

Height "H" (ft)	Min Pole Base OD (in) Note 5	Min Pole Base Wall Thickness (in)	Base Plate		Anchor Bolts				CIDH Pile Data	
			Diameter (in)	Thickness (in)	Total	Size "d" (in)	BC (in)	"I" (in)	"D" (in)	Reinforcement
70	16 3/4	1/4	30 1/2	2	6	1 1/4	25	58	42	10-#8
100	18 5/8	5/16	30 1/2	2	6	1 1/2	25	84	42	13-#8
120	21	5/16	37 1/2	2	8	1 1/2	32	84	48	20-#8

Minimum Shaft Length, "L" (ft) *			
"H" (ft)	Site Foundation Material **		
	Weak Rock	Stiff Clay, Sand, Gravel	Soft Clay
70	7	11	14
100	8	13	20
120	8	14	22

* Increase "L" By 2 Feet For All Heights, "H," and All Site Foundation Materials For Construction On or Within 3 Feet of Sloping Ground (Slopes Up to 1.5H:1V).

** Site Foundation Material Shall Be Assumed As Stiff Clay, Sand or Gravel Unless Otherwise Noted in the Contract Documents. Geotechnical Engineer Will Verify Weak Rock and Soft Clay on a Case-By-Case Basis.

NOTES:

- DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS 2001.
- POLE DETAILS SHALL SUIT THE LOWERING DEVICE AND THIS FOUNDATION PLAN. POLE DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ALL HIGH MAST LUMINAIRES ARE BOTTOM LATCHING WITH AN INTERNAL WINCH ASSEMBLY AND EXTERNAL MOTOR. POLE SHALL HAVE A MINIMUM TAPER OF 0.0117 F1/F2.
- ALL MATERIALS TO BE GALVANIZED AFTER FABRICATION.
- FOR NUMBER OF LUMINAIRES TO BE MOUNTED ON THE POLE, SEE ELECTRICAL PLANS.
- FOUNDATION, POLE, BASE PLATE, AND ANCHOR BOLT DESIGN IS BASED ON A MAXIMUM OF 8 LUMINAIRES AND A MAXIMUM EFFECTIVE PROJECTED AREA (EPA) OF 14.5 FT², AND A MAXIMUM WEIGHT OF 770 LBS (INCLUDING FIXTURES, HOOD, AND LOWERING RING). INCREASE MINIMUM POLE DIAMETER IF REQUIRED TO ACCOMMODATE LOWERING DEVICE. LIMIT THE DESIGN DEFLECTION AT THE TOP OF THE POLE TO 10% OF THE POLE HEIGHT. SEE SHEET T-30.1.16 FOR POLE GROUNDING DETAIL.
- DESIGN WIND PRESSURES ARE BASED ON A 3 - SECOND GUST SPEED OF 90 MPH AND A 50 YEAR DESIGN LIFE.
- FATIGUE DESIGN BASED ON NATURAL WIND GUST LOADS AND FATIGUE IMPORTANCE CATEGORY I.
- SLIP FIT LENGTH SHALL NOT BE LESS THAN 1.5 DL.
- BASE PLATE SHAPE OPTIONAL, EITHER ROUND OR HEXAGONAL AS SHOWN.
- ANCHOR BOLTS SHALL BE MADE FROM STEEL BAR CONFORMING TO AASHTO M 314 GRADE 55 INCLUDING S1 SUPPLEMENTARY REQUIREMENTS.
- THE FOLLOWING SOIL PARAMETERS WERE USED TO DETERMINE PILE LENGTH, "L":

Site Foundation Material	Minimum Dry Unit Weight (pcf)	Internal Friction Angle (deg)	Cohesion (psf)	Subgrade Modulus (pci)	Strain ε ₅₀
Stiff Clay	100	n/a	1000	n/a	0.01
Sand	110	30 ***	n/a	60	n/a
Gravel	125	35	n/a	175	n/a
Soft Clay	90	n/a	250	n/a	0.02

*** Increased to 35 deg for sloping ground surface condition

Site Foundation Material	Unit Weight (pcf)	Unconfined Compressive Strength (tsf)	Initial Rock Modulus E _r (tsf)	Rock Constant k _{rm}	Rock Quality Designation (%)
Weak Rock	130	18	36,000	0.0005	50

- PILE LENGTH, "L", BASED ON MAXIMUM 1/2" LATERAL DEFLECTION AT TOP OF PILE UNDER GROUP II LOADS.
- ACCESS OPENING SHALL BE 11" x 30" WITH A LOCKABLE HINGED HANDHOLE COVER. PLATE THE HANDHOLE SHALL BE GASKETED TO MAKE WATERPROOF. ACCESS OPENING SHALL BE REINFORCED AS REQUIRED IN THE STANDARD SPECIFICATIONS AND SHALL SUIT THE LOWERING DEVICE. SEE SHEET T-30.1.11.2 FOR HAND HOLE ORIENTATION.

SHEET 2 OF 2

NEVADA DEPARTMENT OF TRANSPORTATION

HIGH MAST LIGHT
POLE & FOUNDATION
DETAILS

Signed Original On File	T-30.1.11.1	(623)
CHIEF BRIDGE ENGINEER	ADOPTED 12/02	REVISION 1/09