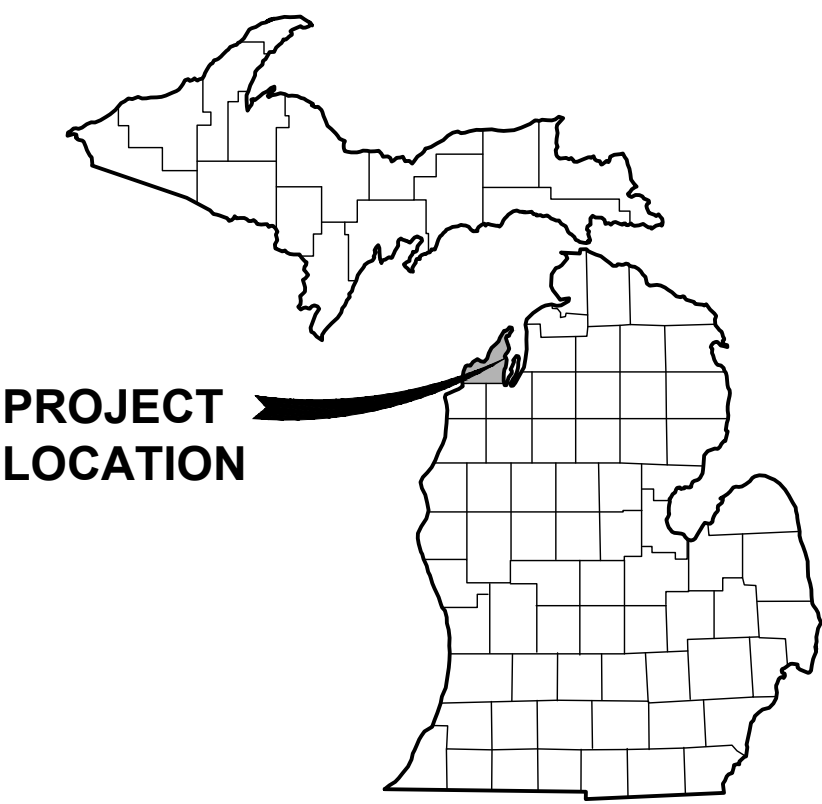


# PORT SUTTON LIFT STATION

## FOR

# VILLAGE OF SUTTONS BAY

### SUTTONS BAY TOWNSHIP, LEELANAU COUNTY, MICHIGAN



VICINITY MAP  
SCALE

#### OWNER

VILLAGE OF SUTTONS BAY  
420 N FRONT STREET  
P.O. BOX 395  
SUTTONS BAY, MI 49682  
CONTACT: WALLY DELAMATER  
231.271.3051

#### ENGINEER

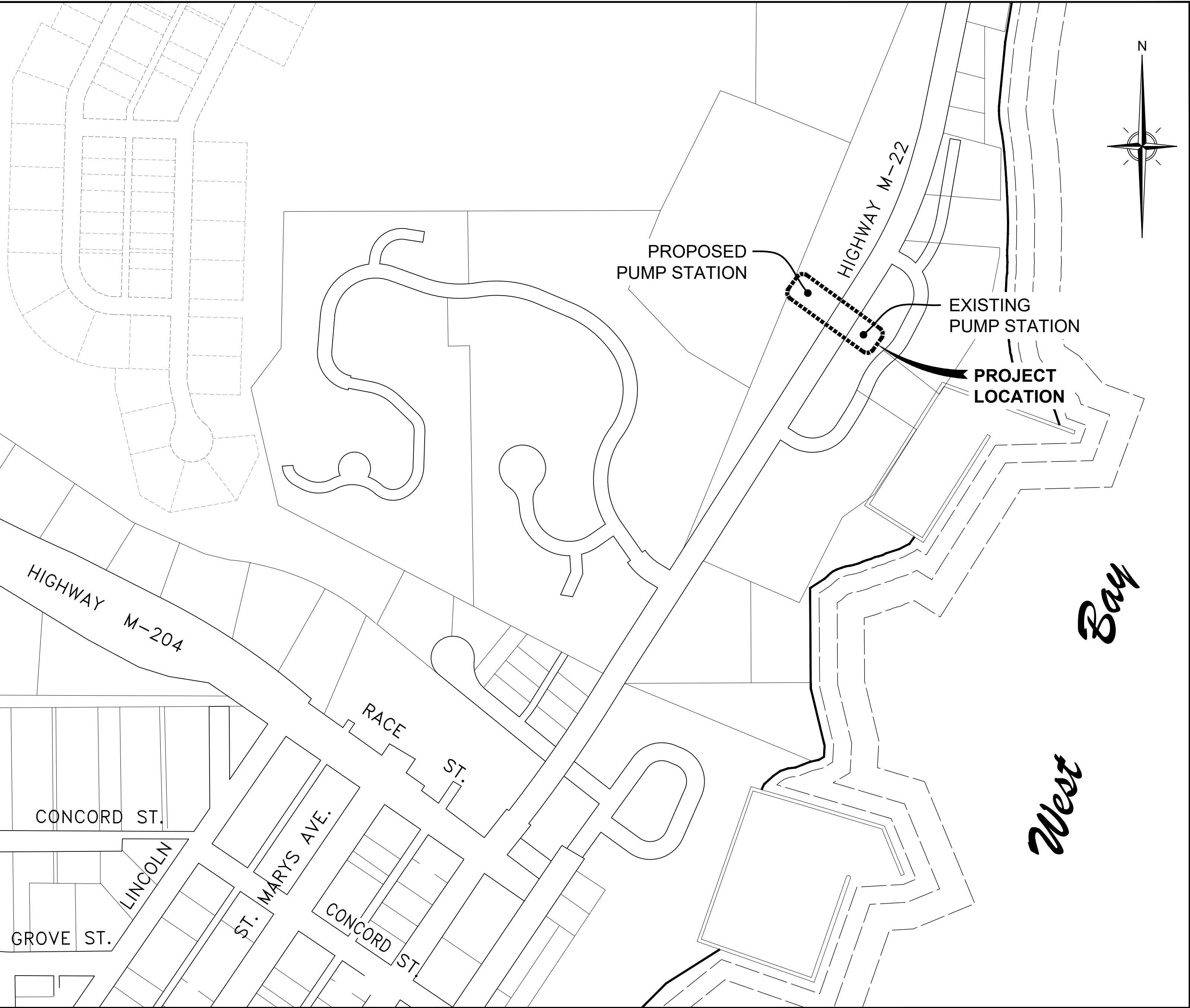
GOSLING CZUBAK ENGINEERING SCIENCES, INC.  
1280 BUSINESS PARK DRIVE  
TRAVERSE CITY, MICHIGAN, 49686-8607  
231.946.9191 - 800.968.1062  
www.goslingczubak.com info@goslingczubak.com

