

TRAFFIC POLE FOUNDATION DESIGN
RUTLAND, VERMONT
PROJECT NO. NHG 019-3(60)
 Drawing No. 031017

Pole ID	MAP-1, 35'	MAP-2, 45'	MAP-3, 55'	MAP-4, 10'
Boring ID	B-101	B-102	B-103	B-104
Design Input Parameters:				
Axial Service Load (lbs) = P	2,646	3,382	4,411	1,292
Shear Service Load (lbs) = V	1,786	2,179	2,650	1,240
Overturning Moment Service Load (ft-lbs) = M	41,883	57,582	83,572	23,122
Torsional Service Load (ft-lbs) = T	34,274	59,194	79,199	6,266
Maximum Projection Above Ground (ft)	0.5	0.5	0.5	0.5
Top Soil to Neglect (ft)	2.0	2.0	2.0	2.0
Design Depth to Ground Water (ft)	20.0	20.0	20.0	20.0
Diameter of Drilled Shaft (ft) = D	3.00	3.00	3.00	3.00
Length of Drilled Shaft (Depth) (ft) = L	10.50	12.00	13.00	9.50
Summary of Moment Capacity:				
Horizontal Deflection (in)	0.48	0.47	0.48	0.39
Maximum Moment for Steel Design (in-lbs) = M_{MAX}	549759	752369	1076687	304794
	OK	OK	OK	OK
Summary of Axial Capacity:				
Ultimate Axial Resistance (Tons)	28.46	36.28	45.02	24.28
Factor of Safety for Axial	21.51	21.45	20.41	37.59
Estimated Settlement (inches)	0.10	0.10	0.10	0.10
	OK	OK	OK	OK
Summary of Torsional Capacity:				
Ultimate Skin Friction Resistance (Tons)	28.46	36.28	45.02	24.28
Ultimate Torsional Side Resistance (ft-lbs)	85380	108840	135060	72840
Ultimate Torsional Base Resistance (ft-lbs)	11698	12768	13793	10486
Combined Torsional Resistance (ft-lbs)	97078	121608	148853	83326
Factor of Safety for Torsion	2.83	2.05	1.88	13.30
	OK	OK	OK	OK

