ORIGINATION FORM

Proposed Revisions to a Standard Plans Index

(Please provide all information — Incomplete forms will be returned)

Contact Information:

Date: June 18, 2021
Originator: Rick Jenkins
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Standard Plans:

Index Number: 700-010
Sheet Number (s): 4 of 10
Index Title: Single Column Ground Signs

Summary of the changes:

Sheet 4: Changed NOTE 1 from "Class I" to "Class II".

Commentary / Background:

Changed to reflect Materials specification change that removes the designation for Class I Concrete.
Please see the attached Standard Specification Section 346 DRAFT for the Class I revisions proposed by the State Materials Office.

Other Affected Offices / Documents: (Provide name of person contacted)

Yes	No	
☐	☑	Other Standard Plans –
☐	☑	FDOT Design Manual –
☐	☑	Basis of Estimates Manual –
☑	☐	Standard Specifications – Daniel Strickland
☐	☑	Approved Product List –
☐	☑	Construction –
☐	☑	Maintenance –

Origination Package Includes:

(Email or hand deliver package to Rick Jenkins)

Yes	N/A	
☑	☐	Redline Mark-ups
☐	☐	Proposed Standard Plan Instruction (SPI)
☐	☐	Revised SPI
☐	☐	Other Support Documents

Implementation:

- ☐ Design Bulletin (Interim)
- ☐ DCE Memo
- ☐ Program Mgmt. Bulletin
- ☑ FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form

Email to: Rick Jenkins rick.jenkins@dot.state.fl.us and Darren Martin darren.martin@dot.state.fl.us

STRUCTURAL PORTLAND CEMENT CONCRETE.
(REV 7-14-21)

SUB ARTICLE 346-2.3 is deleted and the following substituted:

346-2.3 Supplementary Cementitious Materials: Supplementary cementitious materials are required to produce binary or ternary concrete mixes in all classes of concrete specified in Table 346-3, except for the following when used in slightly aggressive environments: ~~Class I,~~ Class I (Pavement), and Class II.

The quantity of portland cement replaced with supplementary cementitious materials must be on an equal weight replacement basis of the total cementitious materials in accordance with Table 346-2.

346-2.3.1 Highly Reactive Pozzolans: Materials that have a very high degree of pozzolanic reactivity due to their very fine particle sizes, including silica fume, metakaolin and ultrafine fly ash.

346-2.3.2 Binary Concrete Mixes: Concrete mixes containing portland cement and one supplementary cementitious material.

346-2.3.3 Ternary Concrete Mixes: Concrete mixes containing portland cement and any two of supplementary cementitious materials, either fly ash, slag, or highly reactive pozzolans.

ARTICLE 346-3.1 is deleted and the following substituted:

346-3.1 General: The classifications of concrete are designated as ~~Class I,~~ Class I (Pavement), Class II, Class II (Bridge Deck), Class III, Class III (Seal), Class IV, Class IV (Drilled Shaft), Class V, Class V (Special), Class VI, and Class VII. The 28-day specified minimum compressive strength, maximum water to cementitious materials ratio and target slump of each class are detailed in Table 346-3. The required air content for all classes of concrete is less than or equal to 6.0%.

For purposes of this Specification the concrete is further classified as follows:

1. Conventional Concrete: The target slump is described in Table 346-3 with a tolerance of ± 1.5 inches.
2. Increased Slump Concrete: The maximum target slump is 7 inches with a tolerance of ± 1.5 inches when a Type F, G, I or II admixture is used.
3. Slip-form Concrete: The target slump is 1.5 inches with a tolerance of ± 1.5 inches.
4. Flowing Concrete: Use flowing concrete only in the manufacturing of precast and prestressed products. Request Engineer's authorization to use flowing concrete for cast-in-place applications. The target slump is 9 inches with a tolerance of ± 1.5 inches. Meet the requirements of Section 8.6 Volume II of the Materials Manual.

5. Self-Consolidating Concrete (SCC): Use SCC only in the manufacturing of precast and prestressed products. The minimum target slump flow is 22.5 inches with a tolerance of ± 2.5 inches. Meet the requirements of Section 8.4 Volume II of the Materials Manual.

