

**USE WITH 2010 and 2015 STANDARDS.**

**Use in ALL projects.**

**Use with amended Section 39, "Hot Mix Asphalt."**

**DO NOT EDIT.**

### **8-1. PREQUALIFIED AND TESTED SIGNING AND DELINEATION MATERIALS**

The Department maintains the following list of Prequalified and Tested Signing and Delineation Materials. The Engineer shall not be precluded from sampling and testing products on the list of Prequalified and Tested Signing and Delineation Materials.

**2**

The manufacturer of products on the list of Prequalified and Tested Signing and Delineation Materials shall furnish the Engineer a Certificate of Compliance in conformance with the provisions in Section 6-3.05E, "Certificates of Compliance," of the Standard Specifications for each type of traffic product supplied.

**3**

For those categories of materials included on the list of Prequalified and Tested Signing and Delineation Materials, only those products shown within the listing may be used in the work. Other categories of products, not included on the list of Prequalified and Tested Signing and Delineation Materials, may be used in the work provided they conform to the requirements of the Standard Specifications.

**4**

Materials and products may be added to the list of Prequalified and Tested Signing and Delineation Materials if the manufacturer submits a New Product Information Form to the New Product Coordinator at the Transportation Laboratory. Upon a Departmental request for samples, sufficient samples shall be submitted to permit performance of required tests. Approval of materials or products will depend upon compliance with the specifications and tests the Department may elect to perform.

**5**

### **PAVEMENT MARKERS, PERMANENT TYPE**

**6**

#### **Retroreflective With Abrasion Resistant Surface (ARS)**

(traffic direction x marker width)

1. Apex, Model 921AR (4" x 4") and 828AR (3.1x4.5)
2. Ennis-Flint, Models 911 (4" x 4") and C80FH (3.1" x 4.5")
3. Ray-O-Lite, Models "AA" ARC II (4" x 4") and ARC Round Shoulder (4" x 4")
4. 3M Series 290 (3.5" x 4")
5. 3M Series 290 PSA
6. Glowlite, Inc Model 988AR (4" x 4")

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### **Retroreflective With Abrasion Resistant Surface (ARS)**

(for recessed applications only)

1. Ray-O-Lite, Model 2002 (2" x 4.6")
2. Ray-O-Lite, Model 2004 (2" x 4")\*
3. Ennis-Flint, Model 201.C40

\*For use only in 4.5 inch wide (older) recessed slots

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### **Non-Reflective, 4-inch Round**

1. Apex Universal (Ceramic)
2. Apex Universal, Models 929 (ABS) and 929PP (Polypropylene)
3. Glowlite, Inc. (Ceramic) and PP (Polypropylene)
4. Hi-Way Safety, Inc., Models P20-2000W and 2001Y (ABS)
5. Interstate Sales, "Diamond Back" (Polypropylene)
6. Novabrite Models Cdot (White) Cdot-y (Yellow), Ceramic
7. Novabrite Models Pdot-w (White) Pdot-y (Yellow), Polypropylene
8. Three D Traffic Works TD10000 (ABS), TD10500 (Polypropylene)
9. Ray-O-Lite, Ray-O-Dot (Polypropylene)

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### **PAVEMENT MARKERS, TEMPORARY TYPE**

#### 10

#### **Temporary Markers For Long Term Day/Night Use (180 days or less)**

1. Vega Molded Products "Temporary Road Marker" (3" x 4")
2. Pexco LLC, Halftrack model 25, 26 and 35

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#### **Temporary Markers For Short Term Day/Night Use (14 days or less)**

(For seal coat or chip seal applications, clear protective covers are required)

1. Apex Universal, Model 932, 932HH
2. Pexco LLC, Models T.O.M., T.R.P.M., and "HH" (High Heat)
3. Hi-Way Safety, Inc., Model 1280/1281
4. Glowlite, Inc., Model 932

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### **STRIPING AND PAVEMENT MARKING MATERIAL**

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#### **Permanent Traffic Striping and Pavement Marking Tape**

