

TYPICAL EQUIPMENT MOUNTINGS

Arrow to be Left or Right or Both (See Plan)



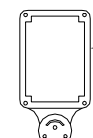
R10-4b(I)
5"x7"

PEDESTRIAN PUSH BUTTON

Notes:

1. Conduits shall Protrude 2" Max. above Finished Surface of Foundation.
2. Conduits shall Slope away from Pole Foundation.
3. Pedestrian Push Button shall be Operable with One Hand and shall not require Tight Grasping, Pinching, or Twisting of the Wrist. The Force required to Activate Push Button shall not exceed 5 Pounds (22.2N).

When Mounted on Shaft of Standard, Shape Back of Housing to Fit Curvature of Shaft



Push Button Housing

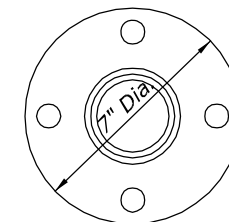
Traffic Sign as Specified in Plan "Walking Man Symbol with Arrow"
R10-4B(L), R10-B(R) or R10-4B (L&R)

Holes for 5/8" Bolts

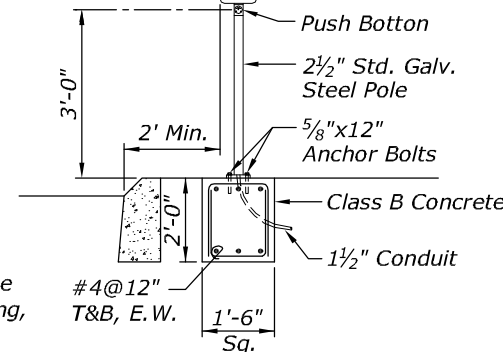
2½" Pipe

2½" C.I. Companion Flange 125# F.D.

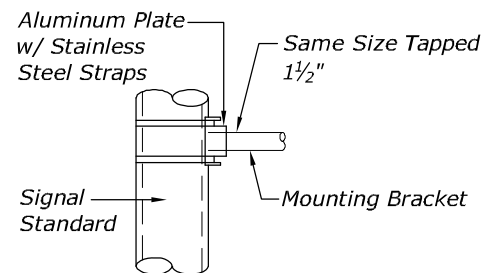
SECTION



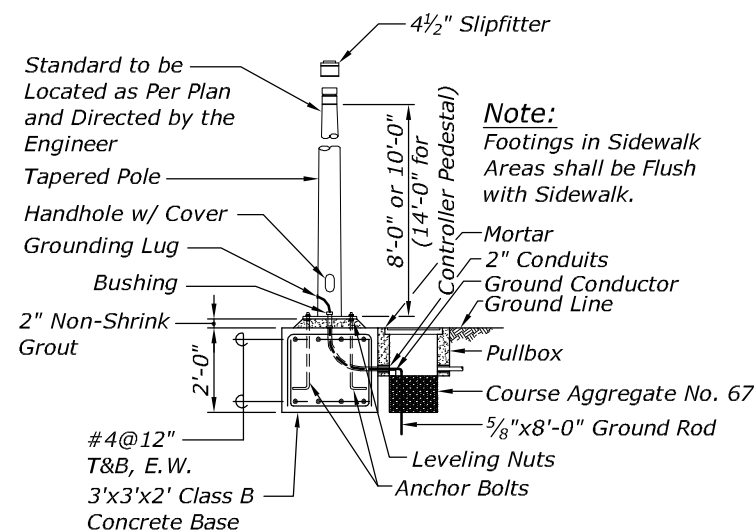
BASE DETAIL



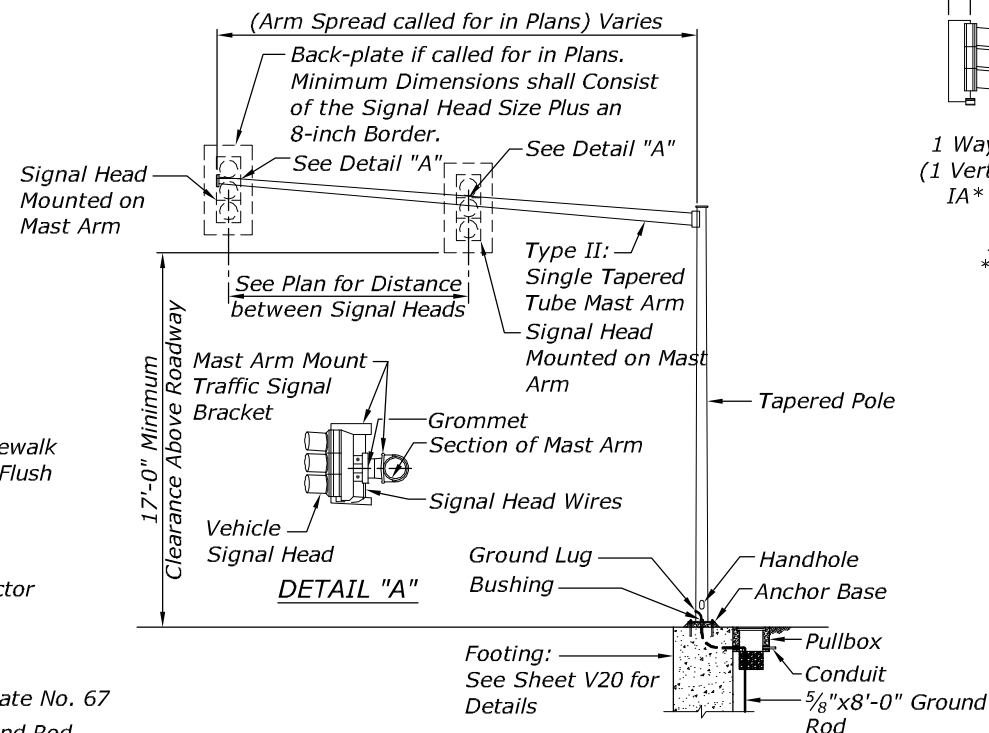
PEDESTRIAN PUSH BUTTON POST AND FOOTING



DETAIL OF POLE PLATE CONNECTIONS



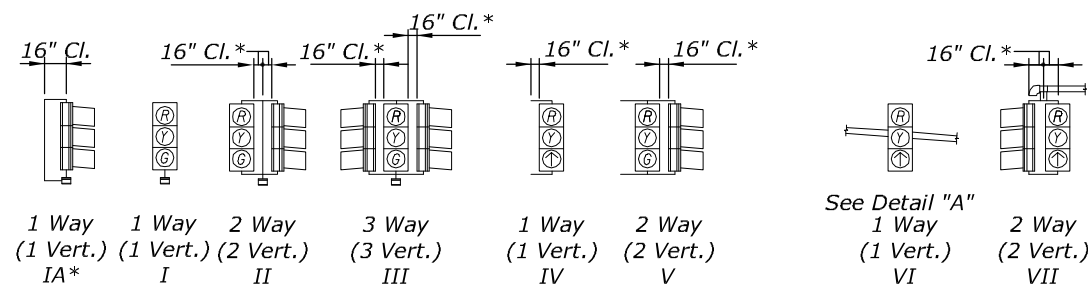
TYPE I SIGNAL STANDARD OR CONTROLLER PEDESTAL AND FOOTING



TYPE II MAST ARM STANDARD

Notes For Type I And Type II Signal Standard:

