



COMPLEX PROJECTS  
REQUIRE RESOLVE  
**THRASHER'S GOT IT**

**COWEN PUBLIC SERVICE DISTRICT  
WEBSTER COUNTY, WEST VIRGINIA**

**CONTRACT #1 – UPPER GLADE SEWER SYSTEM EXTENSION**

**ADDENDUM #2**

**AUGUST 4, 2023**

**THRASHER PROJECT #020-1109**

TO WHOM IT MAY CONCERN:

The following are clarifications and responses to questions posed by Contractors for the above referenced project.

**A. GENERAL**

1. Wage Rates (Heavy, Highway and Building) are included with this Addendum #2. **YOU MUST USE THE ATTACHED WAGE RATES INCLUDED WITH THIS ADDENDUM #2 WHEN PREPARING YOUR BID PACKAGE.**
2. The Bid Form has been revised. **YOU MUST USE THE ATTACHED BID FORM INCLUDED WITH THIS ADDENDUM #2 WHEN PREPARING YOUR BID PACKAGE.**

**B. SPECIFICATIONS**

INSERT Section 333218 included with this Addendum #2.

**C. DRAWINGS**

**REMOVE** Sheet E-1 and **REPLACE** with E-1 included with this Addendum #2.

**REMOVE** Sheet E-2 and **REPLACE** with E-2 included with this Addendum #2.

**REMOVE** Sheet E-3 and **REPLACE** with E-3 included with this Addendum #2.

**REMOVE** Sheet E-4 and **REPLACE** with E-4 included with this Addendum #2.

**D. QUESTIONS AND RESPONSES**

**1. QUESTION**

Will Milliken Plug valves and Check Valves be an acceptable manufacturer of valves for the pump stations?

**RESPONSE**

Yes.

**2. QUESTION**

Will Flomatic be an acceptable manufacturer of 2" ball check valves for the pump stations?

**RESPONSE**

Yes.

**3. QUESTION**

The Bid items for the service lateral piping on both contracts call for DR-18 pipe. The specifications state that SDR-35 is acceptable for all gravity piping. Can you clarify?

**RESPONSE**

Service Lateral Piping shall be 4" PVC SDR-35. The bid form has been revised to reflect this.

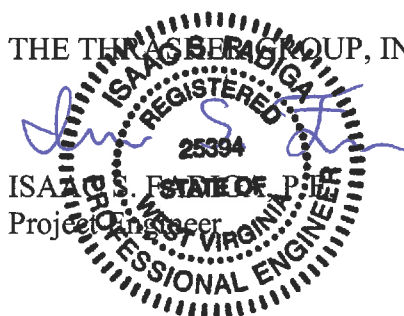
**E. CLARIFICATIONS**

NOT APPLICABLE

If you have any questions or comments, please feel free to contact me at your earliest convenience. As a reminder, bids will be received until 2:00 p.m. on Thursday, August 10, 2023 at Cowen Public Service District office; 7017 Webster Road, Cowen, WV 26206. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THOMAS BERAG GROUP, INC.



ISAAC S. BERAG, P.E.  
Project Engineer

"General Decision Number: WV20230031 06/30/2023

Superseded General Decision Number: WV20220031

State: West Virginia

Construction Type: Building

County: Webster County in West Virginia.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least \$16.20 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 2023.
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The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/06/2023
1	02/03/2023
2	05/26/2023
3	06/30/2023

ASBE0080-002 02/27/2023

Rates	Fringes
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ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 34.50	29.27
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BOIL0667-005 01/01/2021

Rates	Fringes
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BOILERMAKER.....	\$ 41.63	26.38
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\* BRWV0009-001 12/01/2022

Rates	Fringes
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BRICK POINTER/CAULKER/CLEANER....	\$ 31.65	25.56
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BRWV0015-010 06/01/2021

Rates	Fringes
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MASON - STONE.....	\$ 30.25	24.58
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CARP0443-009 05/01/2021

Rates	Fringes
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MILLWRIGHT.....	\$ 35.50	26.75
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CARP0476-008 12/01/2020

Rates	Fringes
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CARPENTER (All other work, excluding Drywall Hanging).....	\$ 29.74	23.51
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CARP1024-001 06/01/2022

Rates	Fringes
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CARPENTER (Scaffold Builder

Only).....\$ 30.65      25.48

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CARP1911-004 12/01/2020

Rates      Fringes

CARPENTER (Floor Laying -  
Carpet, Hardwood, Resilient  
and Vinyl Only).....\$ 30.03      23.65

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ENGI0132-007 12/01/2022

Rates      Fringes

POWER EQUIPMENT OPERATOR:

GROUP 1.....\$ 44.56      21.15  
GROUP 2.....\$ 44.21      21.15  
GROUP 3.....\$ 43.21      21.15  
GROUP 4.....\$ 32.71      21.15

GROUP 1: All Friction Cranes, Tower Cranes and all Cranes  
with 180 ft. or more of boom including mast and jibs or  
lifting capacity of 100 tons or more and hoists with 30,000  
pound line pull or more

GROUP 2: Operating Cranes and Tower Cranes with a lifting  
capacity of 15 tons and over

GROUP 3: Backhoe, all other Cranes

GROUP 4: Bobcat/Skid Steer/Skid Loader, Roller, Oiler

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IRON0549-006 12/01/2022

Rates      Fringes

IRONWORKER (Ornamental).....\$ 35.19      25.66

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IRON0787-006 06/01/2022

Rates      Fringes

IRONWORKER (Reinforcing).....\$ 31.50      23.75

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LABO0379-019 12/01/2020

Rates      Fringes

LABORER  
Wacker Roller Operator.....\$ 26.32      16.50

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LABO0453-003 12/01/2017

Rates Fringes

LABORER

Concrete Saw (Hand  
Held/Walk Behind).....\$ 22.76 16.75  
Grouting.....\$ 22.11 17.25

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LABO0543-003 06/01/2020

Rates Fringes

LABORER.....\$ 25.41 16.75

LABORER CLASSIFICATIONS

Asphalt Raker, Jack Hammer, Motorized Buggy Operator, Water  
Boy

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LABO0984-005 12/01/2020

Rates Fringes

LABORER

Group 2.....\$ 21.94 15.75

LABORER CLASSIFICATIONS

GROUP 2: Airtool Operator, Asbestos Abatement (Removal from  
Floors, Walls, and Ceiling), Bobcat Operator (Clean  
up/Demolition), Dewatering, Rodman, Skytrak Forklift  
Operator

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PAIN0970-007 12/01/2022

Rates Fringes

PAINTER (Drywall  
Finishing/Taping).....\$ 30.85 17.80

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PAIN1195-002 12/01/2022

Rates Fringes

GLAZIER.....\$ 32.00 12.22

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PLAS0926-007 06/01/2018

Rates Fringes

CEMENT MASON/CONCRETE FINISHER...\$ 31.63 21.26

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PLAS0926-008 06/01/2018

	Rates	Fringes	
CEMENT MASON/CONCRETE FINISHER...	\$ 31.63		21.26
PLASTERER.....	\$ 30.06	20.36	

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\* UAVG-WV-0001 01/01/2021

	Rates	Fringes	
CARPENTER (Form Work Only).....	\$ 29.81		23.45

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\* UAVG-WV-0002 01/01/2019

	Rates	Fringes	
LABORER (Carpenter Tender).....	\$ 23.32		16.12
LABORER (Chipping Gun).....	\$ 24.78		16.25
LABORER (Concrete Worker).....	\$ 23.57		16.17
LABORER (Grade Checker).....	\$ 23.45		16.16
LABORER (Landscape).....	\$ 22.99		16.35
LABORER (Mortar Mixer).....	\$ 23.35		16.06
LABORER (Pipelayer).....	\$ 23.94		16.34
LABORER (Scaffold Builder).....	\$ 23.28		16.24
LABORER (Tamper - Hand Held).....	\$ 24.75		16.04

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\* UAVG-WV-0028 01/01/2019

	Rates	Fringes	
PLUMBER.....	\$ 32.54		24.58

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SUWV2012-029 08/13/2012

	Rates	Fringes	
BRICKLAYER.....	\$ 27.50		12.35
CARPENTER (Drywall Hanging Only).....	\$ 25.08		12.58
ELECTRICIAN.....	\$ 28.16		15.11
IRONWORKER, STRUCTURAL.....	\$ 26.01		12.18
LABORER: Common or General.....	\$ 20.66		8.78
LABORER: Demolition.....	\$ 20.58		9.47
LABORER: Mason Tender - Brick...	\$ 21.47		8.29
LABORER: Mason Tender - Cement/Concrete.....	\$ 22.05		8.54

OPERATOR: Bulldozer.....	\$ 30.24	10.26
OPERATOR: Excavator.....	\$ 30.31	10.81
OPERATOR: Forklift.....	\$ 33.09	3.00
PAINTER: Brush, Roller and Spray.....	\$ 22.03	9.95
PIPEFITTER, Includes HVAC Pipe Installation.....	\$ 27.64	18.09
ROOFER.....	\$ 24.28	9.32
SHEET METAL WORKER, Includes HVAC Duct Installation.....	\$ 25.61	15.68
Truck Driver: Single and Double Axle Dump Trucks.....	\$ 28.52	3.00

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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 <https://www.dol.gov/agencies/whd/government-contracts>.

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)).

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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.

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### 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 National Office because National Office has 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:

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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:

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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"

"General Decision Number: WV20230061 01/27/2023

Superseded General Decision Number: WV20220061

State: West Virginia

Construction Type: Heavy

Counties: Barbour, Braxton, Calhoun, Fayette, Gilmer, Greenbrier, Jackson, Lewis, Mason, McDowell, Mingo, Monroe, Nicholas, Pendleton, Pocahontas, Randolph, Ritchie, Roane, Summers, Tucker, Upshur, Webster and Wyoming Counties in West Virginia.

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If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract.	The contractor must pay all covered workers at least \$16.20 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 2023.
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Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

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Modification Number	Publication Date
0	01/06/2023
1	01/27/2023

CARP0443-008 05/01/2021

Rates	Fringes
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MILLWRIGHT.....	\$ 35.50	26.75
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\* ELEC0307-008 11/28/2022

Rates	Fringes
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ELECTRICIAN.....	\$ 37.00	18.77
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ENGI0132-014 12/01/2022

Rates	Fringes
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POWER EQUIPMENT OPERATOR:

GROUP 1.....	\$ 39.95	19.55
GROUP 2.....	\$ 37.19	19.55
GROUP 3.....	\$ 36.08	19.55
GROUP 4.....	\$ 32.62	19.55

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP 1: Cranes (All types), Boom trucks, Loaders of six (6) cubic yard capacity and over, Excavators and shovels with an operating weight of one hundred ten thousand (110,000) pounds and over.

GROUP 2: Loaders up to six (6) cubic yard capacity, Backhoe, Bulldozers, Bobcat/Skid Steer/Skid Loader, Forklift, Drill, Excavators and shovels with an operating weight of up to one hundred ten thousand (110,000) pounds

GROUP 3: Roller.

GROUP 4: Oiler

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ENGI0132-027 12/01/2022

Rates Fringes

POWER EQUIPMENT OPERATOR:  
(PIPELINE)

GROUP 1.....	\$ 39.95	19.55
GROUP 2.....	\$ 37.19	19.55

POWER EQUIPMENT OPERATOR PIPELINE CLASSIFICATIONS

GROUP 1: Boom, Bulldozer, Excavator, Mechanic, Pipe Bending Machine

GROUP 2: Oiler.

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ENGI0132-029 12/01/2022

Rates Fringes

POWER EQUIPMENT OPERATOR:

Single and Double Axle Dump Trucks.....	\$ 37.19	19.55
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IRON0549-011 12/01/2022

Rates Fringes

IRONWORKER, ORNAMENTAL.....	\$ 35.19	25.66
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IRON0568-020 12/01/2020

Rates Fringes

IRONWORKER, REINFORCING AND STRUCTURAL.....	\$ 33.70	22.04
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LABO0379-040 12/01/2020

Rates Fringes

LABORER: (PIPELINE).....	\$ 25.26	16.50
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LABORER CLASSIFICATIONS:

Chain Saw, Common, Flagger, Landscape, Pipelayer, Sandblaster

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LABO0379-043 12/01/2021

Rates Fringes

LABORER:

GROUP 1.....	\$ 27.35	16.50
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GROUP 2.....	\$ 26.32	16.50
GROUP 3.....	\$ 25.26	16.50

GROUP 1: Tunnel Driller, Tunnel Miner.