1. Advanced Traffic Marking, Series 300 and 400
2. Brite-Line, Series 1000
3. Brite-Line, "DeltaLine XRP"
4. Swarco Industries, "Director 60"
5. 3M, "Stamark" Series 380 and 270 ES

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### **Temporary (Removable) Striping and Pavement Marking Tape (180 days or less)**

1. Advanced Traffic Marking, Series 200
2. Brite-Line, "Series 100", "Deltaline TWR"
3. Garlock Rubber Technologies, Series 2000
4. Tape 4, Aztec, Grade 102
5. Swarco Industries, "Director-2", "Director 2-Wet Reflective"
6. Trelleborg Industries, R140 Series
7. 3M Series 710
8. Advanced Traffic Marking Black "Hide-A-Line"  
(Black Tape: for use only on Hot mix asphalt surfaces)
9. Brite-Line "BTR" Black Removable Tape  
(Black Tape: for use only on Hot mix asphalt surfaces)
10. Trelleborg Industries, RB-140  
(Black Tape: for use only on Hot mix asphalt surfaces)

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### **Preformed Thermoplastic (Heated in place)**

1. Ennis-Flint "Hot Tape"
2. Ennis-Flint "Premark"
3. Ennis-Flint, "Flametape"
4. Alta Traffic Solutions, "Alta All-Season", Series 100 (White Only)
5. Swarco Preformed Thermoplastic, (White Only)
6. Ozark Materials, Preformed Thermoplastic
7. Potters Industries, "VisiTape"
8. Geveko Markings, "Optamark"

### **Ceramic Surfacing Laminate, 6" x 6"**

1. Highway Ceramics, Inc.

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### **CLASS 1 DELINEATORS**

## 18

### **One Piece Driveable Flexible Type, 66-inch**

1. Pexco LLC, "Flexi-Guide Models 400 and 566"
2. Carsonite, Curve-Flex CFRM-400
3. Carsonite, Roadmarker CRM-375
4. FlexStake, Model 654 TM
5. GreenLine Model CGD1-66
6. Ridan Composites LLC, Del-Mark Post

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### **Special Use Type, 66-inch**

1. Pexco LLC, Model FG 560 (with U-Channel base), FG 300 UR (with 2-inch square anchor)
2. Carsonite, "Survivor" (with 18-inch U-Channel base)
3. Carsonite, Roadmarker CRM-375 (with 18-inch U-Channel base)
4. FlexStake, Model 604

5. GreenLine Model CGD (with 18-inch U-Channel base)
6. Impact Recovery Model D36, with #105 Driveable Base
7. Safe-Hit with 8-inch pavement anchor (SH248-GP1)
8. Safe-Hit with 15-inch soil anchor (SH248-GP2) and with 18-inch soil anchor (SH248-GP3)
9. Safe-Hit RT 360 Post with Soil Mount Anchor (GPS)
10. Safe-Hit SQR-LOC, SH248SQR-12
11. Shur-Tite Products, Shur-Flex Drivable
12. Three D Traffic Works, Earthflex TD5500

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### Surface Mount Type, 48-inch

1. Bent Manufacturing Company, Masterflex Model MFEX 180-48
2. Carsonite, "Channelizer"
3. FlexStake, Models 704, 754 TM, and EB4
4. Impact Recovery Model D48, with #101 Fixed (Surface-Mount) Base
5. Three D Traffic Works "Channelflex" ID No. 522248W
6. Flexible Marker Support, Flexistiff Model C-9484
7. Safe-Hit, SH 248 SMR
8. New Direction Manufacturing, Model FTSM 48
9. Hi-way Safety, Inc, Model CFUR48
10. Shur-Tite Products, Shur-Flex
11. Pexco LLC, Flexi-Guide Models FG348PE, FG348UR and FG348EFX