1. See Notes on Sheet V5 for Additional Information.
2. All Accessories, Fittings, Connection Details, and Stiffener Details (as Required) shall be Designed for the Loads Specified in the General Notes on Sheet V5 and submitted to the Engineer for Approval 20 days Prior to Installation.



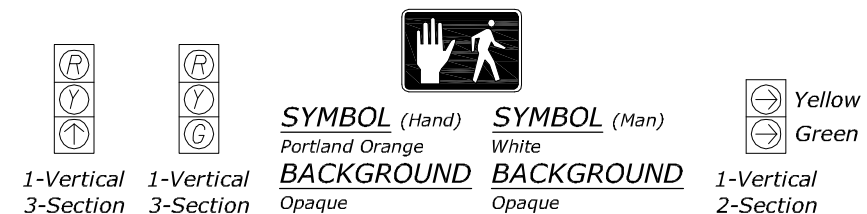
SLIPFITTER MOUNTINGS

*Use with Programmed Visibility Signal

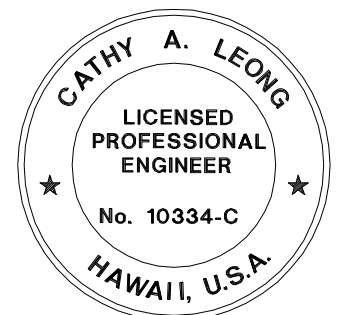
BRACKET MOUNTINGS

MASTARM MOUNTINGS

TYPICAL VEHICULAR AND PEDESTRIAN SIGNAL MOUNTING



TYPICAL SIGNAL ARRANGEMENTS



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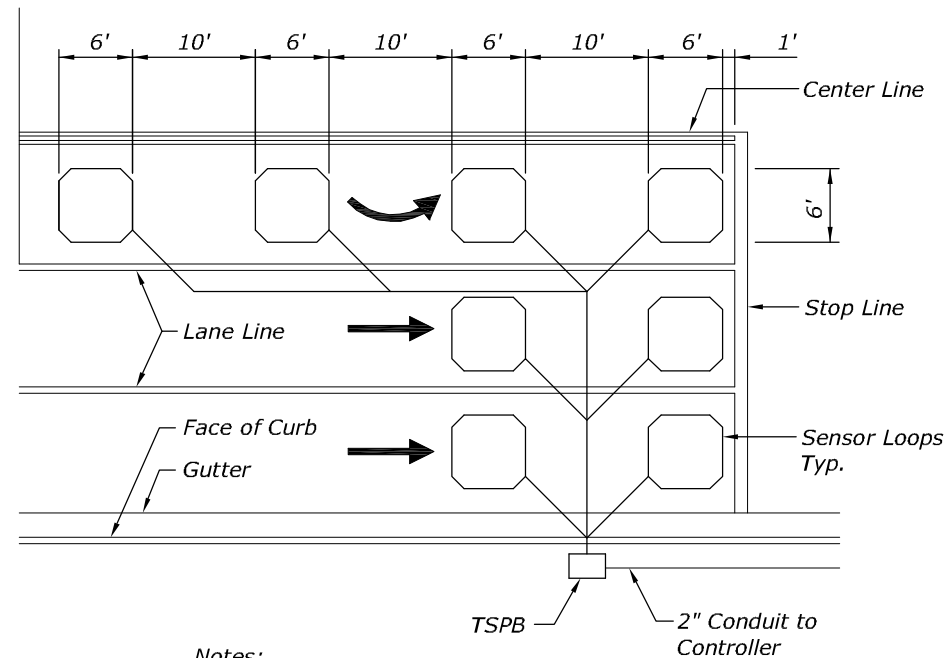
WILSON OKAMOTO CORPORATION APRIL 30, 2020
LIC. EXP. DATE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
CENTRAL FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY

