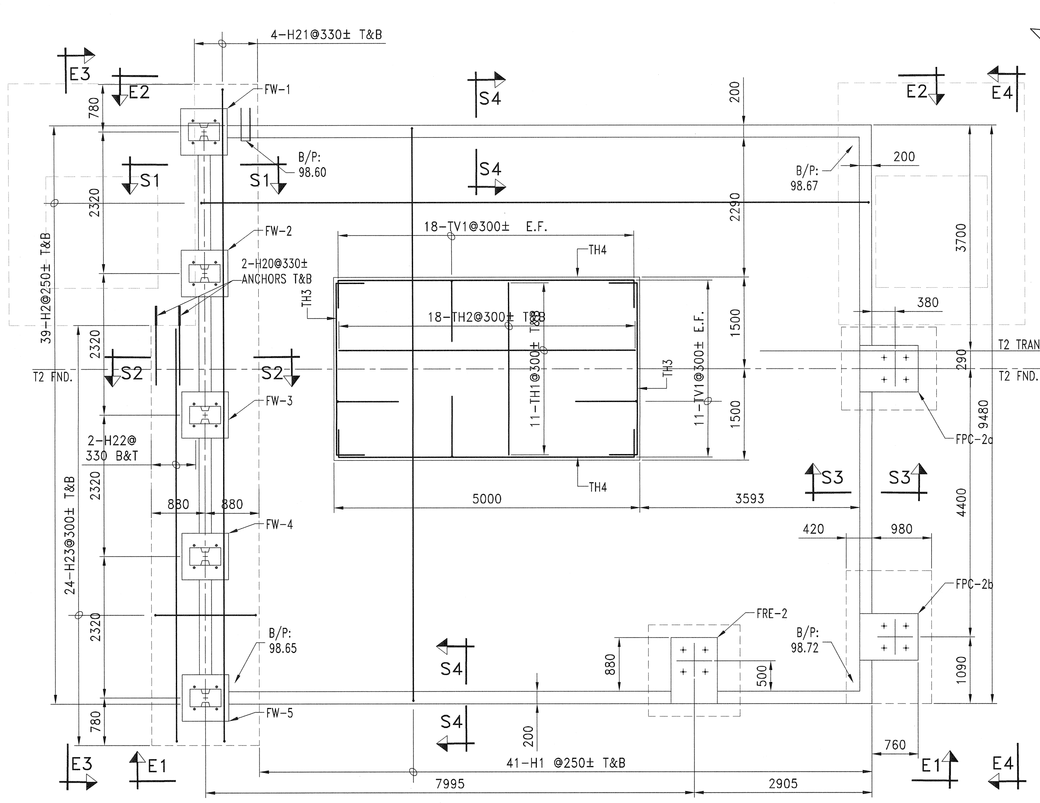
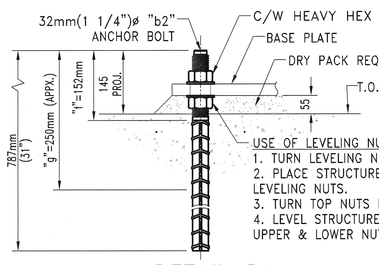