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### CHANNELIZERS

## 22

### Surface Mount Type, 36-inch

1. Bent Manufacturing Company, Masterflex Models MF-360-36 (Round) MF-180-36 (Flat) and MFEX 180—36
2. Pexco LLC, Flexi-Guide Models FG336PE, FG336UR and FG336EFX, City Post & City Post SM
3. Carsonite, "Super Duck" (Round SDR-336)
4. Carsonite, Model SDCF03601MB "Channelizer"
5. FlexStake, Models 703, 753 TM, and EB3
6. GreenLine, Model SMD-36
7. Hi-way Safety, Inc. "Channel Guide Channelizer" Model CGC36, CFUR36
8. Impact Recovery Model D36, with #101 Fixed (Surface-Mount) Base
9. Safe-Hit, Guide Post, Model SH236SMA and Dura-Post, Model SHL36SMA
10. Three D Traffic Works "Boomerang" 5200 Series
11. Flexible Marker Support, Flexistiff Model C-9484-36
12. Shur-Tite Products, Shur-Flex
13. New Direction Manufacturing, Model FTSM36

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### **Lane Separation System**

1. Pexco LLC, "Flexi-Guide (FG) 300 Curb System"
2. Qwick Kurb, "Klemmfix Guide System"
3. Dura-Curb System
4. Tuff Curb
5. FG 300 Turnpike Curb
6. Shur-Tite Products, SHUR-Curb, Model No. SF0200

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### **CONICAL DELINEATORS, 42-inch**

(For 28-inch Traffic Cones, see Standard Specifications)

1. Bent Manufacturing Company "T-Top", TDSC Series
2. Plastic Safety Systems "Navigator-42"
3. TrafFix Devices "Grabber"
4. Three D Traffic Works "Ringtop" TD7000, ID No. 742143
5. Three D Traffic Works, TD7500
6. Work Area Protection Corp. C-42
7. Custom-Pak 4600 (Part No. 93005-0001)
8. Plasticade, Navicade, 650 RI

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### **OBJECT MARKERS**

## 26

### **Type "K", 18-inch**

1. Pexco LLC, Model FG318PE
2. Carsonite, Model SMD 615
3. FlexStake, Model 701 KM
4. Safe-Hit, Model SH718SMA
5. Impact Recovery Systems, Model 282-K
6. Hi-way Safety, Inc, Model CFURK
7. Shur-Tite Products, Shur-Flex Driveable

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### **Type "Q" Object Markers, 24-inch**

1. Bent Manufacturing "Masterflex" Model MF-360-24
2. Pexco LLC, Model FG324PE
3. Carsonite, "Channelizer"
4. FlexStake, Model 701KM
5. Safe-Hit, Models SH824SMA\_WA and SH824GP3\_WA
6. Three D Traffic Works ID No. 531702W and TD 5200
7. Three D Traffic Works ID No. 520896W
8. Safe-Hit, Dura-Post SHLQ-24"
9. Flexible Marker Support, IMC 9484-24
10. Impact Recovery Systems, Model 282 -Q
11. Hi-way Safety, Inc, Model CFURQ

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**CONCRETE BARRIER MARKERS AND  
TEMPORARY RAILING (TYPE K) REFLECTORS**

**29**

**Impactable Type**

1. ARTUK, "FB"
2. Pexco LLC, Models PCBM-12 and PCBM-T12, PCBM 912, Hi Viz Flex Tab
3. Duraflex Corp., "Flexx 2020" and "Electriflexx"
4. Hi-Way Safety, Inc., Model GMKRM100
5. Plastic Safety Systems "BAM" Models OM-BARR and OM-BWAR
6. Three D Traffic Works "Roadguide" Model TD 9300
7. K-Cone Industries K-Cone and Klip Model 120T/K-Cone Model 1200T,
8. Retroflex, RF3N1

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**Non-Impactable Type**

1. ARTUK, JD Series
2. Plastic Safety Systems "BAM" Models OM-BITARW and OM-BITARA
3. Vega Molded Products, Models GBM and JD
4. Plastic Vacuum Forming, "Cap-It C400"
5. Irwin Hodson Co., Barrier Traffic Reflector 5 and A Shape HTR

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**METAL BEAM GUARD RAIL POST MARKERS**

(For use to the left of traffic)