TRAFFIC SIGNAL DETAILS 1

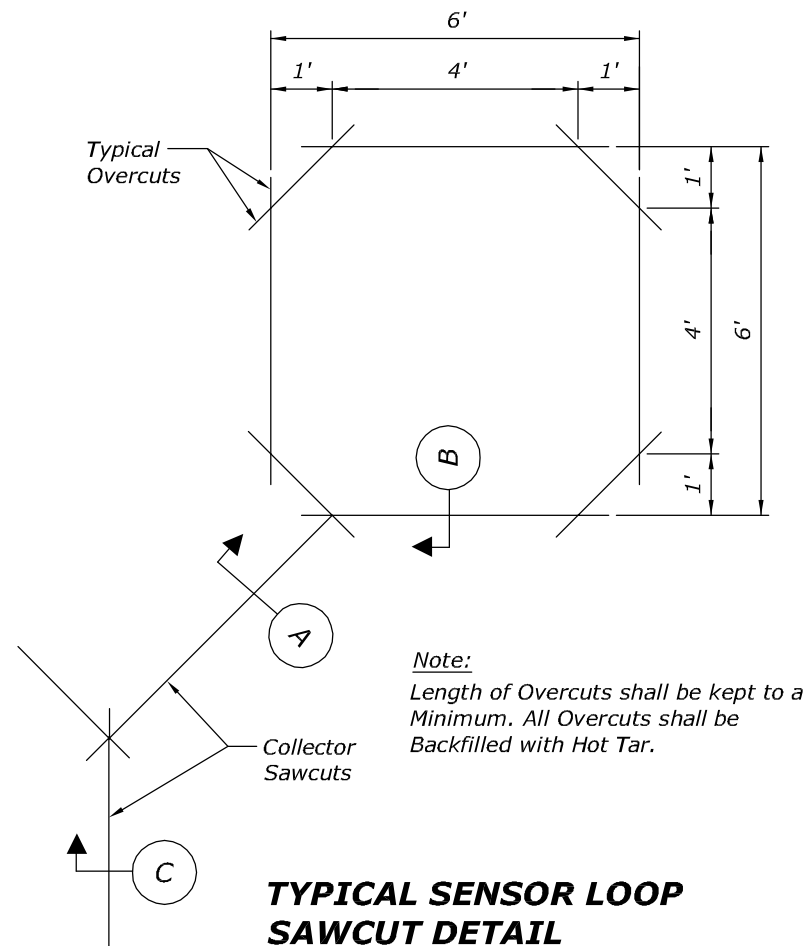
NO SCALE



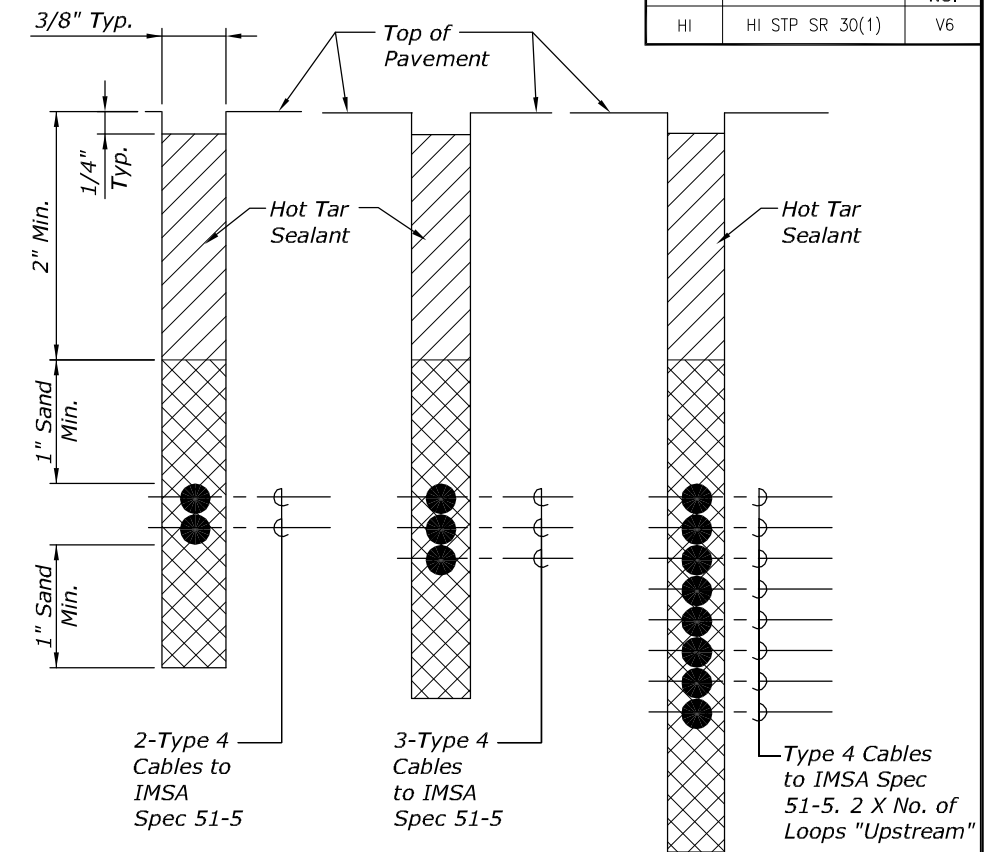
Notes:

- Center Sensor Loops in Lanes.
- Collector Cables shall be Twisted 2 Turns Per Foot.
- Number of Loops and Locations Vary. See Project Plans.
- Number and Locations of Collector Sawcuts may be Varied in the Field to Suit.

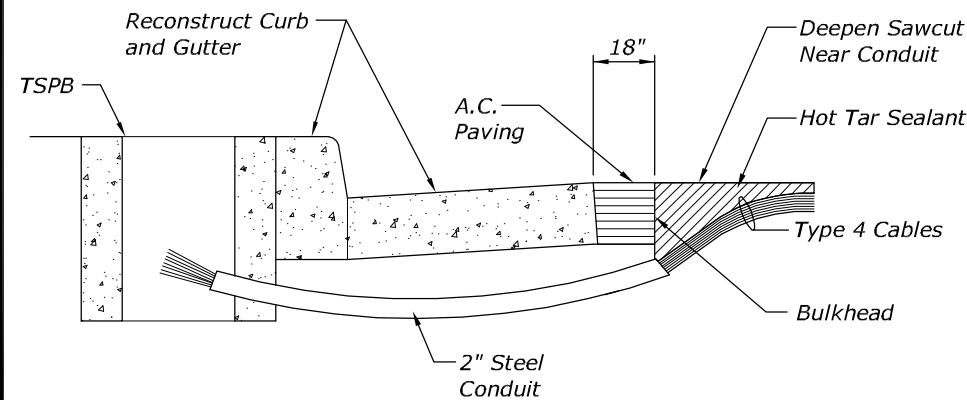
TYPICAL SENSOR LOOP DETAIL



TYPICAL SENSOR LOOP SAWCUT DETAIL



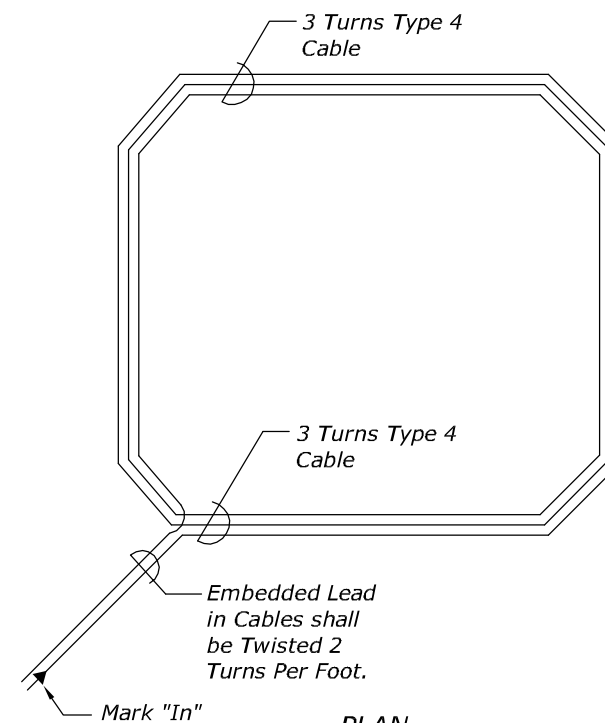
SECTION A SECTION B SECTION C
TYPICAL SECTION THROUGH SENSOR LOOP



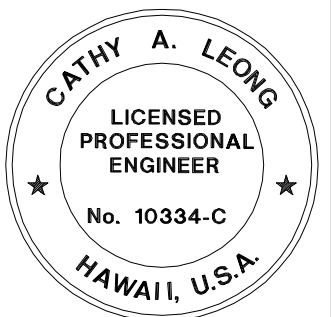
Notes on Construction at End of Sawcut:

- Seal Roadway end of Conduit after Installation of Conductors.
- Install Bulkhead Across Conduit Trench.
- Place Hot Tar in Sawcut.
- Backfill Over Conduit with New A.C.
- Reconstruct Curb and Gutter as Required.

