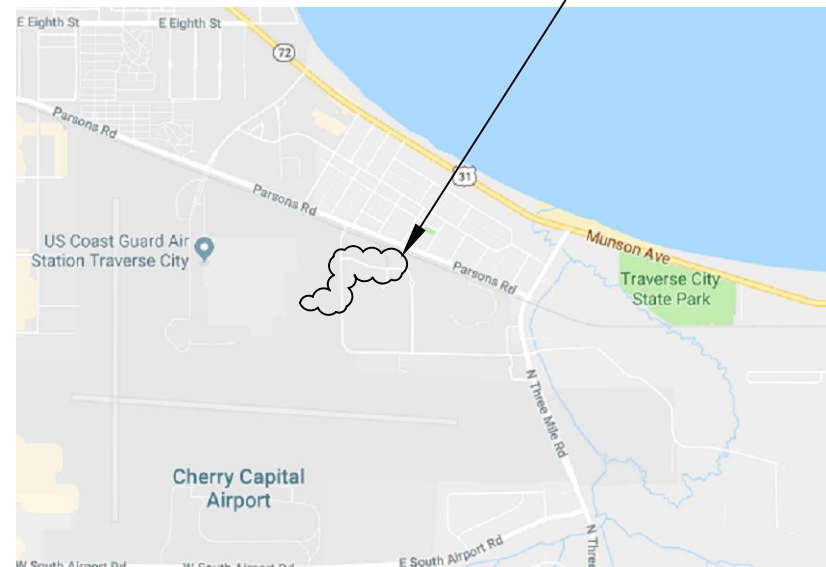


**PROJECT:
CRITICAL AND LARGE CUSTOMERS #2**

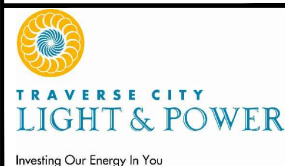
DRAWING INDEX

MAP

LOCATION



- 1 NEW OVERVIEW
- 2 ELECTRIC LAYOUT (N AERO PARK CT)
- 3 ELECTRIC LAYOUT (AERO PARK DR)
- 4 ELECTRIC LAYOUT (W AERO PARK CT)
- 5 DEMO OVERVIEW
- 6 DEMO (W AERO PARK CT)
- 7 DEMO (N AERO PARK CT)
- 8 ONE-LINE



PROJECT NAME
CRITICAL & LARGE CUSTOMERS #2

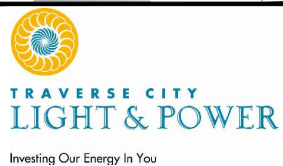
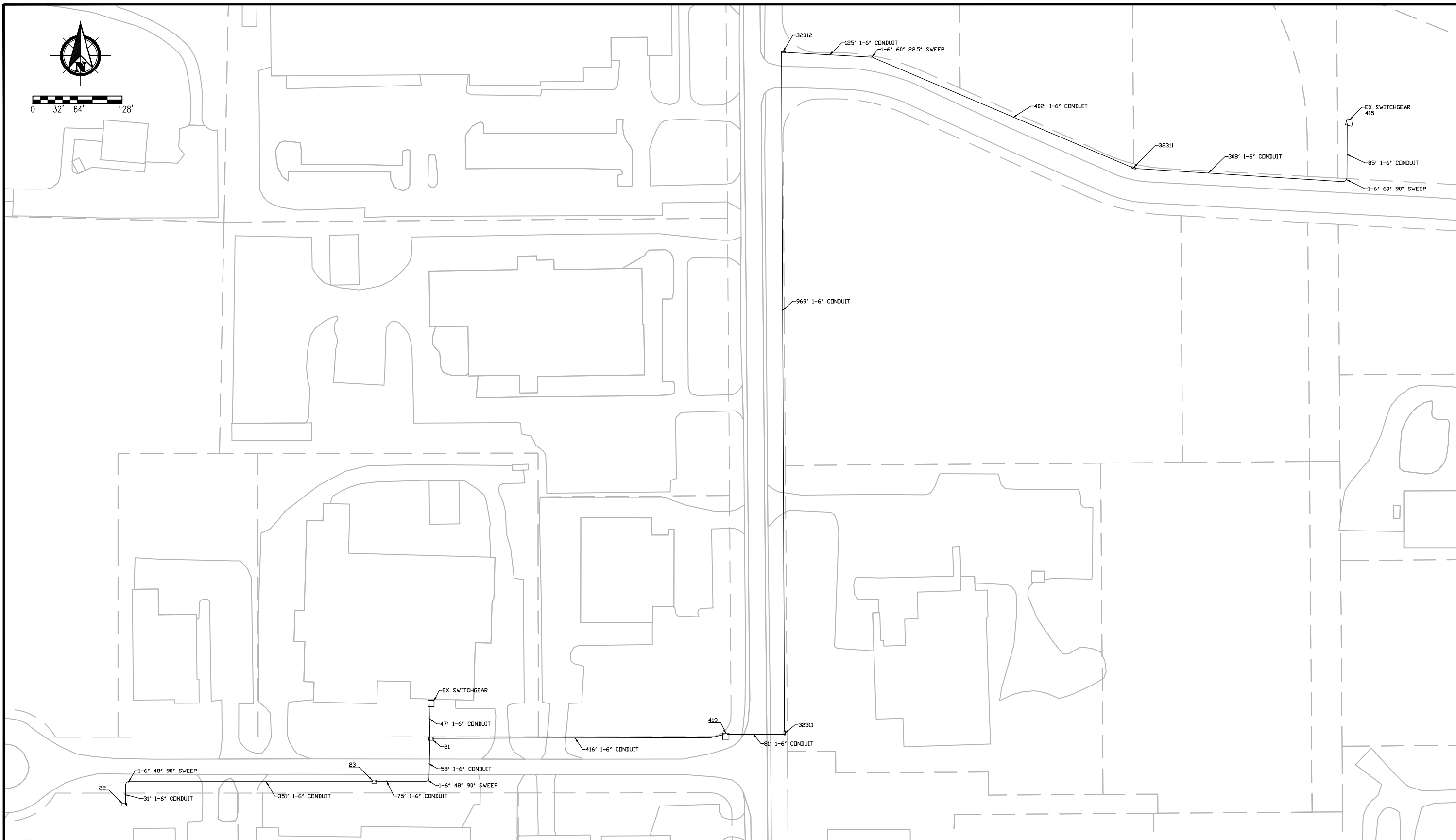
TITLE

TCL&P, TRAVERSE CITY, MI., 231-922-4940

DATE 3/16/2018	PROJECT NO. 18-100.01
ENG. AGC	DRAWING
DR. AGC	TITLE



0 32' 64' 128'



