

ADDENDUM NO. 6  
TO THE CONTRACT DOCUMENTS  
for the construction of the  
NAMPA WWTP PHASE I UPGRADES:  
GROUP A—LIQUID STREAM UPGRADES

Date: March 25, 2015  
Project No.: 480770

To All Planholders and/or Prospective Bidders:

The following changes, additions, and/or deletions are hereby made a part of the Contract Documents for the construction of the Nampa WWTP Phase I Upgrades: Group A—Liquid Stream Upgrades, dated December 2014, as fully and completely as if the same were fully set forth therein:

A. PART 2, CONTRACTING REQUIREMENTS

1. Section 00 53 00, Davis-Bacon Wage Determination, Heavy Construction<sup>1</sup>:  
REPLACE in its entirety.

B. PART 3, SPECIFICATIONS

1. Section 01 31 30, Construction and Schedule Constraints:
  - a. ADD the following sentence at the end of subparagraph 1.06.F.8:  
“Trickling filter media that is being demolished shall meet the same wetting requirements at all times. Any media removed from the trickling filter shall be immediately removed from the site. All filter media from Trickling Filter No. 1 shall be removed from the site within 14 days of shut down of the Trickling Filter No. 1.”
  - b. ADD a new subparagraph 1.07.B.4.f as follows:
    - “f. When the mechanism is removed from Trickling Filter 1, it shall be immediately installed on Trickling Filter 2. As this work will require two trickling filters to be offline, it must either be accomplished in 48 hours or be accomplished during the non-TASCO campaign season.”
  - c. MODIFY subparagraph 1.07.B.11.d first sentence, as follows:  
“Coordinate with Systems Integrator if necessary to modify the aeration basin blower control program to accommodate the operation of the new Aeration Basin 3 as well as the existing Aeration Basins 1 and 2.”
  - d. ADD a new subparagraph 1.07.B.11.e as follows:
    - “e. Install and make operational the new blower building PLC prior to the startup of Aeration Basin 3. Coordinate with the

Systems Integrator to allow for programming of the PLC.  
Coordinate with the Owner for operation of Aeration Basin 3 in manual or semi-manual mode until modifications to Aeration Basins 1 and 2 are complete.”

- e. DELETE subparagraph 1.07.C.3 and RENUMBER subparagraph 1.07.C.4 to subparagraph 1.07.C.3.
- 2. Section 01 57 28, Temporary Flow Control<sup>2</sup>: REPLACE in its entirety.
- 3. Section 23 31 13, Metal Ducts and Accessories: DELETE Article 2.13 and INSERT the following new article:  
“2.13 DUCTWORK INSULATION
  - A. Location: Provide insulation on the outside air, fresh air and exhaust air airstreams, including the outside air filter bank housing, but not the energy recovery unit.
  - B. Material: Blanket (ASTM C553, Type 1, Class B3):
    - 1. Fiberglass, nominal 1 pcf density blanket, K factor 0.31 maximum at 75 degrees F mean, with factory-applied FSK (foil-scrim-kraft) vapor barrier jacket, for temperatures to 250 degrees F.
    - 2. 1-1/2-inch thickness.
    - 3. Factory finish.
    - 4. Manufacturers and Products:
      - a. CertainTeed; Duct Wrap.
      - b. Johns Manville; Microlite.
      - c. Owens/Corning Fiberglass; Soft R.
      - d. Knauf; Ductwrap.”
- 4. Section 31 23 19.01, Dewatering: DELETE paragraph 3.03.E and INSERT the following new paragraph:  
“E. Contractor may obtain power for dewatering equipment from the Owner’s power system, but it is the Contractor’s responsibility to determine where to obtain the power and provide necessary breakers and conductors to get the power to where it is needed onsite. The Owner will pay for the power taken from the Owner’s electrical system. The Owner’s emergency power backup electrical distribution system is not sufficient to provide emergency power backup for the Contractor’s use. Contractor to provide 100 percent emergency power

backup with automatic startup and switchover in event of Owner's electrical system power failure."