GROUP 2: Air Tool Operator, Chain Saw, Compactor (Dirt) Hand Held, Concrete Worker, Hand Held Drill, Form Work Only, Grade Checker, Grouting, Pipelayer, Skytrak Forklift Operator, Tamper (Hand Held), Wacker Roller Operator.

GROUP 3: Carpenter Tender, Common or General, Flagger, Landscape

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PLAS0926-001 06/01/2018

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 31.63	21.26

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\* UAVG-WV-0010 01/01/2019

	Rates	Fringes
LABORER (Mason Tender - Cement/Concrete).....	\$ 26.17	16.50

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\* UAVG-WV-0012 01/01/2019

	Rates	Fringes
POWER EQUIPMENT OPERATOR (Mechanic).....	\$ 35.45	18.30

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WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.  
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Washington, DC 20210

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

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END OF GENERAL DECISIO"

"General Decision Number: WV20230080 01/06/2023

Superseded General Decision Number: WV20220080

State: West Virginia

Construction Type: Highway

Counties: West Virginia Statewide.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).HIGHWAY CONSTRUCTION PROJECTS

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If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.
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The applicable Executive Order minimum wage rate will be

adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number    Publication Date  
0                      01/06/2023

SUWV2015-001 01/01/2014

Rates                      Fringes

BRICKLAYER

Barbour, Berkeley, Doddridge, Gilmer, Grant, Hampshire, Hardy, Harrison, Jefferson, Lewis, Marion, Mineral, Monongalia, Morgan, Pendleton, Pocahontas, Preston, Randolph, Taylor, Tucker, Upshur, Webster.....	\$ 30.74	18.21
Boone, Braxton, Clay, Fayette, Greenbrier, Kanawha, Logan, McDowell, Mercer, Monroe, Nicholas, Putnam, Raleigh, Summers, Wyoming.....	\$ 29.66	20.20
Brooke, Hancock.....	\$ 29.94	16.22
Cabell, Lincoln, Mason, Mingo, Wayne.....	\$ 30.61	20.88
Calhoun, Jackson, Pleasants, Ritchie, Roane, Wirt, Wood.....	\$ 30.33	15.27
Marshall, Ohio, Tyler, Wetzel.....	\$ 30.01	16.26

CARPENTER

Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan, Pendleton.....	\$ 31.26	15.90
Brooke, Hancock, Marshall, Ohio.....	\$ 27.86	19.30
Remaining Counties.....	\$ 27.72	19.44

CEMENT MASON/CONCRETE FINISHER

All Counties.....	\$ 28.67	18.85
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DIVER

Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan, Pendleton	Diver Tender.....\$ 31.26	15.90
	Diver.....\$ 32.25	15.90
Brooke, Hancock, Marshall, Monongalia, Ohio, Wetzel	Diver Tender.....\$ 32.01	16.76
	Diver.....\$ 48.02	16.76
Remaining Counties	Diver Tender.....\$ 27.72	19.44
	Diver.....\$ 28.27	19.44

ELECTRICIAN (SIGNAL &  
LIGHTING)

Equipment Operator.....\$ 23.30	17.99
Flagger.....\$ 17.00	7.39
Groundman/Truck Driver.....\$ 20.79	17.89
Installer.....\$ 26.21	18.11
Technician.....\$ 29.12	18.22

ELECTRICIAN

Barbour, Doddridge, Harrison, Lewis, Marion, Monongalia, Pendleton, Pocahontas, Preston, Randolph, Taylor, Tucker, Upshur.....\$ 30.14	21.14
Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan..\$ 30.50	15.78
Boone, Braxton, Calhoun, Clay, Fayette, Gilmer, Kanawha, Nicholas, Putnam, Raleigh, Roane, Summers, Webster, Wyoming.....\$ 35.34	16.62
Brooke, Marshall, Ohio, Wetzel.....\$ 28.35	22.74
Cabell, Lincoln, Logan, Mason, Mingo, Wayne.....\$ 32.62	21.70
Greenbrier, McDowell, Mercer, Monroe.....\$ 25.05	16.32
Hancock.....\$ 34.00	29.10
Jackson, Pleasants, Ritchie, Tyler, Wirt, Wood..\$ 31.56	21.43

IRONWORKER

Barbour, Brooke, Hancock, Harrison, Marion, Marshall, Monongalia, Ohio, Taylor, Tyler, Wetzel.\$ 35.74	22.84
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Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan, Pendleton, Preston, Tucker.....	\$ 33.29	17.39
Boone, Braxton, Clay, Fayette, Kanawha, Lincoln, Logan, McDowell, Mingo, Nicholas, Putnam, Raleigh, Randolph, Webster, Wyoming..	\$ 34.87	19.50
Cabell, Wayne.....	\$ 33.89	21.98
Calhoun, Doddridge, Gilmer, Jackson, Lewis, Mason, Pleasants, Ritchie, Roane, Upshur, Wirt, Wood...	\$ 33.02	20.10
Greenbrier, Mercer, Monroe, Pocahontas, Summers.	\$ 35.43	16.13

LABORER

Class 1.....	\$ 26.95	16.30
Class 2.....	\$ 25.92	16.30
Class 3.....	\$ 24.86	16.30

LABORER CLASSIFICATIONS:

GROUP 1: Powderman, Laser Screed Operator, and GPS Operator.

GROUP 2: Pipelayer (Including Laser Beam Set Up), Form Setter (Road), Drill Operator, Air Tool Operator, Grade Checker and Asphalt Raker, Vibrator Man, Whacker, Chainsaw Operator, Mortarman, Brick Mason Tender, Cement Finisher Tender, Drill Tender, Powderman Tender, Water Proofer, Sheeter & Shorer, Placement of Lagging, Pipelayer Tender, Bull-Float Man, Pavement Reinforcing Placer, Handyman, Signal Man, Greencutter, Georgia Power Buggie, Burner, Cement Blower Man, Bituminous Hand Sprayer, Bork 250 Remote Control Ditch Witch and Walk Behind Concrete Saw, Mulcher and Seeder (hand and machine), Installation of Ground Mounted Beams and Signs including Concrete Footers, Installation of Overhead Sign Supports and Signs including Concrete Footers, Installation of Guardrail and Anchors Assemblies, Tree Trimmer, Caisson Bottom Man, Bush Hammering, Core Drilling, Placement and Mixing of Grout and Bridge Demolition Specialist.\*\*

GROUP 3: Flag Person, Traffic Control Maintenance Person, Carpenter's Tender, and General Laborer.

PAINTER

Barbour, Berkeley, Doddridge, Gilmer, Grant, Hampshire, Hardy, Harrison, Jefferson, Lewis, Marion, Mineral, Monongalia, Morgan, Pendleton, Preston, Randolph, Taylor, Tucker, Upshur, Webster.....	\$ 31.87	14.20
Boone, Braxton, Cabell,		

Calhoun, Clay, Fayette, Greenbrier, Kanawha, Lincoln, Logan, Mason, McDowell, Mercer, Mingo, Monroe, Nicholas, Pocahontas, Putnam, Raleigh, Summers, Wayne, Wyoming.....\$ 32.05	14.30
Brooke, Hancock, Marshall, Ohio, Wetzel.....\$ 30.95	14.36
Jackson, Pleasants, Ritchie, Roane, Tyler, Wirt, Wood.....\$ 30.84	14.30

PILED RIVERMAN

Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan, Pendleton.....\$ 32.25	15.90
Brooke, Hancock, Marshall, Monongalia, Ohio, Wetzel....\$ 32.01	16.76
Remaining Counties.....\$ 28.27	19.44

POWER EQUIPMENT OPERATOR:

Class 1.....\$ 33.25	18.60
Class 2.....\$ 30.49	18.60
Class 3.....\$ 29.38	18.60
Class 4.....\$ 25.92	18.60
Class 5A.....\$ 26.04	18.60
Class 5B.....\$ 28.64	18.60
Class 5C.....\$ 26.94	18.60

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

GROUP 1: Cranes, tower cranes, derricks, derrick boats, draglines, clamshells, cableways, boom truck, loaders of 6 cubic yard capacity and over, excavators and shovels with an operating weight of 110,000 pounds and over.

GROUP 2: Loaders up to 6 cubic yard capacity, gradall, hoist 2 drums or more, mixer plant (2 or more mixers including batch control), pile driver operator, core drill, trencher, backhoe, asphalt paver, cement paver, rotary drill, bulldozers, concrete pump, controlled fine grade machine, slip form paver, log loader, log skidder, motor grader, rubber tired scraper, tractor pan, Roto Miller, tow or work boat, mobile conveyor, transloader, articulating equipment, material hauler, carry deck, compactor with blade, skidsteer including attachments, fork lift, self-propelled concrete spreader, concrete finishing machine, derrick (single drum), hoist (single drum), single drum paver, air tugger, Ross Carrier, multiple concrete saw, hydraulic post driver, horizontal road-boring machine, tie distributor, track lining machine, ballast tamper, anchor application machine, ribbon rail puller, ballast regulator, auto sled, turn table, pavement breaker, asphalt batch plant, concrete batch plant, crushing plant, compactor with blade, power broom, vac-all truck, self-propelled concrete spreader

and concrete finishing machine, mechanics with tools and greasers, excavators, and shovels with an operating weight of up to 110,000 pounds.

GROUP 3: Asphalt roller

GROUP 4: Air compressor, concrete mixer (under 1 cubic yard), light plant, mechanic's tender, assistant engineer, screedman, spreader box man, joint sealer and pump, steam jenny, stationary conveyor (belt or bucket), A-frame, tire man, screening and washing plant, form sub-grader, power form handling equipment, burlap and curing machine, form grader, bull float, bar and joint installing machine, roller and compactor, hydroblaster, concrete mixer (single drum, 1 cu. yd. or over), portable concrete saw and highway striping operator. Utility operators shall be paid Group 2 rate when operating 1 to 5 air compressors, pumps, stationary conveyors (belt or bucket), light plants, and gasoline or diesel powered welders and all farm type tractors.

GROUP 5A: Those operating off-road trucks in the following counties: Barbour, Braxton, Boone, Calhoun, Clay, Doddridge, Fayette, Gilmer, Greenbrier, Harrison, Jackson, Kanawha, Lewis, Marion, Mercer, McDowell, Monongalia, Monroe, Nicholas, Pleasants, Pocohontas, Preston, Putnam, Raleigh, Randolph, Roane, Ritchie, Summers, Taylor, Tucker, Tyler, Upshur, Webster, Wirt, Wood, and Wyoming.

GROUP 5B: Those operating off-road trucks in the following counties: Cabell, Lincoln, Logan, Mason, Mingo, and Wayne.

GROUP 5C: Those operating off-road trucks in the following counties: Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan and Pendleton.

FOOTNOTE: \$2.00 per hour shall be added to the Group 1 rate for individuals operating a lattice boom crane with a fixed boom of 150 feet or more. \$0.25 per hour shall be added to all of the above schedules for underground work.

TRUCK DRIVER

Berkeley, Grant,

Hampshire, Hardy,

Jefferson, Mineral,

Morgan, Pendleton

Class 1.....	\$ 25.72	18.11
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Class 2.....	\$ 26.61	18.11
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Class 3.....	\$ 27.38	18.11
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Brooke, Hancock

Class 1.....	\$ 29.17	13.86
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Class 2.....	\$ 30.92	13.86
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Class 3.....	\$ 31.71	13.86
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Cabell, Lincoln, Logan,

Mason, Mingo, Wayne

Class 1.....	\$ 29.79	15.60
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Class 2.....	\$ 30.76	15.60
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Class 3.....	\$ 31.55	15.60
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Marshall, Ohio, Wetzel

Class 1.....	\$ 26.26	16.81
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Class 2.....	\$ 27.16	16.81
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Class 3.....	\$ 27.76	16.81
Remaining Counties		
Class 1.....	\$ 26.97	16.15
Class 2.....	\$ 27.76	16.15
Class 3.....	\$ 28.44	16.15

TRUCK DRIVER CLASSIFICATIONS:

GROUP 1: Single Axle Trucks used as Dumps, Supply, Fuel, Water, Van, Flatbody, Monorail, Distributor (other than Bituminous Distributors) including Towed Single Units, Material Checkers and Receivers, Greasers, Tireman and Mechanic Tenders (Trucks), Warehouse, Yardmen and Pick-up trucks.

