

**Wastewater Treatment Plant Upgrades
Request for Proposals - SCADA
Niagara Falls Water Board**

Description:

Notice is hereby given that the Niagara Falls Water Board (“NFWB”) is seeking to retain a SCADA Engineer to provide site investigation, preliminary design, detailed design, and construction services for a project as outlined in the scope of work, attached, in the City of Niagara Falls, Niagara County, New York which impacts various component processes at the NFWB Wastewater Treatment Plant (“WWTP”) located at 1200 Buffalo Avenue. The term “SCADA Engineer” will be used to represent the entity that will be contracted to complete the work described in this Request for Proposal (RFP). Whereas, the term “Capital Project Engineer” will be used to represent the previously awarded design engineer for the Capital Improvement projects listed on page 11 of this document.

Scope of Work: (See Attached Scope of Work)

Work activities include SCADA upgrades and integration of Capital Improvement Upgrades at the NFWB WWTP. All work shall be designed and constructed in accordance with NYSEFC - Clean Water State Revolving Fund (CWSRF) Regulations and NFWB standard policies and requirements.

Preliminary Design will include but not be limited to: preparation of the Preliminary Design Review Documents (identifying, assessing, and selecting a feasible design alternative), evaluation of cost and environmental factors, and coordination with existing utilities.

Detailed Design will include but not be limited to: development of final plans and specifications, and preparation and submission of final plans, specifications, construction cost estimates, and all required certifications for the project. The Design will be reviewed by the NFWB with the selected SCADA Engineer. The SCADA Engineer shall not start implementation until they receive signed final approval by the NFWB.

The anticipated start date of site investigation and preliminary design is June 10, 2019; with schedule for submission of plans and construction of improvements to correspond with the Capital Improvement Project Schedules; with estimated construction completion of all components by December 31, 2023. A request for timeline extension from NYSDEC is anticipated. The Niagara Falls Water Board will select the most qualified firm for this project.

Interested firms should submit their proposal along with six (6) copies of their Qualifications to the address below no later than 2:00 p.m. on Monday, May 6, 2019.

Qualifications shall include:

- Contract Organization;
- Identification and Resumes of Key Personnel;
- Statement of Understanding of the work to be done;
- Statement of Experience with similar kinds of work;
- Statement of Familiarity with NYSEFC requirements;
- Statement of Availability of Key Personnel for the timely completion of the work;

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- Statement of Organizational and Financial responsibility;
- Statement of Logistical Capabilities and Familiarity with the Project Area;
- Re-Statement or verification of anticipated design and construction schedule; and

The total cost to the Niagara Falls Water Board for performing the proposed services shall be indicated—broken down by component and work elements, showing titles, estimated man-hours and billing rates. Payment for services will be on the basis of actual hours worked multiplied by the billing rates with a **maximum amount payable** for each scope item that is submitted on, which shall be clearly stated in the fee proposal. Submittals must include all of the scope of work items identified. Additionally, each proposal shall include a \$40,000 allowance for NFWB approved additional items not explicitly mentioned in this RFP. The Fee Proposal shall be submitted in a sealed and appropriately labeled envelope.

Special Project Requirements:

The selection and retention of a SCADA Engineer will be contingent upon the availability of the proposed key staff, unless substitutes are approved by the Niagara Falls Water Board during negotiations.

Summary of Scope of Work shall be made a part of this Invitation for SCADA Services by attachment.

- Federal and State Labor Requirements: The SCADA Engineer shall comply with all applicable requirements.
- State Wage Rates: The SCADA Engineer shall pay prevailing wages to the extent required by law.

<http://www.labor.ny.gov/workerprotection/publicwork/PWContents.shtm>

- M/WBE and SDVOB Requirements

The SCADA Engineer shall be prepared to utilize Minority, Women, and Disadvantaged Business Enterprises at the following percentages based on policy from the Niagara Falls Water Board. If requirements from the various funding agencies require a higher percentage that will supercede the Niagara Falls Water Board's percentage. The funding agency may also require a Service-Disabled Veteran-Owned Business (SDVOB) percentage that may be in addition to the below percentages.

MBE – 12%

WBE – 18%

DBE – 6%

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- Insurance:

Consultant shall be required to procure and maintain at its own expense and without expense to the Niagara Falls Water Board, insurance for liability for damages imposed by law, of the kinds and amounts hereinafter provided, from insurance companies authorized to do business in the State of New York covering all operations under any contract that results from this RFP, whether performed by the consultant or its subcontractors. Before proceeding with any work under the contract that may result from this RFP, the successful proposer shall furnish to the Niagara Falls Water Board Certificate of Insurance form(s) and relevant insurance policy declarations and endorsements satisfactory to the Water Board exhibiting compliance with this paragraph and providing that the policies shall not be changed or canceled until thirty (30) days written notice has been given to the Niagara Falls Water Board. The types and limits of insurance shall be as follows:

1. Workers Compensation as required by Law (submit Form C-105.2);
2. Disability Benefits as required by Law (submit Form DB-120.1);
3. Employer's Liability with a minimum limit of \$100,000;
4. Commercial General Liability insurance: Bodily, Personal Injury, and Property Damage Liability limits each of at least \$1,000,000 per occurrence/\$2,000,000 aggregate, which shall include the following coverages:
 - a. Owner's Protective Liability
 - b. Premises – Operations
 - c. Broad Form Contractual
 - d. Independent Contractor and Sub-Contractor
 - e. Products and Completed Operations
5. Automobile Liability: \$1,000,000 single limit; and
6. Umbrella/Excess Liability: A minimum of \$5,000,000 on a per occurrence and aggregate basis; this shall be in excess of primary general, automobile and employer's liability limits.
7. Professional Liability/Errors and Omissions: \$2,000,000 (identified as a claim made or an occurrence policy) (required only if professional services are to be performed pursuant to the contract).

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Certificates, declarations, and endorsements should be made to the Niagara Falls Water Board, 5815 Buffalo Avenue, Niagara Falls, NY 14304 and should reference the WSSLP program agreement.

The Niagara Falls Water Board, the Niagara Falls Public Water Authority, and the City of Niagara Falls, New York shall be named as an Additional Insureds on the Liability Policies (except for professional liability) with the following provision: The insurance company or companies issuing the policies shall have no recourse against the Niagara Falls Water Board or the Niagara Falls Public Water Authority for payment of any premiums or for assessments under any form of policy.

In the event that the consultant requires any subcontractor to procure insurance with regard to any of the operations under the contract resulting from this RFP and requires such subcontractor to name the consultant as an additional insured under such insurance, the consultant shall ensure that such policy names the Water Board, Niagara Falls Public Water Authority, and their officers and employees as additional insureds.

- Indemnification and Waiver of Subrogation:

The successful consultant, to the full extent permissible by New York law, must agree to indemnify and hold the Niagara Falls Water Board, its Directors, Officers, and Employees harmless against all loss, cost, or damage, on account of injury to person or damage to property as a result of any action or inaction of the consultant or its representatives or agents or subcontractors in performance of the contract resulting from this RFP and against all fines, penalties any other losses which the Niagara Falls Water Board shall be obliged to pay or incur in connection with the performance of the work under the contract.

The successful consultant also must agree to waive all rights against the Water Board, including its officials and employees, for any damages or losses that are covered under any insurance required by this RFP or in the resulting contract, or any other insurance applicable to the operations of the consultant and/or its subcontractors in the performance of the contract.

- Conflict of Interest and Prohibition on Political and Religious Activity:

By submitting a proposal in connection with this RFP or by assuming the responsibility of a contract awarded hereunder, consultant stipulates that, upon information and belief, no member of the governing body of the Water Board, or officer or employee of the Water Board, forbidden by Law, is interested in, will derive benefit from, or will be a party to, the contract between consultant and the Water Board. Consultant warrants that no payment, gift, or thing of value has been or will be made, given, or promised any Director, Officer, or Employee of the Water Board, or any member of the immediate family of any Director, Officer, or Employee of the Water Board (spouse, parent, sister,

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brother, or child) to obtain this or any other agreement between the parties. Consultant agrees that its provision of services under any contract that may result from this RFP shall not include any partisan political activity or any activity to further the election or defeat of any candidate for public, political, or party office, nor shall any of the funds provided under any contract that may result from this RFP be used for such purposes. The consultant further agrees that if awarded an agreement as a result of this RFP, there shall be no religious worship, instruction, or proselytizing as part of or in connection with the consultant's provision of services under that contract, nor shall any of the funds provided under this Agreement be used for such purposes.

- Non-Collusion:

Consultant must submit a signed statement of non-collusion on the form attached hereto as Appendix B.

- Non-Discrimination and Prohibition Against Sexual Harassment:

To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the consultant will not discriminate against any employee or applicant for employment because of race, creed, color, sex, national origin, sexual orientation, age, disability, or marital status. By submitting a proposal, consultant agrees that it shall submit an Equal Employment Opportunity ("EEO") Policy Statement to the Water Board containing at a minimum the terms therefore as set forth in Appendix D.

By submission of this proposal, each proposing consultant and each person signing on behalf of any proposer certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that the proposer has and has implemented a written policy addressing sexual harassment prevention in the workplace and provides annual sexual harassment prevention training to all of its employees. Such policy shall, at a minimum, meet the requirements of section two hundred one-g of the labor law. Consultant's proposal must include the Statement on Sexual Harassment form at Appendix E.

- Prohibited Business Practices:

1. **Iran Divestment Act.** By submitting a proposal in connection with this RFP or by assuming the responsibility of a contract awarded hereunder, consultant certifies in accordance with State Finance Law §165-a that it is not on the "Entities Determined to be Non-Responsive Bidders/Offerors pursuant to the New York State Iran Divestment Act of 2012" ("Prohibited Entities List") posted at:
<http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf>. Consultant further

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certifies that it will not utilize in connection with any contract that may be awarded as a result of this RFP any subcontractor that is identified on the Prohibited Entities List.

2. **International Boycott Prohibition.** In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds \$5,000, that by submitting a proposal in response to this RFP or by assuming the responsibility of a contract awarded hereunder, consultant agrees, as a material condition, that neither the consultant nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 et seq.) or regulations thereunder. If consultant, or any of the aforesaid affiliates of consultant, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the consultant's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The consultant shall so notify the State Comptroller within five (5) business days of such conviction, determination or disposition of appeal (2 NYCRR 105.4).
 3. **MacBride Fair Employment Principles.** In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992), by submitting a proposal in connection with this RFP or by assuming the responsibility of a contract awarded hereunder the consultant hereby stipulates that the consultant either (a) has no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165 of the New York State Finance Law), and shall permit independent monitoring of compliance with such principles.
- Additional Information about RFP:
 1. **Rely Only Upon Formal Information.**
 - a. The Water Board shall not be bound by any oral or written information released prior to the issuance of the RFP.
 - b. The Water Board shall not be bound by any oral or written representations, statements, or explanations other than those made herein, in Water Board written responses to proposer inquiries, or in formal written addenda to this RFP.