#### ELECTRICAL ENGINEER

NEALIS ENGINEERING, INC.  
830 COTTAGE VIEW DR., STE. 102  
TRAVERSE CITY, MICHIGAN, 49684  
231.933-0510  
FAX: 231.933.3215  
www.nealisengineering.com

#### UTILITY CONTACTS

NAME OF OWNER	TYPE OF UTILITY
DTE ENERGY 609 BJORNSON RD.. BIG RAPIDS, MI 49307 231.592.3244 CONTACT: LARRY BOURKE	GAS
CONSUMER'S ENERGY 821 HASTINGS ST. TRAVERSE CITY, MI 49686 231.929.6265 CONTACT: CURTIS HANSEN	ELECTRIC
CHARTER COMMUNICATIONS 1392 TRADE CENTER DR. TRAVERSE CITY, MI 49684 231.941.3727 CONTACT: JAMES LUCAS	CABLE TV
CENTURYLINK 231.839.0505 CONTACT: TOBY TERWILLEGAR	TELEPHONE
VILLAGE OF SUTTONS BAY 1522 RICHTER RD. SUTTONS BAY, MI 49682 231.271.1032 EXT. 1 CONTACT: PAUL WHITEFORD	SEWER & WATER



LOCATION MAP  
NOT TO SCALE

#### SHEET LIST

- C0 COVER
- C1 LIFT STATION SITE PLAN
- C2 PROFILE
- C3 PUMP STATION PLAN & SECTION
- C4 SANITARY DETAILS
- C5 GENERAL DETAILS
- E1 ELECTRICAL LIFT STATION SITE PLAN



THE LOCATION OF THE EXISTING UTILITIES, AS SHOWN ON THIS PLAN, ARE APPROXIMATE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL LOCATION AND DEPTH OF ALL EXISTING UTILITIES. THE OWNER AND THE SURVEYOR SHALL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATION FROM THE LOCATION SHOWN. THE CONTRACTOR SHALL NOTIFY "MISS DIG" AT 1 (800) 482-7171 OR 811 THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

#### PUBLIC UTILITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY "MISS DIG" (1-800-482-7171) THREE WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.

PORT SUTTON LIFT STATION

CIVIL ENGINEERING  
SURVEYING  
ENVIRONMENTAL SERVICES  
GEO TECHNICAL  
CONSTRUCTION SERVICES  
LANDSCAPE ARCHITECTURE  
**Gosling Czubak**  
engineering sciences, inc.  
1280 Business Park Drive, Traverse City, Michigan  
231.946.9191  
www.goslingczubak.com info@goslingczubak.com



Issue Date  
04/18/2018  
Project No.  
2016110002.01  
Sheet  
**C0**



**CIVIL ENGINEERING  
SURVEYING  
ENVIRONMENTAL SERVICES  
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CONSTRUCTION SERVICES  
DRILLING  
LANDSCAPE ARCHITECTURE**

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NY

**LIFT STATION SITE PLAN**  
**PORT SUTTON LIFT STATION**  
**VILLAGE OF SUTTONS BAY**

Project Number:  
2016110002.01

Sheet:

# C1



## SITE PLAN NOTES

SEE SPECIFICATIONS FOR STARTUP SEQUENCING AND  
DEMOLITION OF EXISTING PUMP STATION SEQUENCING



Know what's below.  
**Call** before you dig

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CONSTRUCTION SERVICES  
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LANDSCAPE ARCHITECTURE**

[illegible]

# PROFILE PORT SUTTON LIFT STATION VILLAGE OF SUTTONS BAY

Date Issued:	04/18/2018
Date Surveyed:	01/05/217
Designed By:	ERP
Drawn By:	ERP
Checked By:	MJH
Scale:	AS NOTED

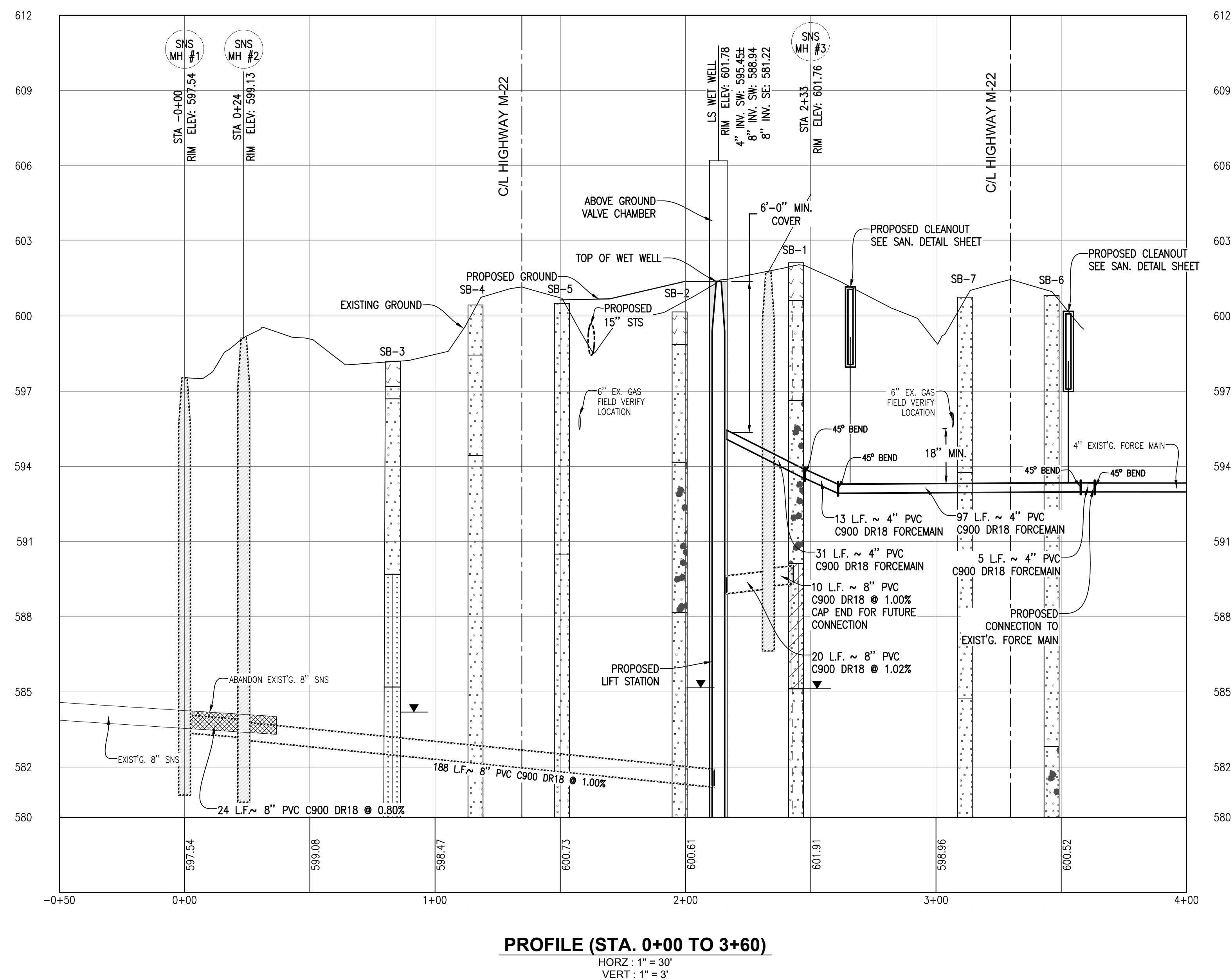
Location:  
PART OF SECTION 21  
T 30 N, R 11 W  
VILLAGE OF SUTTONS BAY  
LEELANAU COUNTY, MICHIGAN

