

EASTERN KINGS WIND PLANT

STRUCTURAL

ISSUED FOR FINAL COMMENTS
2020-08-07



TURBINE	COORDINATES		TOP CONCRETE ELEVATION (m)
	NORTHING (m)	EASTING (m)	
T1	5143987	572895	27.49
T2	5144075	573410	24.97
T3	5144214	573968	18.17
T4	5144208	574571	17.69
T5	5144142	575014	16.40
T6	5142950	573485	26.73
T7	5143231	573865	21.55

THE DRAWINGS ARE ONLY VALID FOR THE COORDINATES MENTIONED ABOVE WITHIN A LOCATION TOLERANCE OF TWO TIMES THE FOUNDATION DIAMETER.
TURBINE COORDINATES AND ELEVATIONS IN UTM

DRAWING INDEX

ENERCON E-138 EP3 E2-ST-111-FB-C-01: SHALLOW FOUNDATION WITH BUOYANCY

191-12540-00-EKW-S-101	ENERCON E-138 EP3 E2-ST-111-FB-C-01 SHALLOW FOUNDATION WITH BUOYANCY GENERAL NOTES
191-12540-00-EKW-S-102	ENERCON E-138 EP3 E2-ST-111-FB-C-01 SHALLOW FOUNDATION WITH BUOYANCY PLAN VIEW AND SECTION
191-12540-00-EKW-S-103	ENERCON E-138 EP3 E2-ST-111-FB-C-01 SHALLOW FOUNDATION WITH BUOYANCY SECTION AND REINFORCEMENT REBAR DETAILS
191-12540-00-EKW-S-104	ENERCON E-138 EP3 E2-ST-111-FB-C-01 SHALLOW FOUNDATION WITH BUOYANCY PLAN VIEW REINFORCEMENT
191-12540-00-EKW-S-105	ENERCON E-138 EP3 E2-ST-111-FB-C-01 SHALLOW FOUNDATION WITH BUOYANCY RING PLATES AND ANCHOR BOLT DETAILS

REFERENCES

1. PROVIDED BY PEI ENERGY CORPORATION

- ENERCON, ANNEX 05-03A D0825885-1_#_DE.EN_#_BUILDING DOCUMENT-E-138_EP3_E2-ST-111-FB-C-01, APPROVED 2019-06-18.

LOAD CASE	DESCRIPTION	F _z MAX (kN)	F _z MIN (kN)	F _{x,y} (kN)	M _{x,y} (kN-m)	M _z (kN-m)
DLC D.3 (UNFACTORED)	NORMAL	-5,270	-6,020	730	65,750	0
DLC 8.2 (UNFACTORED)	EXTREME NORMAL	-5,270	-6,020	1,060	102,700	9,500
GROUP N/A/T (UNFACTORED)	EXTREME ABNORMAL	-5,270	-6,030	1,070	102,700	10,650
GROUP N/A/T (FACTORED)	EXTREME ABNORMAL	-4,750	-6,630	1,470	137,350	12,800

DESIGN SERVICE LIFE: 25 YEARS

- ENERCON, ANNEX 05-03B D0844151-0_#_DE.EN_#_FOUNDATION BASKET_E-138_EP3_E2-ST-111-FB-C-01, APPROVED 2019-07-12.
- EASTTECH ENGINEERING CONSULTANTS INC., EASTERN KINGS WIND PLANT PHASE 2 FOUNDATION AND ROADWAYS GEOTECHNICAL REPORT, 2020-01-14.
- EASTERN KINGS WIND FARM PHASE 2 REVISED GEOTECHNICAL PARAMETERS MARCH 9TH, 2020.
- ENERCON, E-138 EP3 E2-ST-111-FB-C-01, ELEVATION DRAWING STEEL TOWER, EP3.00.164-1, APPROVED 2018-12-19.
- E138_DELIVERYDIMENSIONS190716.XLSX.
- EKW2_GEOTECH NOTES200515_BOREHOLE WATER LEVEL SUMMARY

2. CANADIAN STANDARDS

- CAN/CSA-A23.1-19/A23.2-19 - CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION/TEST METHODS AND STANDARD PRACTICES FOR CONCRETE.
- CAN/CSA-A23.3-19 - DESIGN OF CONCRETE STRUCTURES.
- CAN/CSA-C61400-1-14, WIND TURBINES - PART 1: DESIGN REQUIREMENTS.
- CAN/CSA-G30.18-09 (R2019) - CARBON STEEL BARS FOR CONCRETE REINFORCEMENT.
- CAN/CSA G40.20-13/G40.21-13 (R2018), GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL / STRUCTURAL QUALITY STEEL.
- CAN/CSA S16-14, DESIGN OF STEEL STRUCTURES.
- CAN/CSA S37-13, ANTENNA, TOWERS, AND ANTENNA-SUPPORTING STRUCTURES.
- CPCI, DESIGN MANUAL, CANADIAN PRECAST/PRESTRESSED CONCRETE INSTITUTE.
- NBCC - NATIONAL BUILDING CODE OF CANADA 2015.
- RSIC, REINFORCEMENT STEEL, MANUAL OF STANDARD PRACTICE, 2006.

3. INDUSTRY STANDARDS

- GUIDELINES FOR DESIGN OF WIND TURBINES - DNV RISO SECOND EDITION.
- FIB, CEB-FIP MODEL CODE 2010.
- DNVGL-ST-0126 SUPPORT STRUCTURES FOR WIND TURBINES, JULY 2018.
- DNVGL-ST-0437 LOADS AND SITE CONDITIONS FOR WIND TURBINES, NOVEMBER 2016.
- DNVGL-ST-C502 OFFSHORE CONCRETE STRUCTURES, FEBRUARY 2018.
- PTI, POST-TENSIONING INSTITUTE, ANCHORAGE ZONE DESIGN, 2000.

4. GEOMECHANICS

- CFEM, FOUNDATION ENGINEERING MANUAL, 4TH EDITION, 2006.
- FOUNDATION ANALYSIS AND DESIGN, 5TH EDITION, J.E. BOWLES, 1997.

THIS DRAWING MUST BE USED WITH PLAN:

191-12540-00-EKW-S-101
191-12540-00-EKW-S-102
191-12540-00-EKW-S-103
191-12540-00-EKW-S-104
191-12540-00-EKW-S-105

REF NUMBER: 191-12540-00-EKW-S-100

SHEET # 01 OF 01

DATE OF: 2020-08-07

FOR FINAL COMMENTS

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