PROJECT NAME
CRITICAL & LARGE CUSTOMERS #2

NEW OVERVIEW

TCL&P, TRAVERSE CITY, MI., 231-922-4940

DATE
3/16/2018

ENG.
AGC

DR.
AGC

PROJECT NO.
18-100.01

DRAWING
NO. 1



0 16' 32' 64'

32312

125' 1-6" CONDUIT

1-6" 60° 22.5° SWEEP

402' 1-6" CONDUIT

32311

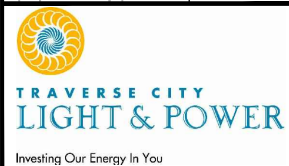
308' 1-6" CONDUIT

EX SWITCHGEAR
415

85' 1-6" CONDUIT

1-6" 60° 90° SWEEP

969' 1-6" CONDUIT



PROJECT NAME
CRITICAL & LARGE CUSTOMERS #2

ELECTRIC LAYOUT (N AERO PARK CT)

TCL&P, TRAVERSE CITY, MI., 231-922-4940

DATE
3/16/2018

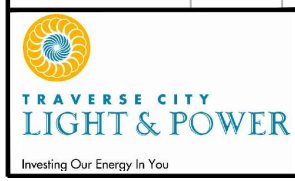
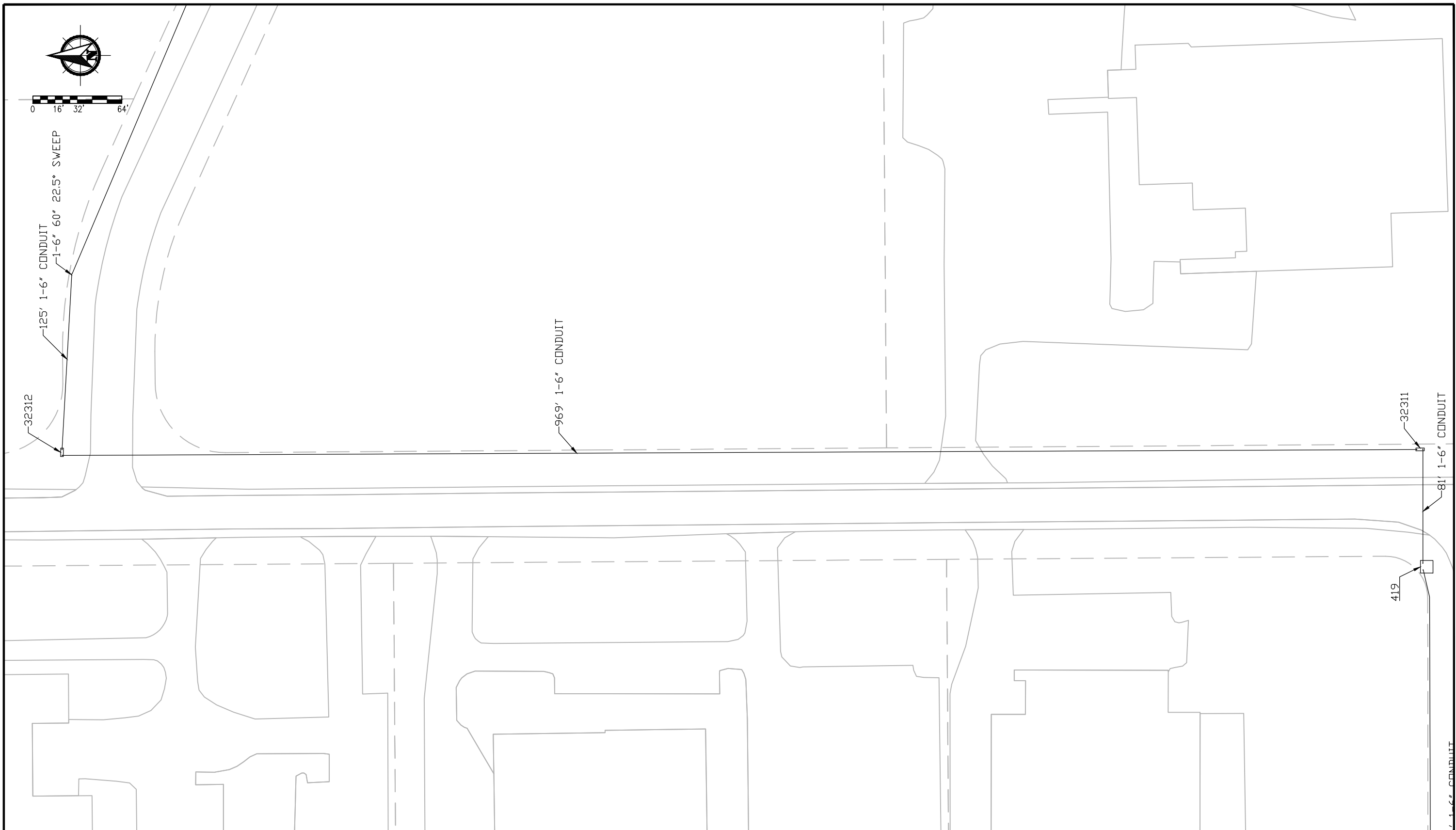
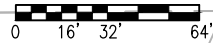
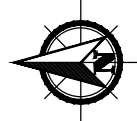
PROJECT NO.
18-100.01

