SECTION 01030

SPECIAL PROJECT CONSTRAINTS

PART 1 GENERAL

1.01 SUMMARY

A. Work involved with existing plant:
   1. The Work shall be executed while the existing wastewater treatment plant is in operation. Operation of the existing plant shall not be jeopardized, nor shall the efficiency of wastewater treatment be reduced as a result of the execution of the Work.
   2. Critical events in the sequence of construction are described in this Section and shall be utilized by the Contractor as a guideline.

1.02 COMPLIANCE WITH UPDES PERMIT

A. Operations by the Contractor shall not impair in any way the Owner's responsibility to comply with the facility's UPDES permit requirements.

1.03 OUTAGE PLANS

A. It is the Contractor's responsibility to coordinate and plan their construction activities in detail and provide such to the Owner as needed or as requested basis by the Owner or the Engineer. Outage plans shall be complete, concise, and provided a minimum of two weeks in advance to the Owner for review.

1.04 SCHEDULE CONSTRAINTS

A. It is the Contractor's responsibility to coordinate and plan the construction activities to integrate each schedule constraint into performance of the overall Work.

B. Unless approved by the Owner, work may only be done in one facility at a time.

C. Temporary heat will be required 24 hours a day, 7 days a week in buildings where existing heating facilities are inoperable during construction once low temperatures as expected to be below 40 degrees Fahrenheit.

1.05 CONSTRUCTION SEQUENCING

A. Return Activated Sludge (RAS)/Waste Activated Sludge (WAS) Pump Station No. 2:
   1. Construction work shall begin in RAS/WAS Pump Station No. 2.
   2. All valve and equipment changes to allow work to be done in RAS/WAS Pump Station No. 2 will be done by the Owner. RAS/WAS Pump Station No. 2 can be taken completely off-line.
   3. Provide a temporary generator to power the 37.5 KVA transformer and lighting panel.
   4. Demolish RW-MCC-C and RW-MCC-E2. Reserve the MCC and components to be used for temporary connections in other buildings.

5. Install the new RW-MCC-C RW-MCC-E2.
6. Submit Manufacturer's Certificate of Installation.
7. Perform field electrical acceptance testing.
8. Make all power and control connections, perform functional testing and put the new motor control centers into service.
9. Remove the temporary generator.

B. Chemical Building:
1. Provide a temporary generator to power the PCM (480VAC), 10 kVA transformer, 75 KVA transformer and 37.5 KVA transformer. The work on CB-MCC shall not start until the temporary generator is installed and in operation.
2. Demolish CB-MCC.
3. Install the new CB-MCC.
4. Submit Manufacturer's Certificate of Installation.
5. Perform field electrical acceptance testing.
6. Make all power connections and put the new CB-MCC into service.
7. Remove the temporary generator.

C. Utility Water Pump Station:
1. Generator power to the Utility Water Pump Station is supplied from SG-EDA in the Generator Building.
    a. The conductors enter CC-MCC-A section 4 and are then routed to the emergency power bus in CC-MCC-B section 2.
    b. From the emergency power bus, conductors are connected to the emergency power breakers in each MCC.
2. Work in RAS/WAS Pump Station No. 2 shall be complete before work begins in the Utility Water Pump Station.
3. One of the Utility Water Pump Station motor control centers and 3 utility water pumps must be always in operation.
4. Before beginning work on CC-MCC-B, provide a temporary generator to power one of the 75 horsepower utility water pump VFDs powered from CC-MCC-B.
    a. Utilize MCC components from RAS/WAS Pump Station No. 2 as required.
5. Demolish the automatic transfer switch in CC-MCC-B.
    a. Isolating the automatic transfer switch using the circuit breakers in CCMCC-B will allow CC-MCC-A to continue to be fed from the existing generator power connection.
6. Install the new automatic transfer switch.
7. Make power connections.
8. Perform field electrical acceptance testing and functional testing.
9. Restore CC-MCC-B to service.
10. Restore the utility water pump on generator power to CC-MCC-B.
11. Provide a temporary generator to power the 10 KVA transformer and lighting panel.
12. Before beginning work on CC-MCC-A, provide a temporary generator to:
13. Power one of the 75 horsepower utility water pump VFDs powered from CCMCC-A.
14. Supply power to the automatic transfer switch in CC-MCC-B.
    a. Utilize MCC components from RAS/WAS Pump Station No. 2 as required.

15. Demolish CC-MCC-A:
    a. To allow for the demolition of CC-MCC-A, the existing emergency power connection from SG-EDA needs to be pulled back which removes emergency power from CC-MCC-B
16. Install the new CC-MCC-A.
17. Submit Manufacturer's Certificate of Installation.
18. Perform field electrical acceptance testing.
19. Make all power and control connections, perform and functional testing and put the new CB-MCC into service.
20. Restore the utility water pump on generator power to CC-MCC-A.
21. Remove the temporary generator.