T2 PLAN VIEW

SCALE: 1:50

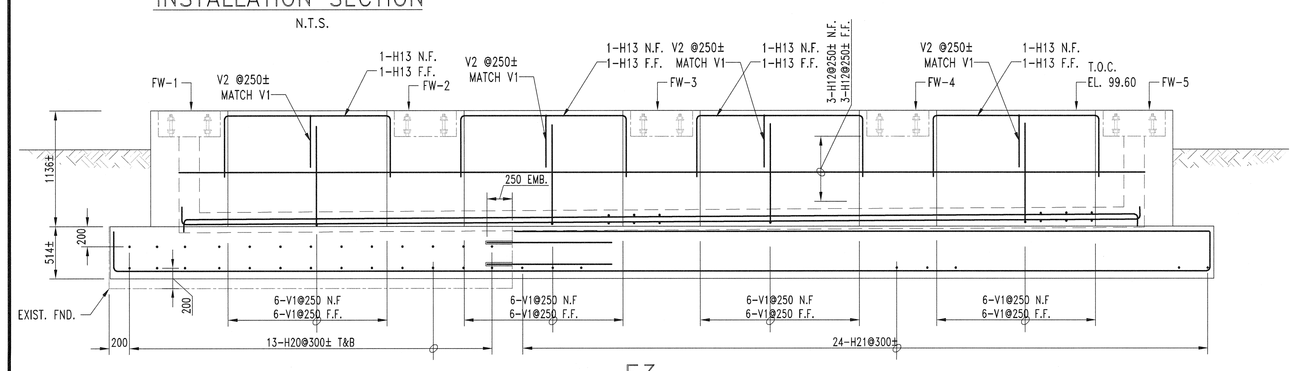


USE OF LEVELING NUTS:
1. TURN LEVELING NUT ON EACH BOLT
2. PLACE STRUCTURE IN POSITION ON LEVELING NUTS.
3. TURN TOP NUTS INTO PLACE LOOSELY
4. LEVEL STRUCTURE BY ADJUSTING BOTH UPPER & LOWER NUTS.

DETAIL D1
ANCHOR BASE & BOLT INSTALLATION SECTION

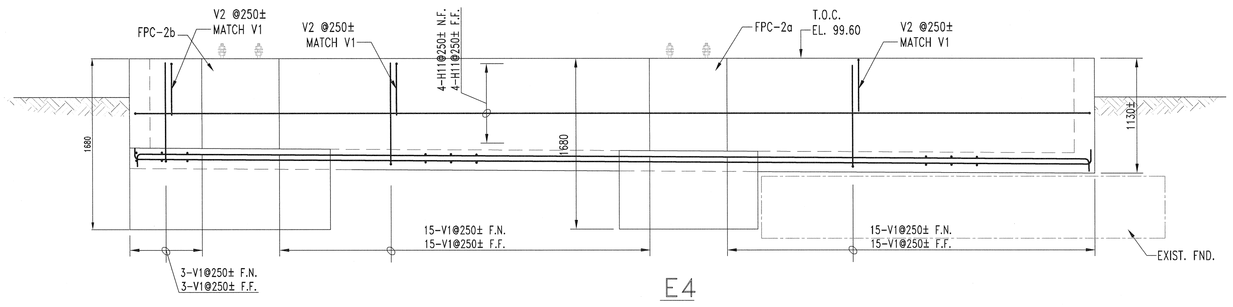
N.T.S.

NOTE: GALVANIZING "g"=THREAD LENGTH "t" + 25mm TO 100mm.
LEVELING NUTS, ANCHOR NUTS & LEVELING SHIMS SHALL BE GALVANIZED PER CSA-G164. ANCHOR NUTS & LEVELING NUTS SHALL COMFORM TO CSA B33.1 & INSI B18.22.1, TYPE B.
LEVELING SHIMS SHALL HAVE A MIN. 10,000LB. BREAKING STRENGTH. ANCHOR BOLTS SHALL BE "I" SHAPED