ENG.
AGC

DRAWING

DR.
AGC

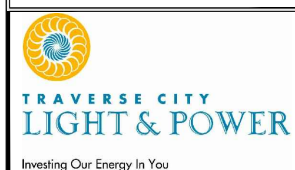
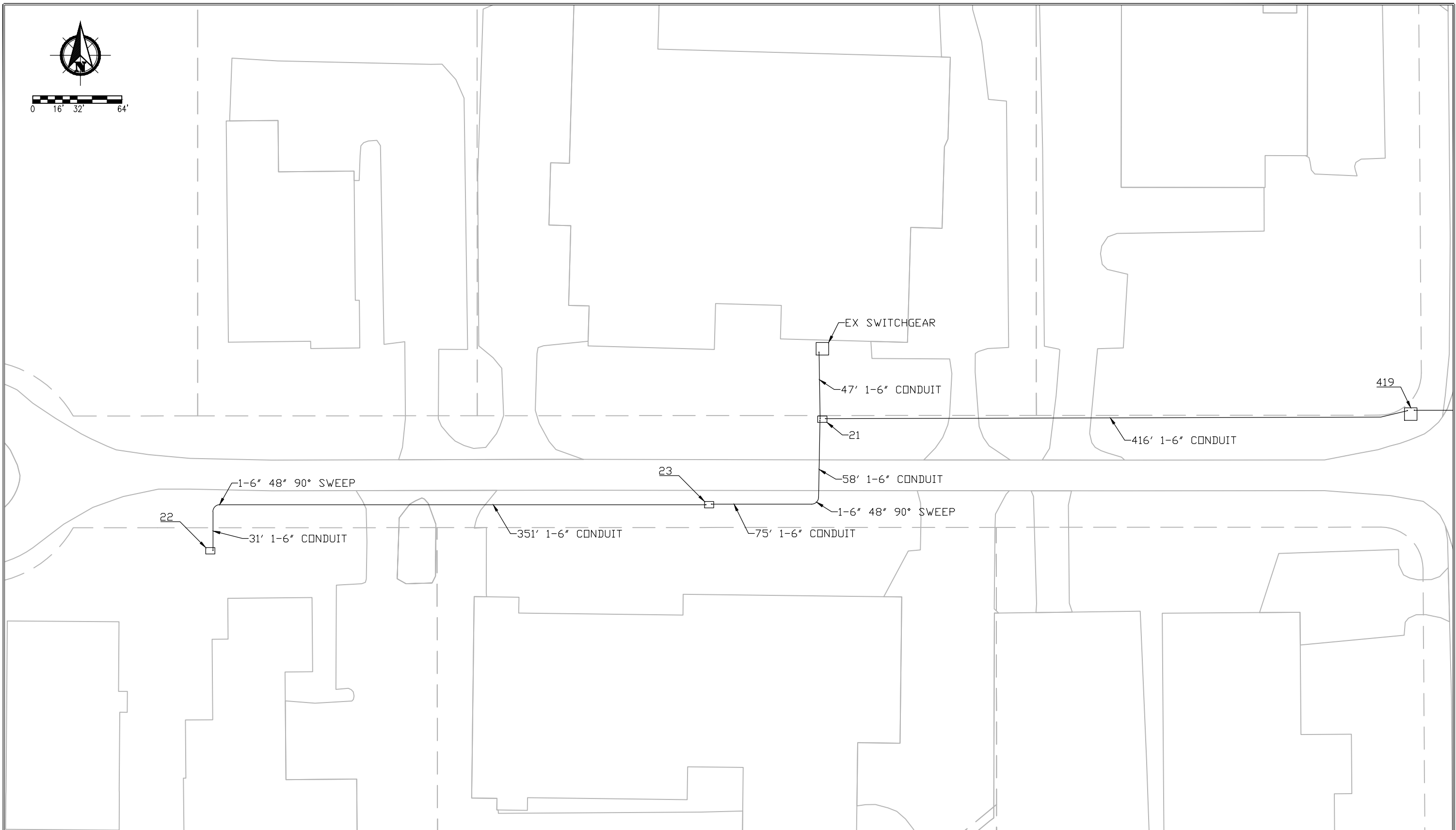
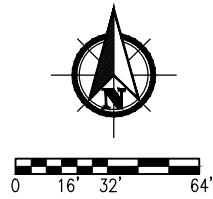
NO. 2



PROJECT NAME
CRITICAL & LARGE CUSTOMERS #2

ELECTRIC LAYOUT (AERO PARK DR)
 TCL&P, TRAVERSE CITY, MI., 231-922-4940

DATE 3/16/2018	PROJECT NO. 18-100.01
ENG. AGC	DRAWING NO. 3
DR. AGC	



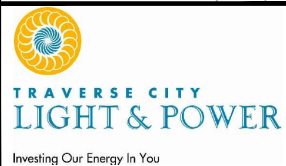
PROJECT NAME
CRITICAL & LARGE CUSTOMERS #2

ELECTRIC LAYOUT (W AERO PARK CT)
 TCL&P, TRAVERSE CITY, MI., 231-922-4940

DATE 3/16/2018	PROJECT NO. 18-100.01
ENG. AGC	DRAWING
DR. AGC	NO. 4



0 48' 96' 192'



