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
   B. Bars, Plates, Shelves, and Backer Ring: ASTM B221, Alloy 6063-T6
   C. Caps and Covers: ASTM B 26, Alloy 319-F
   D. Steel Base Mounting: ASTM A570 of ASTM A36 Grade 36
   E. Aluminum Weld Material: SR 4043
   F. Transformer and Frangible Base Materials: ASTM B26 or ASTM 8708, Alloy 356-T6
   G. Bolts, Nuts and Washers:
      a. Shoe Base Bolts: ASTM F3125, Grade A325, Type 1
      b. Nuts: ASTM A643 Grade DM Heavy-Hex
      c. Washer: ASTM F436 Type 1
   H. Anchor Bolts, Nuts, and Washers:
      a. Anchor Bolts: ASTM F1554 Grade 55
      b. Nuts: ASTM A643 Grade A Heavy-Hex
      c. Plate Washer: ASTM A46
   I. Stainless Steel Fasteners: ASTM F 1933 Alloy Group 2, Combim A, CW1 or SH1
   J. Nut Covers: ASTM B26 (319-F)
   K. Concrete: Class 1
   L. Reinforcing Steel: Specification Section 415

4. Fabrication:
   A. Weld arm and pole (Alloy 6063) in the T6 temper using 4043 filler. Age the Arm and Pole artificially to the T6 temper after welding.
   B. Uplift Salvage Bar: Biaxial. Transverse webs are only allowed at the base.
   C. Roadway Light Pole Taper: Taper as required to provide a round top D.O. of 6" and a base D.O. of 10". Portions of the pole near the base shoe and at the arm connections may be held constant at 10" and 6" respectively 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 1", 2", or 3" cap at top of pole for electrical wires.
   F. Equip poles located on bridges, walls and concrete median barrier/Traffic Railings with a vibration damper.
   G. Perform all welding in accordance with AWS D1.1.
   H. Embedded junction boxes (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. Test demonstrating a pole with a 5/6" wall thickness achieves an ultimate moment capacity of 36 kip*ft in the strong axis and 30 kip*ft in the weak axis.
      b. Test demonstrating a pole with a 5/6" 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 outside of the transformer base and visible from the door opening.
      c. Secure to transformer base with 5/16" 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 A36
   C. Hot Dip Galvanize EJB and other steel items including poles: ASTM A123

6. Construction:
   A. Foundation: Specification Section 455, except payment for the Foundation is included in the cost of the pole.
   B. Frangible Base, Base Shoe, and Clamps:
      a. Certify that the Clamps, 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 TBI-17).
      c. Do not erect poles without Luminaire attached.
   D. Weight: 75 lb.

7. Payment Note: Include the cost of the EJB in the cost of the median barrier or Traffic Railing it is embedded in.
Elevations

**Standard Roadway Aluminum Light Pole with Arm**
- Pole Height
- Fixture Arm Length
- Transition zone from round shape to oblong shape
- Head screws and cover with hex head screws.
- 2'-6" Straight (See Roadway Plans)

**Standard Roadway Aluminum Light Pole with Top Mount**
- Pole Height
- Fixture Arm Length
- Transition zone from round shape to oblong shape
- Head screws and cover with hex head screws.
- 2'-6" Straight (See Roadway Plans)

**Median Barrier Mounted Aluminum Light Pole on Cylindrical Foundation**
- Pole Height
- Fixture Arm Length
- Transition zone from round shape to oblong shape
- Head screws and cover with hex head screws.
- 2'-6" Straight (See Roadway Plans)

**Median Barrier Mounted Aluminum Light Pole on Spread Footing Foundation**
- Pole Height
- Fixture Arm Length
- Transition zone from round shape to oblong shape
- Head screws and cover with hex head screws.
- 2'-6" Straight (See Roadway Plans)
### ARM CONNECTION DETAIL

**Connection Weld Sizes Shown in the Arm and Pole Tables.**

**Minimum Requirements of the Welding Code for the Increase Member Wall Thickness as Necessary to Meet R E V I S I O N of Arm Tubes.**