Project Number:  
2016110002.01












## C2

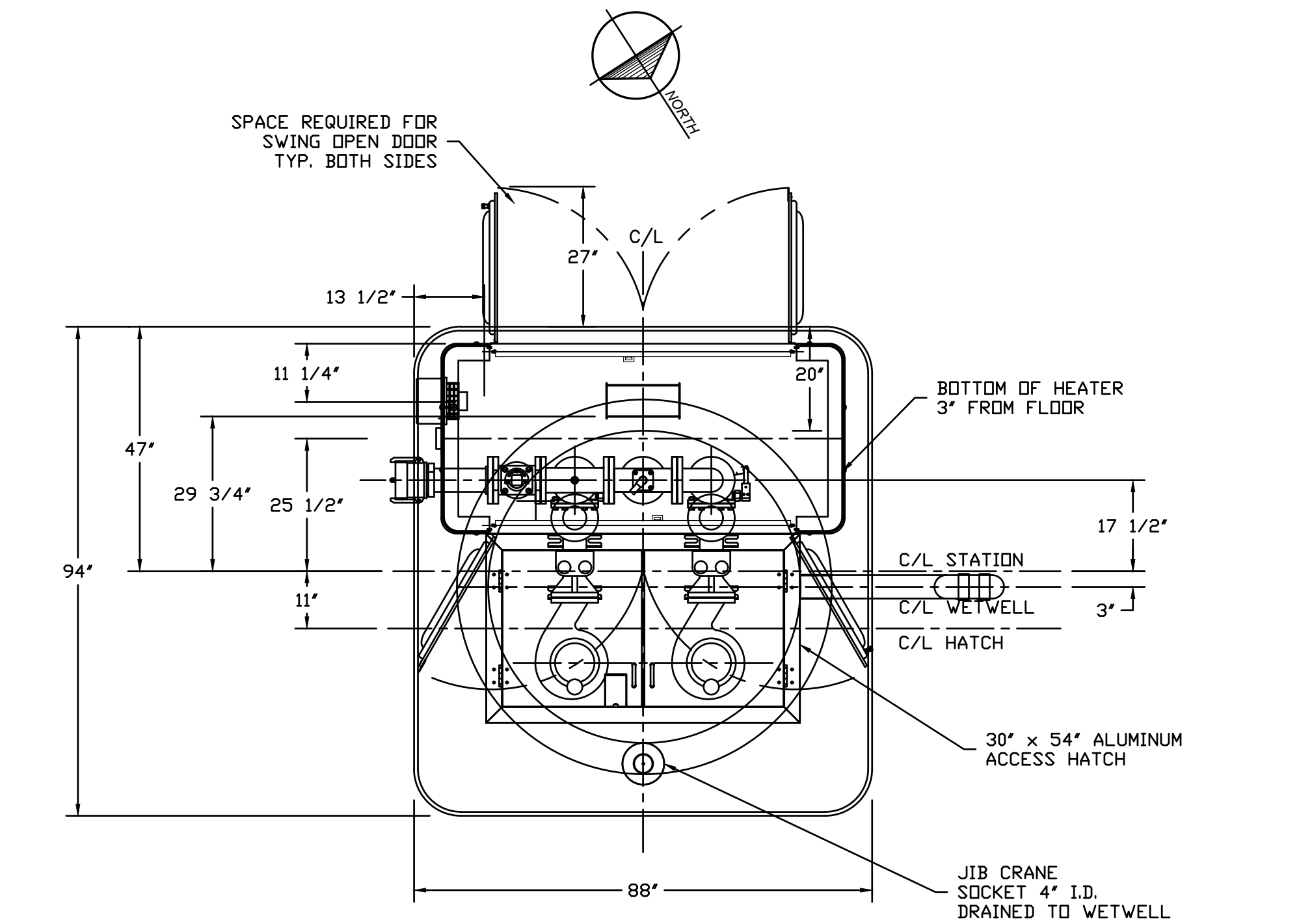


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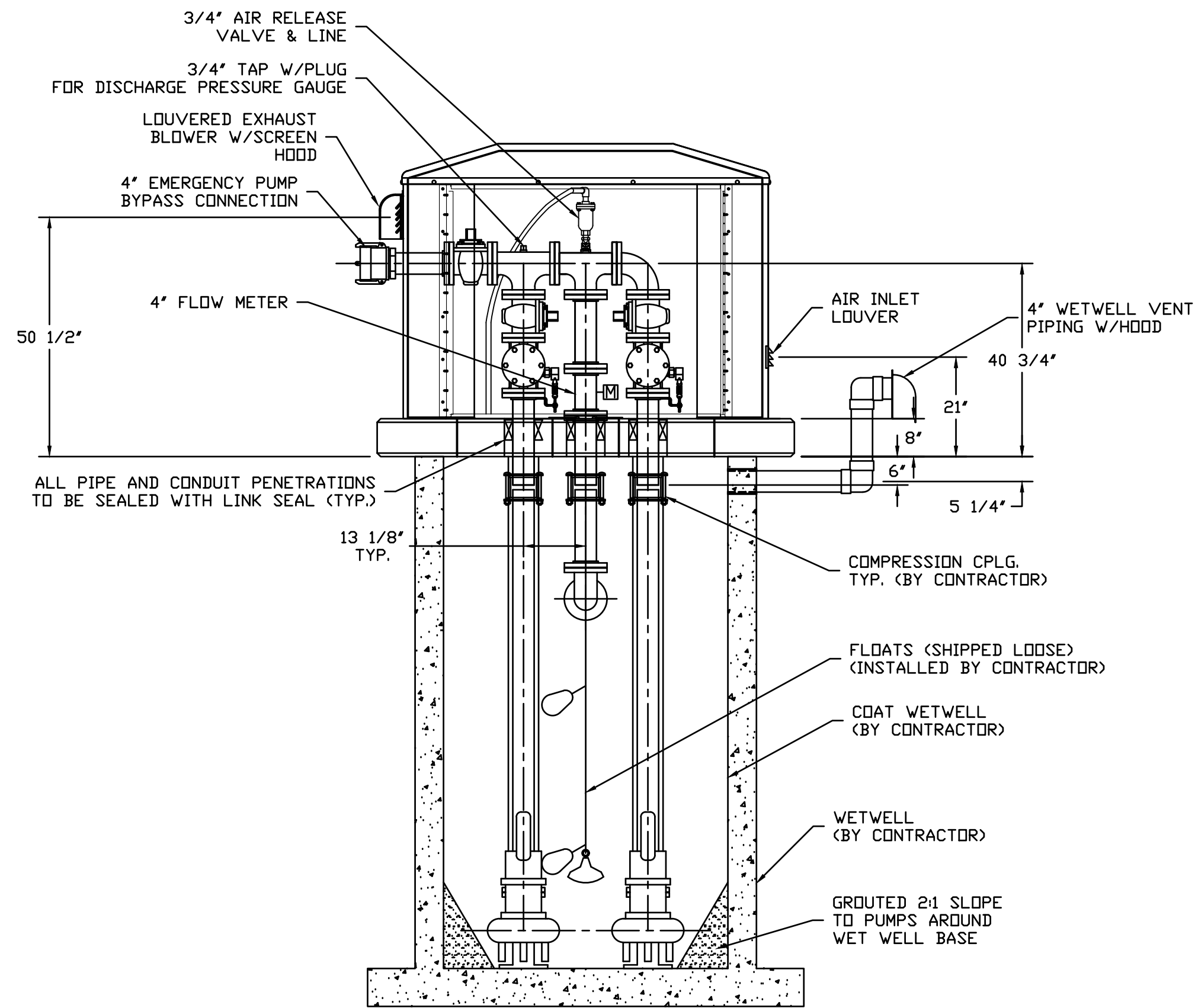