PROJECT NAME
CRITICAL & LARGE CUSTOMERS #2

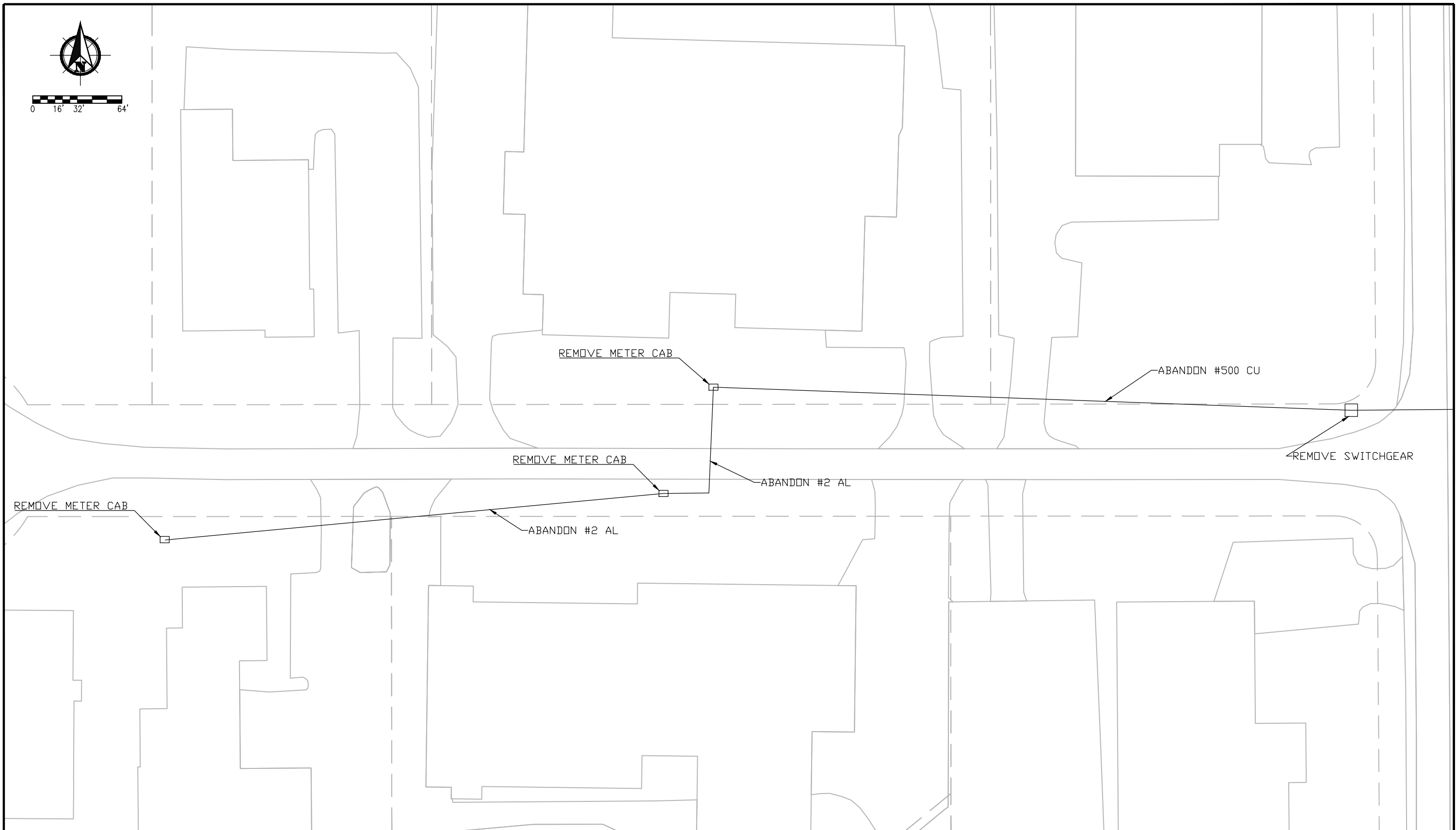
DEMO OVERVIEW

TCL&P, TRAVERSE CITY, MI., 231-922-4940

DATE 3/16/2018	PROJECT NO. 18-100.01
ENG. AGC	DRAWING
DR. AGC	NO. 5



0 16' 32' 64'



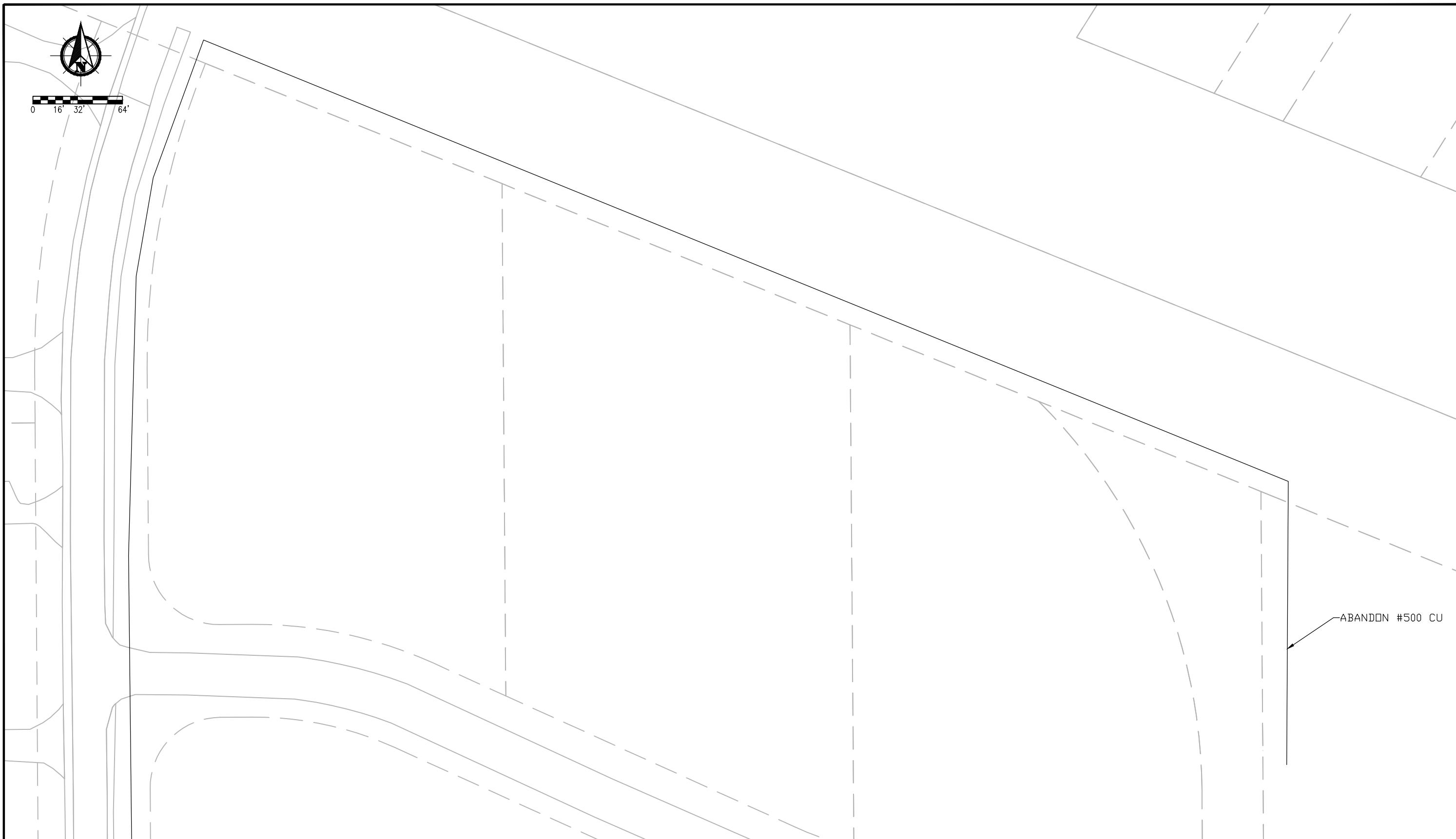
PROJECT NAME
 CRITICAL & LARGE CUSTOMERS #2

DEMO (W AERO PARK CT)
 TCL&P, TRAVERSE CITY, MI., 231-922-4940

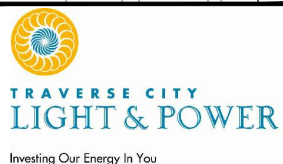
DATE 3/16/2018	PROJECT NO. 18-100.01
ENG. AGC	DRAWING NO. 6
DR. AGC	



0 16' 32' 64'