5. Section 44 42 56.04, Submersible Pumps:
  - a. Page 1, in the Equipment and Component Number(s) table, above the row "4487AB3DW3 Dewatering Sump Pump 3", ADD two new rows:  

"4028NDEWA1	Dewatering Sump Pump 1
4038NDEWA2	Dewatering Sump Pump 2"
  - b. Data Sheet for Pump 4487AB3DW3 Dewatering Sump Pump 3: CHANGE the Tag Numbers line to "4028NDEWA1, 4038NDEWA2 and 4487AB2DW3".
  - c. Data Sheet for Pump 4487AB3DW3 Dewatering Sump Pump 3: CHANGE the Pump Name to "Dewatering Sump Pump 1, 2 and 3".
  - d. Data Sheet for Pump 4487AB3DW3 Dewatering Sump Pump 3: On page 2, under REMARKS, REMOVE the 2nd and 3rd sentences that read "Coordinate with base elbows ... of the schedules preconstruction tours."

C. DRAWINGS

1. Drawing 010-G-007: The Primary Contractor Laydown Area shown on the right side of the sheet shall be EXPANDED to include the area surrounded by roads just to the north of the laydown area indicated on the drawing. On Sheet 010-G-006, this is the area to the right of Trickling Filter No. 3 with BM #12 in the center of it.
2. Drawing 010-G-025<sup>3</sup>: REPLACE drawing in its entirety,
3. Drawing 050-D-302<sup>4</sup>: REPLACE drawing in its entirety. Addendum 3 drawing replacement did not have the markups from Addendum 1 changes. The attached shows both the Addendum 1 and 3 changes.
4. Drawing 050-D-402:
  - a. On right side of plan, CHANGE "48" ML" to "42" ML".
  - b. CHANGE Keynote 3 to read: "PROVIDE TEMPORARY PLUGS ON 42" ML".
5. Drawing 050-CY-100<sup>5</sup>: REPLACE drawing in its entirety.
6. Drawing 050-CY-108<sup>6</sup>: REPLACE drawing in its entirety.

7. Drawing 050-CY-109: REPLACE Keynote 8:
  - “8. TUPS DISCHARGE: ROUTE PIPING TO AEROBIC ZONE 1 IN AERATION BASINS 1 AND 2. AT THE CONTRACTOR'S OPTION, THE TUPS DISCHARGE MAY BE ROUTED TO THE PLANT HEADWORKS ALONG WITH THE EXCAVATION DEWATERING WATER. SEE SHEET 050-CY-100.”
8. Drawing 050-CY-114:
  - a. In the lower right: CHANGE “8" UD” to “8" DEW”.
  - b. Keynote 11: CHANGE “8" UD” to “8" DEW”.
  - c. REVISE Keynote 1 to read: “INSTALL PLUG ON TEE ON 30" RAS FOR FUTURE CONNECTION TO AERATION BASIN 4”.
  - d. REVISE Keynote 2 to read: “REMOVE EXISTING CLOSURE ON END OF EXISTING 30" RAS AND CONNECT TO NEW 30" RAS”.
9. Drawing 050-CY-301<sup>7</sup>: REPLACE drawing in its entirety.
10. Drawing 050-E-108<sup>8</sup>: REPLACE drawing in its entirety.
11. Drawing 050-E-109<sup>9</sup>: REPLACE drawing in its entirety.
12. Drawing 321-M-111: ADD a Note 5 as follows:
  - “5. THE ARMS SHALL BE REMOVED FROM TRICKLING FILTER 1 MECHANISM TO FACILITATE ITS RELOCATION TO TRICKLING FILTER NO. 2. THE LOWER, FIXED PORTION OF THE CENTER TOWER SHALL BE STRAPPED OR AFFIXED TO THE UPPER PORTION WHILE BEING MOVED TO KEEP THE LOWER PORTION FROM SEPARATING FROM THE UPPER PORTION.”
13. Drawing 381-E-001: DELETE the text “ACTIVE HARMONIC CONDITIONER (100A)” in the bottom left hand corner of the drawing.
14. Drawing 421-M-111<sup>10</sup>: REPLACE drawing in its entirety.
15. Drawing 421-M-301<sup>11</sup>: REPLACE drawing in its entirety.
16. Drawing 421-M-302<sup>12</sup>: REPLACE drawing in its entirety.
17. Drawing 422-M-111<sup>13</sup>: REPLACE drawing in its entirety.
18. Drawing 422-M-301<sup>14</sup>: REPLACE drawing in its entirety.