STRATA SYMBOLS

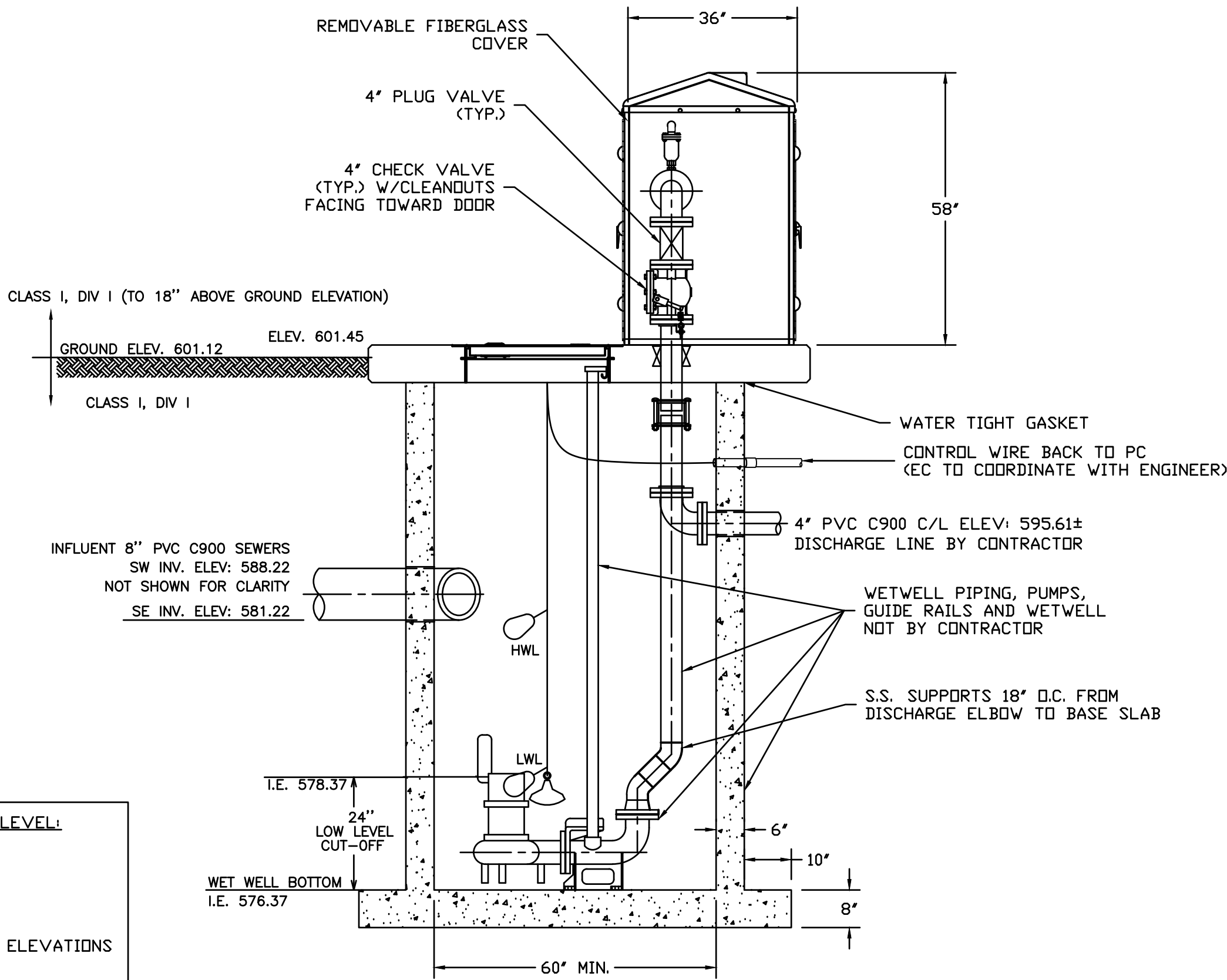
	PAVING		CLAYEY SAND
	TOPSOIL		LOW PLASTICITY CLAY
	GRAVEL		POORLY GRADED CLAYEY SILTY SAND
	POORLY GRADED GRAVEL AND SAND		WATER TABLE DURING DRILLING
	POORLY GRADED SAND		WATER TABLE AT BORING COMPLETION
	SILTY SAND		



PLAN VIEW  
NOT TO SCALE



SECTION VIEW  
NOT TO SCALE



SECTION VIEW  
NOT TO SCALE

PUMP ON/OFF/ALARM LEVEL:	
HWL ALARM:	580.22
LAG ON:	579.72
LEAD ON:	579.22
PUMPS OFF:	578.32
LWL ALARM:	577.82
FIELD VERIFY FLOAT ELEVATIONS WITH THE ENGINEER.	