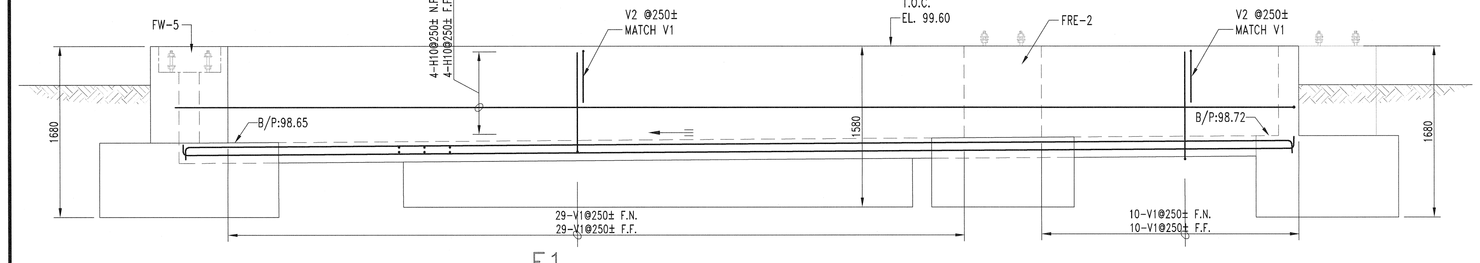
E3

SCALE: 1:30



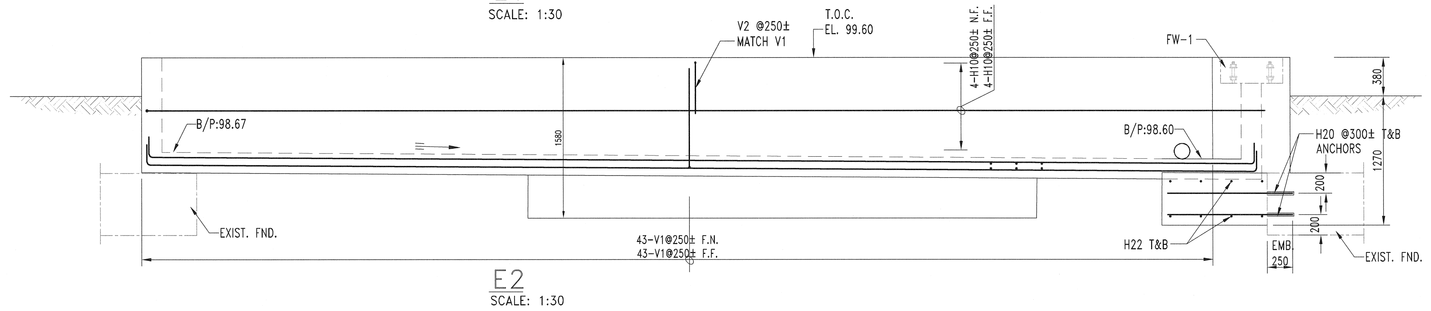
E4

SCALE: 1:30



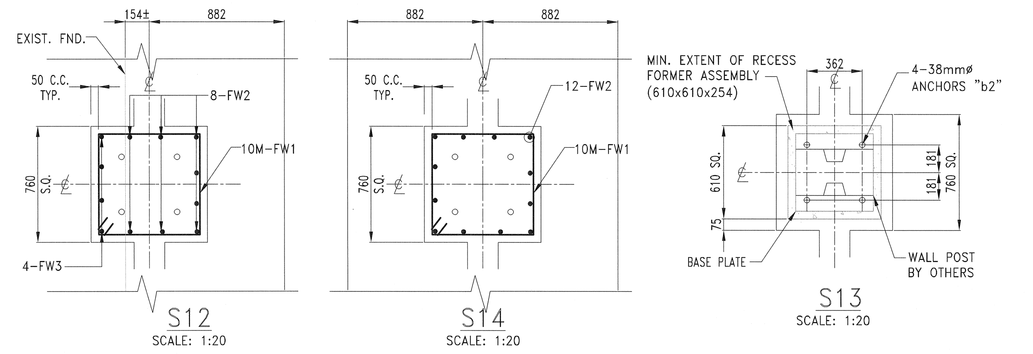
E1

SCALE: 1:30



E2

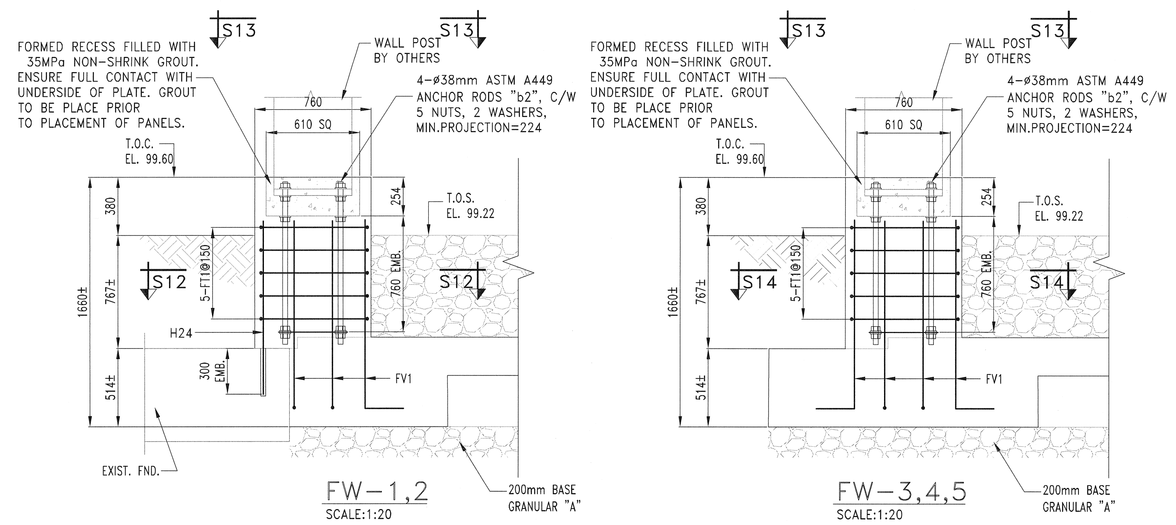
SCALE: 1:30



S12
SCALE: 1:20

S14
SCALE: 1:20

S13
SCALE: 1:20

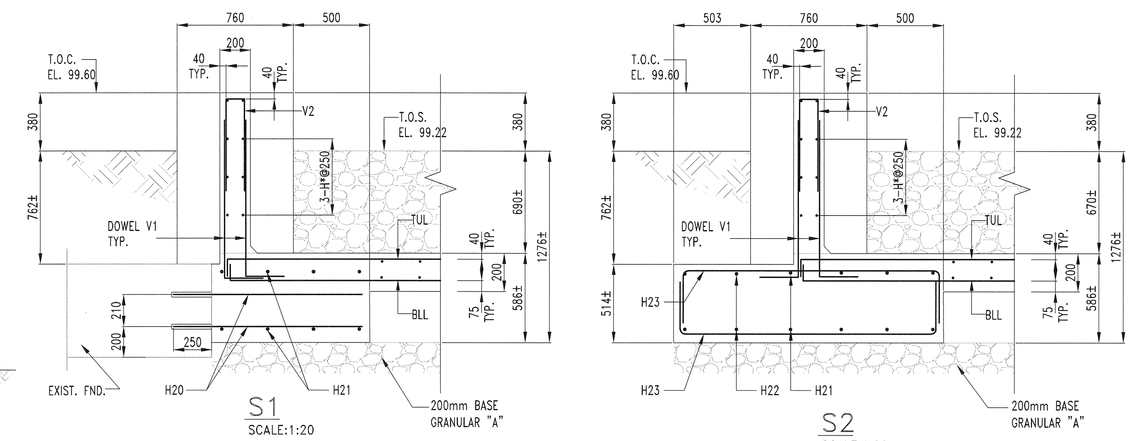


FW-1,2

SCALE:1:20

FW-3,4,5

SCALE:1:20

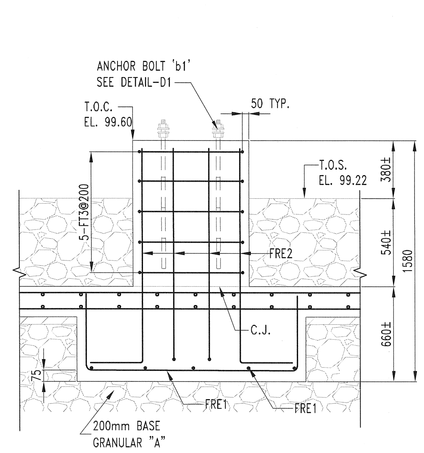


S1

SCALE:1:20

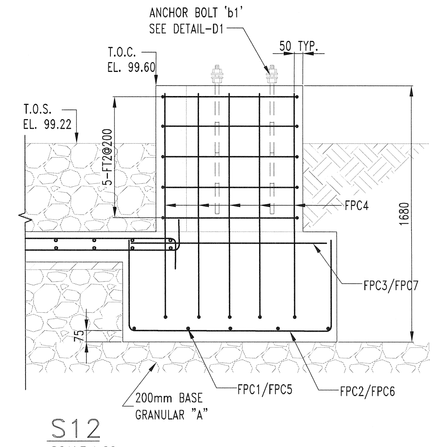
S2

SCALE:1:20



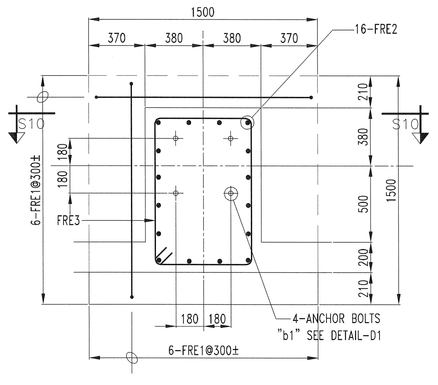
S10

SCALE:1:20



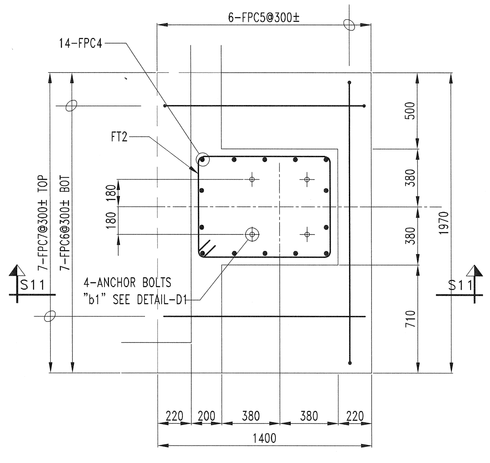
S12

SCALE:1:20



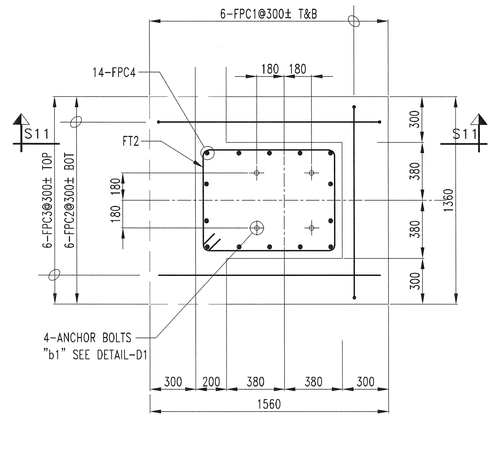
FRE-2

SCALE:1:20



FPC-2b

SCALE:1:20



FPC-2a

SCALE:1:20

TOTAL VOL. OF CONC (m³)	ITEM'NAME	H (mm)	MARK	REQ'D	SIZE	LENGTH (mm)	TYPE	DIMENSIONS A	B	C	D	E	G	H