D. Headworks:
1. HW-MCC-A powers influent pumps HW-P-4, HW-P-6 and HW-P-7, Boilers BL-0161, BL-0171 and HW,MCC-D. HW-MCC-B powers influent pumps HW-P-2, HW-P-3, and HW-P-5.
2. Provide a temporary generator to power Boilers BL-0161, BL-0171 and HW-MCC-D if the expected low temperatures are expected to be below 40 degrees Fahrenheit.
3. Three influent pumps shall be connected to utility power at all times.
    a. Provide a temporary generator to power one influent pump, when the MCC that feeds it is off-line. Coordinate the influent pump that will be connected to the generator with the Owner.
4. Coordinate with the Owner on the order of MCC Work.
5. Install the temporary generator and connect it to the selected influent pump VFD for demolition of HW-MCC-A.
6. Provide a temporary generator to power the 25 kVA transformer and panelboard LHW-2A.
7. Demolish HW-MCC-A.
8. Install the new HW-MCC-A.
9. Submit Manufacturer's Certificate of Installation.
10. Perform field electrical acceptance testing.
11. Make all power and control connections, perform functional testing, and put the new HW-MCC-A into service.
12. Place two influent pumps into operation before disconnecting the temporary generator and placing the third influent pump back into service on HW-MCC-A.
13. Provide a second temporary generator to power HW-MCC-C while HW-MCC-B is being replaced.
    a. Due to space constraints at the site, the temporary generator used to power HW-MCC-C cannot be the same generator used to power an influent pump.
    b. The work on HW-MCC-B shall not start until the temporary generators are installed and in operation.
14. Install the temporary generator and connect it to the selected influent pump VFD for demolition of HW-MCC-B.
15. Provide a temporary generator to power the 25 kVA transformer and panelboards LHW-2, LHW-2A.
16. Provide temporary supports for the conduit and wireway supported from HW-MCC-B.
17. Demolish HW-MCC-B.
18. Install the new HW-MCC-B and raceway supports.

19. Submit Manufacturer's Certificate of Installation.
20. Perform field electrical acceptance testing.
21. Make all power and control connections, perform functional testing, and put the new HW-MCC-B into service.
22. Place 2 influent pumps into operation before disconnecting the temporary generator and placing the third influent pump back into service on HW-MCC-B.
23. Remove all temporary generators.

E. RAS/WAS Pump Station No. 1:
1. All valve and equipment changes to allow work will to be done in RAS/WAS Pump Station No. 1 will be done by the Owner.
2. One of the following groups of equipment shall remain in service at all times:
    a. Clarifiers CLR-701, CLR-702. One Scum Pump PMPA-721 or PMPB-721. One WAS pump PMP-1601, PMP-1602 or PMP-1603. Two of three RAS pumps PMP-1401, PMP-1402, PMP-1403.

    Clarifiers CLR-703, CLR-704, One Scum Pump PMPA-722 or PMPB-722. One WAS pump PMP-1601, PMP-1602 or PMP-1603. Two of three RAS pumps PMP-1404, PMP-1405, PMP-1406.
3. Demolish the wiring between RW-MCC-E and Clarifiers FC-ME-3 (CLR-703) and FC-ME-4 (CLR-704).
4. Install the new RW-MCC-B.
5. Submit Manufacturer's Certificate of Installation.
6. Perform field electrical acceptance testing.
7. Make all power and control connections, perform functional testing, and put the new RW-MCC-B into service.
8. Install the new RW-MCC-EA.
9. Submit Manufacturer's Certificate of Installation.
10. Perform field electrical acceptance testing and functional testing.
11. Provide temporary wiring between RW-MCC-EA and clarifiers CLR-703, CLR-704 Scum Pump PMPA-722.
12. Provide a temporary generator to power the new RW-MCC-EA.
13. Provide a temporary generator to power RW-MCC-A-F. Only the WAS pumps need to be powered.
14. Provide a temporary generator to power the 50 KVA transformer and lighting panel.
15. Demolish RW-MCC-A and RW-MCC-E.
16. Install the new RW-MCC-A and RW-MCC-E.
17. Submit Manufacturer's Certificate of Installation.
18. Make all power and control connections, perform functional testing, and put the new RW-MCC-A and RW-MCC-E into service.
19. Remove the temporary wiring from RW-MCC-EA to clarifiers CLR-703, CLR-704 and Scum Pump PMPA-722.
20. Install the permanent wiring between RW-MCC-EA and clarifiers CLR-703, CLR-704 and Scum Pump PMPA-722 and RW-MCC-E to RW-MCC-EA.
21. Remove all temporary generators.

F. Solids Building.
1. Provide a temporary generator to power the 30 KVA transformer and lighting panel LP-SP-3, the 37.5 KVA transformer and lighting panel SPLP and one polymer mix feed unit.
    a. Utilize MCC components from RAS/WAS Pump Station No. 2 as required.

2. Demolish SP-MCC-B.
3. Install the new SP-MCC-B.
4. Perform field electrical acceptance testing.
5. Make all power and control connections and put the new SP-MCC-B into service.
6. Provide a temporary generator, starters and other electrical equipment to power the following:
    a. CV-1742 - Flat Belt Conveyor.
    b. CV-1741 - North Screw Conveyor.
    c. SP-B-1 - Air Compressor.
    d. 15 KVA transformer and lighting panel SP1A.
    e. EMV-1741 - Slide Gate.
    f. The Contractor may use previously demolished motor control centers, relocated to the Solids Building for this equipment.
7. Demolish SP-MCC-A and SP-MCC-E.
8. Install the new SP-MCC-A and SP-MCC-B.
9. Perform field electrical acceptance testing.
10. Make all power and control connections and put the new SP-MCC-A and SP-MCC-E into service.

G. Dispose of all demolished motor control centers.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION