ORIGINATION FORM

Proposed Revisions to a Standard Plans Index

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

Contact Information:

Date: July 21, 2022

Originator: Richard Stepp

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Standard Plans:

Index Number: 715-002

Sheet Number (s): 1-9 (All)

Index Title: Standard Aluminum Lighting

Summary of the changes:

Sheets 1-9: Updated all sheet numbers in details, notes, and borders to account for new Sheet 5.

Sheet 2: Added a spread footing example in elevation details; Changed elevation titles to explain shaft footing option and new spread footing option; Added callout and Index 522-001 reference for cold joint connection between spread footing and raised curb

Sheet 4: Changed sheet title to "Shaft Foundation Option with Light Pole & Base Details"; Changed table and elevation detail titles from "Foundation" to "Shaft Foundation". Within Tables, changed "Assembly Height" to "Mounting Height" for consistency with SPI and FDM.

Sheet 5: Added all-new sheet for "Spread Footing Foundation Option".

Commentary / Background:

A spread footing option was added at the request of the Districts. This footing is intended for use where project space constraints inhibit placement of the shaft foundation. This typically occurs in urban areas. The footing serves as a sidewalk surface and may be placed immediately behind a raised curb. The Structures Design Office checked the spread footing dimensions and anchor bolt design.

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

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

Origination Package Includes: (Submit package to Rick Jenkins)

Yes	N/A	
☑	☐	Redline Mark-ups
☐	☐	Revised or Proposed Standard Plan Instruction (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

GENERAL NOTES:

1. Poles are designed to support the following:
   A. Luminaire Effective Projected Area (EPA): 1.55 SF
   B. Weight: 75 lb.

2. Shop Drawings: This Index is considered fully detailed, only submit shop drawings for minor modifications not included in the Plans.

3. Materials:
   A. Pole, Pole Connection Extrusions and Arm Extrusions: ASTM B221, Alloy 6063-T6 or Alloy 6061-T6
   B. Bars, Plates, Stiffeners and Backer Ring: ASTM B221, Alloy 6063-T6
   C. Caps and Covers: ASTM B-26, Alloy 319-F
   D. Steel Bearing Plate: ASTM A709 or ASTM A36 Grade 36
   E. Aluminum Weld Material: ER 4043
   F. Transformer and Frangible Base Materials: ASTM B26 or ASTM B108, Alloy 356-T6
   G. Bolts, Nuts and Washers:
      a. Shoe Base Bolts: ASTM F3125, Grade A325, Type 1
      b. Nuts: ASTM A563 Grade DH Heavy-Hex
      c. Washer: ASTM F436 Type 1
   H. Anchor Bolts, Nuts, and Washers:
      a. Anchor Bolts: ASTM F1554 Grade 55
      b. Nuts: ASTM A563 Grade A Heavy-Hex
      c. Plate Washer: ASTM A36
   I. Stainless Steel Fasteners: ASTM F593 Alloy Group 2, Condition A, CW1 or SH1
   J. Nut Covers: ASTM B26 (319-F)
   K. Concrete: Class II
   L. Reinforcing Steel: Specification 415

4. Fabrication:
   A. Weld Arm and Pole (Alloy 6063) in the T4 temper using 4043 filler. Age the Arm and Pole artificially to the T6 temper after welding.
   B. Transverse welds are only allowed at the base.
   C. Roadway Light Pole Taper: Taper as required to provide a round top O.D. of 6" and a base O.D. of 8" for 20' and 25' mounting heights and 10" O.D. for poles with 30' to 50' mounting heights. Portions of the pole near the base shoe and at the arm connections may be held constant to simplify fabrication.
   D. Median Barrier Mounted Light Pole Taper: Taper as required to provide a 6" O.D. round top with an 11" x 7" O.D. oblong base. Portions of the pole near the base and at the arm connections may be held constant at 11"x 7" oblong and 6" round respectively to simplify fabrication.
   E. Provide 'J', 'S' or 'C' hook at top of pole for electrical wires.
   F. Equip poles located on bridges, walls and concrete median barriers/Traffic Railings with a vibration damper.
   G. Perform all welding in accordance with AWS D1.2.
   H. Embedded Junction Box (EJB):
      a. Weld all seams continuously and grind smooth.
      b. Hot Dip Galvanize after Fabrication.
      c. Provide a watertight cover with neoprene gasket and secure cover with galvanized screws.
   I. For Median Barrier Mounted Aluminum Light Poles, the fabricator must demonstrate the ability to produce a crack free pole. The fabricator's Department-approved QC Plan must contain the following information prior to fabrication:
      a. Tests demonstrating a pole with a ¼" wall thickness achieves and ultimate moment capacity of 36 kip*ft in the strong axis and 30 kip*ft in the weak axis.
      b. Tests demonstrating a pole with a 5#16" wall thickness achieves an ultimate moment capacity of 44 kip*ft in the strong axis and 37 kip*ft in the weak axis.
      c. Test results showing the pole does not buckle at the shape transition area under the ultimate moment capacity loads.
      d. Complete details and calculations for the reinforced 4"x 6" (Min.) handhole located 1'-6" above the base plate.
   J. Identification Tag: (Submit details for approval.)
      a. 2" x 4" (Max.) aluminum identification tag.
      b. Locate on the inside of the transformer base and visible from the door opening.
      c. Secure to transformer base with ⅛" diameter stainless steel rivets or screws.
      d. Include the following information on the ID Tag:
         1. Financial Project ID
         2. Pole Height
         3. Manufacturer's Name

5. Coatings/Finish:
   A. Pole and Arm Finish: 50 grit satin rubbed.
   B. Galvanize Steel Bolts, Screws, Nuts and Washers: ASTM F2329
   C. Hot Dip Galvanize EJB and other steel items including poles and plate washers: ASTM A123

6. Construction:
   A. Foundation: Specification 455, except payment for the foundation is included in the cost of the pole.
   B. Frangible Base, Base Shoe, and Clamp:
      a. Certify that the Clamp, Frangible Transformer Base, and Base Shoe Design are capable of providing the required capacity.
      b. Certify the Base conforms to the current FHWA required AASHTO Frangibility Requirements, tested under NCHRP Report 350 Guidelines (e.g. Akron Foundry TB1-17).
      c. Do not erect pole without Luminaire attached.

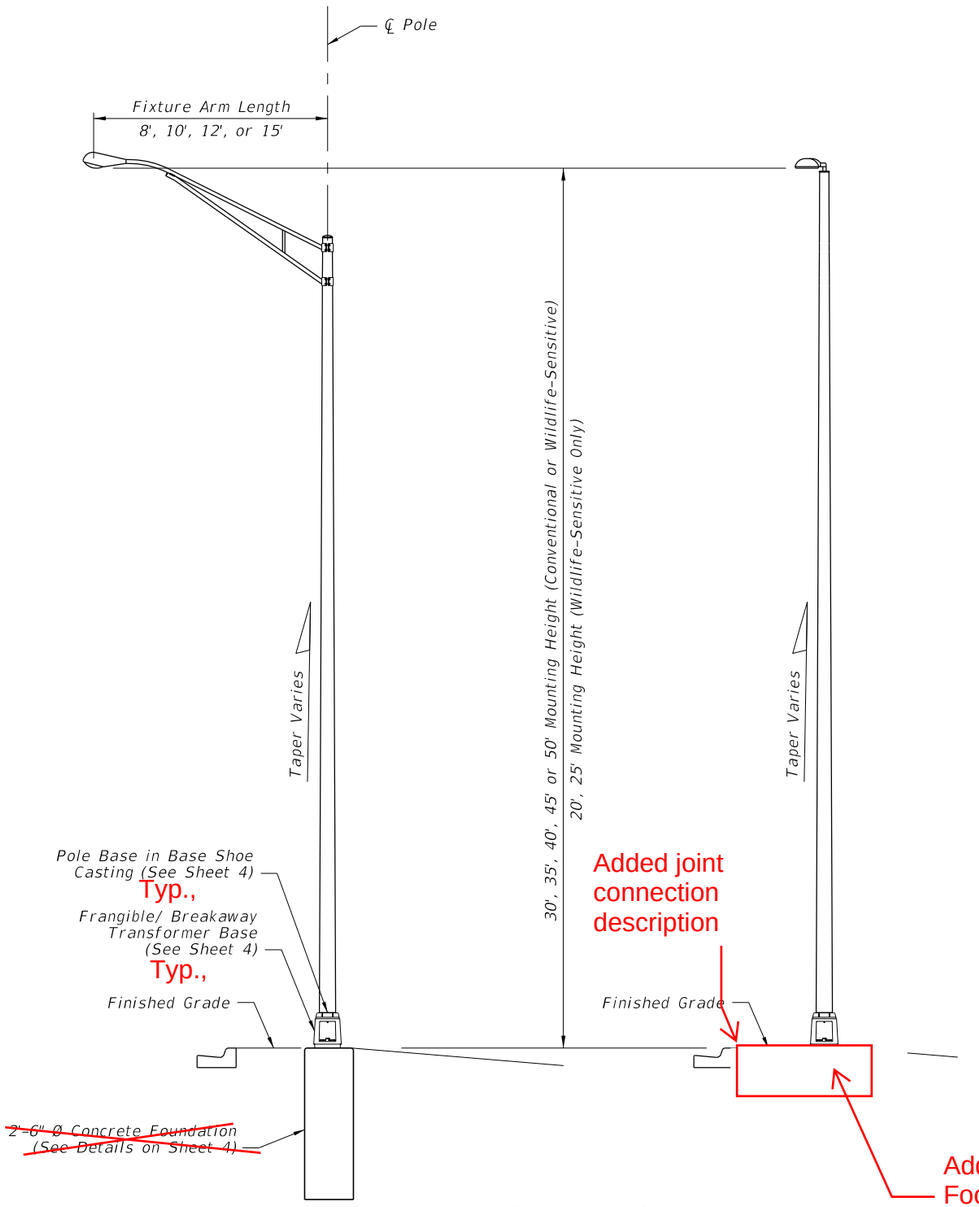
7. Embedded Junction Box (EJB): Install EJBs per Note 4 and in accordance with Specification 635, as shown on the following Sheets.

8. Wind Speed by County:

   120 MPH
   Alachua, Baker, Bradford, Calhoun, Clay, Columbia, Dixie, Duval, Gadsden, Gilchrist, Hamilton, Jackson, Jefferson, Lafayette, Leon, Liberty, Nassau, Madison, Putnam, Suwannee, Taylor, Union and Wakulla Counties.

   140 MPH
   Bay, Citrus, De Soto, Flagler, Franklin, Glades, Gulf, Hardee, Hendry, Hernando, Highlands, Hillsborough, Holmes, Lake, Levy, Manatee, Marion, Okaloosa, Okeechobee, Orange, Osceola, Pasco, Pinellas, Polk, Santa Rosa, Seminole, St. Johns, Sumter, Volusia, Walton and Washington Counties.

   160 MPH
   Brevard, Broward, Charlotte, Collier, Escambia, Indian River, Lee, Martin, Miami-Dade, Monroe, Palm Beach, Sarasota and St. Lucie Counties.



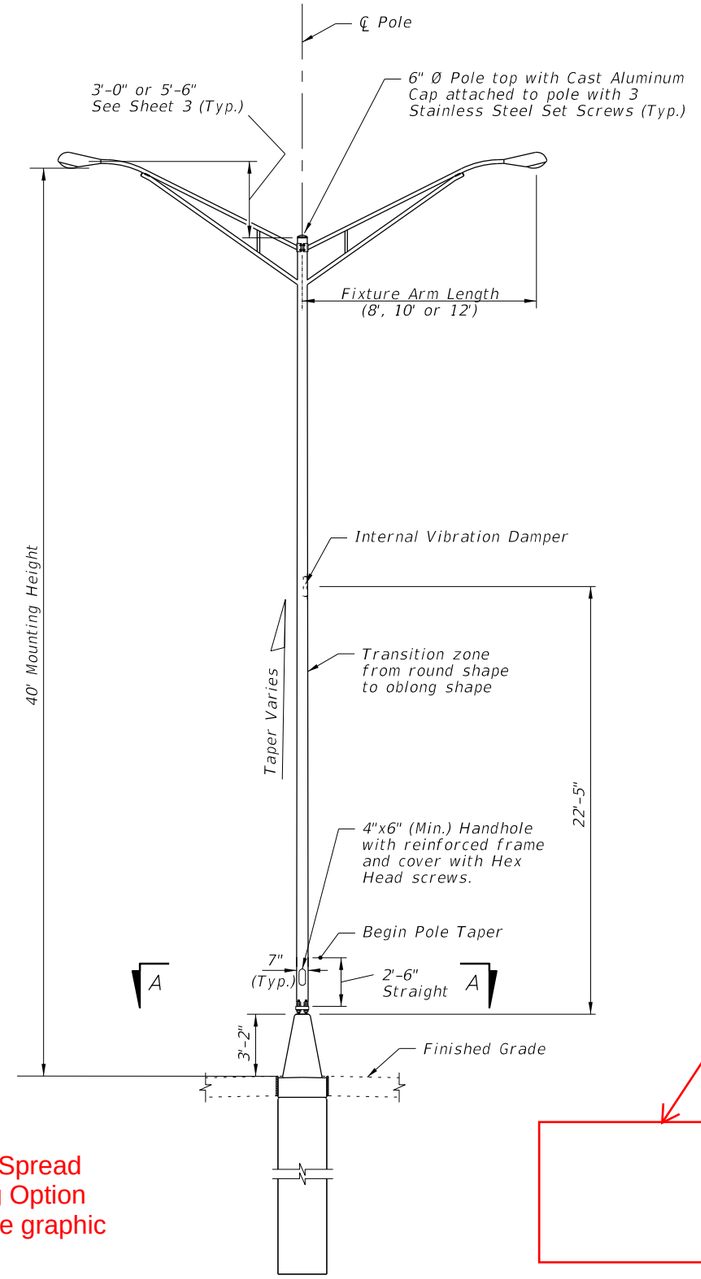
STANDARD ROADWAY ALUMINUM LIGHT POLE W/ARM

(Shaft Foundation Option Shown, Spread Footing Foundation Option Similar)

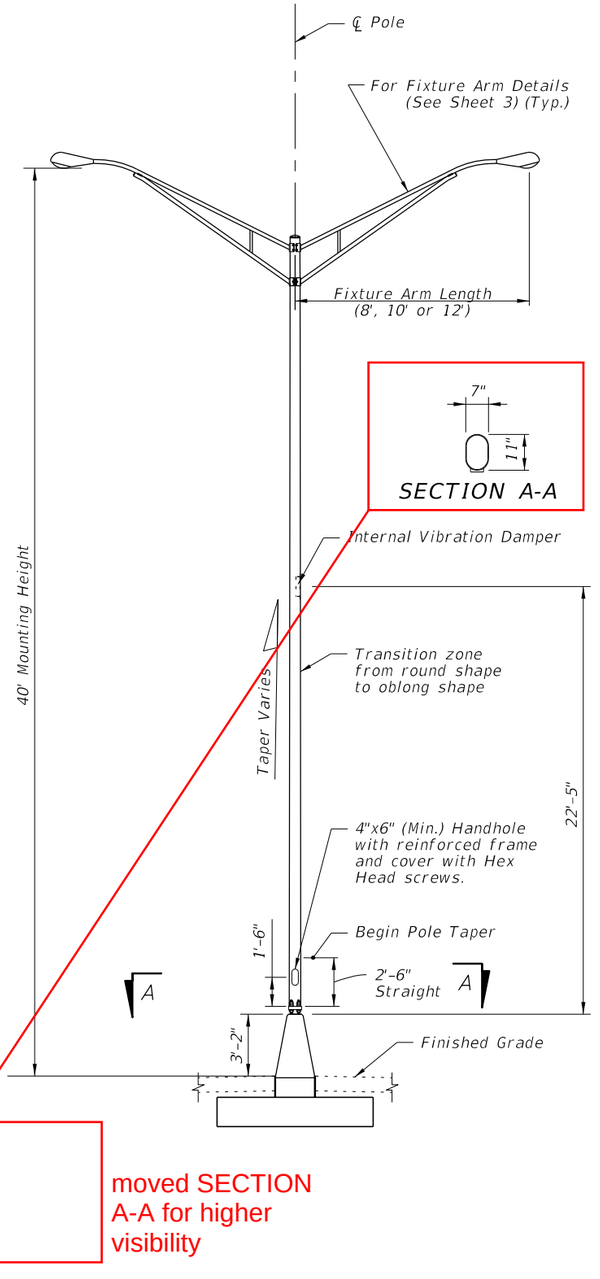
Added parenthesis descriptions for foundations

STANDARD ROADWAY ALUMINUM LIGHT POLE W/TOP MOUNT

(Spread Footing Foundation Option Shown, Shaft Foundation Option Similar)



MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE ON CYLINDRICAL FOUNDATION



moved SECTION A-A for higher visibility

MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE ON SPREAD FOOTING FOUNDATION

ELEVATIONS

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY ~~2022-23~~ 2023-24 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX	SHEET
~~11/01/21~~ 11/01/22						715-002	2 of ~~8~~ 9

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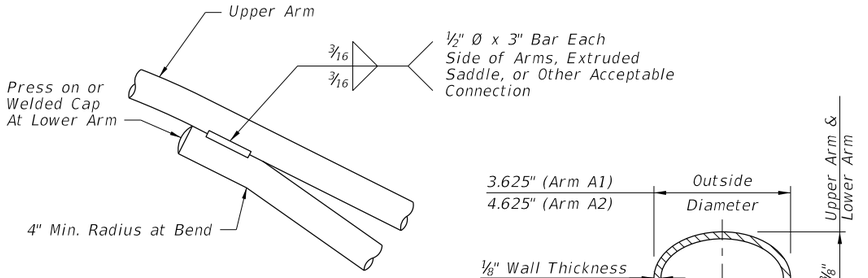
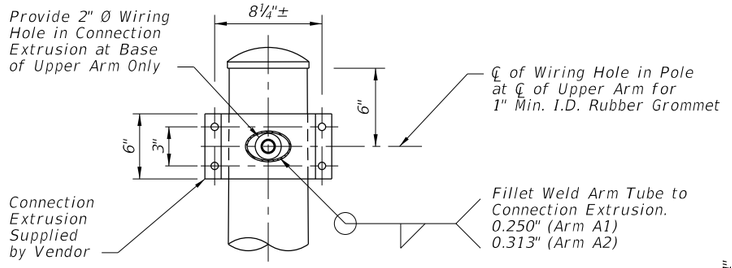
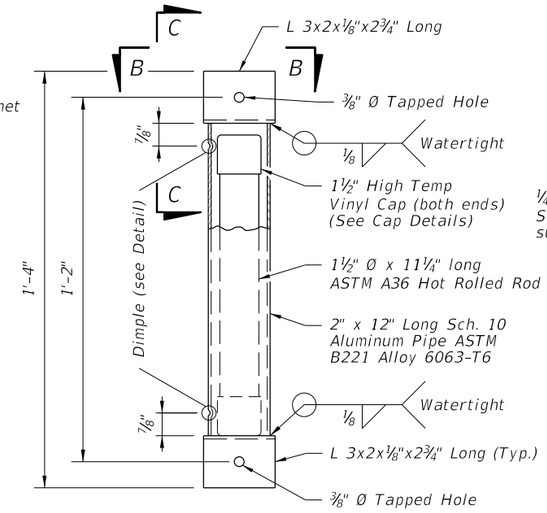