ARTICLE 346-3.3 is deleted and the following substituted:

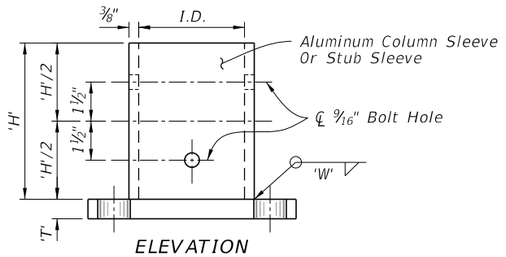
346-3.3 Master Proportion Table: Proportion the materials to produce the classes of concrete in accordance with Table 346-3.

The calculation of the water to cementitious materials ratio (w/cm) is based on the total cementitious materials including portland cement and any supplementary cementitious materials used in the mix.

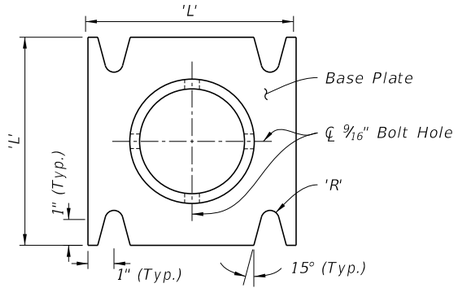
Table 346-3
Master Proportion Table

Class of Concrete	28-day Specified Minimum Compressive Strength (f'c) (psi)	Maximum Water to Cementitious Materials Ratio (pounds per pounds)	Target Slump Value (inches)
~~I (1)~~	~~3,000~~	~~0.53~~	~~3 (2)~~
I (Pavement)	3,000	0.50	1.5 or 3 (3)
II (1)	3,400	0.53	3 (2)
II (Bridge Deck)	4,500	0.44	3 (2)
III (4)	5,000	0.44	3 (2)
III (Seal)	3,000	0.53	8
IV	5,500	0.41(4)	3 (2)
IV (Drilled Shaft)	4,000	0.41	8.5
V (Special)	6,000	0.37(4)	3 (2)
V	6,500	0.37(4)	3 (2
VI	8,500	0.37(4)	3 (2)
VII	10,000	0.37(4)	3 (2)

Notes:
(1) For precast three-sided culverts, box culverts, endwalls, inlets, manholes and junction boxes, the target slump value and air content will not apply. The maximum allowable slump is 6 inches, except as noted in (2). The Contractor is permitted to use concrete meeting the requirements of ASTM C478 (4,000 psi) in lieu of the specified ~~Class I or~~ Class II concrete for precast endwalls, inlets, manholes and junction boxes.
(2) Increased slump and slip form concrete as defined in 346-3.1
(3) Meet the requirements of Section 350.
(4) When silica fume or metakaolin is required, the maximum water to cementitious material ratio will be 0.35. When ultrafine fly ash is used, the maximum water to cementitious material ratio will be 0.30.



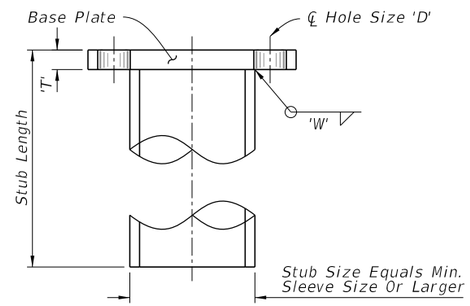
ELEVATION



PLAN

(Welded Or Sandcast)

STUB/SLEEVE & BASE PLATE DETAILS



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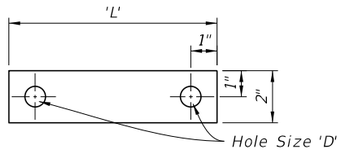
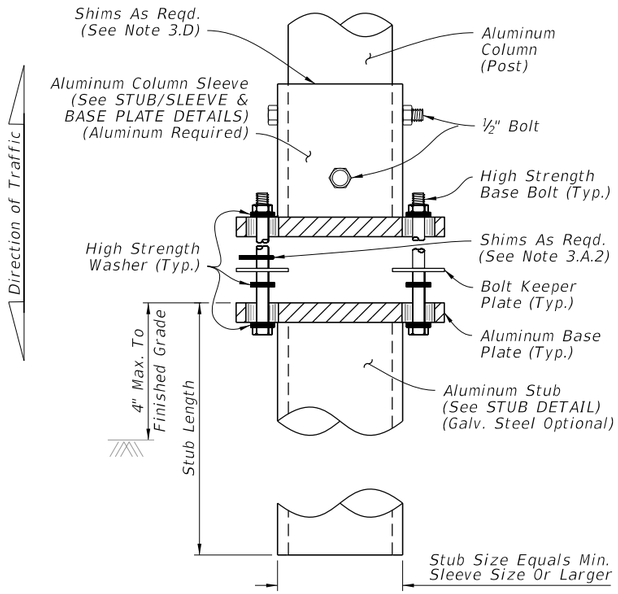
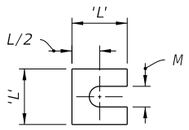


