CITY OF FLINT DEPARTMENT OF PUBLIC WORKS PUMP STATION REHABILITATION CEDAR STREET

GENERAL NOTES

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Existing PLC Drawings

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Proposed Floor Plan

Proposed Plan

Detail Sheet

Existing Floor Plan (Basement)

THE CONTRACTOR SHALL CALL "MISS DIG" (1-800-482-7171) THREE WORKING DAYS, EXCEPT SATURDAY, SUNDAY, AND HOLIDAYS PRIOR TO COMMENCEMENT OF ANY WORK

ALL UTILITIES SHOWN ARE APPROXIMATE LOCATIONS DERIVED FROM ACTUAL MEASUREMENTS AND AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE THE EXACT LOCATION NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THE AREA

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE



INNOVATIVE IDEAS

EXCEPTIONAL DESIGN

UNMATCHED CLIENT SERVICE

Project Location:

City of Flint
Section 32 of T8N, R6E,
Geographic Township of Genesee
Genesee County, Michigan 48505

CITY OF FLINT OFFICIALS

SHELDON NEELEY **MAYOR ERIC MAYS** CITY COUNCIL 1ST WARD LADEL LEWIS CITY COUNCIL 2ND WARD **QUENCY MURPHY** CITY COUNCIL 3RD WARD CITY COUNCIL 4TH WARD JUDY PRIESTLY JERRI WINFREY-CARTER CITY COUNCIL 5TH WARD **TONYA BURNS** CITY COUNCIL 6TH WARD CITY COUNCIL 7TH WARD ALLIE HERKENRODER DENNIS PFEIFFER CITY COUNCIL 8TH WARD **EVA WORTHING** CITY COUNCIL 9TH WARD

CLYDE D. EDWARDS CITY OF FLINT ADMINISTRATOR

APPROVED BY THE CITY OF FLINT

DIRECTOR OF DEPARTMENT OF PUBLIC WORKS

PROJECT DESCRIPTION:
REHAB OF EXISTING PUMP STATION.

PREPARED UNDER THE SUPERVISION OF

GREG J. GUCWA
REGISTERED PROFESSIONAL ENGINEER

6201026553 REGISTRATION NO.

DLZ, INC.

ORGANIZATION

DLZ PROJECT No.

1949-0188-00

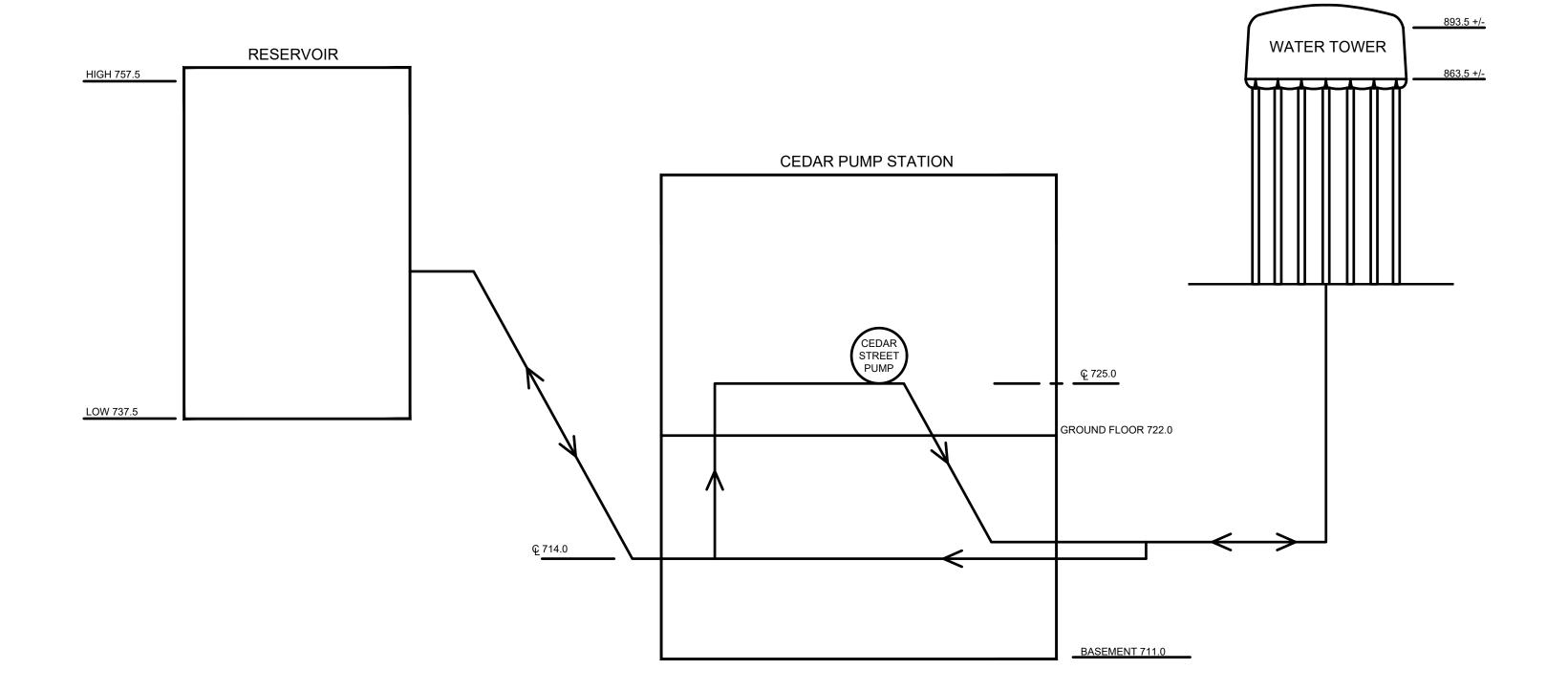
SHEET 1 OF 43



DATE ISSUED: 7/7/23 ISSUED FOR BID DATE ISSUED: 5/17/23 OWNER REVIEW DATE ISSUED: 6/5/23 EGLE PERMIT

GENERAL NOTES

- A. CONTRACTOR IS RESPONSIBLE TO CONFORM WITH APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS INCLUDING APPLICABLE ORDINANCES AND REFERENCED STANDARDS.
- B. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO SUBMITTING A BID OR BEGINNING ANY WORK. CONDITIONS FOUND TO BE IN VARIANCE FROM THE INFORMATION IN THE DRAWINGS OR PROJECT MANUAL SHALL BE SUBMITTED TO THE ARCHITECT IN WRITING
- C. KEYNOTES ARE MEANT AS A GENERAL GUIDE FOR TYPICAL LOCATIONS. CONTRACTOR TO PERFORM FULL EXTENT OF WORK REQUIRED TO ACCOMPLISH DESIGN INTENT. THE ABSENCE OF A KEYNOTE DOES NOT ABSOLVE THE CONTRACTOR FROM PROVIDING THE FEATURE GRAPHICALLY INDICATED ON THE DRAWINGS.
- D. SPECIFIC WORK ITEMS SHALL BE COORDINATED AND INTERFACED WITH ALL OTHER TRADES TO ALLOW FOR NEW CONSTRUCTION AND COMPLETE INSTALLATION AS REQUIRED TO ACCOMPLISH DESIGN INTENT.
- E. REFER TO DRAWINGS OF EACH TRADE OR DISCIPLINE FOR ADDITIONAL GENERAL NOTES AND INFORMATION, INCLUDING CIVIL/SITE DEVELOPMENT, ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, FIRE
- F. CONTRACTOR IS RESPONSIBLE FOR ALL WORK IDENTIFIED ON ALL DRAWINGS AND INFORMATION IN THE PROJECT MANUAL, AS A COMPLETE PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE SPECIFIC SCOPE OF WORK FOR ANY SUBCONTRACTORS FOR THIS PROJECT.
- G. FIELD VERIFY ACTUAL LOCATIONS OF EXISTING UNDERGROUND UTILITIES, STRUCTURES, WATER LINES, STORM AND SANITARY LINES, GAS LINES, ELECTRICAL CONDUIT, AND OTHER UNDERGROUND UTILITIES PRIOR TO PERFORMING EARTHWORK, EXCAVATION, OR UTILITY WORK. ENGAGE THE SERVICES OF A PRIVATE UTILITY LOCATE COMPANY IF NECESSARY TO COMPLETELY LOCATE EXISTING UNDERGROUND UTILITIES AND STRUCTURES.
- H. LOCATION OF ALL TEMPORARY FACILITIES SHALL BE COORDINATED WITH OWNER AND ARCHITECT PRIOR TO MOBILIZATION ON-SITE, INCLUDING BUT NOT LIMITED TO TEMPORARY STAGING AREA, MATERIAL STORAGE AREA, ACCESS DRIVE(S), PARKING AREA, TOPSOIL STOCKPILE AREA, WASTE DISPOSAL AREA, FIELD OFFICES AND TEMPORARY FACILITIES, JOB SIGN, AND TEMPORARY FENCING.
- I. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MISCELLANEOUS BLOCKING REQUIRED FOR INSTALLATION OF ALL BUILDING COMPONENTS, INCLUDING BUT NOT LIMITED TO FURNISHINGS, FIXTURES, EQUIPMENT, HARDWARE, BRACKETS, AND OWNER-PROVIDED EQUIPMENT. CONTRACTOR SHALL COORDINATE SPECIFIC REQUIREMENTS ASSOCIATED WITH EACH TRADE AND WITH OWNER'S REPRESENTATIVE.
- J. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MISCELLANEOUS WOOD AND METAL TRIM, FLASHING, CLIP ANGLES, ANCHORS, SUPPORTS, AND CLOSURE TRIM REQUIRED TO PROVIDE A COMPLETE, UNIFORM, AND WEATHERTIGHT ASSEMBLY AS REQUIRED TO ACCOMPLISH THE DESIGN INTENT.
- K. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ACCESSORY COMPONENTS AS REQUIRED TO FULLY COMPLY WITH MANUFACTURER'S RECOMMENDATIONS.
- L. CONTRACTOR SHALL PROVIDE ACCESS DOORS IN ALL WALLS AND CEILINGS WHERE SERVICE OR ADJUSTMENT TO MECHANICAL, PLUMBING, FIRE PROTECTION OR ELECTRICAL ITEMS MAY BE REQUIRED. ACCESS DOORS SHALL BE OF AN APPROPRIATE SIZE REQUIRED FOR EACH APPLICATION. WHERE APPLICABLE, ACCESS DOORS SHALL MATCH THE FIRE RATING OF THE WALL ASSEMBLY.
- M. WHERE DISCREPANCIES EXIST IN THE CONTRACT DOCUMENTS INCLUDING DISCREPANCIES BETWEEN DRAWINGS AND PROJECT MANUAL, CONTRACTOR SHALL REQUEST CLARIFICATION IN WRITING FROM ARCHITECT. THE CONTRACTOR SHALL NOT ASSUME ANY ITEM TAKES PRECEDENCE OVER THE OTHER. ANY ACTION THE CONTRACTOR MAKES PRIOR TO NOTIFICATION IN WRITING SHALL BE SOLELY AT THE
- N. CONTRACTOR SHALL SEAL ALL PENETRATIONS IN EXTERIOR WALL AND ROOF ASSEMBLIES WITH APPROPRIATE JOINT SEALANT(S) AND FLASHING(S) TO MAINTAIN A WEATHERTIGHT AND AIRTIGHT BUILDING ENVELOPE. ALL JOINTS AND PENETRATIONS SHALL BE SEALED, GASKETED, OR WEATHER-STRIPPED TO MINIMIZE AIR LEAKAGE, INCLUDING THE FOLLOWING:
 - 1. JOINTS AROUND FENESTRATION AND DOOR FRAMES.
 - 2. JUNCTIONS BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALLS AT BUILDING CORNERS, BETWEEN
 - WALLS AND FLOORS OR ROOFS, AND BETWEEN WALLS AND ROOF OR WALL PANELS. 3. OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH ROOFS, WALLS, AND FLOORS.
 - 4. JOINTS, SEAMS, AND PENETRATIONS OF VAPOR RETARDERS. 5. ALL OTHER OPENINGS IN THE BUILDING ENVELOPE.
- O. COORDINATE WITH OTHER CONSTRUCTION ACTIVITIES AND CONSTRUCTION SEQUENCING WITH OTHER PROJECT(S) AND WORK BEING PERFORMED CONCURRENTLY ON-SITE.
- P. CONTRACTOR TO PROTECT ALL ITEMS WITHIN THE CONSTRUCTION LIMITS (INCLUDING SITE ELEMENTS) THAT ARE DESIGNATED TO REMAIN; ITEMS DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION.
- Q. ALL PENETRATIONS AND JOINTS IN FIRE-RATED WALL ASSEMBLIES AND FLOOR/CEILING ASSEMBLIES SHALL BE SEALED WITH THE FIRESTOPPING SYSTEM OR FIRE-RESISTIVE JOINT SYSTEM WHICH IS THE MOST APPROPRIATE FOR THE SPECIFIC APPLICATION BASED ON THE TYPE OF ASSEMBLY AND TYPE OF PENETRATING ELEMENT. SYSTEMS SHALL BE U.L.-LISTED FOR EACH APPLICATION.
- R. ALL VERTICAL FENESTRATION (OPERABLE AND FIXED GLAZED ASSEMBLIES) SHALL BE LABELED BY THE MANUFACTURER WITH U-FACTOR, SHGC RATING, SAFETY RATING, AND FIRE-RESISTANCE RATING, WHERE APPLICABLE. WINDOWS AND DOORS SHALL BE CERTIFIED AS MEETING AIR LEAKAGE REQUIREMENTS PER
- S. THESE DRAWINGS SHALL NOT BE SCALED TO OBTAIN DIMENSIONS. IF THE DIMENSIONS CANNOT BE DETERMINED BY THE INFORMATION GIVEN, CONTRACTOR SHALL REQUEST CLARIFICATION FROM THE ARCHITECT. ALL DIMENSIONS ARE TO FACE OF STUD, FACE OF CMU, OR FACE OF CONCRETE, UNLESS NOTED OTHERWISE. CEILING HEIGHT DIMENSIONS ARE FROM FINISHED FLOOR TO FACE OF FINISHED CEILING MATERIALS, UNLESS NOTED OTHERWISE.
- T. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY DEWATERING ACTIVITIES AS PART OF THE BASE BID AMOUNT.



SCHEMATIC STATIC HYDRAULIC PROFILE



MARK	ISSUED FOR	DATE
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	-	-
	ISSUE FOR BID	7/5/23
	PERMITTING	6/7/23
	OWNER REVIEW	5/17/23

DRAWN BY: DLZ DESIGN BY: -CHECKED BY: -

DLZ JOB NUMBER: 1949-0188-00

SHEET NO.

G-001

hf = feet d= pipe diameter in feet

Q=CFS C=friction coefficient =100 L=equivalent pipe length in feet

Piping from Reservoirs to Pump Station

L = 305 ft for 42 inch diameter and 257 ft for 36 inch diameter area of 42 inch pipe 9.62 SFT area of 36 inch pipe

	Flow Rate		Velocity FF	PS .	hf	feet	Total Friction Loss from
MDG	GPM (CFS	42 inch 36	inch	42 inch	36 inch	Pump Station wall to South reserv
0	0	0	0.00	0.00	0	0	
1	694	1.55	0.16	0.22	0.001	0.003	0.004
2	1389	3.09	0.32	0.44	0.005	0.009	0.014
3	2083	4.64	0.48	0.66	0.011	0.019	0.030
4	2778	6.19	0.64	0.88	0.018	0.033	0.051
5	3472	7.74	0.80	1.09	0.028	0.050	0.077
6	4167	9.28	0.96	1.31	0.039	0.069	0.108
7	4861	10.83	1.13	1.53	0.052	0.092	0.144
8	5556	12.38	1.29	1.75	0.066	0.118	0.184
9	6250	13.93	1.45	1.97	0.082	0.147	0.229
10	6944	15 <i>/</i> 17	1 61	2 10	0.100	0.179	0.278

Piping for main header in Pump Station Basement from south wall to Control Valve

L = 14 ft for 36 inch, 58 ft for 30 inch, 31 ft for 24 inch & 53 ft for 16 inch

area of 36 inch pipe 4.91 SFT Area of 30 inch ipe Area of 24 inch pipe 3.14 SFT Area of 16 inch pipe 1.39 SFT Static Head from Centerline of Pumps to (positive head)

32.5

Bottom of Reservoir in FT Full Reservoir in FT

											Friction loss on main heade
Flow Rate			Ve	locity FI	PS			hf		in Pump Station	
MDG	GPM C	FS	36 in 30	in 24	4 in 16	Sin	36 inch	30 inch	24 inch	16 inch	
0	0	0	0	0	0	0	0.000	0.000	0.000	0.000	0.000
1	694	1.55	0.22	0.32	0.49	1.11	0.000	0.001	0.002	0.028	0.032
2	1389	3.09	0.44	0.63	0.99	2.23	0.000	0.005	0.008	0.100	0.114
3	2083	4.64	0.66	0.95	1.48	3.34	0.001	0.011	0.017	0.212	0.241
4	2778	6.19	0.88	1.26	1.97	4.46	0.002	0.018	0.029	0.361	0.410
5	3472	7.74	1.09	1.58	2.46	5.57	0.003	0.027	0.043	0.546	0.619
6	4167	9.28	1.31	1.89	2.96	6.68	0.004	0.038	0.061	0.765	0.868
7	4861	10.83	1.53	2.21	3.45	7.80	0.005	0.051	0.081	1.017	1.154
8	5556	12.38	1.75	2.52	3.94	8.91	0.006	0.065	0.104	1.302	1.477
9	6250	13.93	1.97	2.84	4.43	10.02	0.008	0.081	0.129	1.619	1.837
10	6944	15 <i>/</i> 17	2 19	3 15	/I 93	11 1/1	0.010	n ngs	0 157	1 968	2 222

Piping from main header to pump suction connection

L = 126 ft for 18 inch & 47 ft for 12 inch

Area of 18 inch pipe	1.77 SFT
Area of 12 inch pipe	0.79 SFT

	Flow Rate		Velocity	FPS	hf	feet	Friction loss on pump suction piping
MDG	GPM CI	FS	•	12 in		12 inch	form main header to pump
0	0	0	0	0	0	0	Tomman medaci to pump
1	694	1.55	0.875613	1.97013	0.037	0.099	0.136
2	1389	3.09	1.751226	3.940259	0.132	0.358	0.491
3	2083	4.64	2.626839	5.910389	0.280	0.759	1.039
4	2778	6.19	3.502452	7.880518	0.477	1.292	1.769
5	3472	7.74	4.378066	9.850648	0.721	1.952	2.673
6	4167	9.28	5.253679	11.82078	1.010	2.735	3.745
7	4861	10.83					
8	5556	12.38					
9	6250	13.93					
10	6044	45 47					

Firm capacity for the Cedar Street Pump Station is 9 MGD. Design the Pump Station for 10 MGD firm capacity with two pump running. Current operation has the pump discharge pressure running at 65 PSI. Design for 70 PSI discharge pressure at pump discharge.

Maximum THD required for each pump is when the reservoir is near empty and two pumps are running a 5 MGD each

Head from reservoirs due to elevation difference	-12.5 ft
Friction loss in piping from reservoir to south wall of pump station 10 MGD rate	0.278 ft
Friction loss in main header pump station basement 10 MGD rate	2.232 ft
Friction loss in pump suction piping from main header to pump suction 5 MGD per pump	2.673 ft
Head required at pump discharge 70 PSI =	<u>162</u> ft
The pump needs to generate this head to achieve 70 PSI at 5 MGD at the pump discharge point	154.683 ft

TDH condition when the reservoirs are full

Head from reservoirs due to elevation difference	-32.5 ft
Friction loss in piping from reservoir to south wall of pump station 10 MGD rate	0.278 ft
Friction loss in main header pump station basement 10 MGD rate	2.232 ft
Friction loss in pump suction piping from main header to pump suction 5 MGD per pump	2.673 ft
Head required at pump discharge 70 PSI =	<u>162</u> ft
The pump needs to generate this head to achieve 70 PSI at 5 MGD at the pump discharge point	134.683 ft

lculate pressure on fill line ahead of control valve to fill the reservoirs
interline of main header in nump station

713.5	miminum static head	737.56-713.5 =	24.06 ft
737.56	Mmaximum static head	757.56-713.5=	44.06 ft
757.56			
Static head	44.06 ft		
	0.278 ft		
	2.232 ft		
	<u>13.6</u> ft		
	737.56 757.56	737.56 Mmaximum static head 757.56 Static head 44.06 ft 0.278 ft 2.232 ft	737.56 Mmaximum static head 757.56-713.5= 757.56 Static head 44.06 ft 0.278 ft 2.232 ft

60.17 ft

equals 26 PSI on supply side of control valve

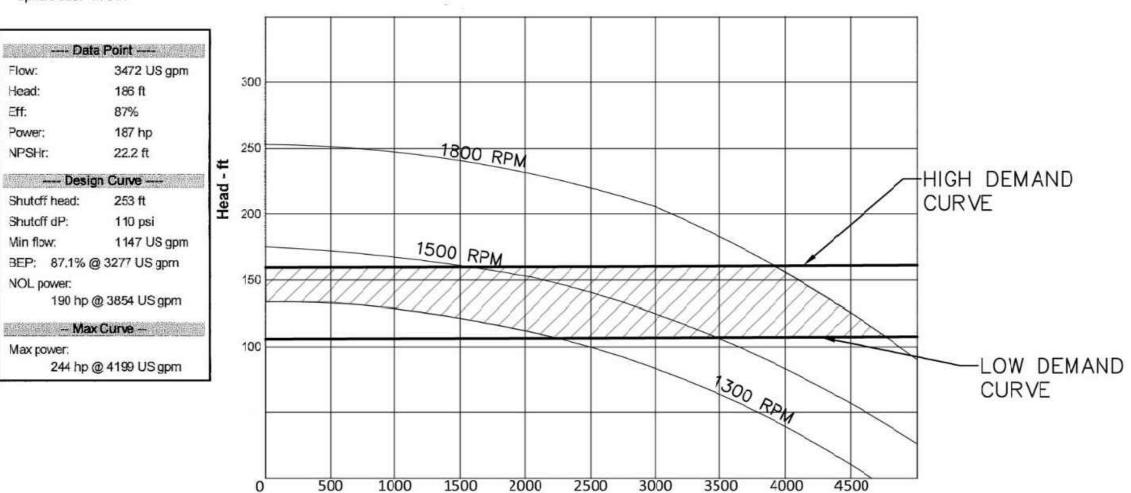
Pump Data Sheet - Patterson 60 Hz Pumps

Company: City of Flint Name: Dort HWY WPS Option 2 - 5 MGD @185 FT Date: 6/13/2019

Pumping Technology For Tomorrow's World

Search Criteria: Size: 12x10 MAA-C Flow: 3472 US gpm Head: 185 ft Type: HSC Speed: 1770 rpm Synch speed: 1800 rpm Dia: 15.4375 in Temperature: 68 °F Curve: 10MAA-C Impeller: C-6072 Density: 62.32 lb/ft³ Viscosity: 0.9946 cP Vapor pressure: 0.3391 psi a Specific Speeds: Ns 1756 Atm pressure: 14.7 psi a Nss: ---NPSHa: --Suction: 12 in Dimensions: Discharge: 10 in

Size: 200 hp Speed: 1800 Standard: NEMA Pump Limits: Enclosure: TEFC Temperature: 200 °F Frame: 447T Power: ---Pressure: 175 psi g Sphere size: 1.75 in Eye area: ---Sizing criteria: Max Power on Design Curve

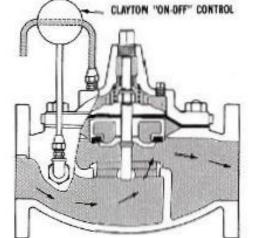


FLOW CONTROL VALVE SHALL BE CLA-VAL 131-66 ELECTRONIC CONTROL VALVE WITH CONTROLLER. UPON POWER LOSS THE VALVE IS TO CLOSE.

JS GPM

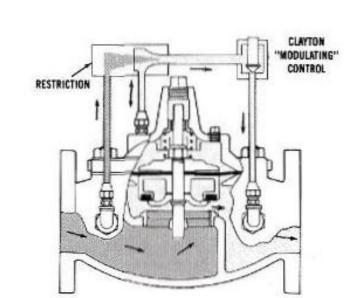
CLAYTON "ON-OFF" CONTROL

TIGHT CLOSING OPERATION When pressure from the valve inlet (or an equivalent independent operating pressure) is applied to the diaphragm chamber the valve closes drip-tight.



Principle of Operation

FULL OPEN OPERATION When pressure in diaphragm chamber is relieved to a zone of lower pressure (usually atmosphere) the line pressure at the valve seat opens the valve. Flow in either direction is permitted.



MODULATING ACTION Valve modulates when diaphragm pressure is held at an intermediate point between inlet and discharge pressure. With the use of a Clayton "Modulating" Control, which reacts to line pressure changes, the pressure above the diaphragm is varied, allowing the

valve to throttle and compensate for the changes.

Flow Loss Chart ...