**PAINT REQUIREMENTS**  
PIPING EXTERIOR AND STEEL SURFACES  
APPLY 6 MILS EPOXY ENAMEL.

- GENERAL NOTES:**
- ALL WORK REQUIRED BY THE CONTRACTOR HAS BEEN LABELED. ANY OTHER WORK WOULD BE PART OF THE PUMP STATION PACKAGE.
  - ALL WASTEWATER EXPOSED MATERIALS IN CLASS I, DIV I AREA ARE TO BE STAINLESS STEEL (S.S.).
  - CONTRACTOR TO COORDINATE ALL POWER AND CONTROL CONDUIT/WIRING TO AND FROM PUMPS/FLOATS AND CP. ALL MATERIALS SHALL BE SUPPLIED AND INSTALLED BY EC THAT ARE NOT SHOWN ON THIS PLAN FOR CLARITY PURPOSED.

Revision	Date	No.	By
2	06/13/2018	TNK	REVISD PER DEQ COMMENTS
1	06/11/2018	TNK	REVISD PER DEQ COMMENTS

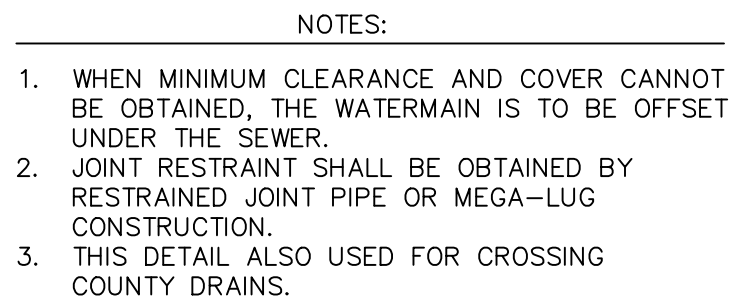
**PUMP STATION PLAN & SECTION**  
**PORT SUTTON LIFT STATION**  
**VILLAGE OF SUTTONS BAY**

Date Issued: 04/18/2018  
Date Surveyed: 01/05/217  
Designed By: ERP  
Drawn By: ERP  
Checked By: MJH  
Scale: AS NOTED  
Original sheet size is 22x34

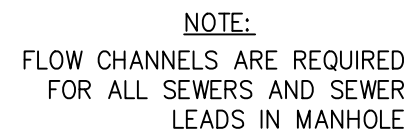
Location:  
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T 30 N, R 11 W  
VILLAGE OF SUTTONS BAY  
LEELANAU COUNTY, MICHIGAN

Project Number:  
2016110002.01

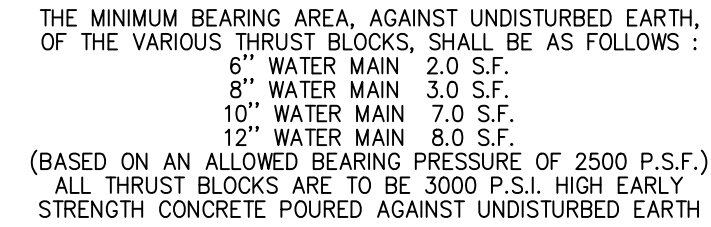
Sheet:



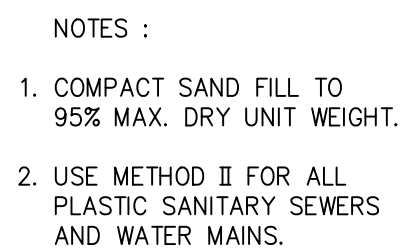
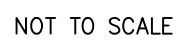
NOT TO SCALE



NOT TO SCALE



NOT TO SCALE



NOT TO SCALE

**CIVIL ENGINEERING  
SURVEYING  
ENVIRONMENTAL SERVICES  
GEOTECHNICAL  
CONSTRUCTION SERVICES  
DRILLING  
LANDSCAPE ARCHITECTURE**

	No.	Date	Revision	By
	1	06/11/2018	REVISED PER DEQ COMMENTS	TNK
	2	07/30/2018	REVISED PER DEQ COMMENTS	TNK
	3	08/14/2018	REVISED PER DEQ COMMENTS	TNK

# SANITARY DETAILS PORT SUTTON LIFT STATION VILLAGE OF SUTTONS BAY

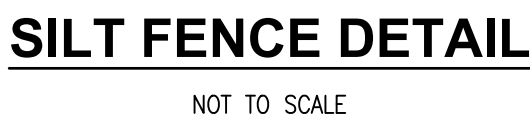
Date Issued:	04/18/2018
Date Surveyed:	01/05/217
Designed By:	ERP
Drawn By:	ERP
Checked By:	MJH
Scale:	AS NOTED
Original sheet size is 22x34	

Location:  
PART OF SECTION 21  
T 30 N, R 11 W  
VILLAGE OF SUTTONS BAY  
LEELANAU COUNTY, MICHIGAN

Project Number:  
2016110002.01

Sheet:

## C4

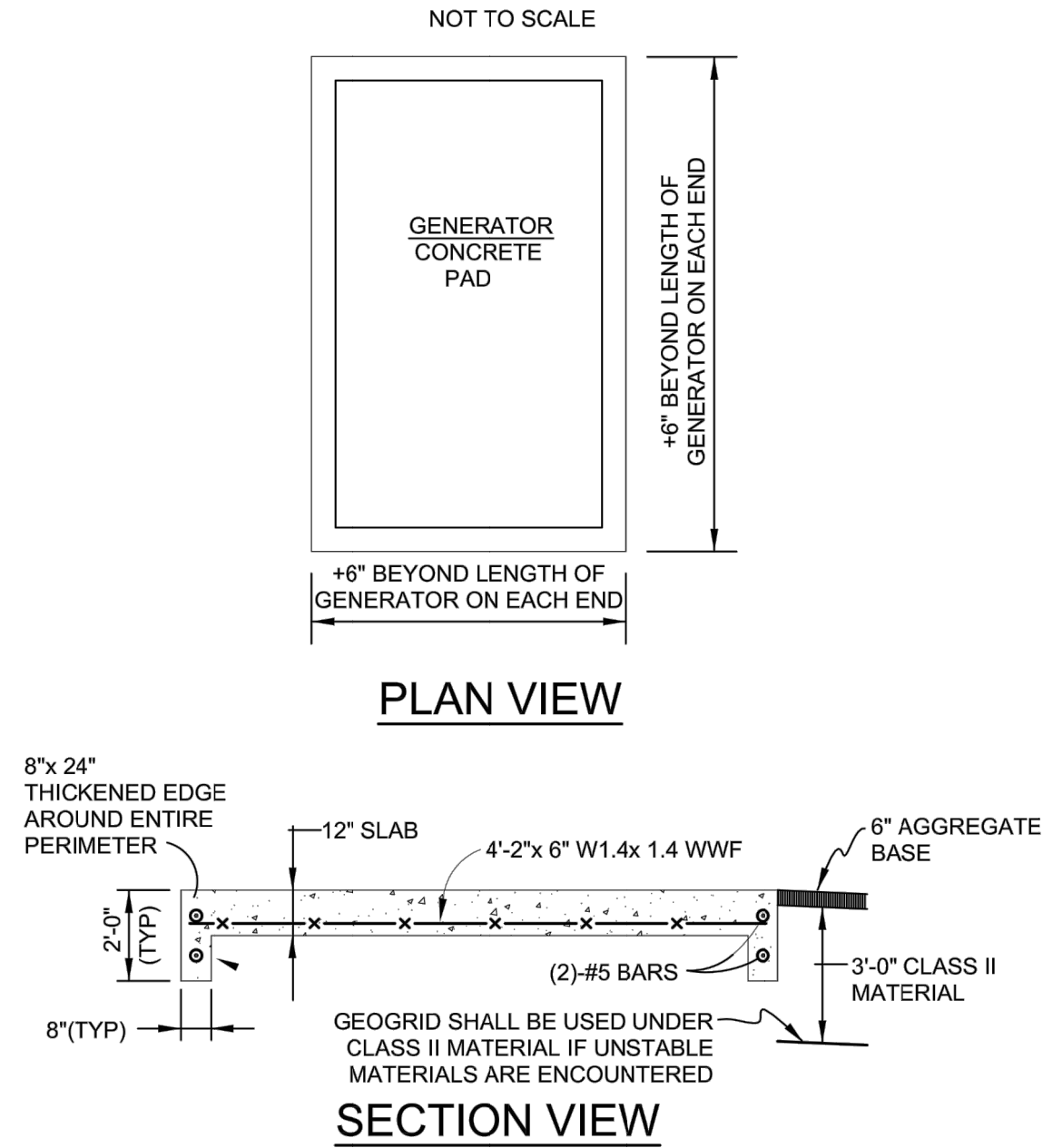


## TREE INSTALLATION DETAIL





GENERATOR CONCRETE PAD DETAILS



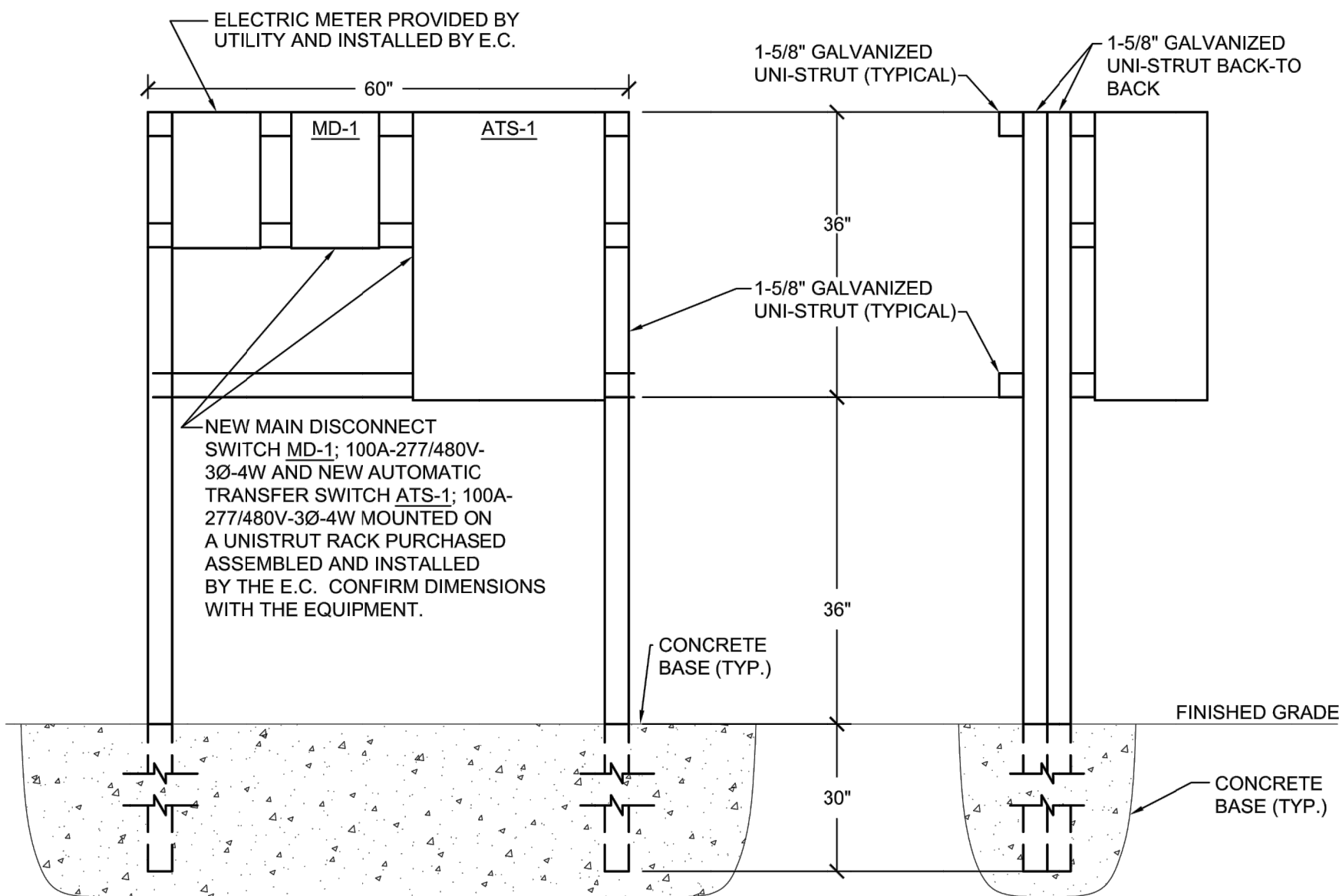
FEEDER SCHEDULE

NO.	AMPACITY	TYPE	NO.	AMPACITY	TYPE
A	100A-277/480V-3Ø	4#3 (Cu), 1-1/4"C	H	100A GRD	1#6 (Cu) BARE GROUND
B	100A-277/480V-3Ø	4#3 (Cu), 1#8 E.G.C., 1-1/4"C	I	30A GRD	1#6 (Cu) BARE GROUND
C	25A-480V-3Ø	3#12 (Cu), 1#12 E.G.C., 1"C	J		
D	15A-480V-1Ø	3#12 (Cu), 1#12 E.G.C., 1/2"C	K	GENSET CONTROLS	MANUFACTURER'S RECOMMENDED, 1"C
E	30A-120/240V-1Ø	3#10 (Cu), 1#10 E.G.C., 3/4"C	L	GENSET MONITOR	MANUFACTURER'S RECOMMENDED, 1"C
F			M	ATS MONITOR	MANUFACTURER'S RECOMMENDED, 1"C
G	20A-120V-1Ø	2#12 (Cu), 1#12 E.G.C., 1/2"C			
		CONDUIT IF REQUIRED			