1. Pexco LLC, "Mini" (3" x 10"), I-Flex
2. Creative Building Products, "Dura-Bull, Model 11201"
3. Duraflex Corp., "Railrider"
4. Plastic Vacuum Forming, "Cap-It C300"
5. Irwin Hodson Co., Barrier Traffic Reflector

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**CONCRETE BARRIER DELINEATORS, 16-inch**

(For use to the right of traffic)

1. Pexco LLC, Model PCBM T-16
2. Safe-Hit, Model SH216RBM
3. Three D Traffic Works "Roadguide" Model 9400

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**CONCRETE BARRIER-MOUNTED MINI-DRUM (10" x 14" x 22")**

1. Stinson Equipment Company "SaddleMarker"

## **34**

### **GUARD RAILING DELINEATOR**

(Place top of reflective element at 48 inches above plane of roadway)

## **35**

### **Wood Post Type, 27-inch**

1. Pexco LLC, FG 427 and FG 527
2. Carsonite, Model 427
3. FlexStake, Model 102 GR
4. GreenLine GRD 27
5. Safe-Hit, Model SH227GRD
6. Three D Traffic Works "Guardflex" TD9100
7. New Directions Mfg, NDM27
8. Shur-Tite Products, Shur-Tite Flat Mount
9. Glasforms, Hiway-Flex, GR-27-00
10. Impact Recovery Systems, 200-GRP

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### **Barrier, Guardrail Visibility Enhancement**

1. UltraGuard Safety System, Potters Industries, Inc.
2. Worldwide Safety and Irwin Hodson, Monarch Butterfly Reflective Device (MBG only)
3. 3M, Linear Delineation System, Series 340
4. Pexco LLC, Butterfly-Style Glue-on (MGB only)

## **37**

### **Steel Post Type**

1. Carsonite, Model CFGR-327

## **38**

### **RETROREFLECTIVE SHEETING**

## **39**

### **Channelizers, Barrier Markers, and Delineators**

1. Avery Dennison T-6500 Series, (For rigid substrate devices only)
2. Avery Dennison WR-7100 Series and WR-6100 Series
3. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
5. Orafol, AC-1000 Acrylic
6. Orafol, AP-1000 Metalized Polyester
7. Orafol, Conformalight, AR-1000 Abrasion Resistant Coating
8. 3M, High Intensity, Series 3310, Series 3910 and 3914

## **40**

### **Traffic Cones, 4-inch and 6-inch Sleeves**

1. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
2. Orafol, Vinyl, "Conformalight", C85
3. 3M Series 3840, Series 3340
4. Avery Dennison S-9000C

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### **Drums**

1. Avery Dennison WR-6100 series
2. Nippon Carbide Industries, Flexible Ultralite Grade (ULG) II
3. Orafol, "Conformalight", "Super High Intensity" or "High Impact Drum Sheeting"
4. 3M Series 3810, Series 3310, Series 3910 and 3914

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### **Barricade Sheeting:**

#### **ASTM D 4956 Type I,**

1. Nippon Carbide Industries, CN8117
2. Avery Dennison, W 1100 series
3. 3M Series CW 44

#### **Type II**

4. Avery Dennison, W-2100 Series

#### **Type III**

5. Aura Optical Systems, Aura 150

#### **Type IV**

6. 3M Series 3334/3336

## 44

### **Vertical Clearance Signs: Structure Mounted**

1. 3M Model 4081, Diamond Grade DG3, Fluorescent Yellow

## 45

### **Signs: Type II, Medium-High-Intensity (Typically Enclosed Lens, Glass-Bead Element)**

1. Avery Dennison, T-2500 Series
2. Nippon Carbide Industries, Nikkalite 18000

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### **Signs: Type III, High-Intensity (Typically Encapsulated Glass-Bead Element)**

1. Avery Dennison, T-5500A and T-6500 Series
2. Nippon Carbide Industries, Nikkalite Brand Ultralite Grade II
3. 3M 3870 and 3930 Series
4. Changzhou Hua R Sheng, Series TM 1200
5. Orafol, Oralite Series 5800