28 Ga. Thick Aluminum Strip
2 Reqd. Per Base

BOLT KEEPER PLATE DETAIL

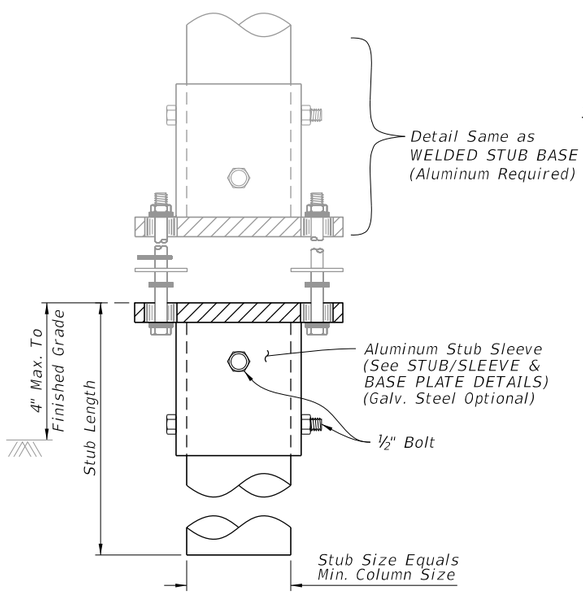


WELDED STUB BASE



Provide 2~0.0149" Thick (28 gauge)
and 2~0.0329" Thick (21 gauge)
Brass Shims Per Post

SHIM DETAIL



BOLTED STUB/SLEEVE BASE

NOTES:

1. Foundation Notes for Slip Base:

   A. Place Stub into concrete foundation given in the FOUNDATION TABLE using Class I Concrete.

2. Slip Base Fabrication Notes:

   A. The difference between the O.D. of the post and I.D. of the Sleeve must be 1/16" or less.

   B. The WELDED STUB BASE and lower STUB/SLEEVE BASE PLATE may be fabricated using galvanized steel as an option to aluminum. The upper portion of the SLIP BASE must be aluminum.

   C. Either a Welded Stub Base or Bolted Stub/Sleeve Base may be used in Slip Base.

   D. For cast base plates bolted to foundation stubs, use a foundation stub the same size as the sign column (Post).

CHANGED TO: Class II

3. Slip-Base Assembly Instructions:

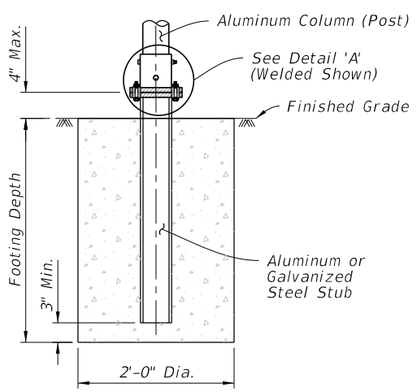
   A. Assemble the Slip Base as follows:
      1. Insert Post into Sleeve and connect using 2 ~ ½" diameter Sleeve Bolts.
      2. Assemble top base plate to bottom Base Plate using Base Bolts (High strength) with 3 washers per bolt. (See Detail 'A'):
         a. Place one washer on each Base Bolt between the bottom Base Plate and the Base Bolt head.
         b. Place the next washer between the Bottom Base Plate and the Bolt Keeper Plate.
         c. Use brass or galvanized steel shims to plumb the post.
         d. Add the top base plate section.
         e. Place the third washer between the Top Base Plate and the Nut.

   B. Orient the Bolt Keeper Plates in the Direction of Traffic.

   C. Tighten Base Bolts as follows:
      1. Tighten Base Bolts to the maximum possible with a 12" to 15" wrench (this will bed the washers and shims and clear the bolt threads).
      2. Loosen each Base Bolt one turn.
      3. Under the supervision of the Engineer, use a calibrated wrench to tighten bolts to the torque prescribed in the SLIP BASE DETAILS Table. Over tightened Base Bolts are not permitted.
      4. Distort bolt threads at the junction with nuts to prevent loosening. Repair damaged galvanizing.

