

**LENAWEE COUNTY DRAIN COMMISSION
ADRIAN, MI
SANITARY DRAIN LIFT STATION IMPROVEMENTS - REBID
CWSRF PROJECT NO. 5728-01**

**ADDENDUM NO. 2
October 14, 2021**

TO: Prospective Bidders

FROM: Arcadis of Michigan, LLC
One Seagate, Suite 700
Toledo, OH 43604

OWNER: Lenawee County Drain Commission
320 Springbrook Avenue, Suite 102
Adrian, Michigan 49221

SUBJECT: Rollin-Woodstock
Sanitary Drain Lift Station improvements - Rebid
CWSRF Project No. 5728-01

This Addendum is part of the Bidding Documents and the Contract Documents and modifies the original Bidding Documents dated September 2021, as indicated below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification for award of the associated Contract.

This Addendum consists of 4 pages and the attachments, if any, listed on pages 3 and 4.

CHANGES TO PRIOR ADDENDA

1. Addendum No. 1, Item 2, Drawing P-1, sheet 17 of 24, LIFT STATION DETAILS, DUPLEX STATIONS – Delete this sheet in its entirety and substitute revised Drawing P-1, Sheet 17 of 24 included with this Addendum No. 2.
2. Addendum No. 1, Item 3, Drawing P-2, sheet 18 of 24, STATION DETAILS, TRIPLEX STATIONS – Delete this sheet in its entirety and substitute revised Drawing P-2, Sheet 18 of 24 included with this Addendum No. 2.
3. Addendum No. 1, Item 4, Drawing P-3, sheet 19 of 24, STATION N, WET WELL DETAILS – Delete this sheet in its entirety and substitute revised Drawing P-3, Sheet 19 of 24 included with this Addendum No. 2.

CHANGES TO INTRODUCTORY INFORMATION

4. Page 00 01 10-4 - Delete this page in its entirety and substitute revised page 00 01 10-4, included with this Addendum No. 2.
5. Page 00 73 46 - 1 – Following this page, delete Davis Bacon Wage Rate “General Decision Number MI20210044, dated 08/13/2021” consisting of 12 pages, and substitute Davis Bacon Wage Rate “General Decision Number MI20210044, dated 10/01/2021” consisting of 12 pages, included with this Addendum No. 2.

CHANGES TO BIDDING REQUIREMENTS

6. Pages 00 41 13-1 through 00 41 13-7 - Delete these pages in their entirety and substitute revised pages 00 41 13-1 through 00 41 13-7, included with this Addendum No. 2.
7. Pages 01 41 13.10-1 and 01 41 13.10-2 - Delete these pages in their entirety and substitute revised pages 00 41 13.10-1 and 00 41 13.10-2, included with this Addendum No. 2.

CHANGES TO SPECIFICATIONS

8. Pages 01 11 13-1 through 01 11 13-5 - Delete these pages in their entirety and substitute revised pages 01 11 13-1 through 01 11 13-5, included with this Addendum No. 2.
9. Page 01 14 16-24 - Delete this page in its entirety and substitute revised page 01 14 16-24 included with this Addendum No. 2.
10. Page 01 21 00-2 - Delete this page in its entirety and substitute revised page 01 21 00-2 included with this Addendum No. 2.
11. Pages 01 22 13-2 through 01 22 13-7 - Delete these pages in their entirety and substitute revised pages 01 22 13-2 through 01 22 13-7, included with this Addendum No. 2.
12. After page 26 28 17-3, add new pages 26 32 13-1 through 26 32 13-8, included with this Addendum No. 2
13. Pages 33 01 30.82-4 through 33 01 30.82-10 - Delete these pages in their entirety and substitute revised pages 33 01 30.82-4 through 33 01 30.82-10, included with this Addendum No. 2.
14. Page 33 05 05 - 16 - Delete this page in its entirety and substitute revised page 33 05 05 - 16 included with this Addendum No. 2.
15. Page 33 32 00 - 9 - Delete this page in its entirety and substitute revised page 33 32 00 - 9 included with this Addendum No. 2.

16. Page 33 32 00 - 19 - Delete this page in its entirety and substitute revised page 33 32 00 - 19 included with this Addendum No. 2.
17. Page 33 32 00 - 22 - Delete this page in its entirety and substitute revised page 33 32 00 - 22 included with this Addendum No. 2.
18. Pages 33 32 00 - 27 through 33 32 00 - 29 - Delete these pages in their entirety and substitute revised pages 33 32 00 – 27 through 33 32 00-29, included with this Addendum No. 2.

CHANGES TO DRAWINGS

19. Drawing C-8, sheet 10 of 24, LIFT STATION N SITE PLAN - Delete this sheet in its entirety and substitute revised Drawing C-8, sheet 10 of 24, included with this Addendum No. 2.
20. Drawing E-1, sheet 23 of 24, ELECTRICAL ONE-LINE DIAGRAMS - Delete this sheet in its entirety and substitute revised Drawing E-1, sheet 23 of 24, included with this Addendum No. 2.
21. Drawing ED-2, sheet 24 of 24, ELECTRICAL DEMOLITION ONE-LINE DIAGRAMS - Delete this sheet in its entirety and substitute revised Drawing ED-2, sheet 24 of 24, included with this Addendum No. 2.

ATTACHMENTS

Changes to Prior Addenda attachments hereto are as follows:

- Drawing P-1, sheet 17 of 24, LIFT STATION DETAILS, DUPLEX STATIONS
- Drawing P-2, sheet 18 of 24, STATION DETAILS, TRIPLEX STATIONS
- Drawing P-3, sheet 19 of 24, STATION N, WET WELL DETAILS

Changes to Introductory Information attachments hereto are as follows:

- Page 00 01 10-4
- Davis Bacon Wage Rate “General Decision Number MI20210044, dated 10/01/2021” consisting of 12 pages

Changes to Bidding Requirements attachments hereto are as follows:

- Pages 00 41 13-1 through 00 41 13-7
- Pages 00 41 13.10-1 and 00 41 13.10-2

Changes to Specifications attachments hereto are as follows:

- Pages 01 11 13-1 through 01 11 13-5
- Page 01 14 16-24
- Page 01 21 00-2
- Pages 01 22 13-2 through 01 22 13-7
- Pages 26 32 13-1 through 26 32 13-8
- Pages 33 01 30.82-4 through 33 01 30.82-10

- Page 33 05 05 - 16
- Page 33 32 00 - 9
- Page 33 32 00 - 19
- Page 33 32 00 - 22
- Pages 33 32 00 - 27 through 33 32 00 - 29

Changes to Drawings attachments hereto are as follows:

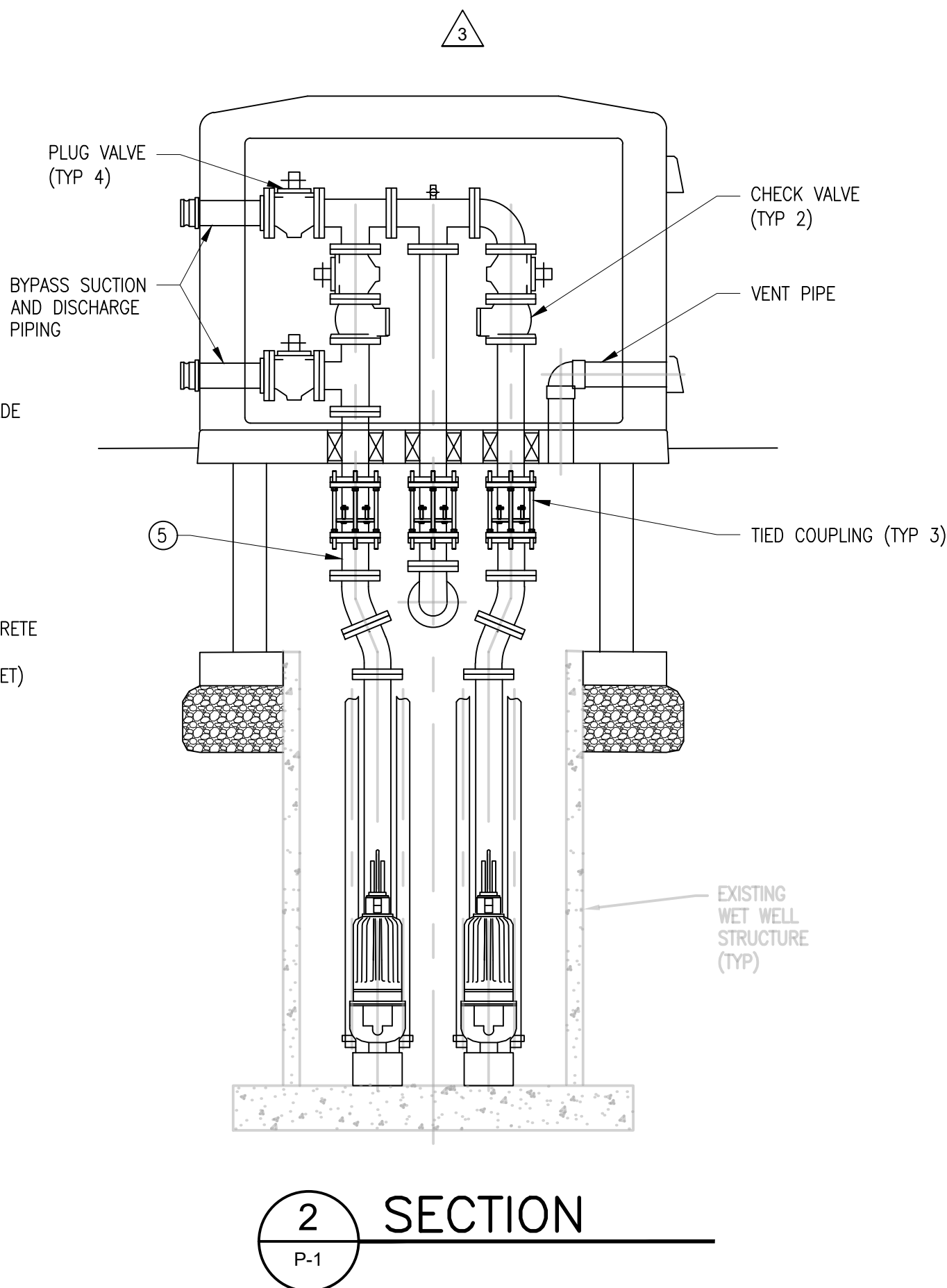
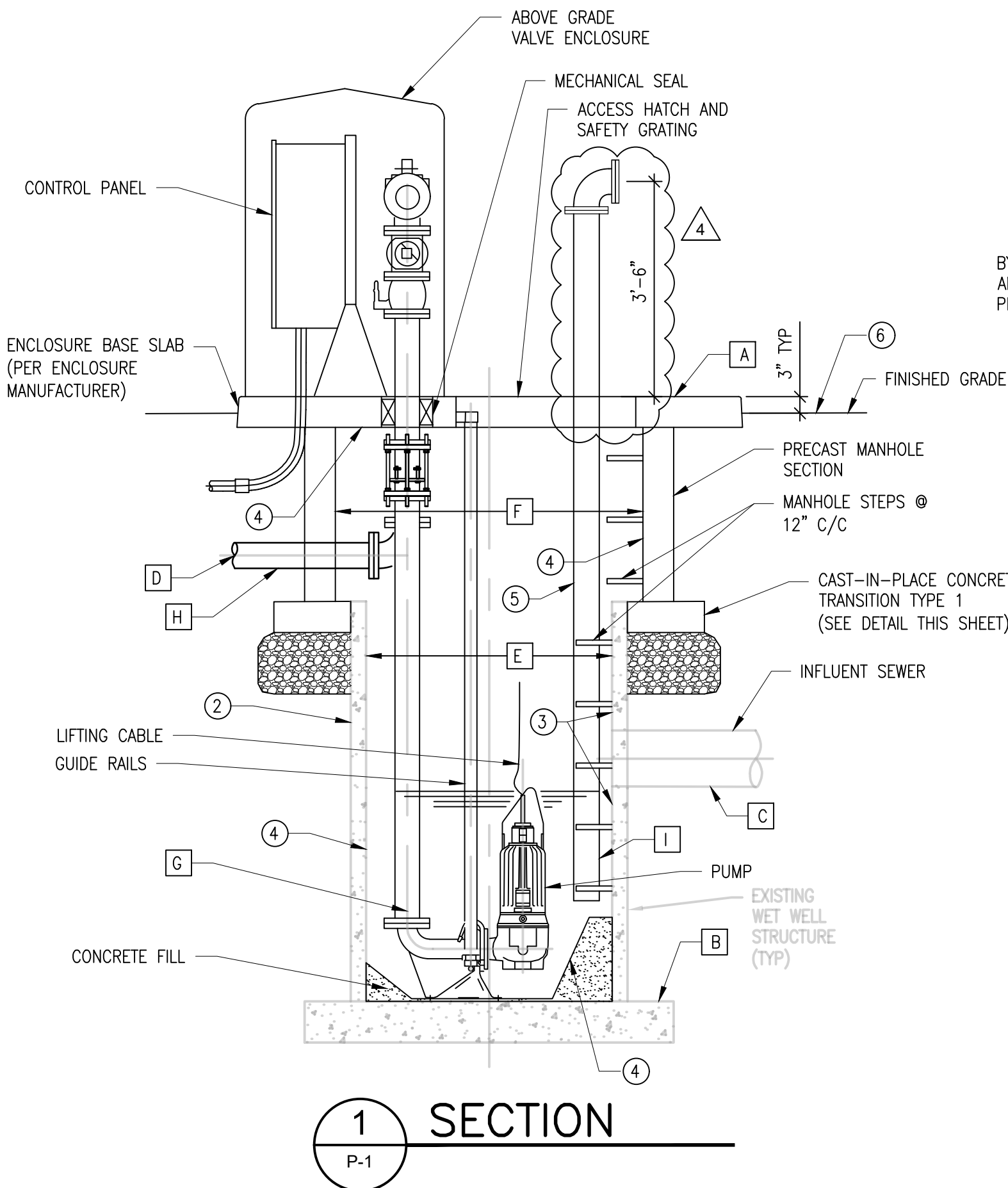
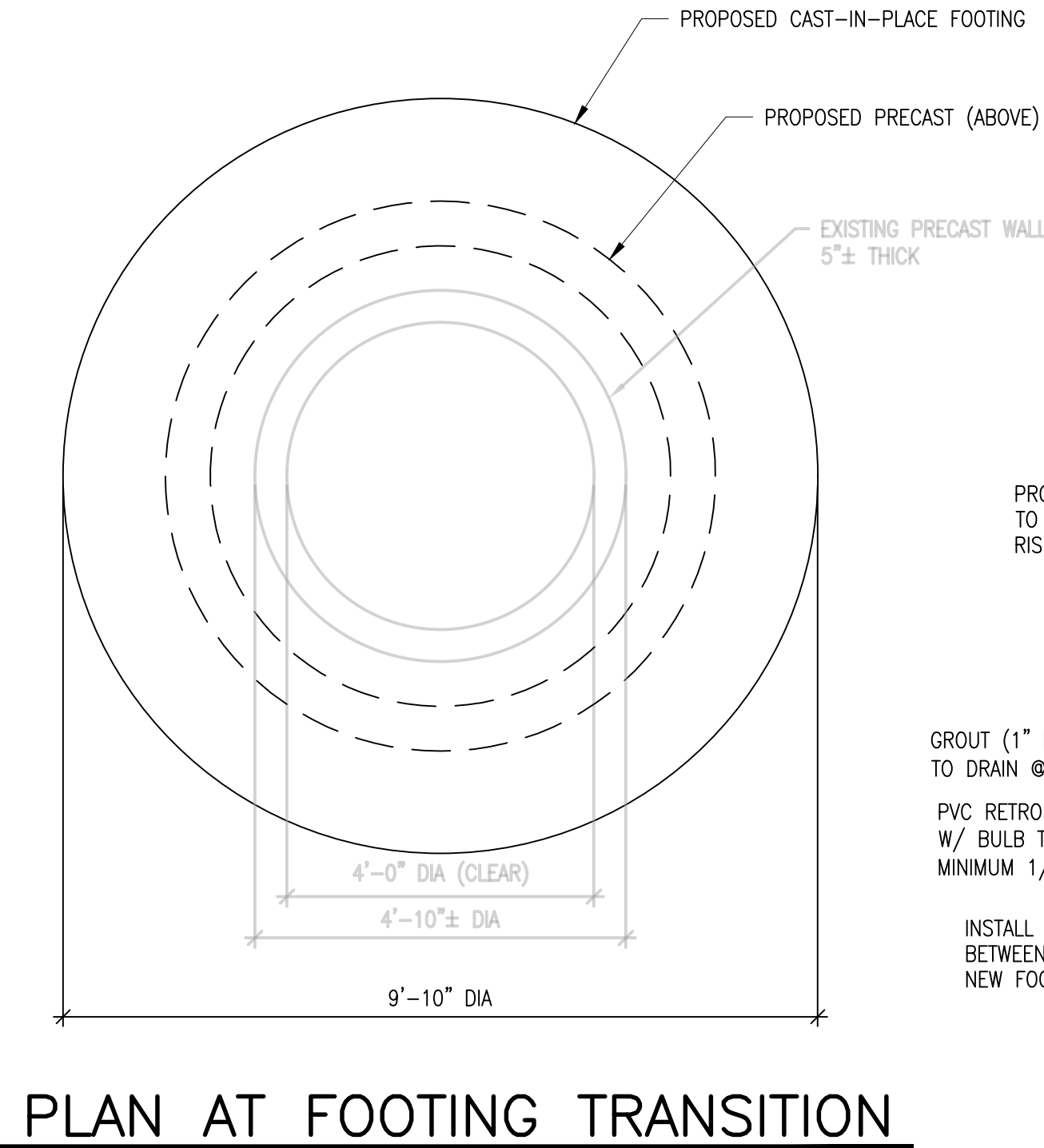
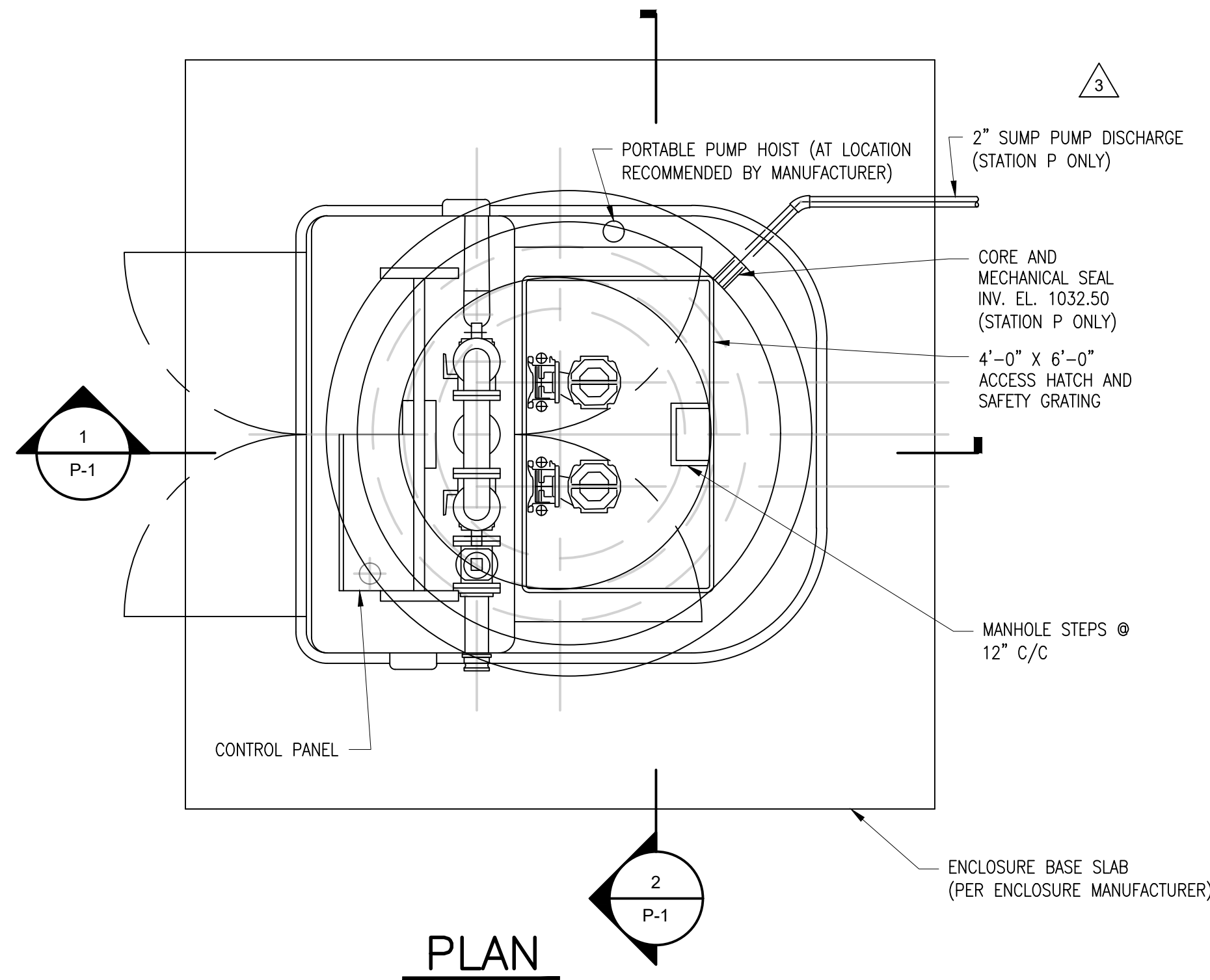
- Drawing C-8, sheet 10 of 24, LIFT STATION N SITE PLAN
- Drawing E-1, sheet 23 of 24, ELECTRICAL ONE-LINE DIAGRAMS
- Drawing ED-2, sheet 24 of 24, ELECTRICAL DEMOLITION ONE-LINE DIAGRAMS -

Other attachments hereto are as follows:

- Pre-Bid Conference Agenda/Record consisting of 10 pages. This attachment is not part of the Bidding Documents or the proposed Contract Documents.

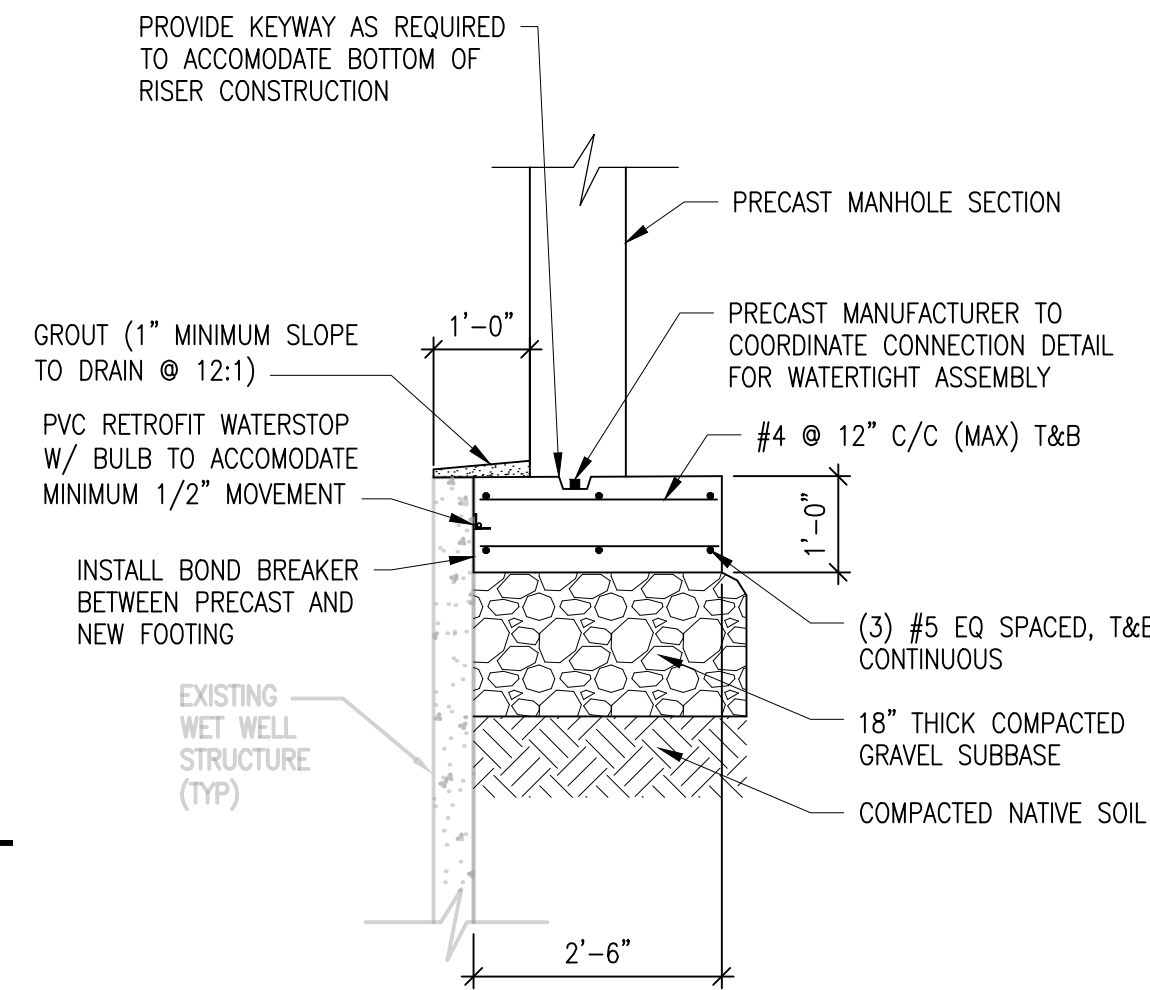
+ + END OF ADDENDUM NO. 2 + +

User:SPITTMAN Spec:AUS-NC5MOD File:C:\USERS\SPITTMAN\ARCADIS\LOC\ROLLINWOODSTOCK LIFT STA. MPR - GENERAL\DRAWING\GENERAL\17-LIFT STA-DUPLEX.DWG Scale:1:1 SavedDate:10/7/2021 Time:10:09 Plot Date: Pittman, Steve; 10/13/2021; 14:21 ; Layout:17