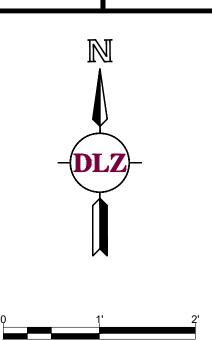
ALVE	Cv				FLC	ow c	F W	ATER	- 0	ALLO	INS F	PER	MINU	TE -	THRU	GL	OBE	PAT	TERN	VALV	E			FIGRID ADIT	IME DISPLACED
IZE	FACTOR	5	10	15	20	30	40	50	60	80	100	150	200	300	400	600	800	1000	2000	3000	4000	6000	10,000	FROM DIAPHI	RAGM CHAMBER
1/2	6	.7	2.7	6.0	11.0																				LYE OPENS
3/4	8	.3	1.4	3.1	5.5	12.2										į.	3 7								
j	13	.14	.57	1.3	2.3	5.1	9.1	14.1	20.4	2														VALVE	
1/4	30		.1	.25	.44	1.0	1.8	2.8	4.0	7.1	11.0							-						SIZE	DISPLACEMENT
1/2	32		.1	.23	.4	9	1.6	2.4	3.5	6.3	9.8	22.0					-		ESSURI					₩"	0.012 Fl. Oz.
	54				.14	.31	.55	.86	1.23	2.19	3.43	7.72	13.72				(B	ASED	ON WID	DE OPE	N VAL	VE)		1/2"	0.34 Fl. Oz.
1/2	80					.14	.25	.4	.6	1.0	1.6	3.5	6,25	14.1										1.0	0.34 Fl. Oz. 0.7 Fl. Oz.
15.	115						.12	.19	.27	1500000		_	3.02		12.10	27.22	1							1-1/4"	.020 Gals.
-	200							.06		The second	.25	DOCUMENTS AND	MANAGE STATES	Mark to the same	DESCRIPTION S	9.0							-	1-1/2"	.020 Gals.
	439										.04	.09	-	.36	Seniorous was	12717-0	2.56	4 00	16.00					2-1/2"	.032 Gals. .043 Gals.
	840		-				-				1000	1	06	.13	.23	DOMESTIC OF THE PARTY OF	The second	1.42		12.76				3" "	.080 Gals.
-			-	-	PRE	SSURE	IN	P.S.I.		7	-	-	.00	140	.10	entropies.	DISCOURAGE OF THE PARTY OF THE	nandare and	The second second second		10.32			4"	.169 Gals.
\rightarrow	1402	_	-	- (B)	ASED C	N WID	E OP	EN VA	LVE)		-		-	-	.10	160	.22	-	A STATE OF THE PARTY OF THE PAR	A A STATE OF THE PARTY OF THE P	FIG NASSACHA/NOSCHI	12.10		8"	.531 Gals. 1.26 Gals.
-	1725	_	-										-	_		-	.66	19	.76			6.81		10"	2.51 Gals.
_	2300		_						-							-	-	.13	THE PERSON NAMED IN	1000		-	And Control of	12"	4.0 Gals.
	2940			-			-					200	222	inc	400	000	no.	1000	.46			4.16	and the same of th	14"	6.50 Gals. 9.57 Gals.
	GPM→	5	10		W CH	30	40	50	60	80			200		400		-						10,000		

3 FULL WORKING DAYS BEFORE YOU DIG CALL

 ∞

Station Rehabilitation

Cedar Street



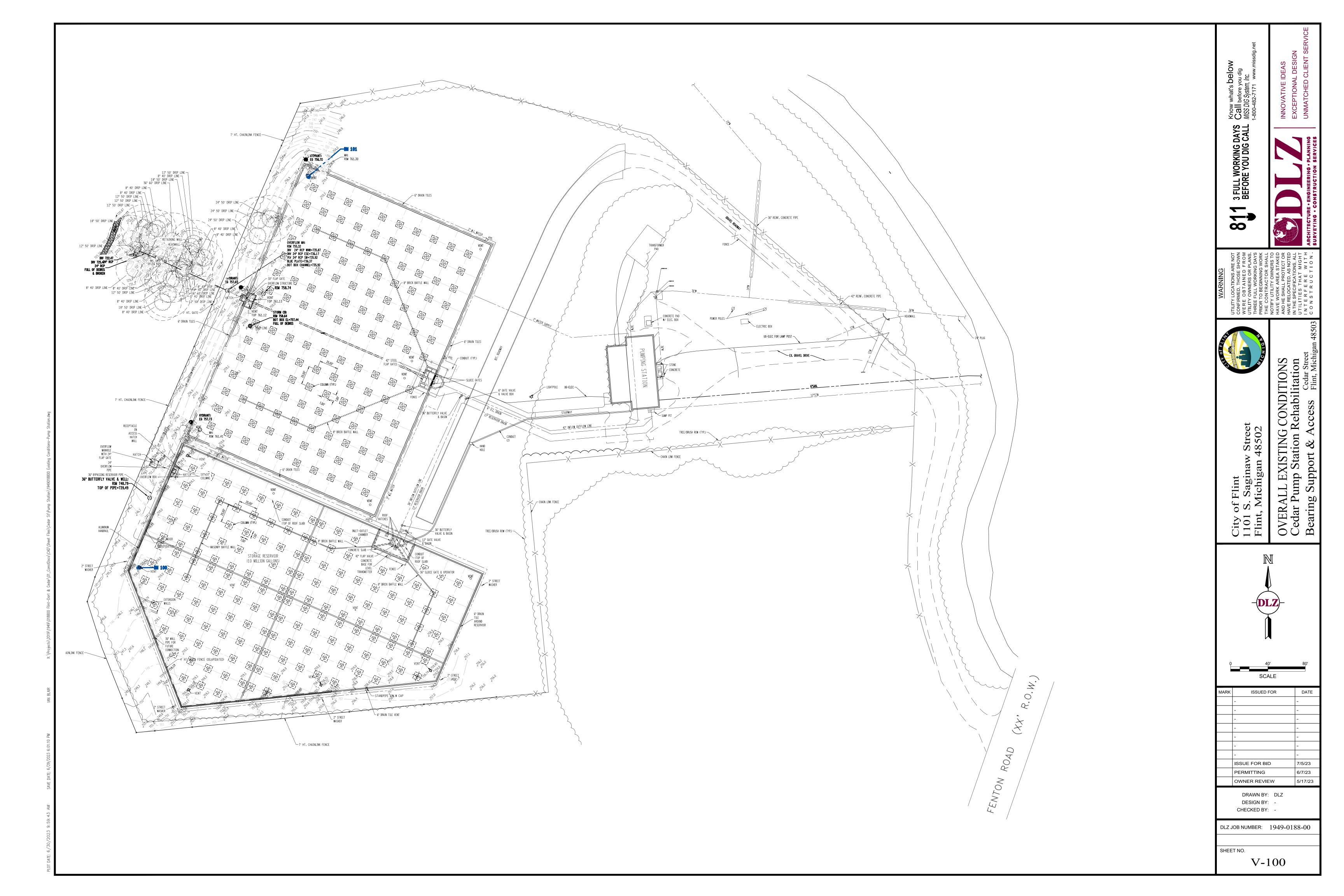
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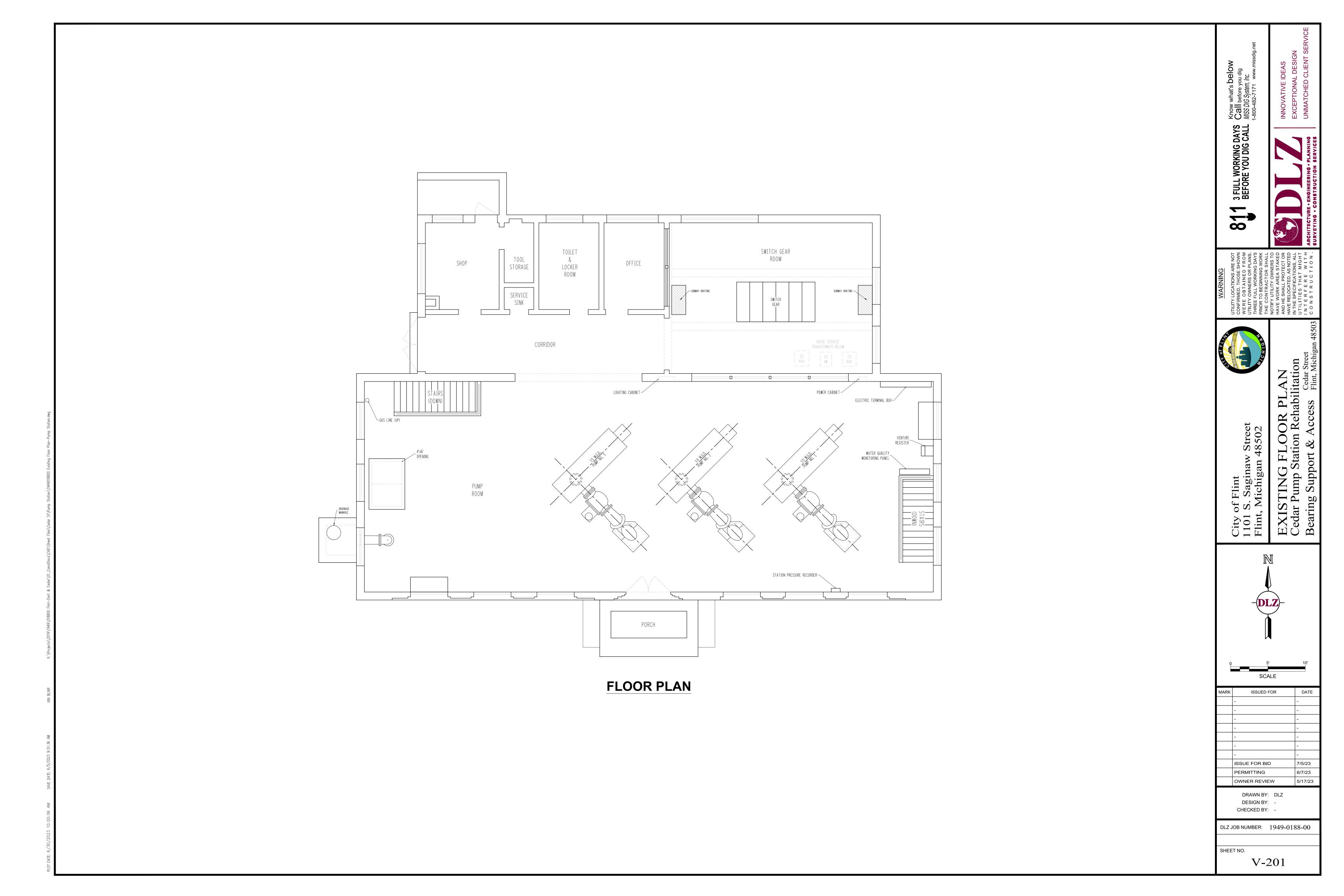
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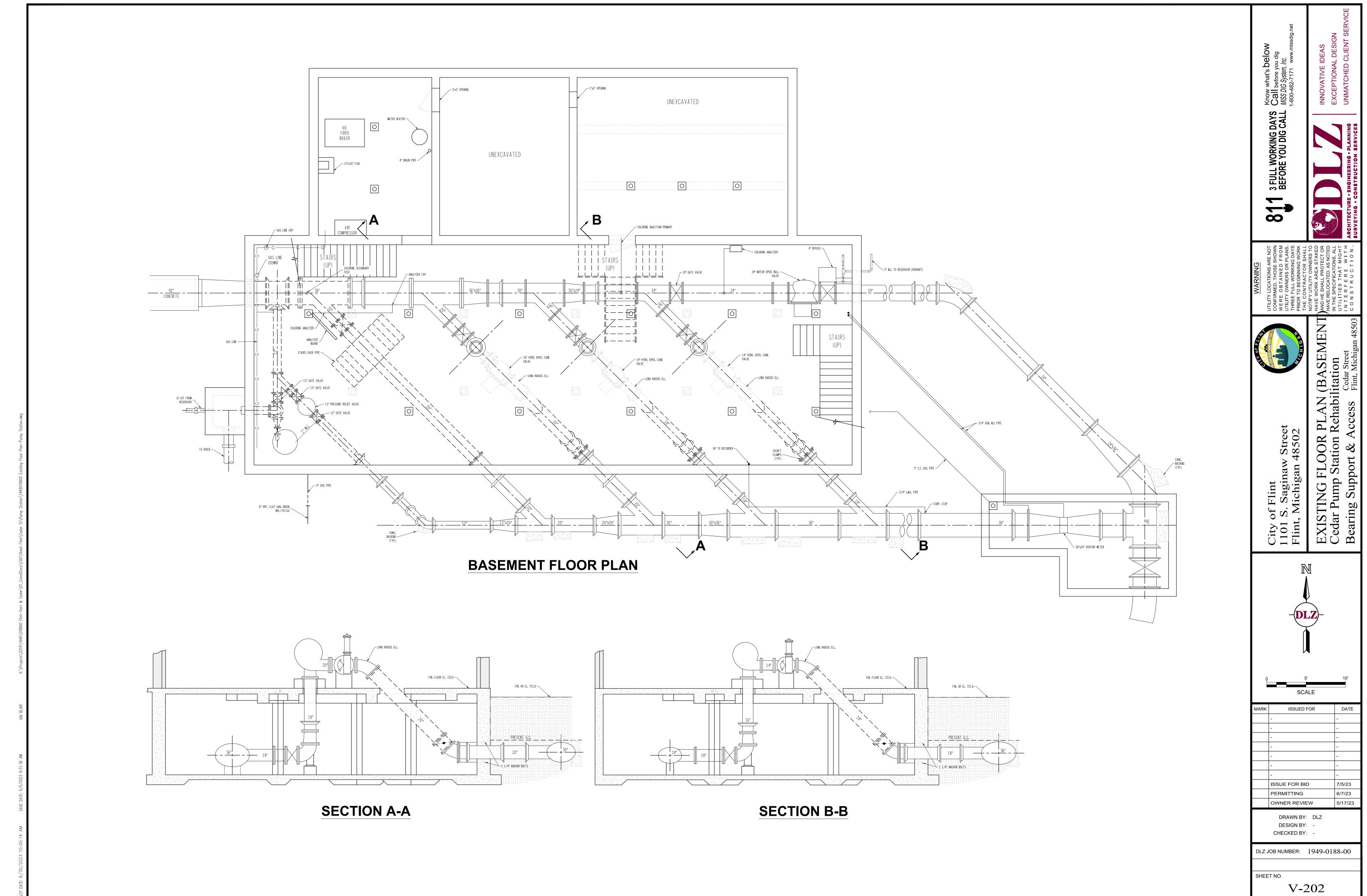
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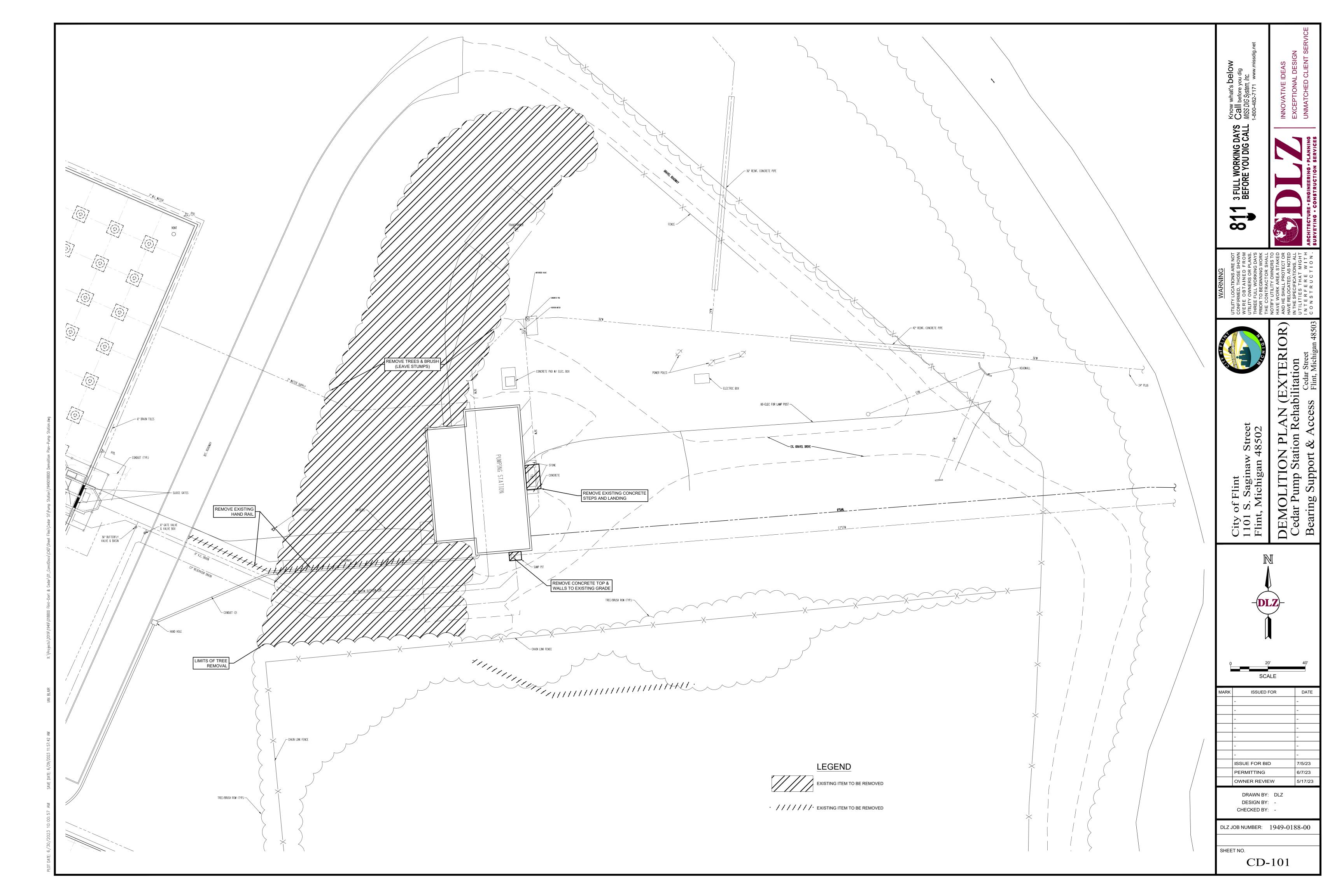
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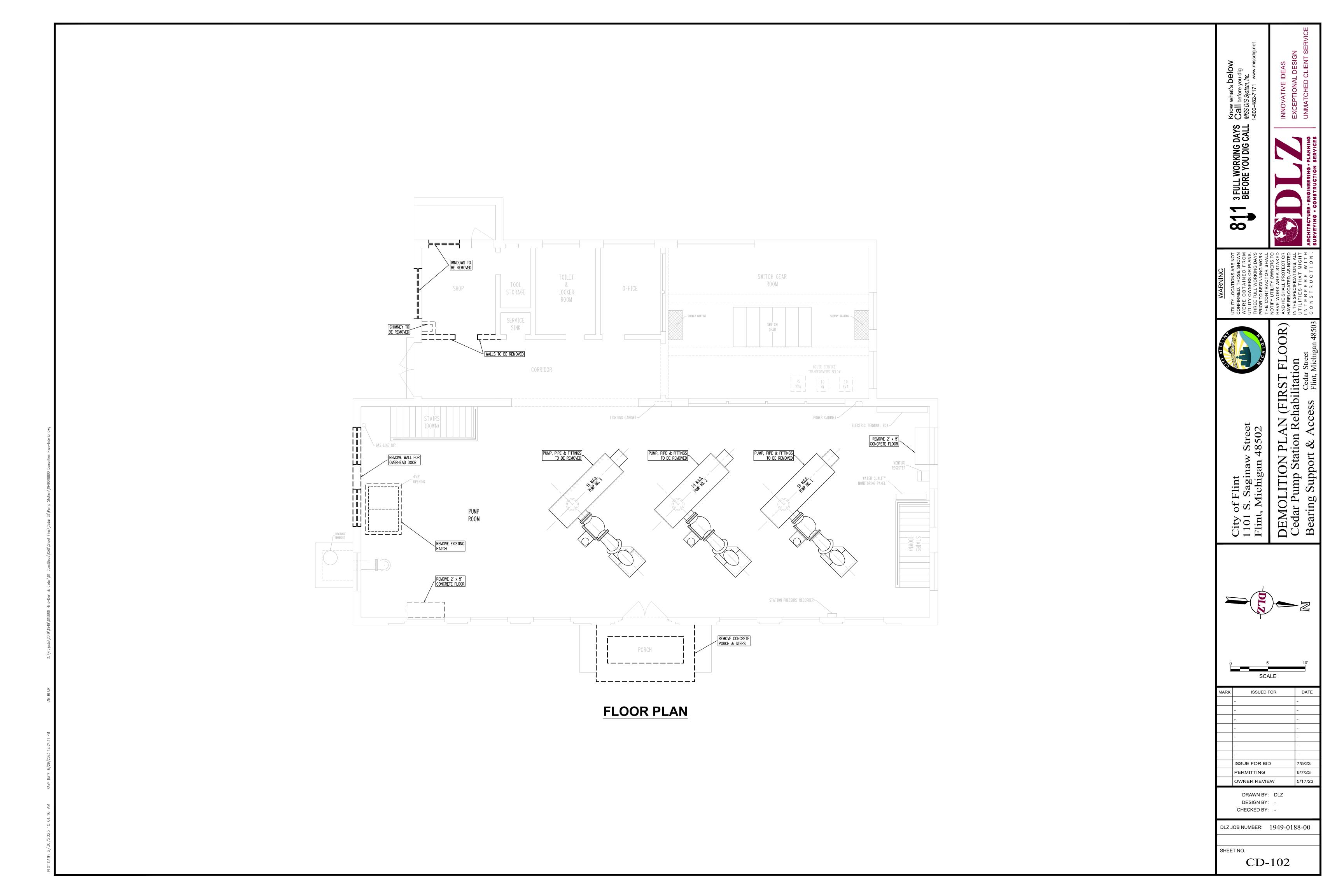
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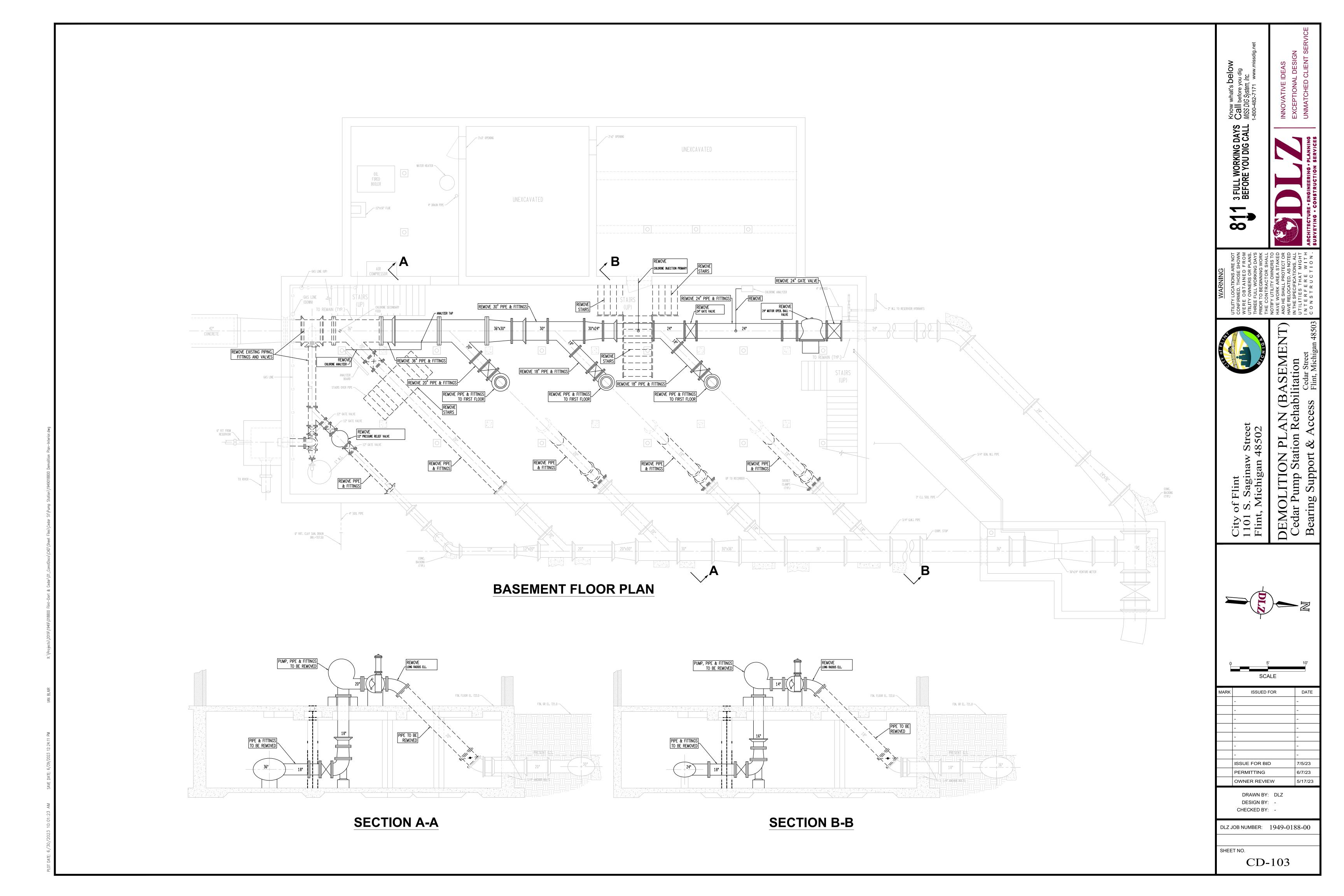


