

MATERIAL REQUIREMENTS		
Concrete	Class A	$f'_c = 4000$ PSI
CMP	AASHTO M218	14 GA.
VERTICAL REINFORCING STEEL	AASHTO M31 #8	GR 60
SPIRAL REINFORCING STEEL	AASHTO M31 #5	GR 60
GROUND WIRE		#4 AWG
Frangible Coupling and Anchor	NCHRP 350 TL3 (See note 10)	$V_u = 5.5$ KIPS
Conduit	Sch 40	RMC
Protective Sleeve	Sch 40	PVC

DEPTH TABLE (See design notes for loads)	
GRADE	FOUNDATION DEPTH (ft.)
FLAT TO 6:1	8
$\geq 6:1$ TO 3:1	9
$\geq 3:1$ TO 1.5:1	10.5

CONTROLLED LOW STRENGTH MATERIAL MIX DESIGN		
ITEM	BATCHING QUANTITIES PER CYD BATCH (LBS.)	APPLICABLE SPECS.
PORTLAND CEMENT CONCRETE	188	701-2.01
Water (52.1 Gal.)	435	712-2.01
Fine Aggregate SSD	3041	703-2.01
Admixture: Air entrainment	2.0 OZ.	711-2.02
<b>Total</b>	<b>3664</b>	