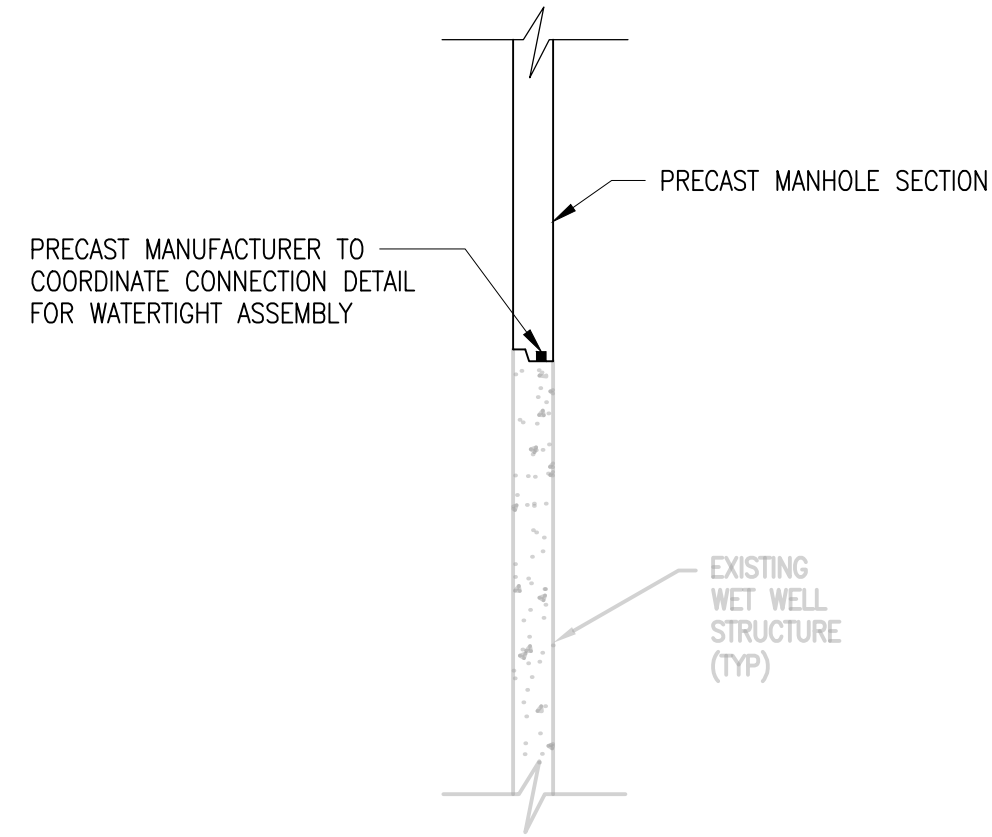
LIFT STATION DETAILS
NOT TO SCALE

Lift Station	Elevations					Wet Well Dimensions		Pipe Sizes		Pumps			Valves	Bypass Suction Pipe Size
	A	B	C (1)	C (2)	D	E	F	G	H	No.	Flow	TDH	Size	I
A	1050.56	1031.26	1036.42	-	1045.06	4'-0"	6'-0"	4"	6"	2	200	42	4"	4"
B	1049.12	1020.82	1027.30	-	1043.62	4'-0"	6'-0"	4"	6"	2	320	54	4"	4"
C	1045.57	1024.36	1029.85	-	1040.07	6'-0"	6'-0"	6"	8"	2	500	30	4"	6"
D	1046.39	1025.89	1032.28	-	1040.89	6'-0"	6'-0"	6"	8"	2	700	18	6"	6"
F	1045.31	1028.11	1033.31	-	1039.81	4'-0"	6'-0"	4"	6"	2	215	14	4"	4"
G	1048.16	1018.56	1025.76	1025.96	1042.66	4'-0"	6'-0"	4"	8"	2	380	43	4"	4"
I	1046.71	1023.19	1029.64	-	1041.21	6'-0"	6'-0"	6"	8"	2	740	53	6"	6"
J	1053.51	1026.76	1033.23	-	1048.01	6'-0"	6'-0"	4"	8"	2	640	63	4"	6"
K	1047.39	1022.54	1028.56	-	1041.89	6'-0"	6'-0"	6"	8"	2	520	31	6"	6"
L	1051.64	1019.19	1026.34	-	1046.14	4'-0"	6'-0"	4"	8"	2	380	67	4"	4"
M	1044.97	1024.62	1029.69	-	1039.47	4'-0"	6'-0"	4"	6"	2	200	34	4"	4"
P	1040.60	1020.23	1027.41	1027.78	1035.1	6'-0"	6'-0"	6"	8"	2	700	50	6"	6"
Q	1022.02	1001.21	1007.04	-	1016.52	4'-0"	6'-0"	4"	6"	2	200	45	4"	4"
R	1018.05	999.00	1005.75	-	1012.55	4'-0"	6'-0"	4"	6"	2	310	63	4"	4"
S	1026.26	997.86	1003.13	-	1020.76	4'-0"	6'-0"	4"	6"	2	370	73	4"	4"



TRANSITION TYPE 1
CAST-IN-PLACE DETAIL

NOTE:
DETAIL TYPICAL FOR LIFT STATIONS
A, B, F, G, L, M, Q, R, & S.



TRANSITION TYPE 2
CAST-IN-PLACE DETAIL

NOTE:
DETAIL TYPICAL FOR LIFT STATIONS
C, D, I, J, K, & P.

KEY NOTES

- WET WELL REHABILITATION WORK AS DIRECTED BY ENGINEER.
- CLEAN EXISTING WET WELLS IN ACCORDANCE WITH SECTION 33 01 30.42 - CLEANING OF WET WELLS.
 - PERFORM CONCRETE REPAIRS TO EXISTING WET WELL IN ACCORDANCE WITH SECTION 33 01 30.81 - WET WELL REHABILITATION.
 - PERFORM CRACK INJECTION GROUTING AT CRACKS AND LEAKS IN ACCORDANCE WITH SECTION 33 01 30.81 - WET WELL REHABILITATION.
 - APPLY COATING SYSTEM TO EXISTING WET WELL AND NEW WET WELL SECTION AND BASE IN ACCORDANCE WITH SECTION 33 01 30.82 - EPOXY LINING OF CONCRETE WET WELLS.
 - BYPASS PUMP SUCTION PIPING CONFIGURATION TO BE DETERMINED BY PUMP MANUFACTURER, EITHER THROUGH PUMP DISCHARGE LINE OR SEPARATE LINE.
 - GRADE SHALL BE 6" BELOW WET WELL TOP SLAB FOR STATIONS I AND P.

GENERAL NOTES

- EXTENT OF CONCRETE FILL PER PUMP MANUFACTURER'S RECOMMENDATIONS.
- ABOVE GRADE VALVE ENCLOSURE LAYOUT MAY VARY DEPENDING ON MANUFACTURER.

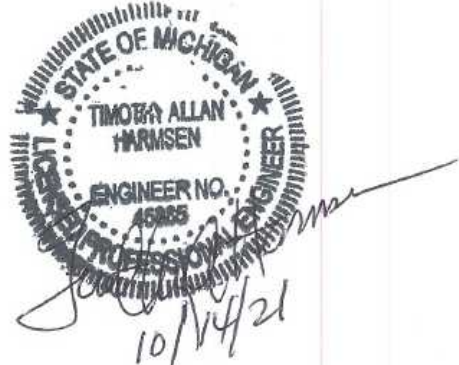
LEGAL ENTITY: ARCADIS OF MICHIGAN, LLC.



CONSULTANTS



SEALS



LENAWEE COUNTY
DRAIN COMMISSION

ROLLIN-WOODSTOCK
SANITARY DRAIN LIFT STATION
IMPROVEMENTS

ARCADIS PROJ. NO. 30027906

NO.	DATE	ISSUED FOR	BY
4	10/14/21	ADDENDUM NO. 2	TAH
3	9/24/21	ADDENDUM NO. 1	TAH
2	9/9/21	ISSUED FOR BID	TAH
1	8/18/21	EGL SUBMITTAL	TAH

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2021

DATE: SEPTEMBER 2021
PROJECT NO.: 30027906
FILE NAME: 17-LIFT STA-DUPLEX
DESIGNED BY: K. CELIAN
DRAWN BY: S. PITTMAN
CHECKED BY: T. HARMSEN

SHEET TITLE

CIVIL

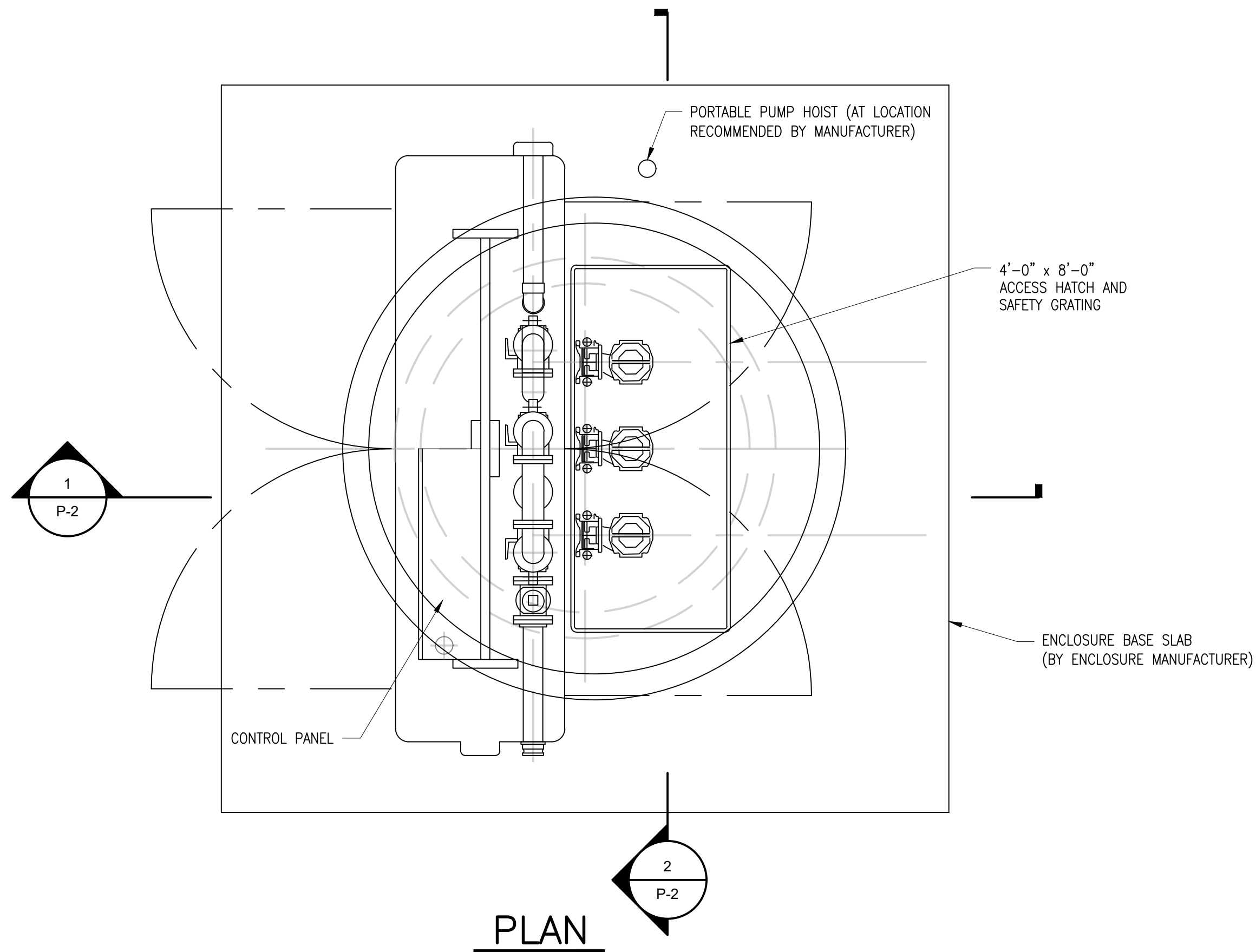
LIFT STATION DETAILS
DUPLEX STATIONS

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NOT TO SCALE

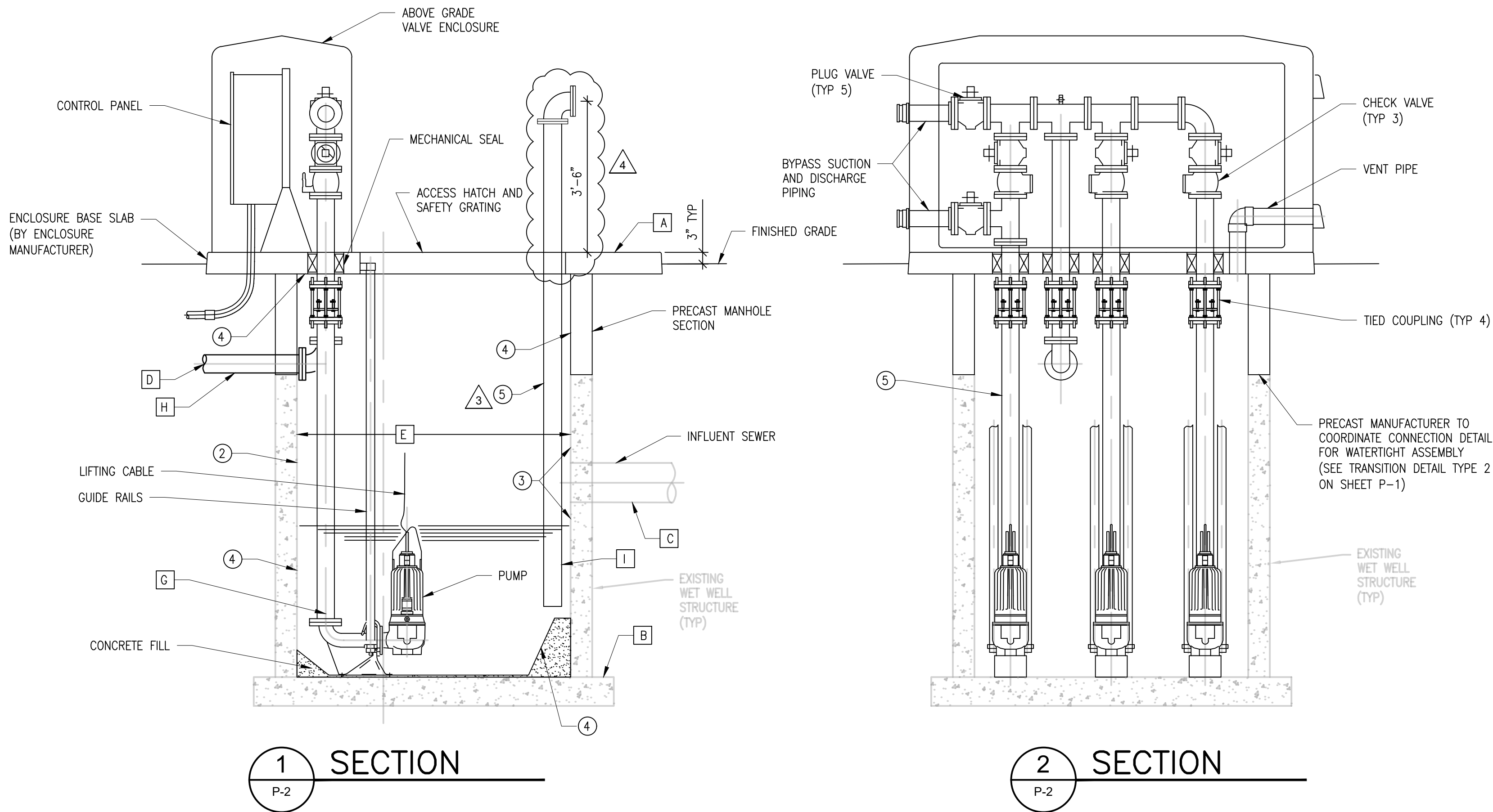
P-1

SHEET 17 OF 24

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Lift Station	Elevations					Wet Well Dimensions		Pipe Sizes		Pumps			Valves	Bypass Suction Pipe Size
	A	B	C (1)	C (2)	D	E		G	H	No.	Flow	TDH	Size	I
E	1052.07	1019.67	1031.93	-	1046.57	8'-0"		6"	10"	3	600	28	6"	6"
H	1049.01	1018.21	1041.51	1026.76	1043.51	8'-0"		6"	12"	3	850	54	6"	6"



- KEY NOTES**
- WET WELL REHABILITATION WORK AS DIRECTED BY ENGINEER.
- CLEAN EXISTING WET WELLS IN ACCORDANCE WITH SECTION 33 01 30.42 - CLEANING OF WET WELLS.
- PERFORM CONCRETE REPAIRS TO EXISTING WET WELL IN ACCORDANCE WITH SECTION 33 01 30.81 - WET WELL REHABILITATION.
- PERFORM CRACK INJECTION GROUTING AT CRACKS AND LEAKS IN ACCORDANCE WITH SECTION 33 01 30.81 - WET WELL REHABILITATION.
- APPLY COATING SYSTEM TO EXISTING WET WELL AND NEW WET WELL SECTION AND BASE IN ACCORDANCE WITH SECTION 33 01 30.82 - EPOXY LINING OF CONCRETE WET WELLS.
- BYPASS PUMP SUCTION PIPING CONFIGURATION TO BE DETERMINED BY PUMP MANUFACTURER, EITHER THROUGH PUMP DISCHARGE LINE OR SEPARATE LINE.
- GENERAL NOTES**
1. EXTENT OF CONCRETE FILL PER PUMP MANUFACTURER'S RECOMMENDATIONS.
2. ABOVE GRADE VALVE ENCLOSURE LAYOUT MAY VARY DEPENDING ON MANUFACTURER.
3. STATION H IS TO HAVE A WALK-IN ENCLOSURE COMPRISED OF SAME MATERIAL SPECIFIED IN SECTION 33 32 00 - PACKAGED SANITARY DRAIN LIFT STATIONS. MAXIMUM SIZE 130 SQUARE FEET.

LIFT STATION DETAILS

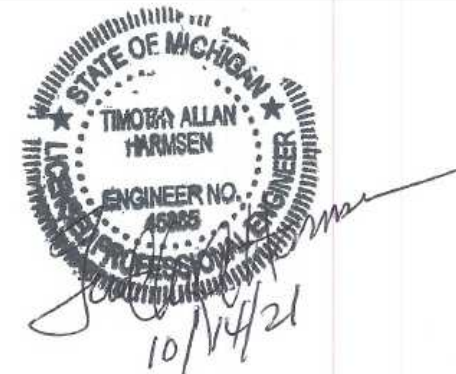
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LEGAL ENTITY: ARCADIS OF MICHIGAN, LLC.



CONSULTANTS

SEALS



LENAWEE COUNTY
DRAIN COMMISSION

ROLLIN-WOODSTOCK
SANITARY DRAIN LIFT STATION
IMPROVEMENTS

ARCADIS PROJ. NO. 30027906

4	10/14/21	ADDENDUM NO. 2	TAH
3	9/24/21	ADDENDUM NO. 1	TAH
2	9/9/21	ISSUED FOR BID	TAH
1	8/18/21	EGL E SUBMITTAL	TAH
NO.	DATE	ISSUED FOR	BY

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2021

DATE: SEPTEMBER 2021

PROJECT NO.: 30027906

FILE NAME: 18-LIFT STA-TRIPLEX

DESIGNED BY: K. CELIAN

DRAWN BY: S. PITTMAN

CHECKED BY: T. HARMSEN

SHEET TITLE

CIVIL

LIFT STATION DETAILS
TRIPLEX STATIONS

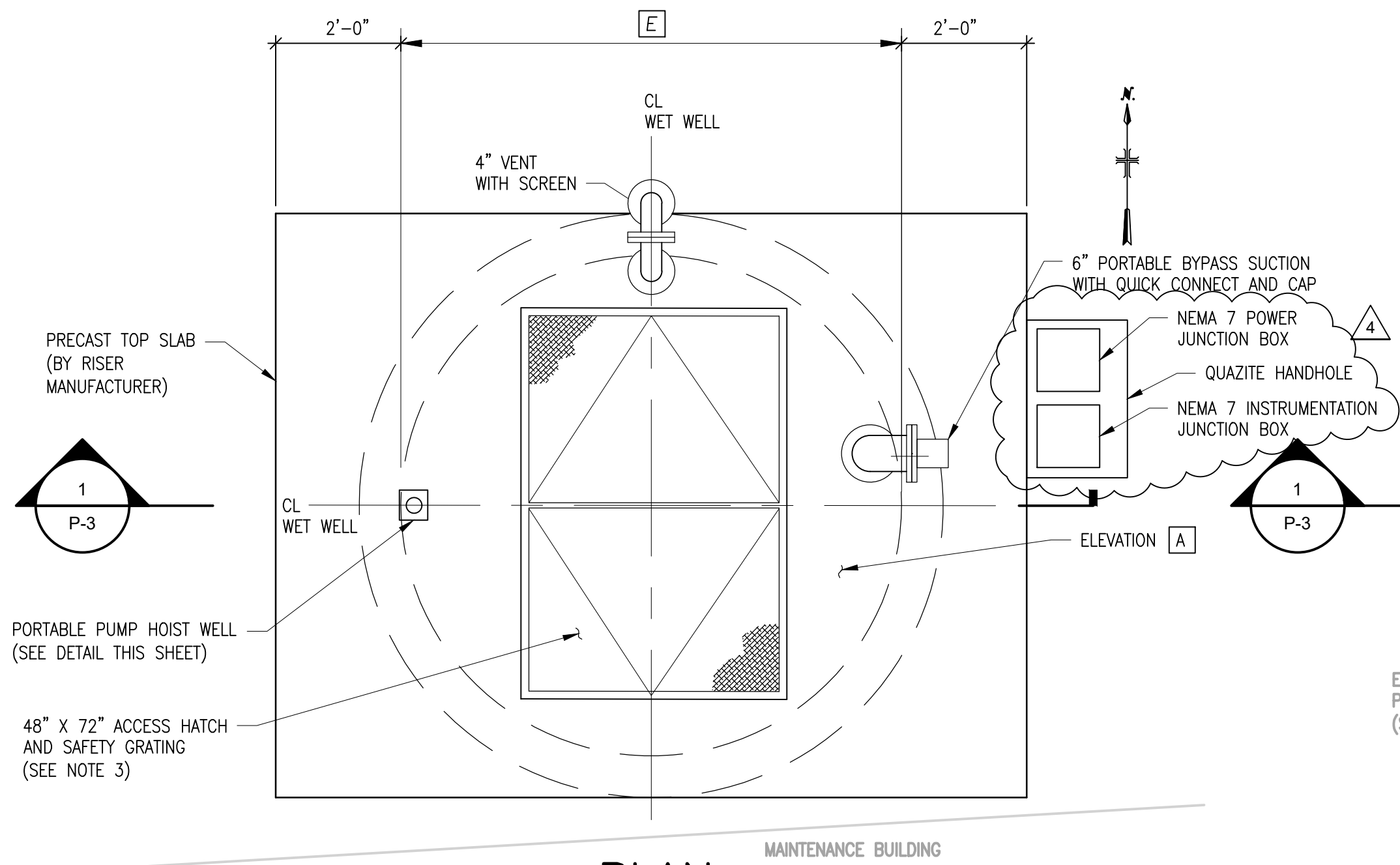
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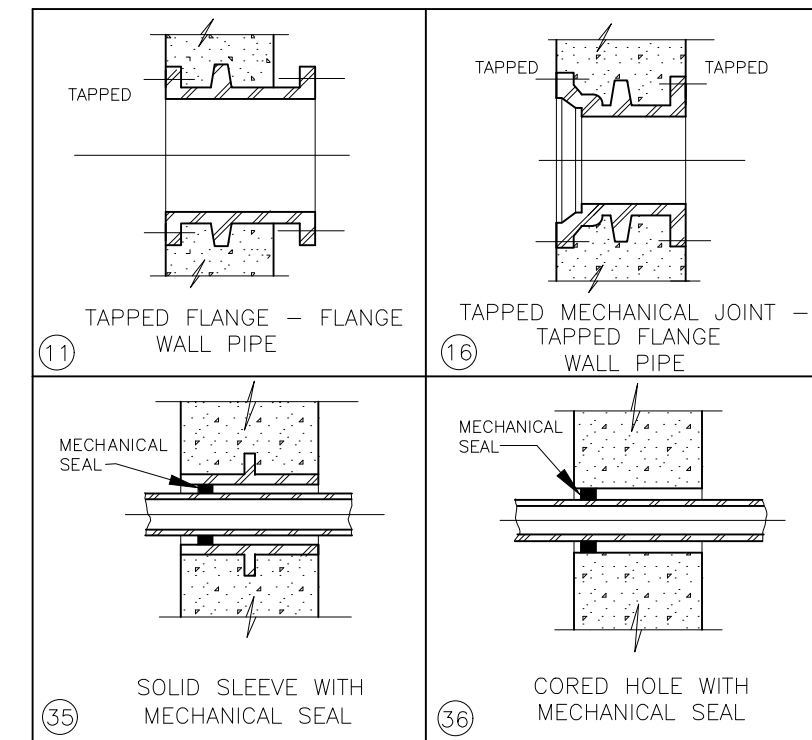
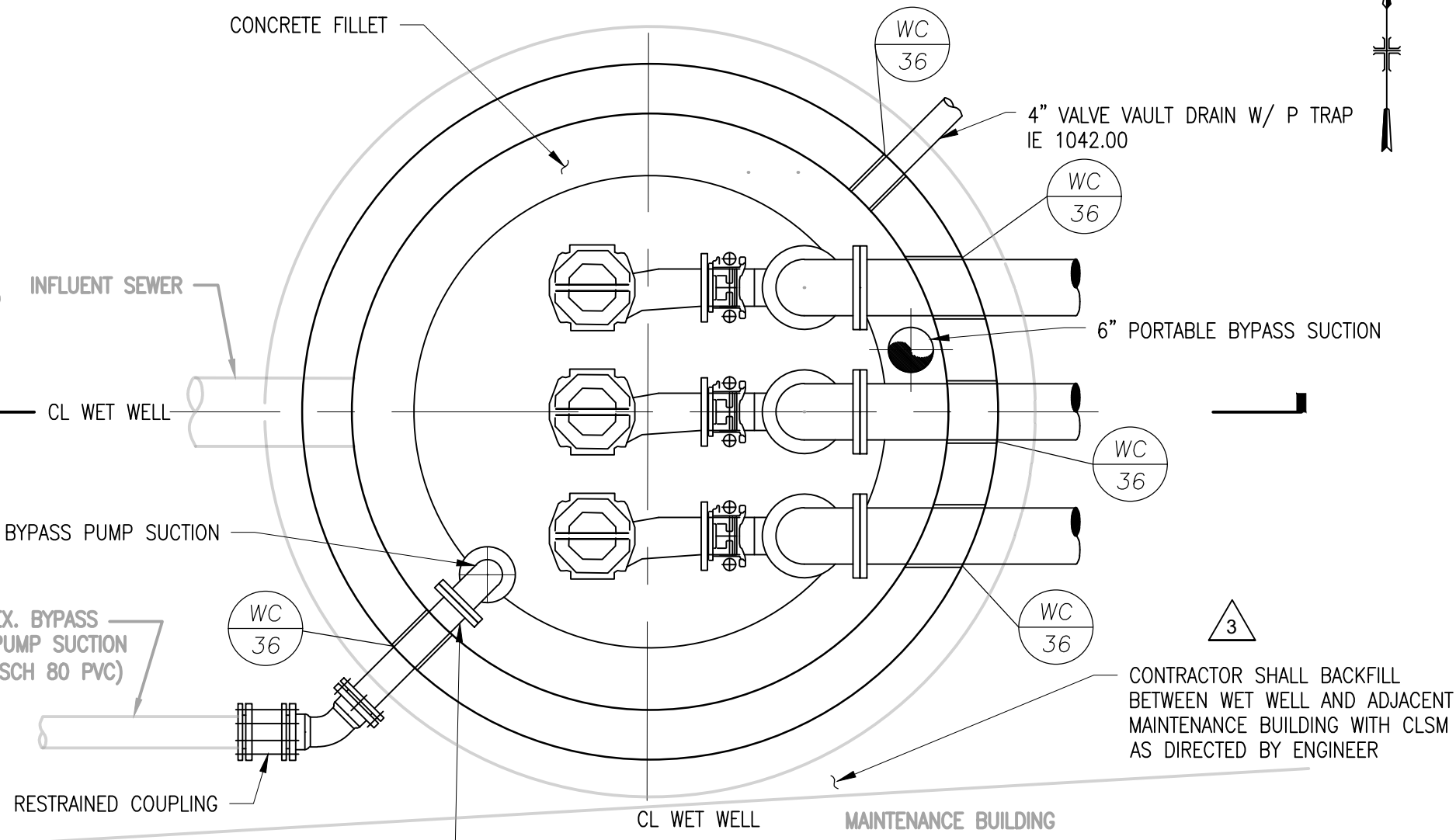
P-2