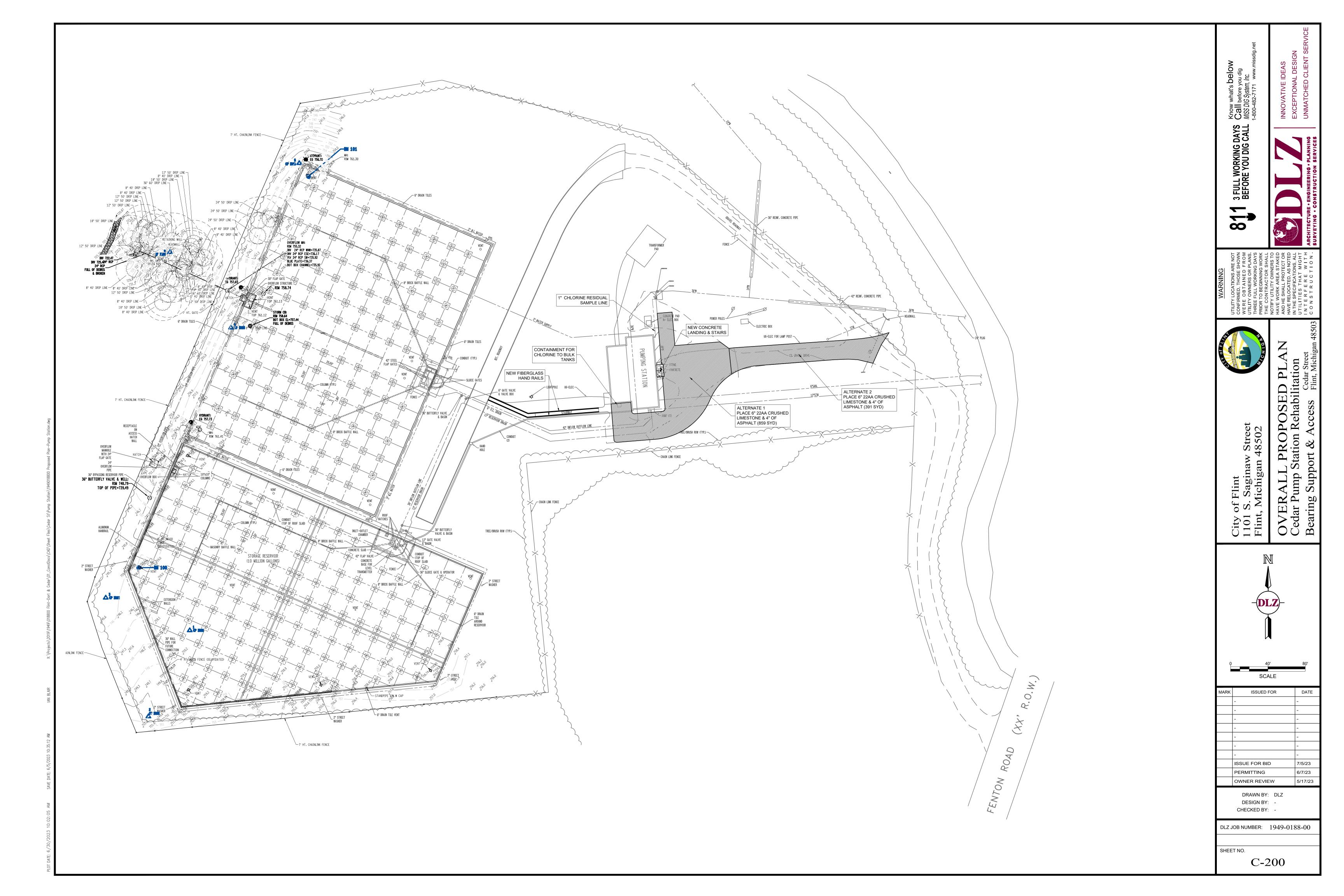


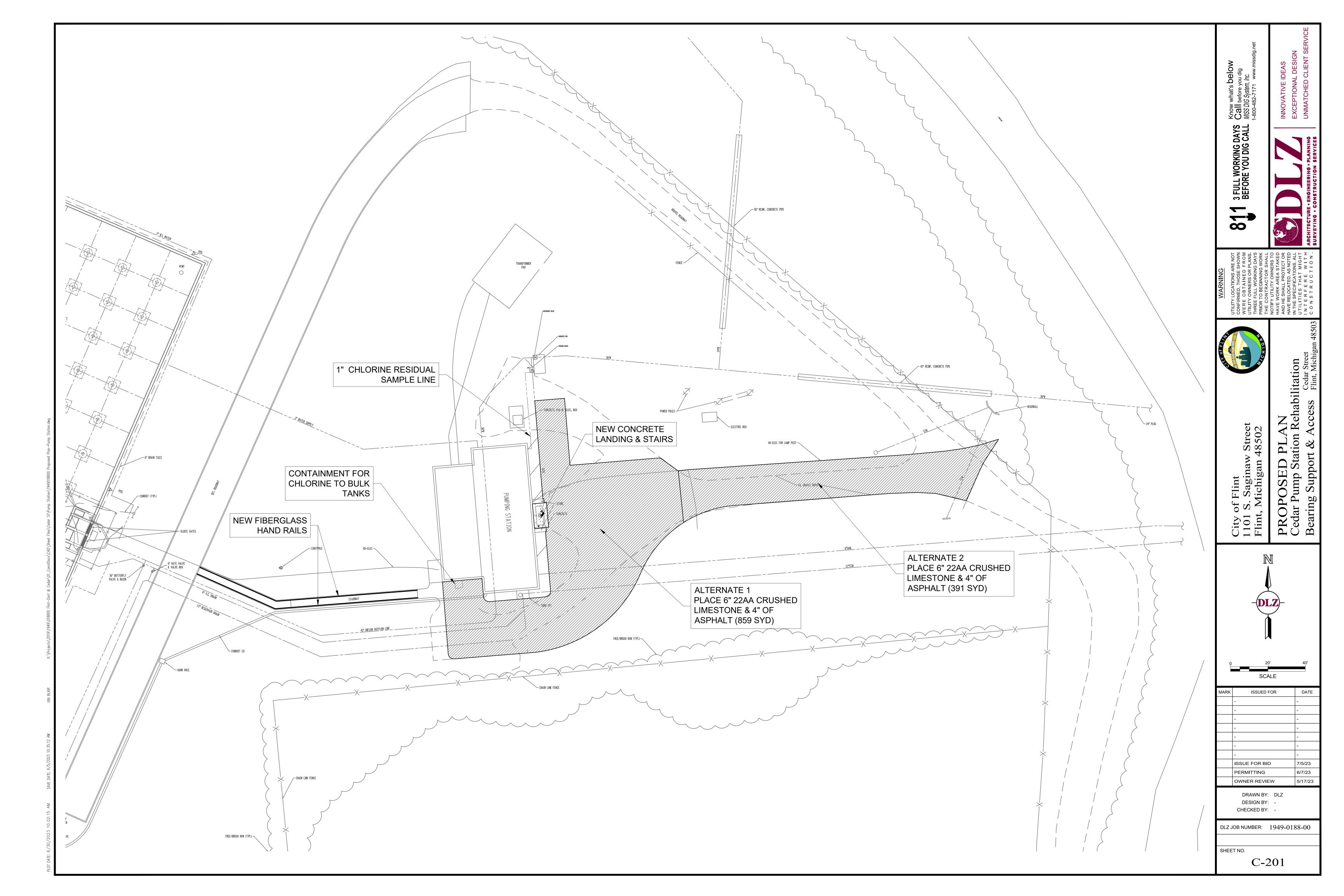


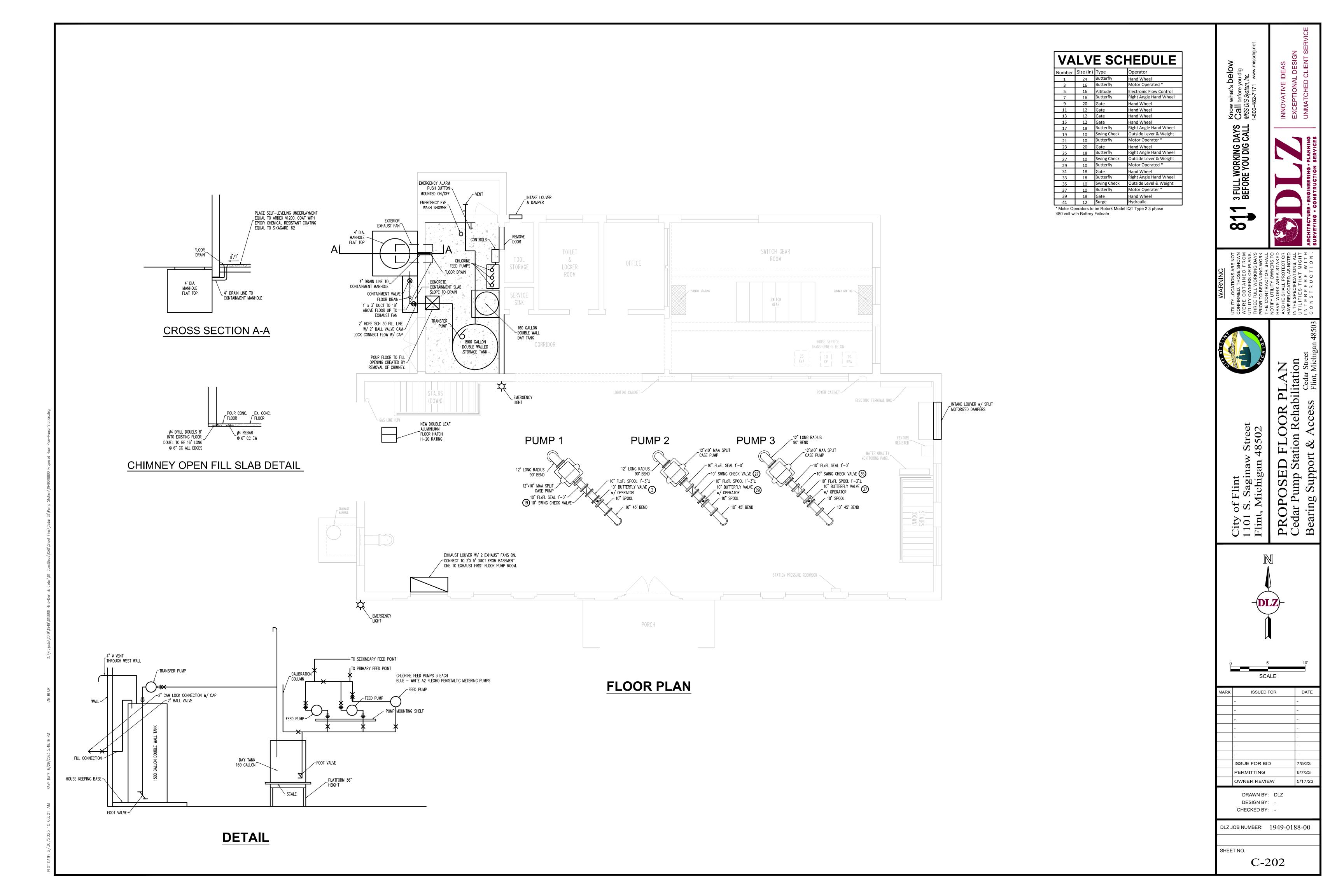


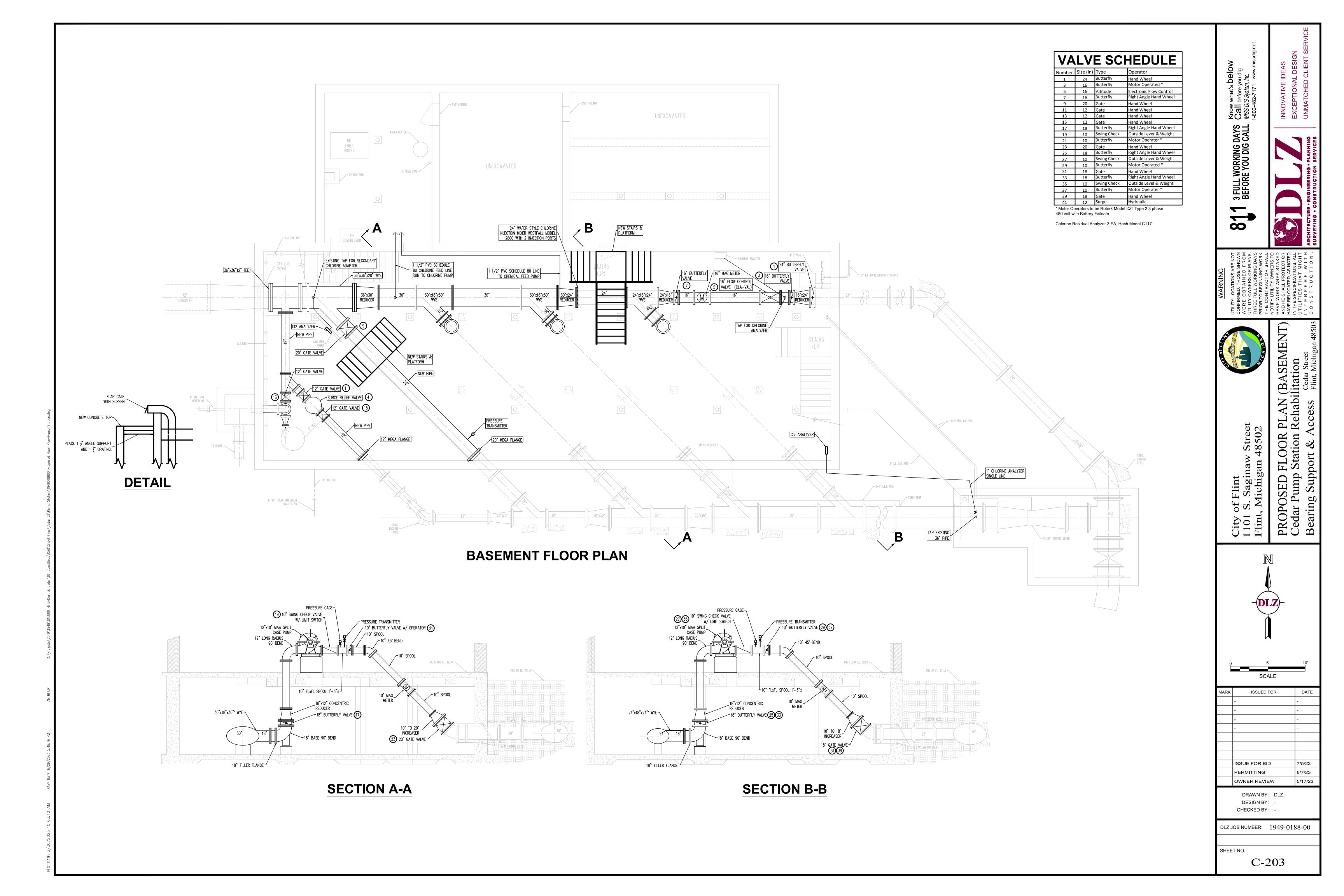


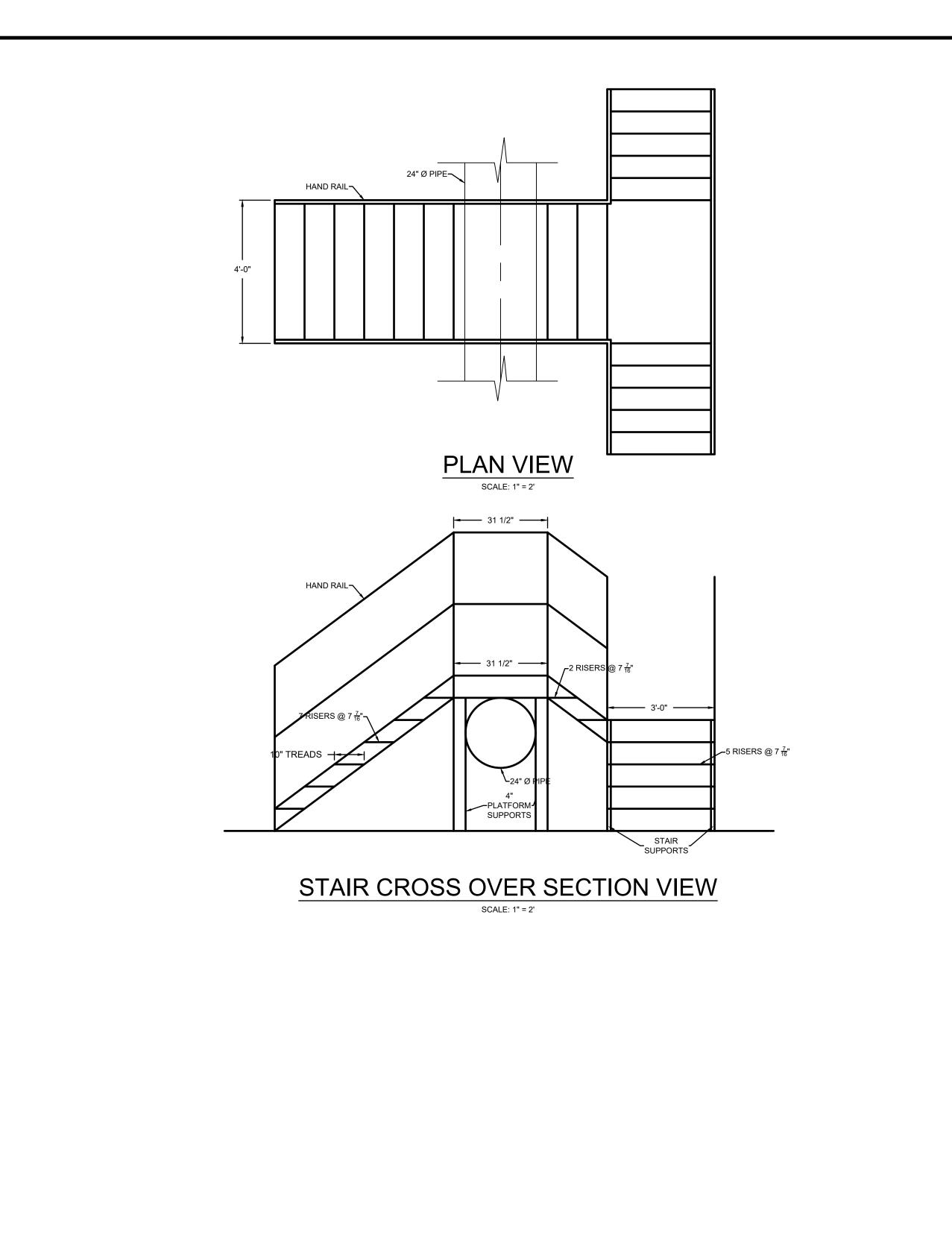


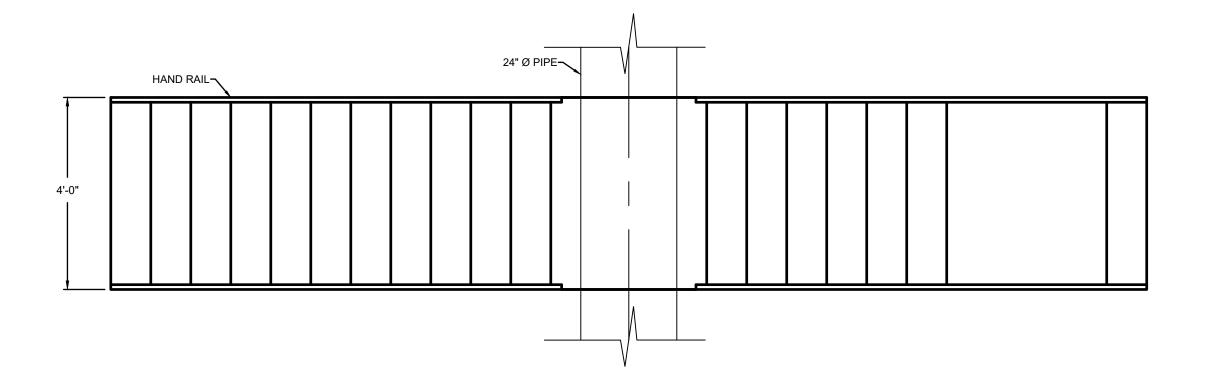




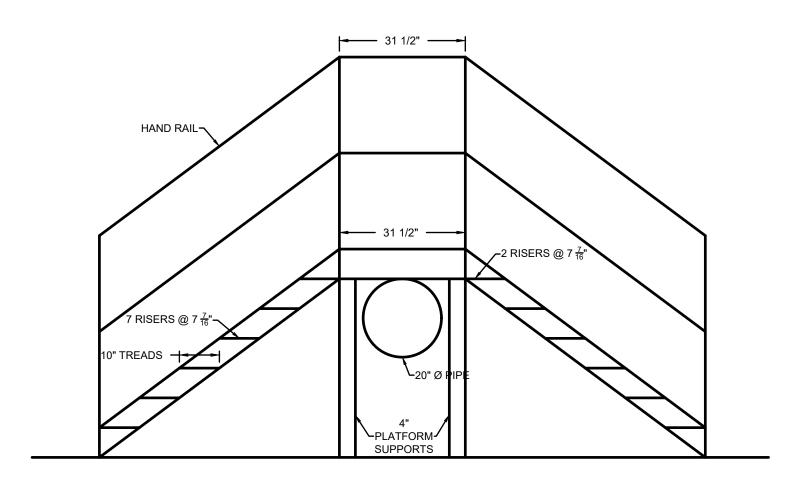




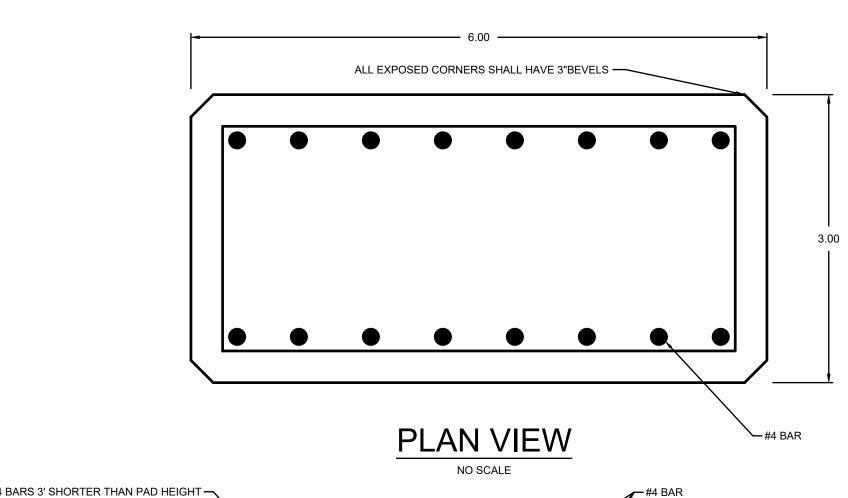


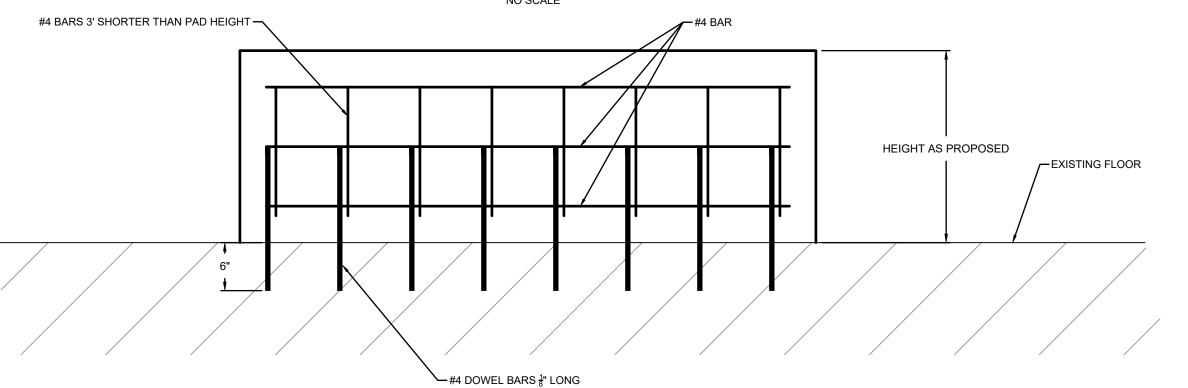


PLAN VIEW SCALE: 1" = 2'



STAIR CROSS OVER SECTION VIEW





PUMP BASE DETAIL SECTION VIEW

3 FULL WORKING DAYS BEFORE YOU DIG CALL

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AIL SHEET

Pump Station Rehabilitation

Repar Street

Cedar Street

Repropert & Access Flint, Michig of Flint 1 S. Saginaw Street 1t, Michigan 48502

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SHEET NO. C-301

B. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO SUBMITTING A BID OR BEGINNING ANY WORK. CONDITIONS FOUND TO BE IN VARIANCE FROM THE INFORMATION IN THE DRAWINGS OR PROJECT MANUAL SHALL BE SUBMITTED TO THE ARCHITECT IN WRITING FOR CLARIFICATION.

C. KEYNOTES ARE MEANT AS A GENERAL GUIDE FOR TYPICAL LOCATIONS. CONTRACTOR TO PERFORM FULL EXTENT OF WORK REQUIRED TO ACCOMPLISH DESIGN INTENT. THE ABSENCE OF A KEYNOTE DOES NOT ABSOLVE THE CONTRACTOR FROM PROVIDING THE FEATURE GRAPHICALLY INDICATED ON THE DRAWINGS.

D. SPECIFIC WORK ITEMS SHALL BE COORDINATED AND INTERFACED WITH ALL OTHER TRADES TO ALLOW FOR NEW CONSTRUCTION AND COMPLETE INSTALLATION AS REQUIRED TO ACCOMPLISH DESIGN INTENT.

E. REFER TO DRAWINGS OF EACH TRADE OR DISCIPLINE FOR ADDITIONAL GENERAL NOTES AND INFORMATION, INCLUDING CIVIL/SITE DEVELOPMENT, ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION AND ELECTRICAL.

F. CONTRACTOR IS RESPONSIBLE FOR ALL WORK IDENTIFIED ON ALL DRAWINGS AND INFORMATION IN THE PROJECT MANUAL, AS A COMPLETE PROJECT. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE SPECIFIC SCOPE OF WORK FOR ANY SUBCONTRACTORS FOR THIS PROJECT.

G. FIELD VERIFY ACTUAL LOCATIONS OF EXISTING UNDERGROUND UTILITIES, STRUCTURES, WATER LINES, STORM AND SANITARY LINES, GAS LINES, ELECTRICAL CONDUIT, AND OTHER UNDERGROUND UTILITIES PRIOR TO PERFORMING EARTHWORK, EXCAVATION, OR UTILITY WORK. ENGAGE THE SERVICES OF A PRIVATE UTILITY LOCATE COMPANY IF NECESSARY TO COMPLETELY LOCATE EXISTING UNDERGROUND UTILITIES AND STRUCTURES.

H. LOCATION OF ALL TEMPORARY FACILITIES SHALL BE COORDINATED WITH OWNER AND ARCHITECT PRIOR TO MOBILIZATION ON-SITE, INCLUDING BUT NOT LIMITED TO TEMPORARY STAGING AREA, MATERIAL STORAGE AREA, ACCESS DRIVE(S), PARKING AREA, TOPSOIL STOCKPILE AREA, WASTE DISPOSAL AREA, FIELD OFFICES AND TEMPORARY FACILITIES, JOB SIGN, AND TEMPORARY FENCING.

I. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MISCELLANEOUS BLOCKING REQUIRED FOR INSTALLATION OF ALL BUILDING COMPONENTS, INCLUDING BUT NOT LIMITED TO FURNISHINGS, FIXTURES, EQUIPMENT, HARDWARE, BRACKETS, AND OWNER-PROVIDED EQUIPMENT. CONTRACTOR SHALL COORDINATE SPECIFIC REQUIREMENTS ASSOCIATED WITH EACH TRADE AND WITH OWNER'S REPRESENTATIVE.

J. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MISCELLANEOUS WOOD AND METAL TRIM, FLASHING, CLIP ANGLES, ANCHORS, SUPPORTS, AND CLOSURE TRIM REQUIRED TO PROVIDE A COMPLETE, UNIFORM, AND WEATHERTIGHT ASSEMBLY AS REQUIRED TO ACCOMPLISH THE DESIGN INTENT.

K. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ACCESSORY COMPONENTS AS REQUIRED TO FULLY COMPLY WITH MANUFACTURER'S RECOMMENDATIONS.

L. CONTRACTOR SHALL PROVIDE ACCESS DOORS IN ALL WALLS AND CEILINGS WHERE SERVICE OR ADJUSTMENT TO MECHANICAL, PLUMBING, FIRE PROTECTION OR ELECTRICAL ITEMS MAY BE REQUIRED. ACCESS DOORS SHALL BE OF AN APPROPRIATE SIZE REQUIRED FOR EACH APPLICATION. WHERE APPLICABLE, ACCESS DOORS SHALL MATCH THE FIRE RATING OF THE WALL ASSEMBLY.

M. WHERE DISCREPANCIES EXIST IN THE CONTRACT DOCUMENTS INCLUDING DISCREPANCIES BETWEEN DRAWINGS AND PROJECT MANUAL, CONTRACTOR SHALL REQUEST CLARIFICATION IN WRITING FROM ARCHITECT. THE CONTRACTOR SHALL NOT ASSUME ANY ITEM TAKES PRECEDENCE OVER THE OTHER, ANY ACTION THE CONTRACTOR MAKES PRIOR TO NOTIFICATION IN WRITING SHALL BE SOLELY AT THE CONTRACTOR'S RISK.