64	CONTAINMENT PIT FOR T2	VAR. 1080± TO 1680±	H1	82	10M	9620	17		120	9380	120			
			H2	78	10M	11140	17		120	10900	120			
			V1	280	10M	1050	17		250	970				
			V2	140	10M	1320	17		600	120	600			
			H10	16	10M	11200	17		200	11000				
			H11	8	10M	9600	17		120	9360	120			
			H12	6	10M	11000	–			11000				
			H13	8	10M	2820	17		600	1620	600			
			H20	30	25M	1200	–			1200	ANCHOR REBARS EMB.=250			
			H21	8	25M	11380	17		340	10700	340			
			H22	4	25M	7110	17		340	6770				
			H23	48	25M	2300	17		340	1620	340			
			TV1	58	25M	3410	17		1000	1410	1000			
			TH1	22	25M	2900	–			2900				
			TH2	36	25M	4900	–			4900				
			TH3	12	25M	3530	17		340	2850	340			
	TOTAL 1		TH4	12	25M	5530	17		340	4850	340			

BILL OF MATERIAL OF CONCRETE AND STEEL REINFORCING

REINFORCING STEEL FOR ONE FOUNDATION

NOTE: LAP FOR 10M IS 500mm, IF REQUIRED.

TOTAL VOL. OF CONC (m³)	ITEM'NAME	H (mm)	MARK	REQ'D	SIZE	LENGTH (mm)	TYPE	DIMENSIONS A	B	C	D	E	G	O