SHEET 18 OF 24

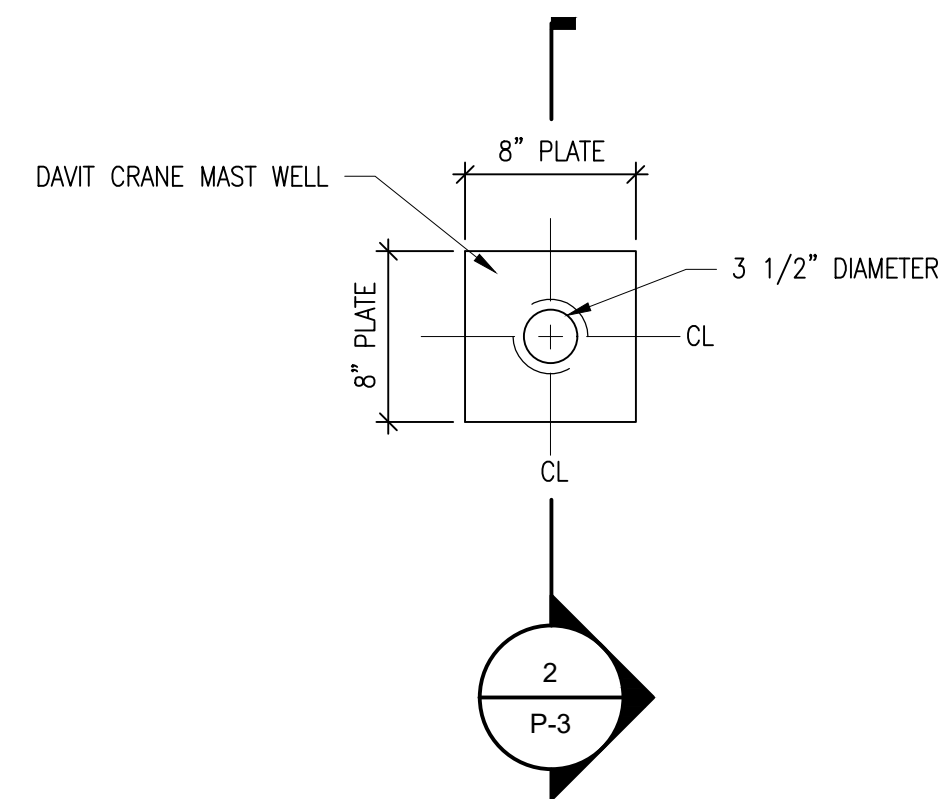
User:SPITTMAN Spec:AUS - NCSMOD File:C:\USERS\TGARDNER\ARCADIS\LCDG ROLLINWOODSTOCK LIFT STA IMPR - GENERAL\DRAWING\GENERAL\19-STA N WET WELL.DWG Scale:1:1 SavedDate:10/13/2021 Time:14:25 Plot Date: Gardiner, Todd: 10/14/2021: 10:52 : Layout:19



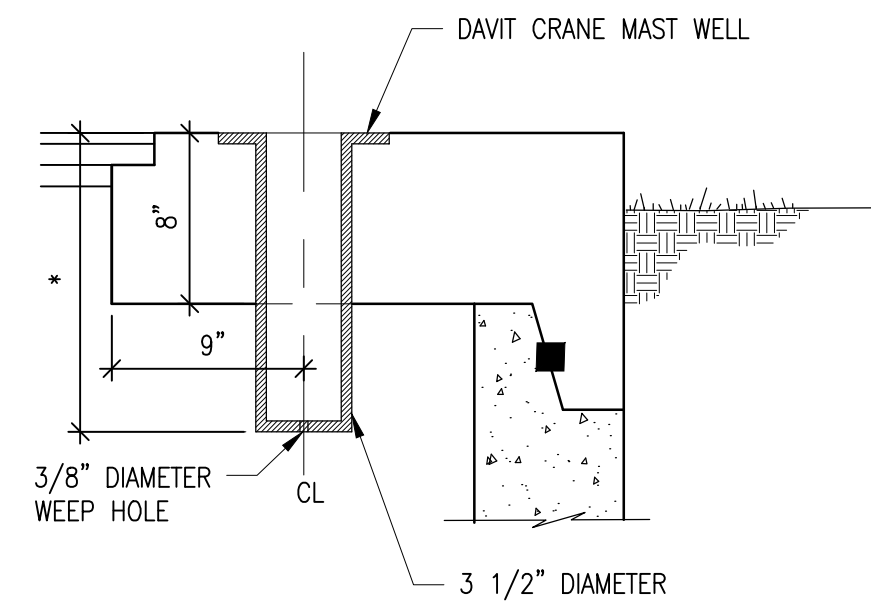
Lift Station	Elevations					Wet Well Dimensions			Pumps		
	A	B	C (1)	C (2)	D	E	G	H	No.	Flow	TDH
N	1050.37	1024.87	1036.38	-	1044.87	8'-0"	6"	8"	3	1800	77



WALL CASTINGS



PLAN



* PER CRANE MANUFACTURER'S SPECIFICATIONS

2 SECTION
P-3

PORTABLE PUMP HOIST WELL DETAIL

NO SCALE

PLAN

SECTIONAL PLAN

KEY NOTES

WET WELL REHABILITATION WORK AS DIRECTED BY ENGINEER.

- 1 CLEAN EXISTING WET WELLS IN ACCORDANCE WITH SECTION 33 01 30.42 - CLEANING OF WET WELLS.
- 2 PERFORM CONCRETE REPAIRS TO EXISTING WET WELL IN ACCORDANCE WITH SECTION 33 01 30.81 - WET WELL REHABILITATION.
- 3 PERFORM CRACK INJECTION GROUTING AT CRACKS AND LEAKS IN ACCORDANCE WITH SECTION 33 01 30.81 - WET WELL REHABILITATION.
- 4 APPLY COATING SYSTEM TO EXISTING WET WELL AND NEW WET WELL SECTION AND BASE IN ACCORDANCE WITH SECTION 33 01 30.82 - EPOXY LINING OF CONCRETE WET WELLS.

GENERAL NOTES

1. CONCRETE FILLET PER PUMP MANUFACTURER'S RECOMMENDATIONS.
2. CONTRACTOR TO ADJUST BYPASS PUMP SUCTION ACCORDINGLY TO NOT INHIBIT EQUIPMENT BEING PULLED FROM ACCESS HATCH.
3. CONTRACTOR TO COORDINATE ACCESS HATCH SIZE AND LOCATION WITH MANUFACTURER TO VERIFY REMOVAL OF PUMPS THROUGH HATCH. CONTRACTOR TO MAKE ADJUSTMENTS NECESSARY. MINIMUM HATCH SIZE IS SHOWN.
4. FLOOR DOOR AND TOP SLAB TO BE DESIGNED FOR 300 PSF LIVE LOAD.

1 SECTION
P-3

STATION N WET WELL DETAILS

1/2" = 1'-0"

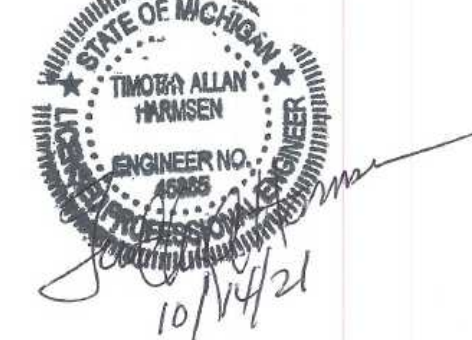
LEGAL ENTITY: ARCADIS OF MICHIGAN, LLC.



CONSULTANTS



SEALS



LENAWEE COUNTY
DRAIN COMMISSION

ROLLIN-WOODSTOCK
SANITARY DRAIN LIFT STATION
IMPROVEMENTS

ARCADIS PROJ. NO. 30027906

NO.	DATE	ISSUED FOR	BY
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2	9/9/21	ISSUED FOR BID	TAH
1	8/18/21	EGL SUBMITTAL	TAH

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2021

DATE: SEPTEMBER 2021
PROJECT NO.: 30027906
FILE NAME: 19-STA N WET WELL
DESIGNED BY: K. CELIAN
DRAWN BY: S. PITTMAN
CHECKED BY: T. HARMSEN

SHEET TITLE

CIVIL

STATION N
WET WELL DETAILS

SCALE:

P-3

SHEET 19 OF 24

DIVISION 14 – CONVEYING EQUIPMENT (NOT USED)

DIVISION 21 – FIRE SUPPRESSION (NOT USED)

DIVISION 22 – PLUMBING (NOT USED)

DIVISION 23 – HEATING, VENTILATING AND AIR CONDITIONING (NOT USED)

DIVISION 25 – INTEGRATED AUTOMATION (NOT USED)

DIVISION 26 – ELECTRICAL

26 05 05	General Provisions for Electrical Systems	26 05 05-1
26 05 19	Low-voltage Electrical Power Conductors and Cables	26 05 19-1
26 05 23	Instrumentation and Communication Cables.....	26 05 23-1
26 05 26	Grounding and Bonding for Electrical Systems	26 05 26-1
26 05 29	Hangers and Supports for Electrical Systems.....	26 05 29-1
26 05 33.13	Rigid Conduits	26 05 33.13-1
26 05 33.16	Flexible Conduits	26 05 33.16-1
26 05 33.23	Sealed Fittings.....	26 05 33.23-1
26 05 33.26	Expansion/Deflection Fittings	26 05 33.26-1
26 05 33.33	Pull, Junction and Terminal Boxes	26 05 33.33-1
26 05 43.13	Underground Ductbanks for Electrical Systems.....	26 05 43.13-1
26 05 53	Identification for Electrical Systems.....	26 05 53-1
26 28 16.33	Disconnect Switches	26 28 16.33-1
26 28 17	Enclosed Circuit Breakers	26 28 17-1
26 32 13	Engine Generators and Automatic Transfer Switches To Be Provided with	
	Addendum No. 1	26 32 13-1

DIVISION 27 – COMMUNICATIONS (NOT USED)

DIVISION 28 – ELECTRONIC SAFETY AND SECURITY (NOT USED)

DIVISION 31 – EARTHWORKS

31 11 00	Clearing and Grubbing.....	31 11 00-1
31 23 05	Excavation and Fill	31 23 05-1

DIVISION 32 – EXTERIOR IMPROVEMENTS

32 12 00	Flexible Paving	32 12 00-1
32 16 13	Concrete Sidewalks.....	32 16 13-1
32 92 00	Lawns and Meadows.....	32 92 00-1
32 93 10	Landscaping	32 93 10-1

"General Decision Number: MI20210044 10/01/2021

Superseded General Decision Number: MI20200044

State: Michigan

Construction Type: Heavy

Counties: Arenac, Branch, Gladwin, Hillsdale, Huron, Lenawee, Mecosta, Midland, Osceola, Shiawassee and Tuscola Counties in Michigan.

Heavy, Includes Water, Sewer Lines and Excavation (Excludes Hazardous Waste Removal; Coal, Oil, Gas, Duct and other similar Pipeline Construction)

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.95 for calendar year 2021 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.95 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2021. If this contract is covered by the EO and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must pay workers in that classification at least the wage rate determined through the conformance process set forth in 29 CFR 5.5(a)(1)(ii) (or the EO minimum wage rate, if it is higher than the conformed wage rate). The EO minimum wage rate will be adjusted annually. Please note that this EO applies to the above-mentioned types of contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but it does not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60). Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/01/2021
1	01/29/2021
2	07/16/2021
3	07/30/2021
4	08/13/2021
5	08/20/2021
6	08/27/2021
7	09/03/2021
8	09/10/2021
9	10/01/2021

CARP0100-005 06/01/2020

MECOSTA & OSCEOLA COUNTIES

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 23.76	20.29

CARP0525-008 06/01/2020		

BRANCH & HILLSDALE COUNTIES

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 24.46	20.59

CARP0706-014 06/01/2020		

ARENAC, GLADWIN, HURON, MIDLAND & TUSCOLA COUNTIES

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 27.61	21.84

CARP0706-018 06/01/2020		

SHIAWASSEE COUNTY

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 28.21	21.84

CARP1004-013 06/01/2020		

LENAWEE COUNTY

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 25.66	20.71

ELEC0008-012 05/25/2021		

HILLSDALE & LENAWE COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 43.33	22.61

ELEC0058-008 06/28/2021		

HURON COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 45.17	26.01

ELEC0275-009 06/01/2021		

MECOSTA COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 33.06	8.94+38%

ELEC0275-014 06/01/2021		

OSCEOLA COUNTY (Townships of Richmond, Hersey, Evart & Orient)

	Rates	Fringes
ELECTRICIAN.....	\$ 33.06	8.94+38%

ELEC0445-008 06/01/2021		

BRANCH COUNTY

	Rates	Fringes
ELECTRICIAN.....	\$ 34.30	22.16

* ELEC0498-012 06/01/2021		

OSCEOLA COUNTY (does not include the townships of Ewart,
Hersey, Orient and Richmond)

	Rates	Fringes
ELECTRICIAN.....	\$ 32.41	20.05

ELEC0557-008 06/01/2020		

MIDLAND (Townships of Ingersoll, Jasper, Mount Haley and
Porter) & TUSCOLA (Townships of Almer, Arbela, Columbia,
Dayton, Denmark, Elkland, Ellington, Elmwood, Fairgrove,
Fremont, Gilford, Indianfields, Juniata, Kingston, Koylon,
Novesta, Tuscola, Vassar, Watertown and Wells) COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 34.25	23.13

ELEC0665-018 05/31/2021		

SHIAWASSEE COUNTY (Townships of Perry & Woodhull)

	Rates	Fringes
ELECTRICIAN.....	\$ 37.50	24.04+5.5%

ELEC0692-017 06/01/2020		

ARENAC & GLADWIN COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 33.50	21.14

ELEC0692-018 06/01/2020		

MIDLAND (All townships except Mount Haley, Jasper, Porter &
Ingersoll) & TUSCOLA (Townships of Wisner & Akron) COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 33.50	21.14

ELEC0948-008 06/01/2020		

SHIAWASSEE (All townships except Perry & Woodhull) & TUSCOLA
(Township of Millington) COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 39.17	23.51

* ENGI0325-021 09/01/2021

POWER EQUIPMENT OPERATORS: Underground Construction (Including
Sewer)

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 35.92	24.85
GROUP 2.....	\$ 31.03	24.85
GROUP 3.....	\$ 30.53	24.85
GROUP 4.....	\$ 30.25	24.85

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Backhoe/ Excavator, Boring Machine, Bulldozer,
Crane, Scraper, Loader, Trencher (over 8 ft. digging
capacity)

GROUP 2: Trencher (8-ft digging capacity and smaller)

GROUP 3: Boom Truck (non-swinging, non- powered type boom)

GROUP 4: Broom/ Sweeper, Fork Truck, Tractor

ENGI0326-014 06/01/2021

EXCLUDES UNDERGROUND CONSTRUCTION

AREA 1: BRANCH, HILLSDALE, MECOSTA & OSCEOLA COUNTIES

AREA 2: ARENAC, GLADWIN, HURON, MIDLAND, SHIAWASSEE & TUSCOLA
COUNTIES

	Rates	Fringes
Operating Engineer:		
AREA 1		
Group 1.....	\$ 42.38	24.85
Group 2.....	\$ 39.08	24.85
Group 3.....	\$ 36.43	24.85
Group 4.....	\$ 34.72	24.85
Group 5.....	\$ 26.38	24.85
Operating Engineers:		
AREA 2		
Group 1.....	\$ 40.38	24.85
Group 2.....	\$ 37.08	24.85
Group 3.....	\$ 34.43	24.85
Group 4.....	\$ 32.72	24.85
Group 5.....	\$ 24.58	24.85

FOOTNOTES:

Crane operator with main boom and jib 300' or longer: \$1.50
per hour above the group 1 rate.
Crane operator with main boom and jib 400' or longer: \$3.00
per hour above the group 1 rate.

PAID HOLIDAYS: New Year's Day, Memorial Day, Fourth of July,
Labor Day, Thanksgiving Day and Christmas Day.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane operator with main boom and jib 400', 300', or 220' or longer.

GROUP 2: Crane operator with main boom and jib 140' or longer, tower crane, gantry crane, whirley derrick

GROUP 3: Backhoe/Excavator; Bulldozer; Compactor; Crane; Scraper; Loader

GROUP 4: Boom truck (non-swinging)

GROUP 5: Oiler

ENGI0326-024 06/01/2021

EXCLUDES UNDERGROUND CONSTRUCTION

LENAWEE COUNTY

	Rates	Fringes
OPERATOR: Power Equipment		
GROUP 1.....	\$ 44.69	24.95
GROUP 2.....	\$ 43.19	24.95
GROUP 3.....	\$ 41.69	24.95
GROUP 4.....	\$ 41.39	24.95
GROUP 5.....	\$ 40.57	24.95
GROUP 6.....	\$ 39.71	24.95
GROUP 7.....	\$ 38.74	24.95
GROUP 8.....	\$ 28.69	24.95

FOOTNOTES: Tower cranes: to be paid the crane operator rate determined by the combined length of the mast and the boom.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Crane with boom & jib or leads 400' or longer

GROUP 2: Crane with boom & jib or leads 300' or longer

GROUP 3: Crane with boom & jib or leads 220' or longer

GROUP 4: Crane with boom & jib or leads 140' or longer

GROUP 5: Crane with boom & jib or leads 120' or longer

GROUP 6: Regular crane operator

GROUP 7: Backhoe/Excavator, Bulldozer, Compactor, Scraper, Loader

GROUP 8: Oiler

IRON0025-007 06/01/2019

ARENAC, GLADWIN, HURON, MIDLAND, SHIAWASSEE & TUSCOLA COUNTIES

	Rates	Fringes
IRONWORKER		
Reinforcing.....	\$ 30.98	27.99
Structural.....	\$ 36.77	29.03

IRON0055-011 07/01/2020

LENAWEE COUNTY

	Rates	Fringes
IRONWORKER, STRUCTURAL AND REINFORCING.....	\$ 31.25	26.90

IRON0340-012 06/19/2017

BRANCH, HILLSDALE, MECOSTA & OSCEOLA COUNTIES

	Rates	Fringes
IRONWORKER, STRUCTURAL AND REINFORCING.....	\$ 24.43	24.67

LAB00334-008 09/01/2018

SCOPE OF WORK:
OPEN CUT CONSTRUCTION: Excavation of earth and sewer,
utilities, and improvements, including underground
piping/conduit (including inspection, cleaning, restoration,
and relining)

ARENAC, BRANCH, GLADWIN, HURON, MECOSTA, MIDLAND, OSCEOLA,
TUSCOLA

	Rates	Fringes
LABORER		
(1) Common or General.....	\$ 20.97	12.85
(4) Grade Checker.....	\$ 21.28	12.85

LAB00334-019 09/01/2018

SCOPE OF WORK:
OPEN CUT CONSTRUCTION: Excavation of earth and sewer,
utilities, and improvements, including underground
piping/conduit (including inspection, cleaning, restoration,
and relining)

HILLSDALE, LENAWE, SHIAWASSEE

	Rates	Fringes
LABORER		
(1) Common or General.....	\$ 20.97	12.85
(4) Grade Checker.....	\$ 21.28	12.85

LAB00355-007 06/01/2018

EXCLUDES OPEN CUT CONSTRUCTION

BRANCH COUNTY

	Rates	Fringes
LABORER		
Common or General.....	\$ 23.02	12.85

LAB00355-015 06/01/2018

EXCLUDES OPEN CUT CONSTRUCTION

MECOSTA & OSCEOLA COUNTIES

	Rates	Fringes
LABORER		
Common or General.....	\$ 22.48	12.85

LAB00499-014 06/01/2019

EXCLUDES OPEN CUT CONSTRUCTION

HILLSDALE & LENAWEE COUNTIES

	Rates	Fringes
LABORER		
Common or General.....	\$ 26.21	12.90

LAB01075-011 06/01/2019

EXCLUDES OPEN CUT CONSTRUCTION

SHIAWASSEE COUNTY

	Rates	Fringes
LABORER		
Common or General.....	\$ 23.00	13.66

LAB01098-022 07/01/2019

EXCLUDES OPEN CUT CONSTRUCTION

ARENAC, GLADWIN, HURON, MIDLAND & TUSCOLA COUNTIES

	Rates	Fringes
LABORER		
Common or General.....	\$ 20.12	12.90

PLAS0016-009 04/01/2014

MECOSTA & OSCEOLA COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 22.02	12.38

PLAS0016-021 04/01/2014

SHIAWASSEE COUNTY

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 25.58	12.88

PLAS0016-023 04/01/2014

BRANCH COUNTY

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 24.63	12.88

PLAS0016-031 04/01/2014		

ARENAC, GLADWIN, HURON, MIDLAND & TUSCOLA COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 25.47	12.38

PLAS0886-013 08/01/2011		

HILLSDALE & LENAWEЕ COUNTIES

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 27.19	16.00

PLUM0085-017 05/04/2020		

ARENAC, GLADWIN, HURON (West of M-53), MIDLAND & TUSCOLA COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 38.25	21.07

PLUM0098-008 06/01/2019		

HURON COUNTY (East of M-53)

	Rates	Fringes
PLUMBER.....	\$ 35.77	35.13

PLUM0174-015 07/01/2020		

MECOSTA & OSCEOLA COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 37.09	22.52

PLUM0190-012 06/01/2021		

LENAWEЕ COUNTY (Townships of Clinton, Macon & Tecumseh)

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 44.31	23.70

PLUM0333-021 06/01/2020		

BRANCH & HILLSDALE COUNTIES

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 38.79	23.08

PLUM0333-022 06/01/2020		

LENAWEЕ COUNTY (Remainder of County)

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 38.79	23.08

PLUM0370-007 06/01/2020		

SHIAWASSEE COUNTY

	Rates	Fringes
PLUMBER/PIPEFITTER.....	\$ 39.81	20.95

PLUM0636-008 06/05/2017		

HURON COUNTY (East of M-53)

	Rates	Fringes
PIPEFITTER.....	\$ 40.41	29.35

TEAM0007-010 06/01/2020		

	Rates	Fringes
TRUCK DRIVER		
Lowboy/Semi-Trailer Truck...	\$ 28.15	.50 + a+b

FOOTNOTE:

- a. \$470.70 per week.
- b. \$68.70 daily.

SUMI2010-042 11/09/2010		

	Rates	Fringes
CARPENTER, Excludes Form Work....	\$ 23.97	6.29
LABORER: Landscape.....	\$ 10.89	1.74
LABORER: Mason Tender - Cement/Concrete.....	\$ 15.97	3.51
LABORER: Pipelayer.....	\$ 15.28	3.99
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 12.98	6.12
OPERATOR: Grader/Blade.....	\$ 15.50	3.62
OPERATOR: Roller.....	\$ 13.74	7.93
TRUCK DRIVER: Dump Truck.....	\$ 14.06	1.25

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide

employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the

wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

BID FORM

Rollin-Woodstock Sanitary Drain Lift Station Improvements - Rebid

TABLE OF ARTICLES

1. Bid Recipient
2. Bidder's Acknowledgements
3. Bidder's Representations
4. Bidder's Certifications
5. Basis of Bid
6. Time of Completion
7. Attachments to this Bid
8. Defined Terms
9. Bid Submittal

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Lenawee County Drain Commission
320 Springbrook Avenue, Suite 102
Adrian, MI 49221

- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with Owner, by executing the Agreement form included in the Bidding Documents, to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

- 2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for ninety days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

- A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda.