GROUP 2: Tandem and Tri-Axle Trucks used as Dumps, Supply, Fuel, Water, Van, Flatbody, Monorail and including Towed Single Units, Truck Tractors used in combination with Dump, Van, Tank, Flatbed, Low platform or Pole Trailers, Bituminous Distributors, Agitator or Mixer Trucks (up to 20 cubic-yards), Rubber-tired tractors (towing and pushing), Drag and Tag-alongs.

GROUP 3: Mobile Metered Mixer, Agitator or Mixer Trucks (over 20 cubic yards), & Mechanic Truck.

A. Double Hitch equipment operated by 1 driver shall pay 50% more than the wages set out above.

B. \$0.25 per hour shall be added for tunneling and all other underground work.

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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 <https://www.dol.gov/agencies/whd/government-contracts>.

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)).

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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.

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## 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 National Office because National Office has 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 DECISIO"

## **BID FORM FOR CONSTRUCTION CONTRACT**

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 1—OWNER AND BIDDER**

1.01 This Bid is submitted to:

*Cowen Public Service District  
7017 Webster Road  
Cowen, WV 26206*

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the 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—ATTACHMENTS TO THIS BID**

2.01 The following documents are submitted with and made a condition of this Bid:

A. Bid Opening Requirements

Note: Bid Opening Requirements (BOR-12) includes the American Iron and Steel Certification which needs to be filled out and signed by the Contractor. This certification also references two (2) Exhibits located in the Supplemental General Conditions (C-800) which were issued as part of RUS Bulletin 1780-35.

### **ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES**

#### **GENERAL**

The Bidder shall take notice of and shall be responsible for any local or state taxes levied and applicable, and the cost for the same shall be included as part of the submitted Bid.

The total Bid cost stated includes a complete operating installation including furnishing and installation of any and all changes or additions in plans, piping, mechanical work, additional electrical work, accessories, controls, etc. necessary to accommodate alternative equipment systems or materials used in construction.

#### **BID PROPOSAL**

The Bidder agrees to perform all required Work described in the detailed Specifications and as shown on the Plans for the complete construction and placing in satisfactory operation the Contract #1 – Upper Glade Sewer System Extensions & Upgrades. The Project "Sequence of Construction" has been detailed in the

Drawings and Specification Division 1, Project Summary, Section 011000. The Bidder agrees to perform all the Work proposed for the total of the following Bid prices.

3.01 *Lump Sum Bids*

- A. Bidder will complete the Work in accordance with the Contract Documents for the lump sum (stipulated) price(s), together with any Unit Prices indicated in Paragraph 3.02 and shown in the bid schedule.
- B. Lump Sum Bids may be one of the following:
  - 1. Lump Sum Price (Single Lump Sum)
  - 2. Lump Sum Price (Base Bid and Alternates)
  - 3. Lump Sum Price (Sectional Lump Sum Bids)
- C. All specified cash allowance(s) are included in the price(s) set forth in the bid schedule, and have been computed in accordance with Paragraph 13.02 of the General Conditions.
- D. All specified contingency allowances are included in the price(s) set forth in the bid schedule, and have been computed in accordance with Paragraph 13.02 of the General Conditions.

3.02 *Unit Price Bids*

- A. Bidder will perform the following Work at the indicated unit prices as shown in the Bid Schedule.
- B. 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.

3.03 *Total Bid Price (Lump Sum and Unit Prices)*

**BID SCHEDULE**

**PROPOSED  
CONTRACT #1 – UPPER GLADE SEWER SYSTEM EXTENSION & UPGRADES  
FOR THE**

**COWEN PUBLIC SERVICE DISTRICT  
WEBSTER COUNTY, WEST VIRGINIA**

*NOTE: Bid PRICE amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern. Bids shall include sales tax and all other applicable taxes and fees.*

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
1	1	LS	Mobilization/Demobilization			
2	1	LS	Video Recording of Project Area – Section 024010			
3	1	LS	Erosion and Sediment Control – Section 312500			
4	350	LF	10” PVC SDR-35 Gravity Sewer Line (0’-6’ Deep) – Section 333113			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
5	1,450	LF	10" PVC SDR-35 Gravity Sewer Line (6'-9' Deep) – Section 333113			
6	1,950	LF	10" PVC SDR-35 Gravity Sewer Line (9'-12' Deep) – Section 333113			
7	800	LF	10" PVC SDR-35 Gravity Sewer Line (12'+ Deep) – Section 333113			
8	7,900	LF	8" PVC SDR-35 Gravity Sewer Line (0'-6' Deep) – Section 333113			
9	3,800	LF	8" PVC SDR-35 Gravity Sewer Line (6'-9' Deep) – Section 333113			
10	1,200	LF	8" PVC SDR-35 Gravity Sewer Line (9'-12' Deep) – Section 333113			
11	300	LF	8" PVC SDR-35 Gravity Sewer Line (12'+ Deep) – Section 333113			



Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
12	5,600	LF	6" PVC SDR-35 Gravity Sewer Line (0'-6' Deep) – Section 333113			
13	1,800	LF	6" PVC SDR-35 Gravity Sewer Line (6'-9' Deep) – Section 333113			
14	600	LF	6" PVC SDR-35 Gravity Sewer Line (9'-12' Deep) – Section 333113			
15	900	LF	6" PVC SDR-35 Gravity Sewer Line (12'+ Deep) – Section 333113			
16	35	LF	6" DI Gravity Sewer Line (0'-6') – Section 333113			
17	550	LF	6" DI Gravity Sewer Line (6'-9') – Section 333113			
18	400	LF	6" DI Gravity Sewer Line (9'-12') – Section 333113			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
19	775	LF	10" DI Gravity Sewer Line (0'-6') – Section 333113			
20	100	LF	10" DI Gravity Sewer Line (6'-9') – Section 333113			
21	150	LF	10" DI Gravity Sewer Line (9'-12") – Section 333113			
22	4,200	LF	4" PVC DR-35 Service Lateral Pipe – Section 333113			
23	2,000	LF	4" PVC DR-17 Forcemain – Section 333113			
24	3,800	LF	3" HPDE DR-11 Forcemain – Section 333113			
25	50	LF	2" HPDE DR-11 Forcemain – Section 333113			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
26	6,800	LF	4" PVC SDR-17 Forcemain (In same Trench as Gravity) – Section 333113			
27	700	LF	2" HPDE DR-11 Forcemain (In same Trench as Gravity) – Section 333113			
28	165	EA	48" Dia. Manhole Base, Cone Top, Regular Casting – Section 330513			
29	400	VF	48" Diameter Manhole Riser Pipe – Section 330513			
30	25	EA	48" Dia. Manhole Base, Cone Top, Regular Casting – Section 330513			
31	3	EA	Remove and Replace 48" Diameter Manhole – Section 333513			
32	180	LF	20" Steel Casing (Bore & Jack) – Section 330523			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
33	250	LF	16" Steel Casing (Bore & Jack) – Section 330523			
34	240	LF	12" Steel Casing (Bore & Jack) – Section 330523			
35	55	LF	8" Steel Casing (Bore & Jack) – Section 330523			
36	20	LF	4" Steel Casing (Bore & Jack) – Section 330523			
37	18	EA	10" x 4" PVC Wye Connection – Section 333113			
38	60	EA	8" x 4" PVC Wye Connection – Section 333113			
39	2,600	EA	6" x 4" PVC Wye Connection – Section 333113			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
40	14	EA	6" x 4" DI Wye Connection – Section 333113			
41	5	EA	10" x 4" DI Wye Connection – Section 333113			
42	133	EA	4" PVC Customer Service Cleanout – Section 333113			
43	8	EA	1" Combination Vacuum/Air Release Valve – Section 400578.23			
44	5	EA	8" PVC Gravity Terminal Line Cleanout – Section 333113			
45	15	EA	6" PVC Gravity Terminal Line Cleanout – Section 333113			
46	20	EA	4" Pressure Inline Cleanout – Section 333113			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
47	5	EA	3" Pressure Inline Cleanout – Section 333113			
48	1,000	LF	Full-Width 2" HMA Overlay – Section 321216			
49	3,600	LF	WVDOH Type "C" Trench Repair – Section 321217			
50	950	LF	WVDOH Type "B" Trench Repair – Section 321216			
51	250	LF	HMA Driveway Repair – Section 321216			
52	3,500	LF	Gravel Driveway Repair – Section 321217			
53	30,000	LF	Reclamation of Disturbed Area – Section 311100			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
54	1	LS	Lift Station #1 – Camp Caesar – Section 333217			
55	1	LS	Lift Station #2 – Route 20 – Section 333213			
56	1	LS	Lift Station #3 – Barnett Street – Section 333213			
57	1	LS	Lift Station #4 – Givens Run – Section 333217			
58	14,000	LF	WVDOH Inspection Fee Allowance	\$3.37	Three Dollars and Thirty-Seven Cents	\$47,180.00

**TOTAL BID:** \_\_\_\_\_  
 (Words)

\_\_\_\_\_ (\$ \_\_\_\_\_)  
 (Words) (Figures)

**(Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)**

**DEDUCTIVE ALTERNATE #1**

***NOTE: Bid Unit Price for Deductive Alternate must match the Bid Unit Price in the Base Bid on the previous pages. Amounts are to be shown in both words and figures. In case of discrepancy, the Bid Unit Price shown in words will govern. Bids shall include sales tax and all other applicable taxes and fees.***

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
8	235	LF	8" PVC SDR-35 Gravity Sewer Line (0' -6' Deep) - Section 3331133			
9	245	LF	8" PVC SDR-35 Gravity Sewer Line (6' -9' Deep) - Section 3331133			
12	760	LF	6" PVC SDR-35 Gravity Sewer Line (0' -6' Deep) - Section 3331133			
13	180	LF	6" PVC SDR-35 Gravity Sewer Line (6' -9' Deep) - Section 3331133			
14	175	LF	6" PVC SDR-35 Gravity Sewer Line (9' -12' Deep) - Section 3331133			



Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
15	540	LF	6" PVC SDR-35 Gravity Sewer Line (12 + Deep) - Section 3331133			
22	150	LF	4" PVC DR-35 Service Lateral Pipe – Section 333113			
28	10	EA	48" Dia. Manhole Base, Cone Top, Regular Casting – Section 330513			
29	36	VF	48" Diameter Manhole Riser Pipe – Section 330513			
30	1	EA	48" Dia. Drop Manhole Base, Cone Top, Regular Casting – Section 330513			
33	30	LF	16" Steel Casing (Bore & Jack) – Section 330523			
34	75	LF	12" Steel Casing (Bore & Jack) – Section 330523			

Item #	Qty.	UNIT	DESCRIPTION	UNIT PRICE	UNIT PRICE WRITTEN IN WORDS	TOTAL PRICE
39	6	EA	6" x 4" PVC Wye Connection – Section 333113			
42	6	EA	4" PVC Customer Service Cleanout – Section 333113			
45	1	EA	6" PVC Gravity Terminal Line Cleanout – Section 333113			
52	50	LF	Gravel Driveway Repair – Section 321216			
53	2,250	LF	Reclamation of Disturbed Area – Section 311100			
58	150	LF	WVDOH Inspection Fee Allowance	\$3.37	Three Dollars and Thirty-Seven Cents	\$505.50

**TOTAL DEDUCTIVE ALTERNATE #1 BID:** \_\_\_\_\_  
 \_\_\_\_\_ (Words) \_\_\_\_\_ (Words)  
 \_\_\_\_\_ (\$ \_\_\_\_\_) \_\_\_\_\_ (Figures)

**Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern.)**

3.04 *Method of Award*

If at the time this Contract is to be awarded, the lowest total bid submitted by a qualified, responsive, responsible bidder, as listed in contract does not exceed the amount of funds estimated by the Owner, as available to finance the contract, the construction contract will be awarded. If such bids exceeds such amount, the Owner may reject all bids. The Owner may award the contract on the total bid submitted by a qualified, responsive, responsible bidder, less the amount(s) of the deductive alternate(s) subtracted in numerical order to produce the lowest bid within the funds available for financing.