ARM CONNECTION DETAIL

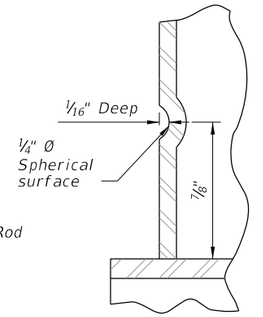
ARM SECTION



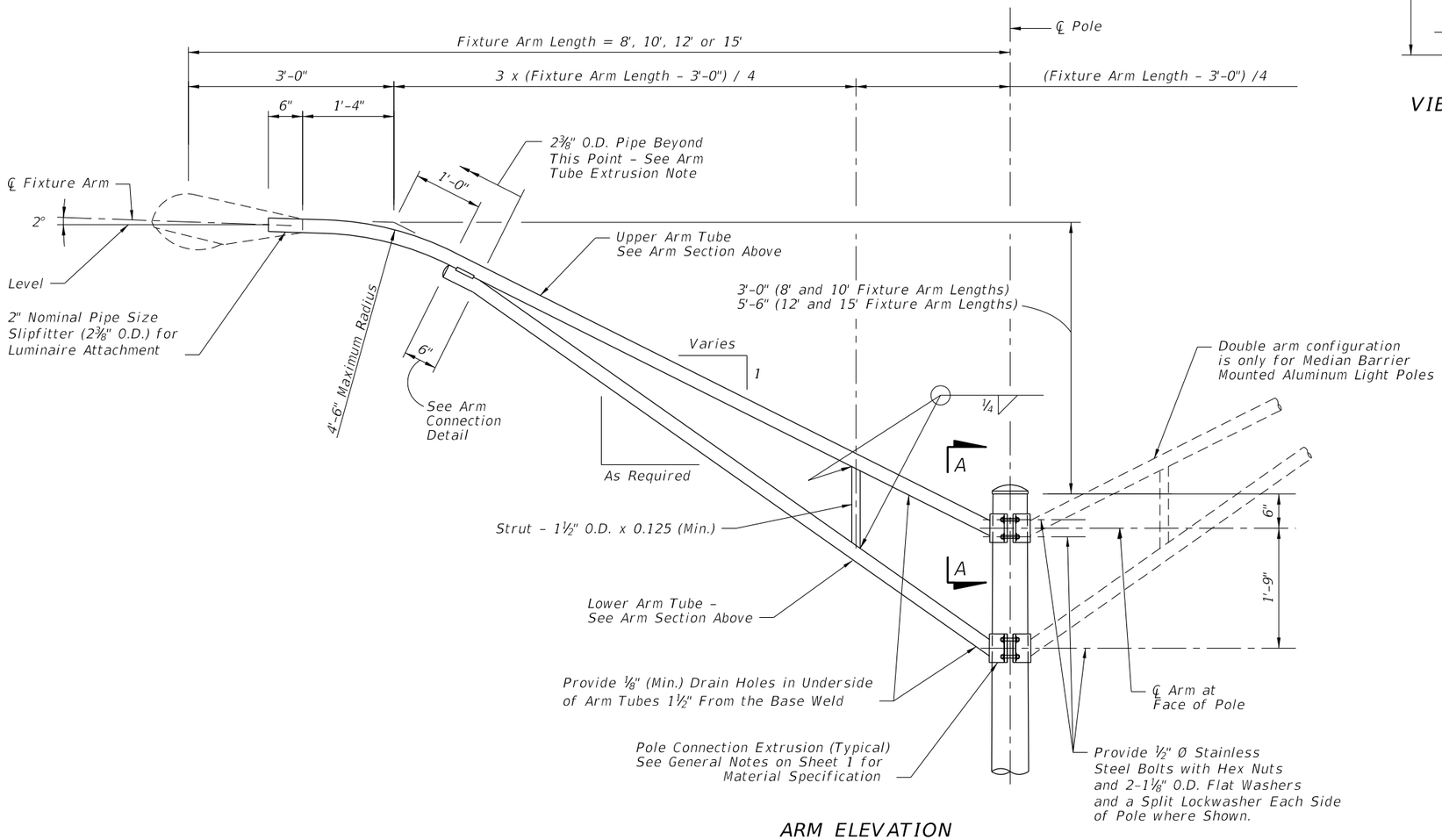
SECTION A-A
(Connection At Lower Arm Similar)



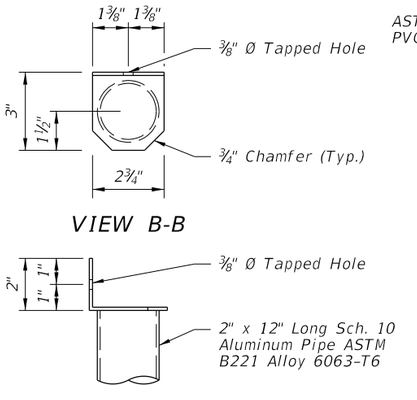
VIBRATION DAMPER ELEVATION



DIMPLE DETAIL

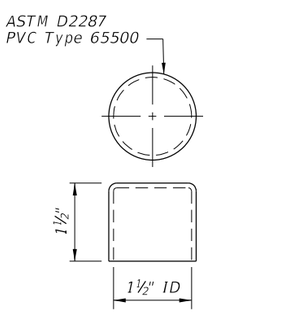


ARM ELEVATION



VIEW B-B

VIEW C-C



HIGH TEMP VINYL CAP DETAIL

ARM TUBE EXTRUSIONS NOTES:

At the pole connections, provide arm tube extrusions with dimensions as shown. Uniformly transition elliptical section to a cylindrical section at the arm connection.

The fabricator may substitute elliptical cross sections other than those tabulated, provided the section properties about the vertical axis and the area of the section equal or exceed that of the required section, and provide minimum wall thickness of ⅛" nominal and within the Aluminum Association Tolerances.

The outside diameter about the minor axis should be held at 2⅜" at the upper and lower arms.

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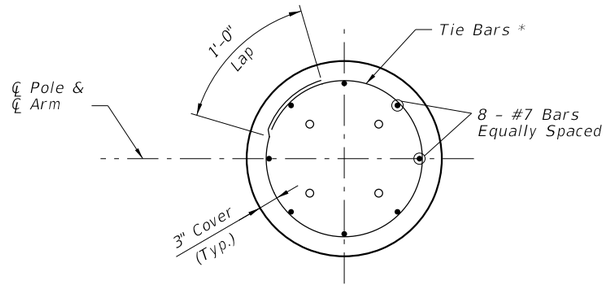
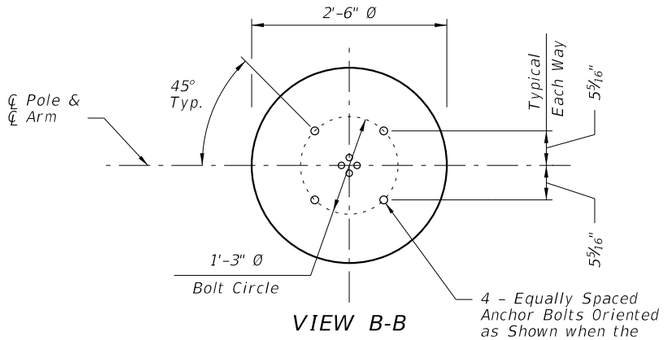
ARM & DAMPER DETAILS

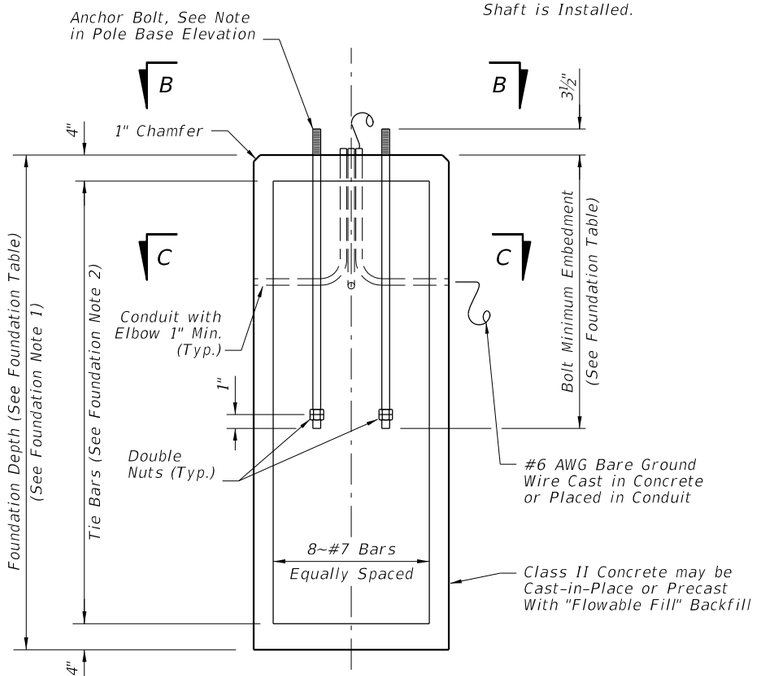
LAST REVISION	REVISION	DESCRIPTION:	FY ~~2022-23~~ 2023-24 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX	SHEET
~~11/01/19~~ 11/01/22					715-002	3 of ~~8~~ 9



SECTION C-C



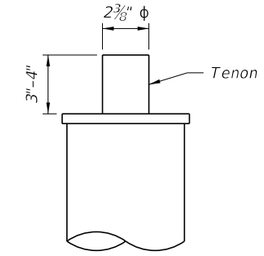
VIEW B-B



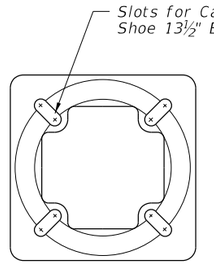
FOUNDATION NOTES:

1. Depths shown are for slopes equal to or flatter than 1:4. For slopes steeper than 1:4 and equal to or flatter than 1:2 add 2'-6" to foundation depths shown.
2. Foundation Tie Bars: #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.

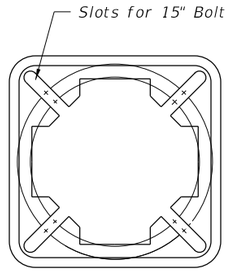
~~FOUNDATION~~ SHAFT FOUNDATION ELEVATION



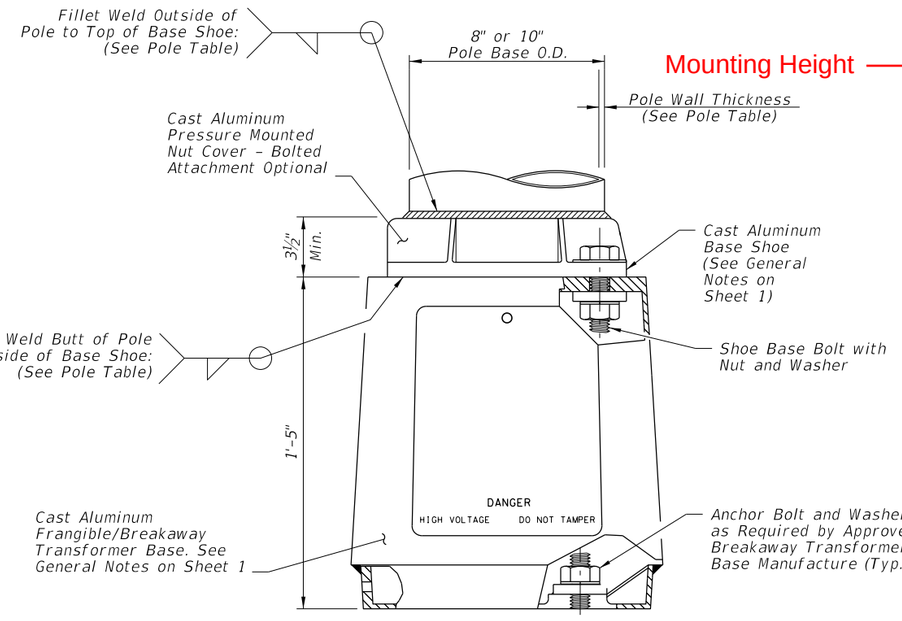
TOP MOUNT TENON



TOP VIEW TRANSFORMER BASE



BOTTOM VIEW TRANSFORMER BASE



POLE BASE ELEVATION

ARM-POLE TABLE

FOR STANDARD ALUMINUM LIGHT POLES WITH ARM

Mounting Height

~~Assembly Height~~ (ft)	Wind Speed and Arm Lengths (ft)				
	120 mph	140 mph		160 mph	
	8, 10, 12, 15	8, 10, 12	15	8, 10	12, 15
30	A1-P1	A1-P1	A2-P1	A1-P1	A2-P1
35					
40				A1-P2	A2-P2
45	A1-P2	A1-P2	A2-P2		
50				A1-P3	A2-P3

ARM POLE NOTES:

1. See ARM SECTION detail on Sheet 3 for all A1 and A2 Values.
2. See Pole Table for all P1, P2, and P3 values.
3. For Median Barrier Mounted Pole, Use Arm A1.
4. For 20' and 25' assembly heights use only 8' or 10' arm A1 with P0.

POLE TABLE

Pole	Pole Wall Thickness	Top of Base Shoe Weld	Inside of Base Shoe Weld
P0	0.156	3/16"	5/32"
P1	0.156	3/16"	5/32"
P2	0.250	1/4"	1/4"
P3	0.313	5/16"	5/16"

POLE NOTES:

1. Pole wall thicknesses shown are nominal and must be within the Aluminum Association tolerances.
2. Thicker walls are permitted and tapered walls may be used in accordance with the minimum Aluminum Association thicknesses.

TOP MOUNT POLE TABLE

FOR STANDARD ALUMINUM LIGHT POLES WITH TOP MOUNT

Mounting Height

~~Assembly Height~~ (ft)	Wind Speed and Arm Lengths (ft)		
	120 mph	140 mph	160 mph
20	Pole P0	Pole P0	Pole P0
25			
30	Pole P1	Pole P1	Pole P1
35			
40			Pole P2
45	Pole P2	Pole P2	
50			

SHAFT

FOUNDATION TABLE

Pole	P0	P1	P2	P3
Depth	6'-0"	7'-0"	8'-0"	8'-0"
Bolt Min. Embedment	2'-6"	3'-6"	3'-6"	3'-6"

SHAFT FOUNDATION OPTION WITH LIGHT POLE & BASE DETAILS

~~POLE AND BASE DETAILS FOR ROADWAY ALUMINUM LIGHT POLE~~

LAST REVISION	REVISION	DESCRIPTION:			
~~11/01/21~~	11/01/22		FDOT	FY ~~2022-23~~ 2023-24 STANDARD PLANS	STANDARD ALUMINUM LIGHTING

INDEX 715-002

SHEET ~~4~~ 4 of ~~8~~ 9

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Insert New Sheet for "Spread Footing Foundation Option" - See DRAFT

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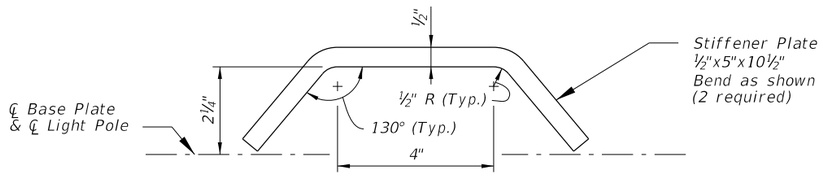
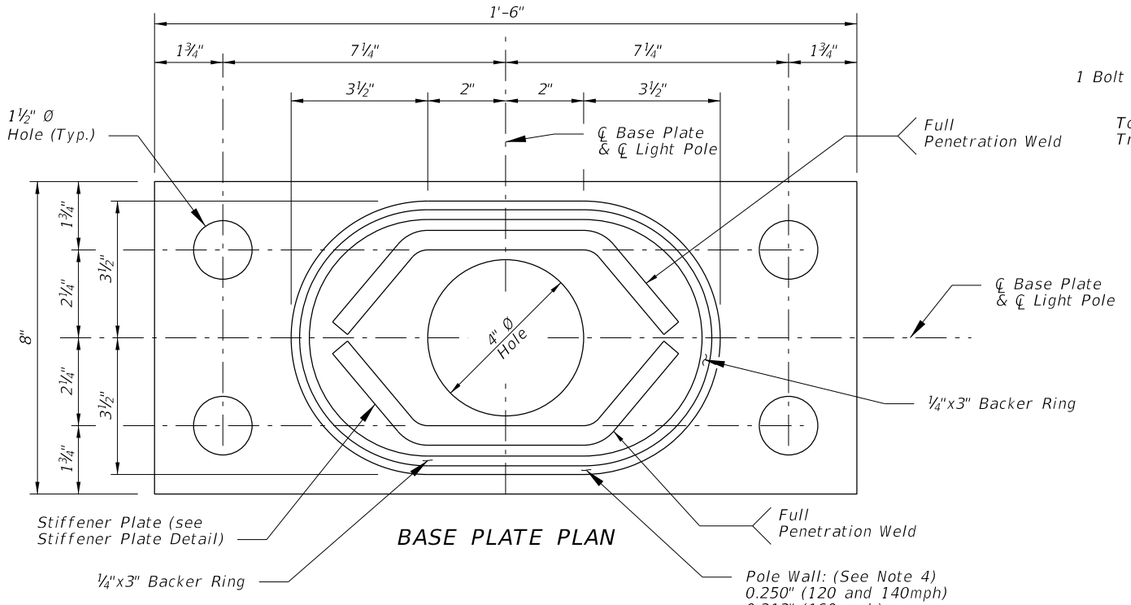
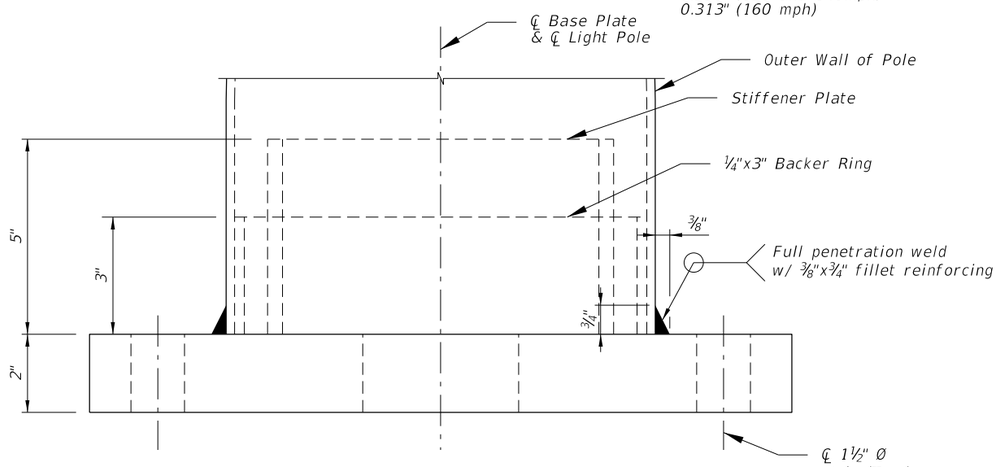