19. Drawing 422-M-302<sup>15</sup>: REPLACE drawing in its entirety.
20. Drawing 423-M-111<sup>16</sup>: REPLACE drawing in its entirety.
21. Drawing 423-M-301<sup>17</sup>: REPLACE drawing in its entirety.
22. Drawing 423-M-302<sup>18</sup>: REPLACE drawing in its entirety.
23. Drawing 423-M-303<sup>19</sup>: REPLACE drawing in its entirety.

D. OTHER INFORMATION

1. Bidders' Questions/Engineers Responses<sup>20</sup>: REFERENCE attached list of Bidders' question's (written) and the associated response from the Engineer.
2. Project Site Visit and Tour Documentation<sup>21</sup>. A Project site visit and tour was held March 17, 2015. REFERENCE attached documentation from the meeting for the use of the bidders.

All Bidders shall acknowledge receipt and acceptance of this Addendum No. 6 in the Bid Form or by submitting the Addendum with the bid package. Bid Forms submitted without acknowledgment or without this Addendum will be considered in nonconformance.

CH2M HILL



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Project Manager

**END OF ADDENDUM**

- <sup>1</sup> Section 00 53 00, Davis-Bacon Wage Determination, Heavy Construction
- <sup>2</sup> Section 01 57 28, Temporary Flow Control
- <sup>3</sup> Drawing 010-G-025
- <sup>4</sup> Drawing 050-D-302
- <sup>5</sup> Drawing 050-CY-100
- <sup>6</sup> Drawing 050-CY-108
- <sup>7</sup> Drawing 050-CY-301
- <sup>8</sup> Drawing 050-E-108
- <sup>9</sup> Drawing 050-E-109
- <sup>10</sup> Drawing 421-M-111
- <sup>11</sup> Drawing 421-M-301
- <sup>12</sup> Drawing 421-M-302
- <sup>13</sup> Drawing 422-M-111
- <sup>14</sup> Drawing 422-M-301
- <sup>15</sup> Drawing 422-M-302
- <sup>16</sup> Drawing 423-M-111
- <sup>17</sup> Drawing 423-M-301
- <sup>18</sup> Drawing 423-M-302
- <sup>19</sup> Drawing 423-M-303
- <sup>20</sup> Bidders' Questions/Engineers Responses
- <sup>21</sup> Project Site Visit and Tour Documentation

General Decision Number: ID150067 01/23/2015 ID67

Superseded General Decision Number: ID20140067

State: Idaho

Construction Type: Heavy

HEAVY CONSTRUCTION, Including water and sewer line construction and heavy construction projects on treatment plants and industrial (power plants, manufacturing plants, processing plants, etc.) sites

County: Canyon County in Idaho.

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/02/2015
1	01/16/2015
2	01/23/2015

ELEC0291-011 06/01/2014

	Rates	Fringes
ELECTRICIAN.....	\$ 27.60	12.34

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ENGI0370-038 01/01/2015

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Scrapers (over 40 yds to 60 yds)		
GROUP 7.....	\$ 28.37	11.85
Bulldozer, Scraper (over 80 yds to 100 yds)		
GROUP 8.....	\$ 28.60	11.85
Scraper (over 100 yds)		
GROUP 10.....	\$ 29.08	11.85
Scraper (up to and including 40 yds)		
GROUP 6.....	\$ 28.00	11.85

ZONE PAY:

Zone 1 0 - 30 miles: Free  
 Zone 2 30 - 60 miles: \$25.00/per day

Zone 3 More than 60 miles: \$30.00/per day.