- A. Unit prices have been computed in accordance with paragraph 13.03.A of the General Conditions.
- B. Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

~~Basis of Bid—Cost Plus Fee~~

~~3.05 The Contract Price will be the Cost of the Work, determined as provided in Paragraph 13.01 of the General Conditions, together with the following fee, and subject to the Guaranteed Maximum Price.~~

~~3.06 Contractor's Fee~~

- ~~A. Contractor's fee will be [number] percent of the Cost of the Work. No fee will be payable on the basis of costs itemized as excluded in Paragraph 13.01.C of the General Conditions.~~
  - ~~1. The maximum amount payable by Owner as a percentage fee (Guaranteed Maximum Fee) will not exceed \$[insert cap amount], subject to increases or decreases for changes in the Work.~~
- ~~B. Contractor's fee will be determined by applying the following percentages to the various portions of the Cost of the Work as defined in Article 13 of the General Conditions. No fee will be payable on the basis of costs itemized as excluded in Paragraph 13.01.C of the General Conditions:~~

Costs	Percent
Payroll costs (See Paragraph 13.01.B.1, General Conditions)	
Materials and Installed Equipment cost (GC 13.01.B.2)	
Amounts to be paid to Subcontractors (GC 13.01.B.3)	
Amount to be paid to special consultants (GC 13.01.B.4)	
Other costs (GC 13.01.B.5)	

- ~~1. The maximum amount payable by Owner as a percentage fee (Guaranteed Maximum Fee) will not exceed \$[insert cap amount], subject to increases or decreases for changes in the Work.~~
- ~~C. Contractor's fee will be the fixed sum of \$[number].~~

~~3.07 Guaranteed Maximum Price~~

- ~~A. The Guaranteed Maximum Price to Owner of the Cost of the Work including Contractor's Fee will not exceed \$[Bidder fill in GMP].~~

~~Deleted~~

**ARTICLE 4—PRICE PLUS TIME BID**

4.01 *Price Plus Time Contract Award (Stipulated Price Contract)*

A. ~~The Bidder to which an award of the Contract will be made will be determined in part on the basis of the Total Bid Price and the total number of calendar days to substantially complete the Work, in accordance with the following:~~

	Description		Amount
A	1. Total Bid Price		\${number}
	2. Total number of calendar days to substantially complete the Work	[number] days	
	3. Liquidated Damages Rate (from Agreement)	\${number}/day	
B	4. Adjustment Amount (2 x 3)		\${number}
A+B	5. Amount for Comparison of Bids		\${number}

B. ~~The purpose of the process in the table above is only to calculate the lowest price plus time (A+B) bid amount for bid comparison purposes. The price for completion of the Work (the Contract Price) is the Total Bid Price.~~

C. ~~Bonds required under Paragraph 6.01 of the General Conditions will be based on the Contract Price.~~

4.02 *Price Plus Time Contract Award (Cost Plus Fee with Guaranteed Maximum Price Contract)*

A. ~~The Bidder to which an award of Contract will be made will be determined in part on the basis of the Guaranteed Maximum Price and the total number of calendar days to substantially complete the Work, in accordance with the following:~~

	Description		Amount
A	1. Guaranteed Maximum Price		\${number}
	2. Total number of calendar days to substantially complete the Work	[number] days	
	3. Liquidated Damages Rate (from Agreement)	\${number}/day	
B	4. Adjustment Amount (2 x 3)		\${number}
A+B	5. Amount for Comparison of Bids		\${number}

B. ~~The purpose of the process in the table above is only to calculate the lowest price plus time (A+B) bid amount for bid comparison purposes. The price for completion of the Work (the Contract Price) is based on the cost of the Work, plus a fee, subject to a guaranteed maximum price, as set forth in the Agreement.~~

C. ~~Bonds required under Paragraph 6.01 of the General Conditions will be based on the Contract Price.~~

Deleted

**ARTICLE 5—TIME OF COMPLETION**

5.01 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.

5.02 Bidder agrees that the Work will be substantially complete on or before **[Bidder inserts date]**, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **[Bidder inserts date]**.

**Deleted**

5.03 Bidder agrees that the Work will be substantially complete within **[Bidder inserts number]** calendar days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **[Bidder inserts number]** calendar days after the date when the Contract Times commence to run.

**Deleted**

5.04 Bidder accepts the provisions of the Agreement as to liquidated damages.

**ARTICLE 6—BIDDER’S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA**

6.01 *Bid Acceptance Period*

A. This Bid will remain subject to acceptance for 90 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

6.02 *Instructions to Bidders*

A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

6.03 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda:

<b>Addendum Number</b>	<b>Addendum Date</b>

**ARTICLE 7—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS**

7.01 *Bidder’s Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work, **including all American Iron and Steel requirements.**
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. 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 the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. 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.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

7.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. 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.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
  - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
  - b. 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.

- c. 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.
- d. 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.

BIDDER hereby submits this Bid as set forth above:

Bidder:

\_\_\_\_\_  
*(typed or printed name of organization)*

By: \_\_\_\_\_  
*(individual's signature)*

Name: \_\_\_\_\_  
*(typed or printed)*

Title: \_\_\_\_\_  
*(typed or printed)*

Date: \_\_\_\_\_  
*(typed or printed)*

*If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.*

Attest: \_\_\_\_\_  
*(individual's signature)*

Name: \_\_\_\_\_  
*(typed or printed)*

Title: \_\_\_\_\_  
*(typed or printed)*

Date: \_\_\_\_\_  
*(typed or printed)*

Address for giving notices:

\_\_\_\_\_  
\_\_\_\_\_

Bidder's Contact:

Name: \_\_\_\_\_  
*(typed or printed)*

Title: \_\_\_\_\_  
*(typed or printed)*

Phone: \_\_\_\_\_

Email: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Bidder's Contractor License No.: (if applicable) \_\_\_\_\_



## SECTION 333218 - LIFT STATION CELLULAR TELEMETRY

### PART 1 - GENERAL

#### 1.1 Scope:

1. This Section describes the requirements for furnishing a hosted cellular telemetry system for lift stations.

#### 1.2 Submittals:

1. The following information shall be included in the submittal for this section:
  - a. Data sheets and catalog literature for the cellular telemetry controller.
  - b. Data sheets for all data controller parts and level transducers (if transducer is utilized).

### PART 2 - PRODUCTS

#### 2.1 Controller General specifications:

- A. Each controller shall consist of one or more interconnected modules on a common bus. Each module shall be capable of standalone operation, or coordinated operation with up to 253 other modules on the shared bus. Each module shall have:
  1. Local I/O
  2. I/O Expansion Capability
  3. Ethernet
  4. Historical Trending and Retrieval
  5. Report Generation
  6. Floating point and 32-bit integer math
  7. Programmable Logic – Ladder Logic, Function Block and Text
  8. PID Control
  9. Support Triplex Pump Control
- B. Standalone Operation
  1. PLC modulus should serve as standalone devices with SCADA communications, local and web human machine interfaces (HMIs), trending and data logging, alarming, reporting, and programmable logic control.

C. Communication

1. PLC modulus should have an Ethernet port and support serial ports to communicate directly with Modbus devices, as well as Allen Bradley PLCs.
2. Ethernet to Serial bridging should also be supported. The module should also serve as a communications concentrator or master controller.

D. Alarming

1. PLC module should be able to manage alarm conditions on any of its local inputs, as well as over 500 conditions monitored by communications with other devices.
2. Alarms conditions can be displayed locally and announced by a contact closure on one of its outputs, or in tandem with other devices such as a bus connected cellular communications module (for text message and e-mail alerts).
3. The module should maintain a journal spreadsheet file of when alarms occurred, when they were acknowledged, by whom, and when the alarm conditions cleared.

E. Programmable Logic

1. The module should support programmable logic written in any mix of ladder logic, function block and text languages.
2. Programmable logic can be used for anything that can't be done with the built-in functions of the module.

F. Approved PLC Manufacturer:

1. ABB model PM5032-T-ETH
2. Engineer's approved equal.

2.2 General controller Communications Specifications:

- A. Each module shall include at least one Ethernet port and one serial port. Some modules will have additional ports as well as built-in radios and modems as described in their individual I/O specifications.
- B. Each module, via any local serial port or the first general purpose serial port in any other module, shall support communications utilizing any of the following industry standard register data exchange protocols:
  1. Modbus RTU - Master and Slave
  2. DF1 - Slave (Allen-Bradley)
  3. SDX - Master and Slave (AES-128 encryption)
  4. SNP - Master (GE)
- C. Each module, via a local Ethernet port, or internal cellular modem if present, shall support simultaneous IP based communications utilizing any of the following industry standard protocols:
  1. Modbus TCP/IP and UDP - Master and Slave
  2. Ethernet IP - Master and Slave (Ethernet port only)

3. SDX - Master and Slave (AES-128 encryption)
  4. HTTP
  5. FTP - Server and Client
  6. TFTP - Server
  7. E-mail - Client (POP3/SNMP)
  8. NTP- Client
  9. DHCP (Server and Client)
  10. ICMP
- D. When acting as a master, each module shall support communications with up to 32 slave devices. Each module shall support both polled and on-change communications with any slave device.
- E. Each module shall provide IP routing services to up to 8 module Ethernet devices per module.
- F. Each module shall provide Ethernet - Serial Port bridging services.
- G. Each module shall automatically maintain and display by web page, the communications statistics for all Master and Slave communications, including but not limited to:
1. Current communications Status
  2. Number of Transmitted Messages
  3. Number of Successfully Received Messages
  4. Number of Communications Failures
  5. Last and maximum round-trip message latency
- H. Each module shall automatically detect, log, and optionally alarm all communications link failures for all master and slave communications.

### 2.3 Event Logging

- A. Each module shall provide 800KB of built-in storage for user-defined events in a user defined format.
- B. The event log storage shall be “circular”, where the oldest data is overwritten first.
- C. Each module shall provide for easy retrieval of recorded event log data as standard CSV files compatible with most spreadsheets and database programs. Retrieval shall only require a web browser. No separate programs or applications shall be required.
- D. Each module shall provide a means of automatically transferring trend data as files to a Host computer system using FTP protocol and to users by e-mail and text messaging, without operator intervention.
- E. Each module shall display the percentage of event logging storage used on a user status web page.

### 2.4 System Logging and Alarm Journaling

- A. Each module shall maintain its own records of system events and alarms saved to an internal flash disk.
- B. Each module shall provide for operator retrieval of all, or portions of the system and alarm logs in CSV spreadsheet format via a web page.
- C. Each module shall provide a means of automatically sending all or portions of the system or alarm logs as files or e-mail attachments without operator intervention.

PART 3 - Cellular Telemetry Hosted Specifications:

3.1 General Cellular Telemetry Description:

- A. Telemetry shall be a modular base configuration, poll by exceptions and report alarms when active.
  - 1. Alarms shall notify by the following methods.
    - a. Voice
    - b. Text (optional)
    - c. Email (optional)
- B. The front-end SCADA software shall be hosted base software. **Customer shall not have to purchase any front-end software, it shall all be included in the cellular plan.**
- C. The RTU shall be a PLC based RTU and not a proprietary RTU.

3.2 RTU Specifications:

- A. The module shall provide at least 6 optically isolated discrete inputs supporting AC or DC input signals of up to 30V.
- B. The module shall provide at least 4 relay outputs rated to switch up to 3A at up to 30Vdc or 240Vac. The outputs shall have an isolated common shared by the outputs.
- C. The module shall provide four 16-bit analog inputs, software configurable for measurement ranges of 20mA, 5V, +/- 5V, 10V, and +/- 10V. The analog inputs shall share a common, isolated from the rest of the module.
- D. The analog inputs shall support configurable "boxcar" style averaging up to 4 readings.
- E. The analog inputs shall support configurable linear scaling to engineering units.
- F. The analog inputs shall have configurable high and low alarm levels and hysteresis.
- G. The module shall provide two 12-bit analog outputs, software configurable for output ranges of 0 to 20mA or 4 to 20mA.
- H. The module shall support a general-purpose serial port, software selectable for RS-232, RS-485, RS-422 and SDI-12 operation.
- I. Status.
  - 1. The user shall be able to select any of the monitored conditions to be included in an automatic scrolling display that presents the current value and status of the condition.
    - a. The following parameters shall be available for the user to select:
      - 1) Level
      - 2) Pump run-times
        - a) Daily run-time
        - b) Weekly run-time
        - c) Monthly run-time
        - d) Yearly run-time
      - 3) Pump cycles
        - a) Daily cycles
        - b) Weekly cycles
        - c) Monthly cycles
        - d) Yearly cycles

- 4) Pump running/off/failure
  - 5) Pump starter/VFD fault
  - 6) Seal failures
  - 7) Over temperatures
  - 8) Intrusion/On-site
  - 9) Cellular signal strength
  - 10) Main power
  - 11) Battery Power
  - 12) Any digital, analog or Modbus channels being monitored
- b. See Telemetry points list for specified monitoring list.

