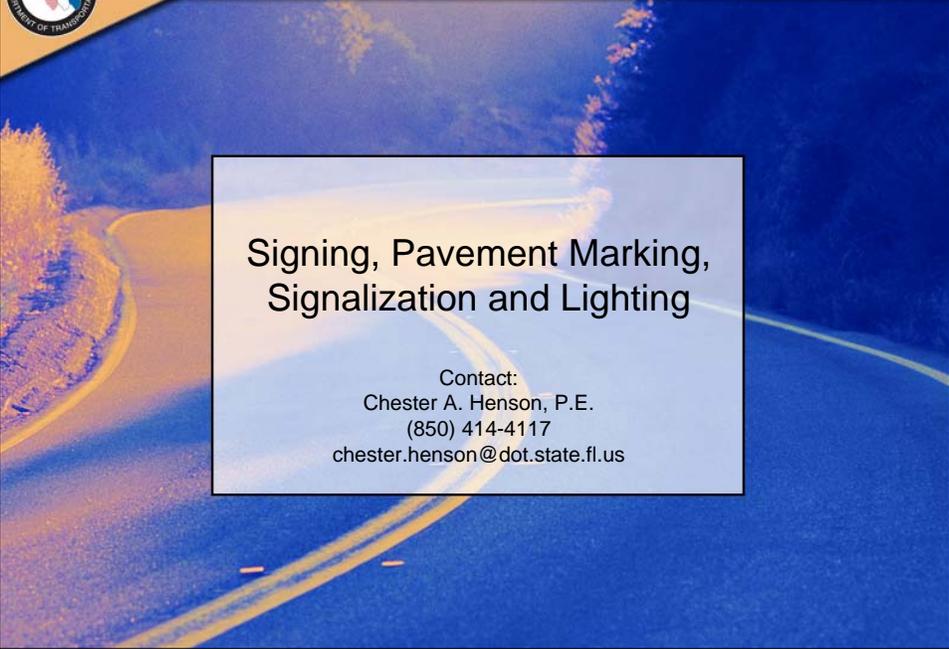




Office of Design Update Training 2008



Signing, Pavement Marking,
Signalization and Lighting

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Design Standards

- 2006 Design Standards (Effective to 6/30/2008)
- 2008 Design Standards (Effective 7/1/2008)



Design Standards Revisions

- New Structural Design for Signs, Signal Span Wires, Signal Poles, Light Poles and Mast Arms



New Structural Design for Signs, Poles and Mast Arms

- Old Wind Load Design based on AASHTO 1985 Edition “Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals”



New Structural Design for Signs, Poles and Mast Arms

- New Wind Load Design based on AASHTO 2001 Edition “Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals”



New Structural Design for Signs, Poles and Mast Arms

Index Revisions to:

- Index 11200 – Multi-Column Ground Sign (Phase 1)
- Index 11300 – Overhead Sign Structures (Phase 2)
- Index 11860 – Single Column Ground Signs (Phase 1)
- Index 17502 – Highmast Lighting (Phase 2)
- Index 17515 – Standard Roadway Aluminum Lighting (Phase 2)
- Index 17723 – Steel Strain Pole (Phase 2)
- Index 17725 – Concrete Strain Pole (Phase 2)
- Index 17743 – Standard Mast Arms Assemblies (Phase 2)
- Index 17727 – Signal Cable & Span Wire Installation Details (Phase 1)



New Structural Design for Signs, Poles and Mast Arms

Implementation

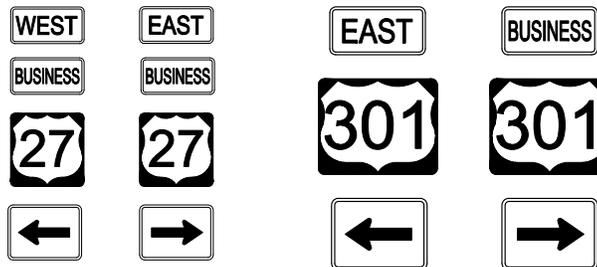
- All Projects Should Replace Single Column and Multi-Column Ground Signs With New Design
- All New Overhead Signs, Lights and Signal Poles and those Requiring Relocation Should Use New Design
- Overhead Signs Where Sign Panel Size is Not Being Changed, Panel May be Overlaid or Replaced Using Existing Structure



New Structural Design for Signs

Use of Index 11860

- If Sign Cluster Exceeds 20 s.f. or Sign Exceeds 4' Maximum Width Consider Splitting Cluster into Two Signs on Single Supports Installed Side by Side





Design Standards Revisions

- New Structural Design for Signs, Signal Poles, Light Poles and Mast Arms
- External Lighting for Signs