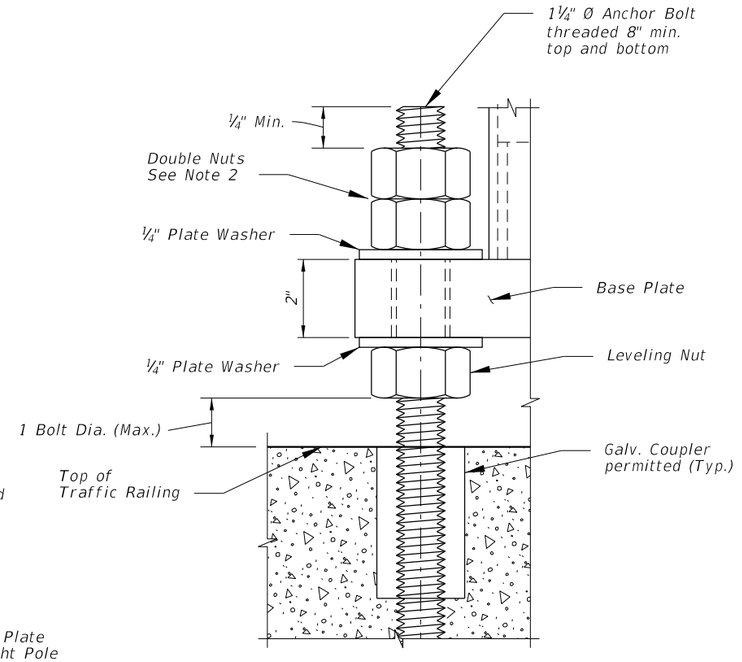
STIFFENER PLATE DETAIL



BASE PLATE PLAN



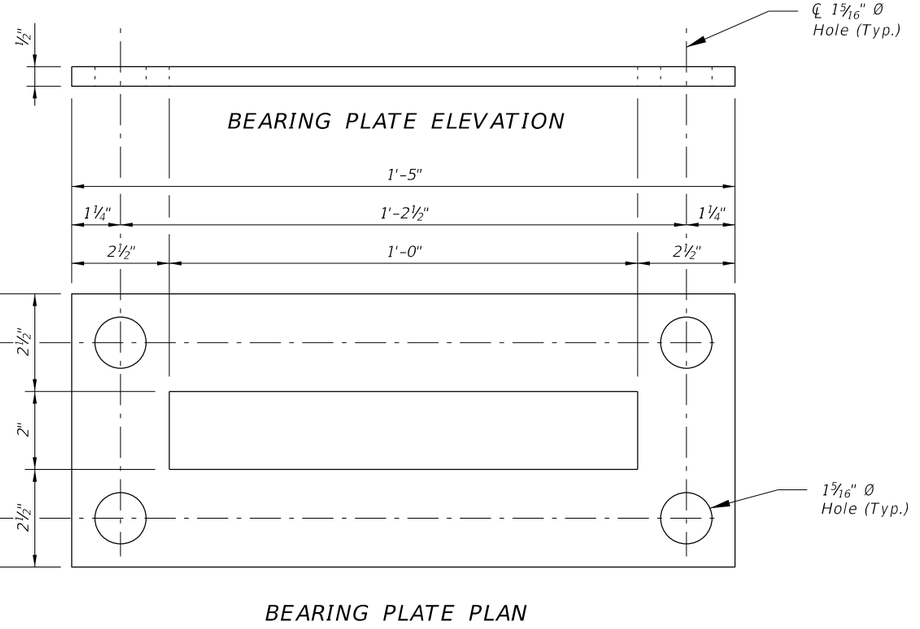
BASE PLATE ELEVATION



DETAIL 'A'

NOTE:

1. For locations of Bearing Plates, Base Plates and Detail 'A' see Sheets 6 & 7. ~~6 & 7.~~ 7 thru 9.
2. Double Nuts: The bottom hex nut may be substituted by a half-height 'jam' nut.
3. Provide individual nut covers (not shown) for each bolt.
4. Pole wall thicknesses shown are nominal and shall be within the Aluminum Association Tolerances. Thicker walls are permitted and tapered walls may be used in accordance with the minimum Aluminum Association thicknesses.



BEARING PLATE PLAN

BASE PLATE DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

LAST REVISION	REVISION	DESCRIPTION:				
~~04/03/18~~		11/01/22	FDOT STANDARD PLANS	FY ~~2022-23~~ 2023-24	STANDARD ALUMINUM LIGHTING	INDEX 715-002 / SHEET 6 ~~5 of 8~~ 9

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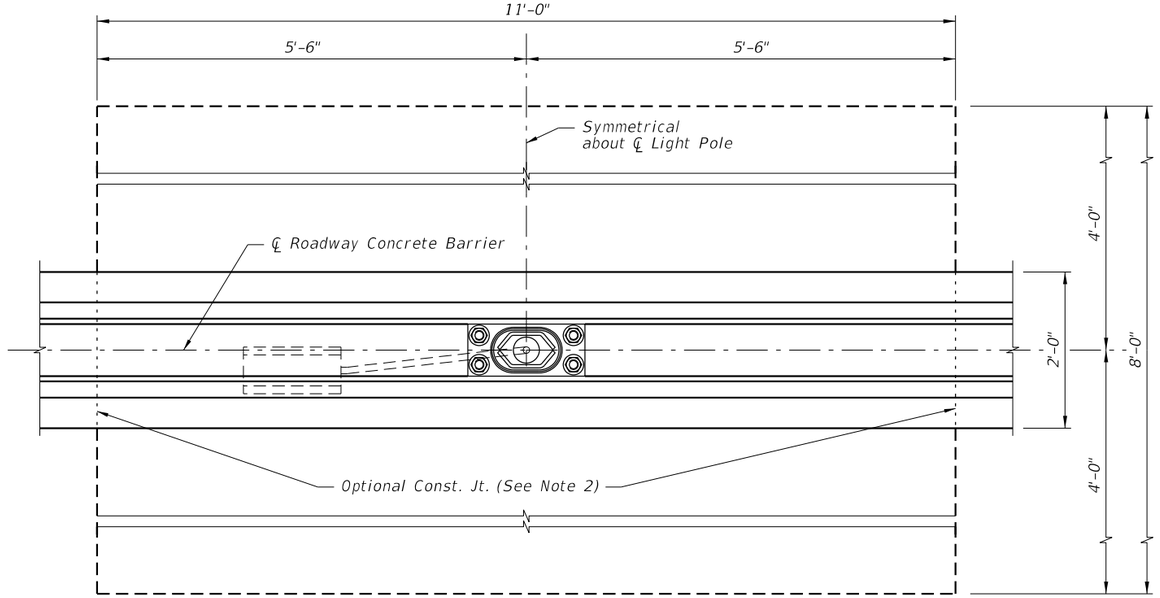
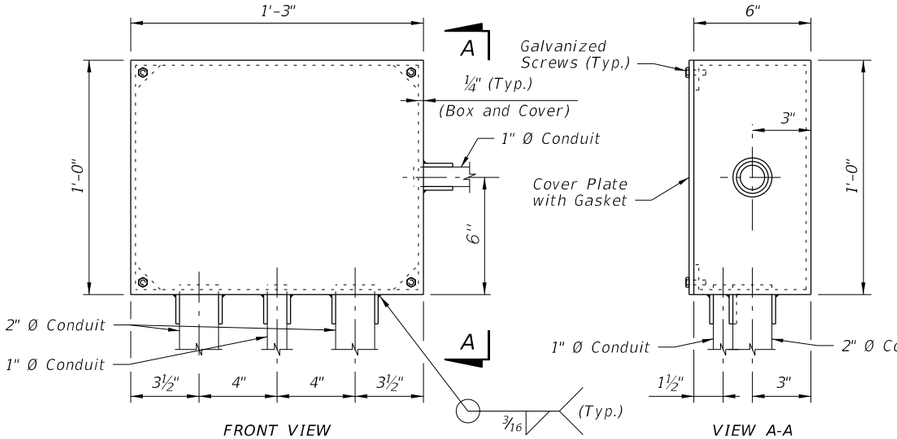
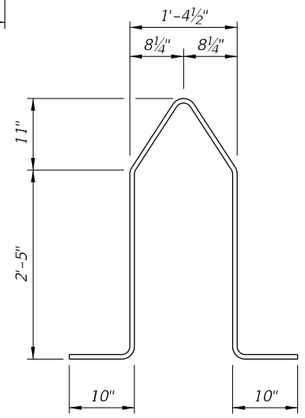


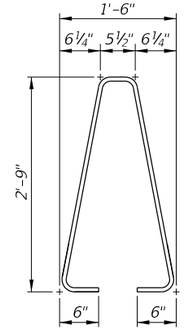
PLAN
(Reinforcing steel not shown)



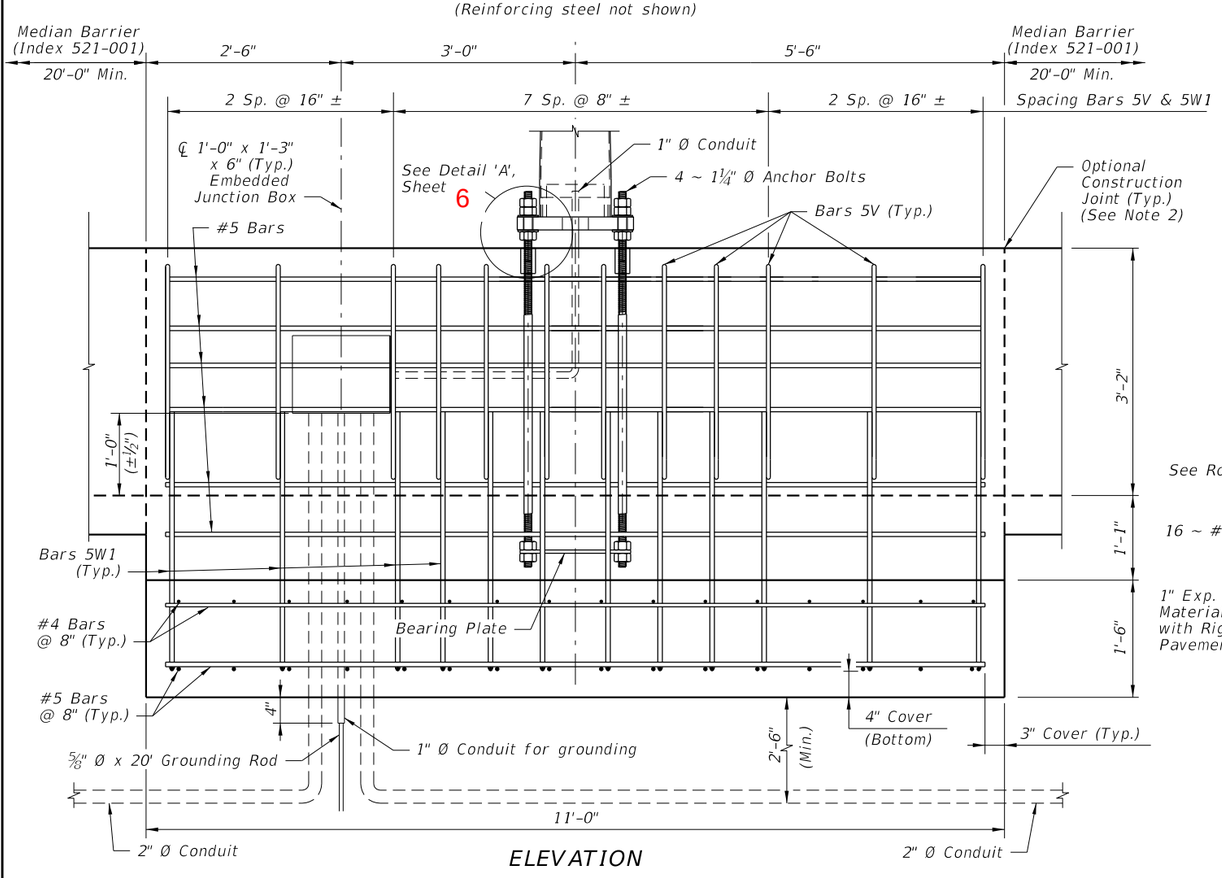
EMBEDDED JUNCTION BOX DETAILS



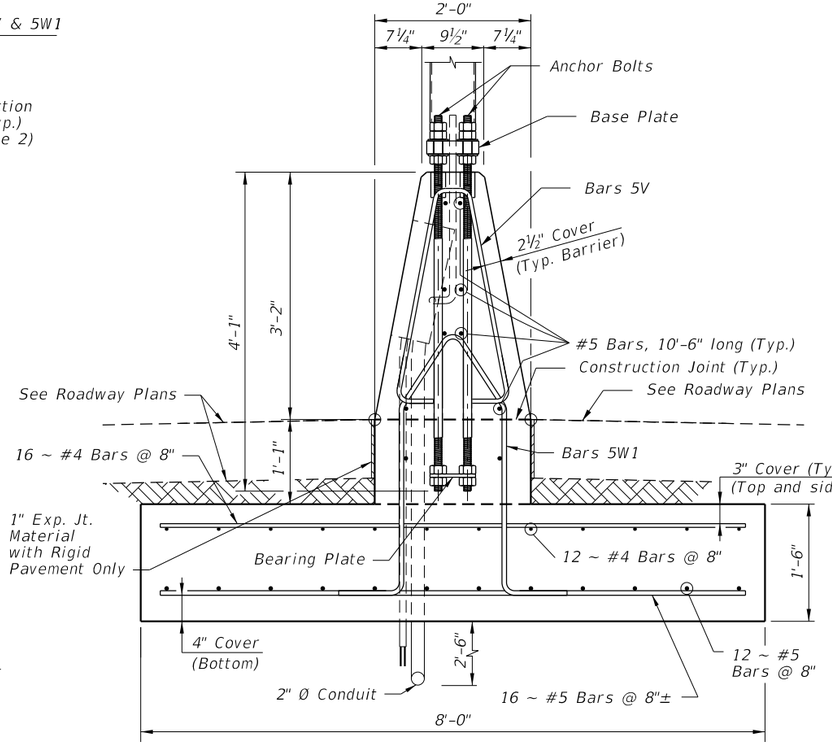
BAR 5W1



BAR 5V



ELEVATION



END VIEW

NOTES:

1. For Bearing Plate and Base Plate Details, see Sheet 5.
2. For connections to adjacent Median Barrier, use the Doweled Joint detail per Index 521-001. Alternatively, a continuous concrete pour or a construction joint may be substituted; these alternatives require the Median Barrier's longitudinal steel to lap a minimum of 2'-0" with the longitudinal steel shown herein.