### 3.3 Cellular Modem Specification:

- A. Generic GSM default carrier with multi-carrier selection (AT&T, US Cellular, or Verizon)
- B. 4G LTE cellular with 3G fallback
- C. Modbus RTU/TCP/ASCII/RTU
- D. DNP3 - slave
- E. IPsec and SSL
- F. NAT, port forwarding, dynamic DNS, DHCP
- G. Stateful inspection firewall, IP transparency
- H. 1x RJ45
- I. 1x RS-232 Serial DB9 115200bps
- J. 1x USB 2.0 mini
- K. 8-30 Vdc (12 Vdc nominal)
- L. Operating temperature: -40° to +70°C
- M. Shock: IEC60068-2-27
- N. Vibration: IEC60068-2-6
- O. Humidity: 5 to 95% non-condensing
- P. CE, EMC: FCC, part 15 and Industry Canada, ICES-003
- Q. Hazardous locations: Class I, Div. 2, Groups A, B, C, D, ISA 12.12.01
- R. Electrical safety: UL508/CSA22.2/14 (CUL)
- S. Carrier specific approvals
- T. 1x digital output
- U. 1x digital/analog input

### 3.4 Hosted SCADA Software Specifications:

- A. The water and wastewater facilities remote monitoring, reporting and alarm notification system shall be comprised of a hosted, Web-based user-interface which communicates to remotely monitored stations via a readily available commercial cellular network. The system shall contain:
  1. Hardware located at each remote station that continually monitors pump activity, fault conditions, level and computed volumetric inflow and outflow and reports this information on a periodic and exception basis to a Web-based user-interface using a secure protocol over the cellular network.
  2. A Web-based application that is configured to present all fault conditions, operating conditions, computed values in tabular, graphical, map and report formats. The application will provide alarm notification to designated personnel based on alarms detected by the remote hardware and by computations performed by the Web-based system.

3. The system shall be fully integrated between the hardware and Web application providing complete programming capability of the hardware from the hardware installed at each station and from the Web application. The Web application shall be automatically updated whenever any configuration changes are made to the hardware.
- B. Integrator must provide the first three (3) years of cellular data plan.
- C. General Requirements
  1. SCADA software shall be commercially available off-the shelf and shall be non-proprietary, such that independent systems integrators are able to provide configuration and maintenance services as required.
  2. Software shall be a Client/Server architecture. No Microsoft Client Access Licenses (CAL) or Terminal Services shall be required for full installation (thick) or browser-based (thin) clients.
  3. Software shall offer options for unlimited, concurrent Thin Client connections for connectivity of common mobile device operating systems.
  4. Software shall support running as a Microsoft Windows® service.
  5. Software shall support running in a virtualized server environment.
  6. Software shall support installation on a Storage Area Network (SAN) or Network-Attached Storage (NAS).
  7. Software shall support IPv6 addressing and be able to run on networks that support IPv4, IPv6 or both.
  8. Software licenses shall be upgradable for an annual fee such that the client is able to download and install the current version of the product.
  9. Software shall be tag-based and have an integrated development environment for creation of all aspects of the application.
  10. Software shall be compatible with commercially available, off-the shelf PC hardware running Microsoft Windows client and server operating systems currently available at the time of installation.
  11. Software shall not require dedicated server-level PC hardware for any individual system components.
  12. Software shall support any computer running a thick copy of the software performing as both an application server and a user interface. Software shall support automatic server failover to an unlimited number of servers.
  13. Software shall include the following integrated components available as standard components or for an optional add-on price. These components shall not require 3rd party software. However, the system shall allow 3rd party components to be used if required.
    - a. Online application development environment with version control.
    - b. I/O drivers for a wide selection of communication protocols.
    - c. Alarms management and alarms/events history.
    - d. Fully integrated historian.
    - e. Real-time and historical data trending and tabular views.
    - f. Report generation.
    - g. Security management.
    - h. Unlimited operator logbooks.
    - i. Support for networked applications.
    - j. Support for server redundancy.
    - k. An object-oriented scripting language with debugging tools.
    - l. Browser-based thin clients for PCs and Mobile devices.
    - m. Alarm notification to off-site operators (email, text message and voice.)
    - n. Interfaces for 3rd party software programs to access data and alarms from the SCADA software via ODBC/SQL, OPC, SNMP or SOAP/Web Services.

14. Software shall automatically compensate for deploying the same application simultaneously on a variety of monitor resolutions, while maintaining the aspect ratios of all displays.
15. Software shall protect against file corruption in the event of an unexpected loss of power or hardware failure. Software shall support an automatic, orderly shutdown when power levels drop to a user defined setpoint.
16. Software shall support automatic startup upon computer restart, to full operation without user intervention.
17. Software shall provide a mechanism to backup and restore the entire application configuration.
18. Software shall include an integrated security system supporting an unlimited number of user accounts, roles and privileges. System users with appropriate account privileges shall be capable of changing the application configuration without requiring the software supplier's assistance. No lockout mechanisms or passwords shall be withheld from the final customer.
19. Integrated software help manuals shall be provided to assist operators and maintenance personnel with operational and configuration tasks.

D. Historian

1. Historian shall support logging of all the SCADA system data, including real-time, historical, transactions, alarms and events, regardless of the number of tags in the system. For example, a 25,000-tag system shall support historical data storage for 25,000 tags, plus alarms and events.
2. Software shall include an integrated Historian and historical data storage at no additional cost, but may optionally use [Oracle,] [MySQL,] [Microsoft SQL Server,] [SQLite] as the database.
3. The Historian and its historical data storage shall not require dedicated server computers; however, dedicated servers may be used if preferred by the customer.
4. Historian shall be capable of logging up to 4,000 values per second.
5. A synchronization scheme shall be included such that a copy of all historical data storage resides on all designated computers. Data shall be synchronized in real-time.
6. Any historical database that has been offline must be automatically resynchronized with the historian holding the most recent data. Software shall be capable of synchronizing 100,000+ values per second between databases. This process shall occur in parallel with runtime SCADA processes and shall be designed to minimize interference.
7. Distributed Historian architecture shall be supported. For example, two plants (A and B) may be responsible for historical storage for locally collected data, while a central facility (C) may be responsible for redundant historical storage for both A's and B's data. This architecture shall be scalable to support the addition of future plants.
8. Historian shall support SQL queries of logged historical data. Queries of historical data may be for raw data or summary (value at beginning, average, max, min, delta) over a period.

E. Transaction Data

1. System shall provide a means to reliably collect and log (to historical data storage) transaction data from a field device. Transaction data is defined as a data set of related values stored with the same timestamp.
2. The transaction data capture process must include error checking.

F. Historical Data Display (trend plots and tabular)

1. Software shall display historical and real-time data in both plot and tabular format.
2. Software shall allow users to generate ad-hoc plots of historical data by clicking on each of the values to be trended. Selected groups shall be recordable for future recall.

G. Security Management

1. Software shall include a security system with privileges and role-based user accounts. Level-based access shall not be acceptable.
2. Security system shall support an unlimited number of user accounts and roles. System shall allow creation of an unlimited number of additional security privileges where necessary.
3. User passwords must be configurable to require a minimum length, contain a combination of letters, numbers and special characters, and expire after a pre-set period. User passwords shall be stored in an encrypted format.
4. System shall allow changes to user accounts, roles and privileges while the application is running. Changes shall become effective immediately.
5. User logon and logout activity shall be recorded in the application event log. Disabling accounts after X failed attempts within Y seconds shall be supported where X and Y are configurable options.
6. System shall provide a mechanism to limit client access to specific IP addresses.
7. System shall support authentication of user accounts via a Windows domain and authorize SCADA user roles from domain security groups.
8. System shall support the use of proximity cards/readers.
9. The integrated version control system shall allow the option of including or excluding security-related changes if returning the application to an earlier configuration state.

H. Report Generation

1. Authenticated operators shall, in the runtime environment, be able to produce reports including any analog, digital or calculated tag data from the historical database.
2. Data format options shall be as follows:
  - a. To screen.
  - b. To a comma separated value (.csv) file.
  - c. To a text file.
  - d. To an ODBC-compliant database.



- e. To any direct-connected or networked printer.
  - f. To a 3rd party software (e.g., Microsoft Excel) template for advanced data analysis and formatting.
  - g. To e-mail, if an external email server is provided.
3. Reports may be created for one-time use or saved for reuse.
  4. The following reports should be included:
    - a. Analog Summary Report
    - b. Daily Snapshot Report
    - c. Daily Total Report
    - d. Derived Flow Report
    - e. Detail Report
    - f. Driver Communication Error Detail Report
    - g. Driver Communication Summary Report
    - h. Hourly Snapshot Report
    - i. Hourly Total Report
    - j. Rainfall Report
    - k. Pump Activity Report
    - l. Pump Discrepancy Report
    - m. Standard (raw data) Report
  5. Report generation shall be invoked either on demand, by a monitored event, or on a scheduled basis.
  6. For reports that are created on a scheduled basis, a mechanism shall be provided to allow operators to re-create the last scheduled report.

I. Electronic Operator Notebooks

1. System shall support operator logbooks for recording ad-hoc notes or predefined notes as threads, in that notes can have associated comments.
2. Notebooks shall be searchable by keyword, user account and time/date.
3. Notebooks shall be color-coded for easy identification.
4. System shall support creation of an unlimited number of notebooks for association with system elements, such as equipment and trended pen groups.
5. All notes shall be encrypted and include the name of the user's account and the time/date of creation. All notes entered into the notebook should be immediately viewable from all clients and servers.
6. System shall not allow editing or deleting notes once created, to prevent tampering.
7. System shall support the addition of comments to existing notes.
8. System shall support the option of requiring operator authentication as part of the note creation process.
9. System shall support printing of notes by range of dates/times.
10. System shall support the export of notes for a selected range of dates, to a format that can be easily viewed / printed from any workstation without the need for a (HTML)

J. Alarms.

1. Any monitored parameter that exceeds the normal operating conditions as defined by the user, shall enter into an alarm state.
2. The local display shall automatically display all parameters that are in the alarm state. When all alarm states have returned to normal, the display shall automatically revert to the user-configured scrolling display or to the main menu if no scrolling display has been configured.
3. A unique event shall be created for each alarm state. Each event shall be stored locally for viewing in chronological order. Each event may also be automatically transmitted to the hosted web-service.
4. The system shall contain a store and forward buffer capable of saving hundreds of events for later transmission if immediate cellular transmission is not possible due to cellular coverage issues. The system shall automatically try to re-establish cellular connection on a continuous basis.

K. Antenna:

1. MIMO LTE
  - a. IP54 Rate outdoor rated
  - b. 698MHz – 2700MHz
  - c. Wall mount or pole mount options
  - d. Dual antenna LTE with LTE failover
  - e. Operating temperature -40C to 85C
  - f. 3dBi gain

L. Accepted Manufacturer:

1. Approved manufacture by Trihedral Engineering Ltd.
2. Engineer's approved equal

3.5 Enclosure Specifications:

- A. For outdoor controller to be housed in a Type 3R Enclosures are constructed for either indoor or outdoor use to provide a degree of protection to personnel against access to hazardous parts, to provide a degree of protection of the equipment inside the enclosure against ingress of solid foreign objects (falling dirt) to provide a degree of protection with respect to harmful effects on the equipment due to the ingress of water (rain, sleet, snow), and that will be undamaged by the external formation of ice on the enclosure.
1. 0.048 In., 0.063 In. & 0.075 In. Galvannealed steel
  2. Concealed hinges.
  3. Spot weld construction.
  4. Rain cap.
  5. Mounting hole in back of enclosure.

6. Provisions for sub-panel.
7. Black quarter turn wing knob latch with padlocking provisions.
8. Doors open 180 degrees.
9. Pour in place oil & water-resistant gasket.
10. Ground stud on door & body.
11. 3/8-16 Grounding Kit.
12. Sub-panel mounting hardware included.
13. Finish ANSI-61 gray powder coating and sub-panels are powder coated white.