N. CONTRACTOR SHALL SEAL ALL PENETRATIONS IN EXTERIOR WALL AND ROOF ASSEMBLIES WITH APPROPRIATE JOINT SEALANT(S) AND FLASHING(S) TO MAINTAIN A WEATHERTIGHT AND AIRTIGHT BUILDING ENVELOPE. ALL JOINTS AND PENETRATIONS SHALL BE SEALED, GASKETED, OR WEATHER-STRIPPED TO MINIMIZE AIR LEAKAGE, INCLUDING THE FOLLOWING:

1. JOINTS AROUND FENESTRATION AND DOOR FRAMES. 2. JUNCTIONS BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALLS AT BUILDING CORNERS, BETWEEN WALLS AND FLOORS OR ROOFS, AND BETWEEN WALLS AND ROOF OR WALL PANELS.

OPENINGS AT PENETRATIONS OF UTILITY SERVICES THROUGH ROOFS, WALLS, AND FLOORS. 4. JOINTS, SEAMS, AND PENETRATIONS OF VAPOR RETARDERS. 5. ALL OTHER OPENINGS IN THE BUILDING ENVELOPE.

O. COORDINATE WITH OTHER CONSTRUCTION ACTIVITIES AND CONSTRUCTION SEQUENCING WITH OTHER PROJECT(S) AND WORK BEING PERFORMED CONCURRENTLY ON-SITE.

P. CONTRACTOR TO PROTECT ALL ITEMS WITHIN THE CONSTRUCTION LIMITS (INCLUDING SITE ELEMENTS) THAT ARE DESIGNATED TO REMAIN; ITEMS DAMAGED AS A RESULT OF WORK PERFORMED UNDER THIS CONTRACT SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION.

BE SEALED WITH THE FIRESTOPPING SYSTEM OR FIRE-RESISTIVE JOINT SYSTEM WHICH IS THE MOST APPROPRIATE FOR THE SPECIFIC APPLICATION BASED ON THE TYPE OF ASSEMBLY AND TYPE OF PENETRATING ELEMENT. SYSTEMS SHALL BE U.L.-LISTED FOR EACH APPLICATION. R. ALL VERTICAL FENESTRATION (OPERABLE AND FIXED GLAZED ASSEMBLIES) SHALL BE LABELED BY THE

MANUFACTURER WITH U-FACTOR, SHGC RATING, SAFETY RATING, AND FIRE-RESISTANCE RATING, WHERE

Q. ALL PENETRATIONS AND JOINTS IN FIRE-RATED WALL ASSEMBLIES AND FLOOR/CEILING ASSEMBLIES SHALL

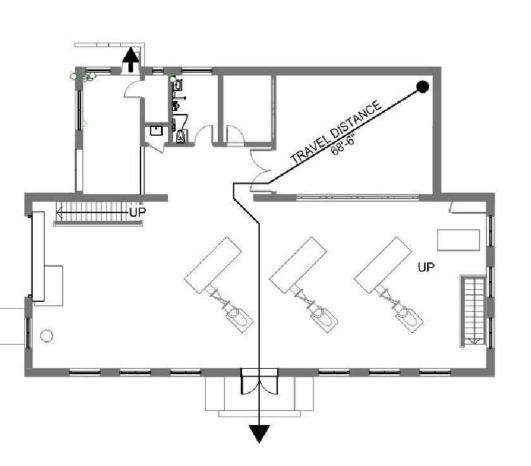
APPLICABLE. WINDOWS AND DOORS SHALL BE CERTIFIED AS MEETING AIR LEAKAGE REQUIREMENTS PER S. THESE DRAWINGS SHALL NOT BE SCALED TO OBTAIN DIMENSIONS. IF THE DIMENSIONS CANNOT BE DETERMINED BY THE INFORMATION GIVEN, CONTRACTOR SHALL REQUEST CLARIFICATION FROM THE ARCHITECT. ALL DIMENSIONS ARE TO FACE OF STUD, FACE OF CMU, OR FACE OF CONCRETE, UNLESS NOTED

T. CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL NECESSARY DEWATERING ACTIVITIES AS PART OF THE BASE

OTHERWISE. CEILING HEIGHT DIMENSIONS ARE FROM FINISHED FLOOR TO FACE OF FINISHED CEILING

UP- UP







MATERIALS, UNLESS NOTED OTHERWISE.

BUILDING CODE SUMMARY

A. PROJECT SUMMARY 7,344 SF EXISTING PUMP STATION

> a. 3,672 SF GROUND FLOOR: ALTERATION LEVEL 1 b. 3,672 SF LOWER LEVEL 1: ALTERATION LEVEL 1

c. REROOFING: ALTERATION LEVEL 1 d. EXTERIOR MASONRY REPAIR, 97 LF TUCK POINTING & 950 RESEALING:

2. EXISTING PUMPSTATION CONSTRUCTION:

ALTERATION LEVEL REPAIR

a. YEAR: 1948 b. SQUARE FOOTAGE: 7,344 SF

3. STRUCTURAL FRAMING SYSTEM: EXISTING TO REMAIN

4. FLOOR SYSTEM: EXISTING TO REMAIN

5. FOUNDATION SYSTEM: EXISTING TO REMAIN

ROOFING SYSTEM:

2-PLY MODIFIED BITUMEN ROOFING SYSTEM

B. GOVERNING BUILDING CODES

1. BUILDING CODE; 2015 MICHIGAN REHBILITATION CODE FOR EXISTING BUILDINGS

2. PLUMBING CODE: 2015 MICHIGAN PLUMBING CODE

3. ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE

4. MECHANICAL CODE: 2015 MICHIGAN MECHANICAL CODE

5. ENERGY CODE: 2015 MICHIGAN ENERGY CONSERVATION CODE (ASHREAE 90.1-2013 WITH MICHIGAN AMENDMENTS)

6. FIRE CODE 2015 INTERNATIONAL FIRE CODE

C. OCCUPANCY CLASSIFICATION

1. USE GROUP F-1 (EXISTING)

D. OCCUPANCY SEPARATION 1. NOT NEEDED

E. CONSTRUCTION CLASSIFICATION 1. I-B (EXISTING)

F. FIRE RESISTIVE REQUIREMENTS

1. BEARING WALLS - EXTERIOR:	EXISTING TO REMAIN
2. BEARING WALLS - INTERIOR:	EXISTING TO REMAIN
3. NON BEARING WALLS - EXTERIOR:	EXISTING TO REMAIN
4. STRUCTURAL FRAME:	EXISTING TO REMAIN
5. PARTITIONS PERMANENT:	EXISTING TO REMAIN
6. SHAFT ENCLOSURES:	EXISTING TO REMAIN
7. FLOORS AND ASSOCIATED SECONDARY MEMBERS:	EXISTING TO REMAIN
8. ROOFS AND ASSOCIATED SECONDARY MEMBERS:	EXISTING TO REMAIN
9. STAIRWAYS CONSTRUCTION:	EXISTING TO REMAIN

G. ALLOWABLE HEIGHT AND AREA (TABLE 504.4 AND TABLE 506.2) EXISTING TO REMAIN

H. OCCUPANT LOAD

ROOM OCCUPANCY SCHEDULE							
ROOM NO.	ROOM NAME	(ASSIGNABLE) AREA	OCCUPANCY FACTOR	NO. OF OCCUPANTS			
LOWER LEV	EL						
В	HIGH VOLTAGE ROOM	848 SF	1/300	3			
В	FURNACE ROOM	289 SF	1/300	1			
В	WATER PUMPS II	2105 SF	1/300	8			
FIRST FLOO	R	3241 SF		12			
1	WATER PUMPS	2086 SF	1/300	7			
2	CONTROLS ROOM	523 SF	1/300	2			
3	OFFICE	92 SF	1/300	1			
4	RESTROOM	86 SF	0	0			
5	JC	11 SF	0	0			
6	CHEMICAL ROOM	191 SF	1/300	1			
		2989 SF		11			
Grand total		6230 SF		23			

I. EXIT WIDTH REQUIRED 1. EXISTING TO REMAIN

J. FIRE SUPRESSION 1. NONE (EXISTING TO REMAIN)

K. FIRE ALARM SYSTEM

EXISTING TO REMAIN M. PLUMBING FIXTURES PROVIDED:

OCCUPANCY	ANTICIPATED MAX. OCCUPANT LOAD		CLOSETS	LAVAT	ORIES	AND THE RESERVE OF THE PARTY OF	IOTE 2) NALS		KING NTAIN		IOTE 3) NERS	SERVI	CE SINK		OWER / VASH	
E1	F1	38	REQ'D	PROV.	REQ'D	PROV.	REQ'D	PROV.	REQ'D	PROV.	REQ'D	PROV.	REQ'D	PROV.	REQ'D	PROV.
	30	1	1	1	1	0	1	1	0	0	0	EXIST	EXIST	EXIST	EXIST	

. WATER CLOSETS PROVIDED MEET THE MINIMUM NUMBER REQUIRED.

N. THERMAL VALUES

1. ROOF: R-30 O. EXIT ACCESS DOORWAYS

WHERE 2 EXITS ARE REQUIRED, THE SEPARATION DISTANCE OF EXIT DOORS SHALL NOT BE LESS THAN 1/3 THE LENGTH OF THE MAXIMUM OVERALL DIAGONAL DIMENSION OF THE AREA

P. EXIT ACCESS TRAVEL DISTANCE (TABLE 1016.1) USE GROUP S-1: 200' MAX.

MAXIMUM EXIT ACCESS TRAVEL DISTANCE: (89'-10")

Q. COMMON PATH OF EGRESS TRAVEL DISTANCE (TABLE 1014.3) USE GROUP F-1: 100' MAX.

MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE: (58'-10"

WORKING I

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E ANALYSIS & COMPLIANCE tion Rehabilitation CODE A Static port &

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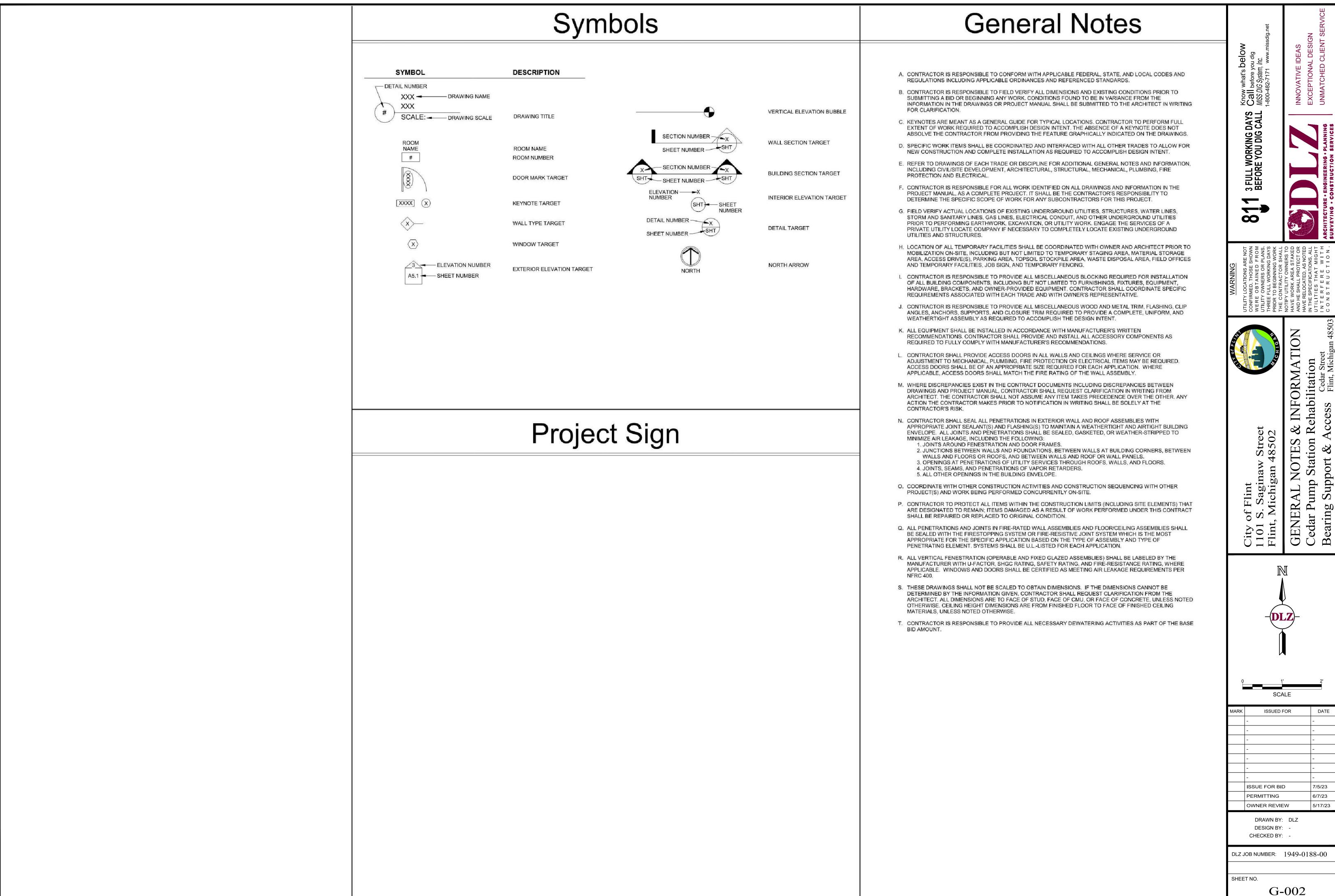
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	OWNER REVIEW	5/17/23

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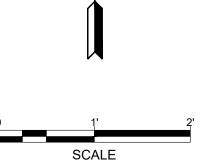
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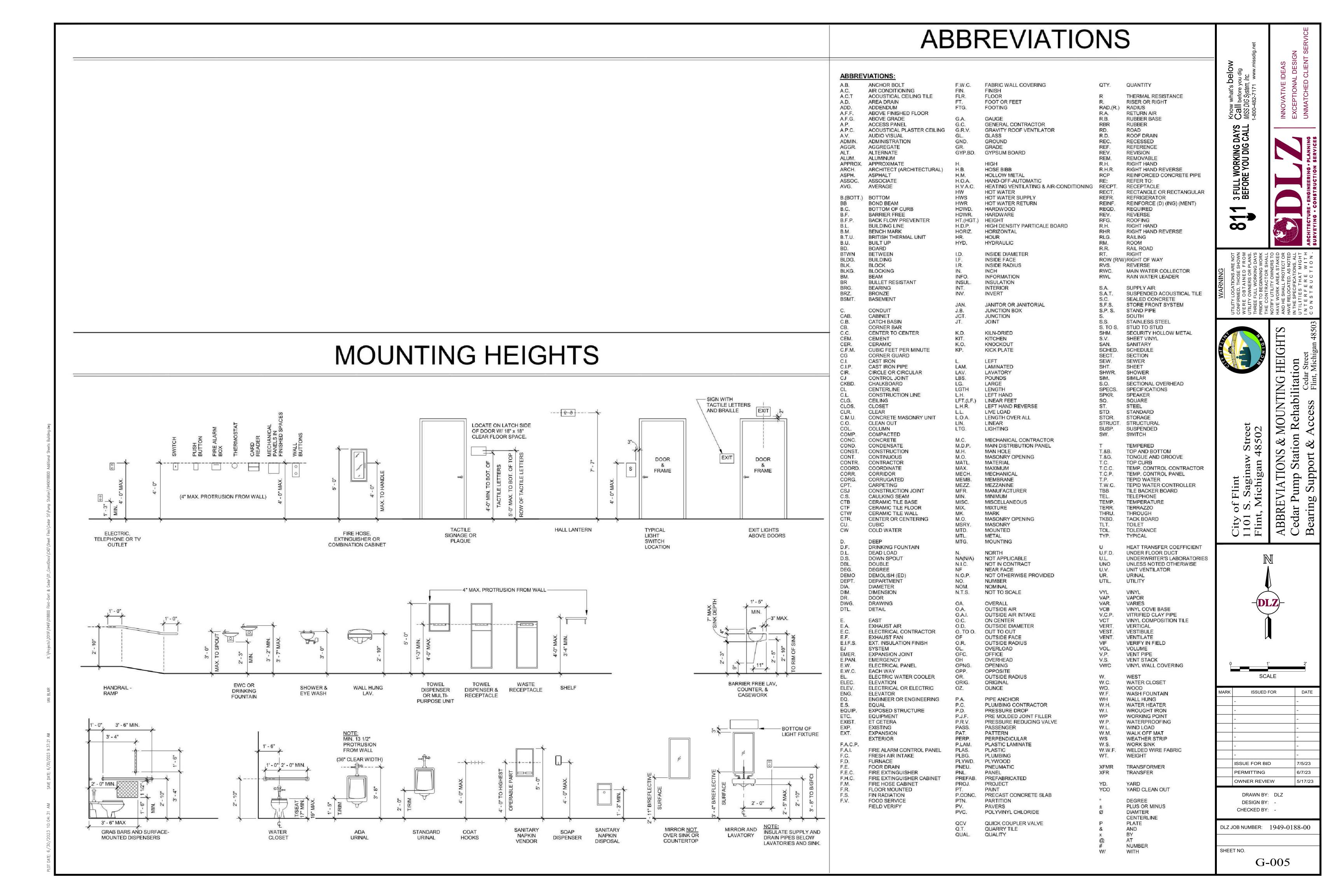


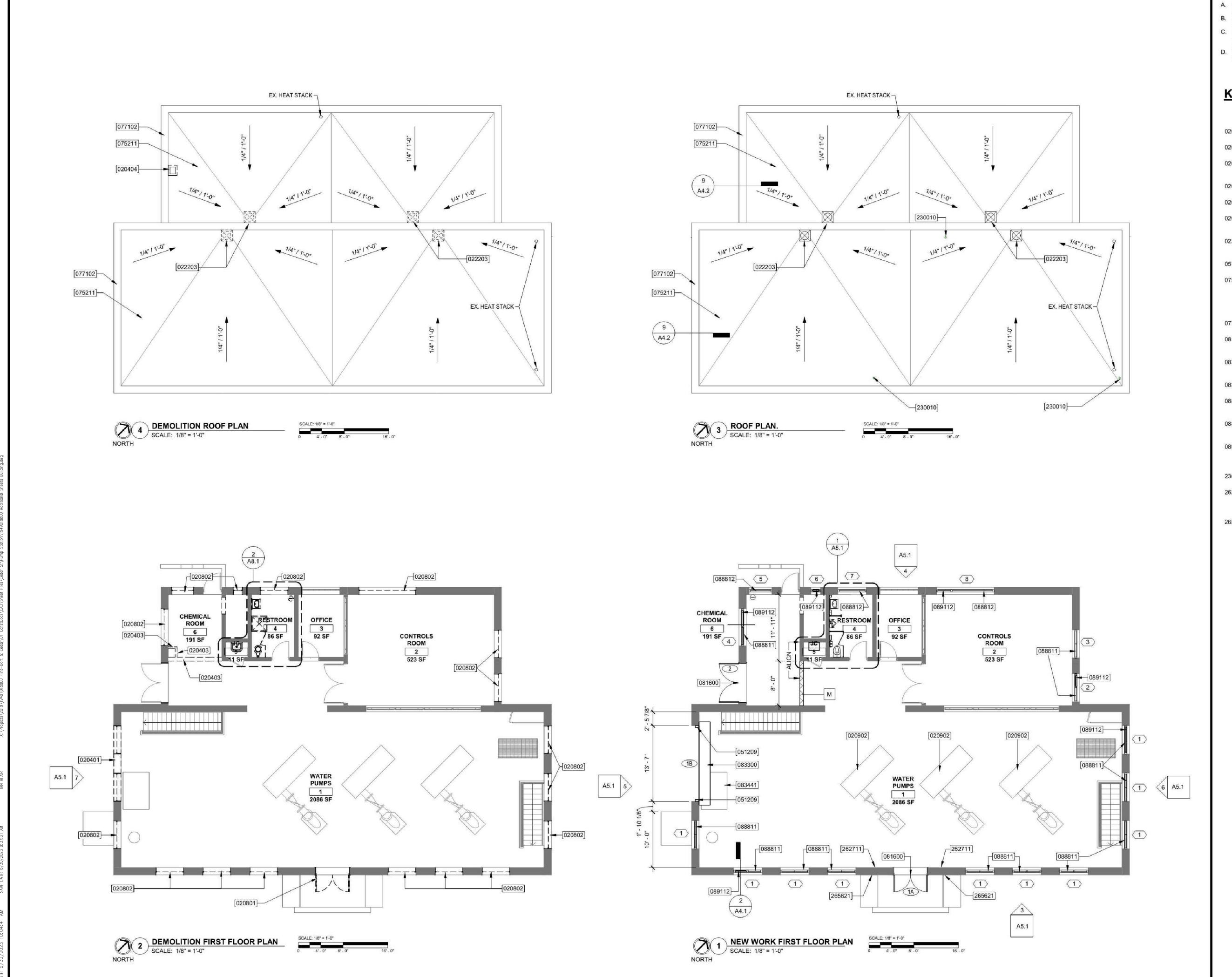
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GENERAL NOTES:

- A. REFER TO G-002 PROJECT GENERAL NOTES FOR ADDITIONAL INFORMATION.
- B. REFER TO PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.
- FIELD VERIFY ALL DOOR DIMENSIONS. EXPOSED STRUCTURAL STEEL, METAL DECK, AND
- PRE-CAST CONCRETE SHALL BE PAINTED. D. EXPOSED DUCTWORK, PIPING AND CONDUIT SHALL BE PAINTED.

KEYNOTES

- 020403 REMOVE EXISTING MASONRY INTERIOR WALL
- 020404 REMOVE EXISTING CHIMNEY AND CAP OPENING
- 020801 REMOVE EXISTING FRP DOOR AND FRAME
- 020802 REMOVE EXISTING WINDOW INFILL AND FRAME
- 020902 REMOVE EXISTING PUMP BASE AND INSTALL NEW FLOOR TILE TO MATCH ADJACENT SURFACES.
- 022203 REMOVE AND REINSTALL EXISTING ROOF DRAIN

051209

- SUBSTRATE FOR RE-ROOFING, INSTALL NEW POLYISOCYANURATE INSULATION, 1/2" COVER BOARD AND 2-PLY MODIFED BITUMEN ROOFING SYSTEM
- 077102 NEW METAL COPING OVER EXISTING STONE CAP
- 081600 NEW FRP DOOR AND FAME IN EXISTING OPENING, REFER TO DOOR AND FRAME SCHEDULE.
- 083300 COILING COUNTER DOOR, REFER TO DOOR AND FRAME SCHEDULE
- 083441 REPLACE EXISTING HATCH. SEE MECHANICAL
- 088811 STRUCTURED-POLYCARBONATE-PANEL AND
- 088812 SECURITY PANEL AND FRAME, SEE SPEC, INSTALL
- 089112 HALF OR FULL WIDTH LOUVERS WITH DAMPERS WITH OR WITHOUT EXHAUST FANS, SEE SPEC.

- 020401 REMOVE EXISTING MASONRY
- JUST ABOVE ROOF.

- WITH NEW ROOFING SYSTEM

- 075211 REMOVE EXISTING ROOFING SYSTEM, PREPARE

- FRAME. SEE SPEC. INSTALL IN EXISTING OPENING
- IN EXISTING OPENING
- AND SCHEDULE
- 230010 EQUIPMENT FLUE
- 262711 INSTALL CONDUIT FOR EXTERIOR WALL MOUNTED LIGHTING AND SEAL PENETRATION IN EXTERIOR
- 265621 INSTALL EXTERIOR WALL MOUNTED LIGHT. SEE ELECTRICAL.

3 FULL WORKING DAYS BEFORE YOU DIG CALL ∞

COMPOSITE PLAN & ROOF P Station Rehabilitation Sport & Access Flint, Michiga

NEW WORK COI Cedar Pump S

SCALE

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						ROO	M FIN	ISH SC	HEDU	ILE				
		FLO	ORS				WAL	LS				CE	LING	
ROOM		NORTH	NORTH		EAST		SOUTH		WEST			REMARKS		
NO.	ROOM NAME	MAT.	BASE	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	MAT.	FINISH	
1	WATER PUMPS	EXIST.	EXIST.	EXIST.	PT.	EXIST.	PT.	EXIST./CMU	PT.	EXIST.	PT.	EXIST.	PT.	
2	CONTROLS ROOM	EXIST.	EXIST.	EXIST.	PT.	EXIST.	PT.	EXIST.	PT.	EXIST.	PT.	EXIST.	PT.	
3	OFFICE	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	PT.	
4	RESTROOM	EXIST.	EXIST.	EXIST.	PT.	EXIST.	PT.	EXIST.	PT.	EXIST.	PT.	EXIST.	PT.	
5	JC	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	EXIST.	
6	CHEMICAL ROOM	EXIST.	EXIST.	EXIST./CMU	PT.	EXIST.	PT.	EXIST.	PT.	EXIST.	PT.	EXIST.	PT.	
7	BASEMENT	EXIST.	EXIST.	EXIST.	PT.	EXIST.	PT.	EXIST.	PT.	EXIST.	PT.	EXIST.	PT.	