If a project is located in more than one zone the lower zone rate shall apply

ZONES SHALL BE MEASURED FROM THE THE FOLLOWING U.S. POST OFFICES:

BOISE: 304 N. 8TH STREET  
 TWIN FALLS: 253 2ND AVE. WEST  
 POCATELLO: CLARK STREET  
 IDAHO FALLS: 875 NORTH CAPITAL AVE.

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 \* TEAM0483-003 01/01/2015

	Rates	Fringes
TRUCK DRIVER		
GROUP 5A.....	\$ 24.51	13.55
GROUP 5B.....	\$ 24.69	13.55
GROUP 5C.....	\$ 24.92	13.55
GROUP 5D.....	\$ 25.03	13.55
GROUP 5E.....	\$ 25.66	13.55
GROUP 5F.....	\$ 26.10	13.55

GROUP DEFINITIONS:

GROUP 5A: Dump (0-16 yds)  
 GROUP 5B: Dump (16-30 yds)  
 GROUP 5C: Dump (30-50 yds)  
 GROUP 5D: Dump (50-75 yds)  
 GROUP 5E: Dump (75-100 yds)  
 GROUP 5F: Dump (over 100 yds)

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 SUID2010-060 08/08/2012

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 22.42	9.10
CARPENTER, Excludes Form Work....	\$ 26.06	11.26
CEMENT MASON/CONCRETE FINISHER...	\$ 22.43	15.06
LABORER: Common or General.....	\$ 12.39	2.46
LABORER: Grade Checker.....	\$ 21.76	9.81
LABORER: Mason Tender - Cement/Concrete.....	\$ 22.15	10.15
OPERATOR: Grader/Blade.....	\$ 28.51	9.60
OPERATOR: Loader (Front End)....	\$ 19.93	3.83
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 19.47	2.79



TRUCK DRIVER: Water Truck.....\$ 21.00 13.42

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

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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 Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

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

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

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator

(See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

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

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

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

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

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

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END OF GENERAL DECISION



**SECTION 01 57 28**  
**TEMPORARY FLOW CONTROL**

**PART 1 GENERAL**

1.01 DEFINITIONS

- A. Bypass Pumping: Temporary flow control accomplished by diverting flow away from the Work area using one or more pumps.
- B. Temporary Flow Control: Reducing, limiting, or excluding flow in or to a sanitary sewer, storm sewer, pump station, force main, or other facility as required for performing the Work under the Contract. Draining, handling, and disposal of sanitary sewage and stormwater from pipelines and other facilities as required for performing the Work under the Contract is also part of temporary flow control.
- C. Temporary Flow Control Plan: Plan prepared by Contractor containing complete information on how Contractor proposes to perform temporary flow control in accordance with specified requirements.

1.02 SYSTEM DESCRIPTION

- A. Provide facilities and controls required to intercept, convey, and discharge flow to be controlled; include standby and emergency equipment.
- B. Conform to regulatory requirements.
- C. Protect water resources, wetlands, and other natural resources.
- D. Temporary flow control shall be done in a manner that will not damage private or public property, or create a nuisance or public menace. Flow shall be conveyed in enclosed pipes that are adequately protected from traffic or other hazards.
- E. Discharge:
  - 1. To wastewater treatment plant.
  - 2. Dumping or free flow on private or public property, gutters, streets, or sidewalks is prohibited.
  - 3. Discharge of sanitary sewage to storm sewers, to surface waters or wetlands, or into the ground, is prohibited.

1.03 SITE CONDITIONS

- A. Existing facilities in vicinity of the wastewater treatment plant are shown on Drawings.

- B. Provide pumping, level monitoring and control systems and temporary piping as described herein and on the Drawings.