3.6 Standard Cellular Telemetry Points list:

A. Monitoring Points List:

1. Pump 1 Run status
2. Pump 2 Run status
3. Pump 1 Thermals
4. Pump 2 Thermals
5. Lift Station level (if available)
6. Generator status (if available)
7. Controller main power status
8. Comm status

B. Alarm Points List:

1. High backup alarm float
2. Pump 1 thermal (if available)
3. Pump 2 thermal (if available)
4. Generator Run (if available)
5. Loss of controller main power
6. Comm failure
7. Pump 1 failed to start
8. Pump 2 failed to start

3.7 Lift Station Cellular Sites List

1. LS #1 – Camp Caesar
2. LS #2 – Route 20
3. LS #3 – Barnett Street
4. LS #4 – Givens Run

END OF SECTION 333218

Cowen Public Service District  
Contract #1 - Upper Glade Sewer System Extension & Upgrades

ADDED - Addendum #2  
August 4, 2023  
020-01109

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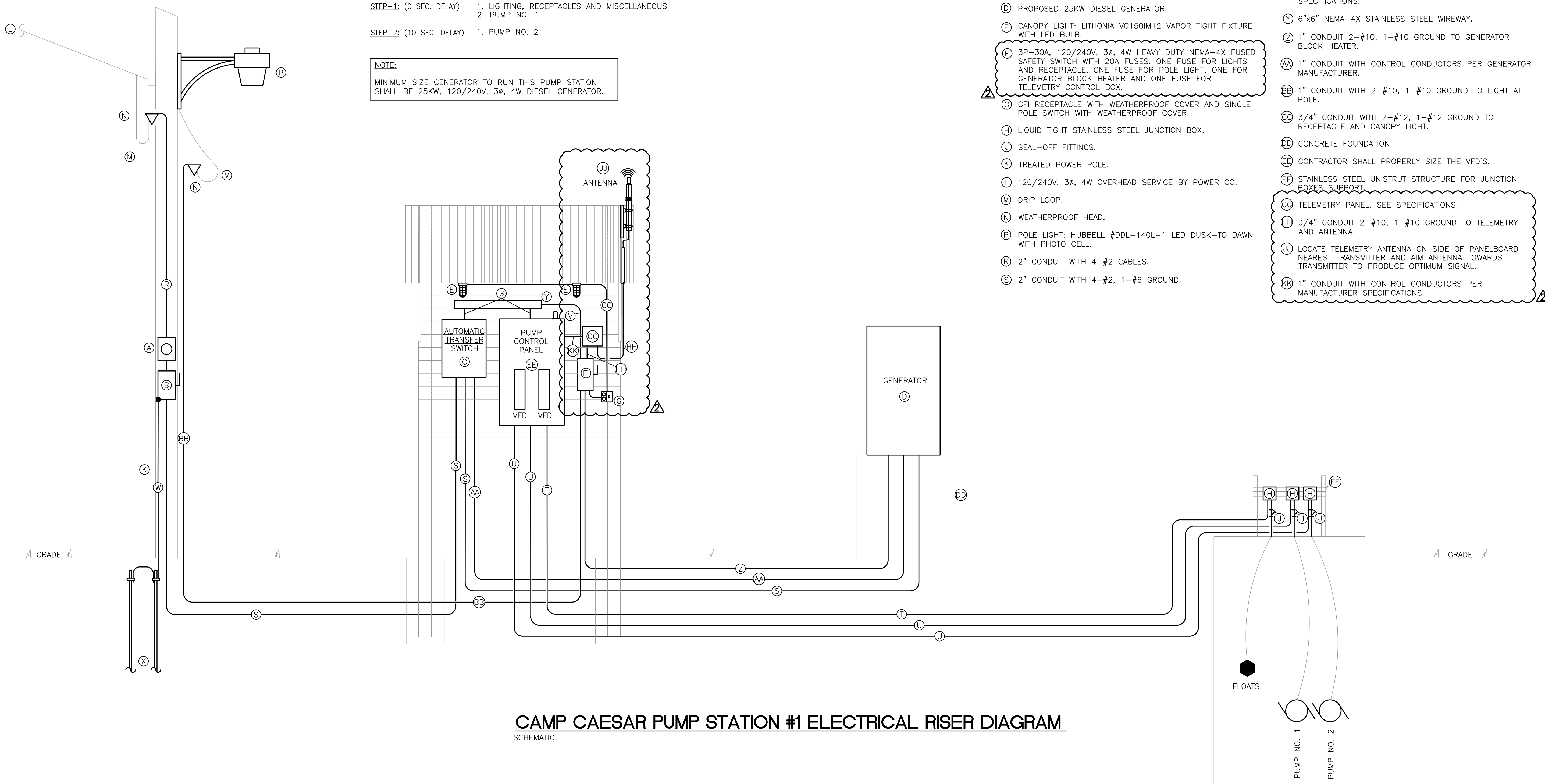
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 PLOT DATE/TIME: 8/13/2023 2:19 PM

### START STEPS FOR GENERATOR

STEP-1: (0 SEC. DELAY) 1. LIGHTING, RECEPTACLES AND MISCELLANEOUS  
 2. PUMP NO. 1

STEP-2: (10 SEC. DELAY) 1. PUMP NO. 2

**NOTE:**  
 MINIMUM SIZE GENERATOR TO RUN THIS PUMP STATION SHALL BE 25KW, 120/240V, 3Ø, 4W DIESEL GENERATOR.



### RISER NOTES:

- (A) METER.
- (B) MAIN SWITCH: 3P-200A, 120/240V, 3Ø, 4W HEAVY DUTY NEMA-4X STAINLESS STEEL SERVICE RATED FUSED SAFETY SWITCH WITH 125A FUSES.
- (C) AUTOMATIC TRANSFER SWITCH - "ATS": 3P-125A, 120/240V, 3Ø, 4W NEMA-4X STAINLESS STEEL WITH CONTROLS.
- (D) PROPOSED 25KW DIESEL GENERATOR.
- (E) CANOPY LIGHT: LITHONIA VC150IM12 VAPOR TIGHT FIXTURE WITH LED BULB.
- (F) 3P-30A, 120/240V, 3Ø, 4W HEAVY DUTY NEMA-4X FUSED SAFETY SWITCH WITH 20A FUSES. ONE FUSE FOR LIGHTS AND RECEPTACLE, ONE FUSE FOR POLE LIGHT, ONE FOR GENERATOR BLOCK HEATER AND ONE FUSE FOR TELEMETRY CONTROL BOX.
- (G) GFI RECEPTACLE WITH WEATHERPROOF COVER AND SINGLE POLE SWITCH WITH WEATHERPROOF COVER.
- (H) LIQUID TIGHT STAINLESS STEEL JUNCTION BOX.
- (J) SEAL-OFF FITTINGS.
- (K) TREATED POWER POLE.
- (L) 120/240V, 3Ø, 4W OVERHEAD SERVICE BY POWER CO.
- (M) DRIP LOOP.
- (N) WEATHERPROOF HEAD.
- (P) POLE LIGHT: HUBBELL #DDL-140L-1 LED DUSK-TO DAWN WITH PHOTO CELL.
- (R) 2" CONDUIT WITH 4-#2 CABLES.
- (S) 2" CONDUIT WITH 4-#2, 1-#6 GROUND.
- (T) 1" CONDUIT WITH CONTROLS CONDUCTORS FOR FLOATS.
- (U) 1 1/4" CONDUIT WITH 3-#4 1-#8 GROUND.
- (V) 1" CONDUIT WITH 6-#10, 3-#10 GROUND.
- (W) #4 COPPER GROUND WIRE.
- (X) GROUND RODS WITH CLAMPS PER N.E.C. AND POWER CO. SPECIFICATIONS.
- (Y) 6"x6" NEMA-4X STAINLESS STEEL WIREWAY.
- (Z) 1" CONDUIT 2-#10, 1-#10 GROUND TO GENERATOR BLOCK HEATER.
- (AA) 1" CONDUIT WITH CONTROL CONDUCTORS PER GENERATOR MANUFACTURER.
- (BB) 1" CONDUIT WITH 2-#10, 1-#10 GROUND TO LIGHT AT POLE.
- (CC) 3/4" CONDUIT WITH 2-#12, 1-#12 GROUND TO RECEPTACLE AND CANOPY LIGHT.
- (DD) CONCRETE FOUNDATION.
- (EE) CONTRACTOR SHALL PROPERLY SIZE THE VFD'S.
- (FF) STAINLESS STEEL UNISTRUT STRUCTURE FOR JUNCTION BOXES SUPPORT.
- (GG) TELEMETRY PANEL. SEE SPECIFICATIONS.
- (HH) 3/4" CONDUIT 2-#10, 1-#10 GROUND TO TELEMETRY AND ANTENNA.
- (JJ) LOCATE TELEMETRY ANTENNA ON SIDE OF PANELBOARD NEAREST TRANSMITTER AND AIM ANTENNA TOWARDS TRANSMITTER TO PRODUCE OPTIMUM SIGNAL.
- (KK) 1" CONDUIT WITH CONTROL CONDUCTORS PER MANUFACTURER SPECIFICATIONS.

**CAMP CAESAR PUMP STATION #1 ELECTRICAL RISER DIAGRAM**  
 SCHEMATIC

### ADDENDUM No. 2

1	CLW	JULY 2023	ADDENDUM No. 1- FIXED PLOTTING ISSUE
2	FD	AUG 2023	ADDENDUM No. 2- ADDED TELEMETRY
NO.	BY	DATE	DESCRIPTION


SCALE: AS SHOWN
DRAWN: C. WILKINSON DATE: JUNE 2020
CHECKED: R. BOUSTANY DATE: JUNE 2020
APPROVED: J. CARPENTER DATE: AUGUST 2022
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

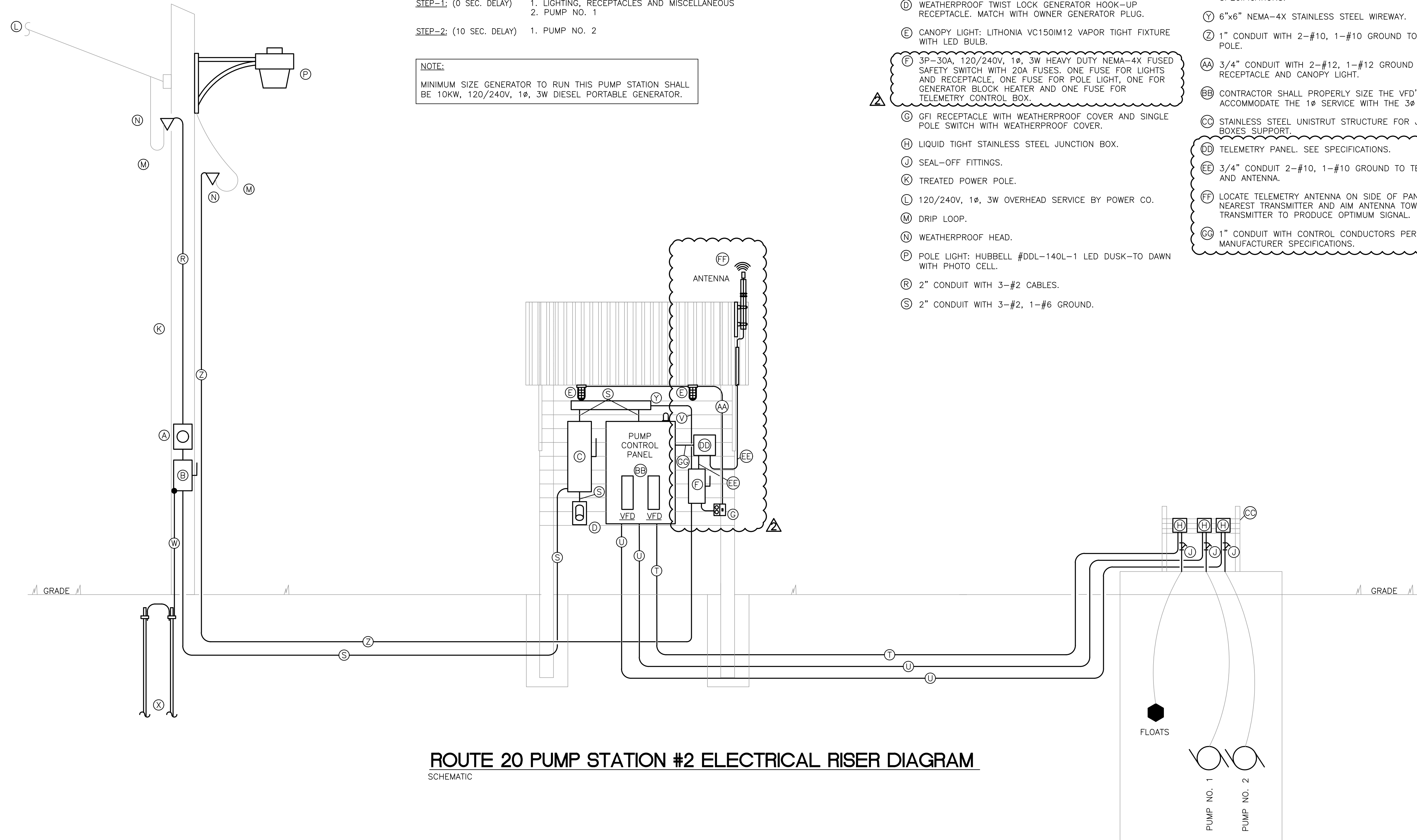
**THRASHER**  
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 1000 CORPORATE LANDING, CHARLESTON, WV 25311  
 PHONE (304) 343-7601 • FAX (304) 343-7604