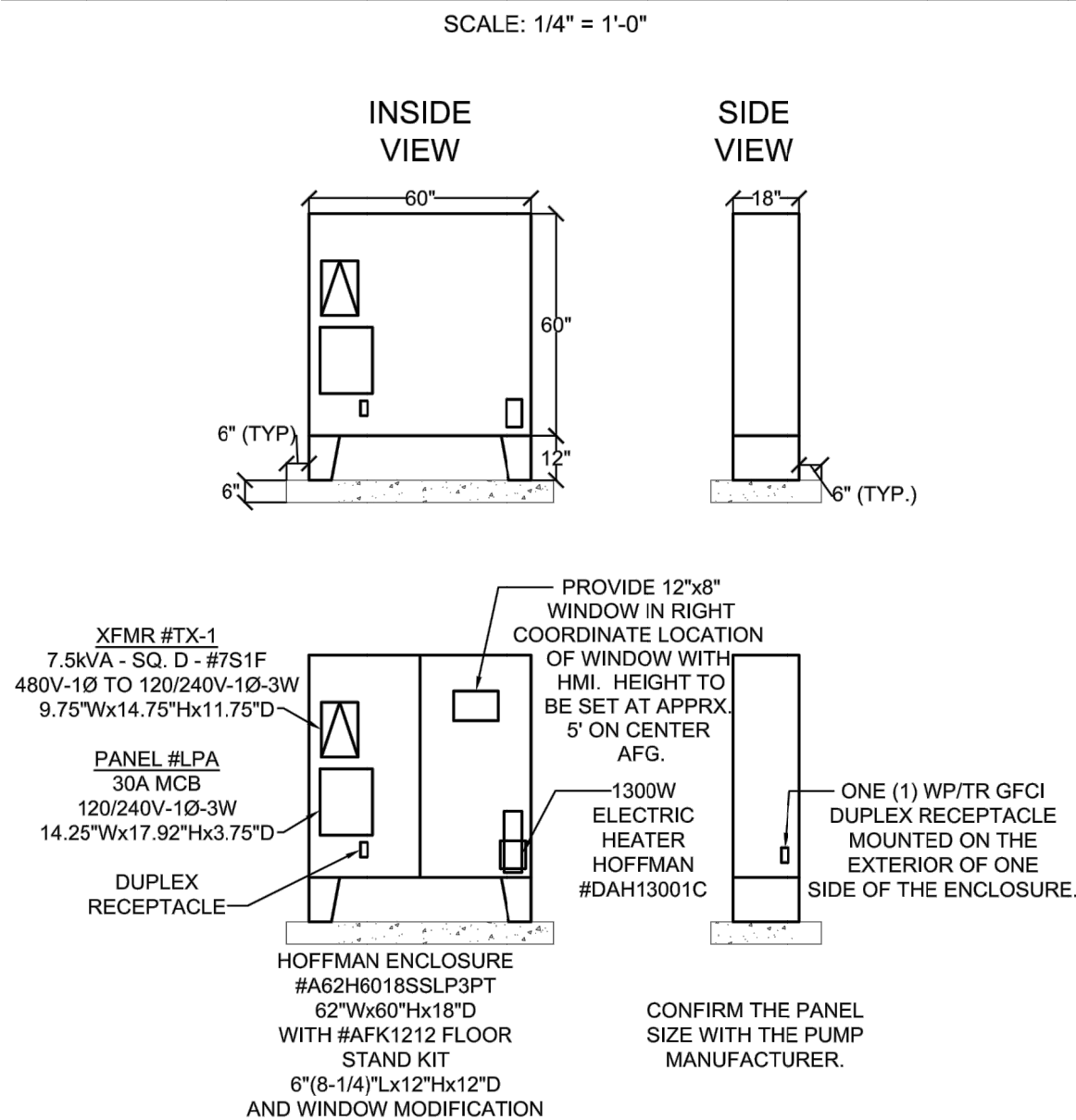
NEW PS PANEL #LP-A

CIR NO.	AMP/POLES	DESCRIPTION	LOAD	LOAD	DESCRIPTION	AMP/POLES	CIR NO.
1	20/1	GEN. BATT. CHRGR. CRANKCASE VENT HTRS	470	1500	ENCLOSURE - ELECTRIC HEATER	20/1	2
3	20/1	GENERATOR BLOCK HEATER	1500	540	RECEPTACLES	20/1	4
5	20/1	LIFT STATION CONTROLS & FLOW METER	1000	--	SPARE	20/1	6
7	20/1	SPARE	---	---	SPARE	20/1	8
9	20/1	SPARE	---	---	MAIN CIRCUIT BREAKER	30/2	10
11	20/1	SPARE	---	---			12