EXISTING TO REMAIN PAINT, COLOR 1 QUARRY TILE

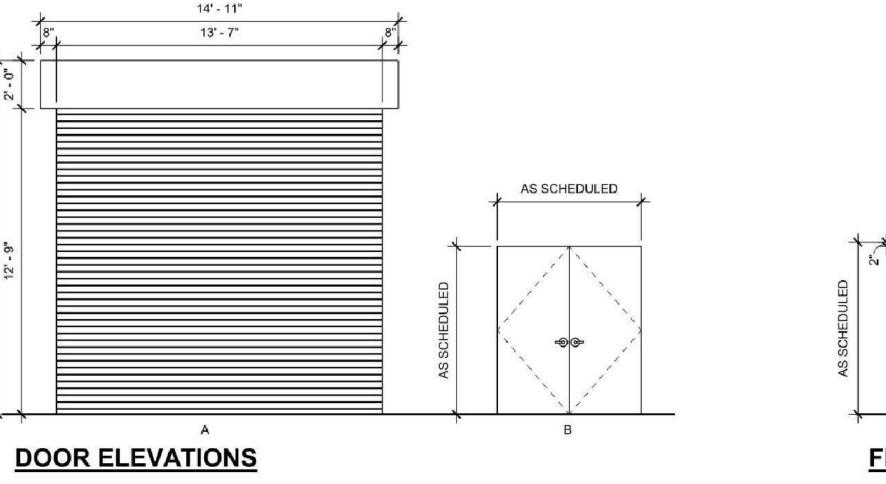
						DC	OR ANI	FRAM	E SCH	EDULE					
			DOO	R				FRAME					DETAILS	3	
OPNG. NO.	A CONTROL OF THE SAME AND ADDRESS OF	HEIGHT	DOOR TYPE	DOOR MATERIAL	GLAZING	FRAME WIDTH	FRAME HEIGHT	FRAME DEPTH	FRAME TYPE	FRAME MATERIAL	FIRE RATING	HEAD	JAMB	THRES HOLD	REMARKS
A	6' - 0"	7' - 0"	В	FRP	-	2"	2"		1	STL		4/A4.1	5/A4.1	6/A4.1	1,2,3
В	13' - 7"	12" - 9"	Α	STL	a)	2"	2"		1	STL		1/A4.1	7/A4.1		1,2
li e	7' - 0"	8' - 6"	В	FRP		2"	2"		1	STI		4/A4 1	5/A4 1	6/A4 1	123

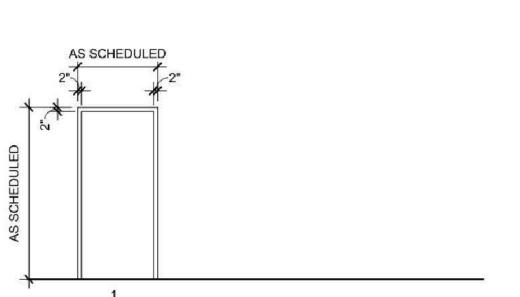
ABBREVIATIONS:
FRP FIBERGLASS REINFORCED PANEL
GL1 1/4" TEMPERED GLAZING

REMARKS:

1. FOR DOOR HARDWARE, REFER TO PROJECT MANUAL SECTION 08 71 00.

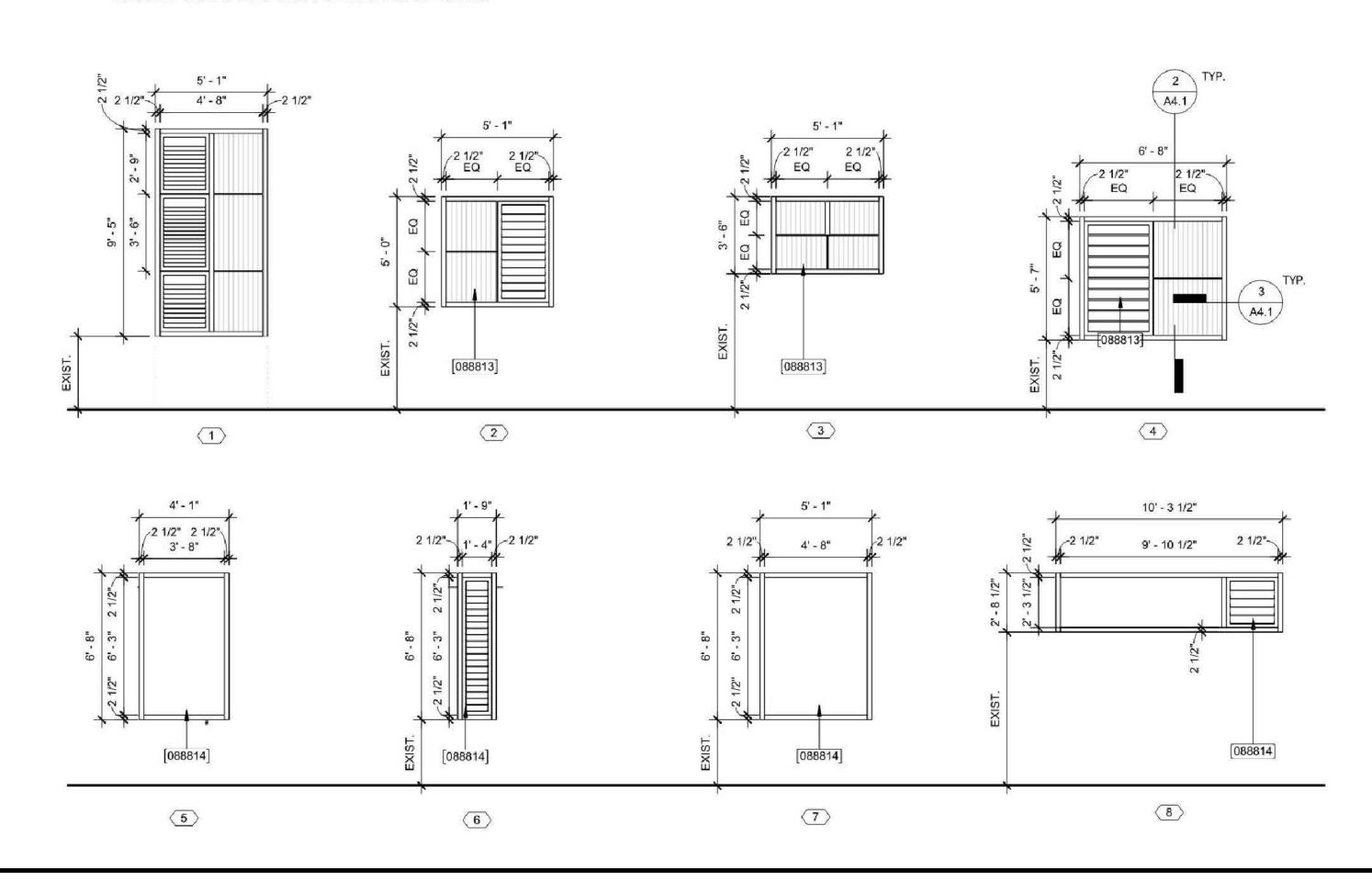
ALL EXTERIOR DOORS TO BE INSULATED.
 FRAME DEPTH BASED ON EXISTING OPENING.





FRAME ELEVATIONS

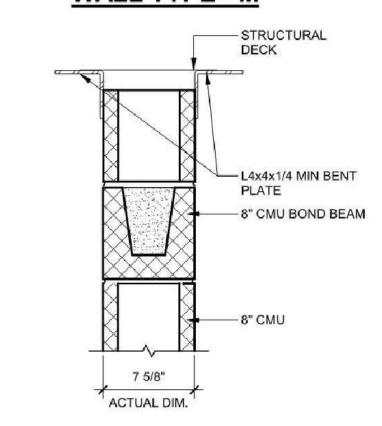
EXTERIOR GLAZING ELEVATIONS



PARTITION SCHEDULE:

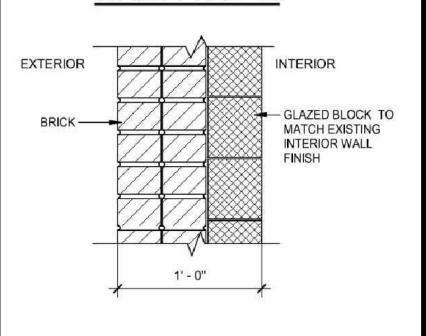
NOTE: PROVIDE APPROPRIATE FIRESTOPPING SYSTEM AT ALL THRU-WALL
PENETRATIONS/OPENINGS FOR RATED WALL AND
FLOOR ASSEMBLIES.

WALL TYPE - M



- TAKE TO UNDERSIDE OF STRUCTURE
 REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS
 CONTINUOUS HORIZONTAL REINFORCING @ 8" O.C. VERTICALLY
 ONE-HOUR FIRE-RATED ASSEMBLY, WHERE INDICATED. U.L DESIGN No. U907

WALL TYPE - N

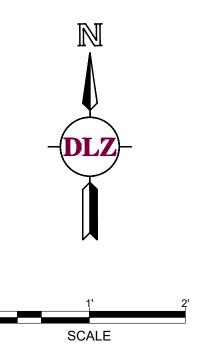


REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS

3 FULL WORKING DAYS BEFORE YOU DIG CALL

SCHEDULES, DETAILS, & PARTITION Cedar Pump Station Rehabilitation

Bearing Support & Access Flint, Mich



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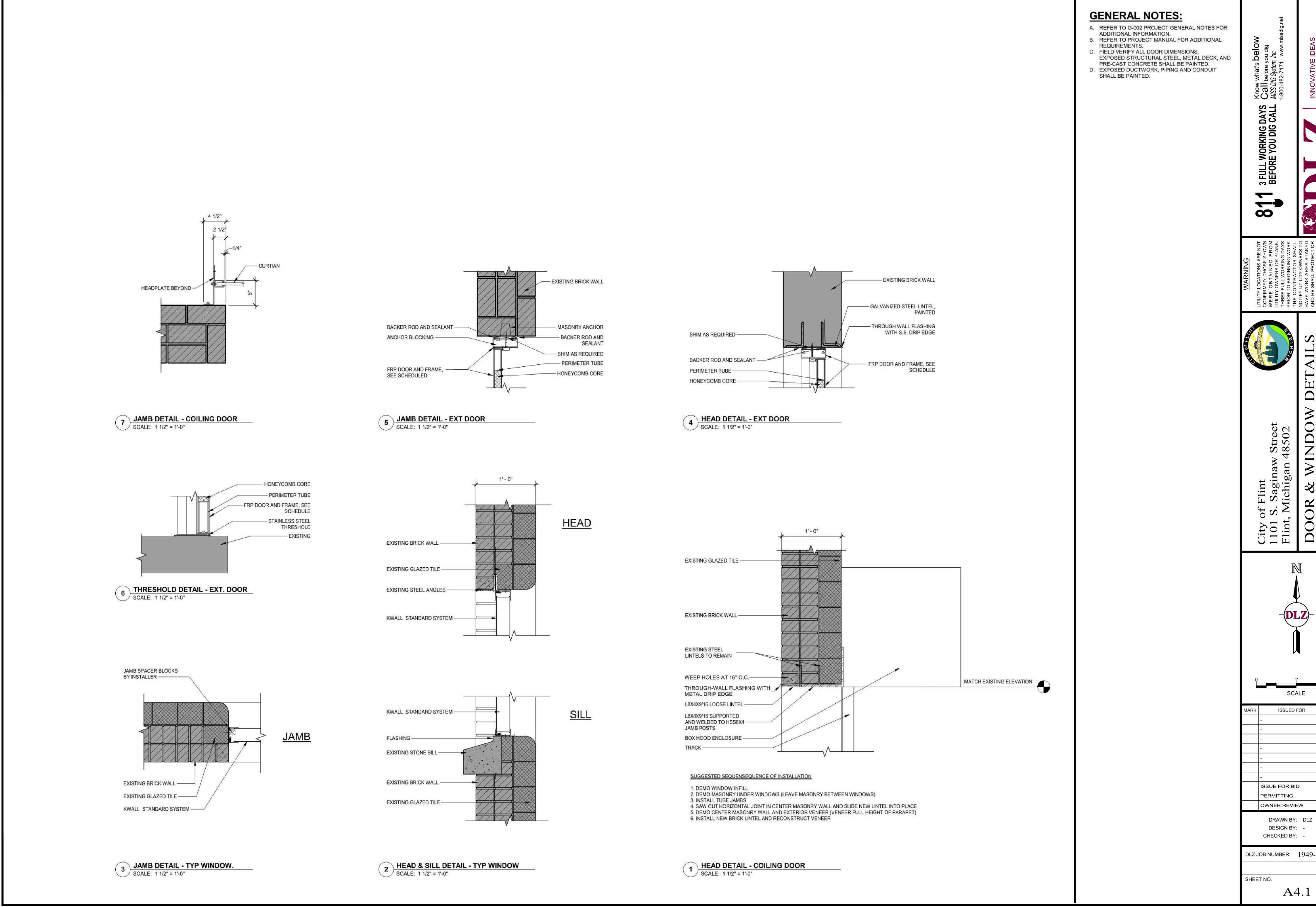
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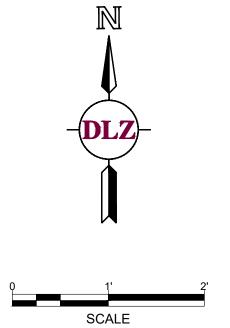
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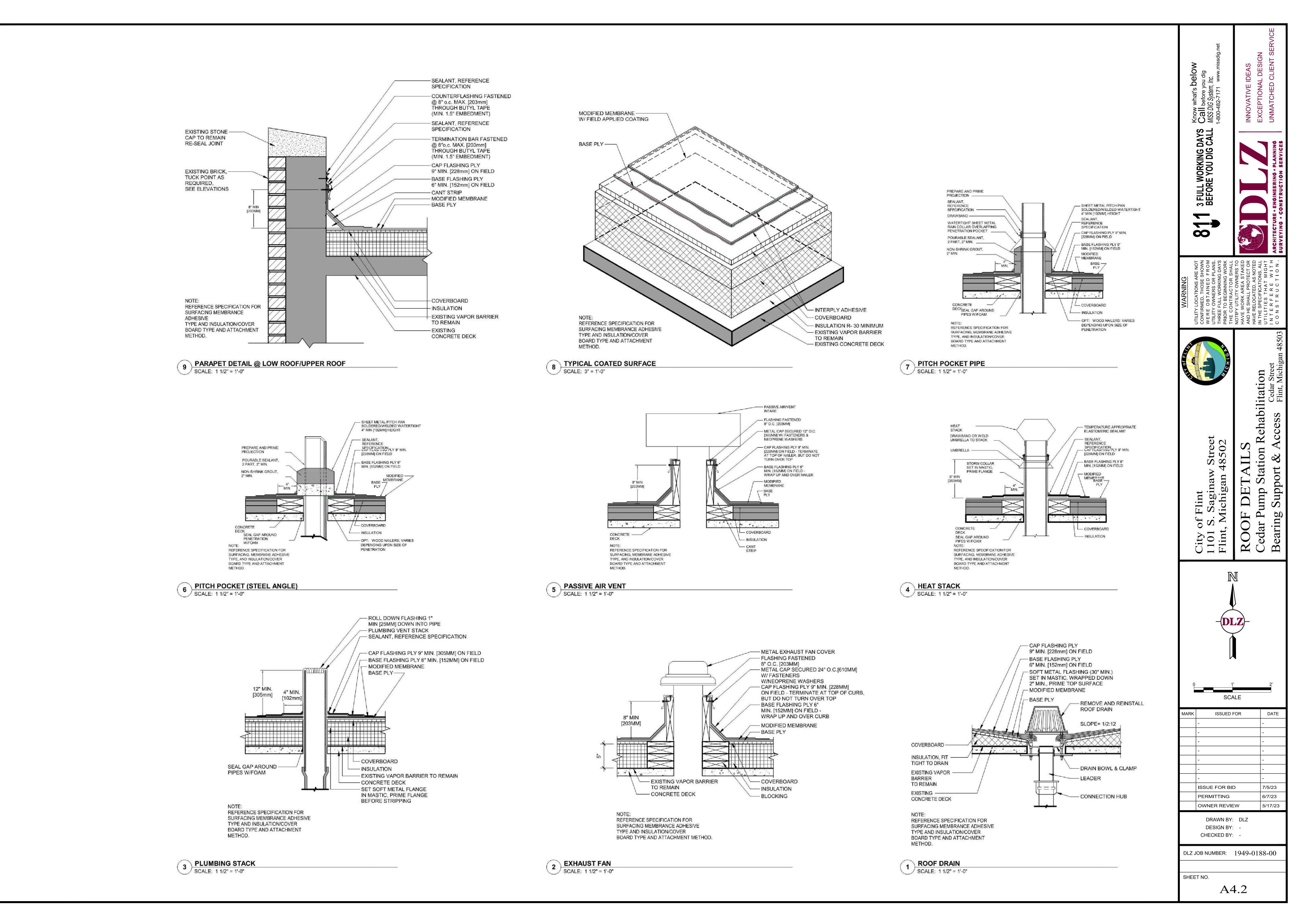
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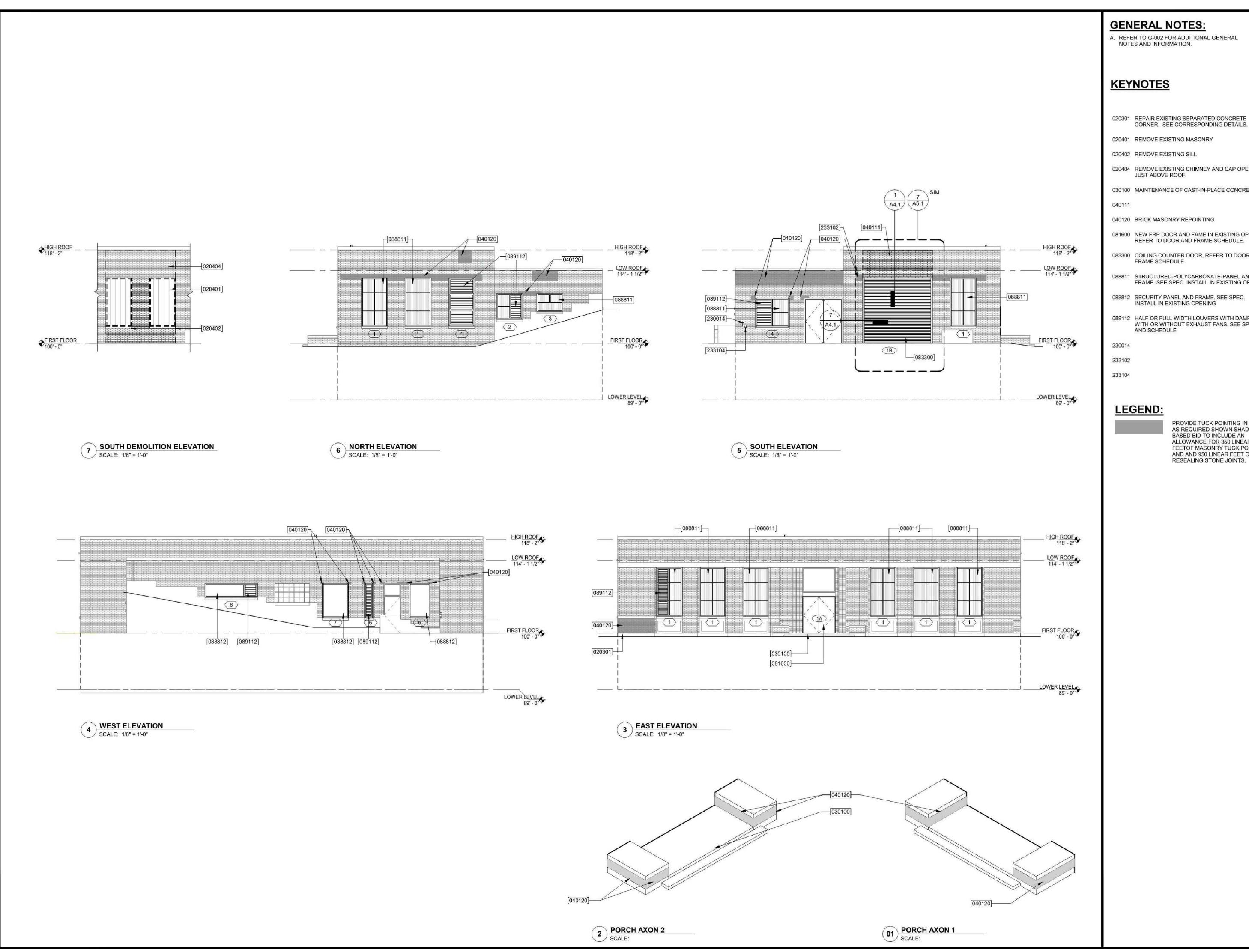




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020404 REMOVE EXISTING CHIMNEY AND CAP OPENING

030100 MAINTENANCE OF CAST-IN-PLACE CONCRETE

081600 NEW FRP DOOR AND FAME IN EXISTING OPENING, REFER TO DOOR AND FRAME SCHEDULE.

083300 COILING COUNTER DOOR, REFER TO DOOR AND

088812 SECURITY PANEL AND FRAME. SEE SPEC.

089112 HALF OR FULL WIDTH LOUVERS WITH DAMPERS

020301 REPAIR EXISTING SEPARATED CONCRETE

020401 REMOVE EXISTING MASONRY

088811 STRUCTURED-POLYCARBONATE-PANEL AND FRAME. SEE SPEC. INSTALL IN EXISTING OPENING

INSTALL IN EXISTING OPENING

WITH OR WITHOUT EXHAUST FANS. SEE SPEC. AND SCHEDULE

PROVIDE TUCK POINTING IN AREAS AS REQUIRED SHOWN SHADED.
BASED BID TO INCLUDE AN
ALLOWANCE FOR 350 LINEAR FEETOF MASONRY TUCK POINTING AND AND 950 LINEAR FEET OF RESEALING STONE JOINTS.

3 FULL WORKING DAYS BEFORE YOU DIG CALL

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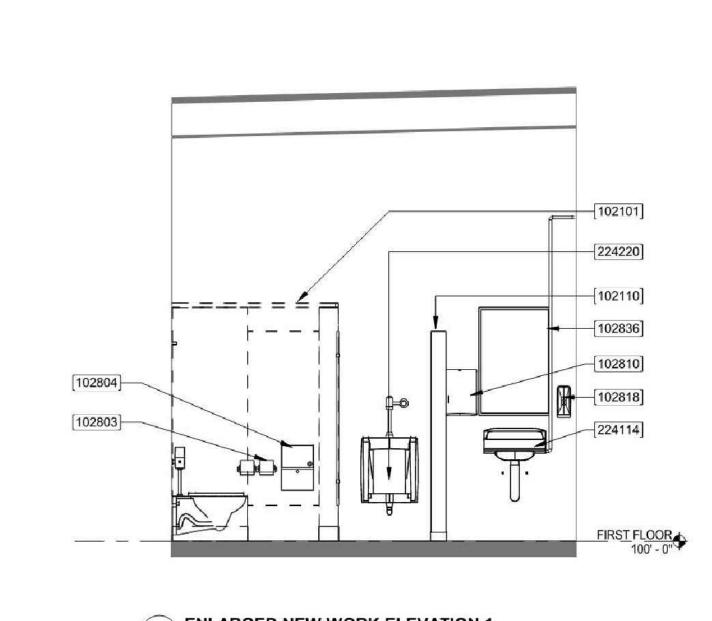
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	OWNER REVIEW	5/17/23

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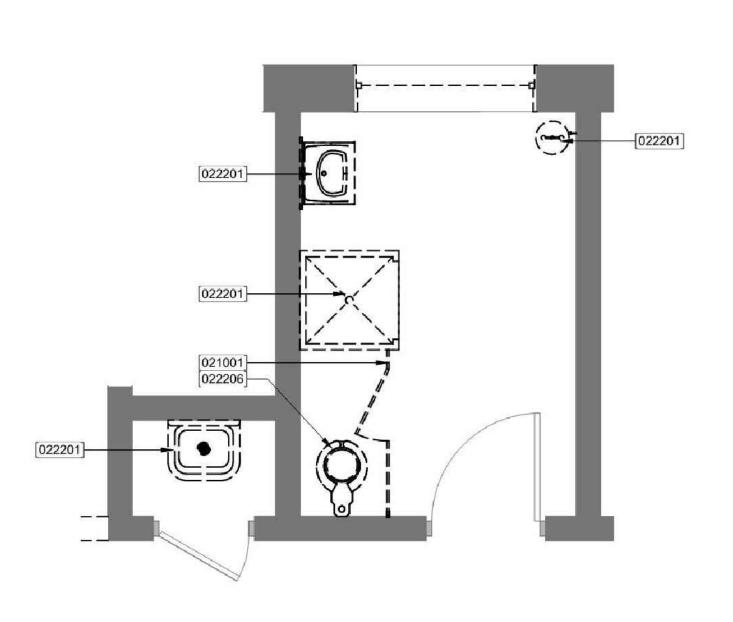
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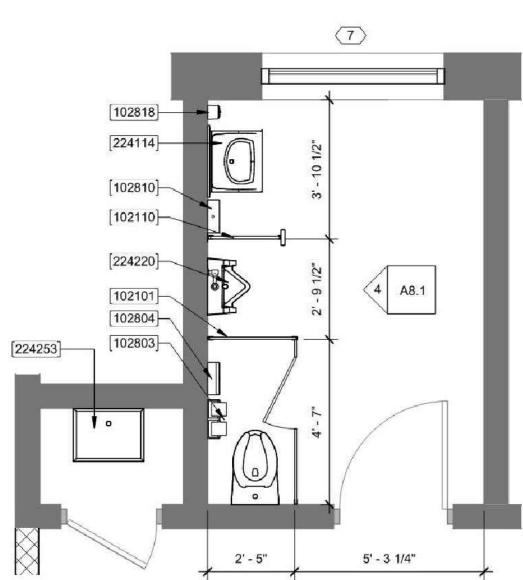
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4 ENLARGED NEW WORK ELEVATION 1
SCALE: 3/8" = 1'-0"







- MOUNTING HEIGHTS OF ALL FIXTURES, ACCESSORIES, AND SIGNAGE.

KEYNOTES

- 021001 REMOVE TOILET PARTITION
- 022206 REMOVE EXISTING PLUMBING FIXTURE. TEMPORARILY CAP/VALVE EXISTING DOMESTIC AND SANITARY PLUMBING CONNECTIONS FOR FUTURE RECONNECTION.

- 102803 SURFACE MOUNTED JUMBO ROLL TOILET TISSUE DISPENSER
- 102804 SURFACE MOUNTED SANITARY NAPKIN DISPOSAL
- 102810 SURFACE MOUNTED PAPER TOWEL DISPENSER
- 102818 SURFACED MOUNTED AUTOMATIC SOAP DISPENSER
- 102836 24"x36" MIRROR UNIT
- 224114 RECONNECT NEW SINK WITH EXISTING SANITARY AND DOMESTIC PLUMBING PIPING.
- 224220 URINAL
- 224253 RECONNECT NEW UTILITY SINK WITH EXISTING SANITARY AND DOMESTIC PLUMBING PIPING.