Addendum No.	Addendum Date

- B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder’s safety precautions and programs.

- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER’S CERTIFICATIONS

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of the Paragraph 4.01.D;
 - 1. “corrupt practice” means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Item 1: Lump Sum Bid Price for General Construction Base Bid	\$
Alternative A: Packaged Sanitary Drain Lift Stations supplied with Concertor Pumps with MultiSmart Controllers by Flygt, a Xylem Corporation Brand [Add] [Deduct]	\$
Alternative B: Packaged Sanitary Drain Lift Stations supplied by Excel Fluid Group [Add] [Deduct]	\$
Alternative C: Packaged Sanitary Drain Lift Stations supplied by Gorman Rupp Company [Add] [Deduct]	\$

Item 2: Lump Sum Cash Allowance for Sanitary Lift Station N Natural Gas Service Upgrades	\$ 5,000.00
Item 3: Lump Sum Cash Allowance for Sanitary Lift Station N Electrical Service Upgrades	\$ 10,000.00
Item 24: Lump Sum Cash Allowance for Owner Furnished Testing Services	\$ 10,000.00
Item 35: Lump Sum Cash Allowance for Owner Directed Landscaping	\$ 25,000.00

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
46	Lining for Concrete Wet Wells	Ft ²	7,045		
Additional Work Unit Price Bid Items					
A.1	Additional Class “A:” Concrete	Yd ³	10	\$	\$
A.2	Additional Reinforcing Steel	Lbs.	250	\$	\$
A.3	Additional Excavation	Yd ³	25	\$	\$

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
A.4	Additional "Select Fill"	Yd ³	25	\$	\$
A.5	Wet Well Rehabilitation Items				
A.5.1	Repair of Concrete Cracks	Ft.	225	\$	\$
A.5.2	Concrete Surface Repair, Using Cementitious Resurfacer	Ft ²	850	\$	\$
A.5.3	Concrete Surface Repair, Using Repair Mortar	Ft ²	170	\$	\$
A.6	Additional Buried, Class 53, Cement Lined, Ductile Iron, Restrained Mechanical Joint, Force Main Piping, having the nominal diameters noted below				
A.6.1	6-inch	Ft.	150	\$	\$
A.6.2	8-inch	Ft.	150	\$	\$
A.6.3	10-inch	Ft.	25	\$	\$
A.6.4	12-inch	Ft.	25	\$	\$
A.6.5	16-inch	Ft.	25	\$	\$
A.7	Additional "CLSM"	Yd ³	25	\$	\$
Total of All Unit Price Bid Items					\$

Bidder acknowledges that (1) each bid unit price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

- 6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 6.02 Bidder accepts the provisions of the Agreement as to liquidated damages and special damages in the event of failure to complete the Work within the Contract Times. Bidder also accepts the provisions for performance damages, if any, included in the Contract Documents.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are attached to and made a condition of this Bid:

- A. Bas Bid Manufacturers Declaration.
- B. Required bid security.
- C. Required Qualifications Statement with supporting data.
- D. Affidavit of non-collusion.
- E. Evidence of authority to do business in the jurisdiction of the Project; or a written covenant to obtain such license within the time for acceptance of Bids.
- F. Contractor's License No. _____, or evidence of Bidder's ability to obtain a contractor's license in the jurisdiction of the Site and a covenant by Bidder to obtain said license within the time for acceptance of Bids.
- G. Certification Regarding Debarment, Suspension, and other Responsibility Matters.
- H. Disadvantages Business Enterprise (DBE) Utilization GOOD FAITH EFFORTS WORKSHEET.

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid submitted by:

BIDDER: [Indicate correct name of bidding entity]

By: [Signature] _____

[Printed name] _____

(If Bidder is a corporation, a limited liability company, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

[Signature] _____

[Printed name] _____

Title: _____

Submittal Date: _____

Address for giving notices:

Telephone Number: _____

Fax Number: _____

Contact Name and e-mail
address: _____

Bidder's License
No.: _____

(where applicable)

+ + END OF BID FORM + +

SECTION 01 11 13

SUMMARY OF WORK

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. This Section includes the following Articles:

<u>Article</u>	<u>Title</u>
1.1	Section Includes
1.2	Location and Description of Work
1.3	Allowances
1.4	Other Construction Contracts
1.5 4	Work by Others
1.6	Work by OWNER
1.5 7	Sequence and Progress of Work
1.6 8	CONTRACTOR's Use of Site
1.7 9	Easements and Rights-of-Way
1.8 10	Notices to Owners and Authorities of Properties Adjacent to the Work
1.9 11	Salvage of Materials and Equipment
1.10 12	Partial Utilization by OWNER

1.2 LOCATION AND DESCRIPTION OF WORK

- A. The Work to be performed under this Contract includes, but is not limited to, constructing the Work described below and all related appurtenances. The Work includes, but is not limited to, the following:
1. Replacement of 18 sanitary lift stations located in the vicinity of Devils and Round Lakes in Rollin and Woodstock Townships and within the Village of Addison, Michigan.
 - a. The existing wet well-dry well configurations will be partially demolished including abandonment and removal of the existing steel dry wells.
 - b. The existing wet wells will be rehabilitated and fitted with submersible pumps including discharge piping, rail systems and pump control instrumentation.
 - 1) Discharge piping and valves will be housed in pre-manufactured packaged above grade valve house structures that are installed directly over the existing wet well, at most locations. All interior valves, piping, control panel and associated appurtenances will be located above grade in the valve house structures at these locations.

- 2) Discharge piping and valves for Station “N” will be housed in a below grade, concrete valve vault that is installed adjacent to the wet well. All valves, piping, and associated piping appurtenances will be located in the valve vault at this location and the pump control panel will be mounted on the existing building adjacent to the wet well.
 - c. The existing wet wells will be provided with new top riser section and top slab with pump access hatch(es).
 - d. The existing wet wells will be cleaned, and rehabilitated, as necessary, to seal leaks and make structurally sound: including concrete repairs, and injection grouting of cracks and penetrations; in order to prepare for the application of corrosion resistant lining system.
- B. Contracting Method: The Project shall be constructed under one prime Contract.
- C. Hazardous Environmental Conditions:
1. To the best of Owner’s knowledge, information, and belief, there are no known hazardous environmental conditions at the Sites.

1.3 ALLOWANCES

- A. Cash Allowances – Natural Gas and Electric Utility Service Upgrades by Consumer’s Energy: Included under provisions of Section 01 21 00, Allowances.
- B. Responsibilities:
1. Owner will provide CONTRACTOR with contact information for representative(s) at Consumers Energy.
 2. CONTRACTOR responsibilities associated with the cash allowances are as follows and are not included in the established Allowances:
 - a. Coordinate natural gas and electrical service utility upgrades with Consumers Energy.
 - b. Provide Consumers Energy access to Station N work Site to perform utility service upgrades required to:
 - 1) Provide natural gas service capable of supplying natural gas of adequate pressure and supply to the 180kW engine driven generator being provided under this Contract.
 - 2) Provide electrical service capable of supporting the 480 V, 3-phase, 400A service at Sanitary Lift Station N.

~~1.3~~ 1.4 OTHER CONSTRUCTION CONTRACTS

- A. No other construction contracts have been or plan to be awarded by OWNER that are in close proximity to or border on the Work of this Contract.

1.5 WORK BY OTHERS

- A. OWNER has established two allowance items under Section 01 21 00, Allowances, for utility company, Consumers Energy, to provide utility service upgrades to the natural gas service and electrical service at the Sanitary Lift Station N site necessary for supplying the energy needs of the new equipment being provided under this Contract.

~~1.4~~1.6 WORK BY OWNER

- A. OWNER will perform the following in connection with the Work:
1. Operate all existing valves, gates, pumps, equipment, and appurtenances that will affect OWNER's operation, unless otherwise specified or indicated.

~~1.5~~1.7 SEQUENCE AND PROGRESS OF WORK

- A. Requirements for sequencing and coordinating with OWNER's operations, including maintenance of facility operations during construction, and requirements for tie-ins and shutdowns, are in Section 01 14 16, Coordination with Owner's Operations.

~~1.6~~1.8 CONTRACTOR'S USE OF SITE

- A. Limits on CONTRACTOR's use of the Site are:
1. As indicated in Section 01 14 19, Use of Site.
 2. Do not use the Site for operations other than those required for the Project.

~~1.7~~1.9 EASEMENTS AND RIGHTS-OF-WAY

- A. General:
1. Easements and rights-of-way required for the permanent improvements included in the Work will be provided by OWNER in accordance with the General Conditions and Supplementary Conditions.
 2. Confine construction operations within OWNER's property, public rights-of-way, easements obtained by OWNER, and limits shown, and property for which CONTRACTOR has made arrangements directly with property owner(s).
 3. Use care in placing construction tools, equipment, excavated materials, and materials and equipment to be incorporated into the Work to avoid damaging property and interfering with traffic.
 4. Do not enter private property outside the construction limits without permission from the owner of the property.

- B. Within Highway Rights-of-Way:
 - 1. CONTRACTOR shall obtain and pay for work permits and fees for safety and inspection forces to be furnished by the right-of-way owner.
 - a. All non-state owned roads impacted by construction are under the jurisdiction of the Lenawee County Road Commission.
 - 1) The Commission will require the provision of an assurance bond in the amount of \$1,000 for each open cut of paved roads. Bond will be held for six months after receiving written confirmation that the work has been satisfactorily completed.
 - 2. Work performed and CONTRACTOR's operations within limits of highway rights-of-way shall comply with requirements of highway owner and applicable work permits, or authority having jurisdiction over right-of-way.

~~1.8~~1.10 NOTICES TO OWNERS AND AUTHORITIES OF PROPERTIES ADJACENT TO THE WORK

- A. Notify owners of adjacent property and utility owners when prosecution of the Work may affect their property, facilities, or use of property.
- B. When it is necessary to temporarily obstruct access to property, or when utility service connection will be interrupted, provide notices sufficiently in advance to enable affected persons to provide for their needs. Such notifications shall comply with Laws and Regulations and, whether delivered orally or in writing, shall include appropriate information concerning the interruption and instructions on how to limit inconvenience caused thereby.
- C. Notify utility owners and other concerned entities not less than three business days prior to cutting or closing streets or other traffic areas or excavating near Underground Facilities or exposed utilities.

~~1.9~~1.11 SALVAGE OF MATERIALS AND EQUIPMENT

- A. Existing materials and equipment removed and not shown or specified to be reused in the Work will become CONTRACTOR's property, except the following items that shall remain OWNER's property:
 - 1. Items identified in Salvage Schedule following Section 02 41 00, Demolition.
- B. Existing materials and equipment removed by CONTRACTOR shall not be reused in the Work.
- C. Removal, Storage, Handling, Reinstallation:
 - 1. Carefully remove in manner to prevent damage all materials and equipment shown or indicated to be salvaged and reused or to remain property of OWNER.
 - 2. Store and protect salvaged items shown or indicated to be used in the Work.
 - 3. Replace in-kind or with new items those items of materials and equipment damaged during removal, storage, or handling through CONTRACTOR's actions, negligence, or improper procedures.

- D. CONTRACTOR may furnish and install new items, with ENGINEER's approval, instead of those specified or indicated to be salvaged and reused, in which case such removed items will become CONTRACTOR's property.

~~1.10~~1.12 PARTIAL UTILIZATION BY OWNER

- A. Prior to Substantial Completion of the entire Work under the Contract, substantially complete the Work as follows:
1. Work indicated for Milestones (if any).

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 SUPPLEMENTS

- A. The supplements listed below, following the "END of SECTION" designation, are a part of this Section:
1. Lenawee County Road Commission Minimum Standards for Working in Road Right-of-Way (2 Pages)
 2. Lenawee County Road Commission Open-Cut Road Crossing (4 Pages)
 3. Lenawee County Road Commission Application/Permit to Work Within, Occupy, Maintain or Temporarily Close a County Road Right-of-Way (3 Pages)

+ + END OF SECTION + +

5. Following Shutdown:
 - a. Verify functionality of equipment and systems.
 - b. Verify operation of new equipment and systems, and complete field operating tests prior to removing temporary pumping system.
 - c. Remove temporary pumping system and appurtenances.

S. Shutdown T:

1. General:
 - a. Affected Equipment Operating Prior to Shutdown: Lift Stations N and P and associated force mains, and 5 manual air releases in manholes along Station N force main.
 - b. Equipment Out of Service During Shutdown: Station N and Station P and associated force mains.
 - c. Impact on Other Equipment and Processes: all sewers and sewer laterals upstream of and draining to 8-inch dia. Sanitary Sewer from San MH 3 to Station N Wet Well. All sewers and sewer laterals upstream of and draining to 8-inch dia. Sanitary Sewer from San MH 95 to Station P Wet Well
 - d. Procedure: To be determined by CONTRACTOR, and outlined in their Shutdown Planning Submittal. The ability to intermittently operate Stations N and P and their associated force mains with downtimes in operation (i.e., no pumping through force mains) up to at least 30 minutes is achievable.
2. Prior to Shutdown: Obtain ENGINEER's acceptance of proposed shutdown planning submittal and shutdown notification submittal.
3. During Shutdown:
 - a. Dewater force main as required.
 - b. Remove existing manual air release equipment and other appurtenances shown on the Drawings or indicated in Section 02 41 00, Demolition, as required.
 - c. Provide all labor, materials, equipment, tools, and incidentals shown, specified, and required for new ~~manual air releases~~ [combination air valve assemblies](#).
 - d. With OWNER, return equipment and system to operation.
4. Following Shutdown: Verify functionality of new equipment.

3.3 SCHEDULES

- A. The schedules indicated below, attached following this Section's "End of Section" designation, are part of this Specifications Section:
 1. Table 01 14 16-A, Schedule of Tie-ins.
 2. Table 01 14 16-B, Schedule of Shutdowns.

+ + END OF SECTION + +

1.3 SCHEDULE OF ALLOWANCES

A. Cash Allowances:

1. Section 01 1113, Summary of Work, Article 1.5, Work by Others: Include the stipulated sum of \$5,000 in Bid Item 2 for providing Consumers Energy Natural Gas Service Upgrades.
2. Section 01 1113, Summary of Work, Article 1.5, Work by Others: Include the stipulated sum of \$10,000 in Bid Item 3 for providing Consumers Energy Electrical Service Upgrades.
- ~~1.3.~~ Section 01 45 29.23, Testing Laboratory Services Furnished by Owner: Include the stipulated lump sum of \$10,000.00 in Bid Item ~~24~~ for providing OWNER directed testing services.
- ~~2.4.~~ Section 32 93 10, Landscaping: Include the stipulated lump sum of \$25,000 in Bid Item ~~35~~ for providing OWNER directed landscaping.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 ATTACHMENTS

- A. The documents listed below, and attached following this Section's "End of Section" designation, are part of this Specification Section.
1. Allowance Authorization Form (one page).

+ + END OF SECTION + +

1.3 RELATED PROVISIONS

- A. Payments to CONTRACTOR: Refer to General Conditions, Supplementary Conditions, Agreement, and Section 01 29 76, Progress Payment Procedures.
- B. Changes in Contract Price: Refer to General Conditions, Supplementary Conditions, and Section 01 26 00, Contract Modification Procedures.
- C. Schedule of Values: Refer to General Conditions, Supplementary Conditions, and Section 01 29 73, Schedule of Values.

1.4 CONTRACT NO. 1 – GENERAL CONSTRUCTION

- A. Item 1 – General Construction:
 - 1. Measurement and Payment: Lump sum payment for Item 1 will be full compensation for completing the Work, as shown or indicated under Division 01 through Division 49. Additional work items that CONTRACTOR may be ordered by ENGINEER to perform are described below.
- B. Alternative A:
 - 1. Measurement and Payment: Lump sum amounts indicated for Alternative A will be the addition to or reduction from the amount indicated in Item 1, General Construction for providing the Alternative Work in lieu of the portions of the Base Bid Work described in Section 01 23 00, Alternatives, for alternative A, if selected.
- C. Alternatives B and C:
 - 1. Measurement and Payment: Lump sum amounts indicated for Alternatives: B will be the addition to or reduction from the amount indicated in Item 1, General Construction for providing the Packaged Sanitary Drain Lift Stations from the alternative named manufacturer's in lieu of providing same from Base Bid manufacturer, indicated in Section 01 23 00, Alternatives, for each alternative, if selected.

D. Item 2 – Sanitary Lift Station N Natural Gas Service Upgrades Cash Allowance:

- 1. Measurement: Section 01 21 00, Allowances, includes a stipulated amount available as reserve for sole use by OWNER to cover costs associated with Work of Section 01 11 13, Summary of Work – Article 1.5, Work By Others - Consumers Energy Natural Gas Service Upgrades.

E. Item 3 – Sanitary Lift Station N Electrical Service Upgrades Cash Allowance:

- 1. Measurement: Section 01 21 00, Allowances, includes a stipulated amount available as reserve for sole use by OWNER to cover costs associated with Work of Section 01 11 13, Summary of Work – Article 1.5, Work By Others - Consumers Energy Electrical Service Upgrades.

~~D.F.~~ Item ~~42~~ – Owner Directed Testing Services Cash Allowance:

1. Measurement: Section 01 21 00, Allowances, includes a stipulated amount available as reserve for sole use by OWNER to cover costs associated with Work of Section 01 45 29.23, Testing Laboratory Services Furnished by Owner.

~~E.G.~~ Item ~~53~~ – Owner Directed Landscaping Cash Allowance:

1. Measurement: Section 01 21 00, Allowances, includes a stipulated amount available as reserve for sole use by OWNER to cover costs associated with Work of Section 32 93 10, Landscaping.

~~F.H.~~ Item ~~64~~ - Lining of Concrete Wet Wells:

1. Measurement:
 - a. Quantity of lining that will paid under this item will be the area in square feet of the exposed surfaces of the wet well that has been lined in accordance with the requirements of Section 33 01 30.82, Lining of Concrete Wet Wells, as indicated or directed by ENGINEER. No payment will be made for work performed outside the limits indicated or directed by ENGINEER.
 - b. Scope of Work included under this item is described in Section 33 01 30.82, Lining of Concrete Wet Wells.
2. Payment: Unit price per square foot for Item ~~64~~, Lining of Concrete Wet Wells will be full compensation for all lining for concrete wet wells, complete as indicated or directed by ENGINEER.
 - a. Area computed for payment under this line item shall be the vertical feet of the wet well coated, measured to the nearest tenth of a foot, multiplied by the perimeter of the wet well calculated based on the nominal diameter of the wet well in feet. The inside top surface of the wet well base slab and the underside of the wet well top slab shall also receive the coating, but no additional area for these surfaces shall be included in the payment areas.

~~G.I.~~ Additional work items that CONTRACTOR may be ordered by ENGINEER to perform are described below.

1. Item A.1 – Additional Class “A” Concrete:
 - a. Measurement:
 - 1) Quantity of additional Class “A” concrete that will be paid under this item is the volume of concrete in cubic yards, said volume not including reinforcing steel, actually placed within limits specified or directed by ENGINEER. Concrete placed in structures or elsewhere that is paid under other items will not be paid under this item.
 - 2) Payment for additional reinforcing steel, when ordered, will be under Item A3.
 - b. Payment: Unit price per cubic yard for Item A.1 will be full compensation for providing all additional Class “A” concrete complete as specified or directed by ENGINEER.

2. Item A.2 – Additional Reinforcing Steel:
 - a. Measurement:
 - 1) Additional reinforcing steel that will be paid under this item is the number of pounds of reinforcing steel actually placed as shown or indicated, or directed by ENGINEER. Weight shall be determined by multiplying length of each bar by standard, published bar weight per unit length. Excessive lap lengths will not be included for payment. Reinforcing steel placed in structures or elsewhere that is paid under other items will not be paid under this item.
 - 2) No direct payment will be made for wire, welding, chairs, supports, or other required accessory for providing additional reinforcing steel. Cost for such accessories shall be included in the unit price for this item.
 - b. Payment: Unit price per pound under Item A.2 will be full compensation for providing all additional reinforcing steel complete as specified or directed by ENGINEER.
3. Item A.3 - Additional Excavation:
 - a. Measurement: Additional excavation will be measured for payment on the basis of lines and grades ordered by ENGINEER, or as the volume within limits described below, whichever is applicable.
 - 1) For excavation and filling for piping, trenches will be assumed to be rectangular cross-section having a width of two feet greater than outside diameter of pipe laid therein, excluding pipe bells, branches, hubs, spurs, and concrete cradles, and the depth from the surface of ground at centerline of pipe to six inches below bottom of pipe, or a depth equal to distance to rock where rock is encountered at depth less than six inches below bottom of pipe. Enlargements of trench, authorized by ENGINEER where necessary to facilitate support of existing structures, or for other reasons authorized by ENGINEER, will be measured for payment to limits excavated in accordance with ENGINEER's orders.
 - 2) Excavation and filling as required for structures or facilities other than pipe will be measured for payment from the horizontal limit of excavation at the bottom of structure or facility as shown or indicated on the Drawings to bottom elevation of subgrade and, unless otherwise shown, to vertical planes one foot outside foundation limits of structure to be built therein.
 - 3) For test pits outside trench or excavation for structures, and for those within prescribed limits but necessarily refilled prior to final excavation, and for all other excavation not included above but required for the Work, excavation shall be measured to lines ordered or approved by ENGINEER.
 - 4) Included in this item is filling the excavation with suitable fill material compacted to specified density, unless ENGINEER orders use of fill that will be paid under another item.
 - 5) Measurement of quantities will be made by ENGINEER. CONTRACTOR may, at CONTRACTOR's expense, verify quantities.

- b. Payment: Unit price per cubic yard for Item A.3 will be full compensation for all additional excavation and fill, complete as directed by ENGINEER, and not specifically included under other items or contracts.
- 4. Item A.4 – Additional Select Fill:
 - a. Measurement:
 - 1) Quantity of additional select fill that will be paid under this item will be the computed number of cubic yards placed within the limits shown, indicated, or directed by ENGINEER.
 - 2) Total quantity of additional select fill to be paid under Item A.4 will be the computed quantity used for replacing unsuitable material, improving pipe bedding, backfilling additional excavations ordered by ENGINEER in traveled areas, or increasing load-carrying capacity of pipe or structures as directed or approved by ENGINEER.
 - 3) No payment will be made for select fill used for refill when rock or earth excavation is carried below grades shown, indicated, or ordered, nor for select fill used for controlling groundwater.
 - 4) This item includes all Work associated with providing additional select fill, including furnishing, transporting, handling, placing, testing, and compacting select fill.
 - b. Payment: Unit price per cubic yard for Item A.4 will be full compensation for providing all additional select fill complete as shown, indicated, or directed by ENGINEER.
- 5. Item A.5 – Wet Well Rehabilitation:
 - a. Item A.5.1 – Repair of Concrete Cracks:
 - 1) Scope of Item:
 - a) This item is for repairing cracks in the concrete walls and base of the wet wells by injection grouting method.
 - b) The scope of repair of concrete cracks is indicated Specifications Section 33 01 30.81, Wet Well Rehabilitation.
 - 2) Measurement: Quantity of repair of concrete cracks that will paid under this item will be the measured linear feet of concrete cracks repaired, within the limits indicated, specified or ordered by ENGINEER. No payment will be made for work performed outside the limits shown or specified or ordered by ENGINEER.
 - 3) Payment: Unit price per linear foot for Item A.5.1, Repair of Concrete Cracks, will be full compensation for all repair of concrete cracks complete as indicated.
 - b. Item A.5.2 - Concrete Surface Repair, Using Cementitious Resurfacer:
 - 1) Scope of Item:
 - a) This item is for repair of concrete surfaces, using a cementitious resurfacer, not specifically included under other bid items.
 - b) The scope of concrete surface repairs using cementitious resurfacer is specified in Specifications Section 33 01 30.81, Wet Well Rehabilitation.

- c) Work under this item includes surface preparation and removing unsuitable material down to sound concrete, patching, filling bug holes, air pockets, etc. having a depth of up to 1/2-inch. (excluding injecting cracks, which is covered under other items).
 - 2) Measurement:
 - a) Quantity of concrete repair that will be paid under this item will be the actual area in square feet of the exposed surfaces of all completed repairs using cementitious resurfacer, within the limits indicated, specified or ordered by ENGINEER. No payment will be made for work performed outside the limits indicated, specified or ordered by ENGINEER.
 - b) Work under this item shall include fully repairing spalled concrete and other concrete surface defect areas ordered by ENGINEER, using cementitious resurfacer.
 - c) Area computed for payment under this line item shall be the length multiplied by the width of the repaired area. The minimum length or width that will be paid will be three inches.
 - 3) Payment: Unit price per square foot for Item A.5.2, Concrete Surface Repair, Using Cementitious Resurfacer will be full compensation for all concrete surface repairs made using cementitious resurfacer, complete as indicated.
- c. Item A.5.3 - Concrete Surface Repair, Using Repair Mortar:
- 1) Scope of Item:
 - a) This item is for repair of concrete surfaces, using a repair mortar, not specifically included under other bid items.
 - b) The scope of concrete surface repairs using repair mortar is specified in Specifications Section 33 01 30.81, Wet Well Rehabilitation.
 - c) Work under this item includes surface preparation and removing unsuitable material down to sound concrete, patching, filling bug holes, air pockets, etc. having a depth greater than 1/2-inch up to 2-inches. (excluding injecting cracks, which is covered under other items).
 - 2) Measurement:
 - a) Quantity of concrete repair that will be paid under this item will be the actual area in square feet of the exposed surfaces of all completed repairs using repair mortar, within the limits indicated, specified or ordered by ENGINEER. No payment will be made for work performed outside the limits indicated, specified or ordered by ENGINEER.
 - b) Work under this item shall include fully repairing spalled concrete and other concrete surface defect areas ordered by ENGINEER, using repair mortar.
 - c) Area computed for payment under this line item shall be the length multiplied by the width of the repaired area. The minimum length or width that will be paid will be three inches.

