# SECTION 01030 – PROVISIONAL

## SUMMARY OF WORK

***Provisional Specification Summary:***

*1.1 – Modify section as shown below.*
*1.1.01 – 1.1.07 – Add these subsections as shown below*
*1.5 – Modify first paragraph as shown below.*
*1.6 – Replace section as shown below.*

***(Update text as shown.)***

**PART 1 – GENERAL**
1.1 SCOPE.

Delete "FORMSPEC" from the list,

1.1.01 Project Overview: The work for the RAS Pumps, Influent Mixed Liquor System and MCC Improvements for Secondary Clarifiers project consists of materials, mechanical & electrical systems and equipment as described in the Contract Documents, for the upgrade of the Secondary Clarifiers Return Activated Sludge (RAS) system. The project includes the demolition of the existing (25) clarifier fiberglass buildings and replacing them with the construction of an equal number of insulated thin-brick clad panel concrete masonry unit (CMU) buildings; in supply air and exhaust air system, rebalance the existing HVDU stainless steel duct system for each clarifier building; each Clarifier will have its RAS pump, motor, Motor Control Center (MCC) and Variable Frequency Drive (VFD) replaced. Replacement of the 48" diameter mixed liquor motor operated butterfly valve, complete with electric actuator and replacement of the 48" diameter mixed liquor isolation valve with manual operator for each clarifier. Replacement of the sump pump; repair of leaks between the influent pipes (48" and 60" diameter) and the wall in each clarifier building; rehabilitation/replacement of five (5) defective enlargers in the 48" influent line for secondary clarifiers; and other ancillary work as shown on the drawings and described in the specifications.

The Secondary clarifiers at the Detroit Wastewater Treatment Plant (WWTP) are designed to achieve overflow rates of 1600 MGD with an expected effluent suspended solids concentration of less than 50 mg/l. Each clarifier has a volumetric capacity of four (4) million Gallons capacity.

The mixed liquor influent enters each clarifier through 48” diameter Carbon steel pipe through a 48”X60” reducer. The clarifier influent is isolated through a 48” manually operated gate valve and the flow is controlled through 48” electric actuated butterfly valves.

To measure the cumulative and instantaneous Influent flow, 48” magnetic flow meters are also installed on this line.

Enlargers shall be re-inspected during the construction phase, and any necessary additional replacements shall be scheduled based on their condition. Replacements shall be paid for out of the cash allowance. Repair of wet well wall where pipe enters.

The Contractor shall furnish all labor, materials, equipment and incidentals required to complete the improvements as shown on the Contract Drawings and specified herein.

The Contractor shall turn over all software, hardware and application files or programs that DWSD requires to diagnose and reload all installed programs under this Contract. No software, hardware or application files or programs shall be deemed proprietary.

1.1.02 General Project Responsibilities

The Contractor shall maintain his construction operations within the presently existing road rights-of-way, and property/site limits as shown on the plans. In the event that the Contractor deems it necessary or advisable to operate beyond the limits of the existing property/site, he shall be responsible for making special written agreements with the property owners and shall furnish such copies of agreement to the Owner. Work includes but is not necessarily limited to:

A. Securing bonds and insurance
B. Obtaining all construction and other required permits
C. Complying with local noise ordinances including erection of noise barriers on each site as appropriate for the construction operations.
D. Preparing submittal
E. Project Mobilization
F. Provision of temporary construction offices and associated furnishings.
G. Provision of temporary utilities during construction.
H. Project Demobilization
I. Storage of project equipment during construction.
J. Testing, start-up, and training.

1.1.03 Process Mechanical Improvements

A. Butterfly Valves and Electric Motor Operators: furnish and install twenty-five (25) 48-inch butterfly valves and electric motor operators for secondary clarifier influent mixed-liquor control (throttling service).

B. Bonneted Knife Gate Valves: furnish and install twenty-five (25) 48-inch bonneted knife gate valves for secondary clarifier influent mixed-liquor isolation service.

C. Sump Pumps: furnish and install twenty-five (25) sump pumps in the existing dry well sump pits, complete with all piping, valves, and appurtenances. Furnish spare parts and pumps as shown in the Contract Documents.