**Connection Weld Sizes Shown in the Arm and Pole Tables.**

**Increase Member Wall Thickness as Necessary to Meet Minimum Requirements of the Welding Code For the Connection Weld Sizes Shown in the Arm and Pole Tables.**

**At the pole connections, provide arm tube extrusions with dimensions as shown in the ARM SECTION and as calculated in the ARM DATA Tables.**

**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 1/16" nominal and within the Aluminum Association Tolerances.

The outside diameter about the minor axis should be held at 2 1/2" at the upper and lower arms.
NOTE:
Pole wall thicknesses shown in the POLE TABLE are nominals and shall be within the Aluminum Association Tolerances. Thicker walls are permitted and tapered walls may be used provided the minimum Aluminum Association thicknesses are not violated.

### POLE TABLE

<table>
<thead>
<tr>
<th>Wind Speed (MPH)</th>
<th>Arm Length (FT)</th>
<th>Height (FT)</th>
<th>Wall (IN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>8, 10, 12</td>
<td>40</td>
<td>0.25</td>
</tr>
<tr>
<td>140</td>
<td>8, 10, 12</td>
<td>40</td>
<td>0.25</td>
</tr>
<tr>
<td>160</td>
<td>8, 10, 12</td>
<td>40</td>
<td>0.313</td>
</tr>
</tbody>
</table>

---

### BASE PLATE DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

**NOTE:**

1. For locations of Bearing Plates, Base Plates and Detail 'A' see Sheets 6 & 7.
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.

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**BASE PLATE PLAN**

- Full Penetration Weld
- Top of Traffic Railing
- Leveling Nut
- Galv. Coupler permitted (Typ.)
- 1 Bolt Dia. (Max.)

**BASE PLATE ELEVATION**

- 1/4" Bolt Hole (Typ.)

**BEARING PLATE PLAN**

- 1 1/2" Bolt Hole (Typ.)

**BEARING PLATE ELEVATION**

- 1 1/2" Bolt Hole (Typ.)

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**STIFFENER PLATE DETAIL**

- Stiffener Plate (see Stiffener Plate Detail)
CYLINDRICAL FOUNDATION DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

NOTES:
1. For Base Plate Details, Bearing Plate Details, and Detail "A" see Sheet 5.
2. Dowel Construction Joint per Index 410
3. For adjacent Concrete Barrier Details, See Index 410.

<table>
<thead>
<tr>
<th>WIND SPEED (MPH)</th>
<th>DESIGN MOUNTING HEIGHT (FT)</th>
<th>FOUNDATION DEPTH (FT)</th>
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<tbody>
<tr>
<td>170</td>
<td>40</td>
<td>8</td>
</tr>
<tr>
<td>140</td>
<td>40</td>
<td>9</td>
</tr>
</tbody>
</table>

**PLAN**

(Reinforcing steel not shown)

Provide dowel bars @ construction joint

**ELEVATION**

**SECTION C-C**

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

**VIEW B-B**

**NOTES:**

1. For Base Plate Details, Bearing Plate Details, and Detail "A" see Sheet 5.
2. Dowel Construction Joint per Index 410
3. For adjacent Concrete Barrier Details, See Index 410.

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</tbody>
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**PLAN**

(Reinforcing steel not shown)

Provide dowel bars @ construction joint

**ELEVATION**

**SECTION C-C**

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

**VIEW B-B**

**NOTES:**

1. For Base Plate Details, Bearing Plate Details, and Detail "A" see Sheet 5.
2. Dowel Construction Joint per Index 410
3. For adjacent Concrete Barrier Details, See Index 410.

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<td>9</td>
</tr>
</tbody>
</table>
PLAN
(Reinforcing steel not shown)

ELEVATION
(Longitudinal and transverse deck reinforcing steel not shown)

BAR BENDING DIAGRAMS
(See Note 2)

END VIEW
(Longitudinal and transverse deck reinforcing steel not shown)

DETAILS FOR TRAFFIC RAILING (MEDIAN 32" F-SHAPE) MOUNTED ALUMINUM LIGHT POLE

NOTES:
1. For Base Plate Details, Bearing Plate Details, and Detail 'A', see Sheet 5.
2. See Index 421 for details of adjacent Traffic Railing (Median 32" F-Shape) and for angles CA and CB.