- 3) Payment: Unit price per square foot for Item A.5.3, Concrete Surface Repair, Using Repair Mortar will be full compensation for all concrete surface repairs made using repair mortar, complete as indicated.
6. Items A.6.1 through A.6.5 – Additional Buried, Class 53, Cement-lined, Ductile Iron, Restrained Mechanical Joint, Force Main Piping, of sizes noted on the Bid Form:
 - a. Measurement:
 - 1) Additional buried force main piping, of the size indicated, that will be paid under this item is quantity in linear feet actually placed, as directed by ENGINEER, that exceeds the original quantity of said pipe shown on the Drawings or specified. No piping, whether shown on the Drawings or specified, that is paid under other items will be paid under this item.
 - 2) No direct payment will be made for excavating and backfilling, removing and disposing of existing piping of similar size and length to the new piping, dewatering existing piping, providing buried piping of the material and size specified, fittings, approved couplings, pipe restraints, polyethylene encasement, tracer tape, testing, appurtenances, restoration of pavement and coordination with OWNER's operations required. Cost for all such Work shall be included in the unit price for these items.
 - b. Payment: Unit price per linear foot under Items A.6.1 through A.6.5 will be full compensation for providing all additional buried, Class 53 cement-lined, ductile iron, restrained, mechanical joint, force main piping, of the sizes indicated, complete as directed by ENGINEER.
7. Item A.7 – Additional CLSM:
 - a. Measurement:
 - 1) Quantity of additional CLSM that will be paid under this item will be the computed number of cubic yards placed within the limits shown, indicated, or directed by ENGINEER.
 - 2) Total quantity of additional CLSM to be paid under Item A.7 will be the computed quantity used for replacing unsuitable material, improving pipe bedding, backfilling additional excavations ordered by ENGINEER in traveled areas, or increasing load-carrying capacity of pipe or structures as directed or approved by ENGINEER.
 - 3) No payment will be made for CLSM used for refill when rock or earth excavation is carried below grades shown, indicated, or ordered.
 - 4) This item includes all Work associated with providing additional CLSM, including furnishing, transporting, handling, placing, and testing CLSM.
 - b. Payment: Unit price per cubic yard for Item A.7 will be full compensation for providing all additional CLSM complete as shown, indicated, or directed by ENGINEER.

SECTION 26 32 13

ENGINE GENERATORS AND AUTOMATIC TRANSFER SWITCHES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Scope:
 - 1. Provide all labor, materials, equipment, and incidentals as shown specified and required to furnish and install 480-volt standby power generator system and install automatic transfer switches with appurtenances for complete and operational system.
 - 2. The following generator system(s) are included in this Section:
 - a. 180 KW, 0.8 power factor, 480/277 volts, 3-phase, 4 wires, outdoor rated enclosure, engine generator, with 400A rated automatic transfer switch located at Station N.
- B. Coordination:
 - 1. Review installation procedures under other Sections and coordinate installation of items that must be installed with or before engine generator Work.
- C. Related Sections:
 - 1. Section 05 05 33, Anchor Systems.
 - 2. Section 33 05 05, Buried Piping Installation.
 - 3. Section 40 05 05, Exposed Piping Installation.

1.2 REFERENCES

- A. Standards referenced in this section are:
 - 1. International Standards Organization (ISO), ISO 8528, Reciprocating Internal Combustion Engine Driven Alternating Current Generator Sets.
 - 2. ISO 9001, Quality Management Systems – Requirements.
 - 3. NEMA MG-1, Motors and Generators.
 - 4. NFPA 110, Standard for Emergency and Standby Power Systems.
 - 5. UL 508, Safety Standard for Industrial Control Equipment.
 - 6. UL 2200, Standard for Safety Stationary Engine Generator Assemblies (rated 600 volts or less)

1.3 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer:
 - a. Shall have minimum of five years of experience of producing substantially similar equipment to that specified and shall document at least five installations in satisfactory operation for at least five years.
 - b. Shall possess valid ISO 9001 certification.

- c. Supplier shall have complete parts and service facilities, factory-trained service staff available for 24-hour emergency service, and be authorized to administer the warranty for all components of engine generator systems.
- B. Component Supply and Compatibility:
 - 1. Obtain all equipment included in this Section regardless of component manufacturer from a single generator set manufacturer. Materials, equipment, and parts shall be new, of current production of a firm that manufactures the generator set as a matched system. Manufacturer shall have full responsibility for engine generator performance. Generator set manufacturer shall prepare or approve all Shop Drawings and other submittals for all components furnished under this Section.
 - 2. Engine generator shall be factory-assembled. Verify in the factory that system is free from electrical and mechanical defects and conforms to the Contract Documents.
- C. Regulatory Requirements: Comply with applicable provisions of authorities having jurisdiction, including the following:
 - 1. Code of Federal Regulations (CFR), Title 40, Part 89, Control of Emissions from New and In-Use Nonroad Compression Ignition Engines, Subpart D Emission Test Equipment Provisions
 - 2. Local Ordinances: Systems shall conform to Laws and Regulations relative to noise control and emissions.
 - 3. Local and State Building Codes: Installations shall conform to applicable codes including requirements of local fire marshals.
 - 4. Permits: Obtain and pay for required permits, fees, and inspections by authorities having jurisdiction
 - 5. NEC Article 702, Optional Standby Systems.

1.4 SUBMITTALS

- A. Action Submittals: Submit the following:
 - 1. Shop Drawings:
 - a. Installation drawings specific to the Project.
 - b. Bill of material for all equipment and spare parts.
 - c. Electrical wiring and interconnection diagrams with all external connections identified.
 - d. Control panel data shall include:
 - 1) Description of control features.
 - 2) Operator panel control switches and functions.
 - 3) Alarm and status displays.
 - 4) Provisions for remote start signal and remote status and alarm.
 - 5) Compliance with UL 508.
 - e. Enclosure data shall include the following:
 - 1) Plan and elevation drawings showing overall dimensions, interior equipment arrangement, and working spaces.
 - 2) Construction details and hardware specifications.

- 3) Exhaust piping and silencer mounting arrangement.
 - 4) Sound attenuation provisions and decibel levels.
 - f. Provide the following relative to installation:
 - 1) Vibration isolators and anchor bolt requirements.
 - 2) Seismic restraint requirements.
 - 3) Provisions for fuel piping, electrical conduits, and other external connection requirements.
 - g. Listing of transfer switches to be provided, including ratings and location of each.
 - 1) Equipment dimensions, and construction details of enclosures with conduit entry locations.
- 2. Product Data:
 - a. Manufacturer's literature, specifications, engineering data sheets, and standard drawings, necessary to fully describe the engine generator sets and appurtenances, and substantiate compliance with the Contract Documents. Information shall be annotated to clearly indicate ratings, features, and options specific to the Project.
 - b. Engine data shall include:
 - 1) Fuel flow at rated load.
 - 2) Fuel consumption at 1/4, 1/2, 3/4, and full load.
 - 3) Engine Type: Naturally aspirated or turbocharged and after-cooled.
 - 4) Maximum exhaust backpressure.
 - 5) Silencer attenuation rating.
 - 6) Jacket water heater system.
 - 7) Gaseous emissions data measurements for hydrocarbons, carbon monoxide, particulate matter, and NOx conforming to 40 CFR 89, Subpart D.
 - c. Alternator data shall include:
 - 1) Winding insulation class and temperature rise in accordance with NEMA MG-1-1.65
 - 2) Standby and continuous KW/KVA ratings.
 - 3) Motor starting KVA at 90 percent sustained voltage.
 - 4) Surge KW capacity.
 - 5) Machine reactances and time constants.
 - d. Starting system data shall include:
 - 1) Battery system.
 - 2) Battery charger.
 - 3) Cycle cranking configuration.
- 3. Testing Procedures:
 - a. Site Quality Control Testing Procedures: Testing procedures, provided at least thirty days prior to scheduled start of testing.

B. Informational Submittals: Submit the following:

- 1. Manufacturer's Instructions:
 - a. Manufacturer's unloading, rigging, installing, testing, and startup instructions. Information shall be specific to and indicate options for the Project

2. Site Quality Control Submittals:
 - a. Services to be performed by Supplier's representative, provided at least thirty days prior to start of Site testing.
 - b. Report on results of testing at the Site, provided within seven days of completion of testing.

C. Closeout Submittals:

1. Operation and Maintenance Manuals: Provide in accordance with Section 01 78 23, Operations and Maintenance Data. Include the following information:
 - a. Operating Instructions: Instructions for starting, stopping, protection of circuits, automatic controls, battery charging and safety considerations. Methods for adjusting speed, output voltage, and control timers.
 - b. Performance Parameters: Provide nominal values and acceptable limits for output voltage, frequency, load, engine temperature, and oil pressure. Include circuit drawings with component identifications for reference.
 - c. Maintenance Instructions: Procedures for daily, weekly, monthly, and annual basis, or on an hours-run basis. Include guidance for selecting fuel oil, lubricating oil, use of water treatment additives, and anti-freeze.
 - d. Submit complete installation, operation and maintenance manuals including test reports, maintenance data and schedules, description of operation, and spare parts information.
 - e. Manuals shall include record drawings of control schematics, including point-to-point wiring diagrams.
2. Warranty Documentation.

D. Maintenance Materials:

1. Provide the following spare parts for each generator set:
 - a. One set of air filters.
 - b. Two control circuit fuses of each size used.
 - c. Two sets of lube oil filters.
 - d. One set of fan belts.
2. Furnish, tag, and box for shipment and long term storage the following spare parts for each switch:

Item	Quantity per Switch
a. Control relay	Two of each type used
b. Pilot light	Two per ten of each type used
c. Fuses	Two set of each type and size used

3.

1.5 WARRANTY

- A. General Warranty: Special warranty specified in this Article shall not deprive OWNER of other rights or remedies OWNER may otherwise have under the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by CONTRACTOR under the Contract Documents. Obligations of CONTRACTOR under the Contract Documents shall not be limited by provisions of the specified special warranty.
- B. Special Warranty:
 - 1. Provide manufacturer's written warranty, running to the benefit of OWNER, agreeing to correct or, at option of OWNER remove or replace materials or equipment specified in this Section found to be defective during a period of five years after date of Substantial Completion or 3,000 hours of operation.
 - 2. Products supplied under this Section shall be covered by a single warranty for the coverage period. Warranty shall provide for free replacement or repair of parts for five years or 3,000 hours of operation, and free labor for the first two years.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Delivery:
 - 1. Cover all generator air and exhaust openings with vapor inhibiting and water repellent material.
 - 2. Deliver anchorage devices that are to be embedded in cast-in-place concrete in ample time to prevent delaying the Work.
 - 3. Inspect equipment for shipping damage or loose parts upon delivery. Check for evidence of water that may have entered equipment during transit.
 - 4. Replace loss and repair damage to new condition in accordance with manufacturer's instructions.
- B. Handle equipment in accordance with manufacturer's instructions. Furnish at least one copy of instructions with equipment at time of shipment.
- C. Storage:
 - 1. Store equipment in a clean, dry location with controls for uniform temperature and humidity. Protect equipment with coverings and maintain environmental controls.
 - 2. Store materials for easy access for inspection and identification. Keep all materials off the ground, using pallets, platforms or other supports. Protect equipment from corrosion and deterioration.

PART 2 - PRODUCTS

2.1 SYSTEM REQUIREMENTS

- A. Quantity and ratings of the systems shall be as indicated in Paragraph 1.1.A.2 of this Section.
- B. Generators shall be rated for standby operation for duration of normal utility outage as defined by ISO 8528 for limited time operation. Generators shall be capable of operating for up to 500 hours per year, of which maximum of 300 hours is continuous running, and no overload is allowed.
- C. Generator assemblies shall be UL 2200-listed and control panels shall be UL 508-listed
- D. Provide automatic transfer switches as specified for transferring loads from one power source to another.

2.2 MANUFACTURERS

- A. Provide generator systems of one of the following:
 - 1. Kohler:
 - a. KG180 Genset with Weather Enclosure.
 - b. KCP-AMTC-0400S Transfer Switch.
 - 2. Or approved equal.

2.3 GENSET FEATURES & OPTIONS

- A. KG180 Genset to be provided with the following:
 - 1. Engine: Single Fuel, PreAlarm, Natural Gas, Standby.
 - 2. Nameplate Rating: Standby 130C Rise.
 - 3. Voltage: 60Hz, 277/480V, 3Ph, 4W.
 - 4. Alternator: 4UA13.
 - 5. Cooling System: Unit Mounted Radiator, 50C.
 - 6. Air Intake: Standard Duty.
 - 7. Controller: APM402.
 - 8. Enclosure Type: Weather (85.1dBA at 23ft).
 - 9. Enclosure Material: Steel.
 - 10. Starting Aids, Installed: 1500W, 120V.
 - 11. Electrical Accy., Installed: Battery Charger, 10A.
 - 12. Electrical Accy., Installed: Run Relay.
 - 13. Electrical Accy., Installed: 2 Input/5 Output Module.
 - 14. Electrical Accy., Installed: Generator Heater.
 - 15. Electrical Accy., Installed: Manual Speed Adjust.
 - 16. Rating, LCB 1: 80% Rated.
 - 17. Amps, LCB 1: 300.
 - 18. Trip Type, LCB 1: Thermal Magnetic.
 - 19. Interrupt Rating LCB 1: 30kA at 480V.
 - 20. Miscellaneous Accy, Installed: Coolant in Genset.

21. Miscellaneous Accy, Installed: Rodent Guards.
22. Warranty: 5 Year Factory.
23. Testing, Additional: Power Factor Test, 0.8, 3Ph Only.
24. Flexible Fuel Line (shipped loose).
25. Lit Kit, Production, KG180 (shipped loose).

2.4 AUTOMATIC TRANSFER SWITCH FEATURES & OPTIONS

- A. KCP-AMTC-0400S Transfer Switch to be provided with the following:
 1. Mechanism: Standard.
 2. Transition: Programmed.
 3. Logic: 1200.
 4. Voltage: 480V / 60 Hz.
 5. Poles & Wires: 3 Pole/4 Wire, Solid Neutral.
 6. Enclosure: NEMA 3R.
 7. Amps: 400 Amps.
 8. Connection: Standard.
 9. Warranty: 1 Year Factory.
 10. Lit Kit, ATS Production, KCP (shipped loose).

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine the conditions under which the Work is to be installed and notify ENGINEER in writing of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install engine generator system in accordance with the Contract Documents, approved Shop Drawings, and manufacturer's recommendations.
- B. Provide natural gas piping from gas utility meter to engine generator in accordance with Section 33 05 05, Buried Piping Installation and Section 40 05 05, Exposed Piping Installation.
 1. Coordinate with Consumers Energy for modifications to existing gas utility service to support new generator installation.

3.3 SITE QUALITY CONTROL

- A. Site Testing: Test engine-generator set in accordance with NFPA 110. Provide all materials and equipment, including load banks, fuel, lubricants and material required for Site testing. Completely fill fuel tank at conclusion of testing.

- B. Manufacturer's Services: Provide qualified, factory-trained serviceman to perform the following:
1. Supervise unloading and installation of equipment.
 2. Instruct CONTRACTOR in the installation of equipment.
 3. Inspect and adjust equipment after installation and ensure that equipment operates properly.
 4. Instruct OWNER's personnel in operating and maintaining the equipment.
 5. Service representative shall make a minimum of 3 visits, with a minimum of 4 hours at the Site for each visit. First visit shall be for unloading supervision and instruction of CONTRACTOR in installing equipment; second visit shall be for assistance in installation of equipment; third visit shall be for checking completed installation and start-up of system; fourth visit shall be to instruct operations and maintenance personnel. Representative shall revisit the Site as often as necessary until installation is acceptable.

+ + END OF SECTION + +

- h. Specification for spray equipment with cross-reference to coating manufacturer's recommended equipment requirements.

B. Informational Submittals: Submit for acceptance, the following:

- 1. Qualifications Data: as specified in Paragraph 1.3.A. for:
 - a. Manufacturer.
 - b. Application contractor.
 - c. Foreman.
 - d. Applicators.
- 2. Certificates:
 - a. Certificate from lining products manufacturer stating that materials meet or exceed Contract Documents requirements.
 - b. CONTRACTOR shall provide notarized statement verifying that lining system is compatible with surfaces specified.
 - 1) All lining systems components shall be reviewed by an authorized technical representative of lining products manufacturer for use as a compatible system.
 - 2) Verify that lining system is acceptable for exposures specified and that lining product manufacturer is in agreement that selected system is proper, compatible, and not in conflict with manufacturer's recommended specifications.
 - 3) Show by copy of transmittal form that a copy of letter has been transmitted to lining system applicator.
- 3. Source Quality Control Submittals:
 - a. Certificate indicating proposed lining system has been successfully tested in accordance with the requirements of Article 2.3 of this Section.
- ~~3.4.~~ Field Quality Control Submittals:
 - a. Test and Evaluation Reports: Daily Quality Control Reports.
 - b. Manufacturer Reports.
- ~~4.5.~~ Special Procedure Submittals:
 - a. Testing Plans, Procedures and Testing Limitations:
 - 1) Quality Plan: including the Inspection Test Plan.

1.5 DELIVERY, STORAGE AND HANDLING

A. Delivery and Acceptance Requirements:

- 1. Deliver products to the Site in manufacturer's original, unopened containers bearing manufacturer's name and label and the following information:
 - a. Product name.
 - b. Product description (generic product classification).
 - c. Manufacturer's lot number.
 - d. Color.

B. Storage and Handling Requirements:

- 1. Store materials in sealed original manufacturer's containers.
- 2. Store materials in protected area out of direct sunlight.
- 3. Keep containers clean and undamaged.

4. Adhere to manufacturer's published storage temperatures and shelf life recommendations. Protect all materials from freezing.
5. Protective coating materials are to be handled according to their material safety data sheets.

1.6 SITE CONDITIONS

- A. Existing Conditions: This Work requires work in active Sewers. Adhere to all federal, state and local requirements for safety in confined spaces.
- B. Environmental Requirements:
 1. Comply with coatings manufacturer's specific product data sheets regarding minimum surface temperature requirements. Surface temperatures shall be at least 5 degrees F above dew point and in a rising mode.
 2. Provide for proper ventilation using explosion proof equipment. Allow to operate during the complete cure cycle of the coating.

1.7 SEQUENCING

- A. All Work specified in Sections 33 01 30.42, Cleaning of Wet Wells, 33 01 30.81, Wet Well Rehabilitation, and removal and replacement of wet well top riser section, bench concrete fill and top slab work specified in Section 33 32 00, Packaged Sanitary Drain Utility Lift Stations, shall be complete in each wet well before commencing the work of this Section within said wet well.

PART 2 - PRODUCTS

2.1 LINING SYSTEM

- A. System Description: The corrosion protective lining system shall consist of a 100 percent, high-build, glass flake reinforced, amine cured epoxy or a multi-layer, polyurea lining system designed for the protection of concrete in highly corrosive hydrogen sulfide environments.

2.2 LINING MATERIALS

- A. Epoxy Lining System:
 1. Primer (Optional):
 - a. Shall be a minimum 69-percent volume solids, two-component, polyamido-amine epoxy.
 - b. Shall be applied in a single layer to a nominal dry-film thickness of 2.0-6.0 mils prior to the application of an epoxy lining.
 - c. Products and Manufacturer: Provide one of the following products:
 - 1) Macropoxy 5500LT as manufactured by Sherwin-Williams Company.
 - 2) Or equal.

2. Corrosion Protection Coating:
 - a. Shall be 100-percent solids, high-build, high strength, reinforced epoxy.
 - b. Shall be applied to a nominal dry-film thickness of 80.0-125.0 dry mils.
 - c. Shall have the following minimum physical properties:

1) Adhesion – Concrete (ASTM D7234):	Concrete Failure
2) Abrasion Resistance (ASTM D4060)	
1,000 g, 1000 cycles, CS-17 Wheel:	Less than 120 mg loss
3) Compressive Strength (ASTM D695)	10,000 psi
4) Elongation (ASTM D638):	2%
5) Flexural Modulus (ASTM D790):	12,000 psi
6) Hardness, Shore D (ASTM D2240):	75
7) Impact Resistance (ASTM D2794):	80 in. lbs
8) Tensile Strength (ASTM D638):	7,300 psi
9) Water Vapor Transmission (ASTM D1653):	0/gms/m2 (24 hrs)
10) Humidity Resistance (ASTM D4585):	Pass
11) Severe Wastewater Analysis Test (ASTM G210):	Pass
 - d. Products and Manufacturers: Provide one of the following:
 - 1) DuraPlate 6000 Epoxy as manufactured by Sherwin-Williams Company.
 - 2) Or equal.

B. Polyurea Lining System:

1. Polyurea ~~Adhesion~~ Base Layer:
 - a. Shall be applied as a single, monolithic layer to a nominal dry-film thickness of 50 mils prior to the application of a Closed Cell Foam Surfacer layer.
 - b. It shall have the following minimum physical properties:

1) Hardness (ASTM D2240)	D 48
2) Tensile strength (ASTM D412):	
<u>2250</u> 3315 psi	
3) 100% Modulus (ASTM D412):	1668 psi
4) 200% Modulus (ASTM D412):	1960 psi
5) 300% Modulus (ASTM D412):	2650 psi
6) 3) Tear resistance/DIE-C (ASTM D624):	417 pli
7) 4) Ultimate elongation (ASTM D412):	<u>269</u> 395 %
8) 5) Taber Abrasion, mg loss CS17 (ASTM D4060):	<u>23</u> 45 mg loss
9) 6) Flexibility, 1/8" mandrel (ASTM D4338)	Pass
 - c. Products and Manufacturer: Provide one of the following:
 - 1) OBIC Armor 1000, Aromatic Polyurea as manufactured by OBIC, LLC.
 - 2) SpectraShield Barrier Coat, Modified Polyurea as manufactured by CCI Spectrum.
 - ~~2) 3)~~ Or equal.

2. Closed Cell Foam Surfacers Layer:
 - a. Shall be used for filling voids in concrete surfaces and to smooth substrate prior to application of ~~Final~~ Polyurea ~~Armor~~ Finish Layer.
 - b. Shall be applied at a moderate speed and repeated until the foam rise covers voids. Apply to a nominal thickness of 400 mils.
 - c. It shall have the following minimum physical properties:
 - 1) Density (ASTM D1622) 4-10~~6-8~~ pcf
 - 2) Compressive Strength 1" (ASTM D1621): 90~~130-150~~180 psi
 - 3) Closed Cell Content: > 94%
 - 4) Water Absorption: < 0.03 lbs/sqft
 - 5) Maximum Service Temp: 180 deg
 - 6) Viscosity (A side) @ 72 deg F: 675 cps
 - 7) Viscosity (B side) @ 72 deg F: 200 cps
 - d. Products and Manufacturer: Provide one of the following:
 - 1) OBIC Guard 1306, Polyurethane Surface Material as manufactured by OBIC, LLC.
 - 2) SpectraShield Expanding Resurfacer Foam, as manufactured by CCI Spectrum.
 - ~~2)3)~~ Or equal.
3. ~~Final~~ Polyurea Finish ~~Armor~~ Layer:
 - a. Shall be 100-percent solids, no volatile organic compound (VOC), moisture tolerant, elastomeric polyurea.
 - b. Shall be applied as a single, monolithic layer to a nominal dry-film thickness of 50 mils.
 - c. Shall have the following minimum physical properties:
 - 1) Hardness (ASTM D2240): D 48
 - 2) Tensile strength (ASTM D412): 33~~15~~ 2250 psi
 - ~~3) 100% Modulus (ASTM D412): 1668 psi~~
 - ~~4) 200% Modulus (ASTM D412): 1960 psi~~
 - ~~5) 300% Modulus (ASTM D412): 2650 psi~~
 - ~~6)3)~~ Tear resistance/DIE-C (ASTM D624): 417 pli
 - ~~7)4)~~ Ultimate elongation (ASTM D412): 395~~269~~ %
 - ~~8)5)~~ Taber Abrasion, mg loss CS17 (ASTM D4060): 15~~23~~ mg loss
 - ~~9)6)~~ Flexibility, 1/8" mandrel (ASTM D4338) Pass
 - ~~10) Severe Wastewater Analysis Test (ASTM G210): Pass~~
 - d. Products and Manufacturer: Provide one of the following:
 - 1) OBIC Armor 1000, Aromatic Polyurea as manufactured by OBIC, LLC.
 - 2) SpectraShield Barrier Coat, Modified Polyurea as manufactured by CCI Spectrum.
 - ~~2)3)~~ Or equal.

2.3 SOURCE QUALITY CONTROL

- A. Lining Systems shall be tested in accordance with, and found to be in compliance with the requirements of, one of the following:
 - 1. Severe Wastewater Analysis Testing (SWAT) procedure, as outlined in ASTM G210.
 - 2. Center for Innovative Grouting Materials and Technology (CIGMAT) testing procedure.

~~2.3~~2.4 INSTRUMENTS

- A. Environmental Measurements: Provide a digital dew point meter to monitor air temperature, dew point and relative humidity; and an infrared surface temperature meter for measuring the substrate surface temperatures.
- B. Quality Control Testing: Provide one wet film thickness gauge and one holiday detector to detect holidays or holes in the coating.
 - 1. Products and Manufacturers: Provide the following:
 - a. Holiday detector shall be Elcometer 266 as manufactured by Elcometer, or equal.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Verification of Conditions:
 - 1. CONTRACTOR and its applicator shall examine the areas and conditions under which the lining of wet wells is to be performed and notify ENGINEER in writing of conditions detrimental to the proper and timely completion of the lining of wet wells. Do not proceed with the lining of wet wells until unsatisfactory conditions have been corrected in a manner acceptable to ENGINEER.
 - a. Surface temperatures shall be a minimum of five degrees F above the dew point and in a rising mode for the application of lining materials.
 - b. Minimum substrate surface profile of CSP#3.

3.2 PREPARATION

- A. Condition Assessment: ENGINEER will provide Condition Assessment of wet well to identify structures to receive lining system. CONTRACTOR shall only proceed with wet well lining in wet wells identified to receive such in ENGINEER's Condition Assessment.
- B. All active water leaks within the wet well shall be stopped and identified concrete surface defects within the wet well shall be repaired in accordance with the requirements of Section 33 01 30.81, Wet Well Rehabilitation, prior to commencing lining work with the wet well.

- C. Substrate Preparation: Comply with coating manufacturer's published recommendations for products, surface condition, and surface preparation.
- D. Protect property and structures adjacent to the Work from waste residues resulting from cleaning, surface preparation, and lining Work.

