



BUILDING AND DESIGN CODES:
 2007, BUILDING CODE OF NEW YORK STATE.
BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE: ACI 318, 2008, AMERICAN CONCRETE INSTITUTE.

WIND TURBINE AND TOWER:
 MANUFACTURER: GE WIND ENERGY
 MODEL: GE 1.5 - 77M ROTOR
 POWER OUTPUT: 1.5 MW
 TURBINE HUB HEIGHT: 80m

DESIGN SERVICE LOADS:
 UNFACTORED SERVICE LOADS DUE TO EXTREME WIND CONDITION CLASS IEC-I (CRITICAL)

OVERTURNING MOMENT, $M_{xy} = 34,908 \text{ kN-m} = 25,747 \text{ ft-kips}$
 HORIZONTAL BASE SHEAR, $H_{xy} = 523 \text{ kN} = 118 \text{ kips}$
 VERTICAL TOWER LOAD, $W_z = 1845 \text{ kN} = 415 \text{ kips}$

FOUNDATION DESIGN DATA:
 MIN. FACTOR OF SAFETY AGAINST OVERTURNING: >1.5
 MIN. FACTOR OF SAFETY AGAINST SLIDING: >1.5
 MIN. FACTOR OF SAFETY AGAINST BEARING CAPACITY FAILURE: >2.26 ON EXTREME

REFERENCE DOCUMENTS:
 1. GE WIND ENERGY, "FOUNDATION DATA FOR WIND TURBINE GENERATOR SYSTEMS, GE 1.5SLE MTS, AND GE 1.5 sle 60 Hz NMTS 61.4-85M Hh, IEC TC11a WITH REDUCED GUST (NESO=55M/S, LM 37.3P2 50 & 60 Hz, GE37C 60HZ", REVISION 1, DATED OCTOBER 10, 2006.
 2. GE WIND ENERGY, "TOWER MTS T-FLANGE 1.5 SL WZII-HEC III; 1.5SLE IEC3 - 80M NH/HH", DRAWING NO. 903216, REVISION 0, DATED 26-MAY-04.

MIN. 28-DAY COMPRESSIVE STRENGTH OF CONCRETE: 5000 PSI
 MIN. YIELD POINT STRENGTH OF REINFORCING BAR: 60 KSI
 MIN. STRENGTH OF ANCHOR BOLTS: TENSILE - 100 KSI YIELD - 75 KSI
 MIN. COMPRESSIVE STRENGTH OF NON-SHRINK GROUT: 8,000 PSI @ 28 DAYS, 5,000 PSI @ 3 DAYS
 MIN. YIELD POINT STRENGTH OF EMBEDMENT PLATE: 36 KSI

ABBREVIATIONS:
 B.O. BOTTOM OF
 C.C.C. CLEAR COVER
 C.L. CENTER LINE
 Dwg. DRAWING
 EL. ELEVATION
 E.W. EACH WAY
 EX. EXISTING
 I.D. INSIDE DIAMETER
 MIN. MINIMUM
 O.C. ON CENTER
 O.D. OUTSIDE DIAMETER
 R. RADIUS
 T&B TOP AND BOTTOM
 T.O.C. TOP OF CONCRETE
 TYP. TYPICAL
 W/W WITH
 Ø DIAMETER

**FOR REFERENCE ONLY
 NOT FOR CONSTRUCTION**

NO.	BY	CHK	APP.	DATE	REVISION	DESCRIPTION

SUBMIT	DATE	BY	CHK	APP.	DATE	BY	CHK	APP.



Scale	AS SHOWN
Date	C/W
Checked	JTS
Designed	JTS
Approved	JTS

PROJECT NAME	PROJECT COUNTY, STATE	AE PROJECT No.	##
SPREAD FOOTING FOUNDATION		CLIENT PROJECT No.	##
PLAN, ELEVATION, SECTION AND DETAILS		DWG. No.	S-01
		REV. No.	##

Figure 2.
 WTG Foundation - Typical