1.04 SUBMITTALS

- A. Informational Submittals:
  - 1. Temporary Flow Control Plan.
  - 2. Information describing equipment and materials to be used and showing conformance with specified requirements.

1.05 QUALITY ASSURANCE

- A. Qualifications:
  - 1. Temporary Flow Control System Designer: Professional engineer who has at least 5 years' experience in design of such systems and who is registered in the State of Idaho.

1.06 SEQUENCING AND SCHEDULING

- A. Refer to Section 01 31 30, Construction and Schedule Constraints.

**PART 2 PRODUCTS (NOT USED)**

**PART 3 EXECUTION**

3.01 GENERAL REQUIREMENTS

- A. Install temporary flow control facilities only within Owner's property.
- B. Operate and maintain temporary flow control 24 hours per day, 7 days per week, including without limitation, holidays, as required to control flows.
- C. Promptly remove temporary flow control facilities as soon as they are no longer needed.
- D. Contractor or the temporary flow control subcontractor shall respond in 30 minutes or less to a call from the Nampa treatment plant operators indicating that there is a malfunction in the temporary flow control system. Phone number contacts shall be furnished to the Owner and shall be posted and made available to the onsite or on-call treatment plant operators.

## 3.02 REQUIRED TEMPORARY FLOW CONTROL

## A. Secondary Clarifier Bypass Pumping:

1. The total plant flow shall be pumped from the Trickling Filter Effluent Pump Station (TFEPS) wet well or from the Trickling Filter Recirculation Pump Station (TFRPS) filter outlet box to the secondary clarifier. Bypass pumping must be operational for 7 days prior to removing the following processes from service.
  - a. The existing flow path from the Primary Effluent Splitter Box to the Secondary Effluent Pump Station (SEPS).
2. Bypass pumping capacity shall be 5 mgd to 24 mgd. This capacity shall be achieved through a combination of the two existing TFEPS submersible pumps, each rated for 5.75 mgd, and a minimum of three temporary pumps each rated for a minimum of 6.25 mgd, such that the 24 mgd flow can be achieved with any one pump out of service.
3. The bypass pumps shall take suction from the TFEPS wet well with a water service elevation of 2445.88 ~~3~~ or the TFRPS filter outlet box with a water surface elevation of 2446.7 and pump to the Secondary Clarifier No. 2 with a water surface at elevation 2469.2. The bypass may discharge into the existing TFEPS discharge header, or pump over the wall of the clarifier (at elevation 2471.2) and discharge into the center distribution well of the clarifier. If a tie-in is made to the existing 30-inch TFEPS discharge header, the Contractor shall provide calculations that the existing pump flow will not be substantially reduced as a function of the bypass pump back pressure such that the 24 mgd cannot be achieved. If a temporary discharge line is used, this line must be supported across the secondary clarifier radius and shall not impede secondary clarifier sweep arm operation.
4. The bypass pumps shall be electric motor driven and provided with variable speed drives and their own level control system to vary pump speed and cycle pumps to control the level in the TFEPS wet well or the TFRPS filter outlet box. The bypass pumps shall be the base-load pumps.
5. The two existing TFEPS variable speed submersible pumps shall continue to operate off their existing level control system, and shall be the backup pumps. If the bypass pumps turn on and ramp up to full speed, and the wet well level continues to rise, then the existing TFEPS pumps shall start and ramp up and down in speed to control the level in the wet well.
6. The existing wet well high and low level alarm switches shall remain in place and be used to generate alarms through the plant control system.
7. The bypass pumping system shall operate off a single 480V, three-phase power supply as shown on the electrical drawings. Any required control voltage shall be derived from this 480V power supply.