ABANDON #500 CU



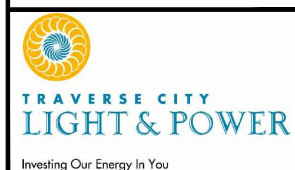
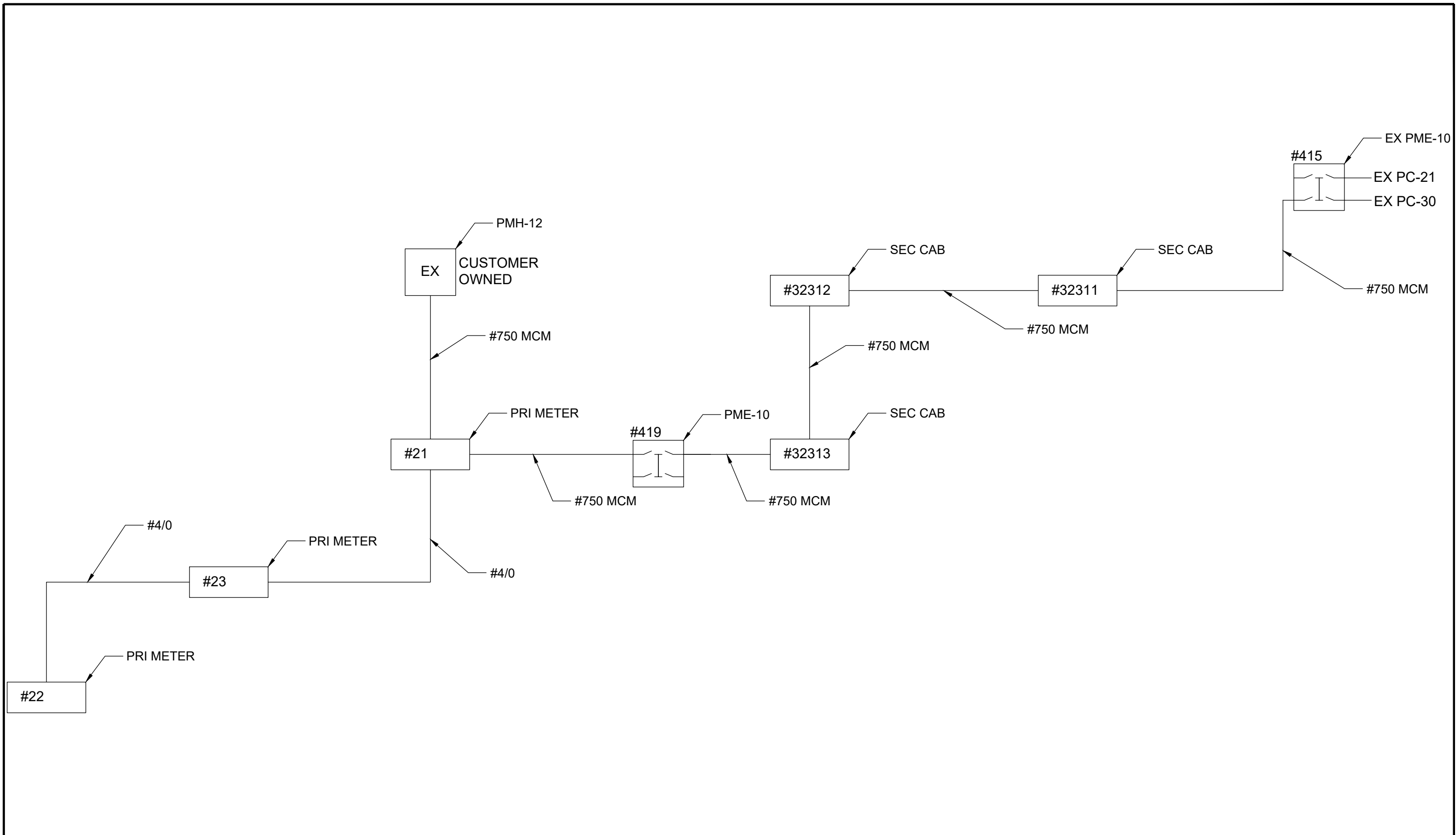
PROJECT NAME
CRITICAL & LARGE CUSTOMERS #2

DEMO (N AERO PARK CT)

TCL&P, TRAVERSE CITY, MI., 231-922-4940

DATE
3/16/2018
ENG.
AGC
DR.
AGC

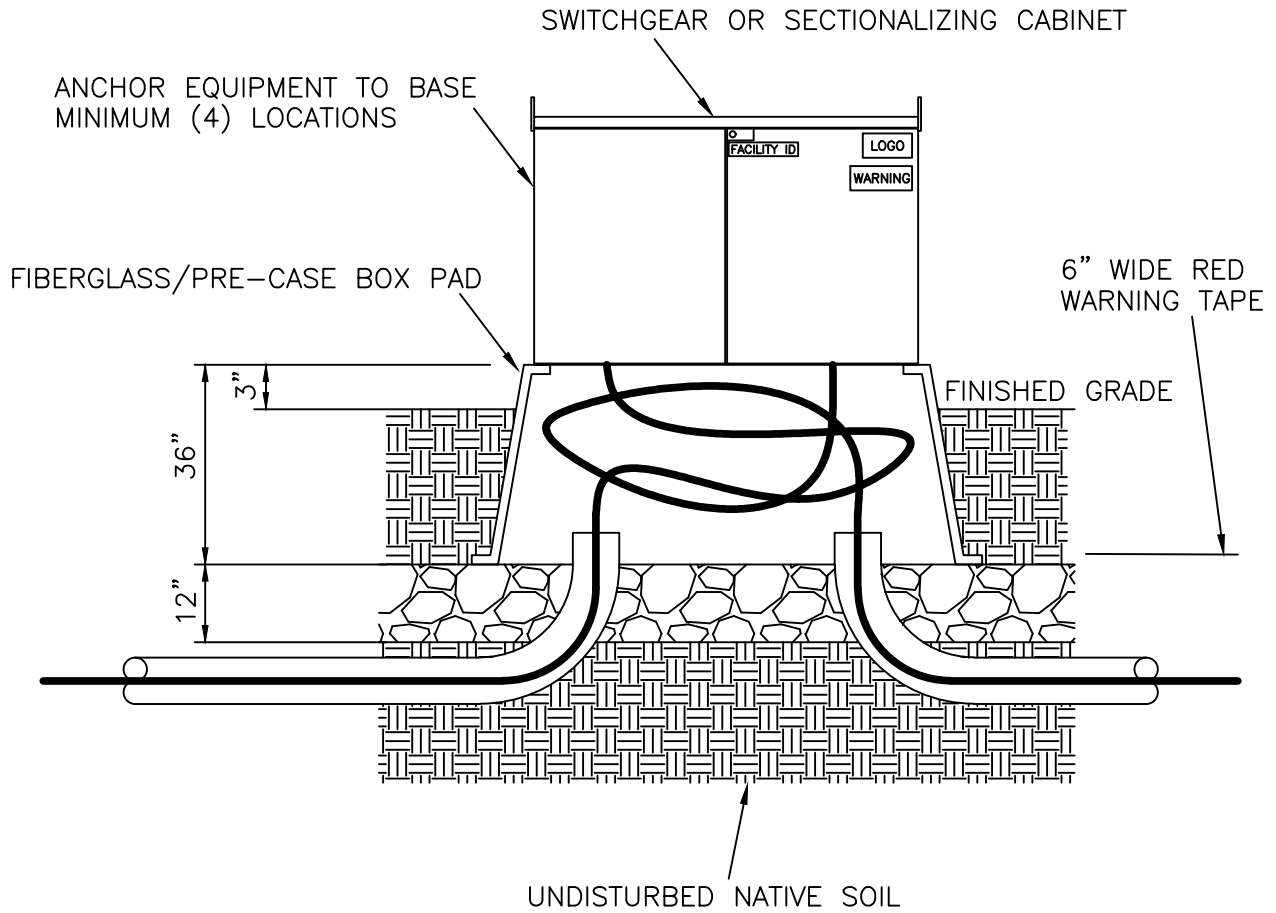
PROJECT NO.
18-100.01
DRAWING
NO. 7



PROJECT NAME
CRITICAL & LARGE CUSTOMERS #2

DEMO (N AERO PARK CT)
 TCL&P, TRAVERSE CITY, MI., 231-922-4940

DATE 3/16/2018	PROJECT NO. 18-100.01
ENG. AGC	DRAWING NO. 7
DR. AGC	



NOTES:

1. VERIFY EQUIPMENT ORIENTATION PRIOR TO INSTALLATION OF BOX PAD.
2. LOOP EACH CABLE COMPLETELY AROUND INTERIOR OF BOX PAD.
3. INSTALL BELL ENDS ON THE END OF ALL CONDUITS.
4. INSTALL 12" OF PEA GRAVEL BELOW BOX PAD.
5. ENSURE ELBOWS ARE IN A POSITION WHERE WIRE CAN BE PULLED THROUGH AND NOT SCRAPE ON BOX PAD.
6. ENSURE ELBOWS RISE 3" ABOVE PEA STONE.

ITEM	QTY	MATERIAL
Uza	1	Box pad, fiberglass or concrete
Uzb		Conduit sweeps, as req'd
Uzc		Conduit bell ends as req'd

ENG.	AGC
CHK.	RS
APP.	AGC

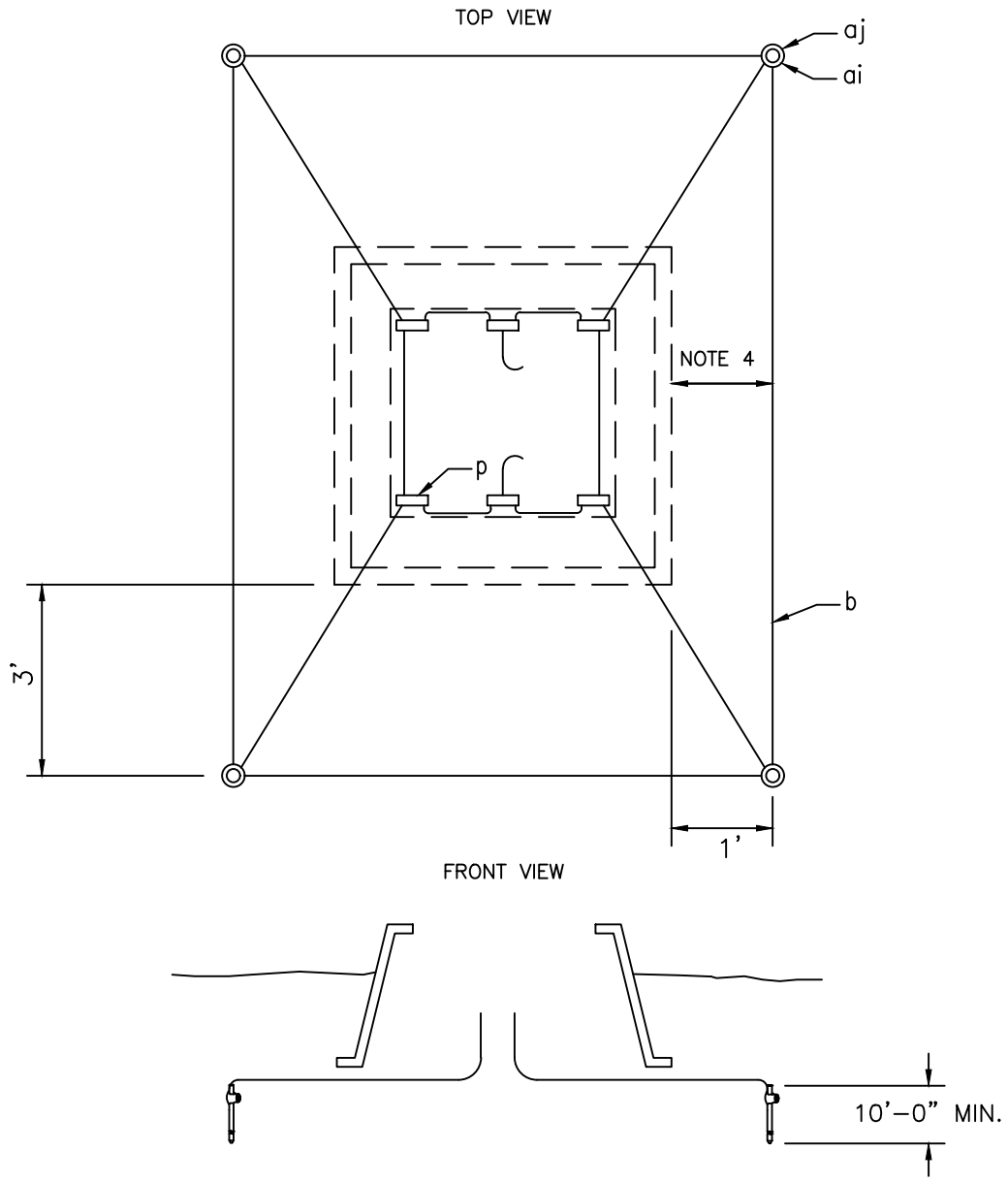
600A BOXPAD INSTALLATION

MAR 2018



1 - PHASE PRIMARY
13.8/7.97 kV

UM1-5NC



NOTES:

1. ALL BELOW GRADE CONNECTIONS TO BE WELDED.
2. GROUND SWITCHGEAR IN TWO LOCATIONS AS SHOWN.
3. CONNECTORS (P) TO BE 6 POSITION TERMINAL BLOCK.
4. 3' GROUND GRID SPACING TO BE PLACED WHERE EQUIPMENT OPENS.
5. INNER GROUND LOOP TO BE AFFIXED TO PAD VIA COPPER WIRE ON 1' SPACING.