SPREAD FOOTING DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

LAST REVISION	REVISION	DESCRIPTION:			
~~11/01/17~~		11/01/22	FDOT FY ~~2022-23~~ 2023-24 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX 715-002 / SHEET ~~6~~ 7 of ~~8~~ 9

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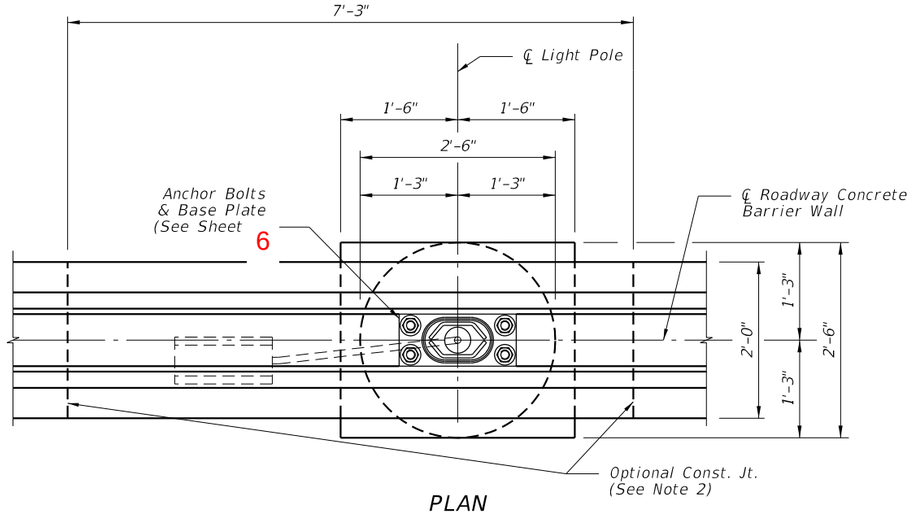
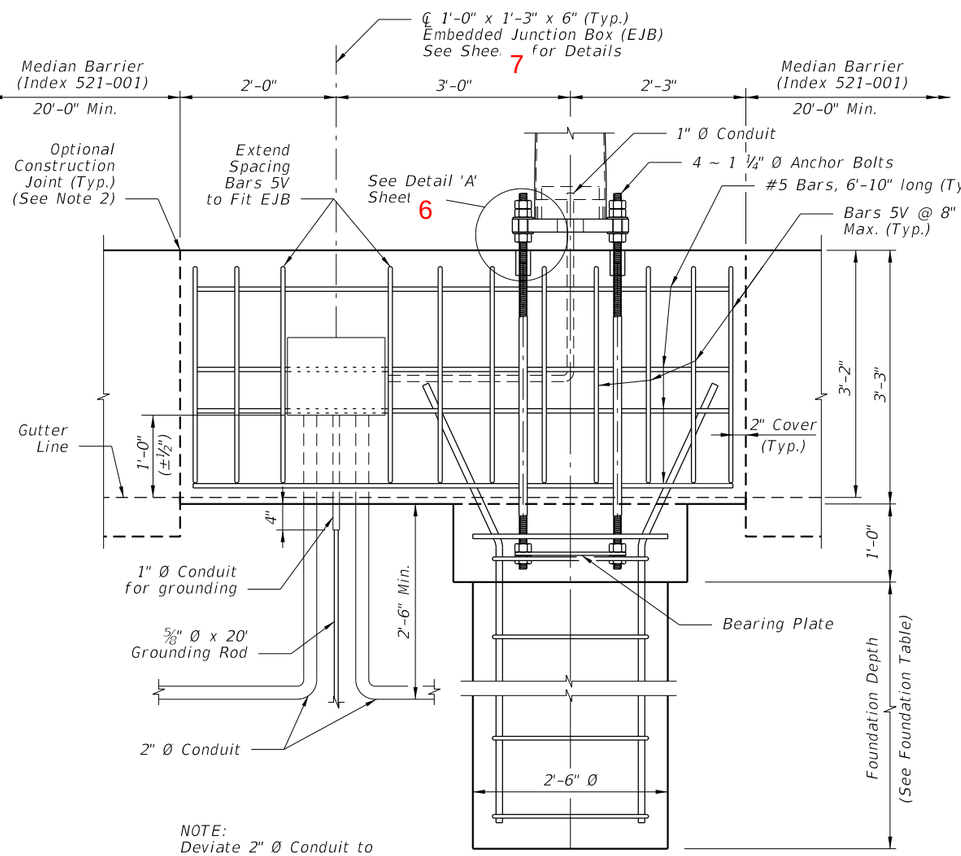


PLAN

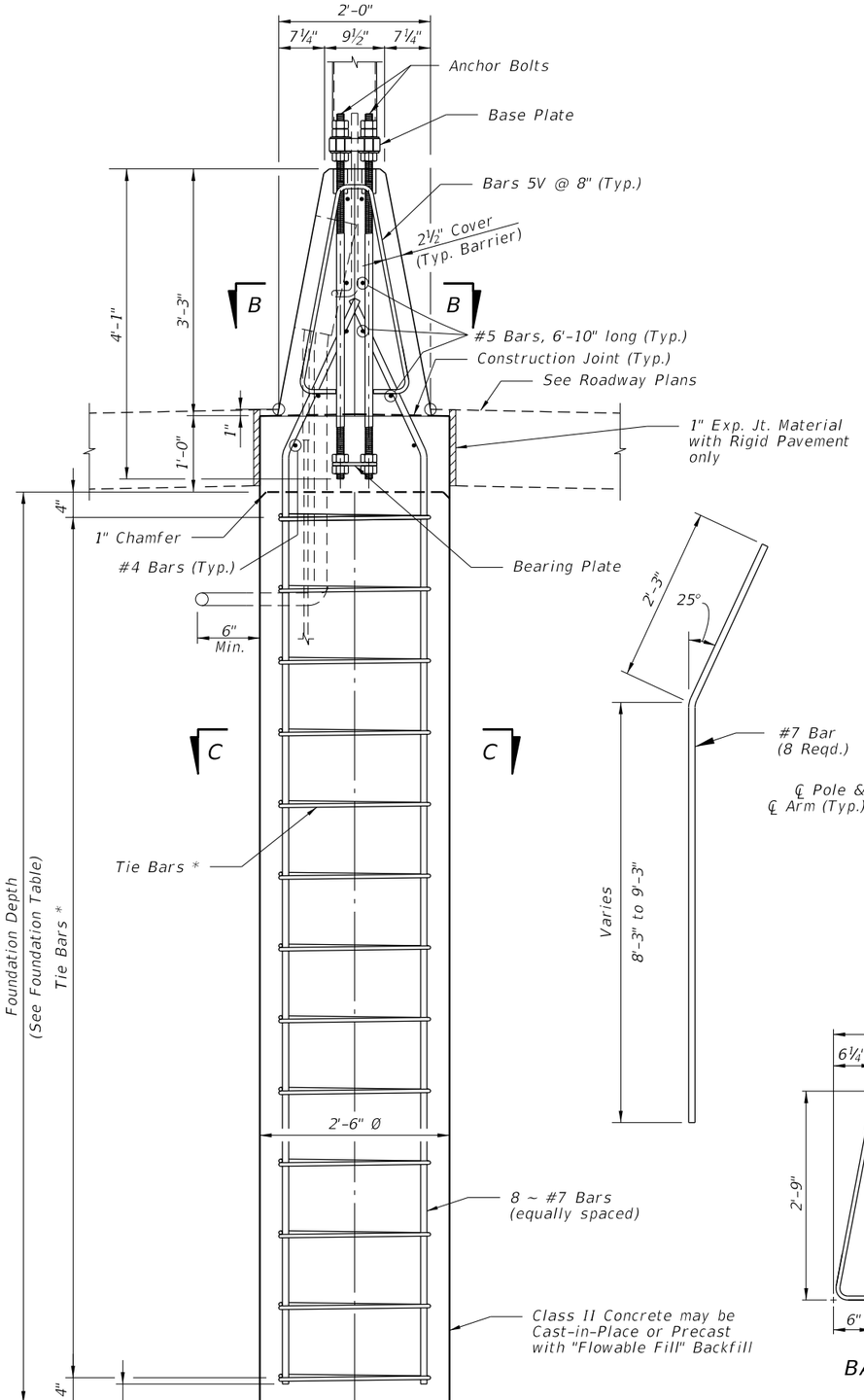
(Reinforcing steel not shown)

Provide dowel bars @ construction joint



NOTE:
Deviate 2" Ø Conduit to avoid cylindrical foundation.

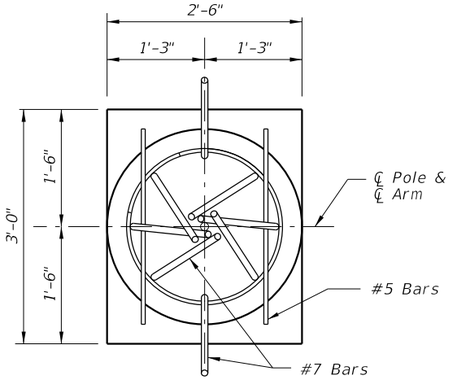
ELEVATION



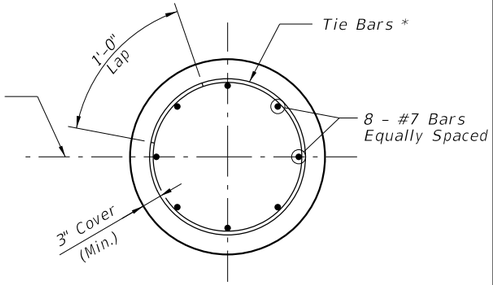
END VIEW

* #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.

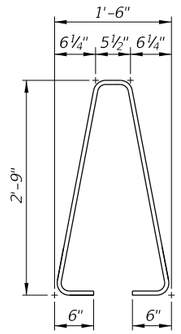
FOUNDATION TABLE		
WIND SPEED (MPH)	DESIGN MOUNTING HEIGHT (FT)	FOUNDATION DEPTH (FT)
120	40	8
140	40	9
160	40	9



VIEW B-B
(Anchor Bolts and Barrier Longitudinal Steel & Stirrups Not Shown)



SECTION C-C



BAR 5V

NOTES:

1. For Bearing Plate and Base Plate Details, see ~~Sheet 5.~~ Sheet 6
2. For connections to adjacent Median Barrier, use the Doweled Joint detail per Index 521-001. Alternatively, a continuous concrete pour or a construction joint may be substituted; these alternatives require the Median Barrier's longitudinal steel to lap a minimum of 2'-0" with the longitudinal steel shown herein.

CYLINDRICAL FOUNDATION DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

LAST REVISION	REVISION	DESCRIPTION:	FDOT			INDEX	SHEET
~~11/01/21~~		11/01/22	FY ~~2022-23~~ 2023-24 STANDARD PLANS		STANDARD ALUMINUM LIGHTING	715-002	8 ~~7~~ of ~~8~~ 9

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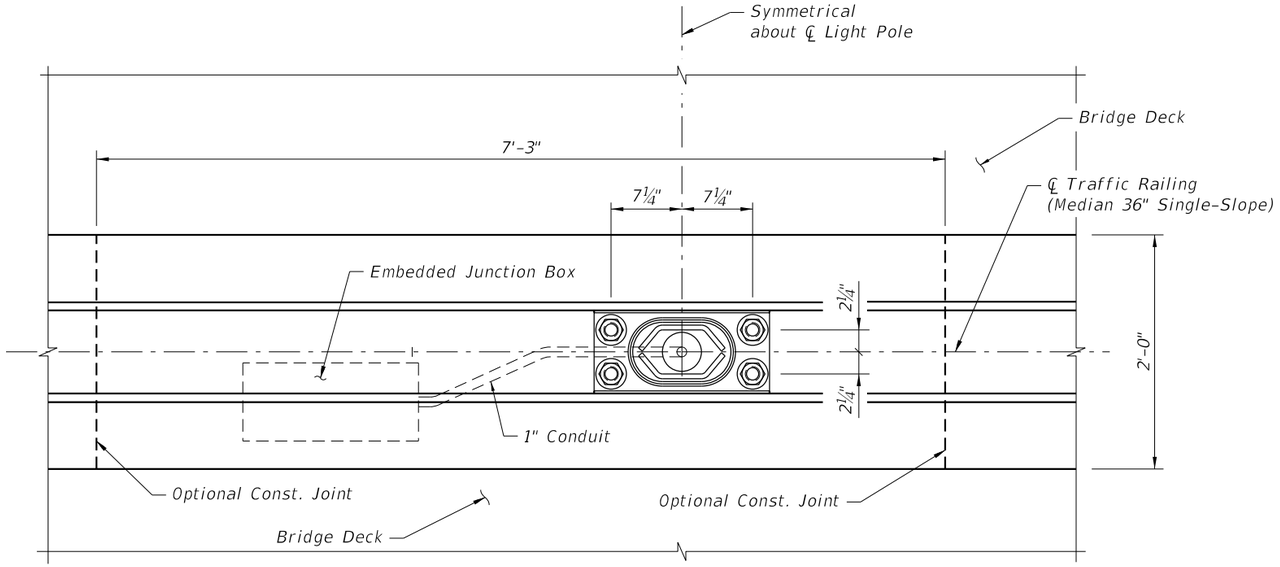
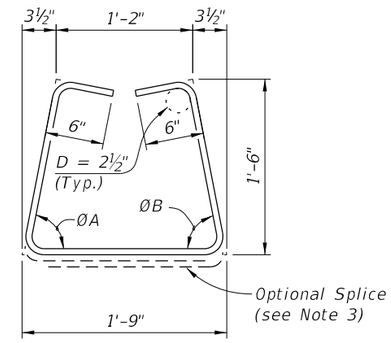


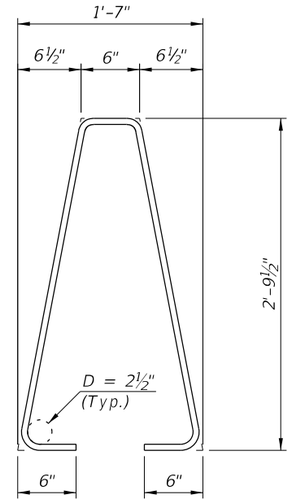
PLAN

(Reinforcing steel and 2" Ø Conduit not shown)

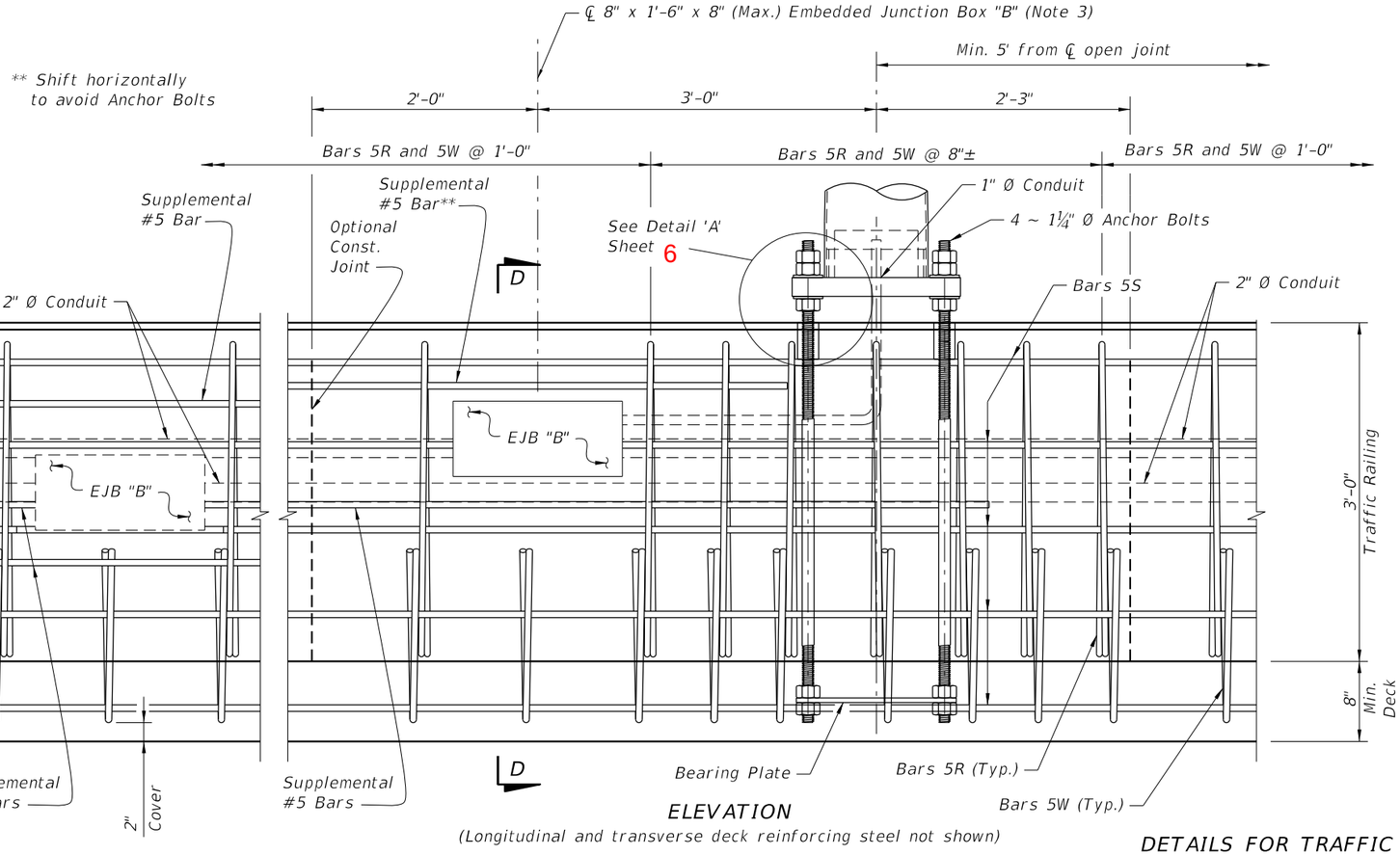
*At the Contractor's option, Bars 5W may be fabricated as a two piece bar with a 1'-2" lap splice at the bottom legs.



BAR 5W*

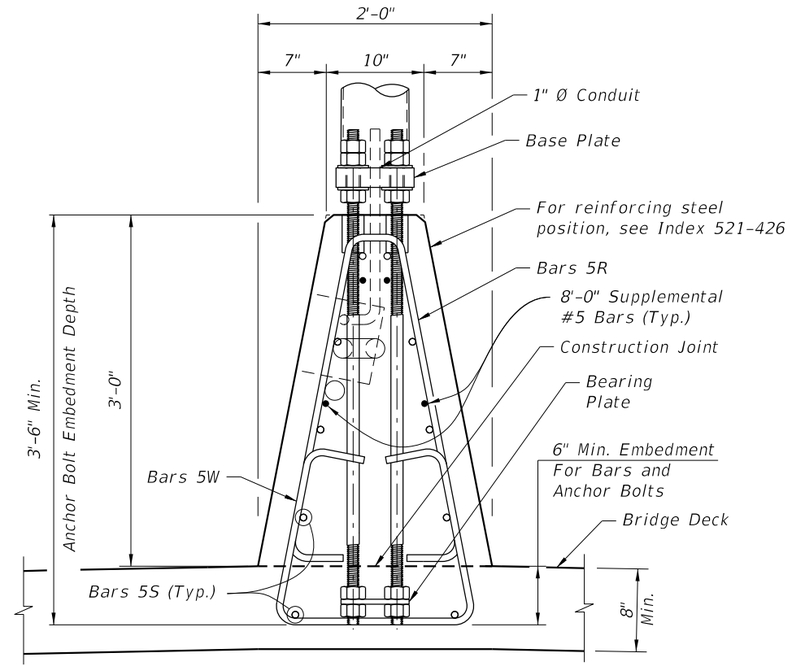


BAR 5R



ELEVATION

(Longitudinal and transverse deck reinforcing steel not shown)



SECTION D-D

(Longitudinal and transverse deck reinforcing steel not shown)

NOTES:

1. For Base Plate Details, Bearing Plate Details, and Detail 'A', see ~~Sheet 5.~~ Sheet 6
2. See Index 521-426 for details of adjacent Traffic Railing (Median 36" Single-Slope) and for angles ∅A and ∅B.
3. See Index 630-010 for Conduit, EJB and supplemental reinforcing details.

DETAILS FOR TRAFFIC RAILING (MEDIAN 36" SINGLE-SLOPE) MOUNTED ALUMINUM LIGHT POLE

LAST REVISION	REVISION	DESCRIPTION:				
~~11/01/17~~		11/01/22	FDOT STANDARD PLANS	FY ~~2022-23~~ 2023-24	STANDARD ALUMINUM LIGHTING	INDEX 715-002 / SHEET 9 ~~8 of 8~~ 9

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GENERAL NOTES:

1. Poles are designed to support the following:
   A. Luminaire Effective Projected Area (EPA): 1.55 SF
   B. Weight: 75 lb.

2. Shop Drawings: This Index is considered fully detailed, only submit shop drawings for minor modifications not included in the Plans.