8. Provide a backup diesel power generator to provide power to the Contractor-provided bypass pumps if the utility power fails (the two existing pumps that are part of the bypass pumping system are on the treatment plant's standby power system.). The generator shall be sized to start and run all of the bypass pumps and control system for the secondary clarifier bypass pump system. Also provide an automatic transfer switch that will automatically start the generator and transfer load to it if the utility power fails. Provide secondary containment for diesel fuel storage, and an automatic charger for the generator batteries. Normal operation of the bypass pumping system will be powered from the plant electrical system.
- ~~8.~~9. The bypass pumps, variable speed drives, diesel generator, auto transfer switch and associated controls shall be suitable for outdoor installation, or the Contractor shall provide a suitable enclosure if any of this equipment is to be located indoors. Piping material is the Contractor's option. Provisions to prevent freezing shall be provided.
- ~~9.~~10. Refer to the drawings for a layout of the existing TFEPS and its discharge piping, the TFRPS outlet box and the Secondary Clarifier No. 2.
11. Provide a discrete output signal for bypass pump failure (motor temperature, motor moisture, not-operating) and bypass pump sump high and low water level, and provide temporary connection to the plant SCADA system. The discrete signal shall be a single dry contact, or a series of dry contacts in parallel. The closure of any one contact shall initiate a common alarm condition to the plant SCADA system. Run heavy duty SOW cables from the contact(s) to either the plant SCADA panel the TFEPS control panel, or the SCADA panel in the TFRPS. Connection of the wires to the SCADA panel will be by the Owner.
- ~~10.~~12. Also provide an audible and visual alarm at the bypass pump control panel, as well as indication of the specific condition that initiated the alarm.

B. Secondary Clarifier Discharge Piping:

1. The trickling filter secondary effluent (TFSE) shall be piped from the discharge of Secondary Clarifier No. 2 to Aeration Basins 1 and 2. The connection to Aeration Basins 1 and 2 shall be made using the new 16-inch SI pipe connections to the Selector Zones that are shown on the Drawings for the new permanent SI feed to these basins.
2. The temporary piping shall be designed to convey the TFSE by gravity from the secondary clarifier launder with a water surface of elevation 2468.6 to Aeration Basins 1 and 2 with a water surface of 2460.8. The existing 30-inch TFSE line may be reused to the extent possible and as allowed by the modifications required by the work under this Contract.



3. Valves shall be provided to allow the flow to either Aeration Basin 1 or 2 to be shut off to take a basin out of service and to provide operational flexibility. Piping to one of the basins that may be isolated and have no flow shall be arranged to drain or have provisions for draining to prevent freezing during sub-freezing temperatures.
  4. Provide calculations to demonstrate that the flow to Basins 1 and 2 will split equally within 20 percent for flows from 5 mgd to 15 mgd and within 10 percent for flows from 16 mgd to 24 mgd based on the installed bypass piping loss. If the valves in the lines to each basin need to be throttled to achieve these flow splits, provide a chart of valve position versus flow.
  5. Piping material is the Contractor's option. Piping may be located above or below grade, but shall be installed in either scenario such that the Owner's access to the road on the north side of Aeration Basins 1 and 2 is not impeded except as authorized by the Owner.
  6. Provisions to prevent freezing shall be provided.
- C. Temporary Underdrain Pump Station Piping –North Side of Aeration Basins 1 and 2:
1. The discharge of the underdrain pump station located on the north side of Aeration Basins 1 and 2 shall be rerouted to Aeration Basins 1 and 2 until such time as the permanent reroute of this discharge line to an operating PEPS is in service.
  2. The pipe shall be routed over the top of the aeration basin wall and discharge into the FAZ zones of Basins 1 and 2. Valves shall be provided in the line to each basin to allow the flow to be routed to either Basin 1 or 2, or to both Basin 1 and 2. Piping shall be arranged relatively symmetrically to each basin so that the flow will split about equally based on the piping layout without the need to throttle the valve to either basin. Piping to one of the basins that may be isolated and have no flow shall be arranged to drain or have provisions for draining to prevent freezing during sub-freezing temperatures.
  3. Piping material is the Contractor's option. Piping may be located above or below grade, but shall be installed in either scenario such that the Owner's access to the road on the north side of Aeration Basins 1 and 2 is not impeded, except as authorized by the Owner. Any piping routed over the walkway(s) on the aeration basins shall be located at least 6 feet above the top of the walkway.
  4. Provisions to prevent freezing shall be provided.
- D. Temporary Underdrain, Storm Drain, and TOF Piping (TUPS)– South Side of Aeration Basins 1 and 2:
1. The discharge of the digester underdrain pump station, storm drain piping and the TOF line located on the south side of Aeration Basins 1