### DESIGN NOTES:

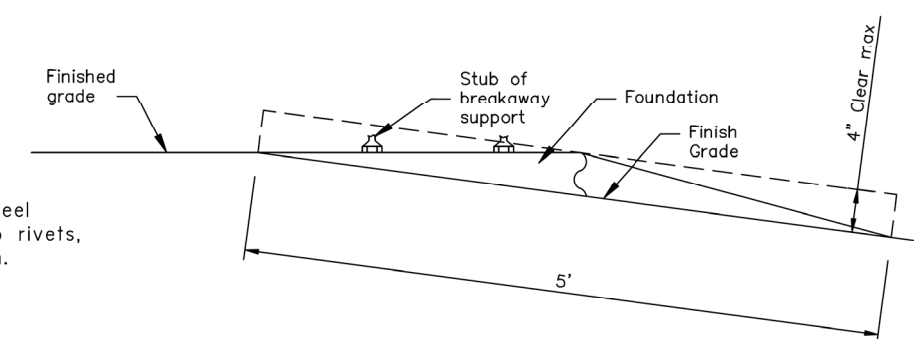
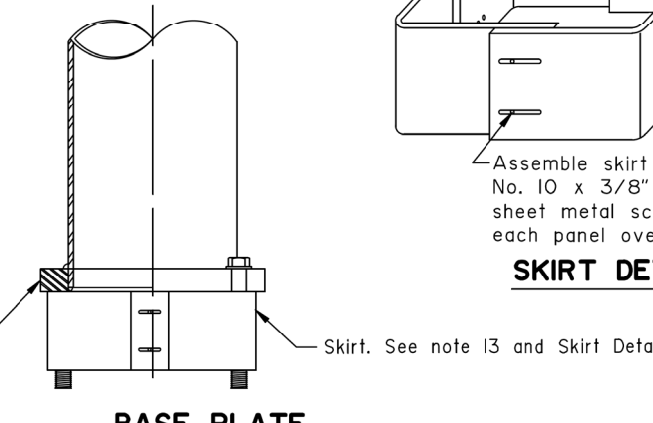
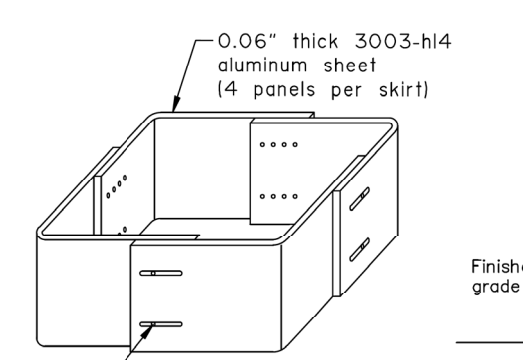
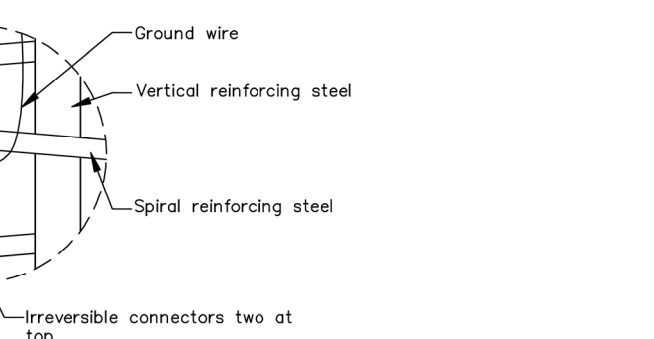
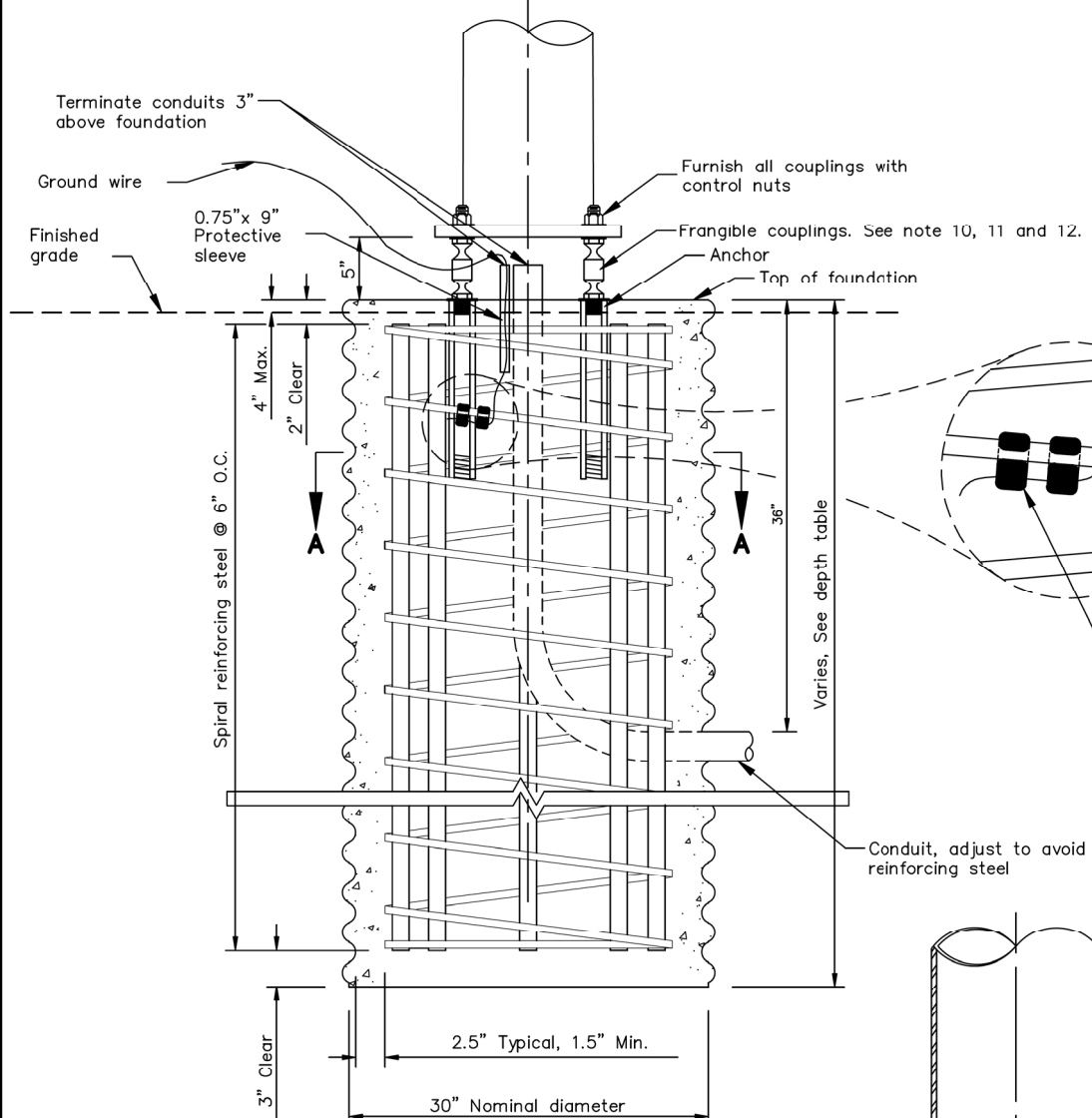
Design Standard: 2013 Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals with 2019 and 2020 Interim Revisions (SSSS).