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### **Signs: Type IV, High-Intensity (Typically Unmetallized Microprismatic Element)**

1. Avery Dennison, T-6500 Series
2. Nippon Carbide Industries, Crystal Grade, 94000 Series



3. Nippon Carbide Industries, Model No. 94847 Fluorescent Orange
4. 3M Series 3930 and Series 3924S
5. Orafol, Oralite Series 5900 and Series 5930 Fluorescent Orange

#### **48**

##### **Signs: Type VI, Elastomeric (Roll-Up) High-Intensity, without Adhesive**

1. Avery Dennison, WU-6014
2. Novabrite LLC, "Econobrite"
3. Orafol "Vinyl"
4. Orafol "SuperBright"
5. Orafol "Marathon"
6. 3M Series RS20, RS60, RS64I

#### **49**

##### **Signs: Type VIII, Super-High-Intensity (Typically Unmetallized Microprismatic Element)**

1. Avery Dennison, T-7500 Series
2. Avery Dennison, T-7511 Fluorescent Yellow
3. Avery Dennison, T-7513 Fluorescent Yellow Green
4. Avery Dennison, W-7514 Fluorescent Orange
5. Nippon Carbide Industries, Nikkalite Crystal Grade Series 92800
6. Nippon Carbide Industries, Nikkalite Crystal Grade Model 92847 Fluorescent Orange
7. Nippon Carbide Industries, Nikkalite Crystal Grade Model 92844 Fluorescent Yellow/Green
8. 3M Series 3940
9. 3M Series 3924S Fluorescent Orange
10. 3M Series 3921 Fluorescent Yellow
11. 3M Series 3923 Fluorescent Yellow Green

#### **50**

##### **Signs: Type IX, Very-High-Intensity (Typically Unmetallized Microprismatic Element)**

1. 3M VIP Series 3981 Diamond Grade Fluorescent Yellow
2. 3M VIP Series 3983 Diamond Grade Fluorescent Yellow/Green
3. 3M VIP Series 3990 Diamond Grade
4. Avery Dennison T-9500 Series
5. Avery Dennison, T9513, Fluorescent Yellow Green
6. Avery Dennison, W9514, Fluorescent Orange
7. Avery Dennison, T-9511 Fluorescent Yellow
8. Orafol, Oralite 5930, Fluorescent Orange

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##### **Signs: Type XI, Very High Intensity (Typically Unmetallized Microprismatic Element)**

1. 3M Diamond Grade, DG3, Series 4000
2. 3M Diamond Grade, DG3, Series 4081, Fluorescent Yellow

3. 3M Diamond Grade, DG3, Series 4083, Fluorescent Yellow/Green
4. 3M Diamond Grade, DG3, Series 4084, Fluorescent Orange
5. Avery Dennison, OmniCube, T-11500 Series
6. Avery Dennison, OmniCube, T-11511, Fluorescent Yellow
7. Avery Dennison, OmniCube, T-11513, Fluorescent Yellow Green
8. Avery Dennison, OmniCube, W-11514 Fluorescent Orange

## **52**

### **SPECIALTY SIGNS**

1. Orafol "Endurance" Work Zone Sign (with Semi-Rigid Plastic Substrate)

## **53**

### **ALTERNATIVE SIGN SUBSTRATES**

## **54**

#### **Fiberglass Reinforced Plastic (FRP) and Expanded Foam PVC**

1. Fiber-Brite (FRP)
2. Sequentia, "Polyplate" (FRP)
3. Inteplast Group "InteCel" (0.5 inch for Post-Mounted CZ Signs, 48-inch or less)(PVC)
4. EcoStrate Sign, Model Traffic 025

## **55**

#### **Aluminum Composite, Temporary Construction Signs and Permanent Signs up to 4 foot, 7 Inches**

1. Alcan Composites "Dibond Material, 80 mils"
2. Mitsubishi Chemical America, Alpolic 350
3. Bone Safety Signs, Bone Light ACM (temporary construction signs only)
4. Kommerling, USA, KomAlu 3 mm