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2. Communication with Water Board and Lobbying Law.

Consultants are advised that, from the date this RFP is issued until the award of the contract, no contact by consultants or their agents with the Water Board or Water Board personnel related to this solicitation is permitted, except as shall be authorized by the authorized Water Board contact indicated on the cover page of this RFP.

Pursuant to State Finance Law Sections 139-j and 139-k, this RFP includes and imposes certain restrictions on communication between respondents and the Water Board during the procurement process. A respondent is restricted from making contacts from the date the RFP is issued through the final contract award by Water Board (the "Restricted Period"). During the Restricted Period, respondents may only contact the designated contact regarding this RFP. The designated contact is identified on the cover page of this RFP. Respondents are responsible for complying with State Finance Law Sections 139-j and 139-k. Directors, officers and employees of the Water Board are required to record certain information when contacted during the Restricted Period. A review of whether such contacts were permissible contacts will be considered in connection with any determination of responsibility of the respondent. Failure of any respondent to timely certify or to disclose accurate and complete information or the submission of any intentionally false or intentionally incomplete certification may result in the rejection of the contract award or if such contract has been executed, then the immediate termination of the contract. Violations may result in debarment of the respondent from proposing on or obtaining governmental procurement contracts in the State of New York.

Consultants are required to complete and return with their proposal Appendix F, New York State Finance Law Sections 139-j and 139-k ("Lobbying Law") — Disclosure Statement.

General Conditions:

The issuance of this RFP does not commit the Water Board to award a contract or to pay any costs incurred by proposers in the preparation of proposals or for any work performed in connection therewith. In addition, the Water Board reserves the following rights:

1. To postpone or cancel this RFP;
2. Reject any or all proposals received in response to this RFP;
3. Award a contract without any discussion with proposers;
4. Retain a successful proposer for only a portion of the scope of services;
5. Accept a proposal other than the proposal offering the lowest price;
6. Waive or modify any irregularities in proposals received;
7. Consider proposals or modifications received at any time before the award is made, if such is in the best interest of the Board;
8. Request clarification and/or additional information from the proposers during the evaluation process; and

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9. Utilize any and all ideas submitted in the proposals received, unless those ideas are covered by legal patent or proprietary rights and the patent or those rights are indicated by the proposers.

Exceptions to RFP:

The contract to be entered into shall include the requirements of this RFP among its terms and conditions, with such changes to which the Water Board may agree. Submission of a proposal constitutes consent to these terms and conditions. Any exceptions must be explicitly stated in the proposal and separately listed in a separate attachment to the body of the proposal entitled "Exceptions." Failure to list exceptions separately in the "Exceptions" attachment shall be deemed to constitute consent to all such terms and conditions herein and shall constitute a binding waiver by the proposer of all exceptions not listed. A general exception or reservation to the legal or technical terms and conditions shall be deemed a nullity and may also result in the Water Board rejecting the proposal as non-responsive.

Proposal Firm and Irrevocable for 90 Days:

A signed proposal shall be considered a firm offer on the part of the consultant, and the Water Board may insist on the strict performance of all elements of the proposal, unless the Water Board specifically waives a proposal element in writing during negotiations. By submitting a proposal, consultant agrees that its offer is firm for a period of 90 days from the deadline for proposal submissions, as may be amended or extended by way of an addendum to this RFP.

Contract Negotiations:

Upon selection, the successful consultant may be invited to negotiate a contract with the Water Board, though the Water Board reserves the right to award a contract on the basis of the initial offers received, without discussions. Therefore, each initial offer should contain the proposer's best terms from a technical and cost standpoint.

The Water Board reserves the right to enter into discussions/negotiations with one or more consultants and to request the submission of best and final offers from those consultants, who after the conclusion of such discussions/negotiations, still are under consideration for award. No consultant shall have any rights against the Water Board arising from an invitation to enter into discussions/negotiations or to submit a best and final offer.

At the Water Board's discretion, the contents of the selected proposal, together with the RFP, may be incorporated into and made part of the final contract. Should negotiations fail to result in a signed contract within a reasonable period of time as defined by the Water Board, the Water Board reserves the right to terminate negotiations and select another consultant, issue a new RFP, or take any other action consistent with the best interests of the Water Board.

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Proposer Acceptance of RFP Terms:

Proposals will not be accepted as complete without a signed certification of acceptance of RFP terms, Appendix C. The submission of a proposal signifies that the proposer:

1. Acknowledges and accepts the terms and conditions in this RFP;
2. Intends to compete for the award of the contract described herein;
3. Will be reasonable in contract negotiations; and
4. Acknowledges and accepts that the final contract will include all terms and requirements set forth in this RFP, plus such additional terms and conditions which may be required by law or as may be incorporated at the Water Board's discretion, subject to negotiation.

Evaluation of Proposals:

The Selection Committee shall make the selection of a SCADA Engineer based upon an evaluation of proposals. Proposals will be evaluated on the following criteria:

- Prior experience of the firm on projects of this type and scope (25%);
- Prior experience and expertise of the personnel to be assigned to this Project (25%);
- Past record of performance on contracts, including such factors as cost control, expedience of design, approvals, and construction to maintain schedule, quality of work, and responsiveness (20%);
- Ability to meet the project schedule or proposed improvements to the schedule (20%); and
- Fee (10%).

There will be one (1) Mandatory Pre-Proposal Meeting which shall be held at 10 AM on Monday, April 22, 2019 followed by a WWTP walkthrough. The meeting shall commence at the Wastewater Treatment Plant, 1200 Buffalo Avenue, Niagara Falls, NY 14304.

All questions shall be submitted in writing to Ted Donner at CPL. His e-mail address is TDonner@cplteam.com. **The last day for questions to be submitted is Wednesday, May 1, 2019.**

Sub-consultants, subcontracting, and/or joint ventures are permitted.

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Proposal Due Date: Monday, May 6, 2019 2:00 PM

Contract Term: 12/31/2023

Location: Niagara Falls Water Board

Submit To: (Authorized Water Board contact for the purpose of State
Finance Law Sections 139-j and 139-k.)

**Patrick Fama
Executive Director
Niagara Falls Water Board
5815 Buffalo Avenue
Niagara Falls, NY 14304
Pfama@nfwb.org
Phone: (716) 283-9770**

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Project Background

The NFWB requires near-term and longer-term improvement projects to assure proper operation of its wastewater facilities and maintain permit compliance. The WWTP was built in the mid-1970s and any equipment not replaced over the years is now over 40 years old and beyond a typical design life. Critical support systems at the WWTP, such as electrical and plant water are also in deteriorating condition and need to be addressed.

Based on the needs assessments the following items will be addressed by engineering consultants under the Capital Improvement Plan.

- Electrical System Improvements
- Primary Scum Removal and Treatment Improvements
- Screenings and Grit Transport Equipment Improvements
- Sedimentation Basin Improvements
- Polymer Equipment Upgrades
- Disinfectant Dosage and Location Optimization
- Gorge Pumping Station Rehabilitation
- Granular Activated Carbon Replacement
- Carbon Filter Support Gravel Replacement
- Sedimentation Basin Isolation Plate Replacement
- Chemical Coagulant Optimization
- Minimization of Sulfide Formation
- Heating and Ventilation Improvements
- Dewatering Equipment Control Upgrades
- Backwash Blower Equipment Improvements
- Thickened Sludge Building Waterline Replacement
- Lighting Improvements
- Interior Process Piping Replacement
- Sedimentation Basin No. 5 Effluent Management Improvements

This Request for Proposal has been developed to designate a SCADA Engineer. The role of the SCADA Engineer is to perform the necessary tasks, per the Scope of Work discussed herein, to upgrade the existing SCADA system throughout the WWTP and integrate the Capital Improvement upgrades. The following Scope of Services discusses the role in greater detail. For general reference, see the attached “SCADA Automation Hardware, Software and Communication Systems Evaluation Niagara Falls Wastewater Treatment Plant” prepared by GHD detailing their preliminary recommendations for SCADA upgrades.

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SCOPE OF SERVICES

A. Implementation Plan to Upgrade Existing SCADA System

***a. Items to be completed prior to and during the design phase of each Capital Project
(BY THE SCADA ENGINEER)***

1. Consult with Capital Project Engineers to establish IO requirements and locations for the following Capital Projects:
 - a. Disinfection System Project 6 (AECOM)
 - b. Sed Basin Project 1 (AECOM)
 - c. Gorge Pump Station Project 2 (GHD)
 - d. Dewatering, Polymer, Screen/Grit Conveyor Project 3 (Arcadis)
 - e. Electrical Upgrades Project 5 (EI Team)
2. Develop recommended PLC Panel/ SCADA buildout plan including panel locations/ type and the network extensions of the SCADA Ethernet Network. Plan will be finalized during the design phase of each project. Plan shall be developed in consultation with Capital Project Engineers to meet specific project needs.
3. Convert entire existing SCADA system to a uniform open source platform. (Latest version of iFix software as standardized by NFWB).
4. Convert existing SCADA screens to follow the current ISA industry standard graphics (42 screens, include cost to program additional screens on a per unit basis).
5. Provide and install six (6) new workstations and three (3) new large format 60” HD display screens with brackets for ceiling or wall installation. Locations to be specified by NFWB.
6. Provide and install backup file saving software.
7. Provide and install Historian software.
8. Provide operator training on new SCADA system.
9. Additionally, the following upgrades are required at the Gorge Pump Station (GPS)
 - a. Install, and configure new firewalls to establish a VPN between the GPS and the WWTP including a secure router.
 - b. Similarly, upgrade the GPS SCADA software to the latest version of iFix software and install the Historian collector for iFix on the PC.
 - c. Replace the existing switchgear Square D PLC with either an Allen Bradley MicroLogix 1100 and connect to the network via Ethernet or extend the existing remote I/O to the switchgear and program the existing PLC to manage the switchgear. (Provide and install equipment)
 - d. Update the GPS IP address subnet so that only traffic pertinent to the GPS would be transmitted there. This would also free up several IP addresses on the WWTP process network. The devices include six chart recorders, three VFDs, two processors, one programming station, and one remote display.
 - e. Disconnect the existing leased communication line.

