhesive system shall be a solid system requiring no mixing or blending prior to use and specifically formulated for securely and permanently affixing RPMs to horizontal paved surfaces of roadways.

a. Composition

The solid preformed thermoplastic adhesive system shall be wholly composed of a mixture of synthetic thermoplastic resinous binder materials with appropriate extenders, plasticizers, and other additives. None of the primary ingredients in the adhesive system shall be crude oil distillates.

b. Manufacturing Control and ISO Certification

The manufacturer must be ISO 9001:2008 certified and provide proof of current certification. The scope of the certification shall include manufacture of preformed thermoplastic pavement marking material.

c. Application

Prior to application, the pavement surface shall be clean and free of sand or other loose material. The surface shall also be preheated sufficiently to remove moisture from the adhesive contact area.

The solid preformed thermoplastic adhesive system shall be applied by completely melting the solid preformed thermoplastic adhesive in place with an external heat source (i.e. propane fueled torch) and placing the marker into the molten adhesive. It shall not be necessary to preheat the roadway to a specific temperature. The curing mechanism of the preformed thermoplastic adhesive system to a traffic ready condition shall entail only cooling to the ambient temperature of the pavement surface. When applied on concrete surfaces, a compatible primer sealer shall be applied before application to assure proper adhesion.

d. Properties

The preformed thermoplastic adhesive system may be white, black, or grey. The preformed thermoplastic adhesive system shall be resistant to degradation by ultraviolet (UV) radiation, ozone, motor fuels and lubricants, deicing compounds/solutions and herbicidal formulations used for grass/weed control.

e. Technical Support

The manufacturer and or authorized representative shall provide training and/or technical support as required by the purchaser or his appointed representative.

C. Installation

The application and installation of retroreflective RPMs shall be done in accordance with the plans, these specifications and ACHD Standard Detail TS-1113.

1134.12 —MEASUREMENT AND PAYMENT

(Revised 1/31/14)

A. Measurement

Traffic stripes will be measured by the linear foot along the line of the traffic stripes, without deductions for gaps in broken traffic stripes. A double traffic stripe, consisting of two 4 inch wide solid yellow stripes or a 4 inch wide solid yellow stripe and a 4 inch wide yellow skip stripe, will be measured as one traffic stripe. Striped medians and two-way left turn lanes consist of two double traffic stripes and therefore shall be measured as two traffic stripes. A traffic stripe that consists of two coats of paint shall be measured as one traffic stripe.

Pavement markings (e.g. stop bars, crosswalks, symbols, arrows and word markings) will be measured by the square foot for the actual area covered. Quantities of delineators, surface mount channelizers and retroreflective RPMs to be paid for will be determined as units from actual count in place. No additional payment shall be made for necessary adhesives to apply delineators, etc., to the pavement surface.

B. Payment

The unit contract prices for the bid items listed below shall be full compensation for furnishing all labor, tools, materials, and equipment necessary or incidental for the completion of the work as herein specified. All traffic stripes, pavement markings, channelizers and delineators shall comply with the latest edition of the **Manual on Uniform Traffic Control Devices (MUTCD)** and these Supplemental Provisions (see ACHD Standard Details TS-1112 & TS-1113).

Payment shall be made for the following bid items:

<u>Ref.</u>	<u>Bid Item</u>	<u>Unit</u>
1134.03.01	Striping Detail #1 (Paint)	linear foot (LF)
1134.03.02	Striping Detail #2 (Paint)	linear foot (LF)
1134.03.03	Striping Detail #3 (Paint)	linear foot (LF)
1134.03.04	Striping Detail #4 (Paint)	linear foot (LF)
1134.03.05	Striping Detail #5 (Paint)	linear foot (LF)
1134.03.06	Striping Detail #6 (Paint)	linear foot (LF)
1134.03.07	Striping Detail #7 (Paint)	linear foot (LF)
1134.03.08	Striping Detail #8 (Paint)	linear foot (LF)
1134.03.09	Striping Detail #9 (Paint)	linear foot (LF)
1134.03.10	Striping Detail #10 (Paint)	linear foot (LF)
1134.03.11	Striping Detail #11 (Paint)	linear foot (LF)
1134.03.12	Striping Detail #12 (Paint)	linear foot (LF)
1134.03.13	Striping Detail #13 (Paint)	linear foot (LF)
1134.03.14	Striping Detail #14 (Paint).....	linear foot (LF)
1134.03.15	Striping Detail #15 (Paint)	linear foot (LF)
1134.03.16	Striping Detail #16 (Paint)	linear foot (LF)
1134.03.17	Striping Detail #17 (Paint)	linear foot (LF)
1134.03.18	Striping Detail #18 (Paint)	square foot (SF)
1134.03.19	Striping Detail #19 (Paint)	square foot (SF)

1134.03.20	Striping Detail #20 (Paint)	linear foot (LF)
1134.03.21	Pavement Markings (Paint)	square foot (SF)
1134.04.01	Striping Detail #1 (Tape).....	linear foot (LF)
1134.04.02	Striping Detail #2 (Tape).....	linear foot (LF)
1134.04.03	Striping Detail #3 (Tape).....	linear foot (LF)
1134.04.04	Striping Detail #4 (Tape).....	linear foot (LF)
1134.04.05	Striping Detail #5 (Tape).....	linear foot (LF)
1134.04.06	Striping Detail #6 (Tape).....	linear foot (LF)
1134.04.07	Striping Detail #7 (Tape).....	linear foot (LF)
1134.04.08	Striping Detail #8 (Tape).....	linear foot (LF)
1134.04.09	Striping Detail #9 (Tape).....	linear foot (LF)
1134.04.10	Striping Detail #10 (Tape).....	linear foot (LF)
1134.04.11	Striping Detail #11 (Tape).....	linear foot (LF)
1134.04.12	Striping Detail #12 (Tape).....	linear foot (LF)
1134.04.13	Striping Detail #13 (Tape).....	linear foot (LF)
1134.04.14	Striping Detail #14 (Tape).....	linear foot (LF)
1134.04.15	Striping Detail #15 (Tape).....	linear foot (LF)
1134.04.16	Striping Detail #16 (Tape).....	linear foot (LF)
1134.04.17	Striping Detail #17 (Tape).....	linear foot (LF)
1134.04.18	Striping Detail #18 (Tape).....	square foot (LF)
1134.04.19	Striping Detail #19 (Tape).....	square foot (LF)
1134.04.20	Striping Detail #20 (Tape).....	linear foot (LF)
1134.04.21	Pavement Markings (Tape)	square foot (SF)
1134.05.21	Pavement Markings (Thermoplastic)	square foot (SF)
1134.06.21	Pavement Markings (Epoxy).....	square foot (SF)
1134.09.01	Delineators (White)	each (EA)
1134.09.02	Delineators (Yellow)	each (EA)
1134.10.01	Channelizers (White)	each (EA)
1134.10.02	Channelizers (Yellow)	each (EA)
1134.11.01	Raised Pavement Marker (White/Red)	each (EA)
1134.11.02	Raised Pavement Marker (White/White).....	each (EA)
1134.11.03	Raised Pavement Marker (Yellow/Yellow).....	each (EA)