- and 2 shall be rerouted to Aeration Basins 1 and 2 until such time as the permanent reroute of these lines to an operating PEPS is in service.
2. The underdrain and storm drain flows currently combine in manholes on the south side of Aeration Basin 1 and 2. These are to be intercepted and eventually rerouted to the PEPS wet well as shown on 050-CY-109. On that same sheet, an existing 15-inch TOF line is shown to be intercepted and rerouted to PEPS as part of the permanent modifications. During construction, until PEPS is operating, both of these lines are to be routed and flow by gravity to Primary Clarifier 1. From Primary Clarifier 1, the flows are to be pumped to Aeration Basins 1 and 2.
  3. Provide a minimum of two pumps, sized to maintain the required flow with one pump out of service. The required maximum pumping rate is 1,200 gpm. The Contractor can select pump type (i.e. submersible).
  4. The pumps are to pump from Primary Clarifier 1 to Aeration Basins 1 and 2, or at the Contractor's option, to the headworks structure, as indicated on the Drawings. Primary Clarifier 1 has a bottom sidewall elevation of 2445, a bottom center elevation of 2441.6 and a diameter of 90 feet. The pumps should operate in ON-OFF control at fixed speed, with a lead pump and a lag pump, and maintain the level in the clarifier at not more than 2447. Contractor shall provide level controls to automatically control the pumps.
  5. Pumps shall be electric motor driven and contractor shall provide disconnects and starters for the pumps. Power to the pumps shall be a single 480V, three-phase power connection as shown on the electrical Drawings. Any required control voltage shall be derived from the 480V power supply.
  6. The bypass pump discharge pipe shall be routed over the top of the aeration basin wall and discharge into Zone 3 of Basins 1 and 2. A valve shall be provided in the line to each basin to allow the flow to be routed to either Basin 1 or 2, or to both Basin 1 and 2. Piping shall be arranged relatively symmetrically to each basin so that the flow will split about equally based on the piping layout without the need to throttle the valve to either basin. Piping to one of the basins that may be isolated and have no flow shall be arranged to drain or have provisions for draining to prevent freezing during sub-freezing temperatures.
  - ~~6.7.~~ At the Contractor's option, the bypass pump discharge may be routed to the discharge channel at the headworks structure. The discharge pipe will have to go over the top of the channel wall at elevation 2463.17 if routed directly to the channel. The discharge pipe may also be tied into a construction dewatering system pipe that is being routed to the headworks structure. If connected into the construction dewatering system piping, provide appropriate backflow devices (such as check valves) to prevent dewatering water from entering Primary Clarifier No. 1.
  - ~~7.8.~~ Piping material is the Contractor's option. Piping may be located above or below grade, but shall be installed in either scenario such that the

Owner's access to the road on the south side of Aeration Basins 1 and 2 is not impeded, except as authorized by the Owner and as required by the Work. Any piping routed over the walkway(s) on the aeration basins shall be located at least 6 feet above the top of the walkway.

~~8.9.~~ Provide a high high-level switch in Primary Clarifier No. 1~~the basin~~ to indicate that the elevation has exceeded 1 foot above the highest level start. The switch output shall be a dry contact closure that closes on high level. Run heavy duty SOW cables from the switch to the plant SCADA panel in the Primary Sludge Pump Station No. 1. Landing of the wires in the panel will be by the Owner.

~~9.10.~~ Provisions to prevent freezing shall be provided.