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B. Implementation Plan to Integrate the Capital Improvement Upgrades

a. Items to be completed during the design phase of each Capital Project (BY CAPITAL PROJECT ENGINEERS)

1. Develop initial, final, and 100% I/O list for each point including instrument/device cut sheet with 100% deliverable.
2. Develop detailed control system narrative describing in detail the sequence of operation, interlocks, set points, variables, etc. Include descriptions and quantity of required HMI screens to be produced. The control system narrative and HMI screen description will be used by the SCADA Engineer to perform programming of PLC's/ SCADA Systems and to develop screens to be provided on HMI's.
3. Review each project PLC panel design to ensure that it meets the requirements of the SCADA buildout plan.
4. Prepare detailed design plans and specifications for incorporation into each capital project's contract documents.

b. Items to be completed during the design phase of each Capital Project (BY THE SCADA ENGINEER)

1. Generate a final design of the new PLC Panels required for each particular project and provide to Capital Project Engineers for review, approval, and use in preparing contract documents.
2. Provide PLC and remote IO panel design specifications to each Capital Project Engineer for use in preparing contract documents.
3. Additionally, SCADA Engineer shall verify that all SCADA hardware used in capital projects is standard throughout, including switches, terminal blocks, etc.

c. Items to be completed during the bidding phase of each Capital Project (BY THE SCADA ENGINEER)

1. Review of recommended bid proposal for each capital improvement project (identified at the time of bid opening) to verify compliance with bidding requirements and SCADA buildout plan including evaluation of bidder equipment and material substitutions identified in the bid package.

d. Items to be completed during the construction phase of each Capital Project (BY THE SCADA ENGINEER)

***Note:**

- i. *The Electrical Contractor (EC) for each individual Capital Project shall be responsible for supplying and installing the new PLC panels and Remote IO panels, HMI's, connecting fiber/ cables, and all hardware.*
- ii. *The EC will subcontract with a Control System Integrator (CSI) (also under each Capital Project) to generate the detailed panel drawings during the submittal phase, then build, test, and checkout the panels. Field instruments will be supplied by the EC or GC as defined in each projects specifications.*

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iii. The EC's CSI will assist with integration and testing the field instruments with the new panels after installation. The SCADA Engineer will assist the EC's CSI with this phase of the work.

1. Review the Electrical Contractor's PLC Panel submittals for each project in parallel with the Capital Project Engineers to ensure that each panel meets the requirements of the SCADA buildout plan.
2. Provide, install, and troubleshoot PLC/SCADA/HMI programing based on control narratives provided by the Capital Project Engineers. Screens will be developed, programmed, and reviewed with the Capital Project Engineers and NFWB during construction.
 - a. The SCADA Engineer shall ensure graphics are consistent for all projects and throughout the final SCADA system.
3. Work with the EC and the EC's CSI to test each instrument and device, perform loop checks, and see that the control system narrative is properly implemented. Work shall include:
 - Thorough system check out including verifying all interlocks, permissives, and sequencing is properly implemented.
 - Provide electronic copies of all programs, IO lists, addresses, tags, etc. developed as part of this project on USB devices for use by the owner.
 - Following substantial completion of each capital project, provide an additional 3 months of assistance to address all issues related to programming and screens that arise during use by the NFWB. Make programming changes as needed to satisfy NFWB.
4. Provide operator training for use the new SCADA screens. SCADA Engineer shall assume 40 hours of classroom and hands-on training will be provided for plant operations and maintenance personnel in no less than 10 training sessions. Include preparation of all handouts and classroom materials.
5. Utilize Historian (or approved equal) software to develop data trending and daily report preparation per NFWB and NYSDEC reporting requirements.

C. Additional Work

The SCADA Engineer may be required to complete additional work not discussed in the scope of services discussed herein. Billing rates for relevant personnel will follow the submitted rate schedules as requested on page 2 of this RFP.

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Attachment 1 – Preliminary Panel Designs

The following preliminary summary of new panels is provided to assist with development of the SCADA buildout plan to incorporate all treatment process equipment. The panels described on the following sections provide for monitoring and control of the equipment that will be installed under the upcoming capital projects. Additions to some of the existing panels are also recommended to complete buildout of the SCADA system. The list shall be considered preliminarily and will be revised during design and construction based on new information and provided by Capital Project Engineers experience of the SCADA Engineer.

Attached to this document are Draft Input/ Output (IO) Lists for these new panels covering the process equipment. These lists should be considered preliminary and will be expected to be expanded once detailed design of capital projects takes place. In addition, the draft IO lists do not yet include miscellaneous IO for items like heating and ventilation equipment monitoring, unit substation electrical monitoring, spare IO, UPS monitoring, etc. however, these will be reviewed with the NFWB and accounted for as these lists get finalized.

1. New Disinfection PLC panel for new hypo chemical feed equipment in the Odor Control Bldg. This panel is required for the upcoming disinfection project currently being scoped by AECOM as the design engineer (Project 6).
 - a. Locate in the MCC-3 room or in the Odor Control Room near the equipment based upon SCADA Engineer recommendations.
 - b. Panel shall include an Allen Bradley CompactLogix PLC and IO for the equipment per attached preliminary list.
 - c. Ethernet extension to the new panel from the CFCEP-A panel in the A Train via fiber optic cable.
 - d. Include a new HMI touch screen panel to be located in the Odor Control Room near the new equipment. HMI shall be an Allen Bradley Panelview Plus Performance model, minimum 10 inch screen.
2. New Chlorine Contact Tank (CCT) PLC Panel for new chlorine residual analyzer, sample pumps and mixer equipment at the CCT. This panel is required for the upcoming disinfection project currently being scoped by AECOM as the design engineer (Project 6).
 - a. Locate in existing chlorine contact building.
 - b. Panel shall include an Allen Bradley CompactLogix PLC and IO for the equipment per attached preliminary list.
 - c. Ethernet extension to the new panel from IP-3 near the MCC-5 area. Ethernet shall be fiber optic cable installed in same trench as the new hypo feed piping – trench will exit the east end of the sludge/ grit pump gallery and go to the south (inlet) end of the CCT. The Ethernet trench will need to be extended to the CCT Bldg. or run exposed in conduit along the CCT

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- wall.
- d. Include a new HMI touch screen mounted on the door of the CCT PLC panel. HMI shall be an Allen Bradley Panelview Plus Performance model, minimum 10 inch screen.
3. New Dewatering PLC Panel to replace the existing belt filter press dewatering system blue control console, including signals from thickened sludge pumps, polymer feed pumps, sludge flow meters (4), new BFP control panels (3), lime stabilization system, sludge conveyor belts (5), and related components. This panel is required for the Dewatering Project 3 (Arcadis design engineer).
- a. Locate in the former vacuum pump room. The new BFP panels will also be in this room.
 - b. Dewatering Project 3 currently does not include replacement of the lime stabilization panels, although these may need replacement to add the lime system into SCADA. This shall be evaluated as part of this project.
 - c. Panel shall include an Allen Bradley CompactLogix PLC and IO for the equipment per attached list.
 - d. Ethernet extension to the new panel from the IP-3 panel in the MCC-5 area via fiber optic cable.
 - e. Include a new HMI touch screen panel to be located in the BFP room near the BFP equipment. HMI shall be an Allen Bradley Panelview Plus Performance model, minimum 10 inch screen.
4. New IP-3 Section 2 Remote IO Panel for adding the new Sed Basin 5 equalization pumps, Sed Basin 1-5 flocculation area chain and flight sludge collectors, monitoring systems, and the polymer mixing system. This panel is required for the Sed Basin (Project 1) (AECOM design engineer) and the Dewatering/ Polymer (Project 3) (Arcadis design engineer).
- a. Locate next to the existing IP-3 PLC panel, near the MCC-5 area.
 - b. Panel shall include remote IO racks and IO for the equipment per attached list.
 - c. Ethernet extension to the new panel from the IP-3 panel.
 - d. Include a new HMI touch screen panel to be located in either the existing or new section. HMI shall be an Allen Bradley Panelview Plus Performance model, minimum 10 inch screen.
5. Replace existing IP-4 PLC Panel in order to incorporate control of the Thickened Sludge Pump (TSP) VFDs and other equipment located in/ near the thickened sludge building into the plant SCADA system. This panel is required for the new dewatering control system via HMI touchscreen at the BFP area, as part of the Dewatering (Project 3) (Arcadis design engineer).
- a. Locate in the TSP Bldg where the existing IP-4 is located.
 - b. Panel shall include an Allen Bradley CompactLogix PLC and IO for the equipment per attached list.
 - c. Incorporate existing monitoring and control points for the sludge thickener, drives (2), sludge level probes (2), sump pump running, and

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- sump pump high alarm.
 - d. Provides SCADA control of the four (4) TSP VFDs.
6. Add monitoring points to the existing Scum Bldg Remote IO Panel for the new scum filtering removal equipment, and Sed Basin 2-5 chain and flight sludge collectors and monitoring systems. These additions will be part of the Sed Basin (Project 1) that AECOM is the design engineer.
 - a. Panel is located in the Scum Bldg electrical room.
 - b. Provide I/O to enable remote monitoring of scum system including wet well level, pump status, and scum screen status. Provide I/O for a gas detector. Provide I/O for sed basin flight collectors and associated monitoring systems.
 7. Add monitoring points to the IP-2 Main Pump PLC panel.
 - a. Points to monitor the bar screen conveyor and grit conveyor that are being replaced under Project 3.
 - b. Some of these additions are not part of the specific defined project.
 - c. New air monitoring sensors are recommended for the main wet well and screen room. These should be added to the SCADA system.
 8. Add monitoring points to the IP-1 Main Control PLC panel.
 - a. These additions are not part of a specific currently defined project.
 - b. New air monitoring sensors are recommended for the carbon storage room. These should be added to the SCADA system.
 9. Add monitoring of the 115kV main electrical substation equipment. A fiber optic line was installed out to the main switchgear bldg. with the intent to tie in digital relay equipment under a future project. The relays are not yet connected to the SCADA system. Additional equipment may also be installed and incorporated from the main substation under the Electrical Upgrades (Project 5) (EI Team design engineer).
 10. The SCADA buildout plan shall also consider replacement of the Backwash Pump / Air Blower Logic Control Panel and move the IO for this equipment to the Backwash Remote IO Panel or Disinfection Panel.
 11. Gorge pump station (GPS) – All info from GPS to be transmitted to WWTP & screens set up to show all conditions (remote monitoring alarms, etc).
 12. Alarm Screens – Creation of dedicated alarm screens to streamline and make more efficient alarm recognition and response.

