



POLE FOUNDATION ELEV.

SCALE: NOT TO SCALE

SOIL BACKFILL NOTE:

THE TOP TWO FEET OF ANNULUS SHALL BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 (TABLE 1806.2) OR BETTER. COMPACTION, 95% FOR COHESIVE SOIL AND 98% FOR A COHESIONLESS SOIL BASED UPON STANDARD PROCTOR TESTING (ASTM D698).

POLE FOUNDATION SCHEDULE							
POLE DESIGNATION	FORCES (1.)			DRILLED PIER			
	MOMENT (M) FT-LBS	SHEAR (V) LBS	VERTICAL (P) LBS	DIAMETER INCHES	EMBEDMENT DEPTH	SUSPENSION "Y" (2.)	CONCRETE BACKFILL YD ³ (3.)
A1, A2	99,626	2,142	2,916	36	16'-0"	NA	2.8
B1	144,146	2,641	3,445	48	16'-0"	NA	5.6
B2	144,948	2,649	3,445	48	16'-0"	NA	5.6
C1, C2, D1, D2	100,925	2,157	2,916	36	16'-0"	NA	2.8
A3, A4	50,878	1,247	1,284	36	13'-0"	1'-0"	2.6
B3, B4	71,847	1,685	1,956	36	14'-0"	NA	2.6
C3	44,058	1,226	1,248	36	13'-0"	3'-0"	2.7
F1, F2	135,693	2,648	3,361	48	16'-0"	NA	5.6
F3, F4	136,871	2,658	3,361	48	16'-0"	NA	5.6

- ASD LOAD COMBINATION D + 0.6W. VERTICAL FORCE IS WEIGHT OF DRESSED POLE (DOES NOT INCLUDE PRECAST BASE WEIGHT)
- SUSPEND PRECAST BASE "Y" OFF THE BOTTOM OF THE EXCAVATION DURING MONOLITHIC CONCRETE BACKFILL PLACEMENT AND CURING. NA = NOT APPLICABLE, SUSPENSION NOT REQUIRED.
- MINIMUM CONCRETE BACKFILL VOLUME, SITE CONDITIONS MAY REQUIRE ADDITIONAL BACKFILL.

PRECAST BASE IDENTIFICATION					
PRECAST BASE TYPE	PRECAST BASE WEIGHT	PRECAST BASE LENGTH	PROJECTION ABOVE GRADE	STANDARD EMBEDMENT	OUTSIDE DIAMETER
2B	1,690 LBS	17'-3"	7'-3"	10'-0"	12.00"
3B	2,470 LBS	20'-0"	8'-0"	12'-0"	13.38"
4B	3,490 LBS	22'-0"	8'-0"	14'-0"	15.75"
5B	4,580 LBS	23'-11"	7'-11"	16'-0"	18.25"

POLE IDENTIFICATION				
POLE DESIGNATION	POLE TYPE	PRECAST BASE TYPE	FIXTURE CONFIGURATION (FIX. PER XARM)	FIXTURE AND ACCESSORIES EPA (FT ²)
A1, A2	LSS80B	5B	6 (5)	13.5
B1	LSS90A	5B	10 (7)	22.8
B2	LSS90A	5B	10 (7)	22.8
C1, C2, D1, D2	LSS80B	5B	6 (5)	14.0
A3, A4	LSS70A	3B	3 (3)	7.2
B3, B4	LSS70C	4B	6 (5)	13.0
C3	LSS60A	2B	7 (4)	15.7
F1, F2	LSS80B	5B	12 (5+5)	27.3
F3, F4	LSS80B	5B	12 (5+5)	27.3

- POLES B3 & B4 HAVE (1) MUSCO LED FIXTURE AT 30'-0" AGL INCLUDED ABOVE.
- POLES F3 & F4 HAVE (2) MUSCO LED FIXTURES AT 25'-0" AGL INCLUDED ABOVE.
- POLE B2 HAS (3) MUSCO LED FIXTURES AT 20'-0" AGL INCLUDED ABOVE.
- POLES A1, A2, C1, C2, D1, & D2 HAVE (1) MUSCO LED FIXTURE AT 15'-6" AGL INCL. ABOVE.
- POLES B1 & C3 HAVE (3) MUSCO LED FIXTURES AT 15'-6" AGL INCLUDED ABOVE.
- POLES F1 & F2 HAVE (2) MUSCO LED FIXTURES AT 15'-6" AGL INCLUDED ABOVE.