	FW1,2,3,4,5	1660±	H24	4	25M	1160	–			1160	ANCHOR REBARS EMB.=300			
			FV1	8	25M	1600	17		340	1260				
	TOTAL 5		FT1	5	10M	2840	T1	100	660	660	660	660	100	

BILL OF MATERIAL OF CONCRETE AND STEEL REINFORCING

REINFORCING STEEL FOR ONE FOOTING (FW-1,2,3,4,5)

MARK	QUANT	DESCRIPTION	MATERIAL	LENGTH(mm)	WEIGHT(kg)	REMARK
b2	4	ANCHOR BOLTS, WASHER AND NUTS, 38mmø(1 1/2")	ASTM A449	SEE SECTION	–	GALV.

BILL OF MATERIAL FOR BOLTS FOR ONE FOUNDATION

5 FOOTINGS REQUIRED

TOTAL VOL. OF CONC (m³)	ITEM'NAME	H (mm)	MARK	REQ'D	SIZE	LENGTH (mm)	TYPE	DIMENSIONS A	B	C	D	E	G	O
	FRE-2	1580	FRE1	12	25M	2600	17		610	1380	610			
			FRE2	16	25M	1880	17		340	1540				
	TOTAL 1		FT3	5	10M	3480	T1	100	660	980	660	980	100	

BILL OF MATERIAL OF CONCRETE AND STEEL REINFORCING

REINFORCING STEEL FOR ONE FOOTING (FRE-2)