Maximum Unfactored Service Loads (SSSS): 1,500 lbs axial, 1,500 lbs shear, 35,000 ft-lbs moment.


Wind and Soil: Foundations shall not be used for locations over 100 mph basic wind speed as shown in the SSSS figure 3.8.3-1. This foundation is approved for electrolier and breakaway traffic signal applications in cohesionless soils with an NI-60 value of 20 or greater (SPT) and a minimum soil density = 120pcf and friction angle of 32.5 degrees per AASHTO T-206, "Standard Penetration Test" (SPT).

### NOTES:

- This foundation shall not be used if any of the following are encountered; water table above the bottom of foundation, very loose soils, organic soils, cohesive soils (clay), or soils susceptible to frost jacking. If any of these conditions are encountered, stop foundation work and contact the Engineer.
- Place foundation in drilled or excavated hole with centerline of foundation located at the station, offset, and elevation specified in plans. Set foundation to satisfy the conditions depicted in clearance detail.
- Form the foundation in corrugated metal pipe conforming to Subsection 707-2.01 of the Specifications.
- Provide 1.5 extra turns at each end of the spiral reinforcing steel. Reinforcing steel shall not be spliced. Tie vertical reinforcing steel to each intersection of the spiral reinforcing steel.
- Connect ground wire near the top of spiral reinforcing steel with two irreversible connectors as shown. Fasten connectors according to the manufacturers' recommendations including the use of manufacturer specified tools. The ground wire may be bare solid, stranded, or braided copper. Protect ground wire with protective sleeve as shown and fill with silicon sealant.
- Backfill and compact according to Section 205, and Subsections 203-3.04 and 660-3.01 of the Specifications. Use selected material, Type A or controlled low strength material as backfill material. Ensure area below foundation meets compaction requirements and is free of loose material and debris prior to concrete work.
- Install all anchors according to the manufacturer's written installation instructions. Anchors shall be installed plumb. Anchors greater than 1:40 out-of-plumb will result in foundation rejection.
- Grade in depth table refers to fill slopes. If foundation is in a cut slope assume flat grade in table. To determine grade in fill slopes, use the most severe grade found within an 8 foot radius of the center of the foundation.
- If provided couplings have greater design values than  $V_u=5.5$  kips per each coupling (22,000 lbs total), submit stamped engineering calculations, related drawings, and other necessary information as required to verify the adequacy of the foundation design for increased loads.
- Frangible couplings shall be NCHRP 350, Test Level 3 compliant and installed in accordance with the manufacturers written instructions.
- Frangible couplings shall be installed into flush mounted female anchors so that no fixed hardware extends above the foundation top.
- Install all components of the breakaway support system in accordance with the manufacturer's written instructions.
- Fabricate the skirt as shown in detail. Bend each plate to provide corners with a 3/4" radius. The assembled skirt measures about 12-7/8" square.



State of Alaska DOT&PF  
ALASKA STANDARD PLAN  
CONCRETE STREET LIGHT  
POLE FOUNDATION

Adopted as an Alaska Standard Plan by:   
Lauren Little, P.E.  
Interim Chief Engineer

Adoption Date: 01/29/2024

Last Code and Stds. Review  
By: AH Date: 12/13/2023

Next Code and Standards Review Date: 12/13/2033