3. Materials:
   A. Pole, Pole Connection Extrusions and Arm Extrusions: ASTM B221, Alloy 6063-T6 or Alloy 6061-T6
   B. Bars, Plates, Stiffeners and Backer Ring: ASTM B221, Alloy 6063-T6
   C. Caps and Covers: ASTM B-26, Alloy 319-F
   D. Steel Bearing Plate: ASTM A709 or ASTM A36 Grade 36
   E. Aluminum Weld Material: ER 4043
   F. Transformer and Frangible Base Materials: ASTM B26 or ASTM B108, Alloy 356-T6
   G. Bolts, Nuts and Washers:
      a. Shoe Base Bolts: ASTM F3125, Grade A325, Type 1
      b. Nuts: ASTM A563 Grade DH Heavy-Hex
      c. Washer: ASTM F436 Type 1
   H. Anchor Bolts, Nuts, and Washers:
      a. Anchor Bolts: ASTM F1554 Grade 55
      b. Nuts: ASTM A563 Grade A Heavy-Hex
      c. Plate Washer: ASTM A36
   I. Stainless Steel Fasteners: ASTM F593 Alloy Group 2, Condition A, CW1 or SH1
   J. Nut Covers: ASTM B26 (319-F)
   K. Concrete: Class II
   L. Reinforcing Steel: Specification 415

4. Fabrication:
   A. Weld Arm and Pole (Alloy 6063) in the T4 temper using 4043 filler. Age the Arm and Pole artificially to the T6 temper after welding.
   B. Transverse welds are only allowed at the base.
   C. Roadway Light Pole Taper: Taper as required to provide a round top 0.D. of 6" and a base 0.D. of 8" for 20' and 25' mounting heights and 10" 0.D. for poles with 30' to 50' mounting heights. Portions of the pole near the base shoe and at the arm connections may be held constant to simplify fabrication.
   D. Median Barrier Mounted Light Pole Taper: Taper as required to provide a 6" 0.D. round top with an 11" x 7" 0.D. oblong base. Portions of the pole near the base and at the arm connections may be held constant at 11"x 7" oblong and 6" round respectively to simplify fabrication.
   E. Provide 'J', 'S' or 'C' hook at top of pole for electrical wires.
   F. Equip poles located on bridges, walls and concrete median barriers/Traffic Railings with a vibration damper.
   G. Perform all welding in accordance with AWS D1.2.
   H. Embedded Junction Box (EJB):
      a. Weld all seams continuously and grind smooth.
      b. Hot Dip Galvanize after Fabrication.
      c. Provide a watertight cover with neoprene gasket and secure cover with galvanized screws.
   I. For Median Barrier Mounted Aluminum Light Poles, the fabricator must demonstrate the ability to produce a crack free pole. The fabricator's Department-approved QC Plan must contain the following information prior to fabrication:
      a. Tests demonstrating a pole with a ¼" wall thickness achieves and ultimate moment capacity of 36 kip*ft in the strong axis and 30 kip*ft in the weak axis.
      b. Tests demonstrating a pole with a 15/16" wall thickness achieves an ultimate moment capacity of 44 kip*ft in the strong axis and 37 kip*ft in the weak axis.
      c. Test results showing the pole does not buckle at the shape transition area under the ultimate moment capacity loads.
      d. Complete details and calculations for the reinforced 4"x 6" (Min.) handhole located 1'-6" above the base plate.
   J. Identification Tag: (Submit details for approval.)
      a. 2" x 4" (Max.) aluminum identification tag.
      b. Locate on the inside of the transformer base and visible from the door opening.
      c. Secure to transformer base with ⅛" diameter stainless steel rivets or screws.
      d. Include the following information on the ID Tag:
         1. Financial Project ID
         2. Pole Height
         3. Manufacturer's Name

5. Coatings/Finish:
   A. Pole and Arm Finish: 50 grit satin rubbed.
   B. Galvanize Steel Bolts, Screws, Nuts and Washers: ASTM F2329
   C. Hot Dip Galvanize EJB and other steel items including poles and plate washers: ASTM A123

6. Construction:
   A. Foundation: Specification 455, except payment for the foundation is included in the cost of the pole.
   B. Frangible Base, Base Shoe, and Clamp:
      a. Certify that the Clamp, Frangible Transformer Base, and Base Shoe Design are capable of providing the required capacity.
      b. Certify the Base conforms to the current FHWA required AASHTO Frangibility Requirements, tested under NCHRP Report 350 Guidelines (e.g. Akron Foundry TB1-17).
      c. Do not erect pole without Luminaire attached.

7. Embedded Junction Box (EJB): Install EJBs per Note 4 and in accordance with Specification 635, as shown on the following Sheets.

8. Wind Speed by County:

   120 MPH
   Alachua, Baker, Bradford, Calhoun, Clay, Columbia, Dixie, Duval, Gadsden, Gilchrist, Hamilton, Jackson, Jefferson, Lafayette, Leon, Liberty, Nassau, Madison, Putnam, Suwannee, Taylor, Union and Wakulla Counties.

   140 MPH
   Bay, Citrus, De Soto, Flagler, Franklin, Glades, Gulf, Hardee, Hendry, Hernando, Highlands, Hillsborough, Holmes, Lake, Levy, Manatee, Marion, Okaloosa, Okeechobee, Orange, Osceola, Pasco, Pinellas, Polk, Santa Rosa, Seminole, St. Johns, Sumter, Volusia, Walton and Washington Counties.

   160 MPH
   Brevard, Broward, Charlotte, Collier, Escambia, Indian River, Lee, Martin, Miami-Dade, Monroe, Palm Beach, Sarasota and St. Lucie Counties.

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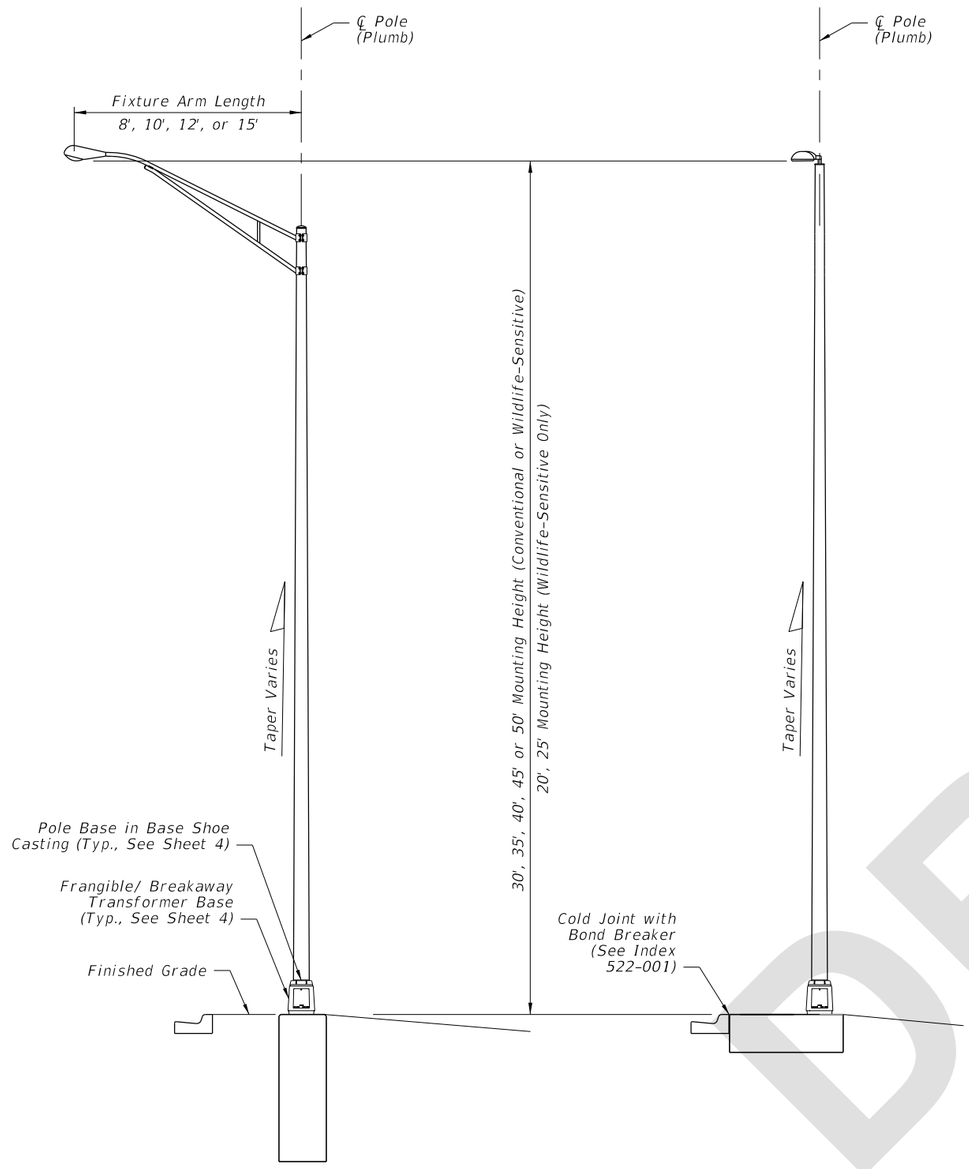
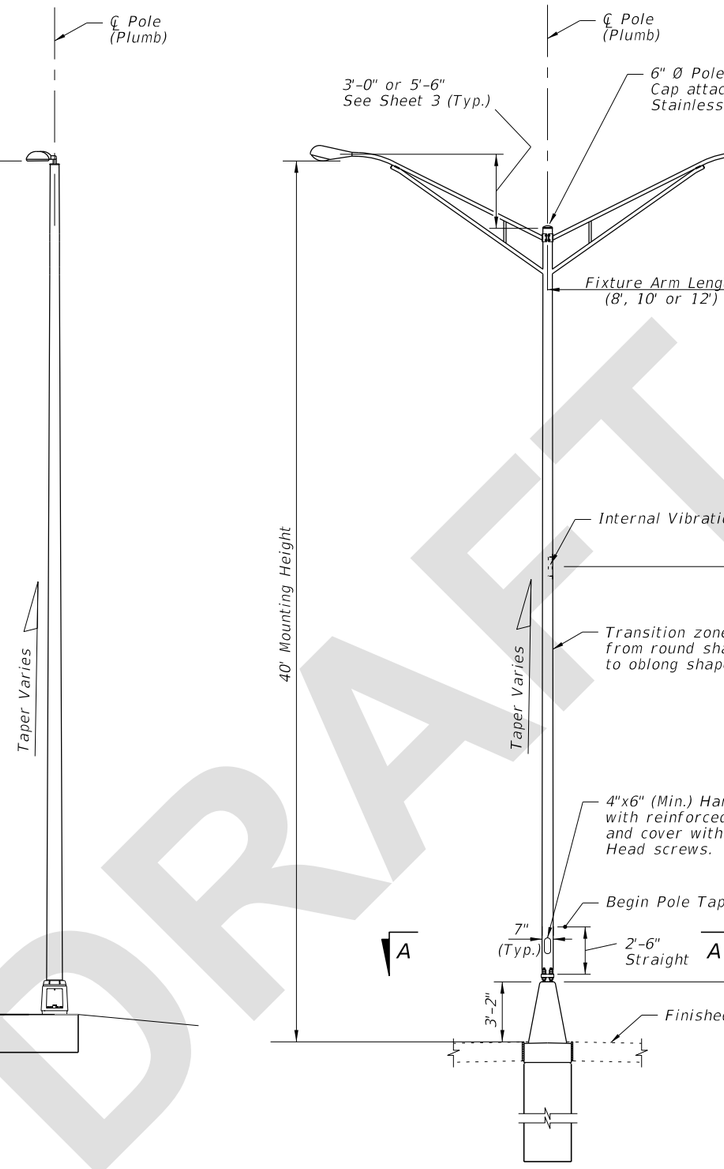


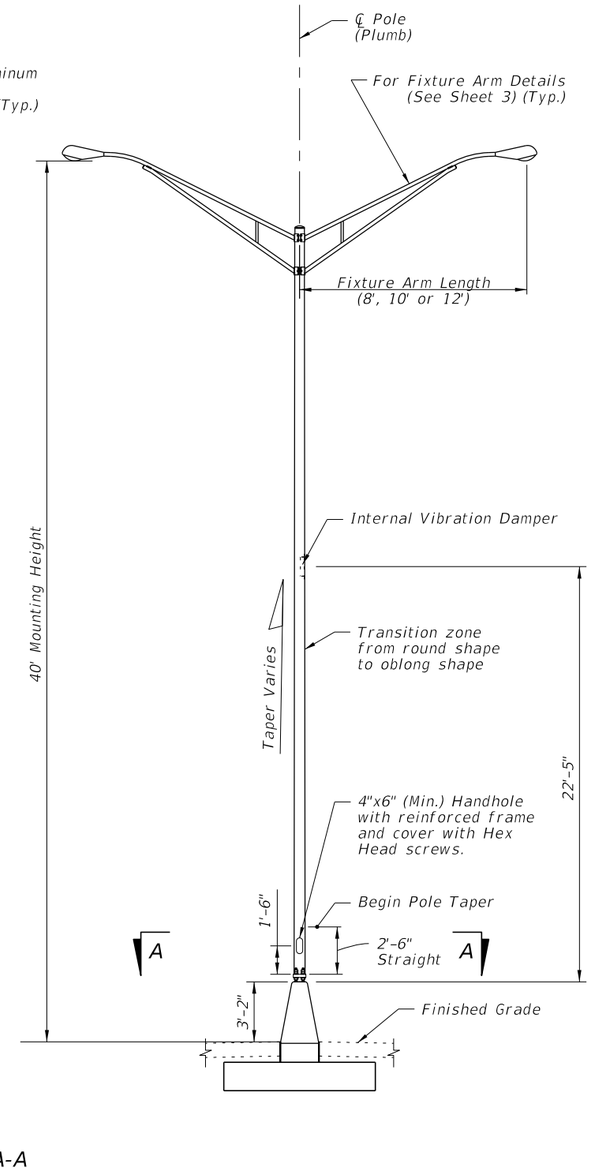
STANDARD ROADWAY
ALUMINUM LIGHT POLE W/ARM
(Shaft Foundation Option Shown,
Spread Footing Option Similar)



STANDARD ROADWAY
ALUMINUM LIGHT POLE W/TOP MOUNT
(Spread Footing Option Shown,
Shaft Foundation Option Similar)

SECTION A-A

MEDIAN BARRIER MOUNTED
ALUMINUM LIGHT POLE
ON CYLINDRICAL FOUNDATION



MEDIAN BARRIER MOUNTED
ALUMINUM LIGHT POLE
ON SPREAD FOOTING FOUNDATION

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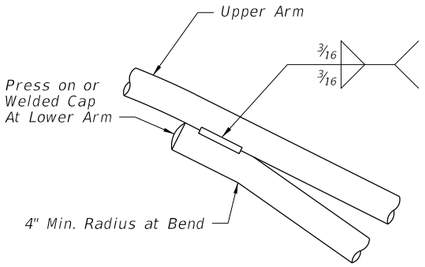
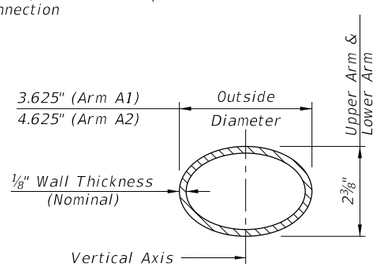
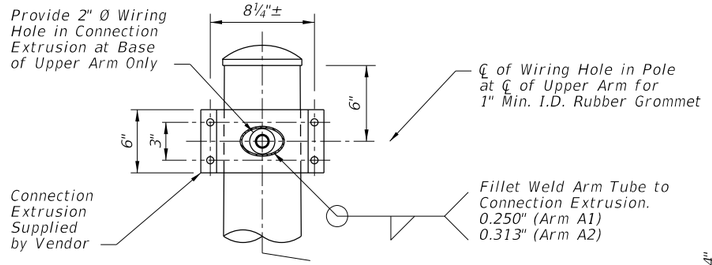
ELEVATIONS



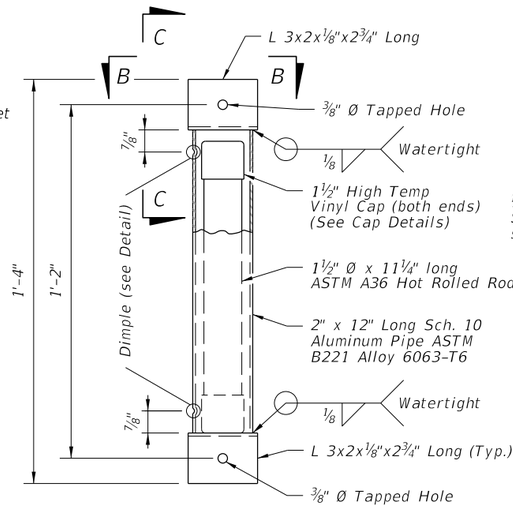
ARM CONNECTION DETAIL



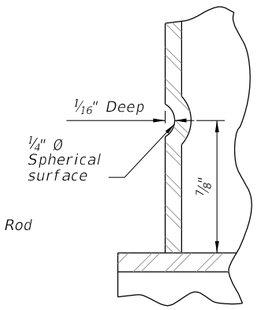
ARM SECTION



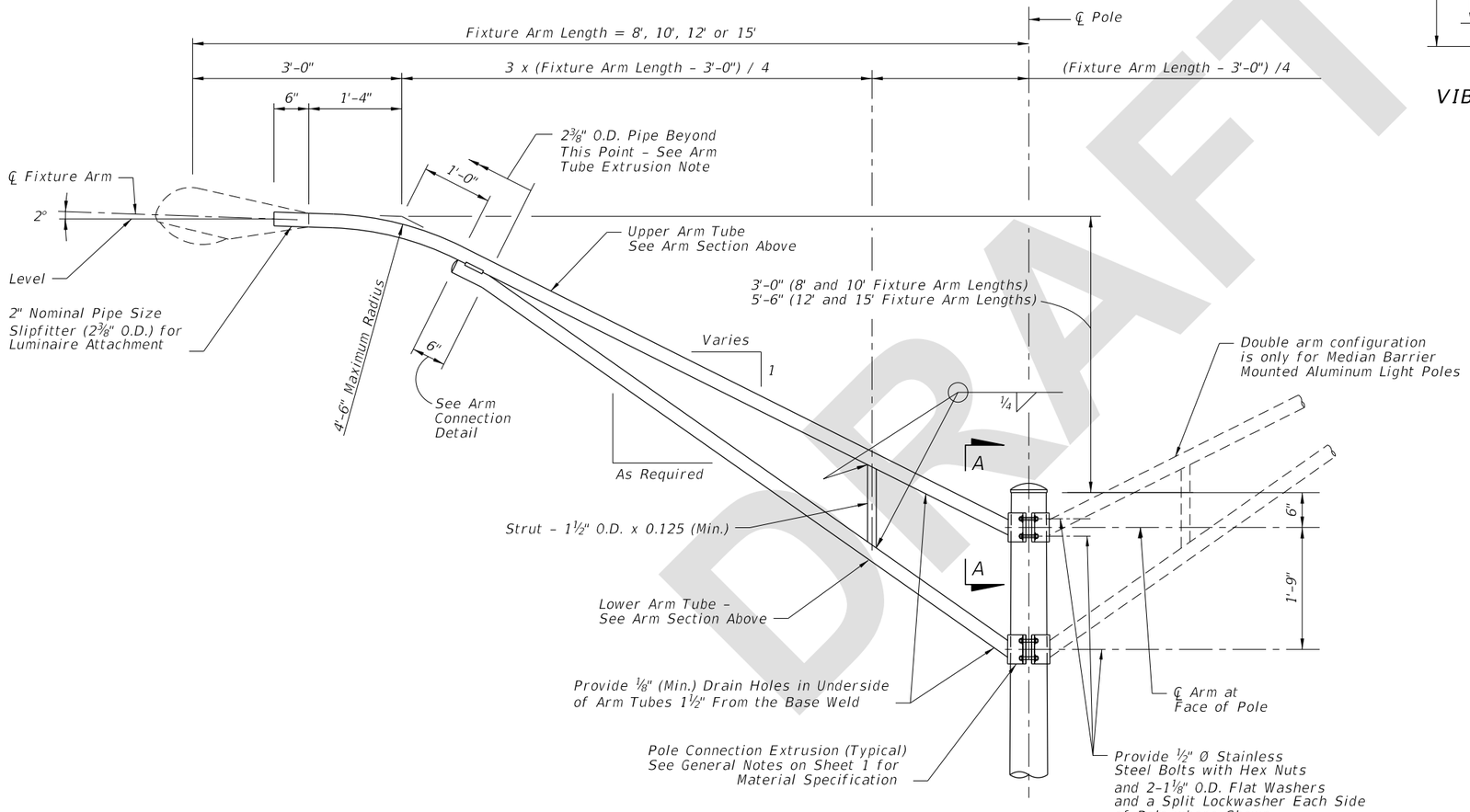
VIEW A-A
(Connection At Lower Arm Similar)