### 3.03 EQUIPMENT AND MATERIALS

#### A. General:

1. Provide materials and equipment that will ensure continuous and successful operation of temporary flow control systems.
2. Repair or modify systems as necessary.
3. Unless otherwise shown or specified, materials and equipment may be new or used at Contractor's option.

#### B. Pumps:

1. Fully automatic, self-priming units that do not require use of foot valves or vacuum pumps in priming system, or submersible pumps.
2. Solids handling design with ability to pump minimum 3-inch diameter sphere.
3. Able to run dry for long periods of time to accommodate cyclical nature of flows.
4. Motors: 480V, three-phase, with enclosure suitable for outdoor application.

#### C. Standby Equipment:

1. Standby Pump: One for each bypass system to be installed and sequenced into the control system to start automatically if one of the other bypass ~~pumps or one of the existing TFEPS~~ pumps fails.
2. Electric Power Generators: Minimum of one for Secondary Clarifier bypass pumping system if temporary flow control system contains electric powered pump. Able to simultaneously start and run electric powered pumps required for flow to be controlled.

### 3.04 TEMPORARY FLOW CONTROL PLAN

- A. Prepare and submit Temporary Flow Control Plan at least 30 days before starting the Work requiring temporary flow control; include following information:
1. Drawings indicating location of temporary pumps and bypass gravity and discharge lines.
  2. Locations where flow will be intercepted and discharged.
  3. Complete descriptions and performance characteristics of pumps, electric power generators, and standby equipment.
  4. Details of temporary force mains, including horizontal and vertical alignments, pipe materials, protection of existing buried and aboveground facilities and improvements, maintenance of traffic and access to facilities.
  5. Design calculations proving adequacy of temporary system and selected equipment to convey all flows.
  6. Drawings showing layouts and configurations of temporary flow control facilities.
  7. Drawings and design calculations for thrust restraint of temporary piping.
  8. Details of system controls and control logic; include diagrams and narrative.
  9. Power system layout and pump wiring schematic.
  10. Anticipated schedule for the Work.
  11. Other information to completely describe temporary flow control facilities and conformance to specified requirements.
  12. Contract information for requesting service during all hours when Contractor is not onsite.

### 3.05 DRAINING EXISTING PIPELINE

- A. Before initiating shutdown, ensure required materials, equipment, and labor are available onsite. Excavate and expose portions of existing pipeline to be removed or bypassed.
- B. Provide tap and piping in place to drain liquid from existing pipeline before it is cut and to capture contents that may drain out when pipe is cut.
- C. Liquid drained from pipeline shall be conveyed and discharged to basin approved by the Owner.

### 3.06 FIELD QUALITY CONTROL

#### A. Hydrostatic Pressure Test for Pump Bypass Systems:

1. Prior to operation, test each section of discharge piping with maximum pressure equal to 1.5 times maximum operating pressure of system.
2. Notify Engineer 24 hours prior to testing.

#### B. Full Scale Test:

1. At least 7 days prior to test, notify Engineer of date and time of test.
2. Do not begin temporary flow control activities until successful test has been completed.
3. Conduct on proposed temporary flow control at least 7 days before scheduled date of actual proposed temporary flow control.
4. Purpose of test is to demonstrate capability, function, and reliability of Contractor's proposed method of temporary flow control.
5. Duration: Minimum of 3 hours.
6. Conduct between 8:00 a.m. and 4:00 p.m. on a weekday.
7. If electric pumps are being used, provide standby generators to ensure continuity of pumping operation in event of power failure.
8. Demonstrate system controls and operation, reliability, and transfer to standby equipment during test.
9. Conduct until flow is accommodated for minimum specified test duration.
10. Failure:
  - a. Test shall be deemed to have failed if during test flows are not accommodated for whatever reason and for whatever length of time.
  - b. If test fails, determine and correct deficiencies that caused test to fail and conduct another Full Scale Test.
11. Determination by Engineer of a successful test, permission by Engineer to proceed with the Work requiring temporary flow control, or anything else shall not relieve Contractor from responsibility to provide temporary flow control.

**END OF SECTION**