PHASE No.	2
CONTRACT No.	1
PROJECT No.	020-1109

COWEN PUBLIC SERVICE DISTRICT  
 WEBSTER COUNTY, WEST VIRGINIA  
 UPPER GLADE SEWER SYSTEM EXTENSION & UPGRADES  
 PHASE II  
 CAMP CAESAR PS#1 ELECTRICAL DIAGRAM

SHEET No.	E-1
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LAYOUT TAB: E-2  
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 PLOT DATE/TIME: 8/13/2023 2:19 PM



### START STEPS FOR PORTABLE GENERATOR

- STEP-1:** (0 SEC. DELAY) 1. LIGHTING, RECEPTACLES AND MISCELLANEOUS  
 2. PUMP NO. 1
- STEP-2:** (10 SEC. DELAY) 1. PUMP NO. 2

**NOTE:**  
 MINIMUM SIZE GENERATOR TO RUN THIS PUMP STATION SHALL BE 10KW, 120/240V, 1Ø, 3W DIESEL PORTABLE GENERATOR.

### RISER NOTES:

- (A) METER.
- (B) MAIN SWITCH: 2P-100A, 120/240V, 1Ø, 3W HEAVY DUTY NEMA-4X STAINLESS STEEL SERVICE RATED FUSED SAFETY SWITCH WITH 100A FUSES.
- (C) MANUAL TRANSFER SWITCH: 2P-100A, 120/240V, 1Ø, 3W NEMA-3R STAINLESS STEEL NON-FUSED DOUBLE THROW SWITCH.
- (D) WEATHERPROOF TWIST LOCK GENERATOR HOOK-UP RECEPTACLE. MATCH WITH OWNER GENERATOR PLUG.
- (E) CANOPY LIGHT: LITHONIA VC150IM12 VAPOR TIGHT FIXTURE WITH LED BULB.
- (F) 3P-30A, 120/240V, 1Ø, 3W HEAVY DUTY NEMA-4X FUSED SAFETY SWITCH WITH 20A FUSES. ONE FUSE FOR LIGHTS AND RECEPTACLE, ONE FUSE FOR POLE LIGHT, ONE FOR GENERATOR BLOCK HEATER AND ONE FUSE FOR TELEMETRY CONTROL BOX.
- (G) GFI RECEPTACLE WITH WEATHERPROOF COVER AND SINGLE POLE SWITCH WITH WEATHERPROOF COVER.
- (H) LIQUID TIGHT STAINLESS STEEL JUNCTION BOX.
- (J) SEAL-OFF FITTINGS.
- (K) TREATED POWER POLE.
- (L) 120/240V, 1Ø, 3W OVERHEAD SERVICE BY POWER CO.
- (M) DRIP LOOP.
- (N) WEATHERPROOF HEAD.
- (P) POLE LIGHT: HUBBELL #DDL-140L-1 LED DUSK-TO DAWN WITH PHOTO CELL.
- (R) 2" CONDUIT WITH 3-#2 CABLES.
- (S) 2" CONDUIT WITH 3-#2, 1-#6 GROUND.
- (T) 1" CONDUIT WITH CONTROLS CONDUCTORS FOR FLOATS.
- (U) 1" CONDUIT WITH 3-#10, 1-#10 GROUND.
- (V) 1" CONDUIT WITH 6-#10, 3-#10 GROUND.
- (W) #4 COPPER GROUND WIRE.
- (X) GROUND RODS WITH CLAMPS PER N.E.C. AND POWER CO. SPECIFICATIONS.
- (Y) 6"x6" NEMA-4X STAINLESS STEEL WIREWAY.
- (Z) 1" CONDUIT WITH 2-#10, 1-#10 GROUND TO LIGHT AT POLE.
- (AA) 3/4" CONDUIT WITH 2-#12, 1-#12 GROUND TO RECEPTACLE AND CANOPY LIGHT.
- (BB) CONTRACTOR SHALL PROPERLY SIZE THE VFD'S TO ACCOMMODATE THE 1Ø SERVICE WITH THE 3Ø PUMPS.
- (CC) STAINLESS STEEL UNISTRUT STRUCTURE FOR JUNCTION BOXES SUPPORT.
- (DD) TELEMETRY PANEL. SEE SPECIFICATIONS.
- (EE) 3/4" CONDUIT 2-#10, 1-#10 GROUND TO TELEMETRY AND ANTENNA.
- (FF) LOCATE TELEMETRY ANTENNA ON SIDE OF PANELBOARD NEAREST TRANSMITTER AND AIM ANTENNA TOWARDS TRANSMITTER TO PRODUCE OPTIMUM SIGNAL.
- (GG) 1" CONDUIT WITH CONTROL CONDUCTORS PER MANUFACTURER SPECIFICATIONS.

**ROUTE 20 PUMP STATION #2 ELECTRICAL RISER DIAGRAM**  
 SCHEMATIC

### ADDENDUM No. 2

1	CLW	JULY 2023	ADDENDUM No. 1- FIXED PLOTTING ISSUE
2	FD	AUG 2023	ADDENDUM No. 2- ADDED TELEMETRY
NO.	BY	DATE	DESCRIPTION


SCALE: AS SHOWN
DRAWN: C. WILKINSON DATE: JUNE 2020
CHECKED: R. BOUSTANY DATE: JUNE 2020
APPROVED: J. CARPENTER DATE: AUGUST 2022
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

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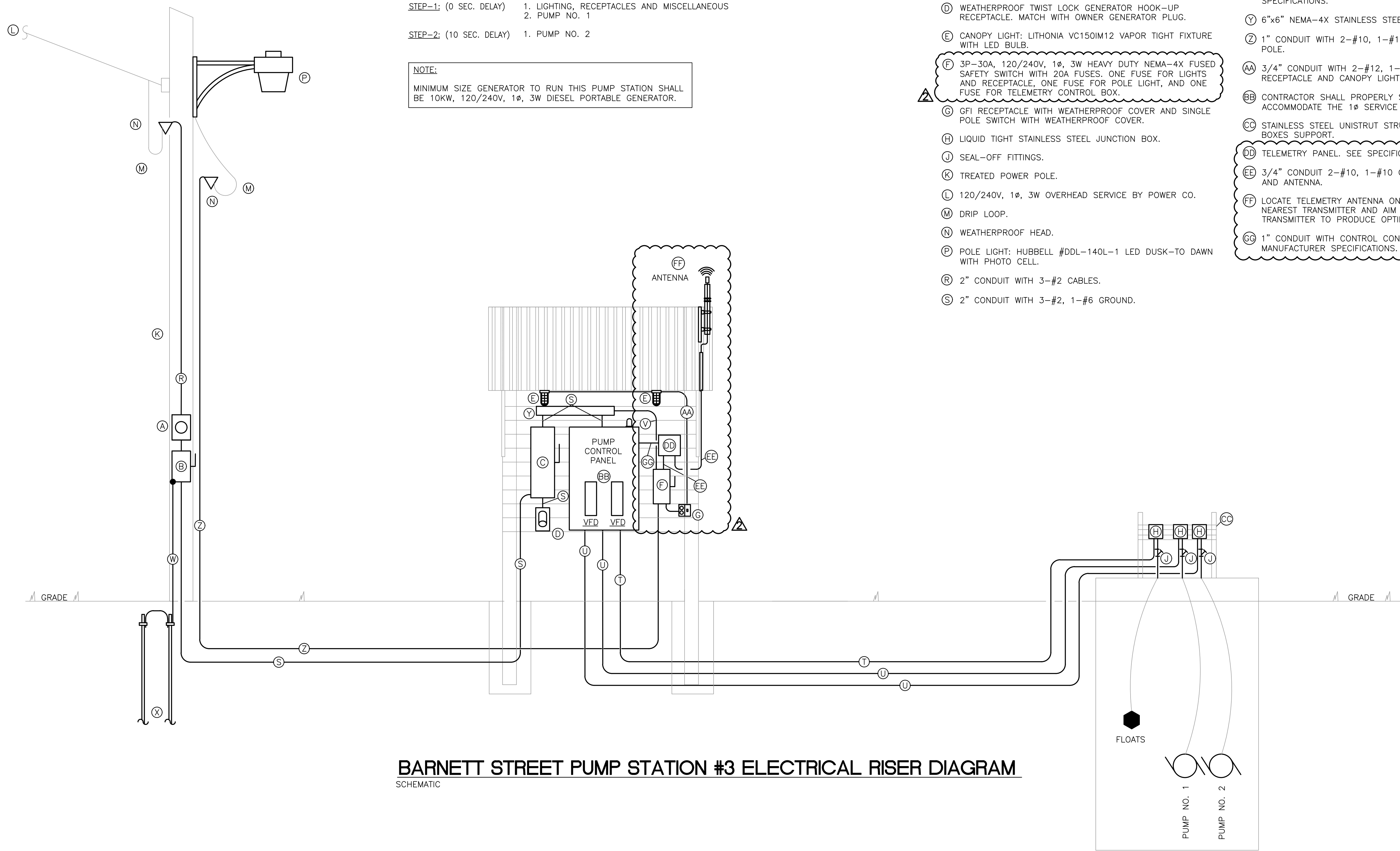
PHASE No.	2
CONTRACT No.	1
PROJECT No.	020-1109

COWEN PUBLIC SERVICE DISTRICT  
 WEBSTER COUNTY, WEST VIRGINIA  
 UPPER GLADE SEWER SYSTEM EXTENSION & UPGRADES  
 PHASE II  
 ROUTE 20 PS#2 ELECTRICAL RISER DIAGRAM

SHEET No.	E-2
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LAYOUT TAG: E-3  
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 PLOT DATE/TIME: 8/13/2023 2:10 PM



### START STEPS FOR PORTABLE GENERATOR

- STEP-1:** (0 SEC. DELAY) 1. LIGHTING, RECEPTACLES AND MISCELLANEOUS  
 2. PUMP NO. 1
- STEP-2:** (10 SEC. DELAY) 1. PUMP NO. 2