D. Return Activated Sludge Pumping Units (Vertical Mixed Flow Pumps): furnish and install twenty-five (25) vertical mixed flow pumping units (including 100 HP motors and VFDs), and related appurtenances located at the return activated sludge wet well of each at each WWTP secondary clarifier. Furnish spare parts, spare pumps, spare motors, and spare VFDs as shown in Contract Documents.

E. Fabricated Metal Baffles: furnish and install twenty-five (25) fabricated stainless steel hydraulic baffles for secondary clarifier center wells and return activated sludge wet wells.

1.1.04 Architectural and Mechanical Improvements

The work includes the demolition of the existing (25) fiberglass buildings which houses the Motor Control Center (MCC), and replacing with the construction of an equal number of insulated thin-brick clad panel concrete masonry unit (CMU) buildings, renovation and rebalancing of the existing HVDU stainless steel duct system.

1.1.05 Electrical Improvements.

Electrical work including but not limited to removal and replacement of motor control centers, variable frequency drives, lighting, power panels, wiring and

conduit in each of the 25 secondary clarifier B-houses, removal and replacement of the feeder cables from substations to the motor control centers and other miscellaneous electrical work as shown on the drawings and as specified.

1.1.06 Instrumentation and Controls Improvements.

A. Demolition and removal of selected instruments and control panels for all clarifiers.
B. Replacement of sludge blanket level detectors for all clarifiers.
C. Replacement of Instrument Terminal Boxes for all clarifiers.
D. Provision of pump seal water low flow sensors for all clarifiers.
E. Provision of analog RAS pump speed control for the five clarifiers that currently don't have it.
F. Provision of RAS pump motor vibration monitoring, stator temperature monitoring, and bearing temperature monitoring for all new RAS pumps.
G. Provision of RAS density monitoring for all clarifiers.
H. Provision of new monitoring for gas detection, smoke detection, and HVDU unit trouble for all clarifiers.

Reprogramming of the existing Emerson Ovation control system to include new signals, screen modifications and report modifications relating to the new equipment.

1.1.07 Coordination with other Contracts

Contractor to schedule work in coordination with DWSD / other contracts, when performing this work.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

Refer to Article 4 of the General Conditions, General conditions of Contract Documents and Master Specification Section 0110, Construction Facilities and Identification for general requirements regarding Contractor's use of site and premises.

## 1.6 WORK SEQUENCE

LIMITATIONS ON SEQUENCE OF CONSTRUCTION:

A. The Contractor shall adhere to the following limitations on sequence of construction when scheduling and performing the work. The Contractor's schedule shall delineate and reflect these limitations on sequence of construction.

   Contract Work on the existing electrical system, and pump station shall not begin until released from service by the OWNER.

B. The Contractor is responsible for developing all work sequences to all Contract Work. A list of general work requirements that

Contractor shall be substantially complete within four (4) years from project start (Notice-To-Proceed). Submittals for the pumps and motors shall be submitted no later than six (6) weeks after the Notice To Proceed.

Suction Intake Structure Hydraulic Model Study shall be completed no later than four (4) months from Notice-To-Proceed and prior to the fabrication and installation of wet well baffles and pilot/field performance testing of RAS pumps.

Contractor shall request permission from Owner (DWSD) for any/all outages at least 48-hours in advance. As part of the request, the Contractor shall submit a detailed outage and/or isolation plan for review and approval.

The Contractor shall have the first two clarifiers including performance testing, ready for the Contracting Officer's acceptance no later than nine (9) months after the Notice To Proceed.

Contractor shall maintain 23 out of 25 secondary clarifiers in service during normal operations. A maximum of two secondary clarifiers may be out of service for any time period greater than 48 hours. Any outage of more than two secondary clarifiers for more than 48 hours is a reportable NPDES permit violation.

For Work related to 48-inch mixed-liquor gate valves, temporary isolation of more than two (2) clarifiers may be required. Use of isolation chambers for short periods will be allowed. Isolation chambers provide isolation of five or more secondary clarifiers at a

time. All of the following requirements must be met:

A. Outages must last less than 48-hours.
B. Outages may only be performed between the months of September and March (dry season). Outages longer than 48-hours or during wet season are not allowed unless specifically permitted in writing by MDEQ.
C. A detailed outage/isolation plan shall be submitted for approval (as described above).

End of Provisional Section