DETAIL OF SENSOR LOOP INSTALLATION AT EDGE OF ROADWAY



PLAN
TYPICAL SENSOR LOOP WIRING DIAGRAM



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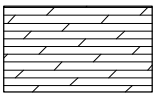
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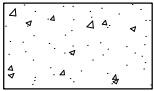
TRAFFIC SIGNAL DETAILS 3

NO SCALE

STATE RIGHT-OF-WAY BACKFILL NOTES



Trench Backfill Material "A":
Beach Sand, Earth, or Earth and Gravel. If Earth and Gravel used, the Maximum shall contain not more than 50% by Volume of Rock Particles. Maximum 8" Loose Fill Per Lift. Obtain 95% Compaction for each.

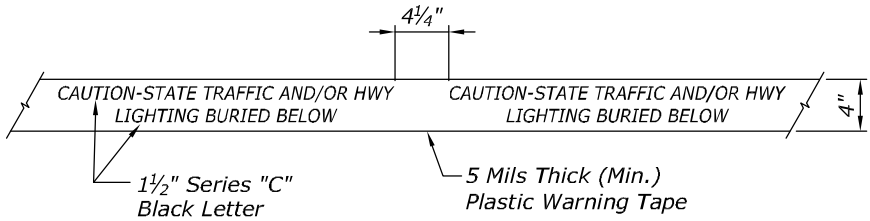


Concrete:
3000 PSI Compressive Strength at 3 Days.

Note:
Base Course & Sub-base Course Per 1994 State Standard Specifications for Highway Construction.

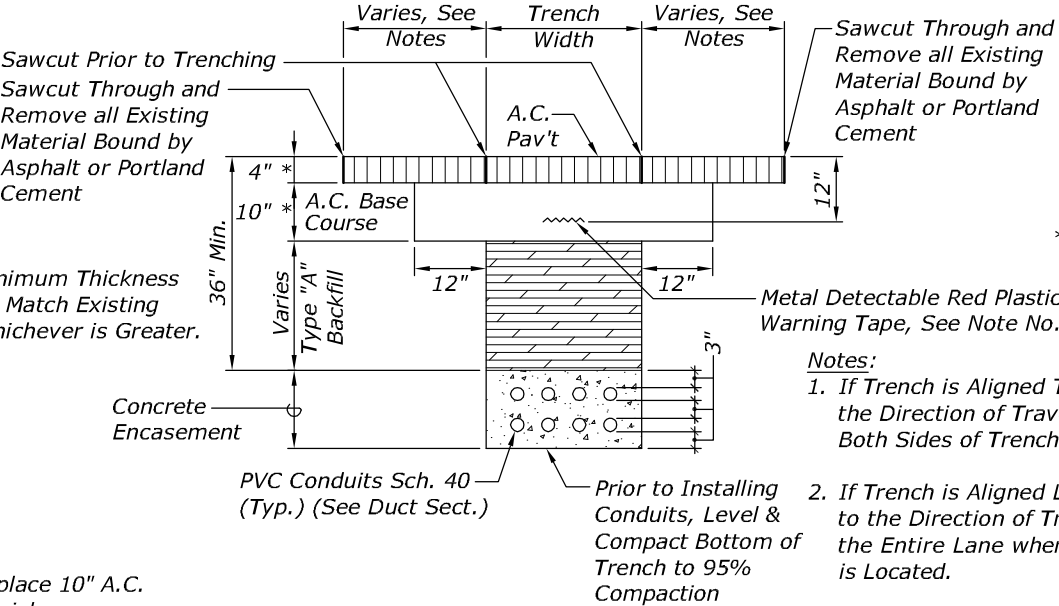
General Notes:

1. If Trench is Located on Unpaved Area, the Contractor shall Replace 10" A.C. Base Course and 4" A.C. Pavement with Type "A" Backfill Material.
2. The Metal Detectable Red Plastic Warning Tape shall be a Minimum 5 Mils Thick and 4" Wide with a Continuous Metallic Backing and Corrosion Resistant 1± Mil Thick Foil Core. The Message on the Tape shall Read, "CAUTION - STATE TRAFFIC SIGNAL AND/OR HWY LIGHTING BURIED BELOW, "Utilized 1½ Inches Series "C" Black Lettering. The Message will be Repeated with a 4¼" Spacing Between Top Line of Message and Start of Next Repeat.
3. The Contractor may begin Backfilling the Conduit Trench when the Concrete Reaches 3000 PSI Compressive Strength after 3 days.
4. Maximum Four (4) Conduits Per Row for Multiple Conduit Duct Section.
5. For Direct Buried Duct Sections, the Concrete Jacket required at the Conduit By-pass for Various Utilities, shall not be Paid for Separately but Considered Incidental to the Direct Buried Conduits.
6. After Installing all the Traffic Signal Cables, the Contractor shall Duct Seal all Conduits in the Pullboxes, Traffic Signal Standards and Traffic Signal Controller Cabinet Concrete Base. The Duct Seal Material shall be Approved by the Traffic Signal Inspector/Engineer and shall not be Paid for Separately but Considered Incidental to the Direct Buried and/or Concrete Encased Conduits.