**NOTE:**  
 MINIMUM SIZE GENERATOR TO RUN THIS PUMP STATION SHALL BE 10KW, 120/240V, 1Ø, 3W DIESEL PORTABLE GENERATOR.

### RISER NOTES:

- (A) METER.
- (B) MAIN SWITCH: 2P-100A, 120/240V, 1Ø, 3W HEAVY DUTY NEMA-4X STAINLESS STEEL SERVICE RATED FUSED SAFETY SWITCH WITH 100A FUSES.
- (C) MANUAL TRANSFER SWITCH: 2P-100A, 120/240V, 1Ø, 3W NEMA-3R STAINLESS STEEL NON-FUSED DOUBLE THROW SWITCH.
- (D) WEATHERPROOF TWIST LOCK GENERATOR HOOK-UP RECEPTACLE. MATCH WITH OWNER GENERATOR PLUG.
- (E) CANOPY LIGHT: LITHONIA VC150IM12 VAPOR TIGHT FIXTURE WITH LED BULB.
- (F) 3P-3ØA, 120/240V, 1Ø, 3W HEAVY DUTY NEMA-4X FUSED SAFETY SWITCH WITH 20A FUSES. ONE FUSE FOR LIGHTS AND RECEPTACLE, ONE FUSE FOR POLE LIGHT, AND ONE FUSE FOR TELEMETRY CONTROL BOX.
- (G) GFI RECEPTACLE WITH WEATHERPROOF COVER AND SINGLE POLE SWITCH WITH WEATHERPROOF COVER.
- (H) LIQUID TIGHT STAINLESS STEEL JUNCTION BOX.
- (J) SEAL-OFF FITTINGS.
- (K) TREATED POWER POLE.
- (L) 120/240V, 1Ø, 3W OVERHEAD SERVICE BY POWER CO.
- (M) DRIP LOOP.
- (N) WEATHERPROOF HEAD.
- (P) POLE LIGHT; HUBBELL #DDL-140L-1 LED DUSK-TO DAWN WITH PHOTO CELL.
- (R) 2" CONDUIT WITH 3-#2 CABLES.
- (S) 2" CONDUIT WITH 3-#2, 1-#6 GROUND.
- (T) 1" CONDUIT WITH CONTROLS CONDUCTORS FOR FLOATS.
- (U) 1" CONDUIT WITH 3-#10, 1-#10 GROUND.
- (V) 1" CONDUIT WITH 6-#10, 3-#10 GROUND.
- (W) #4 COPPER GROUND WIRE.
- (X) GROUND RODS WITH CLAMPS PER N.E.C. AND POWER CO. SPECIFICATIONS.
- (Y) 6"x6" NEMA-4X STAINLESS STEEL WIREWAY.
- (Z) 1" CONDUIT WITH 2-#10, 1-#10 GROUND TO LIGHT AT POLE.
- (AA) 3/4" CONDUIT WITH 2-#12, 1-#12 GROUND TO RECEPTACLE AND CANOPY LIGHT.
- (BB) CONTRACTOR SHALL PROPERLY SIZE THE VFD'S TO ACCOMMODATE THE 1Ø SERVICE WITH THE 3Ø PUMPS.
- (CC) STAINLESS STEEL UNISTRUT STRUCTURE FOR JUNCTION BOXES SUPPORT.
- (DD) TELEMETRY PANEL. SEE SPECIFICATIONS.
- (EE) 3/4" CONDUIT 2-#10, 1-#10 GROUND TO TELEMETRY AND ANTENNA.
- (FF) LOCATE TELEMETRY ANTENNA ON SIDE OF PANELBOARD NEAREST TRANSMITTER AND AIM ANTENNA TOWARDS TRANSMITTER TO PRODUCE OPTIMUM SIGNAL.
- (GG) 1" CONDUIT WITH CONTROL CONDUCTORS PER MANUFACTURER SPECIFICATIONS.

**BARNETT STREET PUMP STATION #3 ELECTRICAL RISER DIAGRAM**  
 SCHEMATIC

### ADDENDUM No. 2

1	CLW	JULY 2023	ADDENDUM No. 1- FIXED PLOTTING ISSUE
2	FD	AUG 2023	ADDENDUM No. 2- ADDED TELEMETRY
NO.	BY	DATE	DESCRIPTION


SCALE: AS SHOWN
DRAWN: C. WILKINSON DATE: JUNE 2020
CHECKED: R. BOUSTANY DATE: JUNE 2020
APPROVED: J. CARPENTER DATE: AUGUST 2022
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

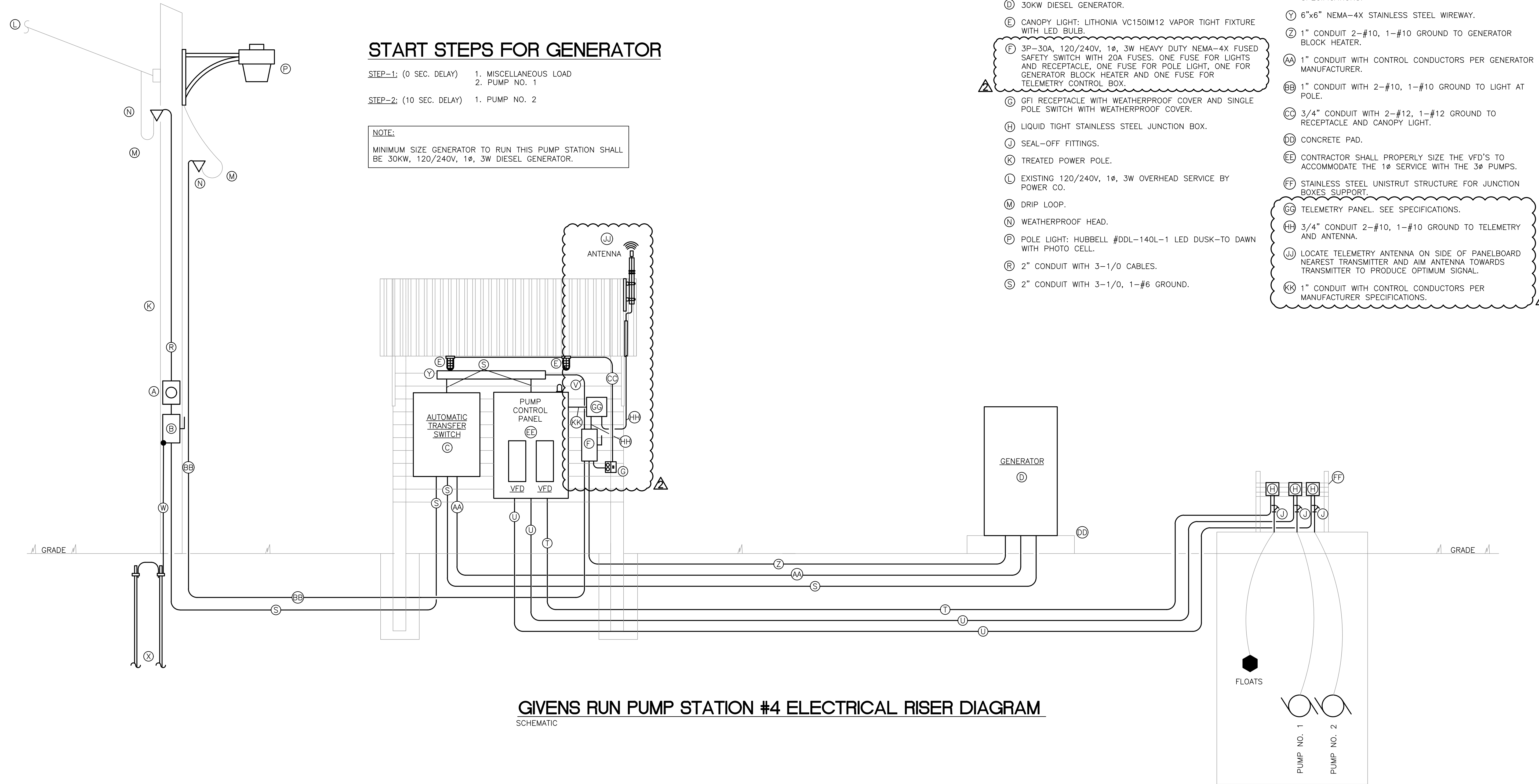
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 PHONE (304) 343-7601 • FAX (304) 343-7604

PHASE No.	2
CONTRACT No.	1
PROJECT No.	020-1109

COWEN PUBLIC SERVICE DISTRICT  
 WEBSTER COUNTY, WEST VIRGINIA  
 UPPER GLADE SEWER SYSTEM EXTENSION & UPGRADES  
 PHASE II  
 BARNETT STREET PS#3 ELECTRICAL RISER DIAGRAM

SHEET No.	E-3
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LAYOUT TAB: E-4  
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 PLOT DATE/TIME: 8/13/2023 2:34 PM



### START STEPS FOR GENERATOR

- STEP-1: (0 SEC. DELAY) 1. MISCELLANEOUS LOAD  
 2. PUMP NO. 1
- STEP-2: (10 SEC. DELAY) 1. PUMP NO. 2

**NOTE:**  
 MINIMUM SIZE GENERATOR TO RUN THIS PUMP STATION SHALL BE 30KW, 120/240V, 1Ø, 3W DIESEL GENERATOR.

### RISER NOTES:

- (A) METER.
- (B) MAIN SWITCH: 2P-200A, 120/240V, 1Ø, 3W HEAVY DUTY NEMA-4X STAINLESS STEEL SERVICE RATED FUSED SAFETY SWITCH WITH 150A FUSES.
- (C) AUTOMATIC TRANSFER SWITCH - "ATS": 2P-150A, 120/240V, 1Ø, 3W NEMA-4X STAINLESS STEEL WITH CONTROLS.
- (D) 30KW DIESEL GENERATOR.
- (E) CANOPY LIGHT: LITHONIA VC150IM12 VAPOR TIGHT FIXTURE WITH LED BULB.
- (F) 3P-3ØA, 120/240V, 1Ø, 3W HEAVY DUTY NEMA-4X FUSED SAFETY SWITCH WITH 20A FUSES. ONE FUSE FOR LIGHTS AND RECEPTACLE, ONE FUSE FOR POLE LIGHT, ONE FOR GENERATOR BLOCK HEATER AND ONE FUSE FOR TELEMETRY CONTROL BOX.
- (G) GFI RECEPTACLE WITH WEATHERPROOF COVER AND SINGLE POLE SWITCH WITH WEATHERPROOF COVER.
- (H) LIQUID TIGHT STAINLESS STEEL JUNCTION BOX.
- (J) SEAL-OFF FITTINGS.
- (K) TREATED POWER POLE.
- (L) EXISTING 120/240V, 1Ø, 3W OVERHEAD SERVICE BY POWER CO.
- (M) DRIP LOOP.
- (N) WEATHERPROOF HEAD.
- (P) POLE LIGHT: HUBBELL #DDL-140L-1 LED DUSK-TO DAWN WITH PHOTO CELL.
- (R) 2" CONDUIT WITH 3-1/0 CABLES.
- (S) 2" CONDUIT WITH 3-1/0, 1-#6 GROUND.
- (T) 1" CONDUIT WITH CONTROLS CONDUCTORS FOR FLOATS.
- (U) 1 1/4" CONDUIT WITH 3-#2, 1-#6 GROUND.
- (V) 1" CONDUIT WITH 6-#10, 3-#10 GROUND.
- (W) #4 COPPER GROUND WIRE.
- (X) GROUND RODS WITH CLAMPS PER N.E.C. AND POWER CO. SPECIFICATIONS.
- (Y) 6"x6" NEMA-4X STAINLESS STEEL WIREWAY.
- (Z) 1" CONDUIT 2-#10, 1-#10 GROUND TO GENERATOR BLOCK HEATER.
- (AA) 1" CONDUIT WITH CONTROL CONDUCTORS PER GENERATOR MANUFACTURER.
- (BB) 1" CONDUIT WITH 2-#10, 1-#10 GROUND TO LIGHT AT POLE.
- (CC) 3/4" CONDUIT WITH 2-#12, 1-#12 GROUND TO RECEPTACLE AND CANOPY LIGHT.
- (DD) CONCRETE PAD.
- (EE) CONTRACTOR SHALL PROPERLY SIZE THE VFD'S TO ACCOMMODATE THE 1Ø SERVICE WITH THE 3Ø PUMPS.
- (FF) STAINLESS STEEL UNISTRUT STRUCTURE FOR JUNCTION BOXES SUPPORT.
- (GG) TELEMETRY PANEL. SEE SPECIFICATIONS.
- (HH) 3/4" CONDUIT 2-#10, 1-#10 GROUND TO TELEMETRY AND ANTENNA.
- (JJ) LOCATE TELEMETRY ANTENNA ON SIDE OF PANELBOARD NEAREST TRANSMITTER AND AIM ANTENNA TOWARDS TRANSMITTER TO PRODUCE OPTIMUM SIGNAL.
- (KK) 1" CONDUIT WITH CONTROL CONDUCTORS PER MANUFACTURER SPECIFICATIONS.

**GIVENS RUN PUMP STATION #4 ELECTRICAL RISER DIAGRAM**  
 SCHEMATIC

### ADDENDUM No. 2

1	CLW	JULY 2023	ADDENDUM No. 1- FIXED PLOTTING ISSUE
2	FD	AUG 2023	ADDENDUM No. 2- ADDED TELEMETRY
NO.	BY	DATE	DESCRIPTION


SCALE: AS SHOWN
DRAWN: C. WILKINSON DATE: JUNE 2020
CHECKED: R. BOUSTANY DATE: JUNE 2020
APPROVED: J. CARPENTER DATE: AUGUST 2022
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PHASE No.	2
CONTRACT No.	1
PROJECT No.	020-1109

COWEN PUBLIC SERVICE DISTRICT  
 WEBSTER COUNTY, WEST VIRGINIA  
 UPPER GLADE SEWER SYSTEM EXTENSION & UPGRADES  
 PHASE II  
 GIVENS RUN PS#4 ELECTRICAL RISER DIAGRAM

SHEET No.	E-4
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