ITEM	QTY	MATERIAL
b	90'	4/0 CU, bare, annealed
P	6	Terminal block, 6 point
ai	4	Ground rod, 3/4" X 10'
aj	4	Exothermic weld, cable to ground rod

ENG.	AGC
CHK.	RS
APP.	AGC

SWITCHGEAR
GROUND GRID

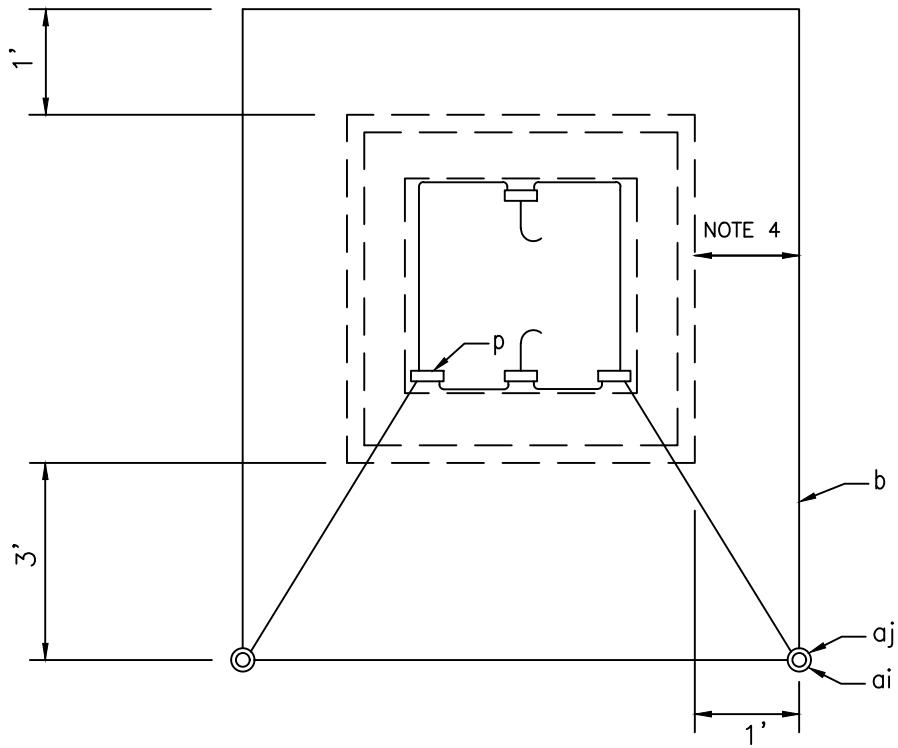
MAR 2018



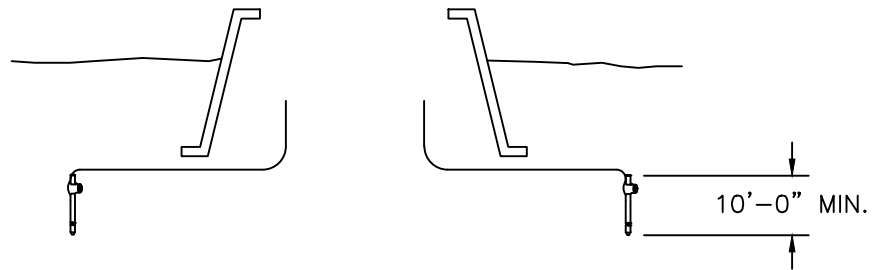
1 - PHASE PRIMARY
13.8/7.97 kV

UM48-5

TOP VIEW



FRONT VIEW



NOTES:

1. ALL BELOW GRADE CONNECTIONS TO BE WELDED.
2. GROUND SECTIONALIZING CABINET IN TWO LOCATIONS AS SHOWN.
3. CONNECTORS (P) TO BE 6 POSITION TERMINAL BLOCK.
4. 3' GROUND GRID SPACING TO BE PLACED WHERE EQUIPMENT OPENS.
5. INNER GROUND LOOP TO BE AFFIXED TO PAD VIA COPPER WIRE ON 1' SPACING.

ITEM	QTY	MATERIAL
b	90'	4/0 CU, bare, annealed
P	4	Terminal block, 6 point
ai	2	Ground rod, 3/4" X 10'
aj	2	Exothermic weld, cable to ground rod

ENG.	AGC
CHK.	RS
APP.	AGC

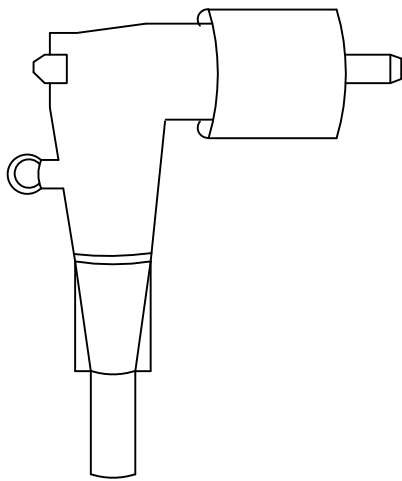
SECTIONALIZING CABINET & PRIMARY
METER GROUND GRID

MAR 2018

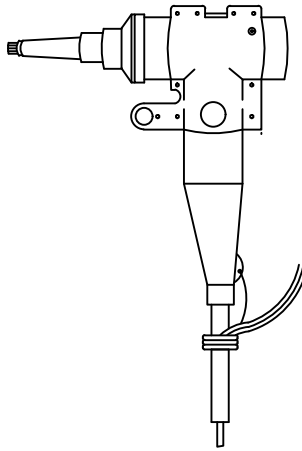


1 - PHASE PRIMARY
13.8/7.97 kV

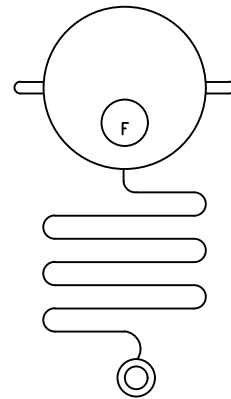
UM48-6



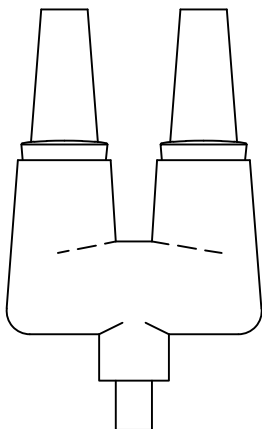
UM6-1 Uhp
LOAD BREAK ELBOW
(200 A)



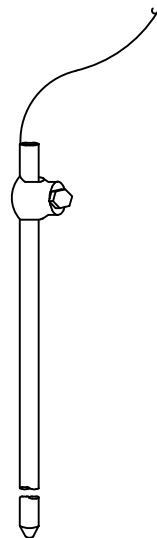
UM6-3 Uhb
DEAD BREAK TERMINATION
(600 A)



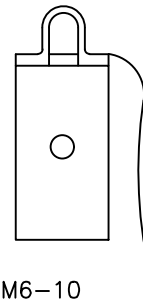
UM6-4 Ugo
FAULT INDICATOR



UM6-5 Uhb
FEED THROUGH LOAD BREAK INSERT



UM6-6 ai, aj, cj
GROUND ROD ASSEMBLY



UM6-10
INSULATED PROTECTIVE CAP
(200 A)