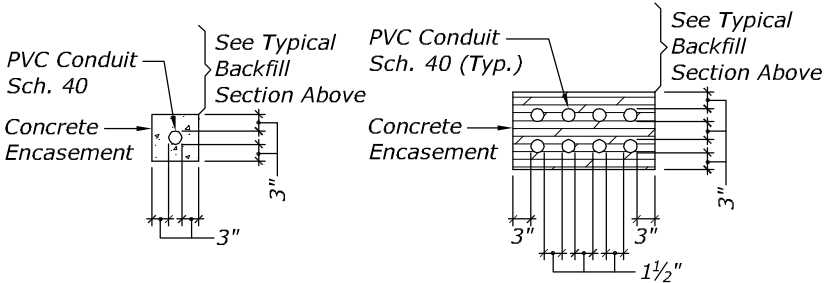


FOR ADDITIONAL
INFORMATION SEE NOTE NO. 2

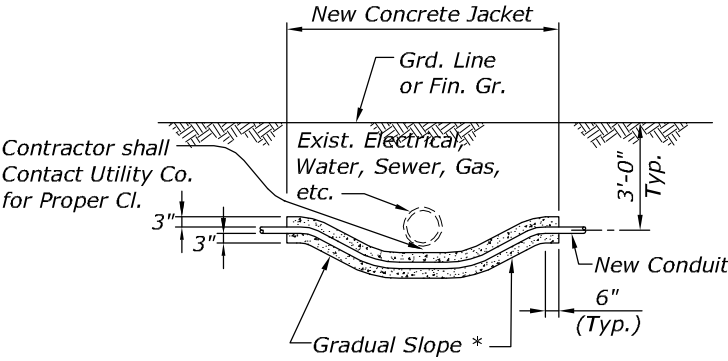
METAL DETECTABLE RED PLASTIC WARNING TAPE



TYPICAL BACKFILL SECTION
WITH CONCRETE ENCASED DUCTS

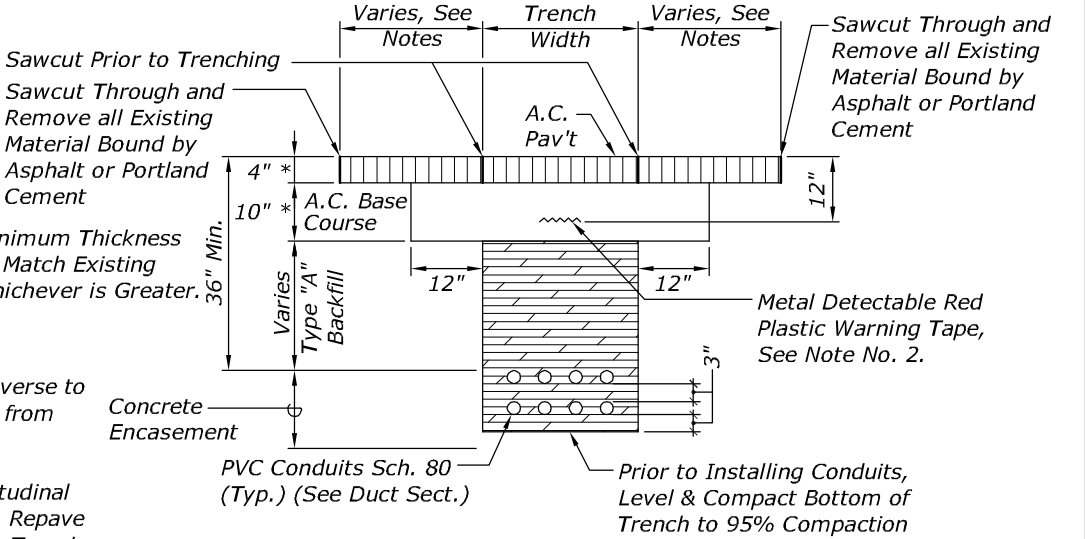


SINGLE CONDUIT MULTIPLE CONDUIT
DUCT SECTIONS - CONC. ENCASED

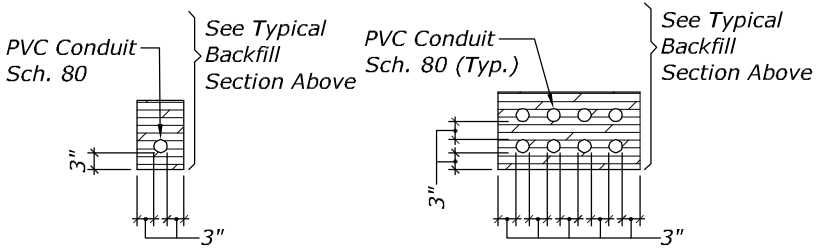


* TO BE DETERMINED BY COUNTY
ELECTRICAL INSPECTOR/ENGINEER

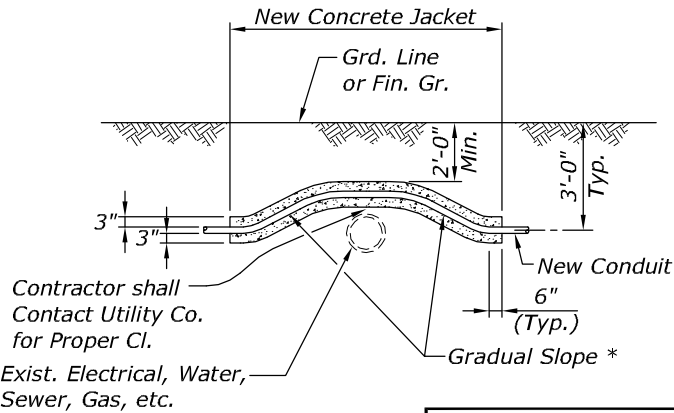
CONDUIT BY-PASS DETAIL AT VARIOUS UTILITIES



TYPICAL BACKFILL SECTION
DIRECT BURIED DUCTS



SINGLE CONDUIT MULTIPLE CONDUIT
DUCT SECTIONS - DIRECT BURIED



Contractor shall
Contact Utility Co.
for Proper Cl.
Exist. Electrical, Water,
Sewer, Gas, etc.