External Lighting for Signs

- All Overhead Signs Should Be Lighted
- Sign Lights Must Use Induction Fixtures (Mercury Vapor Fixtures Have Been Eliminated)
- Revisions to Index 17505



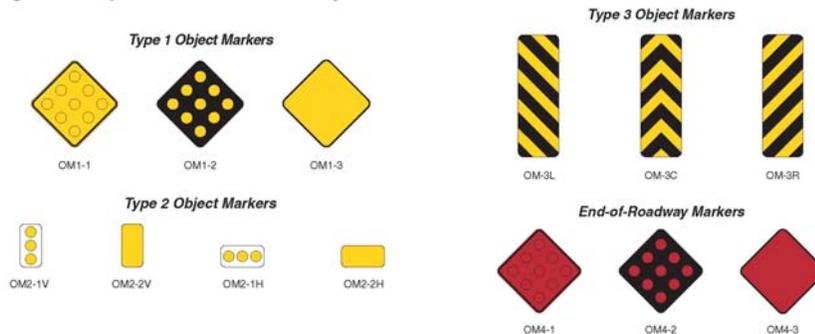
Design Standards Revisions

- New Structural Design for Signs, Signal Poles, Light Poles and Mast Arms
- External Lighting for Signs
- Delineators and Object Markers



Object Markers

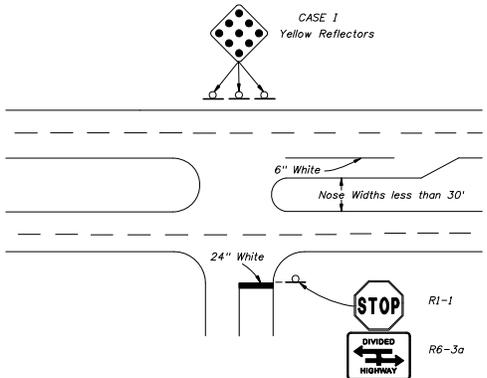
Figure 3C-1. Object Markers and End-of-Roadway Markers





Object Markers

- Index 17349 – Traffic Control for Street Terminations



CASE 1
Yellow Reflectors

6" White
Nose Widths less than 30'