Attachment 2 - Preliminary Input/ Output Lists

NFWB WWTP SCADA Study - Future Input/Output Lists

Control Panel: Chlorine Contact Tank Panel

Location: CCT Bldg

Scope : New PLC panel for new sample pumps, TRC analyzers, and mixer

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PROCESS VARIABLE DESCRIPTION	Net	AI	AO	DI	DO	Note
Total Chlorine Residual 1 Value		1				
Total Chlorine Residual 1 Analyzer Fault				1		
Total Chlorine Residual 2 Value		1				
Total Chlorine Residual 2 Analyzer Fault				1		
Total Chlorine Residual 3 Value		1				
Total Chlorine Residual 3 Analyzer Fault				1		
Total Chlorine Residual 4 Value		1				
Total Chlorine Residual 4 Analyzer Fault				1		
Total Chlorine Residual 5 Value		1				
Total Chlorine Residual 5 Analyzer Fault				1		
TRC Sample Pump 1 Running				1		
TRC Sample Pump 1 Flow Verified				1		
TRC Sample Pump 2 Running				1		
TRC Sample Pump 2 Flow Verified				1		
TRC Sample Pump 3 Running				1		
TRC Sample Pump 3 Flow Verified				1		
TRC Sample Pump 4 Running				1		
TRC Sample Pump 4 Flow Verified				1		
TRC Sample Pump 5 Running				1		
TRC Sample Pump 5 Flow Verified				1		
Hypo Feed Pipe Secondary Containment Leak				1		
Enable CCT Mixer VFD					1	
Speed Setpoint CCT Mixer VFD			1			
CCT Mixer VFD Speed Feedback		1				
CCT Mixer VFD in Remote				1		
CCT Mixer VFD Fault				1		
CCT Mixer VFD Running				1		
Existing Effluent Flow Meter		1		1		
Existing Effluent Sample Pumps		1	1	2	1	
SUBTOTAL		7	1	22	1	
SPARE		TBD	TBD	TBD	TBD	
TOTAL		7	1	22	1	Plus TBD

*This list is preliminary only. SCADA Engineer shall expect significant additions and/or modifications to this list during the planning and design phases of this project.
(TBD = To be determined)

NFWB WWTP SCADA Study - Future Input/Output Lists

Control Panel: Disinfection Panel

Location: Odor Control Bldg (MCC-3 Area or near the new Chemical Feed Pumps)

Scope : New PLC panel for new hypo feed pumps and carbon effluent wet well levels

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PROCESS VARIABLE DESCRIPTION	Net	AI	AO	DI	DO	Note
Enable Hypo Pump 1 VFD					1	
Speed Setpoint Hypo Pump 1 VFD			1			
Hypo Pump 1 VFD Speed Feedback		1				
Hypo Pump 1 VFD in Remote				1		
Hypo Pump 1 VFD Fault				1		
Hypo Pump 1 VFD Running				1		
Hypo Pump 1 Cavity Leak				1		
Enable Hypo Pump 2 VFD					1	
Speed Setpoint Hypo Pump 2 VFD			1			
Hypo Pump 2 VFD Speed Feedback		1				
Hypo Pump 2 VFD in Remote				1		
Hypo Pump 2 VFD Fault				1		
Hypo Pump 2 VFD Running				1		
Hypo Pump 2 Cavity Leak				1		
Enable Hypo Pump 3 VFD					1	
Speed Setpoint Hypo Pump 3 VFD			1			
Hypo Pump 3 VFD Speed Feedback		1				
Hypo Pump 3 VFD in Remote				1		
Hypo Pump 3 VFD Fault				1		
Hypo Pump 3 VFD Running				1		
Hypo Pump 3 Cavity Leak				1		
Enable Hypo Pump 4 VFD					1	
Speed Setpoint Hypo Pump 4 VFD			1			
Hypo Pump 4 VFD Speed Feedback		1				
Hypo Pump 4 VFD in Remote				1		
Hypo Pump 4 VFD Fault				1		
Hypo Pump 4 VFD Running				1		
Hypo Pump 4 Cavity Leak				1		
A Train Carbon Bed Effluent Wet Well Level		1				
B Train Carbon Bed Effluent Wet Well Level		1				
Backwash Pumps 1A and 2A		2	2	4	2	Currently located within the old Modicon LCP
Backwash Air Blowers 1 and 2		2	2	4	2	Currently located within the old Modicon LCP
		TBD	TBD	TBD	TBD	
SUBTOTAL		11	8	24	8	
SPARE						Plus TBD
TOTAL		11	8	24	8	

*This list is preliminary only. SCADA Engineer shall expect significant additions and/or modifications to this list during the planning and design phases of this project.

(TBD = To be determined)

NFWB WWTP SCADA Study - Future Input/Output Lists

Control Panel: Dewatering Panel

Location: Dewatering Control Room

Scope : New PLC panel to replace existing dewatering blue console / control panel and change controls to HMI based

Includes signals from replacement BFPs panels

Identifies signals from the lime stabilization system (lime panels not currently scoped for replacement)

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PROCESS VARIABLE DESCRIPTION	Net	AI	AO	DI	DO	Notes
Start BFP 1					1	
Start BFP 1 Water Pump					1	Additional contacts from new BFP panels
Start BFP 1 Hydraulic Pump					1	Additional contacts from new BFP panels
Start BFP 1 Belt					1	Additional contacts from new BFP panels
Adjust BFP 1 Belt Speed			1			Additional contacts from new BFP panels
BFP 1 belt speed feedback		1				Additional contacts from new BFP panels
BFP 1 Running				1		
BFP 1 in Remote				1		
BFP 1 Alarm				1		
Start BFP 2					1	
Start BFP 2 Water Pump					1	Additional contacts from new BFP panels
Start BFP 2 Hydraulic Pump					1	Additional contacts from new BFP panels
Start BFP 2 Belt					1	Additional contacts from new BFP panels
Adjust BFP 2 Belt Speed			1			Additional contacts from new BFP panels
BFP 2 belt speed feedback		1				Additional contacts from new BFP panels
BFP 2 Running				1		
BFP 2 in Remote				1		
BFP 2 Alarm				1		
Start BFP 3					1	
Start BFP 3 Water Pump					1	Additional contacts from new BFP panels
Start BFP 3 Hydraulic Pump					1	Additional contacts from new BFP panels
Start BFP 3 Belt					1	Additional contacts from new BFP panels
Adjust BFP 3 Belt Speed			1			Additional contacts from new BFP panels
BFP 3 belt speed feedback		1				Additional contacts from new BFP panels
BFP 3 Running				1		
BFP 3 in Remote				1		
BFP 3 Alarm				1		
Dewatered Sludge Cake Conveyor 1 On				1		
Start Dewatered Sludge Conveyor 1					1	Point currently on lime stabilization panel
Dewatered Sludge Cake Conveyor 1 Alarm				1		
Dewatered Sludge Cake Conveyor 2 On				1		
Start Dewatered Sludge Conveyor 2					1	Point currently on lime stabilization panel
Dewatered Sludge Cake Conveyor 2 Alarm				1		
Transverse Belt Conveyor 1 On				1		
Start Traverse Belt Conveyor 1					1	Point currently on lime stabilization panel
Transverse Belt Conveyor 1 Alarm				1		
Transverse Belt Conveyor 2 On				1		
Start Traverse Belt Conveyor 2					1	Point currently on lime stabilization panel
Transverse Belt Conveyor 2 Alarm				1		
Incline Belt Conveyor On				1		
Start Incline Belt Conveyor					1	Point currently on lime stabilization panel
Incline Belt Conveyor Alarm				1		
Start Sludge / Lime Pug Mill Mixer 1					1	Point currently on lime stabilization panel
Sludge / Lime Pug Mill Mixer 1 On				1		Point currently on lime stabilization panel

*This list is preliminary only. SCADA Engineer shall expect significant additions and/or modifications to this list during the planning and design phases of this project.
(TBD = To be determined)

PROCESS VARIABLE DESCRIPTION	Net	AI	AO	DI	DO	Notes
Sludge / Lime Pug Mill Mixer 1 Alarm				1		Point currently on lime stabilization panel
Sludge / Lime Pug Mill Mixer 1 Zero Speed				1		Point currently on lime stabilization panel
Start Sludge / Lime Pug Mill Mixer 2					1	Point currently on lime stabilization panel
Sludge / Lime Pug Mill Mixer 2 On				1		Point currently on lime stabilization panel
Sludge / Lime Pug Mill Mixer 2 Alarm				1		Point currently on lime stabilization panel
Sludge / Lime Pug Mill Mixer 2 Zero Speed				1		Point currently on lime stabilization panel
Lime Feed Silo 1 Level				1		
Lime Feed Silo 2 Level				1		
Start Lime Feeder 1					1	Point currently on lime stabilization panel
Lime Feeder 1 Running				1		Point currently on lime stabilization panel
Lime Feeder 1 Speed Command			1			Point currently on lime stabilization panel
Lime Feeder 1 Tachometer Feedback		1				Point currently on lime stabilization panel
Start Lime Feeder 2					1	Point currently on lime stabilization panel
Lime Feeder 2 Running				1		Point currently on lime stabilization panel
Lime Feeder 2 Feed Command			1			Point currently on lime stabilization panel
Lime Feeder 2 Tachometer Feedback		1				Point currently on lime stabilization panel
BFP Polymer Feed Pump No. 1 VFD Running				1		
BFP Polymer Feed Pump No. 1 VFD Faulted				1		
BFP Polymer Feed Pump No. 1 VFD Local Switch in AUTO Position				1		
BFP Polymer Feed Pump No. 1 E-Stopped				1		
Start BFP Polymer Feed Pump No. 1 VFD					1	
BFP Polymer Feed Pump No. 1 Speed Command			1			
BFP Polymer Feed Pump No. 1 Speed Feedback		1				
BFP Polymer Feed Pump No. 2 VFD Running				1		
BFP Polymer Feed Pump No. 2 VFD Faulted				1		
BFP Polymer Feed Pump No. 2 VFD Local Switch in AUTO Position				1		
BFP Polymer Feed Pump No. 2 E-Stopped				1		
Start BFP Polymer Feed Pump No. 2 VFD					1	
BFP Polymer Feed Pump No. 2 Speed Command			1			
BFP Polymer Feed Pump No. 2 Speed Feedback		1				
BFP Polymer Feed Pump No. 3 VFD Running				1		
BFP Polymer Feed Pump No. 3 VFD Faulted				1		
BFP Polymer Feed Pump No. 3 VFD Local Switch in AUTO Position				1		
BFP Polymer Feed Pump No. 3 E-Stopped				1		
Start BFP Polymer Feed Pump No. 3 VFD					1	
BFP Polymer Feed Pump No. 3 Speed Command			1			
BFP Polymer Feed Pump No. 3 Speed Feedback		1				
TSP1 Flow		1				
TSP2 Flow		1				
TSP3 Flow		1				
TSP4 Flow		1				
BFP Room H2S PPM 1				1		
BFP Room H2S PPM 2				1		
BFP Room O2% 1				1		
BFP Room O2% 2				1		
SUBTOTAL		12	8	45	24	
SPARE		TBD	TBD	TBD	TBD	
TOTAL		12	8	45	24	Plus TBD

Also to include:
Will include (4) additional
TSP VFD's including
speed, speed feedback,
start, stop, fault.