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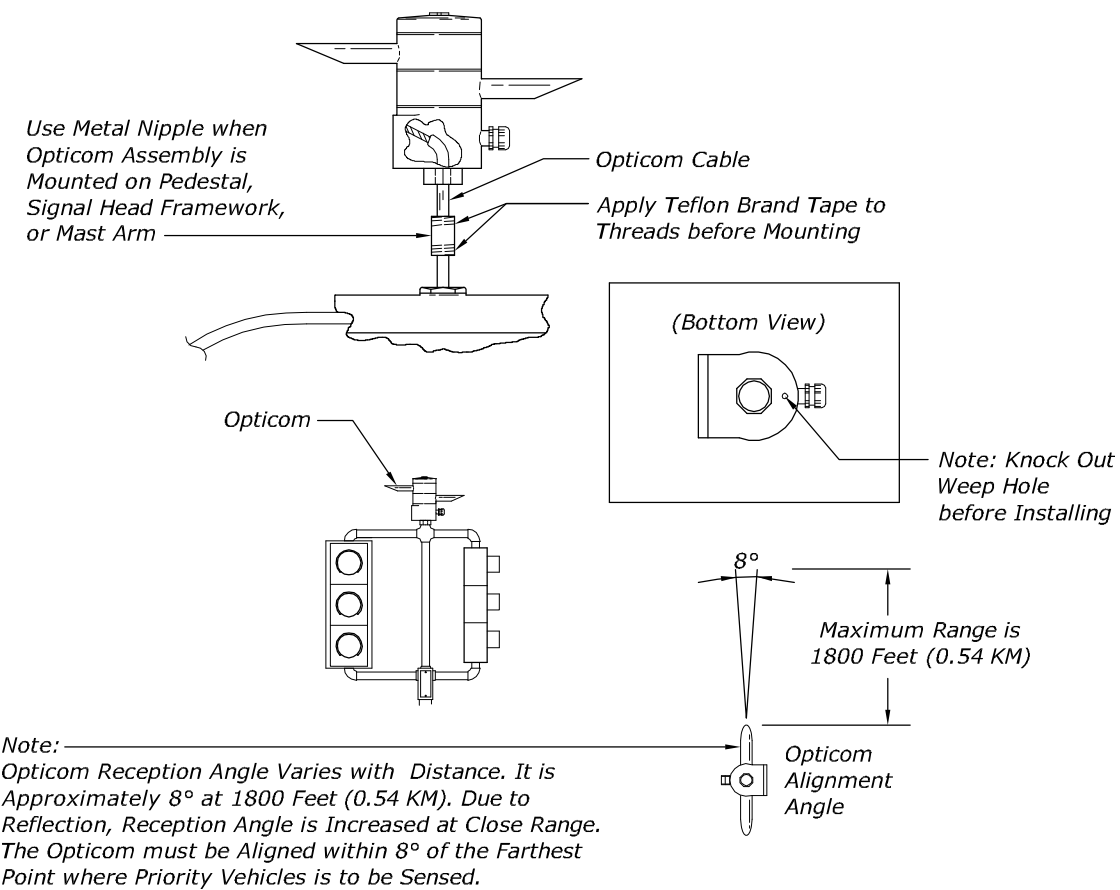
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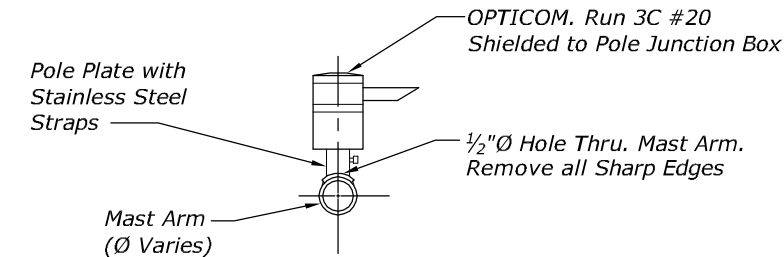
TRAFFIC SIGNAL DETAILS 4

NO SCALE

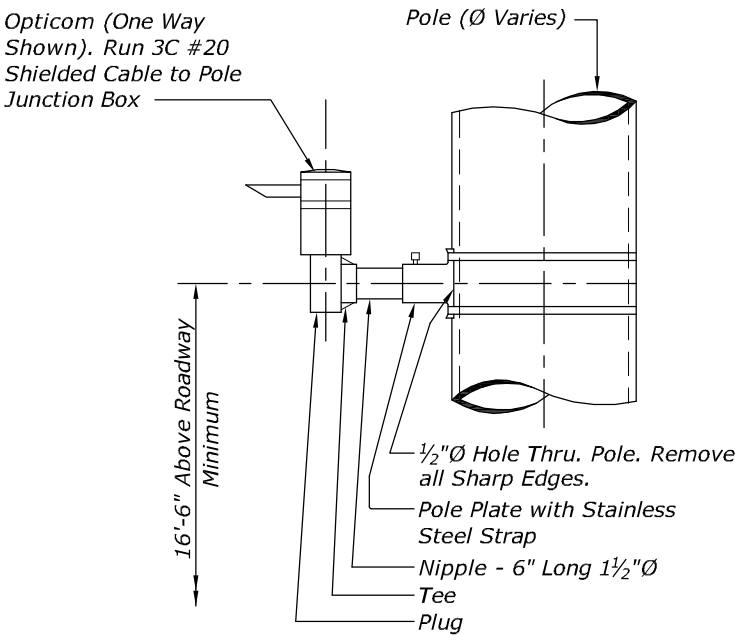
STATE	PROJECT	SHEET NO.
HI	HI STP SR 30(1)	V10



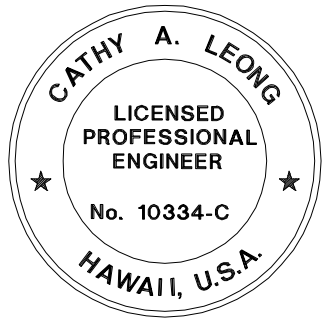
TYPICAL PEDESTAL/MAST ARM INSTALLATION OF OPTICOM



TYPICAL HORIZONTAL MOUNT OF OPTICOM



TYPICAL VERTICAL MOUNT OF OPTICOM



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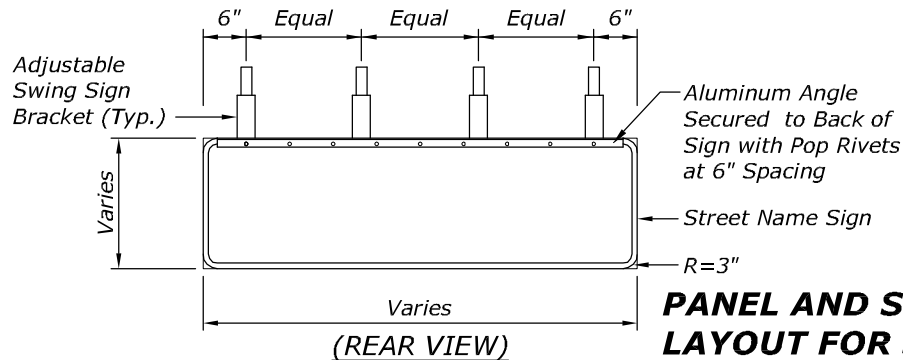
TRAFFIC SIGNAL DETAILS 7