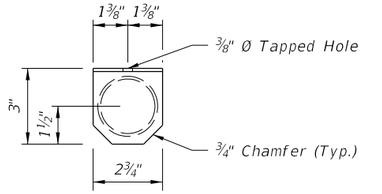
VIBRATION DAMPER ELEVATION



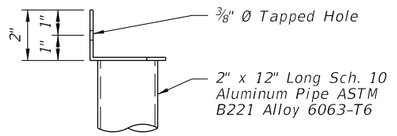
DIMPLE DETAIL



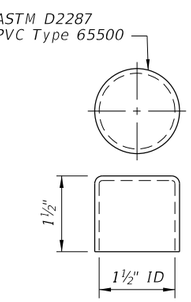
ARM ELEVATION



VIEW B-B



VIEW C-C



HIGH TEMP VINYL CAP DETAIL

ARM TUBE EXTRUSIONS NOTES:

At the pole connections, provide arm tube extrusions with dimensions as shown. Uniformly transition elliptical section to a cylindrical section at the arm connection.

The fabricator may substitute elliptical cross sections other than those tabulated, provided the section properties about the vertical axis and the area of the section equal or exceed that of the required section, and provide minimum wall thickness of ⅛" nominal and within the Aluminum Association Tolerances.

The outside diameter about the minor axis should be held at 2⅜" at the upper and lower arms.

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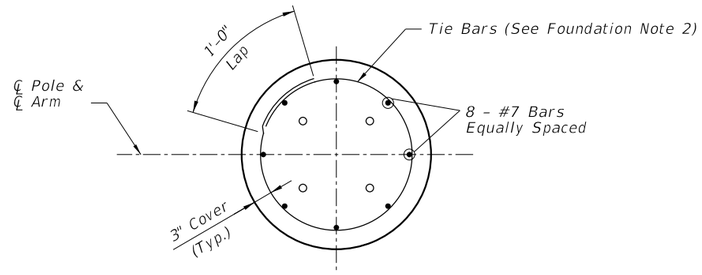
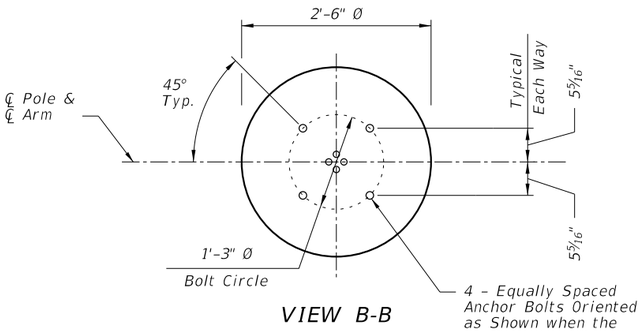
ARM & DAMPER DETAILS

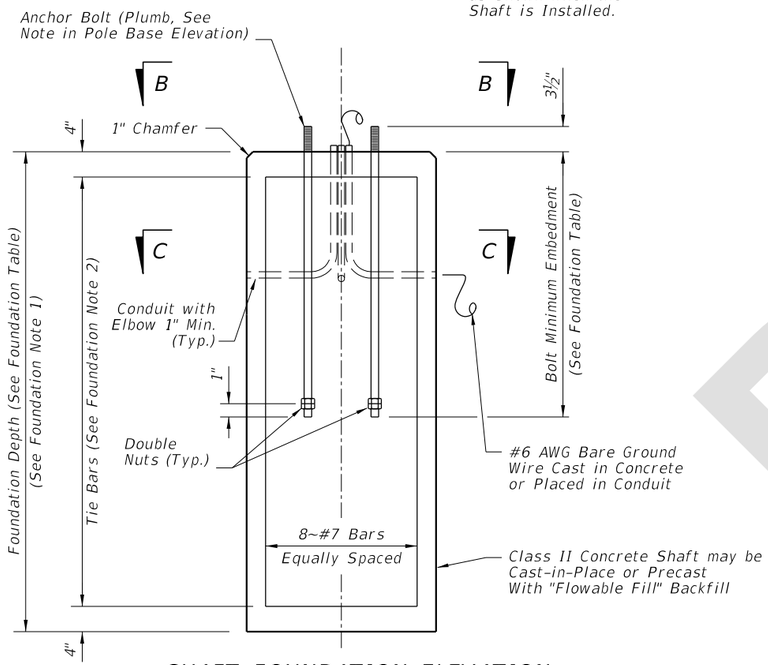
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2023-24 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX	SHEET
11/01/22						715-002	3 of 9



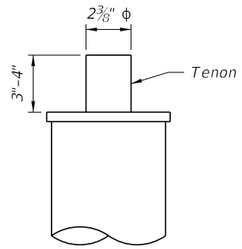
SECTION C-C



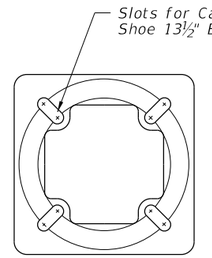
VIEW B-B



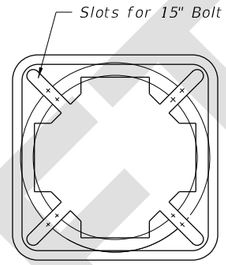
SHAFT FOUNDATION ELEVATION



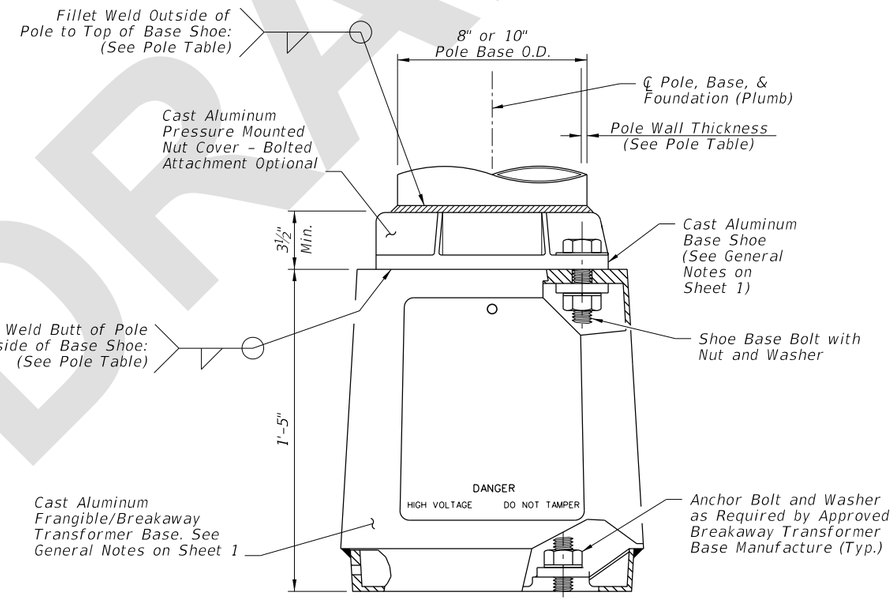
TOP MOUNT TENON



TOP VIEW TRANSFORMER BASE



BOTTOM VIEW TRANSFORMER BASE



POLE BASE ELEVATION

SHAFT FOUNDATION NOTES:

1. Depths shown are for slopes equal to or flatter than 1:4. For slopes steeper than 1:4 and equal to or flatter than 1:2 add 2'-6" to foundation depths shown.
2. Foundation Tie Bars: #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.

ARM-POLE TABLE

FOR STANDARD ALUMINUM LIGHT POLES WITH ARM

Mounting Height (Ft.)	Wind Speed and Arm Lengths (Ft.)				
	120 mph	140 mph		160 mph	
	8, 10, 12, 15	8, 10, 12	15	8, 10	12, 15
30	A1-P1	A1-P1	A2-P1	A1-P1	A2-P1
35					
40				A1-P2	A2-P2
45	A1-P2	A1-P2	A2-P2		
50				A1-P3	A2-P3

ARM POLE NOTES:

1. See ARM SECTION detail on Sheet 3 for all A1 and A2 Values.
2. See Pole Table for all P1, P2, and P3 values.
3. For Median Barrier Mounted Pole, Use Arm A1.
4. For 20' and 25' assembly heights use only 8' or 10' arm A1 with P0.

POLE TABLE

Pole	Pole Wall Thickness	Top of Base Shoe Weld	Inside of Base Shoe Weld
P0	0.156	3/16"	5/32"
P1	0.156	3/16"	5/32"
P2	0.250	1/4"	1/4"
P3	0.313	5/16"	5/16"

POLE NOTES:

1. Pole wall thicknesses shown are nominal and must be within the Aluminum Association tolerances.
2. Thicker walls are permitted and tapered walls may be used in accordance with the minimum Aluminum Association thicknesses.

TOP MOUNT POLE TABLE

FOR STANDARD ALUMINUM LIGHT POLES WITH TOP MOUNT

Mounting Height (Ft.)	Wind Speed and Arm Lengths (Ft.)		
	120 mph	140 mph	160 mph
20	Pole P0	Pole P0	Pole P0
25			
30	Pole P1	Pole P1	Pole P1
35			
40			Pole P2
45	Pole P2	Pole P2	
50			

SHAFT FOUNDATION TABLE

Pole	P0	P1	P2	P3
Depth	6'-0"	7'-0"	8'-0"	8'-0"
Bolt Min. Embedment	2'-6"	3'-6"	3'-6"	3'-6"

SHAFT FOUNDATION OPTION WITH LIGHT POLE & BASE DETAILS

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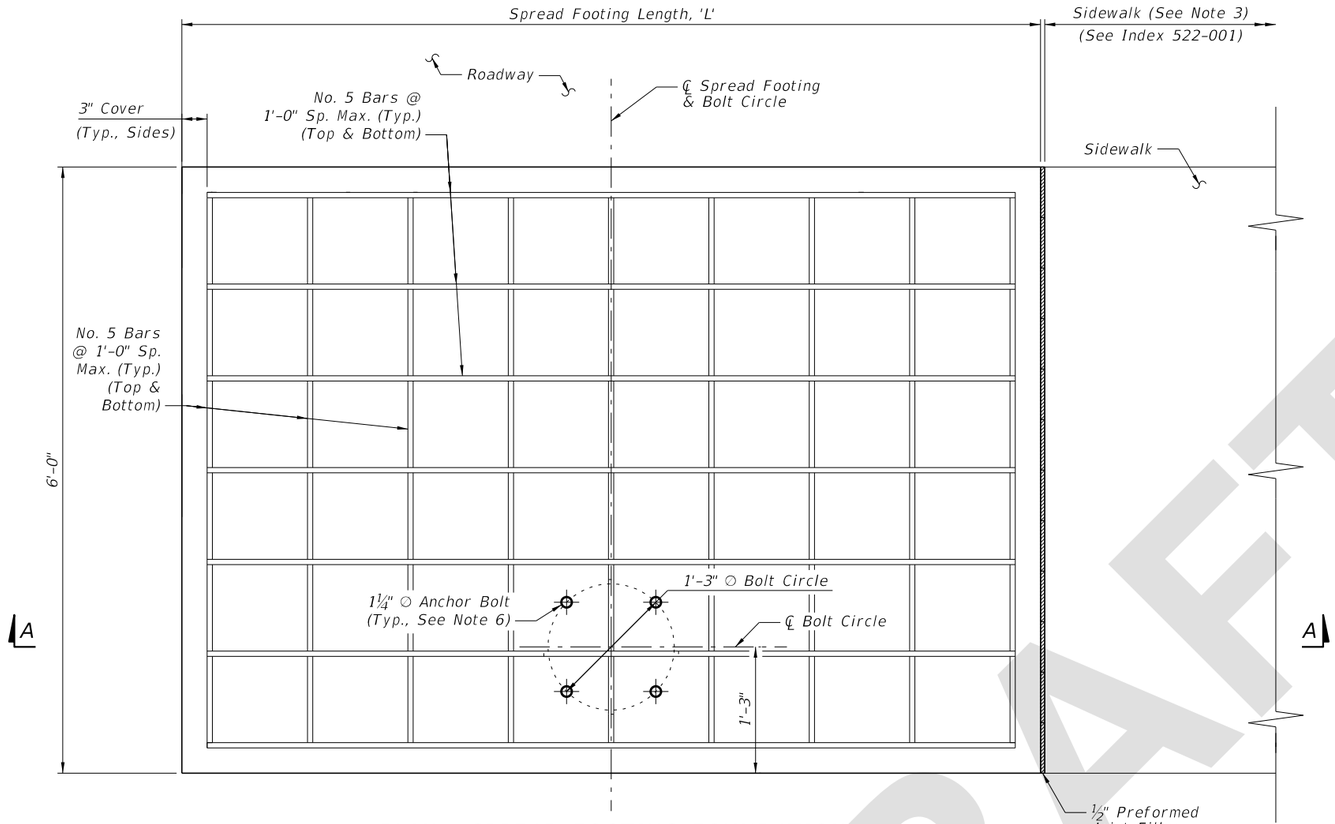
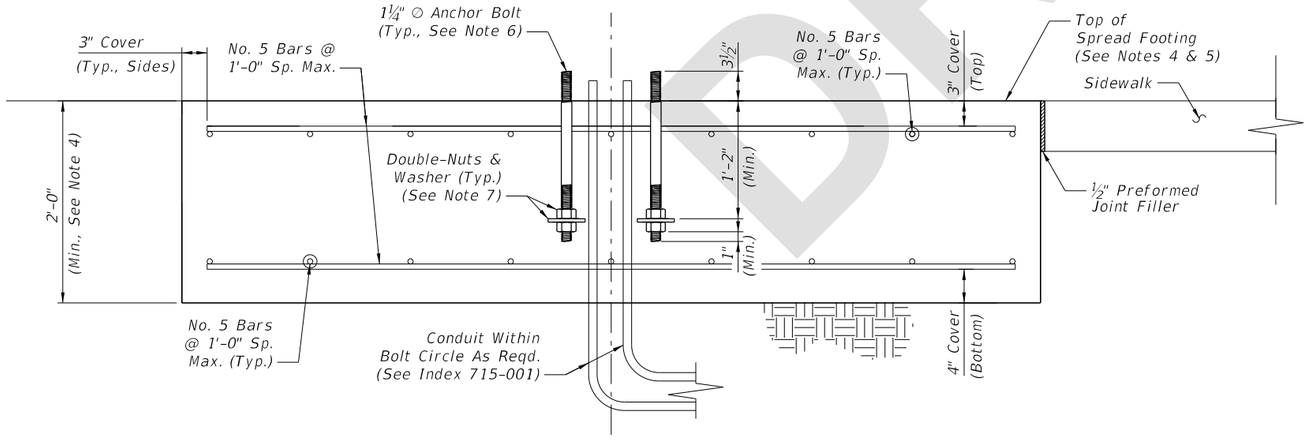


PLAN - SPREAD FOOTING FOUNDATION



SECTION A-A - SPREAD FOOTING
FOUNDATION ELEVATION

SPREAD FOOTING LENGTH, 'L'			
Mounting Height (Ft.)	Wind Speed (All Arm Lengths)		
	120 mph	140 mph	160 mph
20	4'-6"	5'-0"	6'-0"
25	4'-6"	5'-0"	6'-0"
30	7'-0"	7'-0"	7'-0"
35	7'-0"	7'-0"	7'-0"
40	7'-0"	7'-0"	10'-0"
45	8'-6"	10'-0"	10'-0"
50	8'-6"	10'-0"	11'-6"

NOTES:

1. Install the Spread Footing Foundation Option only where called for in the Plans.
2. The Spread Footing Foundation Option is only permitted for use with single arm or top mount light poles. Where applicable, the pole arm must be oriented towards the roadway side of the footing as shown. Double arm configurations are not permitted.
3. Sidewalk placed on the other side or both sides of the spread footing is permitted where shown in the Plans. The sidewalk connection to spread footing requires the ½" expansion joint shown regardless of the side.
4. The top of the spread footing must match the cross slope of the adjacent sidewalk where applicable per the Plans. The nominal bottom of the spread footing must remain level.
5. Apply concrete surface finish to the top of the spread footing in accordance with Specification 522-7.
6. Mount the anchor bolts plumb. For the corresponding pole base details, see Sheet 4.
7. Place zinc-plated steel washers with 1 5/16" or 1 3/8" I.D. and a minimum thickness of ¼". Use either 4" ∅ fender washers or 3"x3" square washers.
8. Where raised curb is called for in the Plans, provide a tooled cold joint with bond breaker between the foundation and back of raised curb. See Sheet 2 and the connection between concrete sidewalk and raised curb per Index 522-001.