*This list is preliminary only. SCADA Engineer shall expect significant additions and/or modifications to this list during the planning and design phases of this project.
(TBD = To be determined)

NFWB WWTP SCADA Study - Future Input/Output Lists

Control Panel: IP-3 Section 2

Location: Sludge Bldg Spine MCC-5 Area

Scope: New remote IO panel next to existing IP-3 with IO for Sed Basin No. 5 equilization pumps, and sed basin flocculation area C&F sludge collectors.

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PROCESS VARIABLE DESCRIPTION	Net	AI	AO	DI	DO	Notes
Sed Basin No. 5 Level		1				
Sed Basin 5 EQ Pump 1 HOA in Auto				1		
Sed Basin 5 EQ Pump 1 Running				1		
Sed Basin 5 EQ Pump 1 fault				1		
Start Sed Basin 5 EQ Pump 1				1		
Sed Basin 5 EQ Pump 2 HOA in Auto				1		
Sed Basin 5 EQ Pump 2 Running				1		
Sed Basin 5 EQ Pump 2 Fault				1		
Start Sed Basin 5 EQ Pump 2				1		
Floc Area C&F Collector No. 1 Running				1		
Floc Area C&F Collector No. 1 Overload Tripped				1		
Floc Area C&F Collector No. 1 Shear Pin Failed				1		
Floc Area C&F Collector No. 1 Flight Alignment Monitor Alarm				1		
Floc Area C&F Collector No. 2 Running				1		
Floc Area C&F Collector No. 2 Overload Tripped				1		
Floc Area C&F Collector No. 2 Shear Pin Failed				1		
Floc Area C&F Collector No. 2 Flight Alignment Monitor Alarm				1		
Floc Area C&F Collector No. 3 Running				1		
Floc Area C&F Collector No. 3 Overload Tripped				1		
Floc Area C&F Collector No. 3 Shear Pin Failed				1		
Floc Area C&F Collector No. 3 Flight Alignment Monitor Alarm				1		
Floc Area C&F Collector No. 4 Running				1		
Floc Area C&F Collector No. 4 Overload Tripped				1		
Floc Area C&F Collector No. 4 Shear Pin Failed				1		
Floc Area C&F Collector No. 4 Flight Alignment Monitor Alarm				1		
Floc Area C&F Collector No. 5 Running				1		
Floc Area C&F Collector No. 5 Overload Tripped				1		
Floc Area C&F Collector No. 5 Shear Pin Failed				1		
Floc Area C&F Collector No. 5 Flight Alignment Monitor Alarm				1		
Polymer mixing system TBD		ALL TBD				
Ferric chloride feed pumps / system TBD		2	2	4	2	
Also to include: Will include typical VFD controls similar to BFP polymer pump VFD x 2 pumps						
SUBTOTAL		5	2	42	6	
SPARE		TBD	TBD	TBD	TBD	
TOTAL		5	2	42	6	Plus TBD

*This list is preliminary only. SCADA Engineer shall expect significant additions and/or modifications to this list during the planning and design phases of this project.
(TBD = To be determined)

NFWB WWTP SCADA Study - Future Input/Output Lists

Control Panel: IP-4

Location: Thickened Sludge Pump (TSP) Bldg

Scope : Replace Existing IP-4 in the TSP Bldg to incorporate remote control of the TSP VFDs

Note some work was done in 2018 to add the TSPs to SCADA by ASG (scope and IO points are unknown).

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PROCESS VARIABLE DESCRIPTION	Net	AI	AO	DI	DO	Note
Enable TSP 1 VFD					1	
Speed Setpoint TSP 1 VFD			1			
TSP 1 VFD Speed Feedback		1				
TSP 1 VFD in Remote				1		
TSP 1 VFD Fault				1		
TSP 1 VFD Running				1		
Enable TSP 2 VFD					1	
Speed Setpoint TSP 2 VFD			1			
TSP 2 VFD Speed Feedback		1				
TSP 2 VFD in Remote				1		
TSP 2 VFD Fault				1		
TSP 2 VFD Running				1		
Enable TSP 3 VFD					1	
Speed Setpoint TSP 3 VFD			1			
TSP 3 VFD Speed Feedback		1				
TSP 3 VFD in Remote				1		
TSP 3 VFD Fault				1		
TSP 3 VFD Running				1		
Enable TSP 4 VFD					1	
Speed Setpoint TSP 4 VFD			1			
TSP 4 VFD Speed Feedback		1				
TSP 4 VFD in Remote				1		
TSP 4 VFD Fault				1		
TSP 4 VFD Running				1		
SUBTOTAL		4	4	12	4	
SPARE		TBD	TBD	TBD	TBD	
TOTAL		4	4	12	4	Plus TBD

Also To be Included:

- (1) sump pump running DI
- (1) sump pump high alarm DI
- (2) gravity thickener level sensor AI
- (2) gravity thickener rake arm (I/O)
start
stop
torque
etc.

*This list is preliminary only. SCADA Engineer shall expect significant additions and/or modifications to this list during the planning and design phases of this project.
(TBD = To be determined)

NFWB WWTP SCADA Study - Future Input/Output Lists

Control Panel: Existing Scum Remote IO Panel

Location: Scum Bldg MCC Room

Scope : Existing panel with new IO for scum equipment, and Sed Basin 2, 3, 4, and 5

Longitudinal C&F sludge collector equipment

Phase 3 Rehab project design of this panel accounted for some of the new IO

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PROCESS VARIABLE DESCRIPTION	Net	AI	AO	DI	DO	Notes
Scum wetWell Level Transmitter		1				
Scum Dry Well Float Switch Level High				1		
Scum Wet Well Level High Alarm Light					1	
Scum Mixer Running				1		
Scum Mixer Starter in Auto Mode				1		
Scum Mixer E-Stopped				1		
Start Scum Mixer					1	
North Scum Pump Running				1		
North Scum Pump in Auto Mode				1		
North Scum Pump E-Stopped				1		
Start North Scum Pump					1	
South Scum Pump Running				1		
South Scum Pump in Auto Mode				1		
South Scum Pump E-Stopped				1		
Start South Scum Pump					1	
Fine Screen Running				1		x2 screen 1, screen 2
Fine Screen Faulted				1		
Fine Screen Local Switch in Auto Mode				1		
Fine Screen Spray Wash Running				1		
Fine Screen Spray Wash Faulted				1		
Fine Screen Spray Wash in Auto Mode				1		
Start Fine Screen					1	
Fine Screen Float Switch Level High				1		
Fine Screen E-Stopped				1		
C&F Collector No. 1E Flight Alignment Monitor Alarm				1		Not included in original Phase 3 design
C&F Collector No. 1E Flight Alignment Monitor Alarm				1		Not included in original Phase 3 design
C&F Collector No. 2E Running				1		
C&F Collector No. 2E Overload Tripped				1		
C&F Collector No. 2E Shear Pin Failed				1		
C&F Collector No. 2E Flight Alignment Monitor Alarm				1		Not included in original Phase 3 design
C&F Collector No. 2W Running				1		
C&F Collector No. 2W Overload Tripped				1		
C&F Collector No. 2W Shear Pin Failed				1		
C&F Collector No. 2W Flight Alignment Monitor Alarm				1		Not included in original Phase 3 design

Also to add to each: (1-5)
- Sprocket motion detector DI

*This list is preliminary only. SCADA Engineer shall expect significant additions and/or modifications to this list during the planning and design phases of this project.
(TBD = To be determined)

PROCESS VARIABLE DESCRIPTION	Net	AI	AO	DI	DO	Notes
C&F Collector No. 3E Running				1		
C&F Collector No. 3E Overload Tripped				1		
C&F Collector No. 3E Shear Pin Failed				1		
C&F Collector No. 3E Flight Alignment Monitor Alarm				1		Not included in original Phase 3 design
C&F Collector No. 3W Running				1		
C&F Collector No. 3W Overload Tripped				1		
C&F Collector No. 3W Shear Pin Failed				1		
C&F Collector No. 3W Flight Alignment Monitor Alarm				1		Not included in original Phase 3 design
C&F Collector No. 4E Running				1		
C&F Collector No. 4E Overload Tripped				1		
C&F Collector No. 4E Shear Pin Failed				1		
C&F Collector No. 4E Flight Alignment Monitor Alarm				1		Not included in original Phase 3 design
C&F Collector No. 4W Running				1		
C&F Collector No. 4W Overload Tripped				1		
C&F Collector No. 4W Shear Pin Failed				1		
C&F Collector No. 4W Flight Alignment Monitor Alarm				1		Not included in original Phase 3 design
C&F Collector No. 5E Running				1		
C&F Collector No. 5E Overload Tripped				1		
C&F Collector No. 5E Shear Pin Failed				1		
C&F Collector No. 5E Flight Alignment Monitor Alarm				1		Not included in original Phase 3 design
C&F Collector No. 5W Running				1		
C&F Collector No. 5W Overload Tripped				1		
C&F Collector No. 5W Shear Pin Failed				1		
C&F Collector No. 5W Flight Alignment Monitor Alarm				1		Not included in original Phase 3 design
SUBTOTAL		1	0	52	5	
SPARE		TBD	TBD	TBD	TBD	
TOTAL		1	0	52	5	Plus TBD

Also to add to each: (1-5)
- Sprocket motion detector DI

- sludge screw drive monitor TBD
- grit screw drive monitor TBD

*This list is preliminary only. SCADA Engineer shall expect significant additions and/or modifications to this list during the planning and design phases of this project.
(TBD = To be determined)

NFWB WWTP SCADA Study - Future Input/Output Lists

Control Panel: IP-2

Location: Pump Bldg Power Center 1 Room

Scope: Existing panel with new IO from air monitoring system, future ferric chloride and acid systems

This panel has many spare IO points, need to check quantity

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PROCESS VARIABLE DESCRIPTION	Net	AI	AO	DI	DO	Notes
Screen Room H2S PPM 1		1				
Screen Room H2S PPM 2		1				
Screen Room O2% 1		1				
Screen Room O2% 2		1				
Main Wet Well Room H2S PPM 1		1				
Main Wet Well Room H2S PPM 2		1				
Main Wet Well Room O2% 1		1				
Main Wet Well Room O2% 2		1				
Acid storage and delievery system TBD		2	2	4	2	
SUBTOTAL		10	2	4	2	
SPARE		TBD	TBD	TBD	TBD	
TOTAL		10	2	4	2	Plus TBD

*This list is preliminary only. SCADA Engineer shall expect significant additions and/or modifications to this list during the planning and design phases of this project.
(TBD = To be determined)

NFWB WWTP SCADA Study - Future Input/Output Lists
Control Panel: Main Control Panel
Location: SCADA Room
Scope: Existing panel with new IO from air monitoring system