NO SCALE

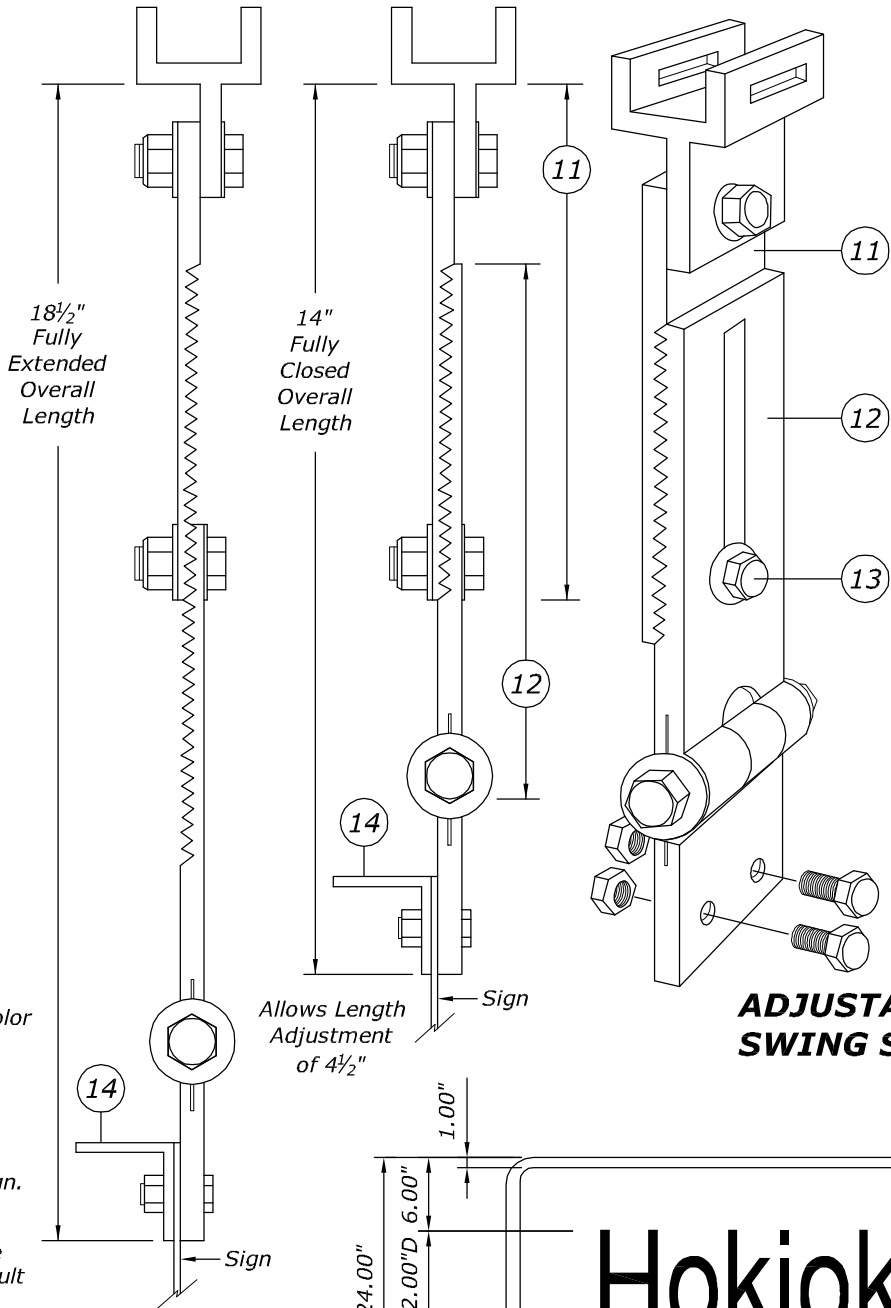
- 1 Pivotal Upper Bracket.
- 2 1⁵/₈" x 1¹/₄" Slot for Double Strapping to Electrolier Mast Arm. (M2G-34S(HD) .030" x 3³/₄" Heavy Duty Stainless Steel Strap with M2g-34B(HD) Buckle Recommended).
- 3 1¹/₂" - 13 x 1¹/₂" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut and 1¹/₁₆" Stainless Steel Washer (Both Sides). Allows Upper Bracket to Pivot and Align with Elec- Trolier Mast Arm.
- 4 6" Overall Drop with Fixed Length Sign Bracket.
- 5 Stainless Steel Dampener Spring (Removable).
- 6 Stainless Steel Hex Lock Nut with 1¹/₁₆" Stainless Steel Washer.
- 7 1" O.D. Axle Housing.
- 8 1¹/₂" - 13 x 4" Stainless Steel Hex Head Bolt with 1¹/₁₆" Stainless Steel Washer.
- 9 Oilite Bushing.
- 10 Sign Mounting Sets, Consisting of Two Each 5⁵/₁₆" - 18 x 1" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut. Two Holes on 1¹/₂" Centers provide Positive Lock Sign Mounting to Bracket.
- 11 8³/₄" Overall Length Upper Adjustable Sign Bracket Section.
- 12 9" Overall Length Lower Adjustable Sign Bracket Section, Including Axle Housing (8" Overall Length to Top of Axle Housing).
- 13 1¹/₂" - 13 x 1¹/₂" Stainless Steel Hex Bolt with Stainless Steel Hex Lock Nut and 1¹/₁₆" Stainless Steel Washers (Both Sides). Loosen Lock Nut, Adjust Bracket Teeth to Level Sign.
- 14 1¹/₄" x 1¹/₄" x 1¹/₈" Aluminum Angle.

Notes:

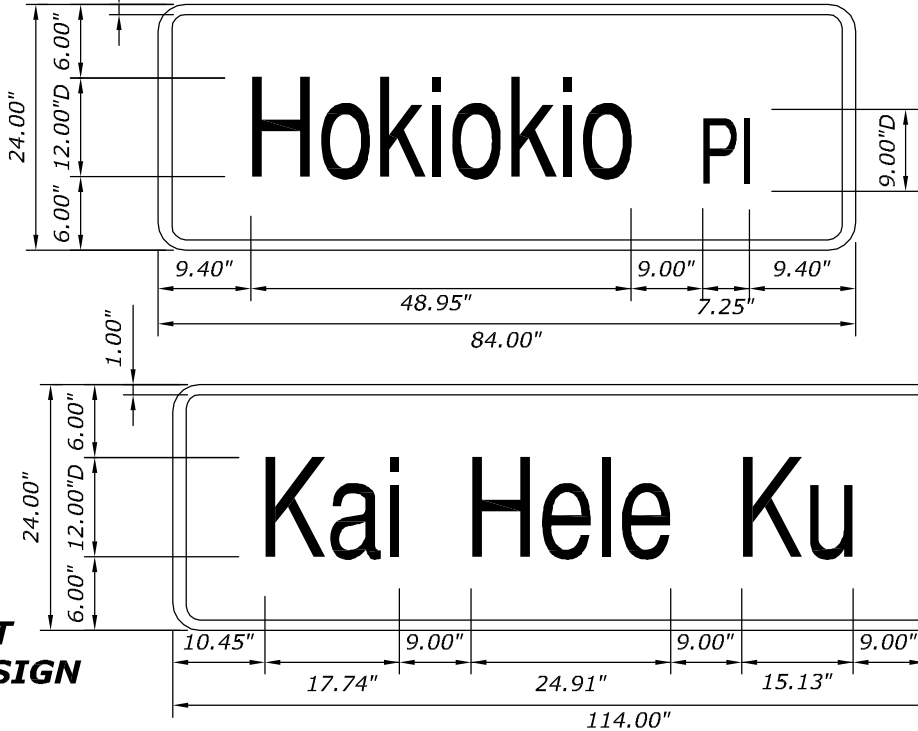
1. Signs shall be Retroreflective to show the same Shape and Similar Color both Day and Night.
2. Colors:
Legend & Border - White
Background - Green
3. Signs shall have the same Message on the Front and Back Side of Sign.
4. The Standard Alphabets for Traffic Control Devices as Found in the Standard Highway Signs Manual shall be used in Compliance with the Manual on Uniform Traffic Control Devices, Series "D" being the Default Font.
5. Diacritical Marks: Glottal Stop, a Break shown by a Single Opening Quote (') and the Macron (-), shall be used as Specified in the Hawaiian Street Names, The Hawaiian Dictionary and History of O'ahu Street Names.
6. No Punctuation shall follow Abbreviations such as N (North), S (South), St (Street), Rd (Road), Blvd (Boulevard).



PANEL AND SWING BRACKET LAYOUT FOR STREET NAME SIGN

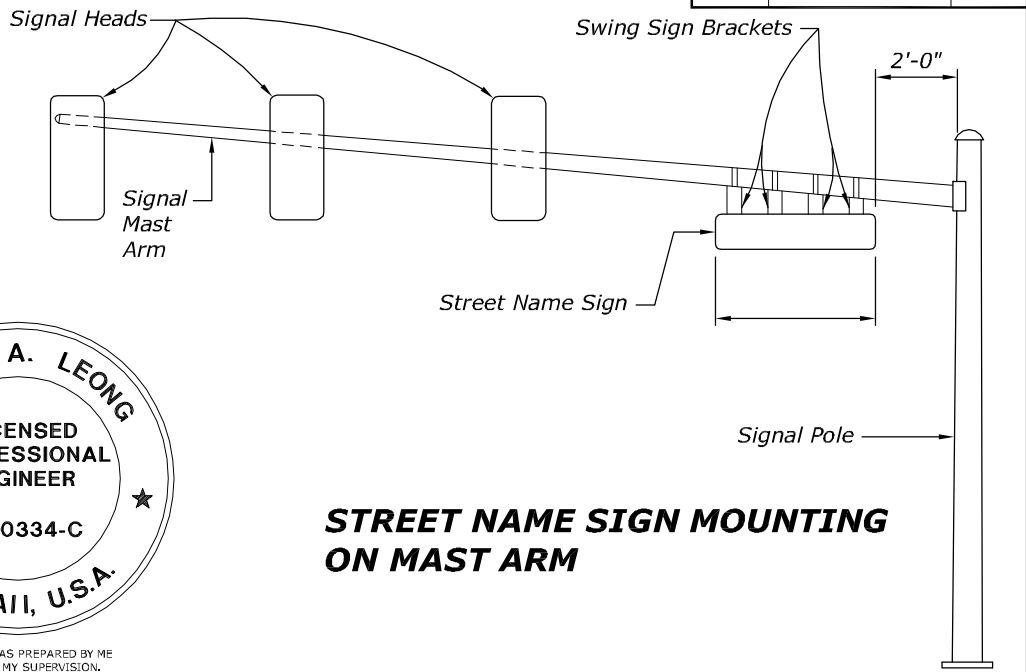


ADJUSTABLE LENGTH SWING SIGN BRACKET



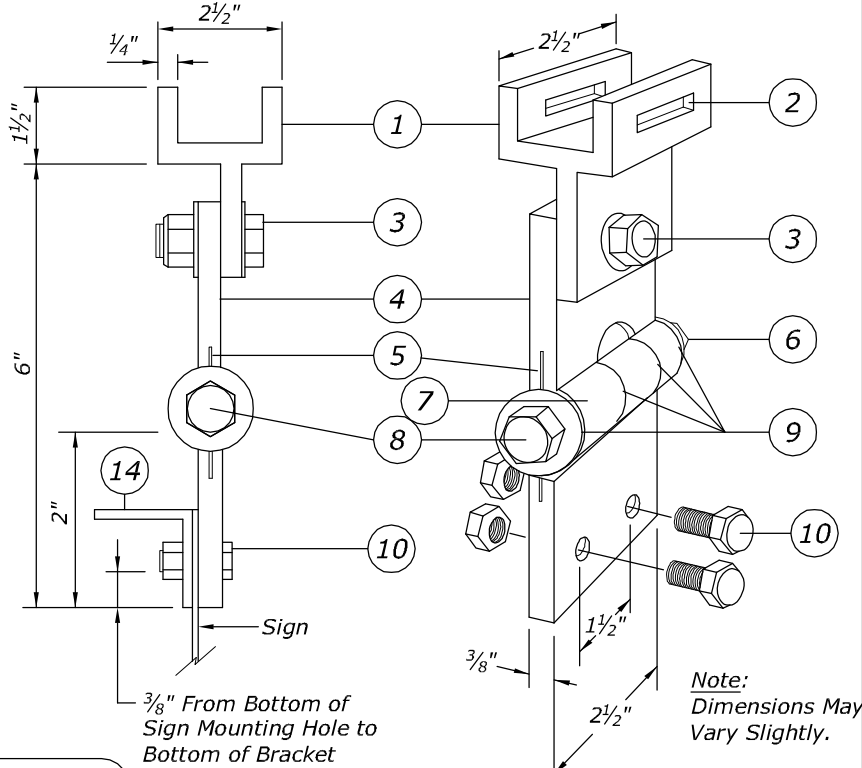
STREET SIGN DETAILS

NO SCALE



STREET NAME SIGN MOUNTING ON MAST ARM

All Aluminum 6061t6 Alloy and Stainless Steel Components.



FIXED LENGTH NON-ADJUSTABLE SWING SIGN BRACKET

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TRAFFIC SIGNAL DETAILS 8