TOTAL VOL. OF CONC (m³)	ITEM'NAME	H (mm)	MARK	REQ'D	SIZE	LENGTH (mm)	TYPE	DIMENSIONS A	B	C	D	E	G	O
	FPC-2a	1680	FPC1	12	25M	2560	17		670	1220	670			
			FPC2	6	25M	2760	17		670	1420	670			
			FPC3	6	25M	1500	–			1500				
			FPC4	14	25M	1880	17		340	1540				
	TOTAL 1		FT2	5	10M	3240	T1	100	660	860	660	860	100	

BILL OF MATERIAL OF CONCRETE AND STEEL REINFORCING

REINFORCING STEEL FOR ONE FOOTING (FPC-2a)

TOTAL VOL. OF CONC (m³)	ITEM'NAME	H (mm)	MARK	REQ'D	SIZE	LENGTH (mm)	TYPE	DIMENSIONS A	B	C	D	E	G	O
	FPC-2b	1680	FPC5	12	25M	3170	17		670	1830	670			
			FPC6	7	25M	2600	17		670	1260	670			
			FPC7	7	25M	1500	–			1400				
			FPC4	14	25M	1880	17		340	1540				
	TOTAL 1		FT2	5	10M	3240	T1	100	660	860	660	860	100	

BILL OF MATERIAL OF CONCRETE AND STEEL REINFORCING

REINFORCING STEEL FOR ONE FOOTING (FPC-2b)

MARK	QUANT	DESCRIPTION	MATERIAL	LENGTH(mm)	WEIGHT(kg)	REMARK
b1	12	ANCHOR BOLTS, WASHER AND NUTS, 32mmø(1¼")	G30.12-M GRADE 300	787 (31")	–	GALV.

BILL OF MATERIAL FOR BOLTS FOR FPC & FRE

BOM FOR REFERENCE ONLY

NOTES:

NOTES:

1. GENERAL NOTES SEE DWG. F1731664-100-F003.
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

REFERENCE DRAWINGS:

1. 115/13.8kV STATION
   FOUNDATION KEY PLAN & LIST
   FOUNDATION ----------F1731664-100-F001
2. GENERAL LAYOUT & DETAIL---1796-D-C1
3. 115/13.8kV STATION
   DRAINAGE & SPILL CONTAINM. SYSTEM
   PLAN & DETAILS
   CIVIL ----------F1731664-075-C001
4. 115/13.8kV STATION
   BASIC LAYOUT
   ELECTRICAL ARRANGEMENT----F1731664-300-EA001

LEGEND:

1. T.O.C: TOP OF CONCRETE
2. FND: FOUNDATION
3. C.C.: CONCRETE CLEAR COVER
4. C.J.: CONSTRUCTION JOINT
5. B.&T.: BOTTOM & TOP
6. TUL: TOP UPPER LAYER
7. BLL: BOTTOM LOWER LAYER
8. TLL: TOP LOWER LAYER
9. BUL: BOTTOM UPPER LAYER
10. E.F.: EACH FACE
11. N.F.: NEAR FACE
12. F.F.: FAR FACE
13. S.Q.: SQUARE
14. FTG.: FOOTING
    EXIST. FND.

KEY PLAN:

N°	DATE	TRANSMISSION	BY ENG
00	2018/09/27	RELEASED FOR CONSTRUCTION	SYW

PROFESSIONALS:

SMi THE S.M. GROUP INTERNATIONAL INC.
6205B Airport rd, Suite 205, Mississauga (Ontario) L4V 1E3
Tel. : 905 677 9009 / Fax : 905 677 9014
www.gmugroup.com

STAMP:

LICENSED PROFESSIONAL ENGINEER
S.Y. WANG
100139367
PROVINCE OF ONTARIO

CLIENT:

PROJECT:

MCMASTER UNIVERSITY–NF91

TITLE:

115/13.8kV STATION
SPILL CONTAINMENT PIT FOR 'T2'
PLAN ELEVATIONS & DETAILS
CONC. REINF.; FOUNDATION

PREPARED BY:	DATE:
Z.WANG	2018-09-14
DRAWN BY:	SCALE:
Z.WANG	1:100
SUBMITTED BY:	DISCIPLINE:
S.Y. WANG	FOUNDATION
APPROVED BY: S.Y. WANG	CAD FILE NAME: F1731664-100-F004.dwg

PROJECT No.	LOT:	DWG. #:	REV:	PAGE:
F1731664	100	F004	00	

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