SPREAD FOOTING FOUNDATION OPTION

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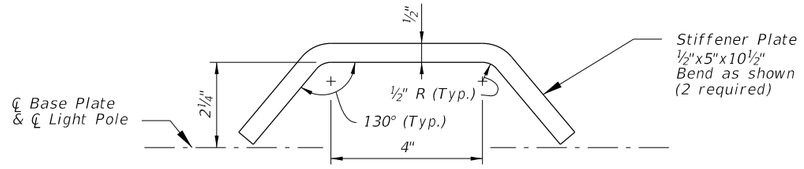
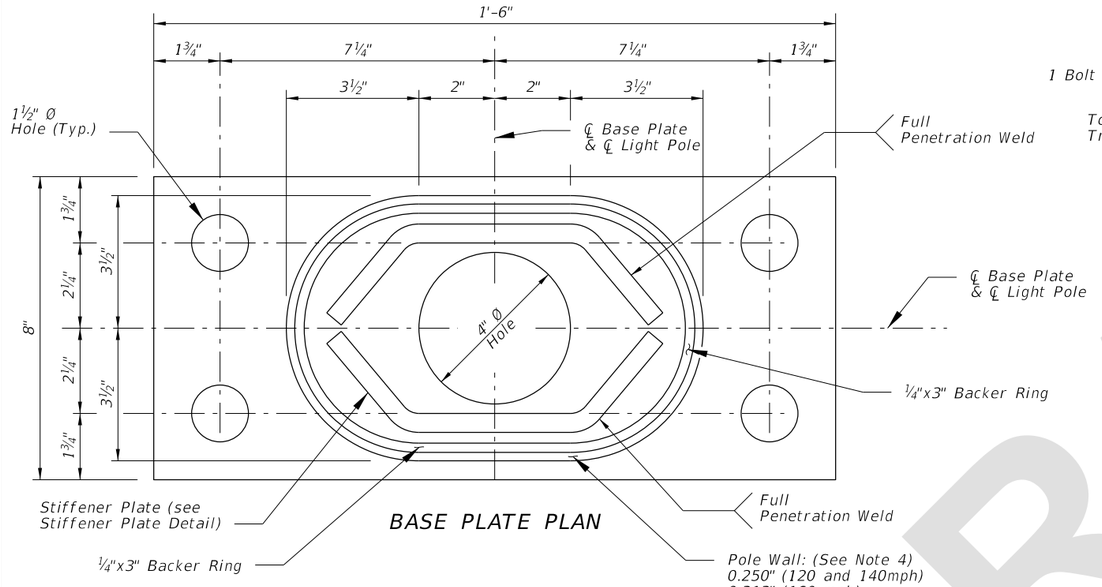
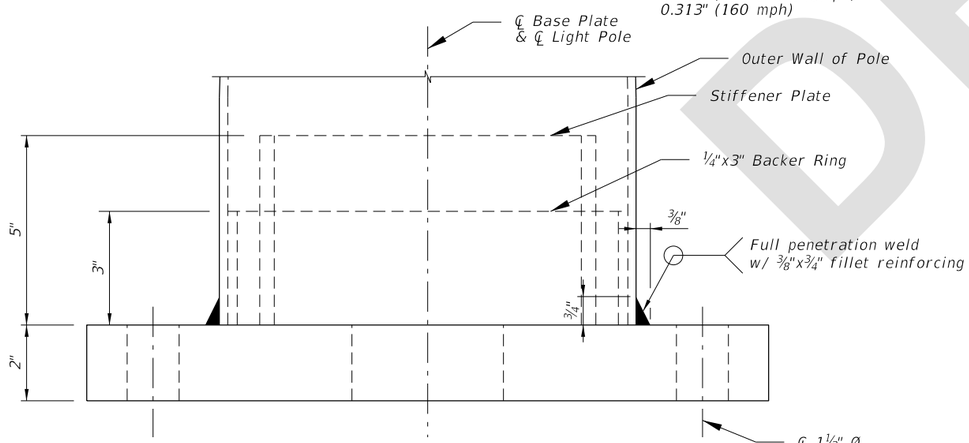


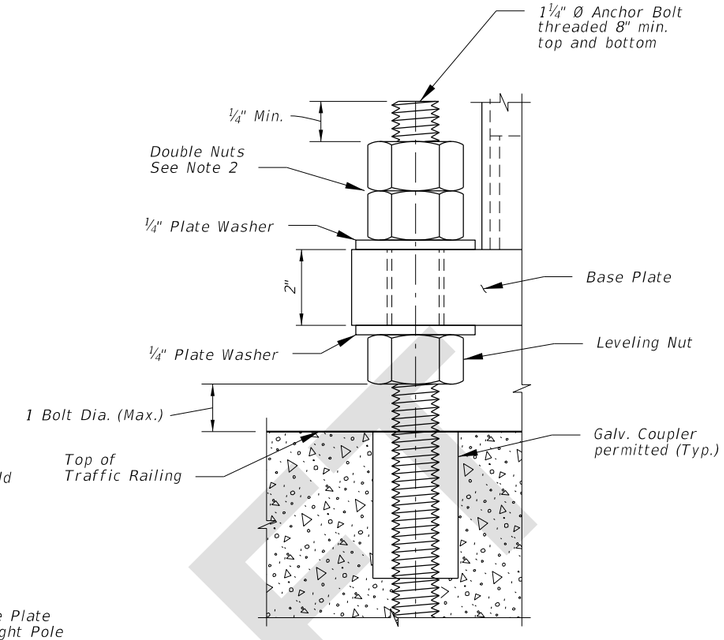
STIFFENER PLATE DETAIL



BASE PLATE PLAN



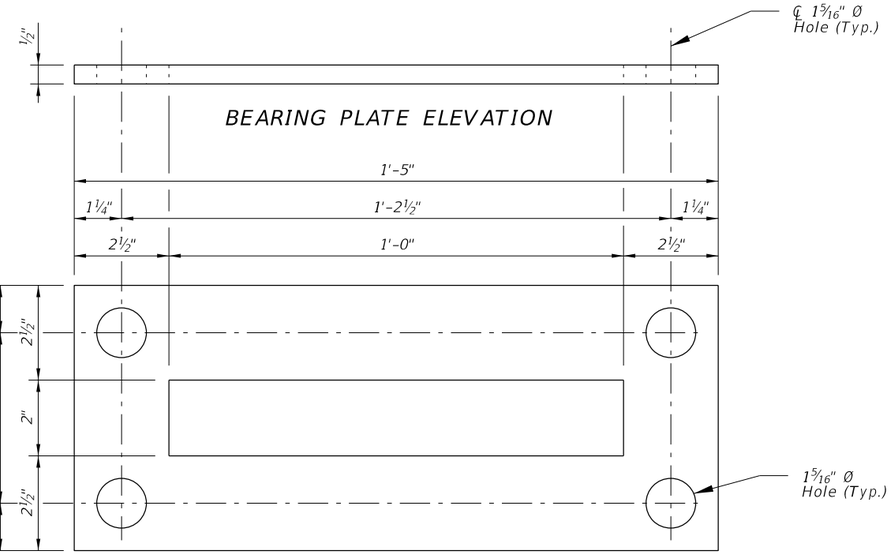
BASE PLATE ELEVATION



DETAIL 'A'

NOTES:

1. For locations of Bearing Plates, Base Plates and Detail 'A' see Sheets 7 thru 9.
2. Double Nuts: The bottom hex nut may be substituted by a half-height 'jam' nut.
3. Provide individual nut covers (not shown) for each bolt.
4. Pole wall thicknesses shown are nominal and shall be within the Aluminum Association Tolerances. Thicker walls are permitted and tapered walls may be used in accordance with the minimum Aluminum Association thicknesses.



BEARING PLATE ELEVATION

BEARING PLATE PLAN

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BASE PLATE DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

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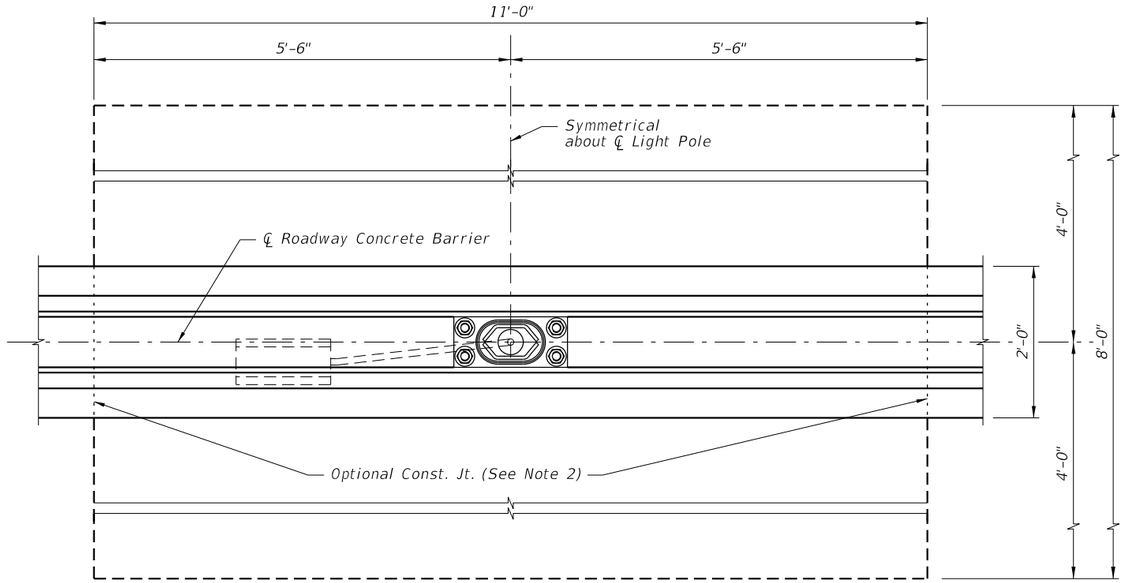
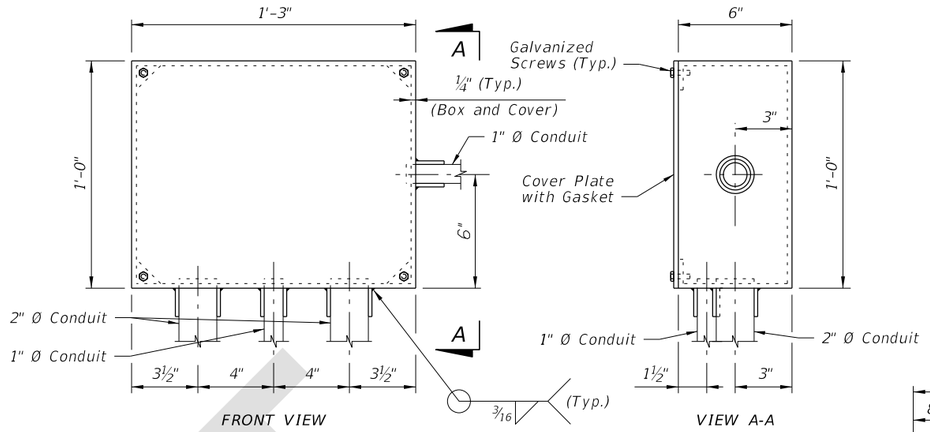
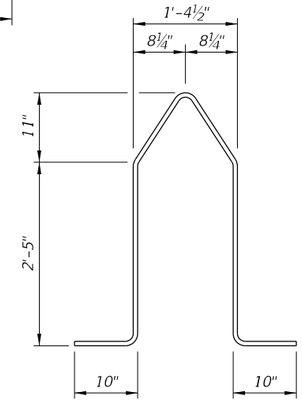


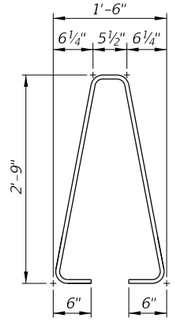
PLAN
(Reinforcing steel not shown)



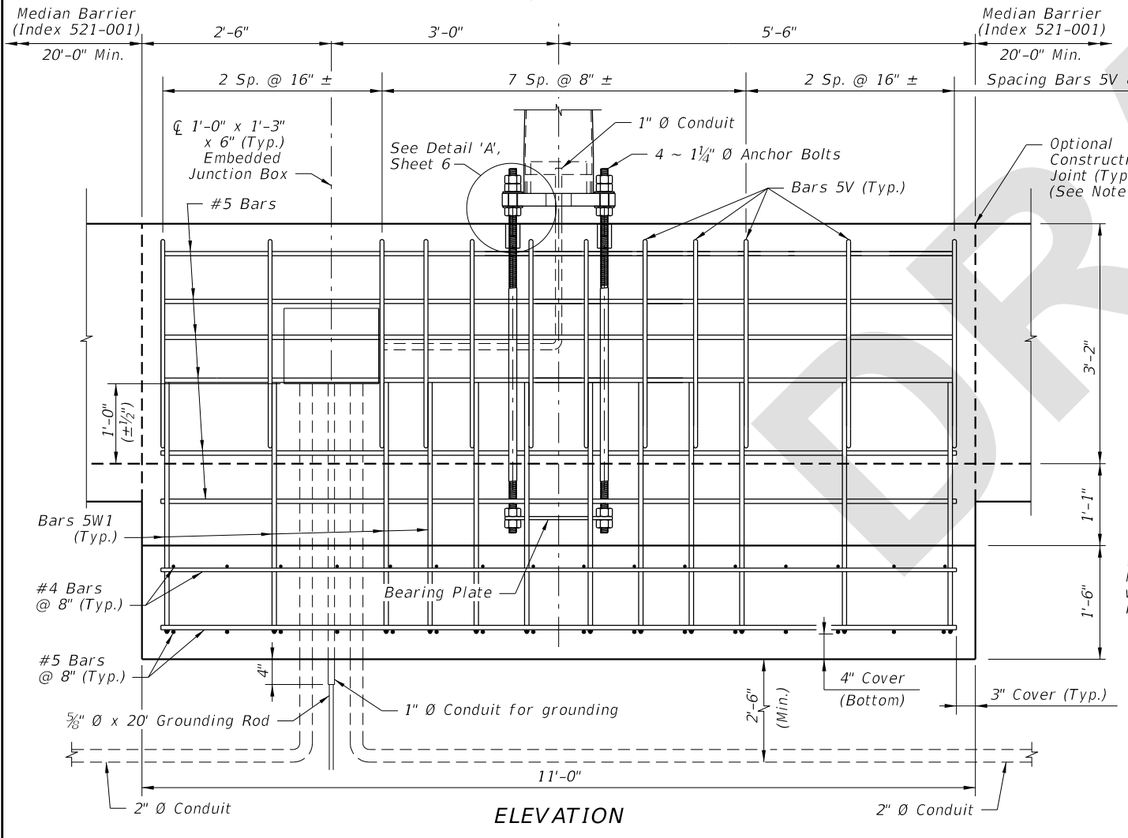
EMBEDDED JUNCTION BOX DETAILS



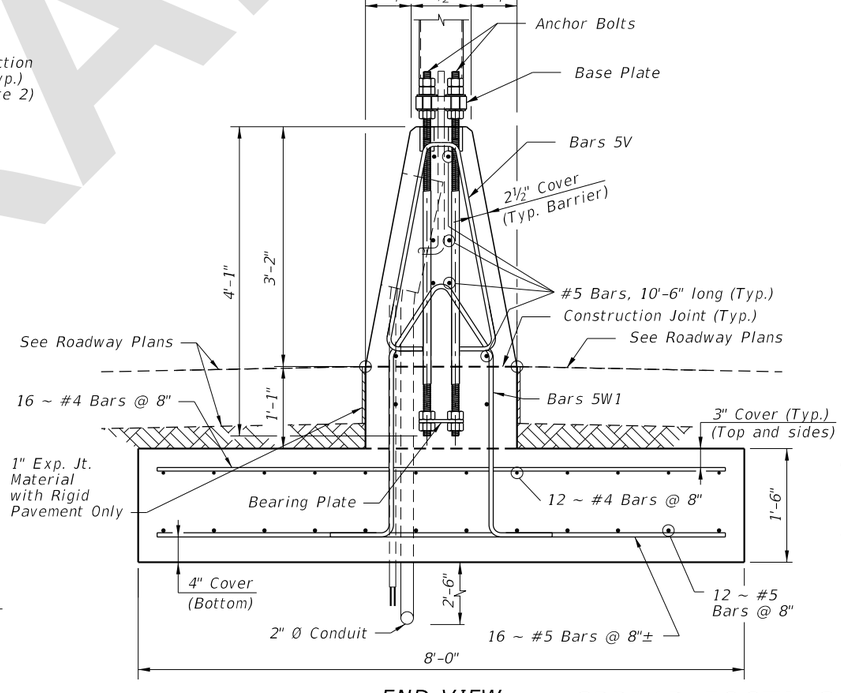
BAR 5W1



BAR 5V



ELEVATION



END VIEW

NOTES:

1. For Bearing Plate and Base Plate Details, see Sheet 6.
2. For connections to adjacent Median Barrier, use the Doweled Joint detail per Index 521-001. Alternatively, a continuous concrete pour or a construction joint may be substituted; these alternatives require the Median Barrier's longitudinal steel to lap a minimum of 2'-0" with the longitudinal steel shown herein.