GENERAL NOTES:

A. REFER TO G-002 FOR ADDITIONAL GENERAL NOTES AND INFORMATION.

B. REFER TO SHEET G-005 FOR STANDARD ADA

- 022201 REMOVE EXISTING WATER CLOSET AND CAP CONNECTIONS FOR FUTURE REPLACEMENT.
- 102101 TOILET COMPARTMENT, FLOOR ANCHORED AND OVERHEAD-BRACED
- 102110 WALL-MOUNTED URINAL SCREEN

3 FULL WORKING DAYS BEFORE YOU DIG CALL



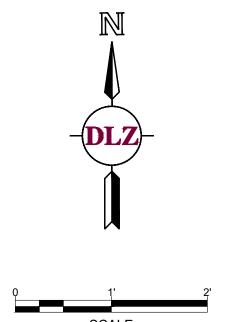
ED TOILET PLANS & INTERIOR ELEVATION

Pump Station Rehabilitation

Cedar Street

g Support & Access Flint, Michigan 4

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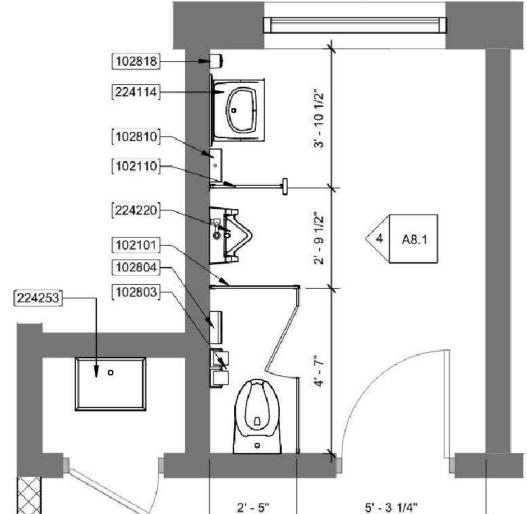
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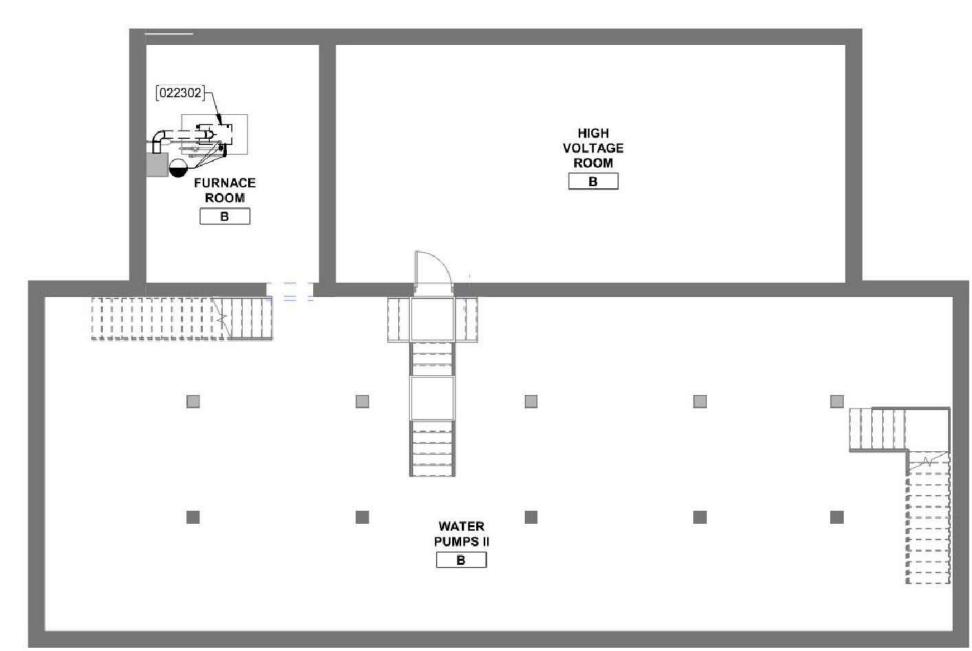


SCALE: 3/8" = 1'-0" NORTH

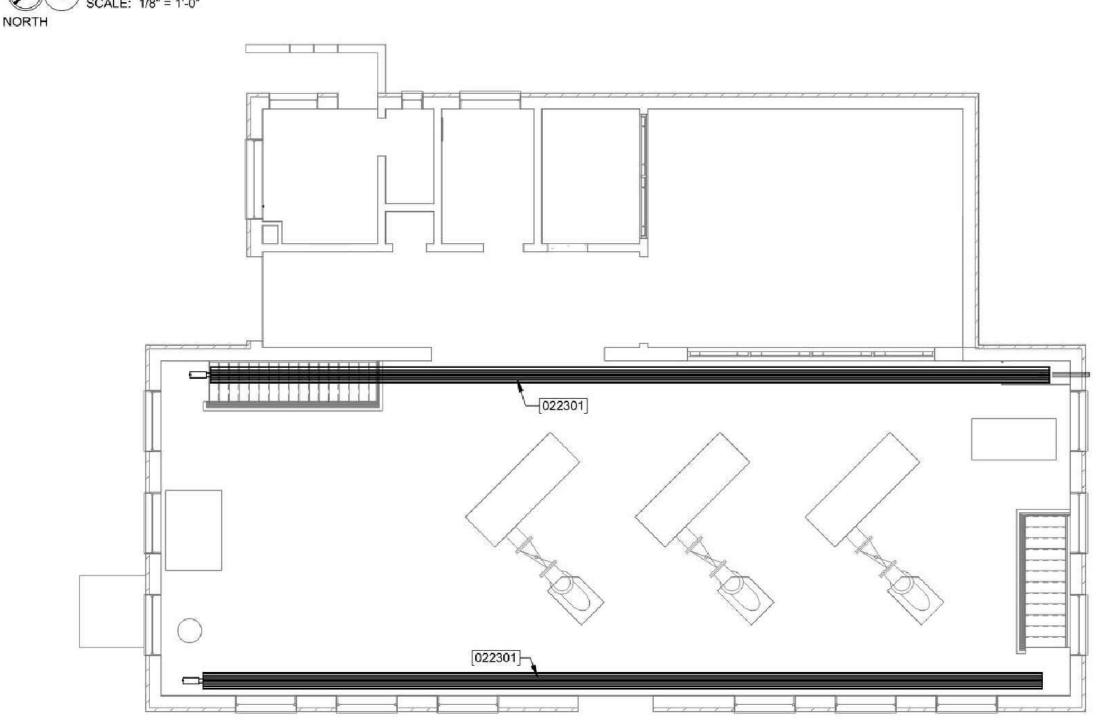
3. HOT WATER UNIT HEATERS TWO REQUIRE EQUAL TO MODINE HSB/HC 47L 2400 BTU 1/25 HP 150 VOLT.

4. CIRCULATOR PUMP FOUR REQUIRED EQUAL TO TACO 008 EAST IRON 1/25 HP 115 VOLT.

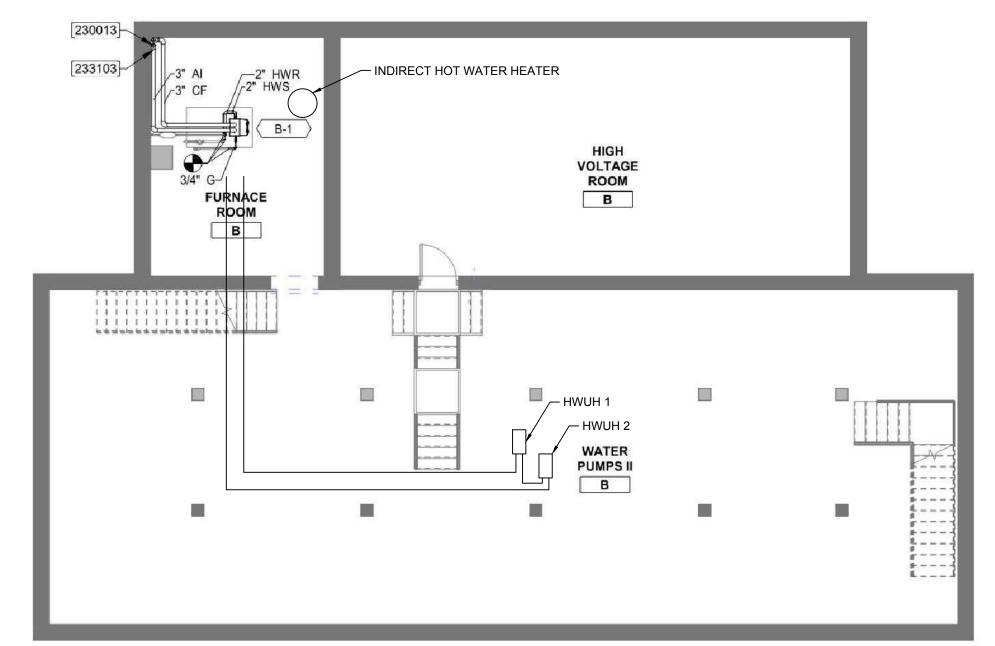
		EXHAUST FAN	SCHEDULE	
EF1	DAYTON 71A091	2700 CFM @ 0.125" SP	120 VOLT 2-2 AMP	CROSION RESISTANT
EF2	DAYTON 100963	1050 CFM @ 0.375" SP	120 VOLT 1/4 HP	
EF3	DAYTON 7M890	2475 CFM @ 0.625" SP	1 HP 460V 3 PHASE	
EF4	DAYTON 7M890	2475 CFM @ 0.625" SP	1 HP 460V 3 PHASE	





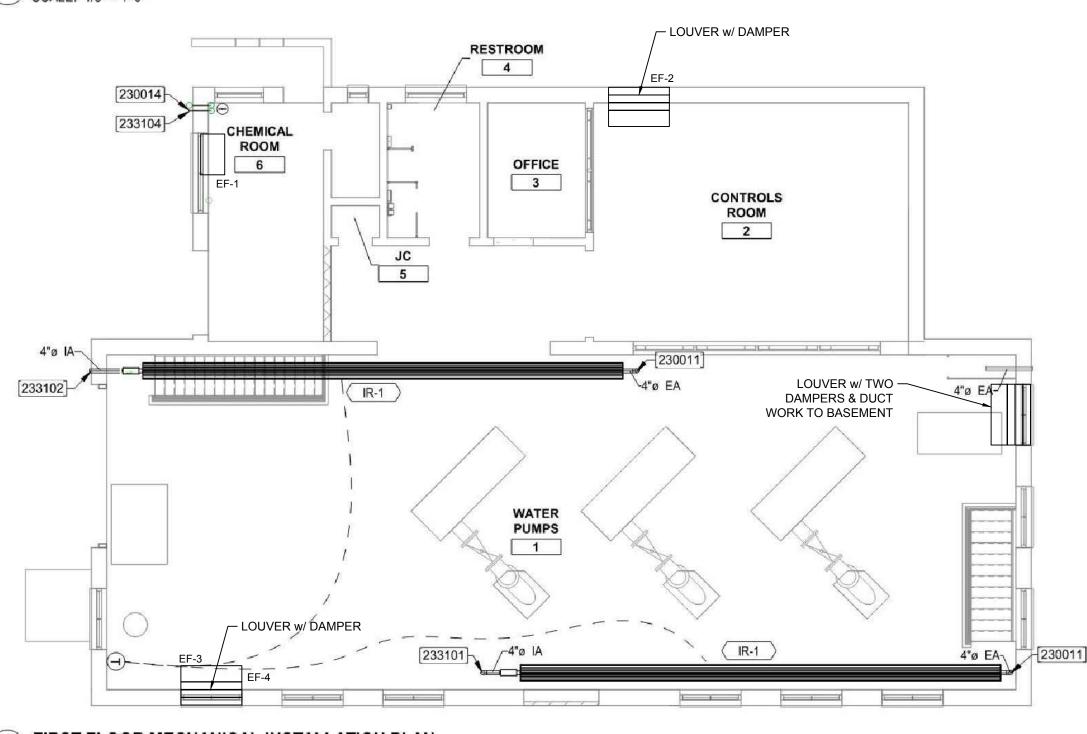


FIRST FLOOR MECHANICAL REMOVAL PLAN
SCALE: 1/8" = 1'-0"



LOWER LEVEL MECHANICAL REMOVAL PLAN

SCALE: 1/8" = 1'-0"



REFER TO SHEETS G1.1 AND M0.1 FOR ADDITIONAL NOTES AND INFORMATION.

KEYNOTES

022301 REMOVE EXISTING INFRARED HEATER, AIR INTAKE, AND FLUE. CAP EXISTING GAS CONNECTION FOR FUTURE INSTALLATION.

022302 REMOVE EXISTING HOT WATER BOILER AND ASSOCIATED FLUE. CAP EXISTING WATER FEED, HYDRONIC CONNECTIONS, AND NATURAL GAS CONNECTION FOR FUTURE INSTALLATION.

230011 4" FLUE THRU ROOF. PROVIDE ROOF VENT PER MANUFACTURER AND INSTALL PER MANUFACTURER REQUIREMENTS.

230013 3" COMBUSTION FLUE TO LEVEL ABOVE.

230014 3" COMBUSTION FLUE THRU WALL. PROVIDE VENT CAP BY MANUFACTURER WITH BIRD SCREEN.

233101 4" INFRARED HEATER AIR INTAKE THRU ROOF. PROVIDE VENT WITH BUG SCREEN BY MANUFACTURER AND INSTALL PER MANUFACTURER REQUIREMENTS.

233102 4" INFRARED HEATER AIR INTAKE THRU WALL. PROVIDE VENT WITH BUG SCREEN BY MANUFACTURER AND INSTALL PER MANUFACTURER REQUIREMENTS.

233103 3" COMBUSTION INTAKE VENT TO LEVEL ABOVE.

233104 3" COMBUSTION INTAKE THRU WALL. PROVIDE WALL VENT PER MANUFACTURER WITH INTEGRAL BUG

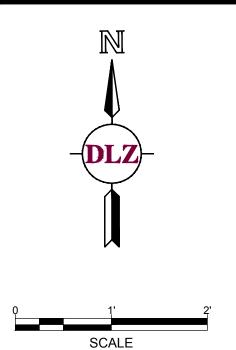
WORKING DAYS RE YOU DIG CALL

N, DETAILS & SCHEE

Rehabilitation

Cedar Street

GENERAL INFORMATION, D Cedar Pump Station Re



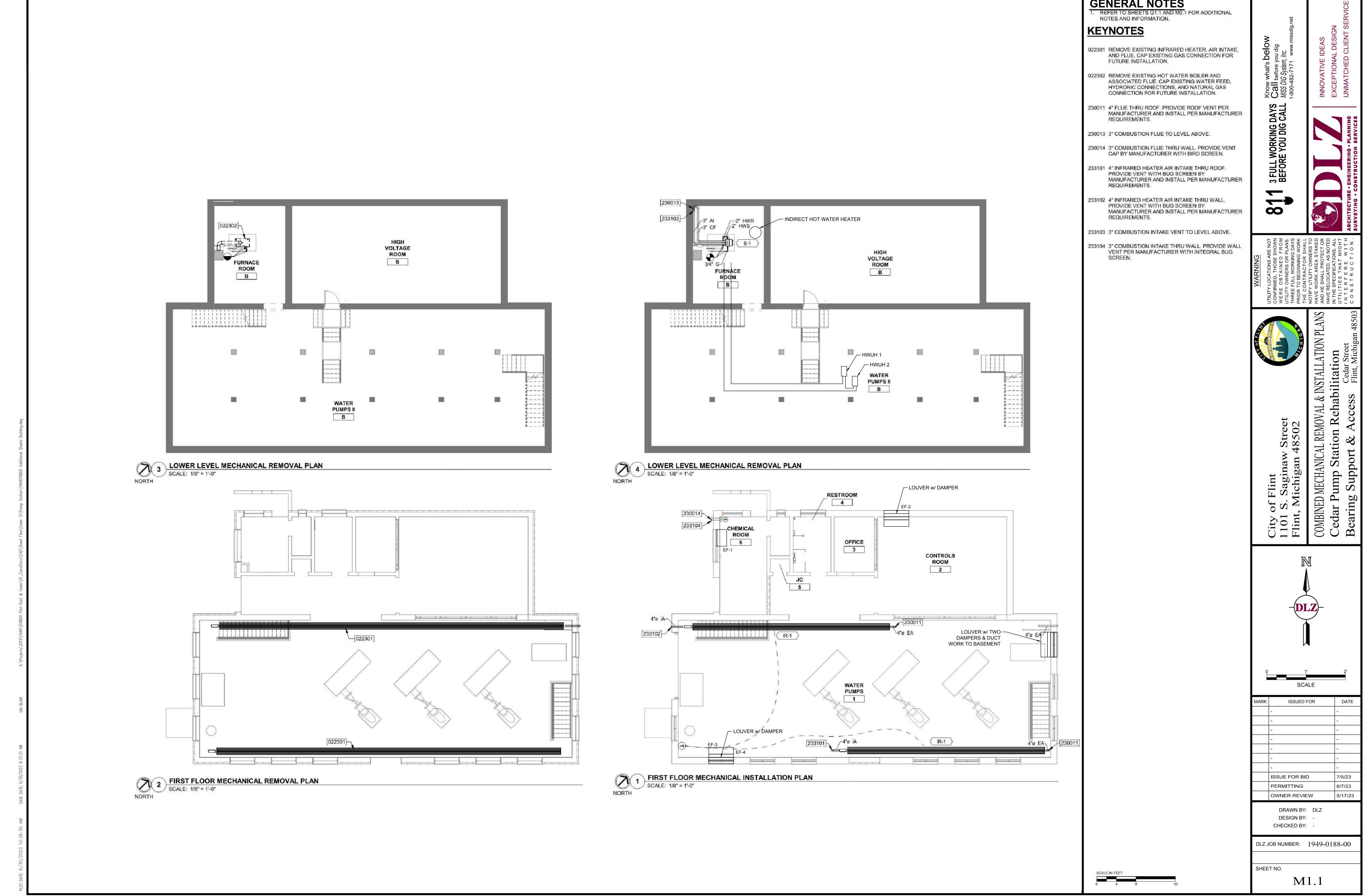
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GENERAL NOTES

	ILIAI ADDIKEVIATI
AD	AREA DRAIN
CB	CATCH BASIN
DF	DRINKING FOUNTAIN
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
HB	HOSE BIBB
LAV	LAVATORY
MS	MOP BASIN
OI	OIL INTERCEPTOR
RCP	RECIRCULATING PUMP
SH	SHOWER
SK	SINK
TD	TRENCH DRAIN
TV	TEMPERING VALVE
UR	URINAL
WH	WALL HYDRANT
WC	WATER CLOSET
WH	WATER HEATER
WS	WATER SOFTENER

PLUMBING SYMBOLS

CA	COMPRESSED AIR
	DOMESTIC COLD WATER
G	NATURAL GAS
	DOMESTIC HOT WATER
	HOT WATER RETURN
	SANITARY ABOVE GROUND
SAN	SANITARY BELOW GROUND
v	ABOVE GROUND VENT
	BELOW GROUND VENT
\bowtie	BALL VALVE
\bowtie	CALIBRATED BALANCING VALVE
И	CHECK VALVE
C-	SINGLE LINE - PIPE DROP
0-	SINGLE LINE - PIPE RISE
¢	SINGLE LINE - PIPE RISE TEE
\	SINGLE LINE - PIPE DROP TEE
	TWO LINE - PIPE DROP
lacktriangle	TWO LINE - PIPE RISE

PLUMBING ABBREVIATIONS

		1.	DEMOLITION PLANS AR
FF	ABOVE FINISHED FLOOR	1.	DEMOLITION WITH NEW
FG	ABOVE FINISHED GRADE		SPECIFICATIONS, AND I
V	BALANCING VALVE		INDICATED ON THESE
ONT	CONTINUATION		INDICATE THE EXTENT
W	CW		CONSIDERED AS A REC
N	DOWN		OR THE COMPLETE EXT
WG.	DRAWING		DEMOLITION INCLUDES
LEV.	ELEVATION		SHORING AND SUPPOR
	NATURAL GAS		ACCORDINGLY. THE CO
PM	GALLONS PER MINUTE		COMPLETE REMOVAL A
W	HOT WATER		NECESSARY TO ACHIEV
WR	HOT WATER RETURN		EXPRESLY SHOWN OR
	INVERT ELEVATION		EXIT NEGET OF OWN OF
KW	LAVATORY KITCHEN	2	THE CONTRACTOR SHA
IAX	MAXIMUM		ALL EXISTING PLUMBIN
IIN	MINIMUM		REMOVAL WORK. ANY I
S&Y	OUTSIDE SCREW & YOKE		DRAWING OR IN SPECIF
HE	PLATE HEAT EXCHANGER		CONTRACT WORK SHA
T	STORM		OWNER'S REPRESENTA
QFT	SQUARE FEET		
S	TEMPERATURE SENSOR	3	ALL DEMOLITION WORK

DRAFTING SYMBOLS

VENT THROUGH ROOF

TYPICAL

VENT

WASTE

22XXXX K	EY NOTES
PX.X	- DETAIL REFERENCE NUMBER - SHEET ON WHICH DETAIL IS FOUND
X PX.X	— DETAIL REFERENCE NUMBER — SHEET ON WHICH DETAIL IS FOUND

TYP

VTR

GENERAL REMOVAL NOTES:

- 1. DEMOLITION PLANS ARE PROVIDED AS A GUIDE. COORDINATE EW CONSTRUCTION DRAWING SHEETS. FINAL DESIGN INTENTION. ANY DEMOLITION E DRAWINGS ARE SHOWN IN GENERAL TO 2. T OF MAJOR DEMOLITION AND IS NOT TO BE ECORD DRAWING OF EXISTING CONDITIONS S PROVISION OF TEMPORARY BRACING, ORT TO ASSURE SAFE OPENINGS CONTRACTOR SHALL BE RESPONSIBLE FOR AND DISPOSAL OF ALL MATERIALS EVE THE DESIGN INTENT, WHETHER
- HALL VISIT THE SITE PRIOR TO BID AND VERIFY ING SYSTEMS TO DETERMINE EXTENT OF Y ITEMS NOT SPECIFICALLY INDICATED ON CIFICATION THAT ARE IN CONFLICT WITH HALL BE BROUGHT TO THE ATTENTION OF THE ITATIVE PRIOR TO BID FOR CLARIFICATION.
- 3. ALL DEMOLITION WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE STATE OF MICHIGAN, OSHA, AND NFPA.
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS AND INSPECTIONS.
- ALL DEMOLITION WORK SHALL BE COORDINATED WITH DEMOLITION WORK SHOWN ON OTHER CONTRACT DRAWINGS.
- 6. THE CONTRACTOR SHALL VERIFY EXISTING FIELD CONDITION, DIMENSIONS, LOCATIONS, AND QUANTITIES PRIOR TO BEGINNING
- 7. OWNER RESERVES THE RIGHT TO SALVAGE ANY EQUIPMENT OR MATERIAL INDICATED TO BE DEMOLISHED.
- 8. ALL ITEMS DESIGNATED TO BE REMOVED SHALL INCLUDE ALL EQUIPMENT, PIPING, HANGERS, POWER, AND CONTROLS ASSOCIATED WITH THE ITEM TO BE REMOVED. CAP ASSOCIATEED PIPING. PATCH WALL TO MATCH EXISTING WHERE THROUGH PENETRATIONS AND/OR REMOVALS OCCURED TO NOT BE REPLACED. CAREFULLY AND SKILLFULLY REMOVAL ALL ITEMS IN ORDER TO PREVENT DAMAGE. REPAIR FINISHES TO MATCH EXISTING. THE OWNER HAS SALVAGE RIGHTS TO ALL REMOVALS. COORDINATE WITH THE OWNER SPECIFIC SALVAGE ITEMS PRIOR TO REMOVAL.
- 9. PATCH, REPAIR, RESTORE, AND REFINISH ALL ADJACENT MATERIALS AND CONSTRUCTION INTENDED TO REMAIN TO LIKE-NEW CONDITION AS WELL AS CORRECTION OF DAMAGE RESULTING FROM DEMOLITION OR NEW CONSTRUCTION ACTIVITIES. PATCH AND REPAIR EXISTING SURFACES LEFT EXPOSED AFTER DEMOLITION, AND PREPARE THEM FOR NEW CONSTRUCTION. INFILL VOIDS LEFT BY DEMOLITION TO MATCH SURROUNDING.

GENERAL INSTALLATION NOTES

ORIGINAL SYSTEM(S).

- 1. INSTALLATION OF PLUMBING FIXTURES AND ACCESSORIES, INCLUDING FLUSH CONTROL VALVES INTENDED FOR PEOPLE WITH DISABILITIES, SHALL BE IN ACCORDANCE WITH ADA REQUIREMENTS.
- INSTALLATION OF PLUMBING PIPING SHALL BE FULLY COORDINATED WITH STRUCTURAL, ARCHITECTURAL, ELECTRICAL, AND HVAC DRAWINGS TO AVOID CONFLICT.
- XTENT OF REQUIRED DEMOLITION ACTIVITIES. 3. NO PLUMBING (WATER, DRAINS, VENT, OR GAS PIPING) SHALL BE INSTALLED DIRECTLY ABOVE ANY ELECTRICAL PANELS. COORDINATE WITH OTHER DIVISIONS BEFORE PROCEEDING WITH INSTALLATION.
 - IF NON DESIGN BASE EQUIPMENT IS SELECTED, CONTRACTOR SHALL BEAR ADDITIONAL COSTS FOR MODIFICATIONS TO THE
 - 5. PROVIDE WATER HAMMER ARRESTERS AT PLUMBING FIXTURES AND GROUPS OF PLUMBING FIXTURES THAT ARE SUBJECT
 - TO WATER HAMMER. SELECT ARRESTERS IN ACCORDANCE WITH THE PLUMBING AND DRAINAGE INSTITUTE STANDARD.

6. CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS, LABOR AND EQUIPMENT PERMIT FEES, REQUIRED FOR, OR

- INCIDENTAL TO THE INSTALLATION OF A COMPLETE AND OPERATIONAL PLUMBING SYSTEM AS INDICATED IN THE CONTRACT DOCUMENTS INCLUDING SPECIFICATIONS. ALL PLUMBING SERVICES GOING INTO THE BUILDING AND LEAVING THE BUILDING SHALL BE CONNECTED TO THE SITE UTILITIES,
- COORDINATE WITH SITE UTILITIES DWGS. COORDINATE ALL EXTERIOR UNDERGROUND PLUMBING WORK WITH THE SITE UTILITIES BEFORE COMMENCING WORK. COORDINATE ALL UNDERGROUND PIPING WITH FOUNDATION DRAWINGS.
- 8. ALL PLUMBING WORK SHALL BE IN CONFORMANCE WITH THE INTERNATIONAL PLUMBING CODE, LATEST EDITION ADOPTED BY THE STATE OF INDIANA WITH INDIANA AMENDMENTS, MUNICIPAL OR CITY CODES, AND THE AUTHORITY HAVING JURISDICTION.
- 9. INSTALL BALL VALVE CLOSE TO WATER MAIN ON EACH BRANCH AND RISER SERVING PLUMBING EQUIPMENT AND FIXTURES. INSTALL BALL VALVES ON PIPIG PRIOR TO ENTERING CHEMICAL STORAGE ROOMS.
- 10. FOR DRAWINGS ASSOCIATED WITH THE CHEMICAL STORAGE ROOMS AND LABORATORY:

ALL HANGERS, SUPPORTS, FASTENERS, HARDWARE, MISCELLANEOUS MATERIALS, APPURTENANCES, ETC SHALL BE NON-METALLIC OR PVC COATED. IN APPLICATIONS WHERE NON-METALLIC OR PVC COATED MATERIALS ARE NOT AVAILABLE, THE CONTRACTOR SHALL SUBMIT SUBSTITUTION TO THE ENGINEER FOR APPROVAL. APPROVED SUBSTITUTIONS SHALL BE AT NO ADDITIONAL COST TO THE OWNER. THE GENERAL CONTRACTOR SHALL COORDINATE THE MATERIALS USED BY EACH BUILDING TRADE TO ENSURE UNIFORMITY AND COMPATIBILITY, ADDITIONAL REQUIREMENTS IDENTIFIED WITH THE SPECIFICATIONS SHALL BE COORDINATED WITH THIS REQUIREMENT.