3.3 APPLICATION

- A. Mix and prepare lining products in strict accordance with manufacturer's product data sheets.
- B. Apply coating materials in accordance with manufacturer's printed data sheet instructions:
 - 1. Refer to specific product data sheets for minimum surface temperature requirements. Surface temperatures shall be a minimum of 5 degrees F above dew point and in a rising mode.
 - 2. Provide for proper ventilation using explosion proof equipment. Allow to operate during the complete cure cycle of the coating.
- C. Notify ENGINEER after completing each coat of lining materials. After inspection and checking of film thickness, holidays, and imperfections, and after acceptance by ENGINEER, proceed with succeeding coat. Perform testing using testing instruments specified in Article 2.3 of this Section.
 - 1. ENGINEER will witness all testing and shall be notified of scheduled testing at least twenty-four hours in advance.
 - 2. Apply additional coats, if required, to produce specified film thickness and to correct holidays and to completely fill all surface air holes.
- D. Record time, location, number of coats, dry film thickness, holidays, and other imperfections and submit testing results to ENGINEER.

3.4 FIELD QUALITY CONTROL

- A. Preparation:
 - 1. Contractor shall submit a Quality Plan (QP) including: and Inspection Test Plan (ITP) indicating all quality control testing that will be performed during the lining application, including the acceptance criteria and a sample of their quality control reporting documents prior to lining applicator mobilizing to Site.
 - 2. Provide a trained quality control inspector who will carry out or supervise all quality control inspections.
 - 3. Record all quality control operations on a daily QC report that will be delivered to the ENGINEER at intervals agreed upon at pre-installation meeting.

- B. Site Tests: Minimum quality control testing shall include but not be limited to:
1. Environmental Measurements: Document air temperature, substrate temperature, dew point and relative humidity a minimum of four times per day using a digital dew point monitor, and infrared surface temperature meter.
 2. Surface Cleanliness: Prior to surface preparation, test to ensure surface cleanliness. The surface shall be free of oil , grease, and other contaminants that may impeded adhesion of the lining as per ASTM D4258.
 3. Substrate Surface Profile: Visual inspection per SSPC-SP13/NACE 6.
 4. Wet Film Thickness Testing: Testing using notched wet film thickness gages as per ASTM D4414.
 5. Dry Film Thickness Testing: separate dry film thickness testing for all coats as per SSPC – PA9.
 6. Holiday Testing: Verify a pinhole free surface in accordance with ASTM D4787 or NACE SP0188.
- C. Manufacturer's Services:
1. Furnish services of a qualified factory-trained serviceman to visit the Site at the request of the ENGINEER to check the surface preparation before lining products are applied, and/or the finished application and cure of the lining products.
 2. Serviceman shall make not less than two visits for a period of not less than one 8-hour day each to the Site as requested by ENGINEER.
 3. All costs including expenses for travel, lodging, meals and incidentals and cost of travel time, for visits to Site shall be included in the Contract Price.

3.5 CLEANING

- A. During progress of the Work, remove from Site all discarded lining products, rubbish, cans, and rags at end of each workday.

+ + END OF SECTION + +

TABLE 33 05 05-A, BURIED PIPING SCHEDULE

Service	Diameter (inch)	Material	Interior Lining	Exterior Coating	Pressure Class/Thickness	Joint	Test
FM	6 to 16	DI	CL	PEW	CL, 53	RMJ	HYD (100)
SP	2	PVC	--	--	SCH. 80	SW	HYD (60)
NG	2-1/2 3	HDPE	--	--	DR 11	BFW	IFGC

Service Abbreviations

Service	Abbrev	Service	Abbrev.	Service	Abbrev.
Force Main	FM	Sump Pump	SP	Natural Gas	NG

Material Abbreviations

Material	Abbrev	Material	Abbrev.	Material	Abbrev.
Ductile Iron	DI	High Density Polyethylene	HDPE	Polyvinyl Chloride	PVC

Lining/Coating Abbreviations

Lining	Abbrev	Coating	Abbrev.
Cement Mortar Lined	CL	Polyethylene Wrapped	PEW

Abbreviations

Joint Type	Abbrev	Joint Type	Abbrev.	Joint Type	Abbrev.
Butt Fusion Weld	BFW	Solvent Weld	SW	Restrained Mech. Joint	RMJ

Test Abbreviations

Test	Abbrev	Test	Abbrev
Hydrostatic Test (test pressure in psig)	HYD ()	International Fuel Gas Code	IFGC

h. Power/Sensor Cables:

- 1) Cables shall be the unspliced length (within the wet well) required, suitable for submersible duty, and be so indicated by code or legend permanently applied to cable.
- 2) AWG rated submersible pump cable sized accordingly to the motor supplied and the National Electric Code, not allowing a voltage drop of more than 5% from the panel to the motor. Cables shall have explosion proof mechanically compressed water and gas tight design, with quick-connect ends to simplify installation and maintenance operations.
- 2)3) For Station N, cables shall be spliced in local junction boxes at grade for ease of installation and removal of equipment. Cables shall be permanent from junction boxes to the control panel.

i. Accessories: Provide the following for each pump unless otherwise specified.

- 1) Anchor bolts and anchorage devices per Section 05 05 33, Anchor Systems.
- 2) Discharge Elbow: Comply with requirements of Section 40 05 19, Ductile Iron Process Pipe.
- 3) Pump Removal System:
 - a) Pumps shall automatically and positively mate and self seal with associated discharge piping when pump is lowered into place. Pumps shall be removable for inspection or service without requiring removal of bolts, nuts, or other fastenings.
 - b) Provide for each pump guide rails and brackets of extra-heavy Type 304 stainless steel.
 - c) Provide each pump with high-tensile strength, proof-tested stainless steel lifting cable. Cable shall be suitable for use with hoist. Provide sufficient length of cable for removing pump from wet well without requiring supplementary cords, cables, or chains. Connect cable to lifting eye or bail on pump, and provide loop or appropriate hardware at hoist-end of cable. Cable and hardware shall be sized to sustain all tensile stresses during lifting of pump.
 - d) For each pump, provide one suitable stainless steel hook or bracket on wall just below operating floor to which cable will be hooked when not used for hoisting.
 - e) Pump manufacturer shall provide items necessary for complete guide-in, pump removal system.

F. Piping and Piping Accessories:

1. Ductile iron pipe and fittings comply with requirements of Section 40 05 19, Ductile Iron Process Pipe.
2. Pipe Supports and Anchorage: Provide stainless steel pipe supports and anchorage to support and brace piping for all anticipated forces for all operating conditions.

- g. Fall-Through Prevention System: Provide access hatch cover manufacturer's standard safety grating of FRP or aluminum, constructed for live load capacity of not less than 300 psf. Provide hinges and lift-assist to allow grating sections to automatically lock in place in full-open 90-degree position. Provide hold-open arm and release assembly of aluminum or Type 316 stainless steel. Grating shall be colored OSHA "Safety Yellow" or "Safety Orange".
- h. Finish: Mill finish.

M. Lift Station Controls:

- 1. Provide lift stations with the following wet well level monitoring:
 - a. Level transmitter - submersible pressure type (for domestic wastewater):
 - 1) Pumps shall be controlled based on fluid level in wet well. Level measurement system shall be furnished by pump Supplier and shall be submersible pressure transmitter
 - 2) Type: Measuring level by continuously measuring hydrostatic pressure via its sensing element, an ion implanted silicon semiconductor chip. Data is transmitted by an analog, 4 to 20 mA DC output signal.
 - 3) Performance Requirements:
 - a) Accuracy: ± 0.25 percent full scale.
 - b) Zero Offset: ± 0.50 percent full scale.
 - c) Span: ± 0.50 percent full scale.
 - d) Temperature Ranges: -40 to 176 degrees F.
 - 4) Construction Features:
 - a) Diaphragm: Type 316L stainless steel.
 - b) Housing: Type 316 stainless steel.
 - c) Hazardous Classification: Level transmitter shall be explosion proof Class I Division 1 rated.
 - d) Cable shall be provided of required length and fully submersible construction.
 - e) Power supply: 12 to 28 VDC with surge and lightning protection.
 - f) Electrical Connection: Attached 3-wire, 20-gauge polyethylene shielded unspliced cable.
 - g) Panel mounted meter shall be factory calibrated for required range, shall accept 4 to 20 mA DC input, shall have a local display in feet of water, shall be NEMA 4X rated and have two relay outputs for low level alarm. Level shall also be displayed on HMI Screen.
 - h) Level transmitter shall be housed in a SCH80 PVC stilling tube and stainless-steel wall mount brackets.

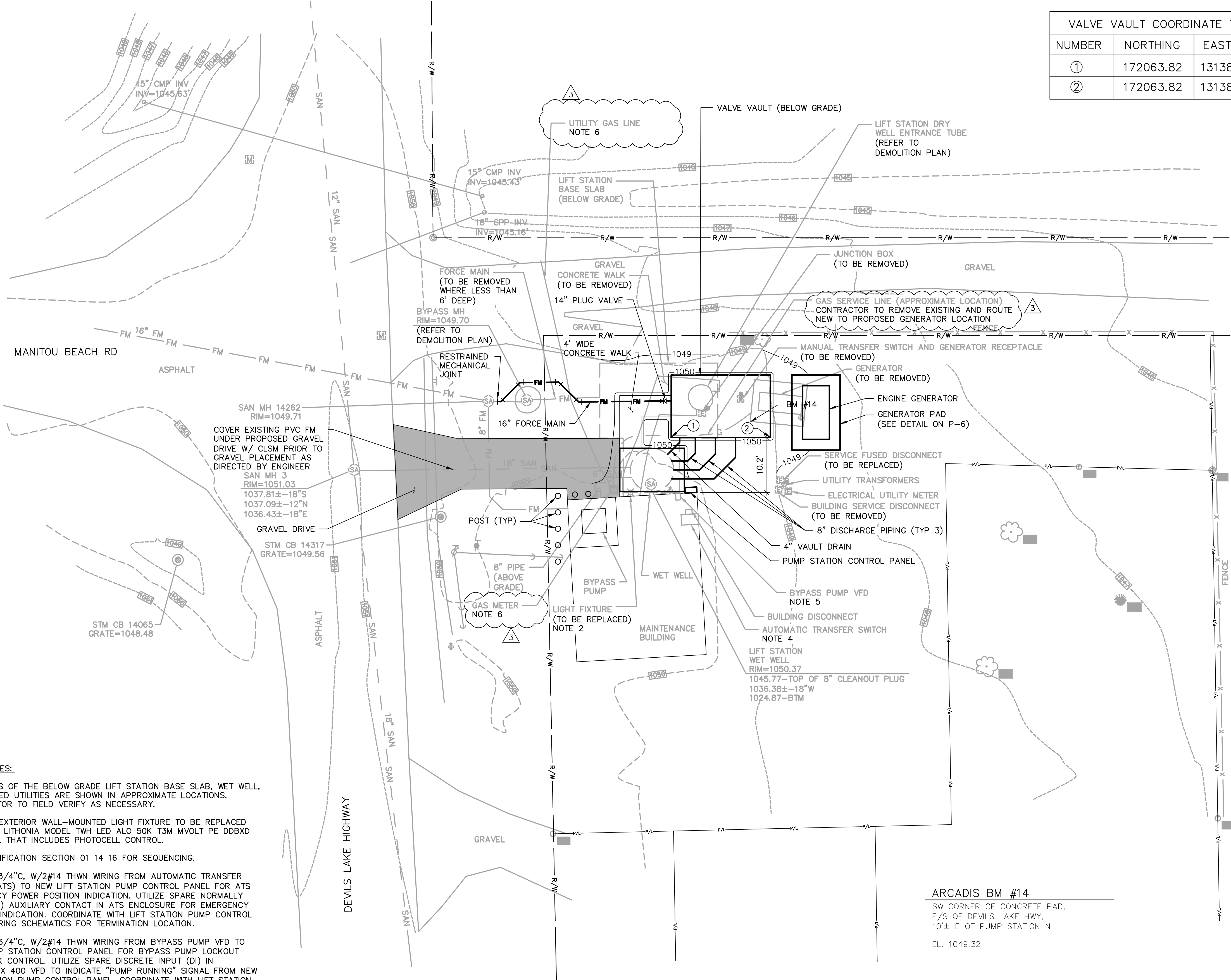
- 3) VFD functions for this lift station shall include, but are not limited to, the following:
 - a) Acceleration and deceleration time independently adjustable from 0.1 to 3600.0 seconds (selectable ranges).
 - b) Volts/Hertz patterns shall be user selectable.
 - c) Maximum and minimum frequency limit adjustments.
 - d) Forward and reverse rotation.
- 4) When the VFD inverter trips out on a fault, the fault relay shall activate, and the display shall indicate the reason for the trip as follows:
 - a) Overcurrent.
 - b) Short circuit.
 - c) Overload.
 - d) Overvoltage.
 - e) Under voltage.
 - f) Overheat.
 - g) Ground fault.
 - h) Motor stalled.
 - i) Power supply fault.
- 5) Auto restart shall occur when the inverter faults.
 - a) Auto restart shall be adjustable up to 9 attempts with a 0.5 to 30 second interval.
 - b) Auto restart will not be attempted for ground fault, output shorted, transistor shorted or internal microprocessor fault but will trip out immediately, activate the fault relay and make the appropriate indication on the display.
 - c) Information regarding the last 4 faults shall be maintained in event of a power loss. The microprocessor shall save the status of the inverter at the time of the fault and make that information available on the digital display.
- 6) Harmonic protection requirements ([Station N only](#))
 - a) All VFDs shall be capable of satisfactory operation from a source having voltage distortion and notch characteristics identified as acceptable for a “dedicated system” in IEEE 519 Table 10.2.
 - b) With all VFDs operating under worst-case harmonic current conditions, and the facility supplied from either or both the utility and generator sources, the VFDs shall not produce harmonic effects in excess of the following limits at any point of common coupling (PCC).
 - (1) Voltage distortion and notch characteristics: IEEE 519 Table 10.2 for General System.
 - (2) Current distortion: IEEE 519 Table 10.3, based on ISC/IL < 20.
 - c) Point of Common Coupling (PCC) shall be considered:
 - (1) Building service entrance switchgear, switchboard or MCC.
 - (2) Each MCC, switchboard, switchgear, or panelboard supplying a VFD branch circuit.

- 16) Speed/Level Setpoints (1 pump running).
 - 17) Speed/Level Setpoints (2 pumps running).
 - 18) Speed/Level Setpoints (3 pumps running) (triplex stations).
 - 19) Pump Start Delay Setpoint.
 - 20) Alternation Time Interval Setpoint.
 - 21) Total running time of each pump in "hours" and "tenths of hours".
 - 22) VFD (if included) ramp speed setpoint.
 - 23) Realtime VFD (if included) drive frequency and corresponding motor speed as a % of maximum allowable.
 - 24) Realtime power draw.
 - 25) Realtime amperage draw.
 - 26) Realtime motor starter load-side voltage.
 - 27) Realtime VFD (if included) line-side & load-side voltage.
 - 28) Normal/Emergency power source: For Stations equipped with automatic standby generators (Stations D, E, H, J, P, & S), a normally open (NO) aux contact on the generator Automatic Transfer Switch (ATS) shall provide position indication of the ATS (open - Normal Power, closed-Emergency Power) in order to provide emergency power status.
- k. Pump mode selector switches ("HOA ("Hand, Off, Auto") Switches") shall permit manual start or stop of each pump individually or permit automatic operation under control of the liquid level control system.
 - 1) Manual operation shall override all shutdown systems, except the motor overload relays.
 - 2) Selector switches to be oil-tight design.
 - l. Provisions for automatic pump alternation or manual selection shall be provided for the user's choice.
 - m. Electromechanical relays and timers, when used, shall be equipped with appropriately sized, NEMA rated, 120 VAC coils and contacts.
 - n. Control logic shall be accomplished using programmable controllers (PLC). Electromechanical relays may be used when necessary. However, the primary control logic shall be performed by the PLC.
 - o. The PLC shall be Allen Bradley MicroLogix 1400 with DNP3 protocol for interfacing with the cloud based monitoring system and including the following:
 - ~~1) The PLC shall be equipped with a CPU with a minimum of 1 MB of user memory and 160 I/O points.~~
 - ~~2) Ethernet/IP communication ports supporting ring topologies and 1 USB port for firmware download and programming.~~
 - ~~3) The Controller shall utilize the small applications I/O modules.~~
 - ~~4) The Controller shall be designed to implement consumed tag, event instruction, embedded inputs, remote I/O, axis, and motion event triggers.~~
 - ~~5) The controller shall be equipped to handle up to 32 Controller Tasks and 100 programs per task.~~
 - ~~6) The PLC shall operate on 24VDC power and be equipped with a 24VDC embedded power supply.~~

- ~~7)1)~~ An uninterruptable power supply (UPS) with minimum 90-minute capacity shall be included to power PLC, local status/alarm lights as well as Hosted SCADA Service equipment.
- ~~8) A 1784-SD1 (1GB) Memory Module shall be shipped with the controller.~~
- ~~9)2) The controller will contain, at least but not limited to, embedded digital I/O.~~ The controller shall accept all digital and analog I/O necessary to accomplish the herein specified operation.
- ~~10)3)~~ A minimum of 10% spare space for I/O used shall be supplied both for I/O points and I/O Cards.
- ~~11)4)~~ The program logic shall be stored on the processor as well as on a programmable, read only 1 GB SD card (shipped with controller).
 - a) The memory module shall auto load and run when installed in the programmable control processor.
 - b) This feature is included to facilitate field repair or replacement of the programmable control hardware without the use of programming terminals or personal computers.
- ~~12)5)~~ The PLC shall communicate with the drive using an Ethernet/IP but can also support other communication protocols such as ControlNet, or Device Net networks.
- ~~13)6)~~ The PLC shall issue starter and drive start/stop and speed commands. Drive status shall be communicated to the PLC using Ethernet/IP.
- ~~14)7)~~ The drive shall be configured to operate manually without the use of the PLC
- p. A Human Machine Interface (HMI) shall be provided for user input and display at all stations.
 - 1) The HMI display shall be at least 6 inches in size for all Stations, except Stations E, & H which shall be at least 10 inches.
 - 2) The HMI shall be mounted on the front of the control panel with other operator controls and shall be compatible with the PLC communication protocol.
 - 3) The HMI interface shall be a backlit, touch-screen terminal.
 - 4) The HMI interface program shall be stored on a removable storage device like a Secure Digital (SD) card.
- q. Operation and maintenance manual shall be provided with complete ladder logic program documentation including English names, rung comments, and coil/contact cross-references.
- r. Operation and maintenance manual shall include delivered programming logic and instructions for Owner/user programming and implementation.
- s. Provide services for field programming for a period of at least 1 year.
3. Wiring:
 - a. The lift stations except for Station N, as furnished by the supplier, shall be completely wired, except for power feed lines to the branch circuit breakers and final connections to remote alarm devices, which shall be completed by the CONTRACTOR in the field.

- b. All wiring, workmanship, and schematic wiring diagrams shall comply with applicable standards and specifications of the National Electric Code (NEC).
- c. Control circuit wiring inside the panel, with exception of internal wiring of individual components, shall be 16-gauge minimum, type MTW (Machine Tool Wire) or THW (Thermal High Heat Wire), 600 volts. Power wiring to be 14-gauge minimum. Motor branch wiring shall be 10-gauge minimum.
- d. All user serviceable wiring shall be type MTW or THW, 600 volts, color coded as follows:
 - 1) Line and Load Circuits, AC or DC power: Black
 - 2) AC Control Circuit Less Than Line Voltage: Red
 - 3) DC Control Circuit: Blue
 - 4) Interlock Control Circuit, from External Source: Yellow
 - 5) Equipment Grounding Conductor: Green
 - 6) Current Carrying Ground: White
 - 7) Hot with Circuit Breaker Open: Orange
- e. Wires must be clearly numbered at each end in conformance with applicable standards.
- f. All wire connectors in the control panel shall be done in a uniform commercial wiring practice utilizing ring-tongue type with nylon insulated shanks.
- g. All wires on the sub-plate shall be bundled and tied.
- h. All wires extending from components mounted on door shall terminate at a terminal block mounted on the back panel and wires connected to door mounted components must be tied and bundled in accordance with good commercial practice. Bundles shall be made flexible at the hinged side of the enclosure. Adequate length and flex shall allow the door to swing full open without undue stress or abrasion. Bundles shall be held on each side of hinge by mechanical fastening devices.
- i. All wiring outside the panel shall be routed through conduit.
- 4. Conduit:
 - a. Factory installed conduit shall conform to following requirements:
 - 1) All conduit and fittings to be UL listed.
 - 2) Liquid tight flexible metal conduit to be constructed of smooth, flexible galvanized steel core with smooth abrasion resistant, liquid tight polyvinyl chloride cover.
 - 3) Conduit to be supported in accordance with articles 346, 347, and 350 of the National Electric Code.
 - 4) Conduit shall be sized according to the National Electric Code.
- 5. Grounding:
 - a. Lift station manufacturer shall ground all electrical equipment inside the lift station to the control panel back plate. All paint must be removed from the grounding mounting surface before making final connection.
 - b. The Contractor shall provide a 3/4"x10' earth-driven copper ground rod with grounding conductor connection to the lift station main grounding lug in accordance with the National Electric Code (NEC) per NEC Table 250.66.

VALVE VAULT COORDINATE TABLE		
NUMBER	NORTHING	EASTING
①	172063.82	13138839.01
②	172063.82	13138857.51



GENERAL NOTES:

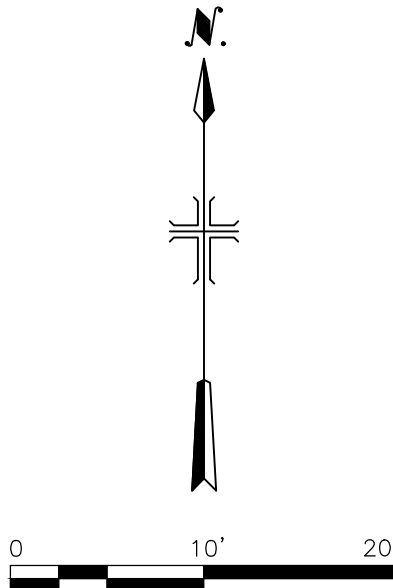
1. LOCATIONS OF THE BELOW GRADE LIFT STATION BASE SLAB, WET WELL, AND BURIED UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS. CONTRACTOR TO FIELD VERIFY AS NECESSARY.
2. EXISTING EXTERIOR WALL-MOUNTED LIGHT FIXTURE TO BE REPLACED WITH NEW LITHONIA MODEL TWH LED ALO 50K T3M MVOLT PE DDBXD OR EQUAL THAT INCLUDES PHOTOCCELL CONTROL.
3. SEE SPECIFICATION SECTION 01 14 16 FOR SEQUENCING.
4. PROVIDE 3/4"C, W/2#14 THWN WIRING FROM AUTOMATIC TRANSFER SWITCH (ATS) TO NEW LIFT STATION PUMP CONTROL PANEL FOR ATS EMERGENCY POWER POSITION INDICATION. UTILIZE SPARE NORMALLY OPEN (NO) AUXILIARY CONTACT IN ATS ENCLOSURE FOR EMERGENCY POSITION INDICATION. COORDINATE WITH LIFT STATION PUMP CONTROL PANEL WIRING SCHEMATICS FOR TERMINATION LOCATION.
5. PROVIDE 3/4"C, W/2#14 THWN WIRING FROM BYPASS PUMP VFD TO NEW PUMP STATION CONTROL PANEL FOR BYPASS PUMP LOCKOUT INTERLOCK CONTROL. UTILIZE SPARE DISCRETE INPUT (DI) IN POWERFLEX 400 VFD TO INDICATE "PUMP RUNNING" SIGNAL FROM NEW LIFT STATION PUMP CONTROL PANEL. COORDINATE WITH LIFT STATION PUMP CONTROL PANEL WIRING SCHEMATICS FOR TERMINATION LOCATION.
6. EXISTING GAS UTILITY SERVICE TO BE UPGRADED AND REPLACED BY CONSUMERS ENERGY TO SUPPORT NEW 180KW GENERATOR. COORDINATE WITH CONSUMERS ENERGY FOR GAS SERVICE MODIFICATIONS. CONTRACTOR TO PROVIDE NEW BELOW GRADE GAS PIPE FROM GAS METER TO GENERATOR.