SPREAD FOOTING DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

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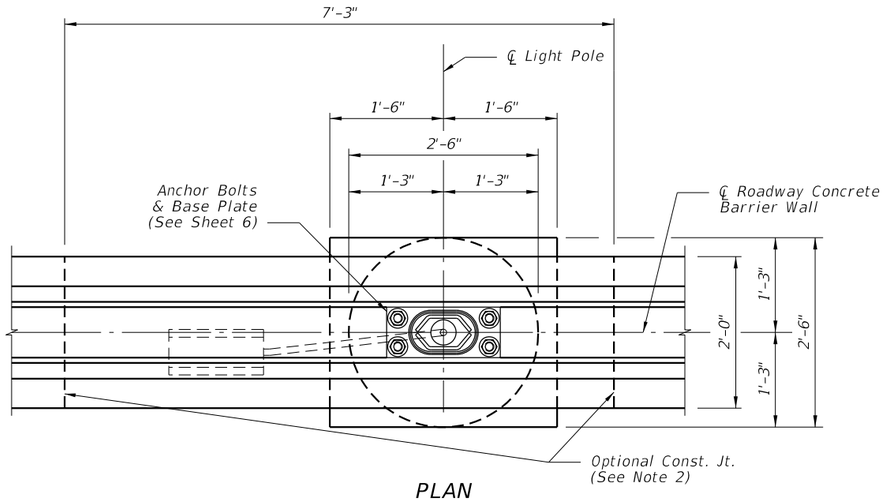
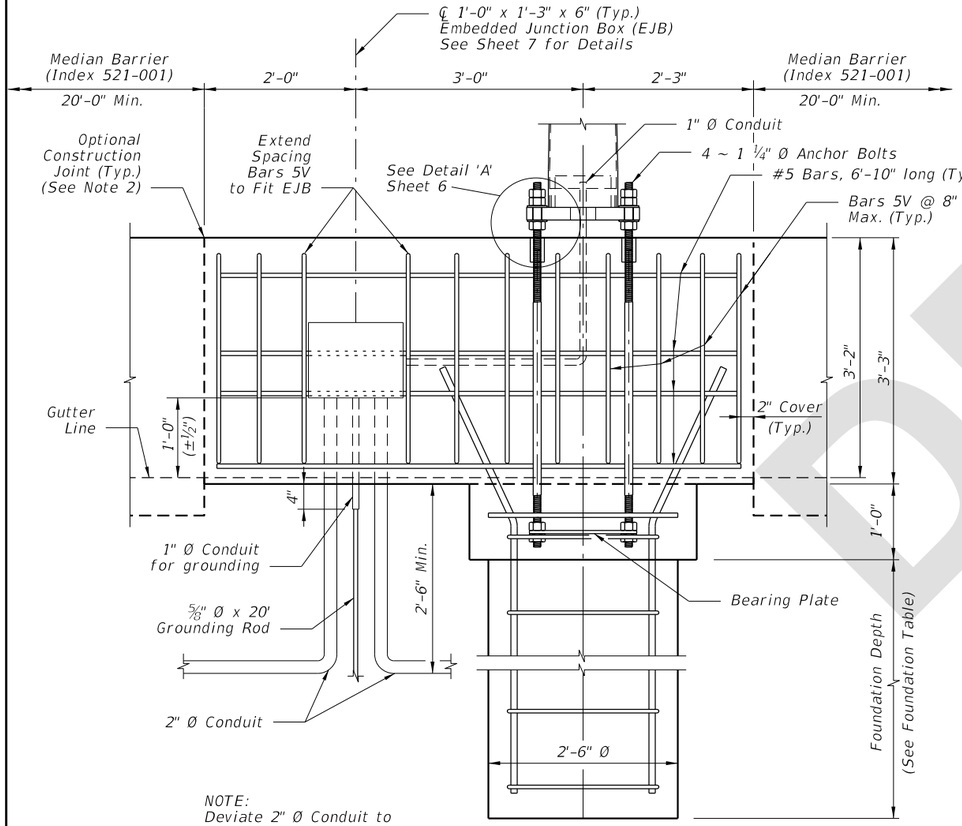


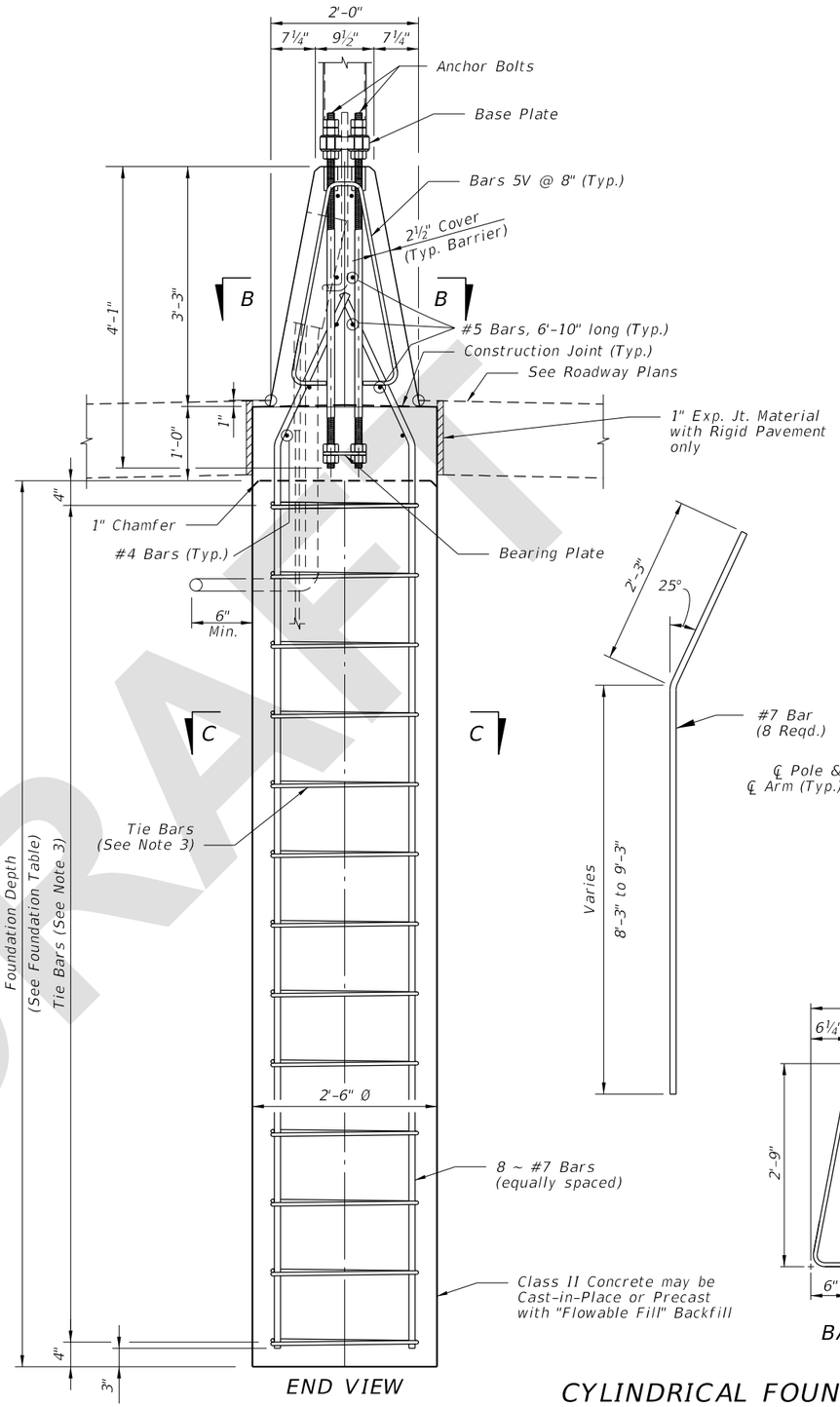
PLAN

(Reinforcing steel not shown)

Provide dowel bars @ construction joint

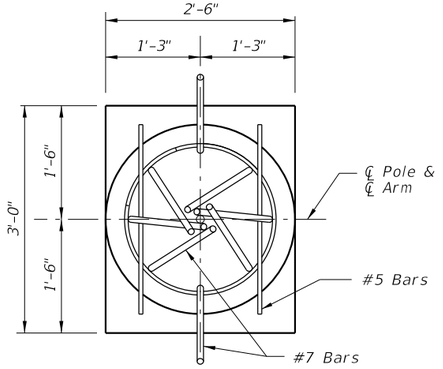


ELEVATION

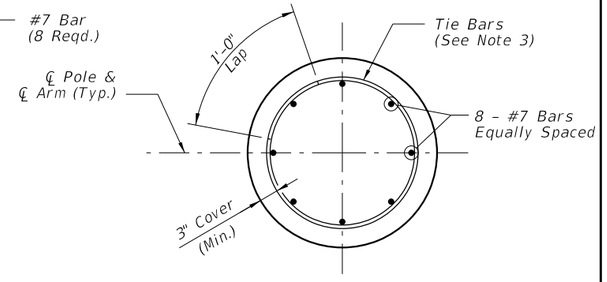


END VIEW

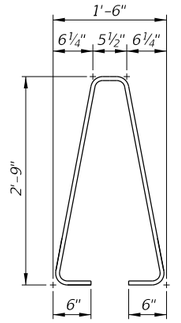
FOUNDATION TABLE		
WIND SPEED (MPH)	DESIGN MOUNTING HEIGHT (FT)	FOUNDATION DEPTH (FT)
120	40	8
140	40	9
160	40	9



VIEW B-B
(Anchor Bolts and Barrier Longitudinal Steel & Stirrups Not Shown)



SECTION C-C



BAR 5V

NOTES:

1. For Bearing Plate and Base Plate Details, see Sheet 6.
2. For connections to adjacent Median Barrier, use the Doweled Joint detail per Index 521-001. Alternatively, a continuous concrete pour or a construction joint may be substituted; these alternatives require the Median Barrier's longitudinal steel to lap a minimum of 2'-0" with the longitudinal steel shown herein.
3. #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.

CYLINDRICAL FOUNDATION DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

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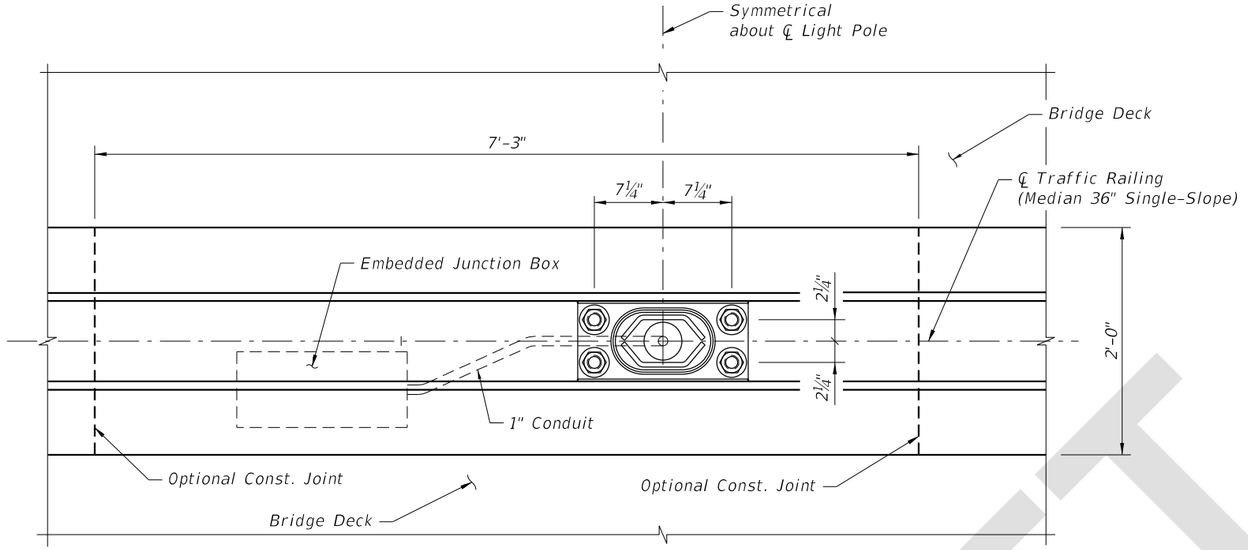
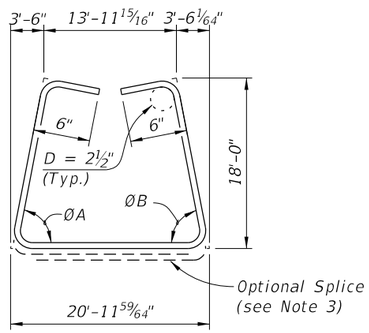


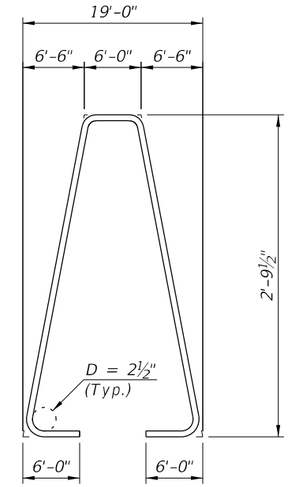
PLAN

(Reinforcing steel and 2" Ø Conduit not shown)

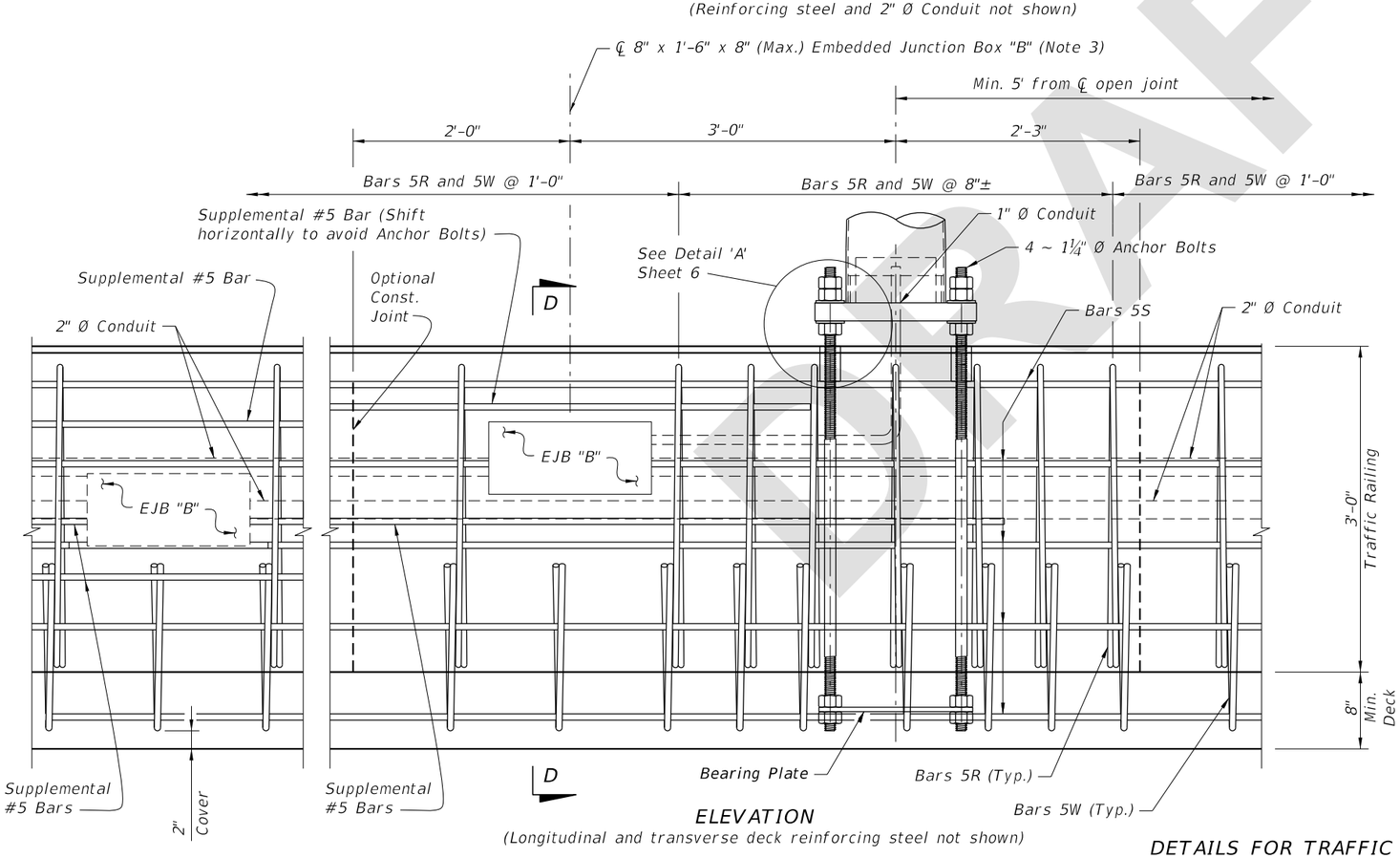


BAR 5W

(See Note 4)

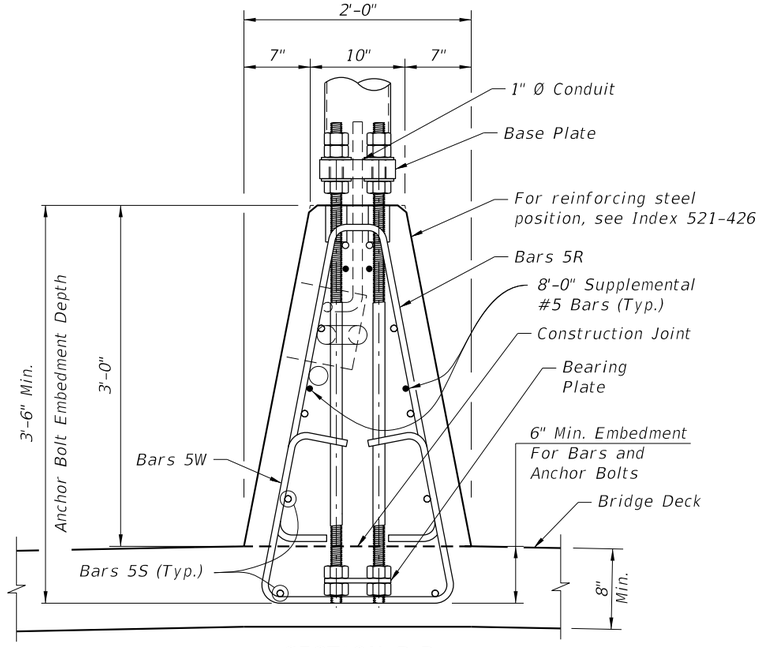


BAR 5R



ELEVATION

(Longitudinal and transverse deck reinforcing steel not shown)



SECTION D-D

(Longitudinal and transverse deck reinforcing steel not shown)

NOTES:

1. For Base Plate Details, Bearing Plate Details, and Detail 'A', see Sheet 6.
2. See Index 521-426 for details of adjacent Traffic Railing (Median 36" Single-Slope) and for angles ∅A and ∅B.
3. See Index 630-010 for Conduit, EJB and supplemental reinforcing details.
4. At the Contractor's option, Bars 5W may be fabricated as a two piece bar with a 1'-2" lap splice at the bottom legs.

DETAILS FOR TRAFFIC RAILING (MEDIAN 36" SINGLE-SLOPE) MOUNTED ALUMINUM LIGHT POLE

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