11. FOR DRAWINGS ASSOCIATED WITH THE FILTER ROOM, MAINTENANCE AREA, AND MEZZANINE:

ALL HANGERS, SUPPORTS, FASTENERS, HARDWARE, MISCELLANEOUS MATERIALS, APPURTENANCES, ETC SHALL BE NON-METALLIC, PVC COATED, OR GALVANIZED STEEL. IN APPLICATIONS WHERE NON-METALLIC, PVC COATED, OR GALVANIZED STEEL MATERIALS ARE NOT AVAILABLE, THE CONTRACTOR SHALL SUBMIT SUBSTITUTION TO THE ENGINEER FOR APPROVAL. APPROVED SUBSTITUTIONS SHALL BE AT NO ADDITIONAL COST TO THE OWNER. THE GENERAL CONTRACTOR SHALL COORDINATE THE MATERIALS USED BY EACH BUILDING TRADE TO ENSURE UNIFORMITY AND COMPATIBILITY. ADDITIONAL REQUIREMENTS IDENTIFIED WITHIN THE SPECIFICATIONS SHALL BE COORIDNATED WITH THIS REQUIREMENT.

PLUMBING BA	SIS OF	<u>DESIGN</u>
SANITARY	E.T.R.	DFU'S
COLD WATER	E.T.R.	WSFU'S
GAS	E.T.R.	CFH

		PLUMBING FIXTURE	SCHEDULE					
TAG	FIXTURE	DESCRIPTION	ACCEPTABLE MANUFACTURER	SAN/WASTE	VENT	COLD WATER	HOT WATER	REMARKS
EWS-1	EMERGENCY EYE WASH	FREE STANDING FLOOR MOUNTED EMERGENCY EYE/FACE WASH ENTIRELY CONSTRUCTED OF SCHEDULE 40 STAINLESS STEEL. DUAL SPRAYHEADS FOR EYE AND FACE WASHING.	GUARDIAN G1784 OR EQUIVALENT	2"	1-1/4"	3/4"		PROVIDE WITH ASSE 1071 RATED MIXING VALVE. TEPID WATER SUPPLY TO BE FIXED AT 85F.
CO-1	FLOOR CLEANOUT	LACQUERED CAST-IRON BODY FLOOR CLEANOUT WITH ADJUSTABLE, HEAVY DUTY STAINLESS STEEL ROUND 4" TOP WITH INTEGRAL PLUG. TOP TO BE ANSI HEAVY DUTY LOAD RATED. CLEANOUTS TO BE LOCATED IN UNFINISHED AREAS.	WATTS CO-260 OR EQUIVALENT	2"	-		-	MATCH PIPE SIZE. TRAP PROTECTION DEVICE SIMILAR TO SURESEAL
-1	LAVATORY	BOWL - WALL HUNG, VITREOUS CHINA, CONCEALED ARM SUPPORTS. FAUCET - 4" CENTERSET FAUCET SHALL BE CAST BRASS CONSTRUCTION WITH ALL BRASS SHANK NUTS AND COUPLING NUTS. VANDAL RESISTANT WRIST-BLADE HANDLES, 0.5 GPM AERATOR 1/4 TURN WASHERLESS CERAMIC DISC VALVE CARTRIDGES. SUPPLIES AND STOPS - LOOSE KEY ANGLE STOPS, 3/8" O.D. FLEXIBLE STEEL RISERS, WALL ESCUTCHEON. TRAP - 1-1/4" X 1-1/2" CAST BRASS, CHROME PLATED, WITH ADJUSTABLE CLEANOUT PLUG, TUBING TO WALL AND ESCUTCHEON. DRAINS - LAVATORY DRAIN OUTLET FITTING WITH PERFORATED GRID, CHROME PLATED FINISH AND CAST BRASS BODY.	BOWL - AMERICAN STANDARD "LUCERNE" MODEL 00355.012, KOHLER, CRANE, OR ZURN. ■ FAUCET - AMERICAN STANDARD "MONTERREY" MODEL 5502.170. ■ SUPPLIES AND STOPS - WOLVERINE BRASS INC. MODEL ENCORE; T&S BRASS. ■ TRAP - WOLVERINE BRASS INC.; T&S BRASS.	1-1/2"	1-1/4"	1/2"	1/2"	MOUNT TO MEET ADA REQUIREMENTS.
-1	UTILITY SINK	ONE PIECE LEAKPROOF MOLDED POLYPROPYLENE CONSTRUCTION WITH INCLUDED DUAL HANDLE FAUCET, 6" SWING END, AERATOR, AND HOSE CONNECTION END. MOLD AND MILDEW-RESISTANT COMPONENTS.	MUSTEE UTILITUB CO-POLYPURE MODEL 14CP OR EQUIVALENT ■ SUPPLIES AND STOPS - WOLVERINE BRASS INC. MODEL ENCORE; T&S BRASS. ■ MIXING VALVE - ASSE 1070 COMPLIANT.	1-1/2"	1-1/4"	1/2"	1/2"	PROVIDE NSF 61 LISTED FAUCET. MOUNT TO MEET ADA REQUIREMENTS PROVIDE ASSE-1070 LISTED THERMOSTATIC MIXING VALVE.
R-1	URINAL	BOWL - VITREOUS CHINA, WHITE, WASHOUT FLUSH ACTION, ELONGATED, WALL HUNG, 2 WALL HANGER, EXTENDED SIDE, LOW WATER CONSUMPTION (0.5 GPF). MEETS ANSI FLUSH REQUIREMENTS. 3/4" INLET, TOP SPUD. FLUSH VALVE - EXPOSED, BATTERY POWERED, MANUALLY OPERATED FLUSH VALVE. CAST BRASS VALVE BODY AND METAL COVER WITH CHROME FINISH, VANDAL RESISTANT STOP CAI AND LITHIUM BATTERY, ANGLE STOP WITH BACK-FLOW PROTECTION AND VACUUM BREAKER. LOWER WATER CONSUMPTION (0.5 GPF). CARRIER - BOLTED TYPE URINAL FITTING, ADJUSTABLE SHORT FOOT WITH BEARING PLATE.		2"	1-1/4"	3/4"	-	MOUNT URINAL TO MEET ADA REQUIREMENTS.
VC-1	WATER CLOSET	BOWL - VITREOUS CHINA, WHITE, ELONGATED, SIPHON JET, FLOOR MOUNTED, BOTTOM DISCHARGE, 1 1/2" TOP SPUD, LOW WATER CONSUMPTION (1.6 GPF/6.0 LPF). ■ FLUSH VALVE - QUIET EXPOSED, DIAPHRAGM TYPE, CHROME PLATED FLUSHOMETER WITH METAL OSCILLATING NON-HOLD-OPEN HANDLE, 1" I.P.S. SCREWDRIVER BACK-CHECK ANDLE STOP. VANDAL RESISTANT STOP CAP, ADJUSTABLE TAIL PIECE, VACUUM BREAKER FLUSH CONNECTION, SPUD COUPLING, WALL AND SPUD FLANGES FOR 1/2" TOP SPUD. ■ SEAT - WHITE HIGH IMPACT, EXTRA HEAVY DUTY SOLID PLASTIC, OPEN FRONT, ELONGATED, CHEMICAL RESISTANT, OPEN FRONT. MODEL-IN SURFACE CHECK AND STAINLESS STEEL HINGE POSTS.	CONSUMPTION (1.6 GPF/6.0 LPF); DELANY; SLOAN. ■	4"	2"	1"	•	MOUNT WATER CLOSET TO MEET ADA REQUIREMENTS.

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RAL INFORMATION, DETAILS & SCH

Station Rehabilitation

Cedar Street

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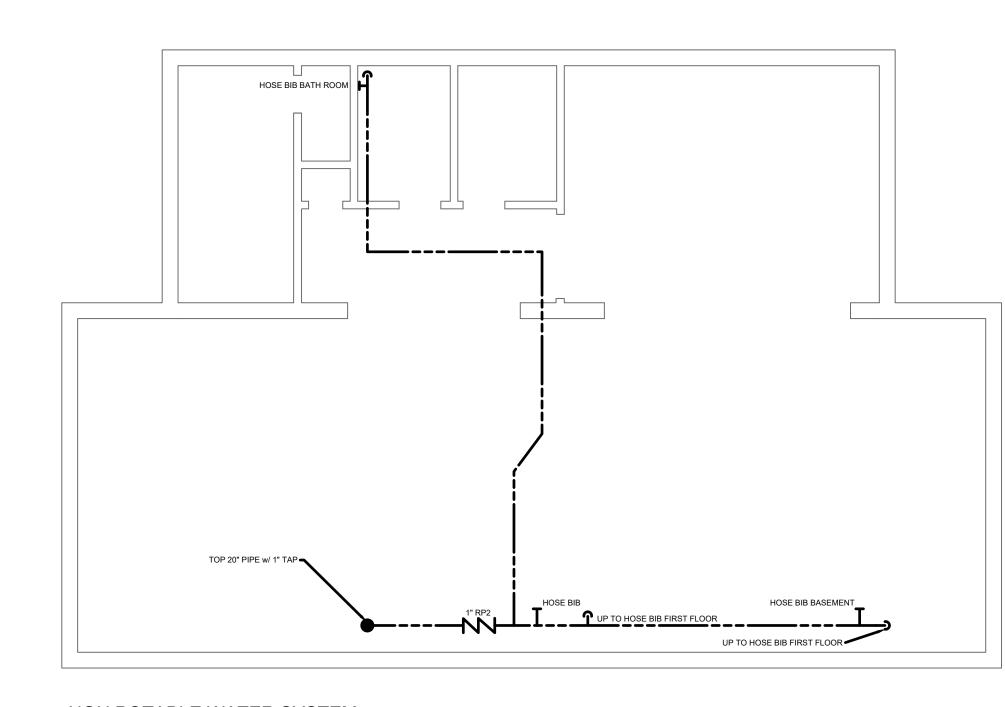
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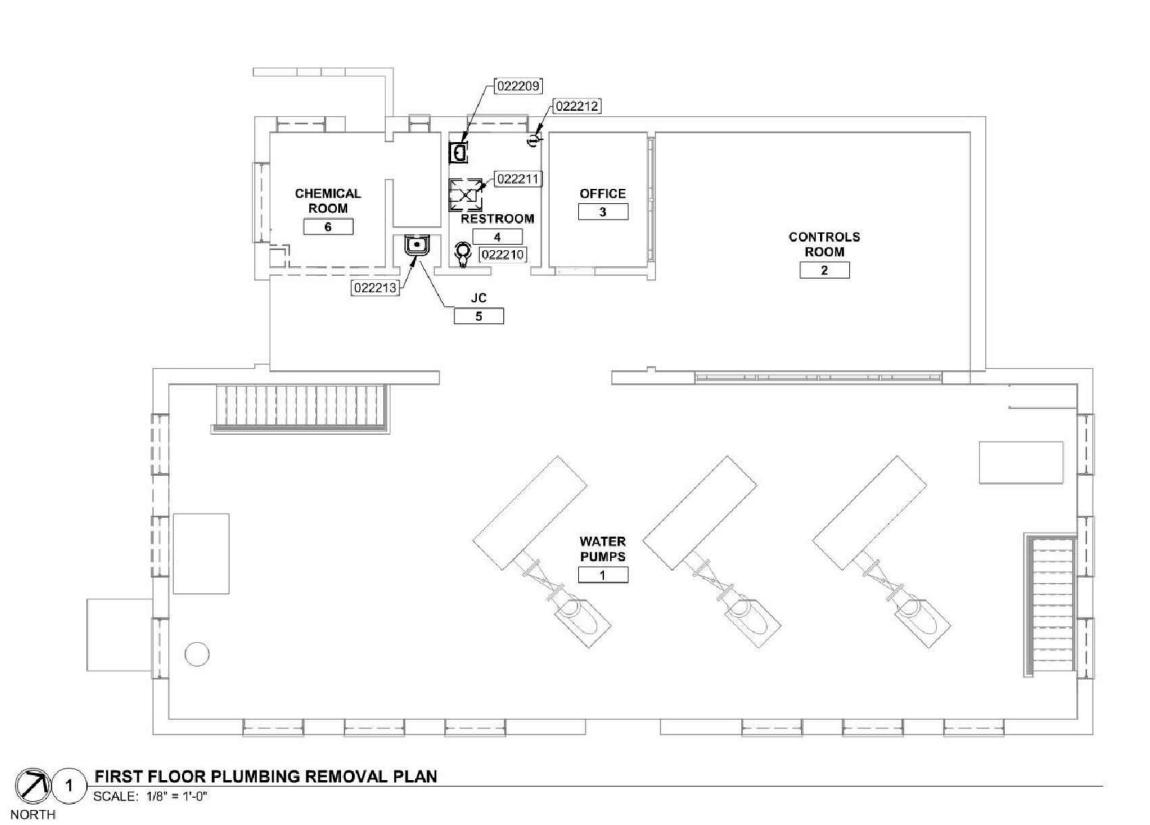
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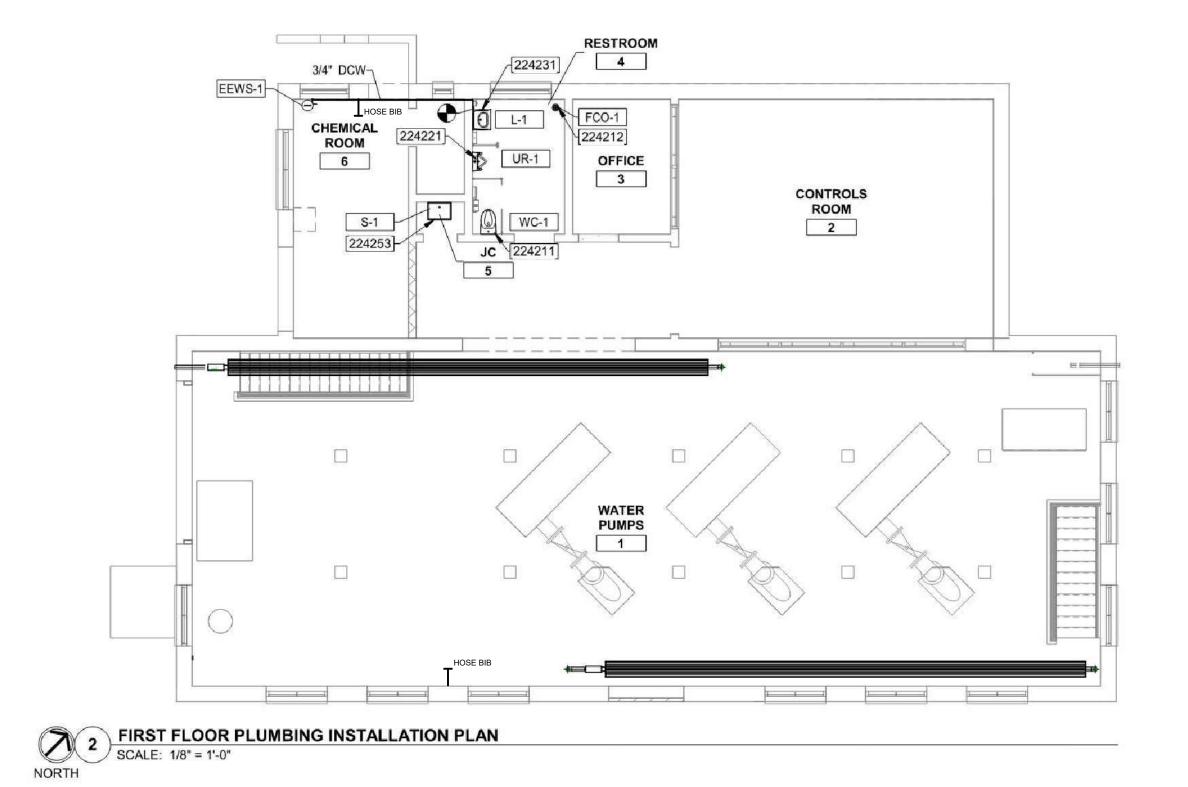
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NON POTABLE WATER SYSTEM NOT TO SCALE





GENERAL NOTES

REFER TO SHEETS G1.1 AND P0.1 FOR ADDITIONAL NOTES AND INFORMATION.

KEYNOTES

022209 REMOVE EXISTING LAVATORY AND CONNECT DOMESTIC WATER AND SANITARY CONNECTIONS FOR FUTURE INSTALLATION.

022210 REMOVE EXISTING WATER CLOSET AND CAP EXISTING DOMESTIC WATER AND SANITARY CONNECTIONS FOR FUTURE INSTALLATION.

022211 REMOVE EXISTING SHOWER AND CAP EXISTING DOMESTIC COLD WATER LINE WITHIN WALL FOR FUTURE INSTALLATION. CAP AND ABANDON EXISTING DOMESTIC HOT WATER TAP WITHIN WALL. SAWCUT INDICATED FLOOR DRAIN LOCATION AND ROUTE SANITARY FOR FUTURE URINAL INSTALLATION.

022212 REMOVE EXISTING EYE WASH STATION AND CAP AND ABANDON EXISTING DOMESTIC COLD WATER PIPING WITHIN WALL. CAP SANITARY AT GRADE FOR FUTURE INSTALLATION.

022213 REMOVE EXISTING UTILITY SINK, CAP DOMESTIC WATER AND SANITARY CONNECTIONS FOR FUTURE INSTALLATION.

224211 RECONNECT NEW WATER CLOSET TO EXISTING SANITARY AND DOMESTIC COLD-WATER CONNECTIONS.

224212 INSTALL FLOOR CLEANOUT IN PLACE OF EXISTING EMERGENCY EYEWASH LOCATION.

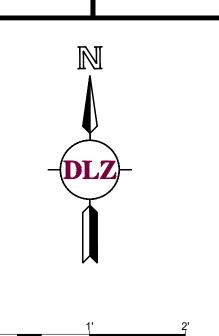
224221 CONNECT NEW URINAL TO EXISTING 3/4" DOMESTIC COLD WATER LINE. ROUTE NEW SANITARY PIPING TO EXISTING SHOWER SANITARY BELOW GRADE.

224231 CONNECT NEW LAVATORY TO EXISTING DOMESTIC WATER AND SANITARY CONNECTIONS.

224253 RECONNECT NEW UTILITY SINK WITH EXISTING SANITARY AND DOMESTIC PLUMBING PIPING.

3 FULL WORKING DAYS BEFORE YOU DIG CALL

COMBINED PLUMBING REMOVAL & INSTALATION Cedar Pump Station Rehabilitation
Bearing Support & Access Cedar Street



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SHEET NO.

P1.1

	LIGHTING FIXTURE SCHEDULE						
	LIGITING LIXTORL SCHLDOLL						
	[LIGHTING FIXTURE TYPES]						
TYPE	DESCRIPTION	MOUNTING	WATTS				
"LB"	8' LONG VOLUMETRIC LED LIGHTING FIXTURE, STEEL HOUSING, 8,800 LUMENS, MVOLT, 3500K COLOR TEMPERATURE, SNAP ON FROSTED DIFFUSER, WHITE PAINT FINISH, 80CRI COLOR RENDERING INDEX, WHITE FINISH, 120V OPERATION AND L96 REFLECTOR	PENDANT OR SURFACE	48 WATTS				
	LITHONIA: ZL-1N-L96-10,000L-FST-MVOLT-35K-80CRI-WH & L96 REFLECTOR						
"EBU"	EMERGENCY BATTERY LIGHTING UNIT WITH WHITE THERMOPLASTIC HOUSING, TWO (2) 3.3W HIGH PERFORMANCE LED LAMPS, 640 LUMENS, MULTI VOLTAGE, 9.6 VOLT LITHIUM ION PHOSPHATE MAINTENANCE-FREE BATTERY, SELF-DIAGNOSTIC SYSTEM AND FULLY AUTOMATIC SOLID STATE CHARGER, IMPACT RESISTANT, CORROSION PROOF, BACK LIT TEST SWITCH, LED STATUS INDICATOR, UNIVERSAL J-BOX MOUNTING PATTERN. THE LAMP HEADS HAVE A UNIQUE TRACK AND SWIVEL ARRANGEMENT PERMITTING FULL RANGE OF DIRECTION OF OPTICAL AIMING, 120V. OPERATION	UNIVERSAL MOUNTING	(2) 3.3 WATTS				
	LITHONIA CAT. # ELM4L-0VOLT-LIP						
"EBUX"	COMBINATION EXIT SIGN AND EMERGENCY BATTERY UNIT WITH 6" HIGH RED LETTERS, BRUSHED ALUMINUM STENCIL FACE, DIE-CAST HOUSING, L.E.D. LAMPS, SEALED MAINTENANCE-FREE NICKEL CADMIUM BATTERY, (SINGLE OR DOUBLE FACE WITH DIRECTIONAL ARROWS, AND MOUNTING AS INDICATED ON DRAWING). 1W, 120V. OPERATION. LITHONIA CAT. # LHQM-LED-R-HO-N-SD	UNIVERSAL	1 WATT				
"EBUX1"	REMOTE EMERGENCY LIGHTING UNIT WITH BRONZE POLYCARBONATE HOUSING, ONE (1) 1.5W LINEAR PATTERN LED LAMPS, 9.6 VOLT, SELF-DIAGNOSTIC SYSTEM, WEATHER PROOF, CAST ALUMINUM. SUITABLE WITH USE WITH TYPE "EBUX" (SEE ABOVE), 1.5W LITHONIA CAT. # ELA-QWP-L0309-SD	UNIVERSAL	1.5 WATTS				

SYMBOL	DESCRIPTION
	STRIP LED LIGHT FIXTURE (TYPICAL FOR 2', 4', 6' AND 8' LENGTHS)
0	SURFACE LIGHT FIXTURE
4	EMERGENCY LIGHTING UNIT
8	EXIT LIGHT, CEILING MOUNTED - ARROW AS INDICATED
₩	EXIT LIGHT, WALL MOUNTED - ARROW AS INDICATED
-	DIRECTION ARROW
4+	DIRECTION ARROW
s	SINGLE POLE SWITCH
S ₂	DOUBLE POLE SWITCH
S ₃	THREE WAY SWITCH
S⊤	MANUAL MOTOR STARTER WITH THERMOL PROTECTION
ㅁ	DISCONNECT SWITCH, FUSED (NF = NON FUSED)
4⊠	COMBINATION MAGNETIC STARTER / DISCONNECT SWITCH (FUSED)
	CONTROL PANEL BY MECHANICAL TRADES
	CONTROL PANEL BY MECHANICAL TRADES WITH INTEGRAL DISCONNECT SWITCH
7777	DISTRIBUTION PANEL
—	LIGHTING / RECEPTACLE / EQUIPMENT PANEL (TYPICAL FOR 12, 30, 42, 60 AND 84 SLOT)
ø	SINGLE PHASE MOTOR
Ø	THREE PHASE MOTOR
×	MAGNETIC STARTER
T	TRANSFORMER
Р	PULLBOX
ф	DUPLEX RECEPTACLE (48" A.F.F. OR AS NOTED)
•	GROUND ROD
	EXISTING TO BE DEMOLISHED
	EXISTING TO REMAIN
	NEW INSTALLATION
AFF	ABOVE FINISHED FLOOR
(E)	EXISTING INSTALLATION TO REMAIN
EM	EMERGENCY
GFI	GROUND FAULT INTERRUPTER
UNO	UNLESS NOTED OTHERWISE

	ELECTRICAL SHEET INDEX
SHEET	DESCRIPTION
E0.1	ELECTRICAL GENERAL INFORMATION
EL1.0	BASEMENT FLOOR PLAN - LIGHTING
EL1.1	FIRST FLOOR PLAN - LIGHTING
EP2.0	BASEMENT FLOOR PLAN - POWER
EP2.1	FIRST FLOOR PLAN - POWER
EP2.2	SITE PLAN - POWER
E6.1	ONE-LINE DIAGRAMS
ELD1.0	BASEMENT FLOOR PLAN - LIGHTING DEMOLITION
ELD1.1	FIRST FLOOR PLAN - LIGHTING DEMOLITION
ED2.0	BASEMENT FLOOR PLAN - POWER DEMOLITION
ED2.1	FIRST FLOOR PLAN - POWER DEMOLITION
ED2.2	SITE PLAN - POWER DEMOLITION

OVERVIEW OF ELECTRICAL SCOPE

THIS OVERVIEW OF SCOPE IS INCLUDED TO GIVE THE CONTRACTOR A GENERAL OVERVIEW OF THE PROJECT REQUIREMENTS. THE OVERVIEW IS NOT ALL INCLUSIVE AND IS NOT INTENDED TO, AND SHOULD NOT BE USED TO, ESTABLISH CONTRACT LIMITS OR PRICING INCLUSIONS. THE CONTRACT DOCUMENTS SHALL BE USED TO ESTABLISH CONSTRUCTION CONTRACT SCOPE.

THIS OVERVIEW OF SCOPE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

ELECTRICAL:

- REMOVE AND DISPOSE OF EXISTING LIGHTING, EMERGENCY EGRESS/EXIT LIGHTING, POWER DISTRIBUTION EQUIPMENT, VFD'S, DATA/COMMUNICATION SYSTEMS/EQUIPMENT AS INDICATED.
- PROVIDE LIGHTING AND EMERGENCY EGRESS/EXIT LIGHTING SYSTEMS. INCLUDING CONTROLS AND EXTENSION/CONNECTION TO EXISTING BUILDING SERVICES.
- PROVIDE POWER DISTRIBUTION SYSTEMS, EQUIPMENT INCLUDING PRIMARY FEEDER, PRIMARY FUSING, RE-USE EXISTING OUTDOOR PAD MOUNTED TRANSFORMER, OUTDOOR MANUAL TRANSFER SWITCH / SERVICE ENTRANCE RATED MAIN C.B. SECONDARY U.G. DUCTBANK / FEEDER, SERVICE-RATED MOTOR CONTROL CENTER WITH VFD'S, VFD CABLING, STARTERS, DISCONNECTS, RECEPTACLES AS INDICATED.
- 4. PROVIDE DATA/COMMUNICATION SYSTEM RACEWAYS AS INDICATED.
- PROVIDE GROUNDING SYSTEM AS INDICATED / REQUIRED.
- 6. PROVIDE A SHORT CIRCUIT ANALYSIS, PROTECTIVE DEVICE COORDINATION STUDY AND ARC FLASH HAZARD CALCULATIONS AND LABELING.

PROJECT REQUIREMENTS

PROVIDE ALL NECESSARY PERMITS. ALL WORK SHALL BE INSTALLED TO COMPLY WITH THE OWNER'S STANDARDS, STATE AND LOCAL CODES INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING CODES AND THEIR RELATED REFERENCES.