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PROCESS VARIABLE DESCRIPTION	Net	AI	AO	DI	DO	Notes
Carbon Storage Room H2S PPM		1				
Carbon Storage Room LEL		1				
Carbon Storage Room O2%		1				
Carbond Storage Room CO		1				
SUBTOTAL		4	0	0	0	
SPARE		TBD	TBD	TBD	TBD	
TOTAL		4	0	0	0	Plus TBD

*This list is preliminary only. SCADA Engineer shall expect significant additions and/or modifications to this list during the planning and design phases of this project.
(TBD = To be determined)



Memorandum

March 22, 2018

To: Niagara Falls Water Board

Ref. No.: 11180393

From: Casey Cowan, Steve Josa, Jeff Gee /ck/2

Tel: (716) 856-2142

CC: Ken Maving, Rick Roll

**Subject: SCADA Automation Hardware, Software and Communication Systems Evaluation
Niagara Falls Wastewater Treatment Plant**

GHD has been retained by the Niagara Falls Water Board (NFWB) to evaluate the Supervisory Control and Data Acquisition (SCADA) automation hardware, software, and communication systems within the NFWB Wastewater Treatment Plant (WWTP), and develop recommendations for improvements in concert with the upcoming capital projects that will be performed. GHD's staff have been involved with many of the major SCADA system upgrades at the WWTP and Gorge Pumping Station (GPS) since 2006, either as the NFWB's design engineer or as the control system integrator. In the fall of 2018, we visited and evaluated the automation systems within the WWTP, GPS, and the Regulator 6C Telemetry Station. GHD has not reviewed the NFWB's smaller lift stations and regulators as part of this evaluation. A separate project is currently being completed by the NFWB to install new pump control panels with integrated telemetry systems at the lift stations (by Xylem-Flygt). Another separate project to install a Stratus server and Thin Manager software was also being executed by the NFWB during this evaluation, and GHD has not been involved with or reviewed anything from that project in this evaluation.

GHD has compiled an inventory of all the automation control panels and communications hardware at the WWTP and GPS. Figure 1 shows the location of the existing control panels located at the WWTP. Table 1 provides a list of these same control panels with a summary of when they were installed, major functions, and their current status. In addition, the existing automation communications network architecture is shown on Figures 2 and Figure 3. Table 2 provides a list of all Ethernet IP addresses for the system. This information has been compiled from our previous efforts and updated for this current evaluation.

Below is a summary of the findings and recommendations with the following goals in mind:

-) The system should be easily maintainable in regard to automation hardware, automation software, and electrical troubleshooting.
-) The system should have a consistent graphics platform that is easily interpreted by plant operations.
-) The system should have latest technology utilizing readily available and obtainable hardware.
-) As-built drawings of all control panels should be developed and maintained.



-) The system should allow for future buildout and upgrades to the SCADA system that provide for monitoring and control of all treatment processes.
-) The goal is to maintain a safe and reliable automated WWTP and collection system.

The existing automation hardware consists of a variety of manufacturers in relation to the Programmable Logic Controllers (PLCs), field Operator Interface Terminals (OITs or Touchscreens) and communications hardware. The plant-wide SCADA system has been developed by numerous different entities through the years without consistent color, graphic layout, naming, or database development conventions. This presents many maintenance difficulties, for example:

-) Multiple software packages need to be purchased and supported
-) Staff must be trained in the use of these different packages
-) Excessive money is spent on spare part inventories for critical components due to the lack of standardization
-) Maintenance staff must be trained to assemble and troubleshoot the different hardware platforms.

The majority of the existing automation PLC hardware within the NFWB system is manufactured by Rockwell Automation (Rockwell). Based on the majority of infrastructure being Rockwell, GHD recommends that the NFWB continue to request Ethernet-based Rockwell Logix hardware whenever PLCs are needed. As budget allows, existing equipment that is not Rockwell Logix hardware should be replaced. We understand that the NFWB has previously standardized on Rockwell (Allen Bradley) PLCs. Standardization of Rockwell Logix PLC hardware allows for a singular software package, 'RSLogix 5000', to be the programming tool for all PLCs in the system.

It is also GHD's recommendation that the plant standardize their existing and future SCADA, Historian and OIT platforms for all projects where programming development of these systems is required. A 'Graphics Standard' document should be developed that outlines the NFWB's requirements and goals for the SCADA system. The International Society of Automation (ISA) has developed graphics standards that GHD recommends be made a part of this document (specifically, ISA 101 and ISA 112). Appendix A includes examples of the type of graphics that are recommended.

Currently the WWTP has GE iFix software for the SCADA system. As previously mentioned, there is a lack of consistency and symmetry with the existing graphics package. In addition, the graphics were constructed for older 4:3 monitors, whereby now the standard is rectangular / wide screen. As such, the entire graphics package should be reconstructed. As the hardware is Rockwell, we recommend that the existing SCADA system should be migrated to the platform provided by Rockwell entitled 'FactoryTalk View Supervisory Edition'. The pairing of Rockwell's SCADA package, along with current Rockwell PLC hardware, assists with ease of development of the SCADA databases, graphics, and Historian system. The use of Rockwell SCADA will allow for ease and flexibility for total system support, future system development, and streamline the amount of training and understanding required to make future modifications. In addition, this particular software package can also be used to support many of the existing OITs in the system. The WWTP currently has approximately 150 SCADA graphics that would need to be redeveloped in the Rockwell



package. The conversion should be a total rework based on the aforementioned new graphics standards, not a straight up conversion of the existing graphics.

Plant personnel currently do not have the ability to monitor, debug, or make changes to some Rockwell PLC programs and the existing OITs. If the NFWB wants the autonomy to make edits themselves, we recommend purchasing software licenses for 'RSLogix 500' and 'FactoryTalk View Machine Edition'. These licenses are not needed if the NFWB plans to continue to rely on outside consultants for these services.

The WWTP facilities have a substantial quantity of automation hardware and software, with additional that will be coming under the upcoming projects. Currently there is a deficiency in the organization and tracking of all the existing systems, and there is no standardization nor reliable repository for software backups. All files are stored on a single PC. These files are not managed or tracked for changes, which poses a risk of not being able to recover software in the event of equipment failures, tampering, or user error. Software backups are often urgently needed in the event of automation failures, and having access to the latest revision of the customized program can be extremely important. Also, having revision control of the files and understanding the differences between different revisions of programs can be important. As such, GHD recommends that the NFWB invest in a software (FactoryTalk AssetCentre) that would be setup to store, manage, track, and backup all of the PLC, OIT, VFD, and SCADA programs in an organized central location. We understand the new Stratus server at the WWTP will not be used to back up the aforementioned files.

As part of this evaluation, GHD has compiled as-built drawings of all the existing control panels listed in Table 1. During our site visits, we noticed that many of these panels have had revisions that are not documented on the drawings. Therefore, we recommend that as-built drawings be developed and maintained for each operational control panel. Not only will this assist troubleshooting at the plant during critical situations, but it will also allow the NFWB to better determine if a control panel is able to accommodate upgrades and/or future additions.

Recommended Software

The following table is a list of the recommended software for conversion to a Rockwell-based SCADA system at the WWTP. This would be a one-time purchase that provides capacity for the new equipment that will be added under the capital projects starting in 2019. The pricing as shown are list prices with no discounts and no profit markup.

It should be noted that we recommend in the future that the NFWB also converts the Water Plant SCADA system from GE iFix to Rockwell software. This would allow the NFWB to have one common SCADA software package at both facilities, minimizing licensing annual fees and staff knowledge of two different systems. However, the Water Plant system does not require any major additions, as it is currently fully developed for the entire plant. For this reason, it is not essential that the Water Plant system be converted at this time.



Equipment List

Discount Level: None

Price Agreement: None

HP-11

1054 1076

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PLC Panel /SCADA System Buildout Plan

As part of defining the automation system scope of work for the NFWB's upcoming capital projects, GHD has developed a recommended Buildout Plan (see Appendix B), including where and what type of new or modified PLC panels will be needed to incorporate SCADA monitoring and controls of the new equipment. The proposed PLC panel locations are also shown within Appendix B on Figure 1 Proposed Communication Site Plan. GHD has also developed initial PLC input/output (IO) point lists for each of these panels included in Appendix B. These IO lists are considered preliminary, and they must be further developed and reviewed with the NFWB and each capital project engineer during the design phase of each project.

SCADA Implementation Plan

GHD has met with the NFWB and reviewed a plan to implement the SCADA improvements outlined herein. Appendix C includes a copy of the recommended Implementation Plan. Due to the multiple capital projects with different engineering firms that are starting in 2019, GHD recommends that a single highly qualified professional engineering firm is retained by the NFWB to provide the SCADA Engineer scope of services for all projects. The SCADA Engineer will serve as the NFWB's in house consultant and advisor throughout the capital upgrades. This will ensure that the final SCADA system is designed and developed with consistency



across all WWTP processes, maximizing protection of the environment, and provides a single engineer firm for startup, training and maintenance of the system.

Attachments:

Figure 1 – Existing Communication Site Plan

Figure 2 – Network Architecture

Figure 3 – Control Net Network Diagram

Table 1 – Existing PLC Control Panel Summary

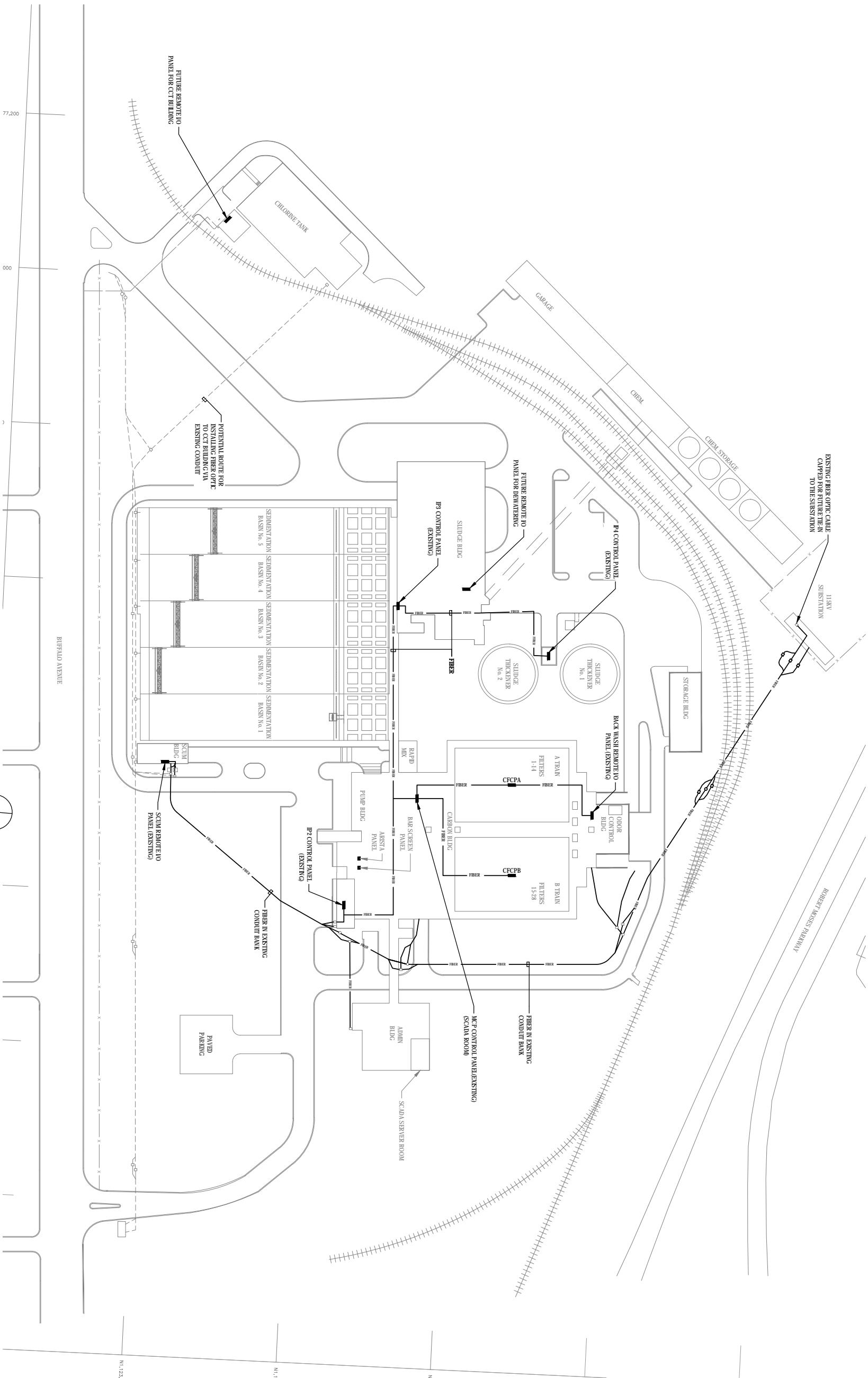
Table 2 – Existing Control System Ethernet IP Address Summary

Appendix A – SCADA Graphic Examples

Appendix B – SCADA Buildout Plan

Appendix C – SCADA Implementation Plan

Figures



LEGEND

- EQUIPMENT
- ETHERNET CABLE
- FIBER OPTIC CABLE
- SERIAL CABLE
- CONDUIT CABLE

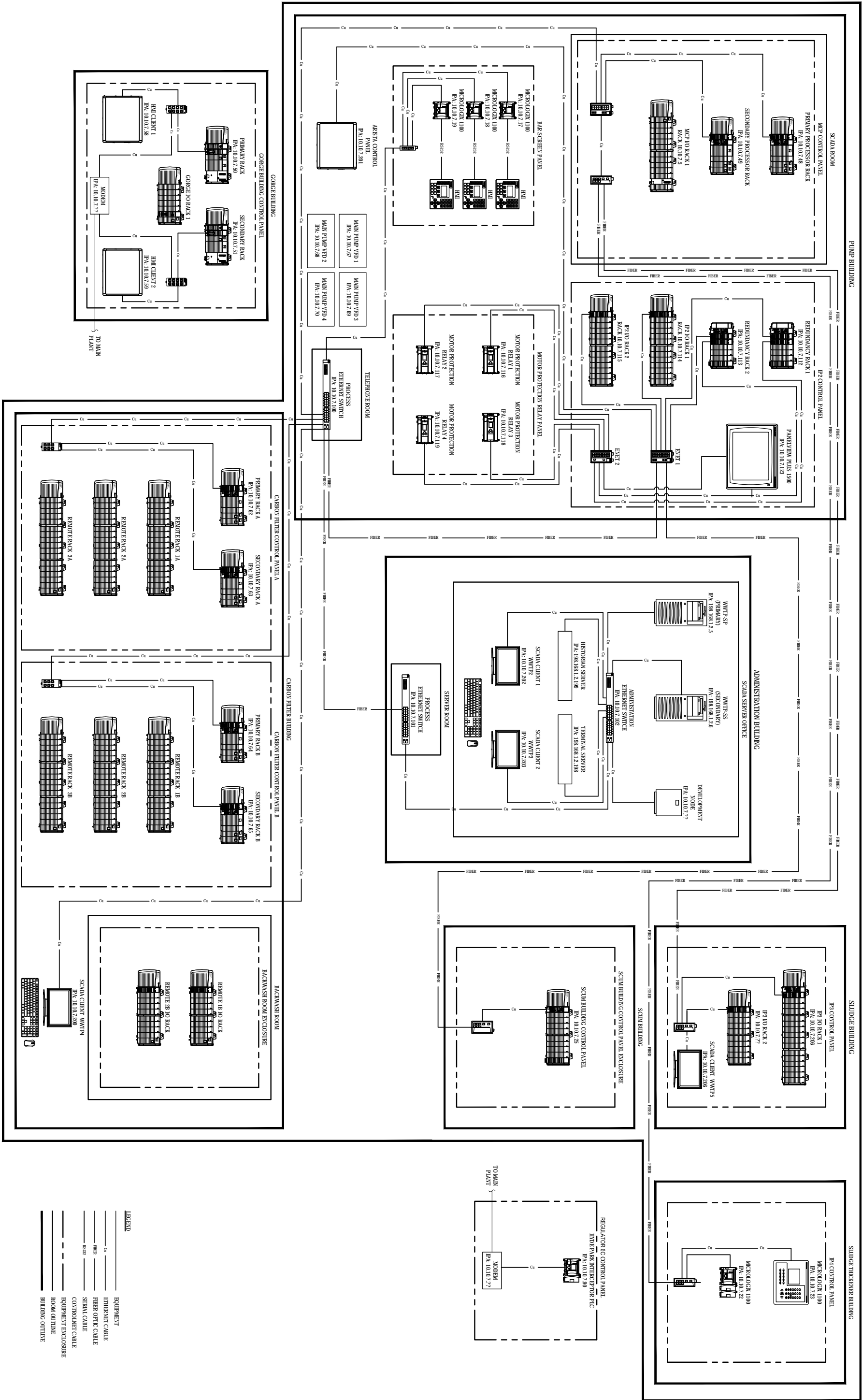
NOTE

- SITE PLAN ONLY SHOWS EXISTING MAJOR FIBER OPTIC CABLE NETWORK

COMMUNICATION SITE PLAN



/E	/E	/E	/E	Notes (Underground facilities, structures, and utilities have been plotted from available surveys and records, and therefore their locations must be considered approximate only. There may be errors, the existence of which is hereby acknowledged.)	Bar is one inch on original size sheet 0 1"	It is a violation of New York State education law for any person, other than a duly licensed professional engineer, to prepare, sign, or seal a professional engineering drawing or specification, or to prepare, sign, or seal a professional engineering drawing or specification, or to prepare, sign, or seal a professional engineering drawing or specification, or to prepare, sign, or seal a professional engineering drawing or specification, or to prepare, sign, or seal a professional engineering drawing or specification, or to prepare, sign, or seal a professional engineering drawing or specification, or to prepare, sign, or seal a professional engineering drawing or specification, or to prepare, sign, or seal a professional engineering drawing or specification, or to prepare, sign, or seal a professional engineering drawing or specification, or to prepare, sign, or seal a professional engineering drawing or specification, or to prepare, sign, or 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Project: WWT5 SCADA NETWORK ARCHITECTURE				
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Tables

Niagara Falls Water Board
WWTP SCADA System Evaluations

Table 1. Existing PLC Control Panel Summary

Control Panel Name / Drawing Name	Location / Major Functions	Status
MCP (Main Control Panel)	SCADA Room / Control Room	Owner designed panel. GHD designed additions to this panel in the phase 3 project. Full as-built drawings are not available. Would be beneficial to evaluate and create as-built drawings for troubleshooting purposes and future modifications.
CFCPA (Carbon Filter Control Panel - A)	A Train Filters	Panel specified by GHD and installed by ASG in 2012 under the Phase 2 project. Panel appeared to be modified or worked on. Would be beneficial to evaluate panel and complete up-to-date as-built drawings.
CFCPB (Carbon Filter Control Panel - B)	B Train Filters	Panel specified by GHD and installed by ASG in 2012 under the Phase 2 project. Panel appeared to be modified or worked on. Would be beneficial to evaluate panel and complete up-to-date as-built drawings.
Backwash IO Panel	Carbon Building MCC-3 Room. Backwash Pumps, Plant Water Pumps	GHD designed panel for the Phase 2A project and modified under the Phase 3 project. Drawings up-to-date as of 2016.
Instrument Panel IP 2	Pump Building Electrical Room. Main Pumps, Intermediate Pumps	GHD designed panel. Drawings up to date as of 2016. Generator project included some additional IO points that have not yet been added to the as-builts.
Scum Building IO Rack	Scum Building. Sed Basin sludge and scum chain and flight collectors	GHD designed panel for Phase 3 project. GHD designed for future scum pumps and scum removal filter that was deleted from project. GHD also designed for future chain and flight equipment in SB-2 through SB-5. Drawings up-to-date as of 2016.
Instrument Panel IP3	Sludge Bldg near Dewatering Area. Polymer pumps, sludge pumps and grit pumps.	Initial design and installed by NFWB. GHD designed major panel additions for Phase 3 and the NYPA sludge/grit pump automation project. Drawings up-to-date as of 2017. GHD awaiting information for as-built drawings for additions to this panel
Instrument Panel IP4	Thickened Sludge Building. Thickened sludge pumps, thickeners	GHD designed panel for Phase 3 project. HMI was replaced in 2018 as part of the thickened sludge pump repairs. GHD provided as-built drawings do not include this new HMI.
Bar Screen 1	Pump room	Vendor equipment from Phase 1 project. As-built drawings part of the Headworks screen drawings.
Bar Screen 2	Pump room	Vendor equipment from Phase 1 project. As-built drawings part of the Headworks screen drawings.