STATION N

ARCADIS BM #14

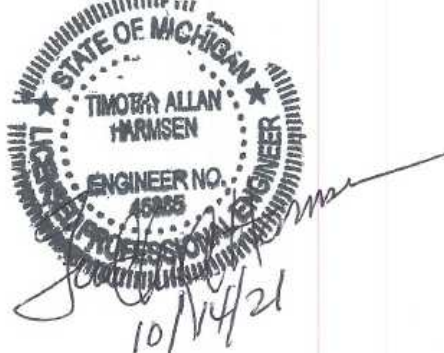
SW CORNER OF CONCRETE PAD,
E/S OF DEVILS LAKE HWY,
10'± E OF PUMP STATION N

EL. 1049.32



CONSULTANTS

SEALS



LENAWEE COUNTY
DRAIN COMMISSION

ROLLIN-WOODSTOCK SANITARY DRAIN LIFT STATION IMPROVEMENTS

ARCADIS PROJ. NO. 30027906

3	10/14/21	ADDENDUM NO. 2	TAH
2	9/9/21	ISSUED FOR BID	TAH
1	8/18/21	EGLE SUBMITTAL	TAH
NO.	DATE	ISSUED FOR	BY

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2021

DATE: SEPTEMBER 2021

PROJECT NO.: 30027906

FILE NAME: N-1

DESIGNED BY: K. CELIAN

DRAWN BY: S. PITTMAN

CHECKED BY: T. HARMSEN

SHEET TITLE

CIVIL

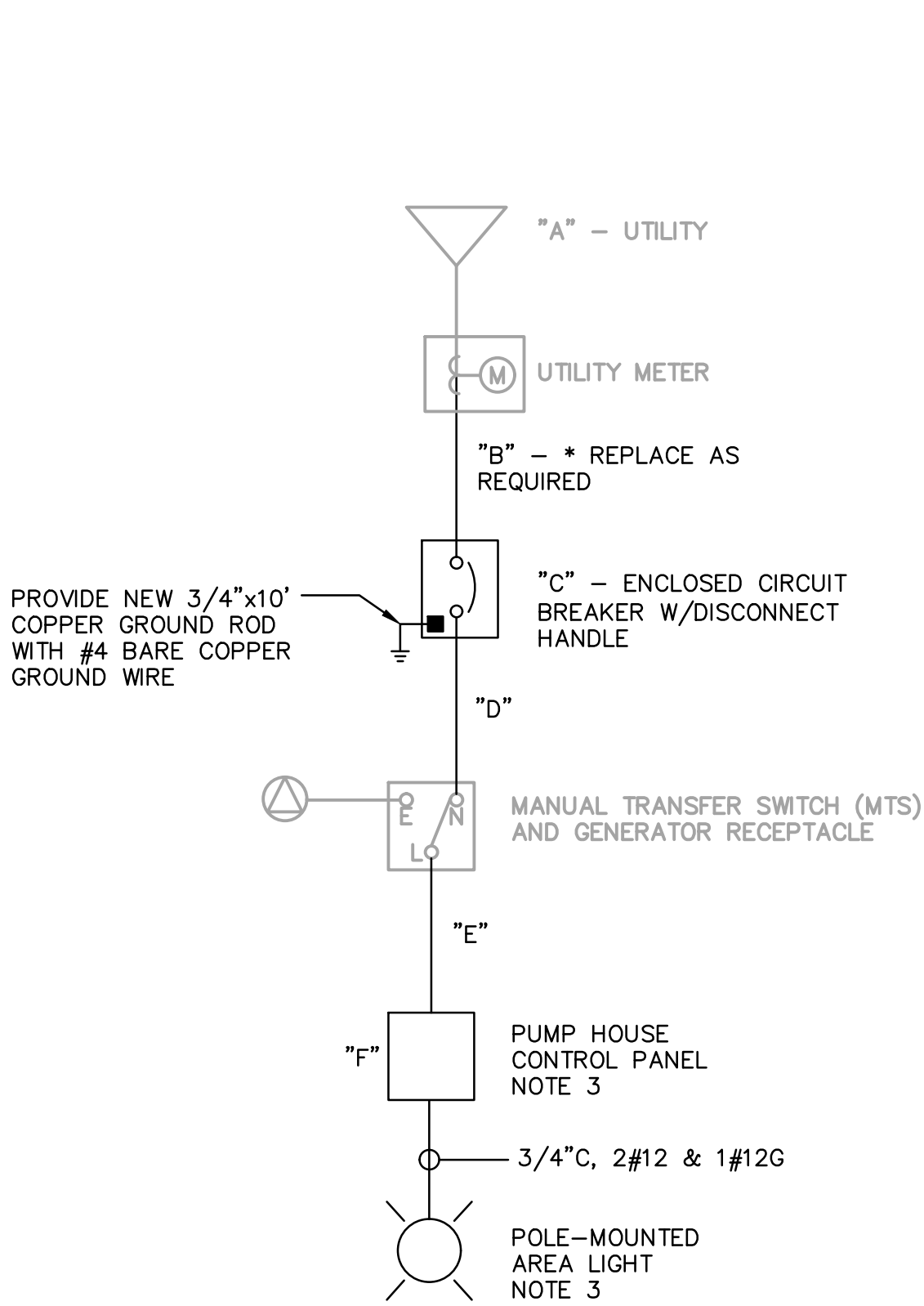
LIFT STATION N SITE PLAN

SCALE: AS SHOWN

C-8

SHEET 10 OF 24

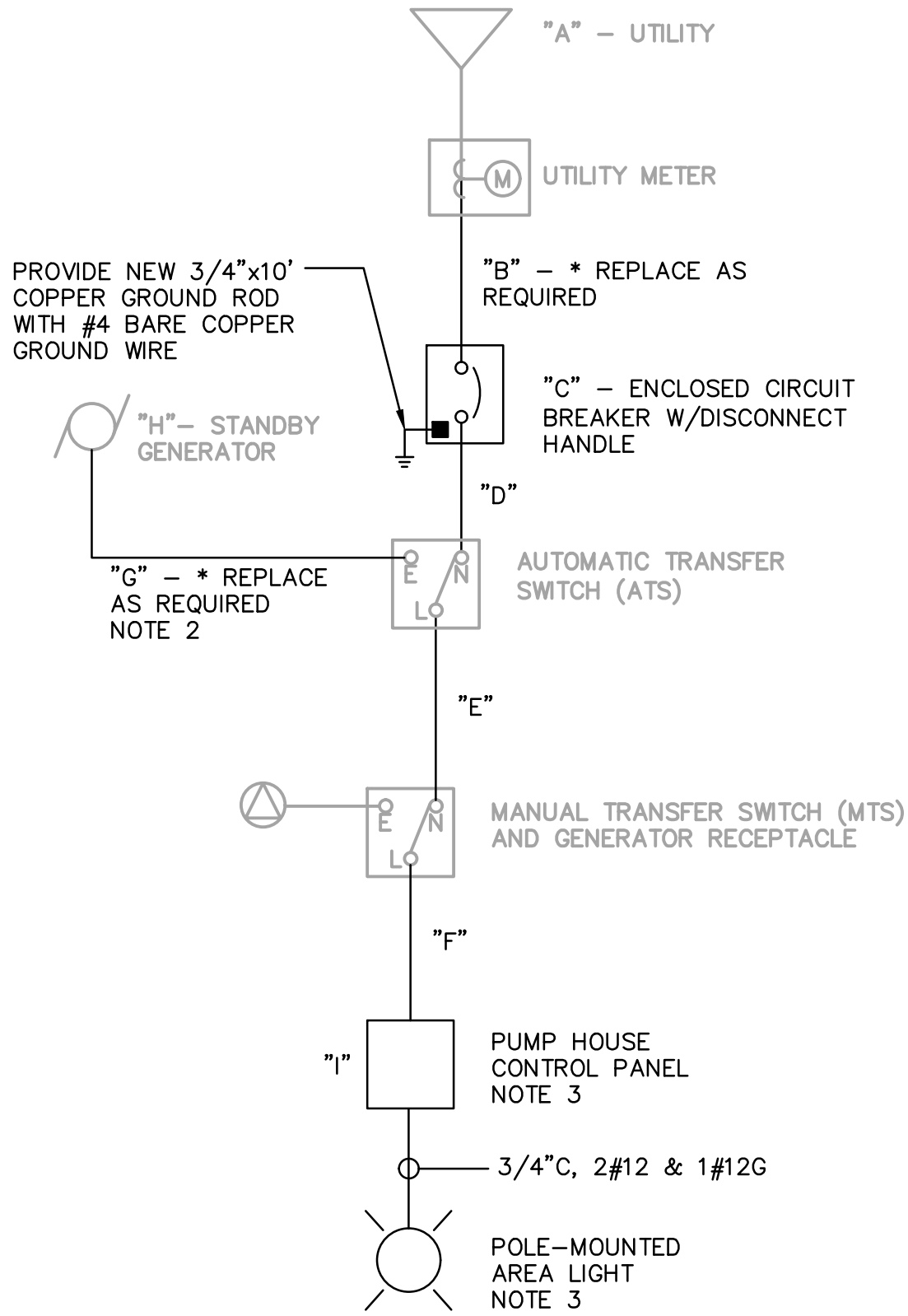
User: TGARDNER Spec: AUS - MCSMOD File: C:\USERS\TGARDNER\ARCADIS\LCDC ROLLINSWOODSTOCK LIFT STA IMPR - GENERAL\ELECT\DRAWINGS\ONE-LINES.DWG Scale: 1:1 SavedDate: 10/14/2021 Time: 10:18 Plot Date: Gardiner, Todd: 10/14/2021: 10:42 : Layout: 23



ONE-LINE DIAGRAM (TYPICAL) LIFT STATIONS:
A, B, C, F, G, I, K, L, M, Q, R

LIFT STATION	"A" - EXISTING UTILITY DATA	"B" - CONDUIT & WIRE	"C" - ENCLOSED CIRCUIT BREAKER	"D" - CONDUIT & WIRE	"E" - CONDUIT & WIRE	"F" - EST. LOAD (KVA)
A	240V, 3-PHASE, OPEN DELTA, 19.5KVA	1" C, 3#6	60A, 240V, 3P, NEMA 3R	1" C, 3#6 & 1#10G	1" C, 3#6 & 1#10G	15.1
B	240V, 3-PHASE, OPEN DELTA, 39KVA	1-1/2" C, 3#1/0	125A, 240V, 3P, NEMA 3R	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	25.8
C	240V, 3-PHASE, OPEN DELTA, 39KVA	1-1/2" C, 3#1/0	125A, 240V, 3P, NEMA 3R	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	20.8
F	240V, 3-PHASE, OPEN DELTA, 19.5KVA	1" C, 3#6	60A, 240V, 3P, NEMA 3R	1" C, 3#6 & 1#10G	1" C, 3#6 & 1#10G	10.5
G	240V, 3-PHASE, OPEN DELTA, 39KVA	1-1/2" C, 3#1/0	125A, 240V, 3P, NEMA 3R	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	25.8
I	240V, 3-PHASE, OPEN DELTA, 58.5KVA	2" C, 3#2/0	175A, 240V, 3P, NEMA 3R	2" C, 3#2/0 & 1#6G	2" C, 3#2/0 & 1#6G	47.3
K	240V, 3-PHASE, OPEN DELTA, 39KVA	1-1/2" C, 3#1/0	125A, 240V, 3P, NEMA 3R	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	20.8
L	240V, 3-PHASE, OPEN DELTA, 48.8KVA	1-1/2" C, 3#1/0	150A, 240V, 3P, NEMA 3R	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	37.4
M	240V, 3-PHASE, OPEN DELTA, 19.5KVA	1" C, 3#6	60A, 240V, 3P, NEMA 3R	1" C, 3#6 & 1#10G	1" C, 3#6 & 1#10G	15.1
Q	240V, 3-PHASE, OPEN DELTA, 39KVA	1-1/2" C, 3#1/0	125A, 240V, 3P, NEMA 3R	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	20.8
R	240V, 3-PHASE, OPEN DELTA, 48.8KVA	1-1/2" C, 3#1/0	150A, 240V, 3P, NEMA 3R	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	37.4

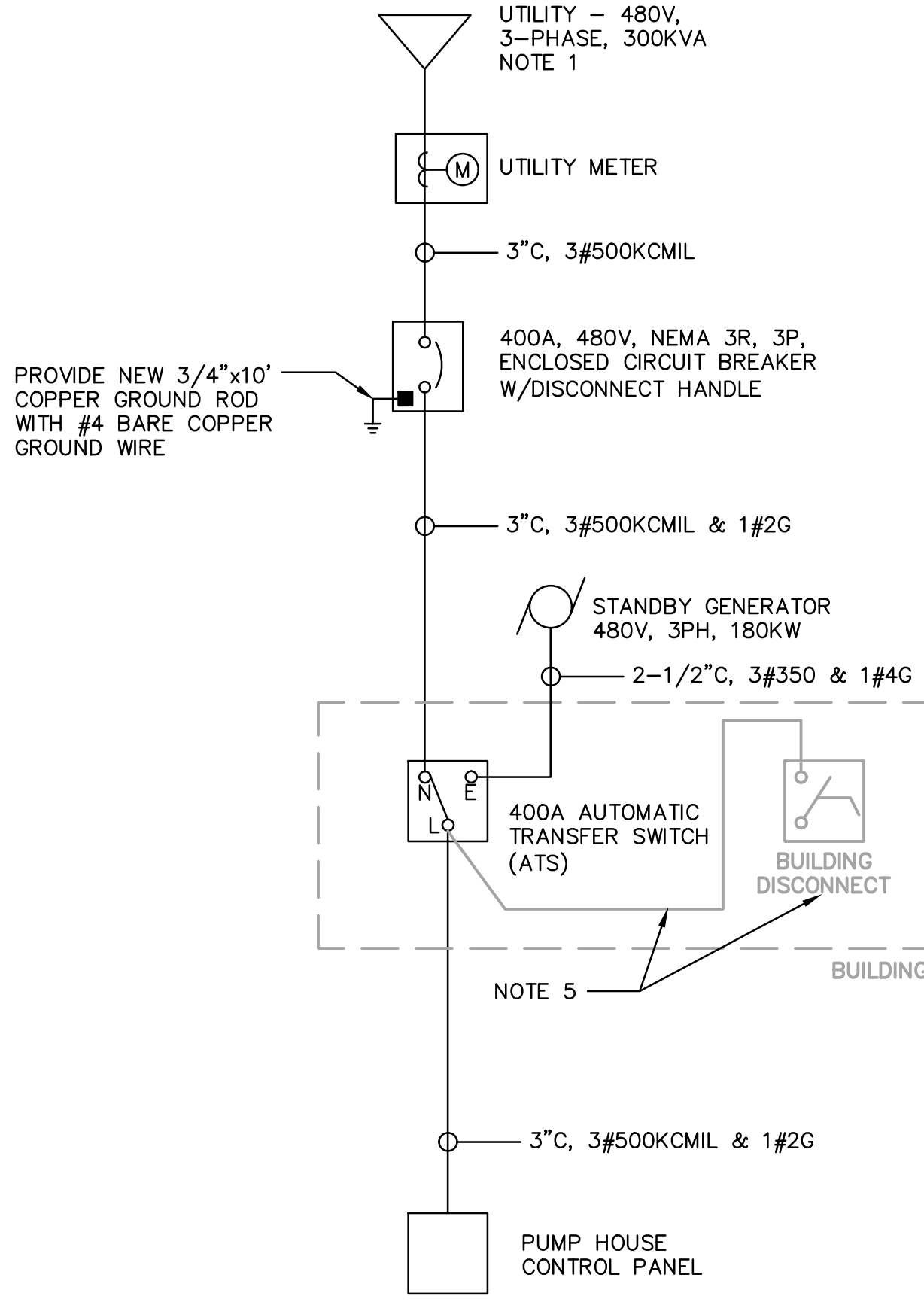
ONE-LINE TABLE LIFT STATIONS:
A, B, C, F, G, I, K, L, M, Q, R



ONE-LINE DIAGRAM (TYPICAL) LIFT STATIONS:
D, E, H, J, P, S

LIFT STATION	"A" - EXISTING UTILITY DATA	"B" - CONDUIT & WIRE	"C" - ENCLOSED CIRCUIT BREAKER	"D" - CONDUIT & WIRE	"E" - CONDUIT & WIRE	"F" - CONDUIT & WIRE	"G" - CONDUIT & WIRE	"H" - GENERATOR DATA	"J" - EST. LOAD (KVA)
D	240V, 3-PHASE, OPEN DELTA, 39KVA	1-1/2" C, 3#1/0	125A, 240V, 3P, NEMA 3R	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	EXISTING - TO REMAIN	240V, 3PH, 40KW	25.8
E	240V, 3-PHASE, OPEN DELTA, 39KVA	1-1/2" C, 3#1/0	125A, 240V, 3P, NEMA 3R	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	EXISTING - TO REMAIN	240V, 3PH, 40KW	20.8
H	480V, 3-PHASE, OPEN DELTA, 97.5KVA	1-1/2" C, 3#1/0	150A, 480V, 3P, NEMA 3R	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	1-1/4" C, 3#2 & 1#8G	480V, 3PH, 60KW	69.8
J	240V, 3-PHASE, OPEN DELTA, 58.5KVA	2" C, 3#2/0	175A, 240V, 3P, NEMA 3R	2" C, 3#2/0 & 1#6G	2" C, 3#2/0 & 1#6G	2" C, 3#2/0 & 1#6G	EXISTING - TO REMAIN	240V, 3PH, 60KW	59.0
P	480V, 3-PHASE, OPEN DELTA, 58.5KVA	1-1/4" C, 3#2	100A, 480V, 3P, NEMA 3R	1-1/4" C, 3#2 & 1#8G	1-1/4" C, 3#2 & 1#8G	1-1/4" C, 3#2 & 1#8G	EXISTING - TO REMAIN	480V, 3PH, 60KW	47.3
S	240V, 3-PHASE, OPEN DELTA, 48.8KVA	1-1/2" C, 3#1/0	150A, 240V, 3P, NEMA 3R	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	1-1/2" C, 3#1/0 & 1#6G	240V, 3PH, 60KW	37.4

ONE-LINE TABLE LIFT STATIONS:
D, E, H, J, P, S



ONE-LINE DIAGRAM LIFT STATION: N

NOTES:

- EXISTING STATION N ELECTRIC SERVICE TRANSFORMERS AND METER TO BE REPLACED BY CONSUMERS ENERGY IN ORDER TO SUPPORT NEW 480V, 400A, 3-PHASE SERVICE. COORDINATE WITH CONSUMERS ENERGY FOR ELECTRIC UTILITY SERVICE UPGRADE AND INSTALLATION. CONTRACTOR TO PROVIDE NEW SERVICE CONDUCTORS AND EQUIPMENT FROM SECONDARY OF UTILITY SERVICE TRANSFORMERS AS SHOWN.
- EXISTING GENERATORS AT STATIONS 'E', 'H', AND 'S' TO BE RELOCATED PER THE PLAN DRAWINGS. EXISTING CONDUIT TO BE REMOVED, REWORKED OR REPLACED AS REQUIRED. EXISTING GENERATOR WIRING TO BE REMOVED AND REPLACED AS INDICATED IN THE ONE-LINE TABLES THIS SHEET.
- CONTRACTOR TO PROVIDE SPARE BREAKER IN PUMP HOUSE CONTROL PANEL TO FEED NEW AREA LIGHT. PROVIDE SWITCH FOR NEW AREA LIGHT INSIDE NEW VALVE ENCLOSURE.
- CONTRACTOR TO VERIFY UTILITY TRANSFORMER KVA RATINGS MEET OR EXCEED VALUES LISTED IN COLUMN "A" EXISTING UTILITY DATA OF THE RESPECTIVE PUMP STATIONS, AND ARE SUFFICIENT TO SUPPORT ALL NEW ELECTRICAL LOADS. NOTIFY ENGINEER OF ANY DEFICIENCIES. UTILITY KVA RATINGS ARE ESTIMATES BASED ON STANDARD TRANSFORMER SIZES DERATED TO 65% BASED ON (2) TRANSFORMERS WIRED IN AN OPEN DELTA CONFIGURATION.
- EXISTING BUILDING DISCONNECT (MOUNTED TO SIDE OF ATS) AND CONDUCTORS TO BE DISCONNECTED AND REMOVED FROM EXISTING ATS. BUILDING DISCONNECT TO BE REINSTALLED AND CONNECTED TO NEW ATS. REWORK AND EXTEND CONDUIT AND WIRING AS REQUIRED.

LEGAL ENTITY: ARCADIS OF MICHIGAN, LLC.



CONSULTANTS

SEALS



LENAWEE COUNTY
DRAIN COMMISSION

ROLLIN-WOODSTOCK
SANITARY DRAIN LIFT STATION
IMPROVEMENTS

ARCADIS PROJ. NO. 30027906

3	10/14/21	ADDENDUM NO. 2	DMO
2	9/9/21	ISSUED FOR BID	DMO
1	8/18/21	EGL SUBMITTAL	DMO
NO.	DATE	ISSUED FOR	BY

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2021

DATE: SEPTEMBER 2021
PROJECT NO.: 30027906
FILE NAME: ONE-LINES
DESIGNED BY: J. SIMPSON
DRAWN BY: T. GARDINER
CHECKED BY: D. OBERLE