DESIGN NOTES

DESIGN PARAMETERS:

WIND: $V_{ult} = 127$ MPH, $V_{asd} = 98$ MPH (EXPOSURE C, RISK CATEGORY II) PER MASSACHUSETTS STATE BUILDING CODE - 780 CMR, 9TH EDITION (IBC 2015 / ASCE 7-10).

GEOTECHNICAL PARAMETERS:

ALLOWABLE END BEARING SOIL PRESSURE: 3,000 PSF
 ALLOWABLE LATERAL SOIL BEARING PRESSURE:
 0 PSF/FT (GRADE TO -2'-0"); 240 PSF/FT (-2'-0" TO -5'-0"); 115 PSF/FT (BELOW -5'-0")
 IN ACCORDANCE WITH MASSACHUSETTS STATE BUILDING CODE - 780 CMR, 9TH EDITION, CHAPTER 18.

DESIGN SOIL PARAMETERS ARE AS NOTED. ACTUAL ALLOWABLE SOIL PARAMETERS MUST BE VERIFIED ON SITE. REFERENCE GEOTECHNICAL ENGINEERING REPORT, FILE NO. 91770.00, PREPARED BY NOBIS ENGINEERING, INC.; CONCORD, NH.

A GEOTECHNICAL ENGINEER OR REPRESENTATIVE OF IS RECOMMENDED (NOT REQUIRED) TO BE AVAILABLE AT THE TIME OF THE FOUNDATION INSTALLATION TO VERIFY THE SOIL DESIGN PARAMETERS AND TO PROVIDE ASSISTANCE IF ANY PROBLEMS ARISE IN FOUNDATION INSTALLATION.

ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS WILL THEN BE REVISED ACCORDINGLY. REVISIONS WILL BE ANALYZED PER RECOMMENDATIONS DIRECTED BY A REGISTERED ENGINEER.

ALL EXCAVATIONS MUST BE FREE OF LOOSE SOIL AND DEBRIS PRIOR TO FOUNDATION INSTALLATION AND CONCRETE BACKFILL PLACEMENT. TEMPORARY CASINGS OR DRILLERS SLURRY MAY BE USED TO STABILIZE THE EXCAVATION DURING INSTALLATION. CASINGS MUST BE REMOVED DURING CONCRETE BACKFILL PLACEMENT. CONCRETE BACKFILL MUST BE PLACED WITH A TREMIE WHEN SLURRY OR WATER IS PRESENT WITHIN THE EXCAVATION.

CONTRACTOR MUST BE FAMILIAR WITH THE COMPLETE SOIL INVESTIGATION REPORT AND BORINGS, AND CONTACT THE GEOTECHNICAL FIRM (IF NECESSARY) TO UNDERSTAND THE SOIL CONDITIONS AND THE POSSIBILITY OF GROUND WATER PUMPING AND EXCAVATION STABILIZATION OR BRACING DURING PRECAST BASE INSTALLATION AND PLACEMENT OF CONCRETE BACKFILL.

CONCRETE:

CONCRETE SHALL BE AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE DESIGN STRENGTH AT 28 DAYS OF 3,000 PSI. 3,000 PSI CONCRETE SPECIFIED FOR EARLY POLE ERECTION, ACTUAL REQUIRED MINIMUM ALLOWABLE CONCRETE STRENGTH IS 1,000 PSI. ALL PIERS AND CONCRETE BACKFILL MUST BEAR ON AND AGAINST FIRM UNDISTURBED SOIL.

GENERAL NOTES:

FIXTURES MUST BE LOCATED TO MAINTAIN 10'-0" MINIMUM HORIZONTAL CLEARANCE FROM ANY OBSTRUCTION. ENGINEER MUST BE NOTIFIED IF FOUNDATIONS ARE NEAR ANY RETAINING WALLS OR WITHIN / NEAR ANY SLOPES STEEPER THAN 3H : 1V. POLES, FIXTURES, PRECAST BASES, ELECTRICAL ITEMS AND INSTALLATION LIGHTING.



HAMILTON-WENHAM
 HIGH SCHOOL
 FIELD LIGHTING
 SOUTH HAMILTON, MA

STRUCTURAL
 ENGINEERS, P.C.
 114 NICHOLAS DRIVE
 MARSHALLTOWN, IOWA 50158
 PHONE NUMBER: 641-752-6334
 EMAIL: MSL.INFO@SEPC.BIZ

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