2017 NATIONAL ELECTRICAL CODE AS AMENDED BY THE MICHIGAN CONSTRUCTION CODE PART 8, ELECTRICAL CODE RULES.

NFPA 101 LIFE SAFETY CODE 2012 (AS REFERENCED)

2015 MICHIGAN ENERGY CODE

2015 INTERNATIONAL FIRE CODE (AS REFERENCED)

2015 MICHIGAN BUILDING CODE 2015 MICHIGAN MECHANICAL CODE

2015 MICHIGAN PLUMBING CODE

2015 INTERNATIONAL FUEL GAS CODE

2013 NFPA 110 AND NFPA 111

MANUFACTURER AND MODEL NUMBER LISTED REPRESENTS THE BASIS OF DESIGN FOR THIS PROJECT. THE ELECTRICAL CONTRACTOR SHALL BEAR ALL ADDITIONAL COST ASSOCIATED WITH USING EQUIPMENT BY OTHER APPROVED MANUFACTURERS INCLUDING ADDITIONAL COSTS BY OTHER

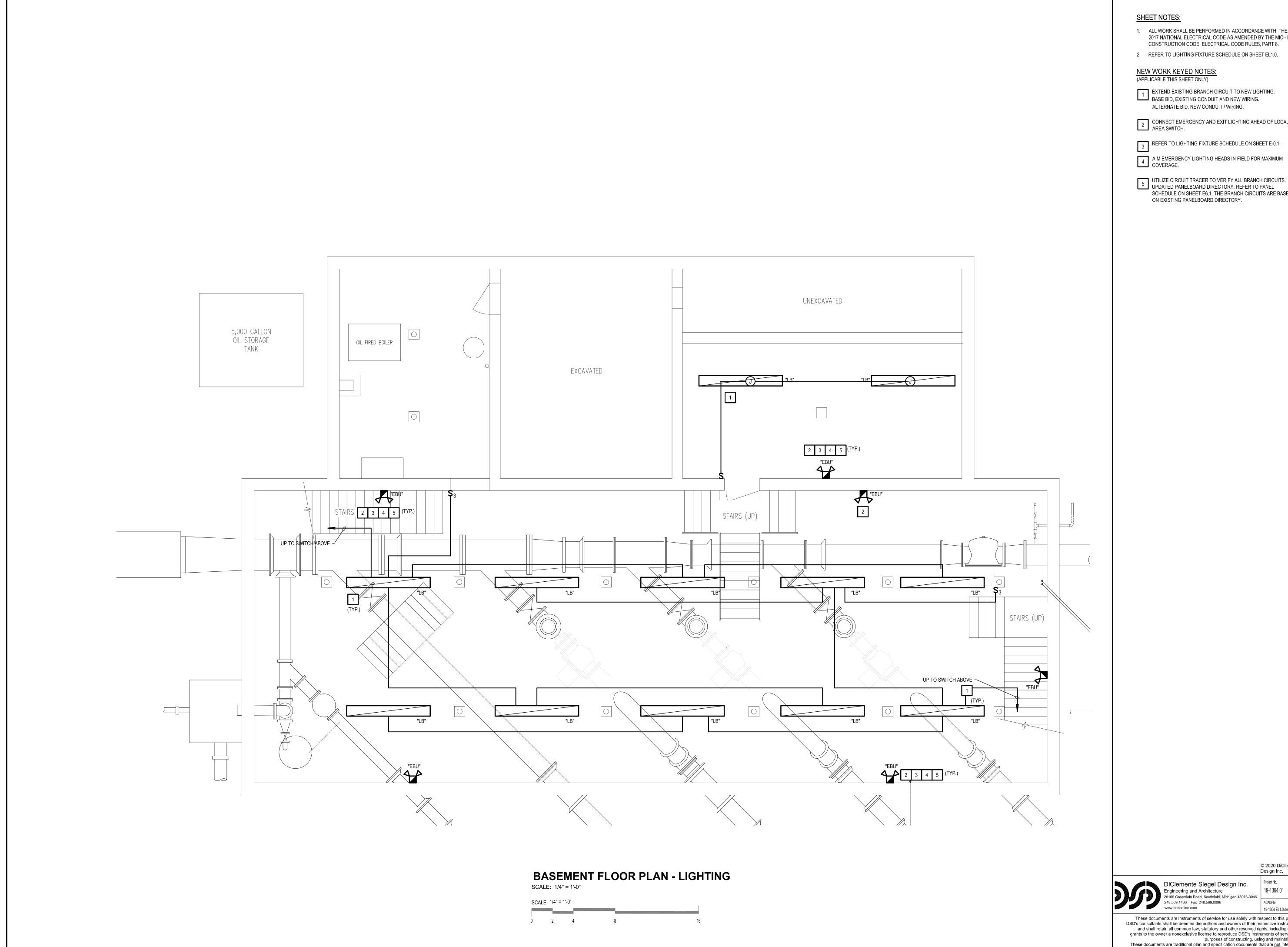
ALL EQUIPMENT INSTALLED SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHERE FIELD OR PROJECT CONDITIONS DO NOT ALLOW ALL MANUFACTURER'S RECOMMENDATIONS TO BE MET, THE INSTALLING CONTRACTOR SHALL SUBMIT IN WRITING TO THE ENGINEER THE PROPOSED DEVIATION, IN A SKETCH FORM, ACCOMPANIED BY THE MANUFACTURER'S CONCURRENCE.

REVISION OWNER REVIEW FINAL OWNER REVIEW PERMITS BIDS	NO. REVISION OWNER REVIEW FINAL OWNER REVIE BIDS BIDS	DATE	03/26/21			07/05/23			
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fittings, final installation and coordination is the contractor's responsibili



1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE AS AMENDED BY THE MICHIGAN

2. REFER TO LIGHTING FIXTURE SCHEDULE ON SHEET EL1.0.

EXTEND EXISTING BRANCH CIRCUIT TO NEW LIGHTING. BASE BID, EXISTING CONDUIT AND NEW WIRING.

2 CONNECT EMERGENCY AND EXIT LIGHTING AHEAD OF LOCAL AREA SWITCH.

AIM EMERGENCY LIGHTING HEADS IN FIELD FOR MAXIMUM COVERAGE.

UTILIZE CIRCUIT TRACER TO VERIFY ALL BRANCH CIRCUITS, UPDATED PANELBOARD DIRECTORY. REFER TO PANEL SCHEDULE ON SHEET E6.1. THE BRANCH CIRCUITS ARE BASED ON EXISTING PANELBOARD DIRECTORY.

CITY OF FLINT PUMP STATION RENOVATIONS

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1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE AS AMENDED BY THE MICHIGAN CONSTRUCTION CODE, ELECTRICAL CODE RULES, PART 8.

2. REFER TO LIGHTING FIXTURE SCHEDULE ON SHEET EL1.0.

NEW WORK KEYED NOTES:

CONNECT EMERGENCY AND EXIT LIGHTING AHEAD OF LOCAL AREA SWITCH.

2 REFER TO LIGHTING FIXTURE SCHEDULE ON SHEET E-0.1. 3 AIM EMERGENCY LIGHTING HEADS IN FIELD FOR MAXIMUM COVERAGE.

UTILIZE CIRCUIT TRACER TO VERIFY ALL BRANCH CIRCUITS, UPDATED PANELBOARD DIRECTORY. REFER TO PANEL SCHEDULE ON SHEET E6.2. THE BRANCH CIRCUITS ARE BASED ON EXISTING PANELBOARD DIRECTORY.

7 REINSTALL CORRIDOR LIGHTING FIXTURES IN CHEMICAL ROOM AND CONNECT TO EXISTING CIRCUIT.

PROVIDE NEW TYPE "LB" FIXTURES IN CORRIDOR. UTILIZE EXISTING BRANCH CIRCUIT AND PROVIDE NEW SWITCHING.

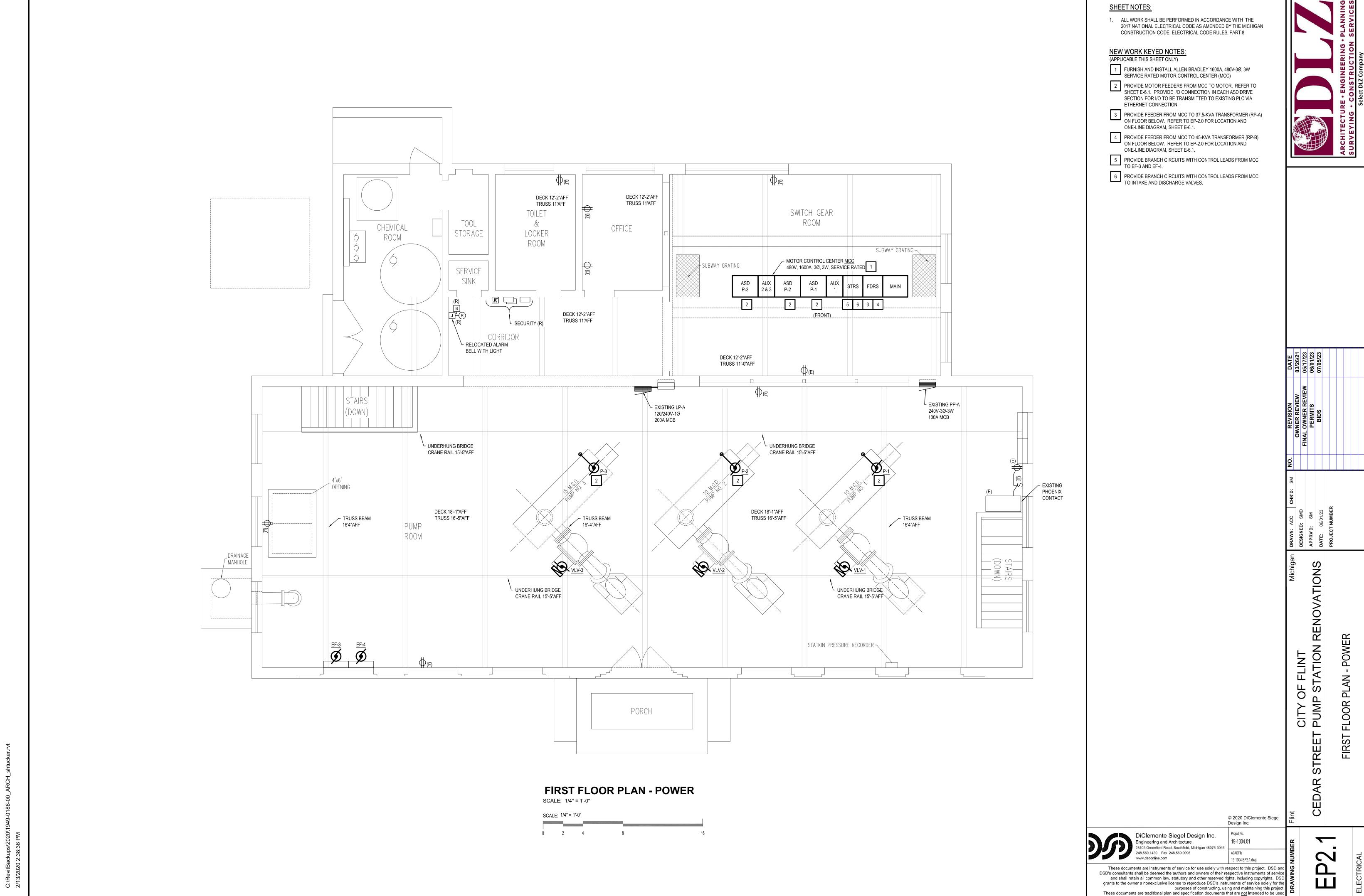
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CITY OF FLINT PUMP STATION RENOVATIONS

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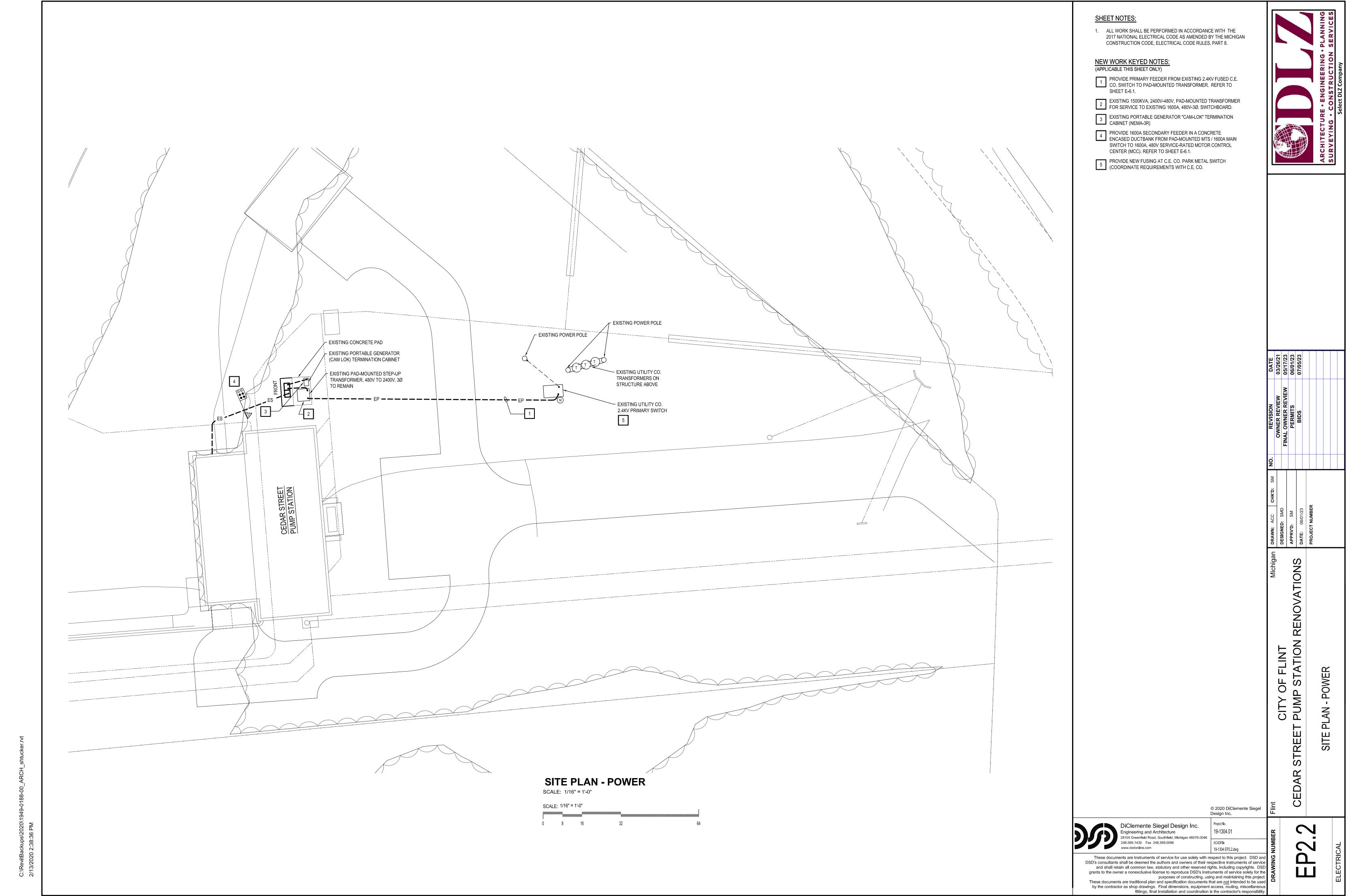
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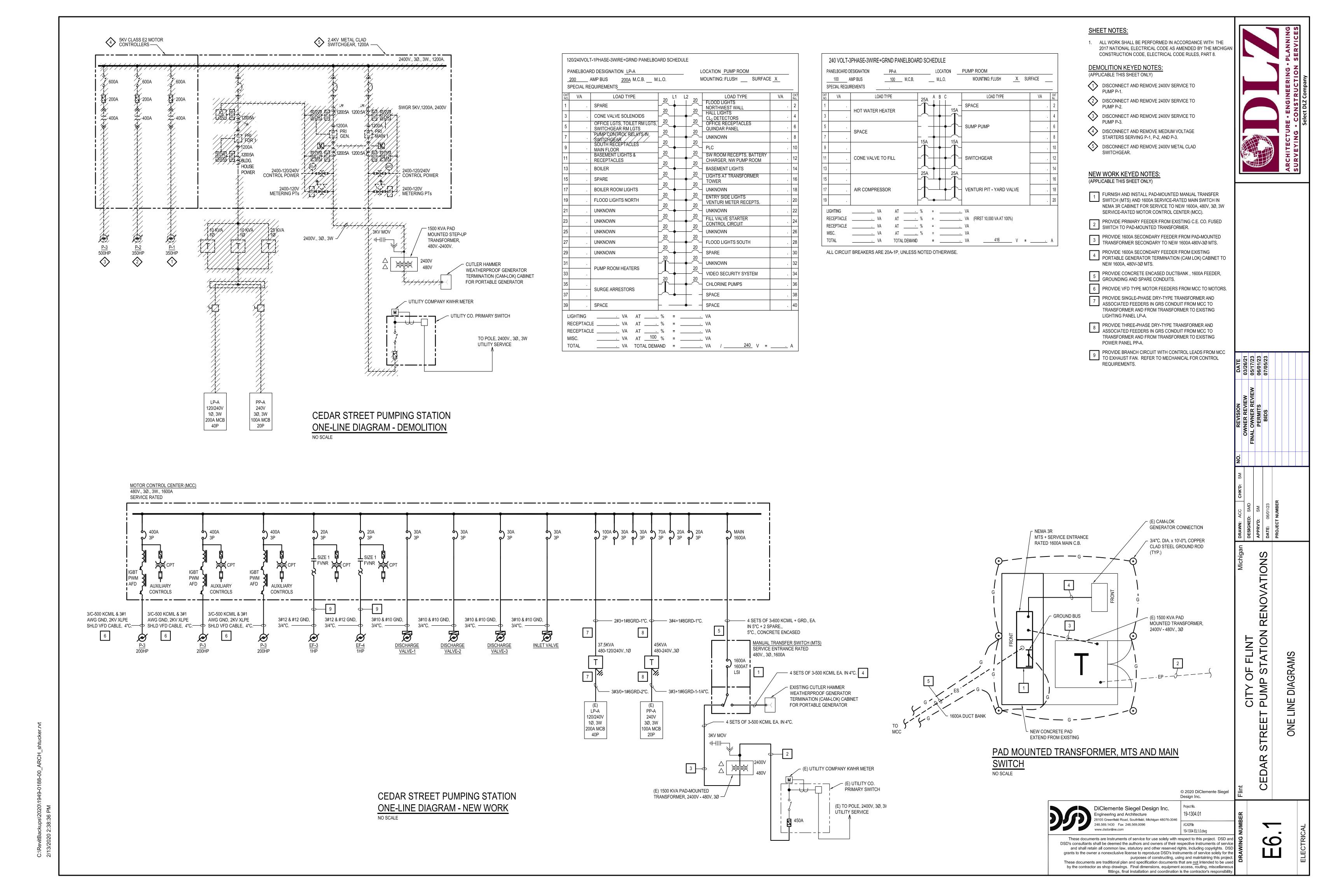
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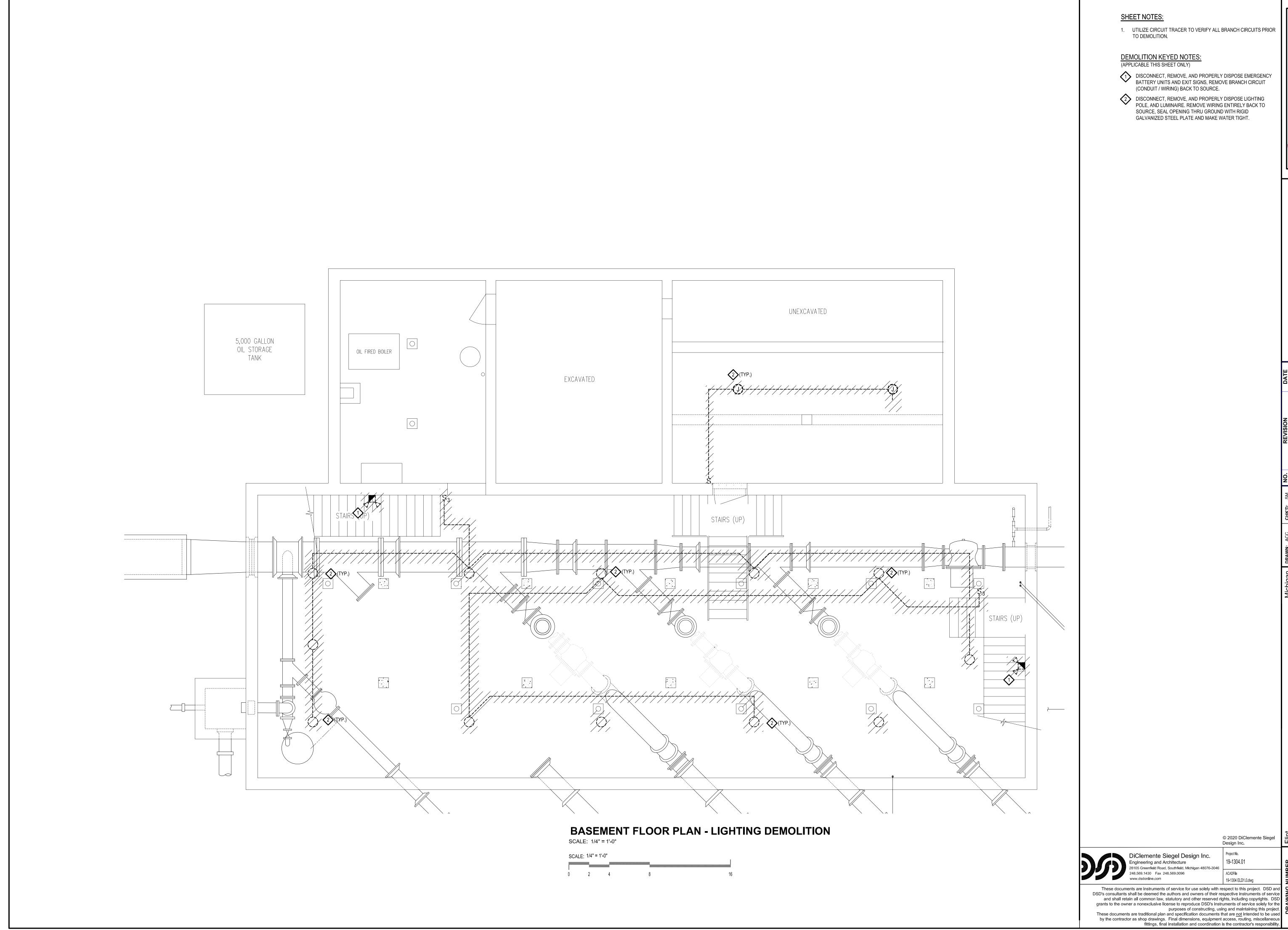
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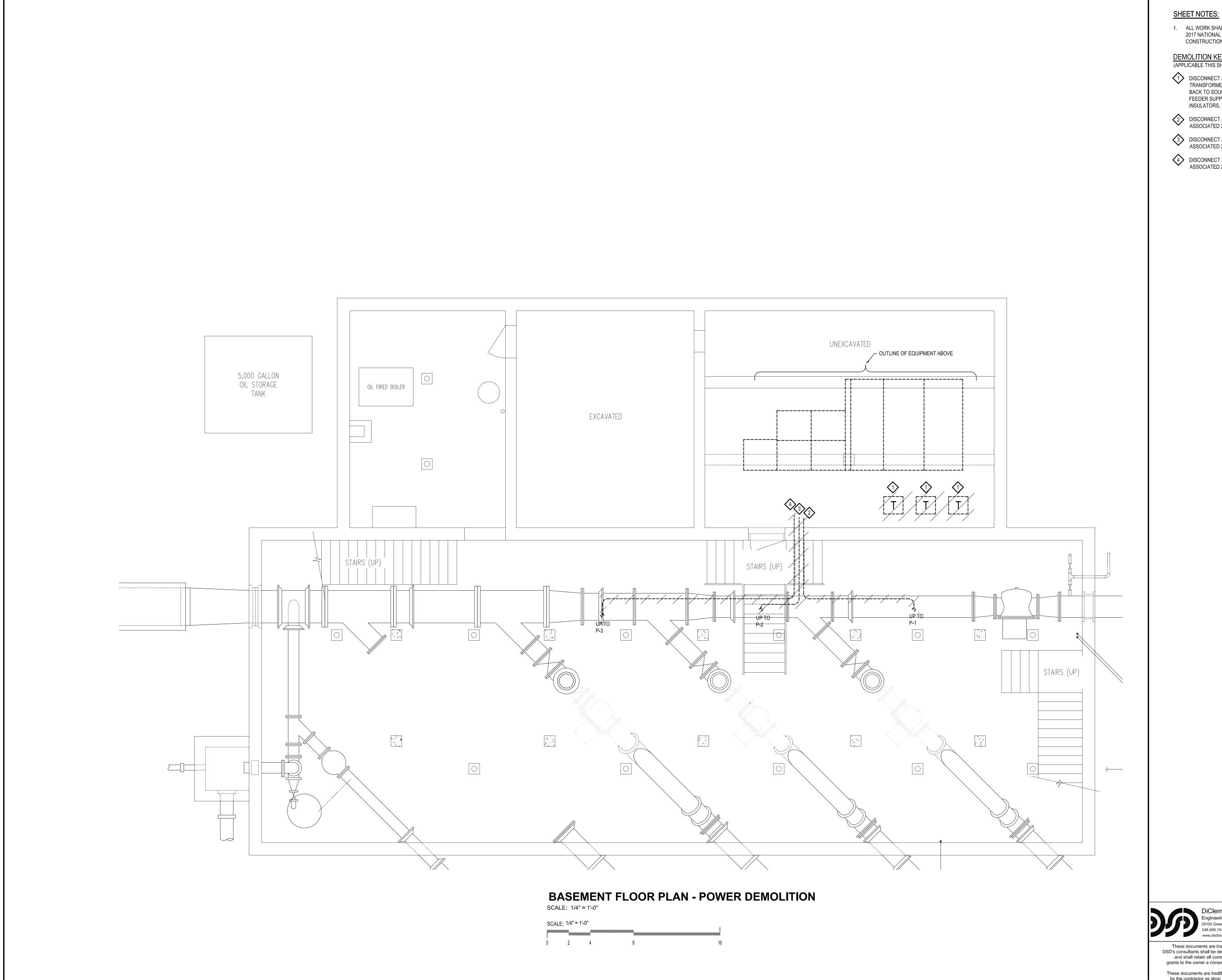




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DEMOLITION KEYED NOTES: (APPLICABLE THIS SHEET ONLY)

DISCONNECT AND REMOVE SINGLE PHASE TRANSFORMER, AND ASSOCIATED FEEDER BACK TO SOURCE ENTIRELY INCLUDING ALL FEEDER SUPPORT STRUCTURES, PORCELAIN INSULATORS, ETC.

DISCONNECT AND REMOVE P-1 AND ASSOCIATED 2.4KV FEEDER BACK TO SOURCE.

DISCONNECT AND REMOVE P-2 AND ASSOCIATED 2.4KV FEEDER BACK TO SOURCE.

DISCONNECT AND REMOVE P-3 AND ASSOCIATED 2.4KV FEEDER BACK TO SOURCE.

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