ENG.	AGC
CHK.	RS
APP.	AGC

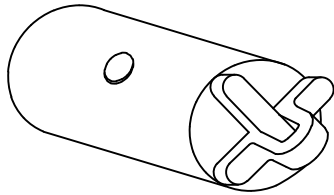
UNDERGROUND ACCESSORIES

MAR 2018

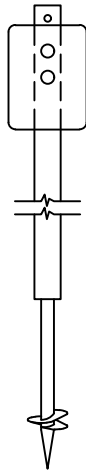


1 - PHASE PRIMARY
13.8/7.97 kV

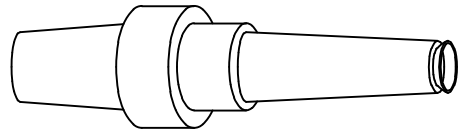
UM6-(1-10)



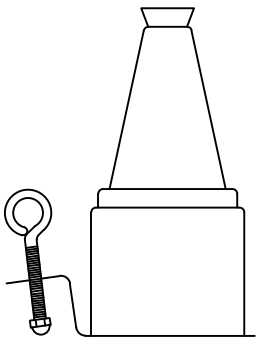
UM6-11 Uhb
INSULATED PROTECTIVE CAP
(600 A)



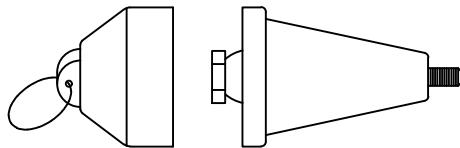
UM6-12 Uhx
CABLE MARKER ASSEMBLY



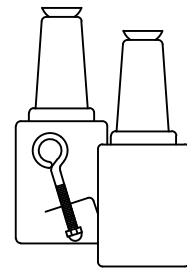
UM6-13 Uhb
LOAD BREAK INSERT
(200 A)



UM6-15 Uhq
STAND-OFF INSULATOR
(200 A)



UM6-17 Uhb
INSULATING PLUG
600 AMP CONNECTOR



UM6-19 Uhq
STAND-OFF INSULATOR
FEED THROUGH
(200 A)

ENG.	AGC
CHK.	RS
APP.	AGC

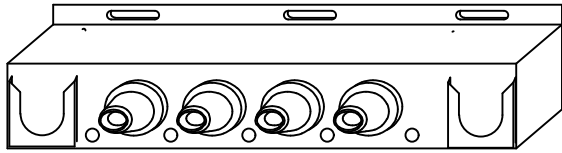
UNDERGROUND ACCESSORIES

MAR 2018

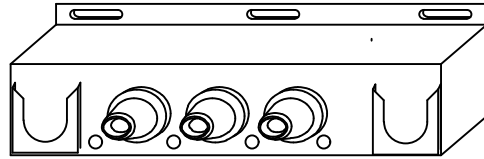


1 - PHASE PRIMARY
13.8/7.97 kV

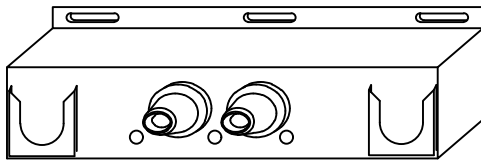
UM6-(11-19)



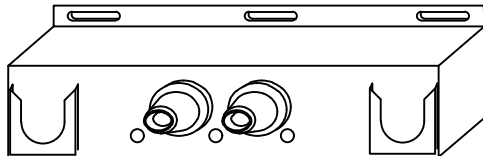
UM6-22 Uhq
FOUR POINT JUNCTION
(200 A)



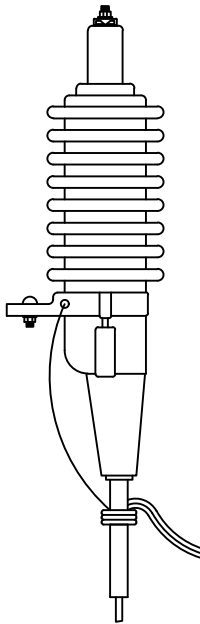
UM6-21 Uhq
THREE POINT JUNCTION
(200 A)



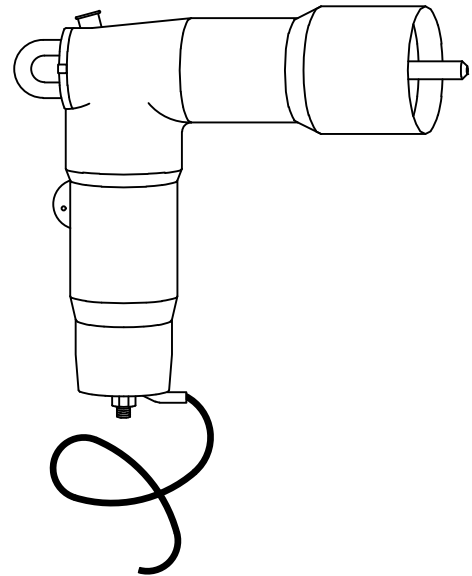
UM6-20 Uhq
TWO POINT JUNCTION
(200 A)



UM6-23 Uhq
TWO POINT JUNCTION
(600 A)



UM6-24 Ugk
OUTDOOR TERMINATION



UM6-34 Uae
DEAD BREAK ELBOW
SURGE ARRESTER

ENG.	AGC
CHK.	RS
APP.	AGC

UNDERGROUND ACCESSORIES

MAR 2018



1 - PHASE PRIMARY
13.8/7.97 kV

UM6-(20-34)



Equip No.	Enclosure	Terminations/Elbows		Secondary			Ground	Misc
		No.	Unit	No.	Conductor	Unit		
415	PME-10	3	UM6-3					EXISTING
		3	UM6-10					
		3	UM6-13					
32311	600A SEC CAB	6	UM6-3				UM48-6	UM1-5NC
32312	600A SEC CAB	6	UM6-3				UM48-6	UM1-5NC
32313	600A SEC CAB	6	UM6-3				UM48-6	UM1-5NC
		1	UM6-10					
		1	UM6-13					
419	PME-10	6	UM6-3				UM48-5	UM1-5NC
		6	UM6-10					
		6	UM6-13					
21	PRI METER	3	UM6-1				UM48-6	UM1-5NC
		6	UM6-3					
		3	UM6-10					
		3	UM6-11					
		9	UM6-13					
		3	UM6-34					
23	PRI METER	9	UM6-1				UM48-6	UM1-5NC
		3	UM6-34					
22	PRI METER	6	UM6-1				UM48-6	UM1-5NC
		3	UM6-10					
		3	UM6-34					