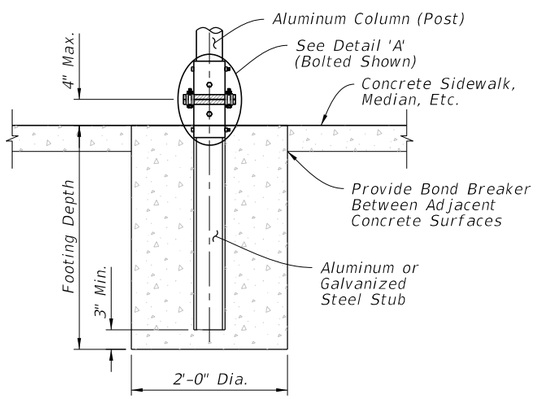
   D. Obtain a tight sleeve connection by placing 4 galvanized steel shims between the column (post) and sleeve. Space the shims evenly around the perimeter of the column (1 between each bolt hole, 4 total). Use shims that are 1" shorter than the height of the sleeve.

STUB DETAIL



SLIP BASE AND FOUNDATION DETAIL
(Non-Frangible Column, Typ.)

DETAIL 'A'



SLIP BASE AND FOUNDATION DETAIL IN CONCRETE
(Non-Frangible Column In Crossovers, Medians & Sidewalks)

Column (Post) Size	SLIP BASE DETAILS													
Outside Dia.	Wall Thickness	Sleeve I.D. (Max.)	Sleeve Height 'H'	Weld 'W'	Base Plate 'L'	Base Plate 'T'	Radius 'R'	Base Bolt Size	Base Bolt Length	Base Plate Torque ft-lbs	Base Plate Torque in.-lbs	Hole Size 'D'	SHIM L	SHIM M
4"	¼"	4 1/16"	6"	¼"	8"	¾"	1 1/32"	⅝"	3"	29	345	1 1/16"	1 3/8"	1 1/16"
4½"	¼"	4 9/16"	6"	¼"	8"	⅞"	1 1/32"	⅝"	3¼"	29	345	1 1/16"	1 3/8"	1 1/16"
5"	¼"	5 1/16"	7"	¼"	8"	⅞"	1 1/32"	⅝"	3¼"	29	345	1 1/16"	1 3/8"	1 1/16"
6"	¼"	6 1/16"	8"	¼"	9"	1"	1 3/32"	¾"	3½"	46	554	1 3/16"	1 3/4"	1 3/16"
8"	¼"	8 1/16"	10"	¼"	11"	1"	1 5/32"	⅞"	3¾"	53	640	1 5/16"	2⅜"	1 1/16"

SLIP BASE AND FOUNDATION DETAILS

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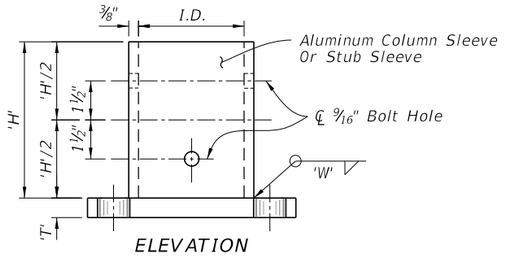
LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2021-22 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX	SHEET
~~11/01/20~~ 11/01/21					700-010	4 of 10



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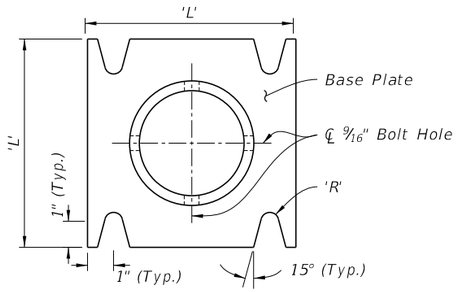
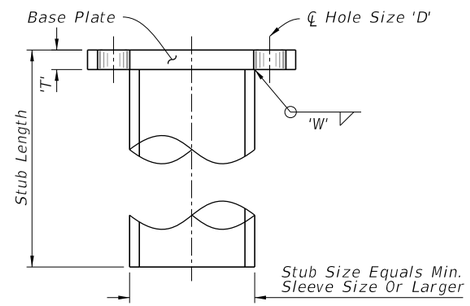


PLAN

(Welded Or Sandcast)

STUB/SLEEVE & BASE PLATE DETAILS



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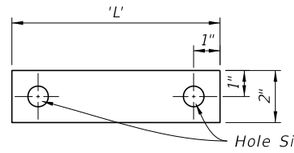