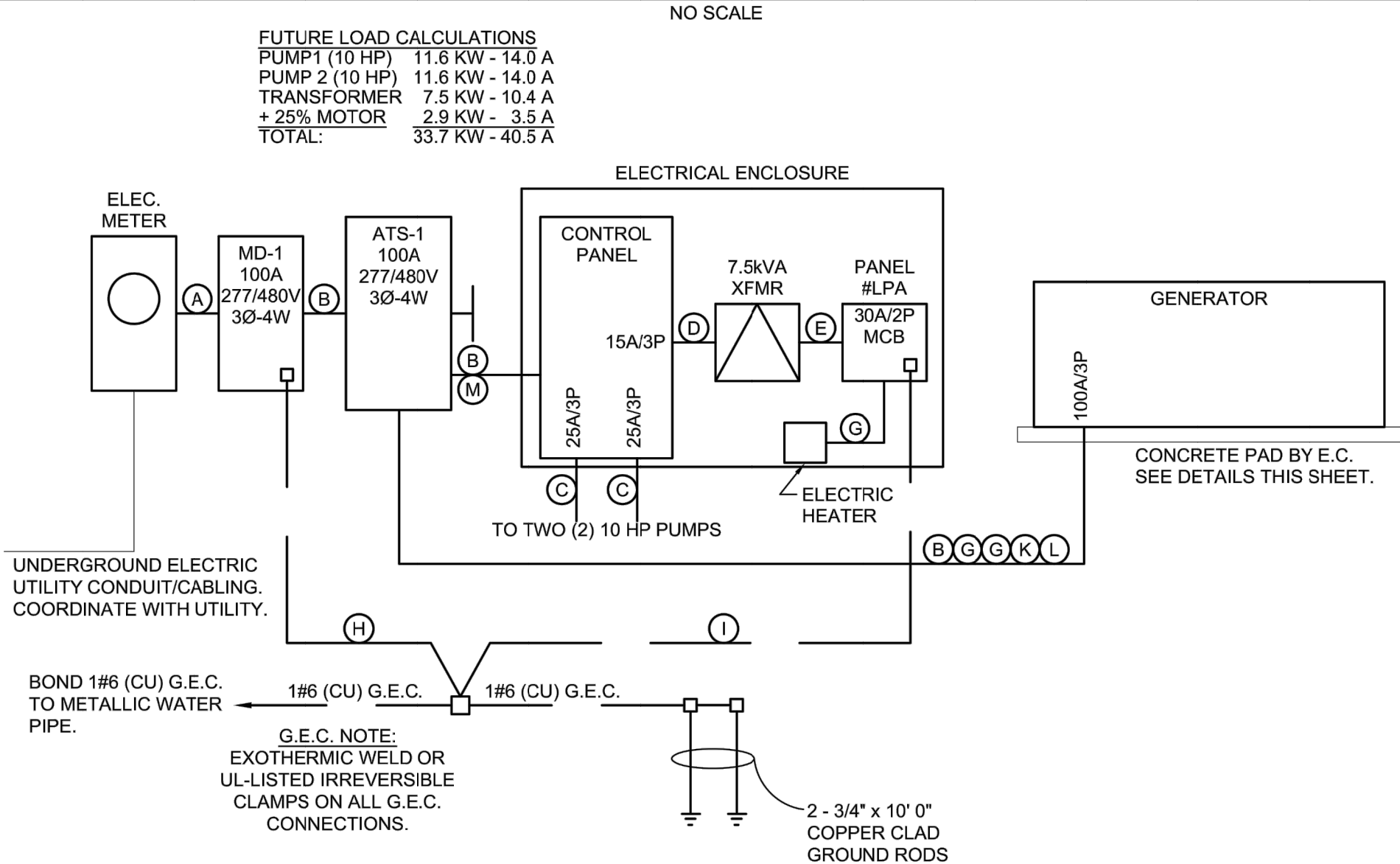
ELECTRICAL EQUIPMENT RACK DETAIL



ELECTRICAL ENCLOSURE DETAIL



PROPOSED ELECTRICAL RISER DIAGRAM



GENERAL NOTES

- WORK SHALL COMPLY WITH THE LATEST EDITION OF N.E.C., LOCAL AND STATE CODES, ORDINANCES, AND REGULATIONS, INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).
- THE ELECTRICAL CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY ALL FEES, AND ARRANGE FOR ALL INSPECTIONS FOR HIS WORK AT THE COMPLETION OF ELECTRICAL WORK. THE ELECTRICAL CONTRACTOR SHALL FURNISH THE OWNER WITH ALL CERTIFICATES OF FINAL INSPECTION AND APPROVALS. UTILITY COSTS ASSOCIATED WITH BRINGING POWER TO THE SITE SHALL BE PAID FOR BY THE OWNER.
- COORDINATE ALL NEW ELECTRICAL UNDERGROUND WORK WITH EXISTING AND NEW UTILITIES BEFORE INSTALLATION. SEVENTY-TWO HOURS BEFORE ANY EXCAVATING WORK IS DONE, RELATIVE TO ELECTRICAL WORK, CONTACT "MISS DIG" (TOLL FREE) AT (800)482-7171 OR 811.
- ALL ELECTRICAL MATERIALS SHALL BE NEW AND BEAR THE "UL" LABEL OR LISTING.
- ALL BRANCH CIRCUIT WIRE SHALL BE COPPER, MINIMUM SIZE #12 A.W.G., INSTALLED IN CONDUIT, MINIMUM SIZE 3/4" RIGID, AND SHALL BE TYPE "THHN", "THWN" OR "THWN-2" UNLESS OTHERWISE NOTED ON PLANS.
- ALL CONDUIT BELOW GRADE SHALL BE GALVANIZED RIGID CONDUIT. ALL CONDUIT INSIDE THE BUILDING SHALL BE GRS OR SCH. 40 PVC OR AS NOTED ON THE PLANS, MINIMUM 1/2" SIZE. GALVANIZED RIGID CONDUIT SHALL BE USED IN ALL CLASS 1, DIV. 1 & 2 LOCATIONS PER N.E.C. ART. 500, 501, & 502.
- THE ELECTRICAL CONTRACTOR SHALL VISIT THE JOB SITE BEFORE HE SUBMITS HIS BID TO FAMILIARIZE HIMSELF WITH ACTUAL JOB CONDITIONS AND TO CHECK FOR ANY INTERFERENCE BETWEEN HIS WORK AND THAT OF OTHER TRADES, AND/OR ANY APPARENT VIOLATIONS OF LOCAL OR STATE CODES, LAWS, ORDINANCES, AND REGULATIONS.
- ALL EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH THE N.E.C. AND ALL LOCAL CODES.
- THE ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK INSTALLED UNDER HIS CONTRACT TO BE FREE FROM DEFECTIVE WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER THE ACCEPTANCE OF THE PROJECT BY THE OWNER, AND/OR ANY APPARENT VIOLATIONS OF LOCAL OR STATE CODES, LAWS, ORDINANCES, AND REGULATIONS.
- ANY CUTTING AND/OR PATCHING, THAT MAY BE REQUIRED FOR THE INSTALLATION OF THE ELECTRICAL SYSTEM, SHALL BE DONE AND/OR REPAIRED BY THE ELECTRICAL CONTRACTOR. NO CUTTING OF THE BUILDING STRUCTURAL SYSTEM SHALL BE DONE WITHOUT THE WRITTEN CONSENT OF THE ENGINEER BEING PREVIOUSLY OBTAINED.
- ALL WORK WITHIN CLASS I, DIV. 1 & 2 SHALL COMPLY WITH ARTICLES 500, 501, 502, 511, 511, 514 & 515 OF THE N.E.C.
- ELECTRICAL CONTRACTOR SHALL VERIFY AVAILABLE FAULT CURRENT WITH THE LOCAL UTILITY COMPANY. FAULT CURRENT WAS NOT AVAILABLE AT THE TIME OF DESIGN. FOR PURPOSES OF BIDDING ASSUME ALL SWITCHGEAR TO BE 42,000 A.I.C. RATED. ALL SWITCH GEAR SHALL BE U.L.S.E. LABELED FOR INTENDED USE.



Know what's below.  
Call before you dig.

LIFT STATION SITE PLAN  
PORT SUTTON LIFT STATION  
VILLAGE OF SUTTONS BAY

Date Issued: 04/10/2018  
Date Surveyed: 01/05/2017  
Designed By: JAV  
Drawn By: JAV  
Checked By: JAV  
Scale: AS NOTED  
Original sheet size is 22x34  
Location: PART OF SECTION 21  
T 30 N, R 11 W  
VILLAGE OF SUTTONS BAY  
LEEANAN COUNTY, MICHIGAN  
Project Number: 2016110002.01  
Sheet:

E1