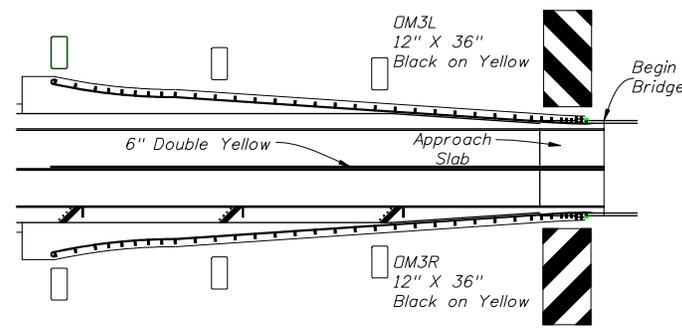
24" White

STOP R1-1
DIVIDED HIGHWAY R6-3a



Object Markers

- Index 17359 – Rural Narrow Bridge Treatment



DM3L
12" X 36"
Black on Yellow

6" Double Yellow

Approach Slab

DM3R
12" X 36"
Black on Yellow

Begin Bridge



Delineators



Flexible Delineator



Non Flexible Delineator



High Visibility Median Separator Delineator

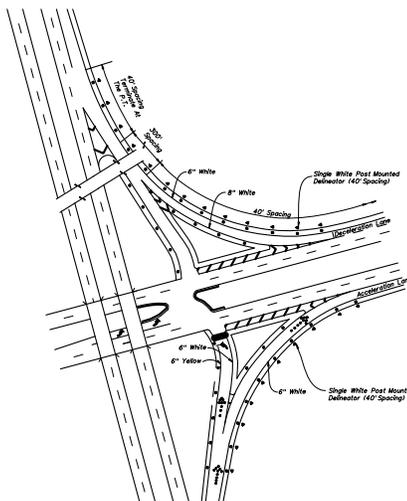


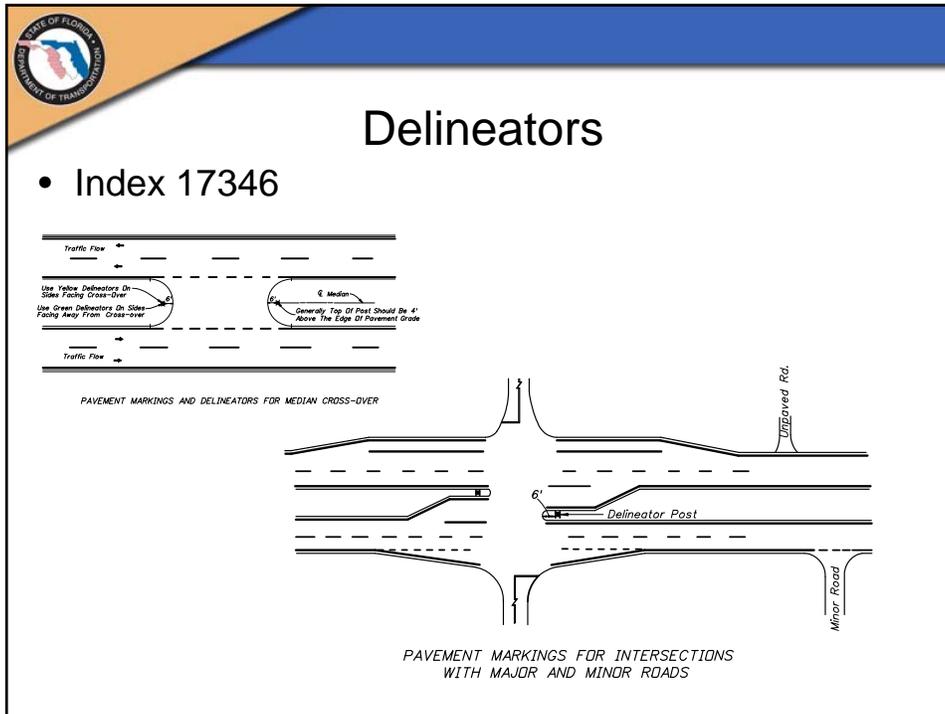
High Performance Delineator



Delineators

- Index 17345





STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

Plans Preparation Manual Guidance Object Markers and Delineators

Section 7.2.9 of Volume I

- Interchange Ramp Delineation – Consult with Maintenance on Use of Flexible or Non-Flexible Delineators.
- Median Opening – Flexible on Urban Facilities and Non Flexible on Rural Facilities.



Plans Preparation Manual Guidance Object Markers and Delineators

Section 7.2.9 of Volume I

- High Visibility Median Separator Delineators – Urban Median Separators on Major Intersections or Restricted Visibility.
- High Performance Delineators – Areas Where Delineator Restricts Movements or Used to Maintain Lane Position



Signal Design Reminders

- All Signal Indications – LED is Standard
- Pedestrian Signals – Countdown is Preferred
- Utilize Box Span Design for All Span Wire Installations
- No Signs on Span Wires Except Regulatory Signs
- All Mast Arms Should Be Designed With Backplates Except Dade County Maintained Signals



Signal Mast Arm Pay Items

- **Struct. 649- 3A-BCC STEEL MAST ARM ASSEMBLY EA**
- A = Operation
- 1 (Furnish & Install)
- 2 (Furnish)
- 3 (Install) BCC=000
- 4 (Relocate) BCC=000
- B= Wind Speed
- 1 (150)
- 2 (130 with/Backplates or 150 without/Backplates)
- 3 (110)
- 9 (Custom) CC=99*



Standard Aluminum Light Pole

- 715- 4-ABC LIGHT POLE COMPLETE EA**
- A= Operation
- 0 (Furnish & Install Standard Pole, Special Foundation) *foundations other than as shown on Index 17515; details in plans
- 1 (Furnish & Install) Standard pole, standard foundation
- 2 (Furnish)
- 3 (Install) BC=00
- 4 (Relocate) BC=00
- 6 (Remove) BC=00
- B= Wind Speed (mph)
- 1 (150)
- 2 (130)
- 3 (110)
- C= Pole Height (feet)
- 1 (40)
- 2 (45)
- 3 (50)
- 9 (Custom height)



Pavement Marking Pay Items

710- 1A-BCD	PAINTED PAVEMENT MARKINGS	Mixed
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A= Class
 1 (Standard)
 7 (Remove) SF, BCD=blank

B= Color
 1 (White)
 2 (Yellow) C=1, 2, 3, 4, 5, 9
 3 (Black)
 4 (Blue)

C= Type of Marking
 1 (Solid) NM
 2 (Solid) LF
 3 (Skip) GM, D= 1 or 2
 4 (Skip) LF, D= 1 or 2
 5 (Dotted/Guideline) LF, D=1
 6 (Message) EA, D=0 *Includes Yield message
 7 (Arrows) EA, D=0
 8 (Yield Line) LF, D=0
 9 (Island Nose) SF, D=0



Heads Up

- New Audible & Vibratory Pavement Marking Policy in February 2008
- New Wet Weather Pavement Marking Policy in February 2008



Questions

If you have any questions, please feel free to contact us.