SHEET TITLE

ELECTRICAL

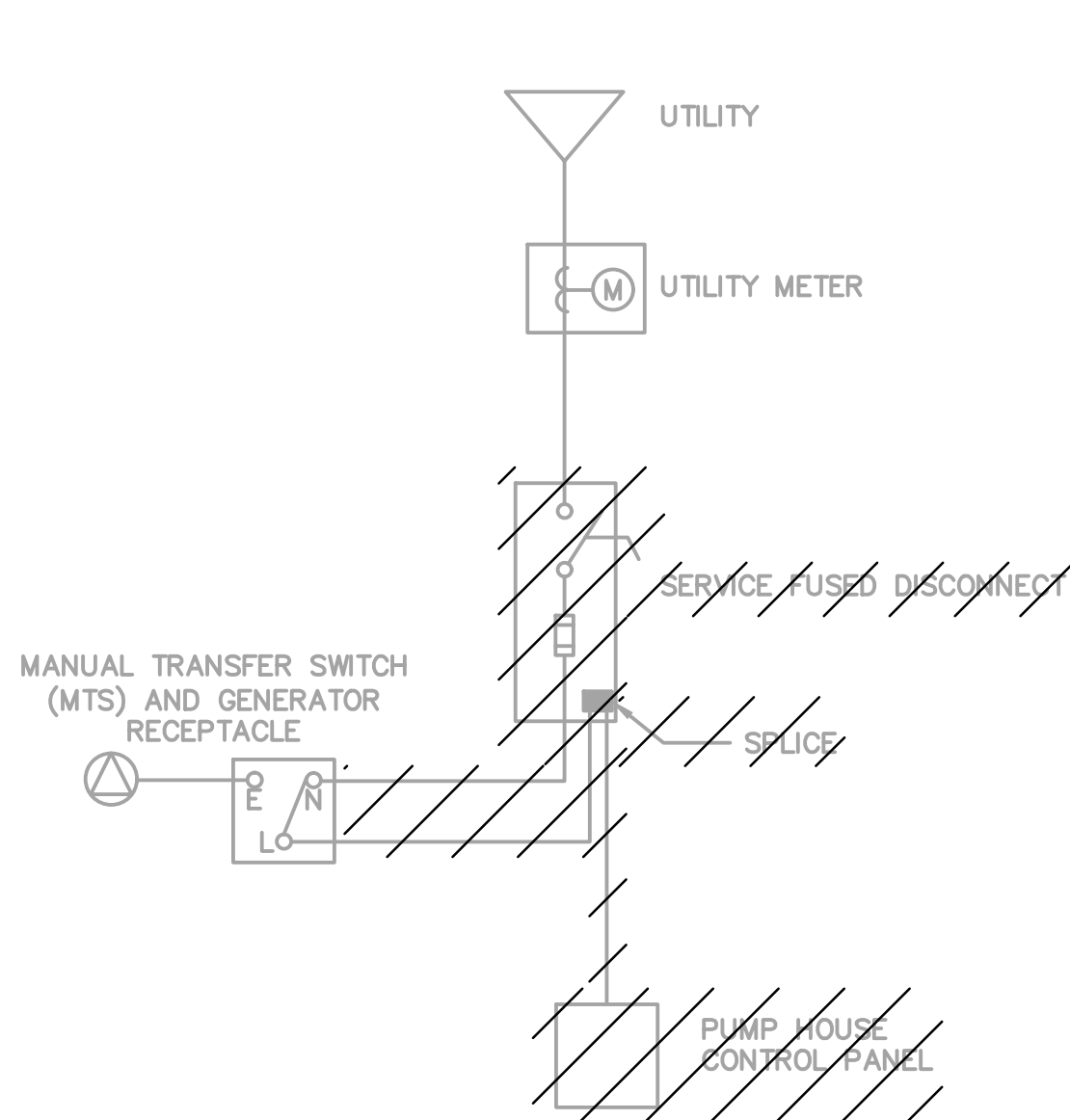
ELECTRICAL ONE-LINE
DIAGRAMS

SCALE: AS SHOWN

E-1

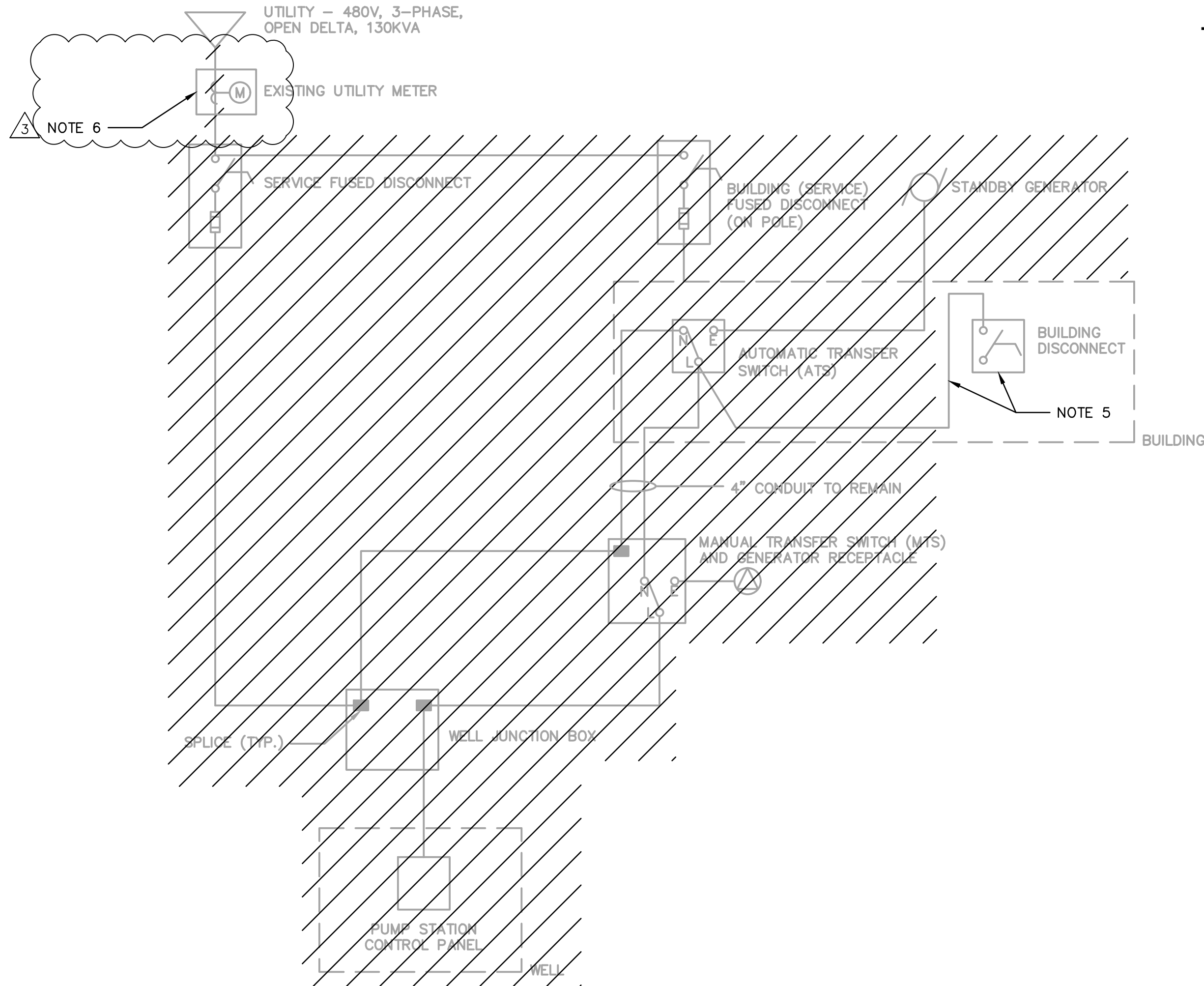
SHEET 23 OF 24

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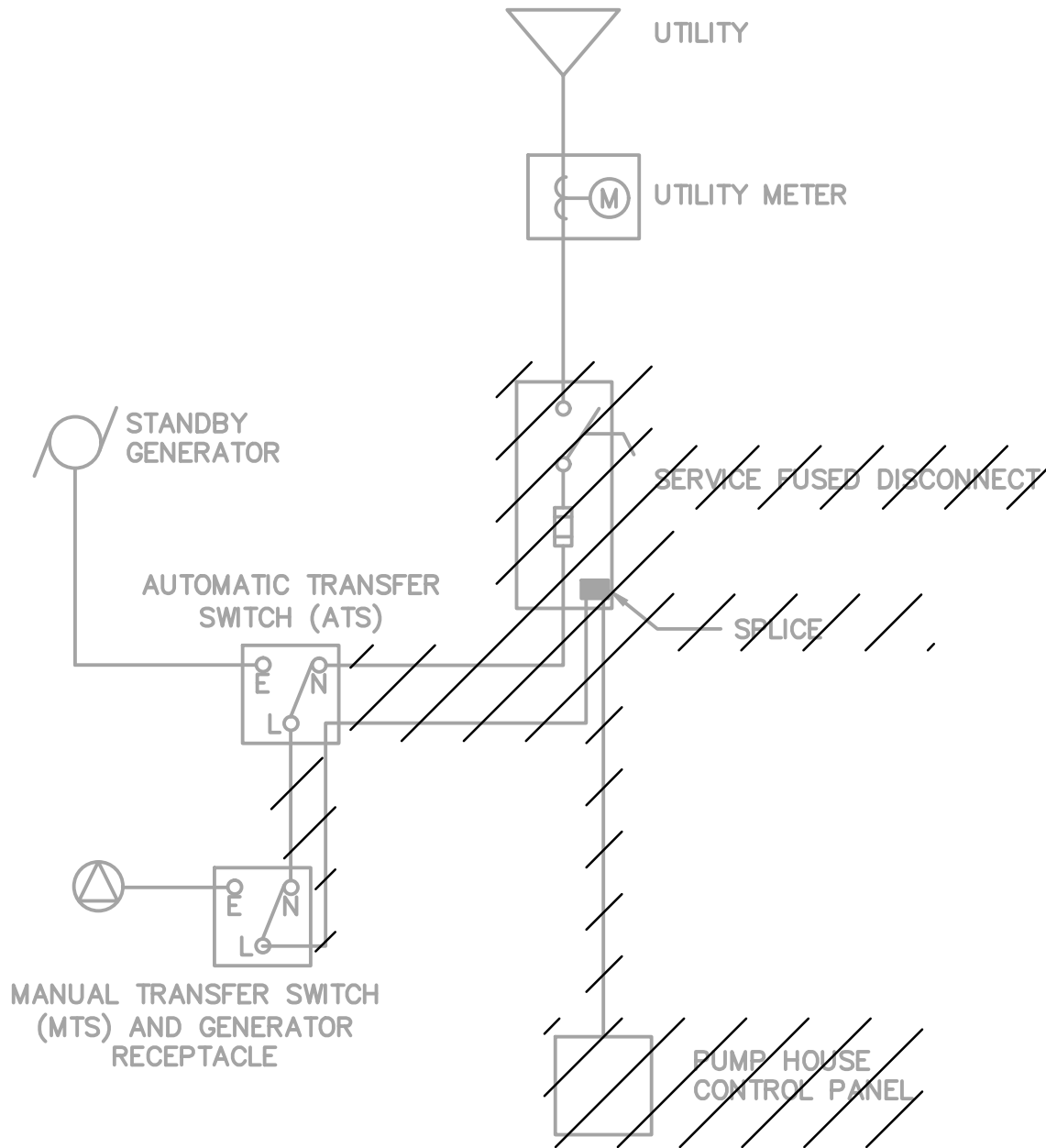


DEMO ONE-LINE DIAGRAM (TYPICAL) LIFT STATIONS:

A, B, C, F, G, I, K, L, M, Q, R



DEMO ONE-LINE DIAGRAM LIFT STATION: N



DEMO ONE-LINE DIAGRAM LIFT STATIONS:

D, E, H, J, P, S

— EXISTING EQUIPMENT OR
EXISTING CONDUIT AND WIRE
— NEW EQUIPMENT OR
NEW CONDUIT AND WIRE
/// TO BE REMOVED

NOTES:

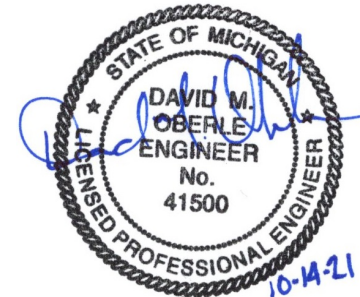
1. DEMO EXISTING EQUIPMENT, CONDUIT AND WIRE AS INDICATED. ALL CONDUITS SHALL BE COMPLETELY REMOVED AND NOT ABANDONED IN PLACE.
2. ALL ASSOCIATED CONTROLS AND COMMUNICATIONS CONDUITS ASSOCIATED WITH DEMOLISHED EQUIPMENT SHALL ALSO BE REMOVED.
3. EXISTING EQUIPMENT RACKS AND STRUCTURES TO REMAIN AND BE REUSED AS MUCH AS POSSIBLE.
4. EXISTING UNUSED METER SOCKET ENCLOSURE AT STATIONS 'F' AND 'M' TO BE REMOVED.
5. EXISTING BUILDING DISCONNECT (MOUNTED TO SIDE OF ATS) AND CONDUCTORS TO BE DISCONNECTED AND REMOVED FROM EXISTING ATS. BUILDING DISCONNECT TO BE REINSTALLED AND CONNECTED TO NEW ATS. REWORK AND EXTEND CONDUIT AND WIRING AS REQUIRED.
6. REMOVE SERVICE DISCONNECT AND CABLES TO UTILITY TRANSFORMER SECONDARY. UTILITY SERVICE TRANSFORMERS AND METER TO BE REPLACED BY CONSUMERS ENERGY IN ORDER TO SUPPORT NEW 400A SERVICE. COORDINATE WITH CONSUMERS ENERGY FOR DE-ENERGIZING SERVICE PRIOR TO DISCONNECTION.

LEGAL ENTITY: ARCADIS OF MICHIGAN, LLC.



CONSULTANTS

SEALS



LENAWEE COUNTY
DRAIN COMMISSION

ROLLIN-WOODSTOCK
SANITARY DRAIN LIFT STATION
IMPROVEMENTS

ARCADIS PROJ. NO. 30027906

NO.	DATE	ISSUED FOR	BY
3	10/14/21	ADDENDUM NO. 2	DMO
2	9/9/21	ISSUED FOR BID	DMO
1	8/18/21	EGL SUBMITTAL	DMO

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2021

DATE: SEPTEMBER 2021
PROJECT NO.: 30027906
FILE NAME: DEMOLITION ONE-LINES
DESIGNED BY: J. SIMPSON
DRAWN BY: T. GARDINER
CHECKED BY: D. OBERLE

SHEET TITLE

ELECTRICAL
ELECTRICAL DEMOLITION
ONE-LINE DIAGRAMS

SCALE: NOT TO SCALE

ED-2
SHEET 24 OF 24

LENAWEE COUNTY DRAIN COMMISSION

ROLLIN WOODSTOCK SANITARY DRAIN LIFT STATION IMPROVEMENTS

REBID PRE-BID CONFERENCE AGENDA/RECORD

September 28, 2021, 10:00 a.m.

Virtual Zoom Meeting

<https://us02web.zoom.us/j/84253361963?pwd=OWFOQStaakZ2a3FyZ0dhMHUwajAxdz09>

1. Introduction of Project Team

- a. *Drain Commission: Owns and maintains system*
 - 1) Jenny Escott, Drain Commissioner
 - 2) Jason Morris , Sewer& Water System Superintendent
 - 3) Bruce Roback, Sewer& Water System Foreman-
- b. *Arcadis U.S., Inc.: Construction administration and inspection*
 - 1) Tim Harmsen, PM (Retiring)
 - 2) Kevin Celian, Project Engineer; main contact
 - 3) RPR, TBD; part time
- c. *Construction Material Testing:* Drain Commission will direct Contractor to retain the services (per terms of contract Allowance) of a qualified testing laboratory to perform construction material testing services including backfill material and density testing, and concrete testing.
- d. *Conference Attendees:* See attached list.
- e. *Conference Record:*
 - A written summary of the topics discussed at the conference will be distributed via addendum to all entities that obtained the Bidding Documents from the Issuing Office; and will be available on Issuing Office website (<http://www.newfaxcorp.com/>)

2. Description of Project

- a. *Purpose of Project/Work Included:* The Project consists of partial demolition and replacement of 18 sanitary lift stations located around and adjacent to Devils Lake and Round Lake in Rollin and Woodstock Townships, and in the Village of Addison; in their 50th year of operation.
 - 1) The Work includes:
 - i. the partial demolition of the existing wet well -dry well configurations including abandonment and removal of the existing steel dry well.
 - ii. rehabilitation of the existing wet wells for use with new submersible pumps (for 17 Stations) including: discharge piping, rail systems and pump control instrumentation.

- iii. Existing wet wells will be rehabilitated as needed including concrete repairs, injection grouting of cracks and penetrations, and application of a coating system.
 - 1. Additional equivalent lining system(s) to Sherwin Williams specified
- iv. The existing wet wells will be provided with new top riser section and top slab with pump access hatches.
- v. Discharge piping and valves will be housed in pre-manufactured packaged above grade valve house structures (for 17 Stations) that are installed directly above the existing wet well. Station H is only walk-in type valve house structure.
- vi. All control panels and associated appurtenances will also be located in the above grade valve house structures.
 - 1. Additional equivalent Hosted SCADA Service to KISM specified.
 - 2. One control system specified (AB MicroLogix 1400), i.e., no manufacturer proprietary controls specified/no bid alternative for proprietary controls.
- vii. One of the 18 sanitary lift stations, Sanitary Drain Lift Station N will be provided as a packaged submersible station with underground concrete valve vault and accessories; and its existing wet well will be rehabilitated and utilized similar to other 17 stations. Electrical Work will include upgrading service to station w/additional transformer, replacement of existing natural gas power generator and automatic transfer switch (ATS) with new, and pump control panel mounted to exterior of existing station
 - 1. All Station equipment specified in Specification Section 33 32 00
- viii. Replacement of manual air release valves with new automatic combination air/vacuum valves at five locations (high points) along force main from Station N to WWTP.
- ix. Provide trailer mounted engine driven portable pump for use by Owner when emergency backup pumping is required.

b. *Basis of Award*

- 1) *One Prime Contract:* Work will be performed under, and Bids received for, one prime construction contract

- 2) *Owner's Right to Reject Bids and Evaluation of Bids*: The Owner reserves the right to reject any and all Bids, and to award the Contract to the lowest responsive and responsible Bidder. In evaluating the lowest responsive and responsible Bid, Owner shall have the discretion to consider and evaluate the proposed Base Bid Manufacturer's and Alternative Manufacturers packaged sanitary lift station composition, functionality, layout and features relative to all Bids received.
- c. *Dates and Contract Times*:
 - 1) Advertisement for bids: September 9, 2021
 - 2) Addendum No. 1: September 24, 2021
 - 3) Tentative Addendum No. 2: Between October 6 and October 13, 2021
 - 4) Bid Submittal/Opening: October 19, 2021
 - i. (Tuesday, 2:00 p.m., Office of the Lenawee County Drain Commissioner, 320 Springbrook Avenue, Suite 102, Adrian, MI 49221
 - 5) Tentative Construction Contract Award: early November 2021
 - 6) Final Construction Contract Award/NTP: late-December 2021
 - 7) Project Substantial Construction Completion: July 1, 2023
 - 8) Project Final Construction Completion: August 1, 2023
 - 9) Bidders shall include in their Bid price all costs necessary to comply with the Contract Times, including the shutdown and sequencing requirements in Section 01 14 16, Coordination with Owner's Operations.
- d. *Damages (Liquidated Damages and Special Damages)*: Reference Agreement
- e. *Project Funding and Financing*: All through an EGLE CWSRF loan. Reference Specifications, Division 00 and Supplementary Conditions for these requirements.

3. Bidding Procedures

- a. *Availability of Bidding Documents*:
 - 1) Bidding Documents are available:
 - for review at the following location:
 - Office of the Lenawee County Drain Commissioner, 320 Springbrook Avenue, Suite 102, Adrian, MI 49221
 - Examined online at:
 - www.constructconnect.com,
 - www.isqft.com

- www.construction.com
- Bidding Documents can be obtained from the Issuing Office: Newfax:
<http://www.newfaxcorp.com/>
- b. *Availability of Other Reports and Drawings of Interest to Bidders:* Documents that may be of interest to Bidders, which are not part of the Bidding Documents, are identified in the Supplementary Conditions and include drawings for pumping stations and forcemains, and explorations and tests of subsurface conditions performed for original design/construction. Reports and drawings will be made available in PDF format by emailing Tim Harmsen at tim.harmsen@arcadis.com. These documents may be examined at Arcadis U.S., Inc., One Seagate, Suite 700, Toledo, Ohio 43604, upon 48 hours' notice to tim.harmsen@arcadis.com.
- c. *Bid Security:* Each Bid shall be accompanied by bid security made payable to Owner in the amount of five percent of Bidder's maximum bid price and in the form of a bid bond or by certified check upon solvent bank. Bid bond shall be in the form of the specimen bid bond form included in the Project Manual.
- d. *Owner's Tax-Exempt Status:* Owner is exempt from Michigan state sales and use taxes on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Bid. Refer to Paragraph SC-7.09 of the Supplementary Conditions for additional information.
- e. *Substitutions and "Or Equal" Items:* The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or "or-equal" items. Where it is specified or described in the Contract Documents that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if approved by Engineer, application for such approval will not be considered by Engineer until after the Effective Date of the Agreement. As indicated in Section 01 25 00, Substitution Procedures, requests for substitutions will be considered by the Engineer only for a period of 30 days after the Effective Date of the Agreement, unless the specified material or equipment is not available.
- f. *DBE Utilization:* USEPA encourages participation of disadvantaged businesses in construction activities. DBE program and contract requirements are described in the Supplementary Conditions, Section 00 73 01 and Section 00 45 15.
 - a. EPA Form 6100-2 (DBE Subcontractor Participation Form) is provided in project manual following the Supplementary Conditions for provision to DBE subcontractors.
- g. *American Iron and Steel Requirements:* Public Law 113-76, Consolidated Appropriations Act, requires funding CWSRF assistance recipients to use iron and steel products that are produced in the United States. See Supplementary Conditions, Section 00 73 01 for additional information.
- h. *Wage Rates:* Davis Bacon Wage Rates apply to the Project.

i. *Cash Allowances:*

- 1) Bidders shall include these amounts in their Bid as specified in the Bid Form and Section 01 21 00, Allowances.
 - i. Section 01 45 29.23, Testing Laboratory Services Furnished by Owner: Include the stipulated lump sum of \$10,000.00 in Bid Item 2 for providing OWNER directed testing services.
 - ii. Section 32 93 10, Landscaping: Include the stipulated lump sum of \$25,000 in Bid Item 3 for providing OWNER directed landscaping.

j. *Site Visits/Investigations During Bidding:* On request, Owner will conduct a Site visit w/Bidder during Owner's normal business hours. Contact Bruce Roback, Sewer & Water System Foreman, Lenawee County Drain Commission, 320 Springbrook Ave. Adrian, MI 49221, Ph: (517) 264-4696, email: lcdcwamplers@yahoo.com.

k. *Required Contents of Bid:*

- 1) Completed Bid Form, including pricing for all bid items for the associated Contract, all required signatures, seals, and other information required.
 - a. Base Bid (Flygt); Alternatives for Flygt Concerter Pumps w/MultiSmart Controllers (A), Excel (B) and Gorman Rupp (C).
- 2) Base Bid Manufacturers Declaration.
 - a. Includes Declaration for Lining System.
- 3) Required bid security.
- 4) Required Qualifications Statement with supporting data.
- 5) Affidavit of non-collusion.
- 6) Evidence of authority to do business in the jurisdiction of the Project; or a written covenant to obtain such license within the time for acceptance of Bids.
- 7) Contractor's License No. _____, or evidence of Bidder's ability to obtain a contractor's license in the jurisdiction of the Site and a covenant by Bidder to obtain said license within the time for acceptance of Bids.
- 8) Certification Regarding Debarment, Suspension, and other Responsibility Matters.
- 9) Disadvantages Business Enterprise (DBE) Utilization GOOD FAITH EFFORTS WORKSHEET.

1. *Requests for Clarification or Interpretation of the Bidding Documents:*
 - 1) All questions concerning interpretations and clarifications of the Bidding Documents shall be submitted in writing to Arcadis U.S., One Seagate, Suite 700, Toledo, Ohio 43604, attention: Tim Harmsen, tim.harmsen@arcadis.com.
 - 2) Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda transmitted or delivered to each entity recorded as having received the Bidding Documents from the Issuing Office. Oral and other interpretations or clarifications will be without legal effect.
 - 3) Addenda to Date
 - 1) No. 1, dated September 24, 2021, includes;
 1. Pre-Bid Meeting Zoom link.
 2. Minor miscellaneous additional drawing details/clarifications for all stations.
 - a. Station P sump pump discharge.
 - b. Air release/vacuum valve for each station per specifications.
 - c. Station N:
 - i. CLSM backfill adjacent Bldg.
 - ii. Valve Vault tie-rods
 - d. Ladder details.
 - 2) No. 2, forthcoming between October 6th and 13th, to include:
 1. Additional Station requirements relative to:
 - a. Electrical service
 - b. Transformer
 - c. Natural gas service
 - d. Generator/ATS
 - e. Wet Well top slab and electrical junction boxes

4. Post-Bid Considerations and Requirements

- a. *Bids to Remain Valid:* Bids shall be valid for 90 days after the Bid opening. No Bidder may withdraw their Bid during this period unless permitted under Laws and Regulations.
- b. *Potential Date for Award of the Contract:* The Owner anticipates EGLE Order of Approval of CWSRF loan on November 15, 2021. The Successful Bidder will receive a tentative Notice of Award in early November 2021 accompanied by the required number of originals of the Contract Documents for execution by Successful Bidder within 15 days.

c. *Delivery of Bonds and Insurance:*

- 1) **Contract Bonds:** Successful Bidder shall furnish Owner a surety bond when the executed Agreement is delivered to the Owner in accordance with the Article 20 of the Instructions to Bidders, Paragraph 2.01 of the General Conditions, and Article 6 of the General Conditions and associated Supplementary Conditions.
- 2) **Insurance Policies:** Successful Bidder shall furnish Owner the required insurance policies, in accordance with the Article 20 of the Instructions to Bidders, and Article 6 of the General Conditions and associated Supplementary Conditions.
- 3) **Insurance Certificates and Other Evidence of Insurance:** Before commencing work at the Site, Contractor shall furnish Owner and each other additional insured copies of insurance certificates, associated endorsements, and other evidence of insurance in accordance with Paragraph 2.01 and Article 6 of the General Conditions and associated Supplementary Conditions. Work shall not be performed until acceptable evidence of insurance is furnished.
- 4) The Successful Bidder shall address the Owner's and Engineer's comments, if any, on the furnished bonds and insurance and provide acceptable bonds and insurance in accordance with the Contract Documents.

d. *Execution of Contract Documents and Notice to Proceed:*

- 1) **Execution of Contract Documents:** Within 15 days of receipt of the Notice of Award and Contract Documents for signature, Successful Bidder shall execute the Agreement (and any bonds or insurance documentation) and return them to Engineer. When Contract Documents are acceptably executed, Engineer will present them to the Owner for signature.
- 2) **Notice to Proceed:** After execution of the Contract Documents by the Owner, one fully executed set of Contract Documents will be returned to the Contractor with the executed Notice to Proceed.

e. *Submittals Prior to Starting the Work:*

- 1) Requirements regarding furnishing evidence of insurance are in Article 6 of the General Conditions and associated Supplementary Conditions.
- 2) In accordance with Article 2.03 of the General Conditions, within 10 days after the Effective Date of the Agreement, Contractor shall provide a preliminary Progress Schedule, Schedule of Submittals and Schedule of Values. Other requirements relative to the Progress Schedule are specified in Section 01 32 16, Progress Schedule.
- 3) Refer to Section 01 31 19.13, Pre-construction Conference, for documents to be furnished by the Contractor at or prior to the pre-construction conference.

5. Administrative Provisions and Miscellaneous Requirements

- a. *Other Related Construction Contracts/Projects:* None
- b. *Coordination with Owner's Operations:* Bidders' attention is called to the sequencing and shutdown provisions of Section 011416, Coordination with Owner's Operations. Work must be sequenced and shutdown to maintain continuous (minimally intermittent w/shutdowns) service of all facilities. Work must be closely coordinated and scheduled in advance with the Owner.
 - 1) Consider station locations and vacation community in construction schedule.
 - 2) Shutdown and temporary bypass pumping for each station is required to perform all proposed Work.
 - i. By experience bypass pumping subcontractor.
 - ii. Pumping capacity and suction manhole identified in Section referenced.
 - iii. Reference Section 01 51 41, Temporary Pumping for requirements.
 - iv. Complete Field Operating Test prior to removing temporary pumping system; followed by 10-day Operating Period before substantial completion.
 - a. Trailer Mounted Centrifugal Pump, to be supplied under Section 43.23.13.19 can be utilized during this 10-day Operating Period.
 - 3) Station N forcemain shutdowns for manual air release replacement may require multiple shutdowns; reference Section 01 14 16 requirements.
- c. *Contractor's Use of Site:*
 - 1) *ROW's:* All work will be performed on property owned by the Drain Commission, within permanent and temporary easements obtained by the Drain Commission, and/or within public roadways; as shown or noted on the drawings.
 - 2) *Laydown/Field Office Area:* About ½ acre area available at Rollin Woodstock WWTP for contractor laydown/storage area. WWTP gated-key card access to be provided by Drain Commission.
 - 3) *Security:* Identification badges to be issued by Contractor for all personnel, subcontractors, suppliers and other associated with the project. Contractor responsible for maintaining a list of all personnel, subcontractors, suppliers and other associated with the project that have and will access the site.

- d. *Permits:*
 - 1) EGLE Part 41 Construction Permit re-issued September 17, 2021.
 - 2) Erosion and Sedimentation Control Plan permit not required, but general BMPs to be followed by Contractor.
 - 3) Lenawee County Road Commission Roadway Pavement Open Cut Permit – to be obtained by Owner. Contractor responsible for roadway work permits, safety and inspection fees, and assurance bonding during construction.
- e. *Engineer's Field Office:* to be provided
- f. *Progress Meetings:* Engineer will preside w/Agenda and Record of Meeting

6. Questions

- a. Temporary electrical power is not available near the proposed ½ acre contractor laydown area at Rollin Woodstock WWTP. A temporary utility drops would have to be installed by contractor. Consumers Energy is electric supplier and Frontier is internet cable supplier at WWTP.
- b. The Drain Commission will select one lift station manufacturer for all stations.
- c. Are there major differences in the manufacturer package in terms of control wiring? All are required to provide an AB MicroLogix 1400 PLC based controller, as specified with related requirements in Specification Section 33 32 00. Any specific wiring differences should be determined from each manufacturer.

7. Site Visit

- a. Schedule w/Bruce Roback, Sewer & Water System Foreman, Lenawee County Drain Commission, 320 Springbrook Ave. Adrian, MI 49221, Ph: (517) 264-4696, email: lcdcwamplers@yahoo.com.

Copies

- Issuing Office Webpage
- Via Addendum 2 including entities that obtained Bidding Documents from the Issuing Office

LENAWEE COUNTY DRAIN COMMISSION

ROLLIN WOODSTOCK SANITARY DRAIN LIFT STATION IMPROVEMENTS

REBID PRE-BID CONFERENCE ATTENDANCE
LIST

Tuesday, September 28, 2021, 10:00 a.m.
Zoom Meeting

Name	Representing
Jenny Escott, Drain Commissioner	Lenawee County Drain Commission
Jason Morris, Sewer& Water System Superintendent	Lenawee County Drain Commission
Bruce Roback Sewer& Water System Foreman	Lenawee County Drain Commission
Kara Choate, Business Manager	Lenawee County Drain Commission
Kevin Celian, Project Engineer	Arcadis US, Inc.
Tim Harmsen, Project Manager	Arcadis US, Inc.
Jeremy Recklein	Municipal & Contractors /Sealing Products
Ken Wesley	UIS SCADA
Emmanuel Nartey	Brint Electric
Bob Horton	Sherwin Williams, Protective & Marine Coatings
Patrick Dunigan	Dunigan Bros.
David Schoenberger	Slusarski Excavating & Paving
Matt LaBudda	Slusarski Excavating & Paving
Sabrina Byers	Lasalle Construction Services
Eric Dovas	Blue Star Demolition
Carl Wooten	Excel Fluid
Joe Moore	Dubois Cooper
Rick Alvarez	Kennedy Industries
Kim Sobers	Mack Industries
Steve Kemp	Mack Industries
Steve Johnson	GM Advanced Underground Inspection
Michael Mancini	DVM Utilities
D. Mills	
G. Garcia	