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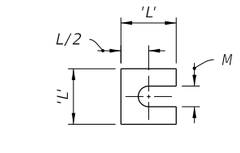

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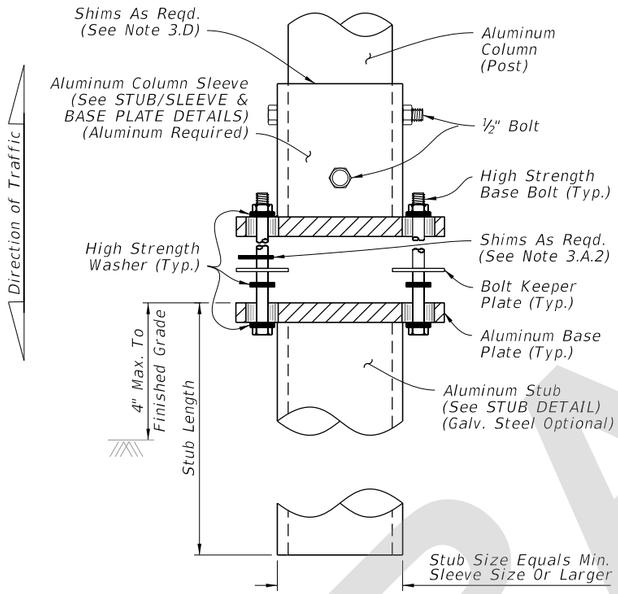
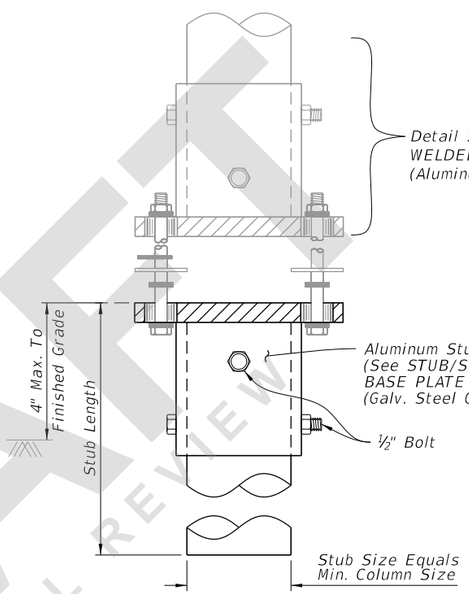


WELDED STUB BASE



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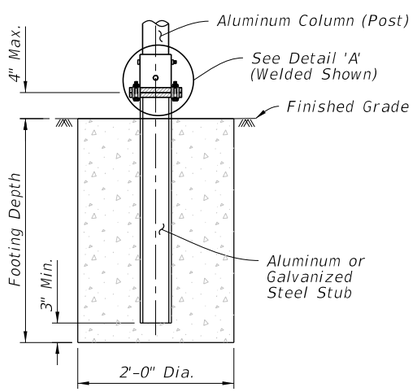
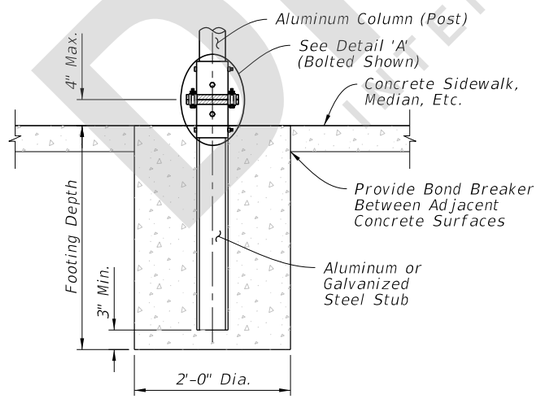


DETAIL 'A'



SLIP BASE AND FOUNDATION DETAIL
(Non-Frangible Column, Typ.)

SLIP BASE AND FOUNDATION DETAIL IN CONCRETE
(Non-Frangible Column In Crossovers, Medians & Sidewalks)

NOTES:

1. Foundation Notes for Slip Base:

   A. Place Stub into concrete foundation given in the FOUNDATION TABLE using Class II Concrete.

2. Slip Base Fabrication Notes:

   A. The difference between the O.D. of the post and I.D. of the Sleeve must be 1/16" or less.

   B. The WELDED STUB BASE and lower STUB/SLEEVE BASE PLATE may be fabricated using galvanized steel as an option to aluminum. The upper portion of the SLIP BASE must be aluminum.

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SLIP BASE AND FOUNDATION DETAILS