Bar Screen 3	Pump room	Vendor equipment from Phase 1 project. As-built drawings part of the Headworks screen drawings.
Gorge Pump Station	Gorge PS Control Room	GHD specified and installed by VSG under the Gorge PS Rehab project in 2008. Would be beneficial to evaluate and create new as-built drawings for troubleshooting purposes.
Dewatering Panel	Belt Filter Press Room (blue console)	Installed under Contract 38R in 1992. As-built drawings are likely inaccurate; there have been many changes to this panel. NFWB is planning on replacing this panel and moving it to the former vacuum pump room in a near future project.
	Carbon Building MCC-3 Room. Backwash Pumps, Plant Water Pumps	Installed under Contract 44 in the mid 1990s. Major modifications under Phase 2 and Phase 2A (2010) to allow remote SCADA control of backwash pump and blowers. Hand controls were available as a backup to operate the old backwash pumps and blowers, although manual functionality is no longer used. As-built drawings were done as part of Phase 2/2A projects by hand marking on original drawings.
Backwash Panel		

Niagara Falls Water Board
WWTP SCADA System Evaluations

Table 2. Existing Control System Ethernet IP Address Summary

Description	IP Address
Library Ethernet Switch	10.10.7.102
Historian Server	10.10.7.199
Primary SCADA Server (WWTP-SP)	10.10.7.5
Secondary SCADA Server (WWTP-SS)	10.10.7.6
Terminal Server	10.10.7.198
Telephone Room/Admin Bldg. Ethernet Switch	10.10.7.101
CFCPB Primary PLC Controller	10.10.7.64
CFCPB Secondary PLC Controller	10.10.7.65
CFCPB SCADA Client (WWTP4)	10.10.7.200
CFCPA Primary PLC Controller	10.10.7.62
CFCPA Secondary PLC Controller	10.10.7.63
MCP Primary PLC Controller	10.10.7.48
MCP Secondary PLC Controller	10.10.7.49
Hyde Park Blvd. Pump Station PLC	10.10.7.90
Gorge Firewall (OOS)	10.10.7.91
Misc Ethernet Switch	10.10.7.3
Gorge Primary PLC Controller	10.10.7.50
Gorge Secondary PLC Controller	10.10.7.51
Main Process Building Telephone Room Ethernet Switch	10.10.7.100
Main Control Room SCADA Client #1 (WWTP1)	10.10.7.202
Main Control Room SCADA Client #2 (WWTP3)	10.10.7.203
IP3 PLC Controller	10.10.7.20
IP3 I/O Rack	10.10.7.21
IP3 SCADA Client (WWTP5)	10.10.7.206
IP4 PLC Controller	10.10.7.22
IP4 HMI	10.10.7.23
Main Pump Building SCADA Client (Arista)	10.10.7.201
Bar Screen #1 PLC Controller	10.10.7.17
Bar Screen #1 HMI	RS232
Bar Screen #2 PLC Controller	10.10.7.18
Bar Screen #2 HMI	RS232
Bar Screen #3 PLC Controller	10.10.7.19
Bar Screen #3 HMI	RS232
IP2 Primary PLC Network #1 Controller	10.10.7.110
IP2 Secondary PLC Network #1 Controller	10.10.7.111
IP2 Primary PLC Network #2 Controller	10.10.7.112
IP2 Secondary PLC Network #2 Controller	10.10.7.113
IP2 HMI	10.10.7.123
IP2 I/O Rack #1	10.10.7.114
IP2 I/O Rack #2	10.10.7.115
Main Pump #1 Protection Relay	10.10.7.116

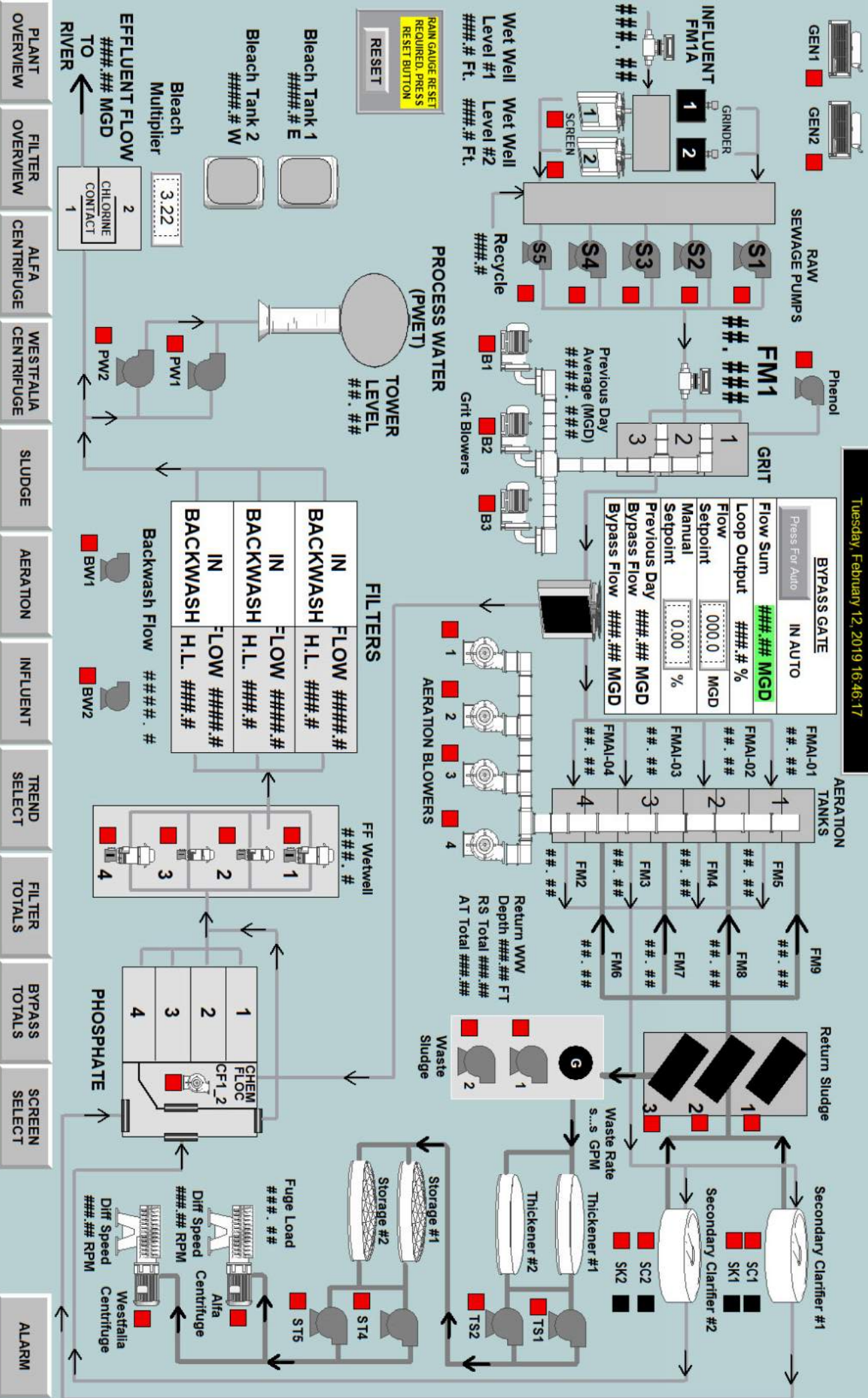
Main Pump #2 Protection Relay	10.10.7.117
Main Pump #3 Protection Relay	10.10.7.118
Main Pump #4 Protection Relay	10.10.7.119
Main Pump #1 VFD	10.10.7.67
Main Pump #2 VFD	10.10.7.68
Main Pump #3 VFD	10.10.7.69
Main Pump #4 VFD	10.10.7.70
Scum Building I/O Rack	10.10.7.25

Appendices

Appendix A

Example SCADA Graphics

Tuesday, February 12, 2019 16:46:17



NEXT FILTER FOR BW ##

CURRENT BW STEP

#

CURRENT MODE

START SEMI AUTO BW

FILTER OVERVIEW

FILTER
SELECT

ELAPSED TIME
IN CURRENT STEP ####.#

AUTOMATIC

ADVANCE BW STEP

ABANDON BW

FILTER FEED
WETWELL
###.#
FEET

STAND PIPE
###.#
INCHES

SAMPLE RATE
(X1000 GAL)
5500

EFFLUENT
TOTAL
#####

ENTER TIME BETWEEN
BACKWASHES

OPERATOR ADJUST

100 %

ELAPSED TIME BETWEEN
BACKWASHES

HOURS

MINUTES

TOGGLE
SYSTEM MODE

SYSTEM OPERATING MODE

MANUAL CONTROL

SINGLE CELL

DUAL CELL

CONTROL MODE SELECTED

SINGLE CELL

TIME OF DAY

TIME BETWEEN

VALVE PERCENT

HEAD LOSS

BW TRIGGER TYPE SELECTED

VALVE PERCENT

OUT OF SERVICE

GPM

IN
BACKWASH

IN-WC

FILTER 1A

FILTER 1B

OUT OF SERVICE

GPM

IN
BACKWASH

IN-WC

FILTER 2A

FILTER 2B

OUT OF SERVICE

GPM

IN
BACKWASH

IN-WC

FILTER 3A

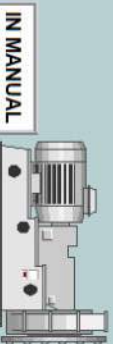
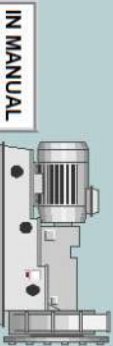
FILTER 3B

% OPEN

% OPEN

% OPEN

AT LEAST ONE VALVE IS OPEN



BLOWER #1

BLOWER #2

BACKWASH BLOWER NEXT BACKWASH #

SELECT BLOWER

BW WATER
FLOW

FILTER 1

FILTER 2

FILTER 3

BW TIMES

WEEKLY

TRENDING

MOTOR
RUNTIMES

FF PUMP
CONTROL

PLANT
OVERVIEW

FILTER
OVERVIEW

ALFA
CENTRIFUGE

WESTFALIA
CENTRIFUGE

SLUDGE

AERATION

INFLUENT

TREND
SELECT

FILTER
TOTALS

BYPASS
TOTALS

SCREEN
SELECT

ALARM

NEXT FILTER FOR BW ##

CURRENT BW STEP #

#

CURRENT MODE

START SEMI AUTO BW

FILTER 1

Tuesday, February 12, 2019 16:49:09

FILTER SELECT

ELAPSED TIME
IN CURRENT STEP ###. #

AUTOMATIC

ADVANCE BW STEP

ABANDON BW

TOGGLE SERVICE

FILTER OUT OF SERVICE

TOGGLE
FILTER MODE

FILTER OPERATING MODE

MANUAL CONTROL

FLOW CONTROL

LEVEL CONTROL

CONTROL MODE SELECTED

LEVEL CONTROL

FILTER 2

FILTER 3

BW TIMES

WEEKLY

TRENDING

MOTOR
RUNTIMES

BLOWER #1

BLOWER #2

PLANT
OVERVIEW

FILTER
OVERVIEW

ALFA
CENTRIFUGE

WESTFALIA
CENTRIFUGE

SLUDGE

AERATION

INFLUENT

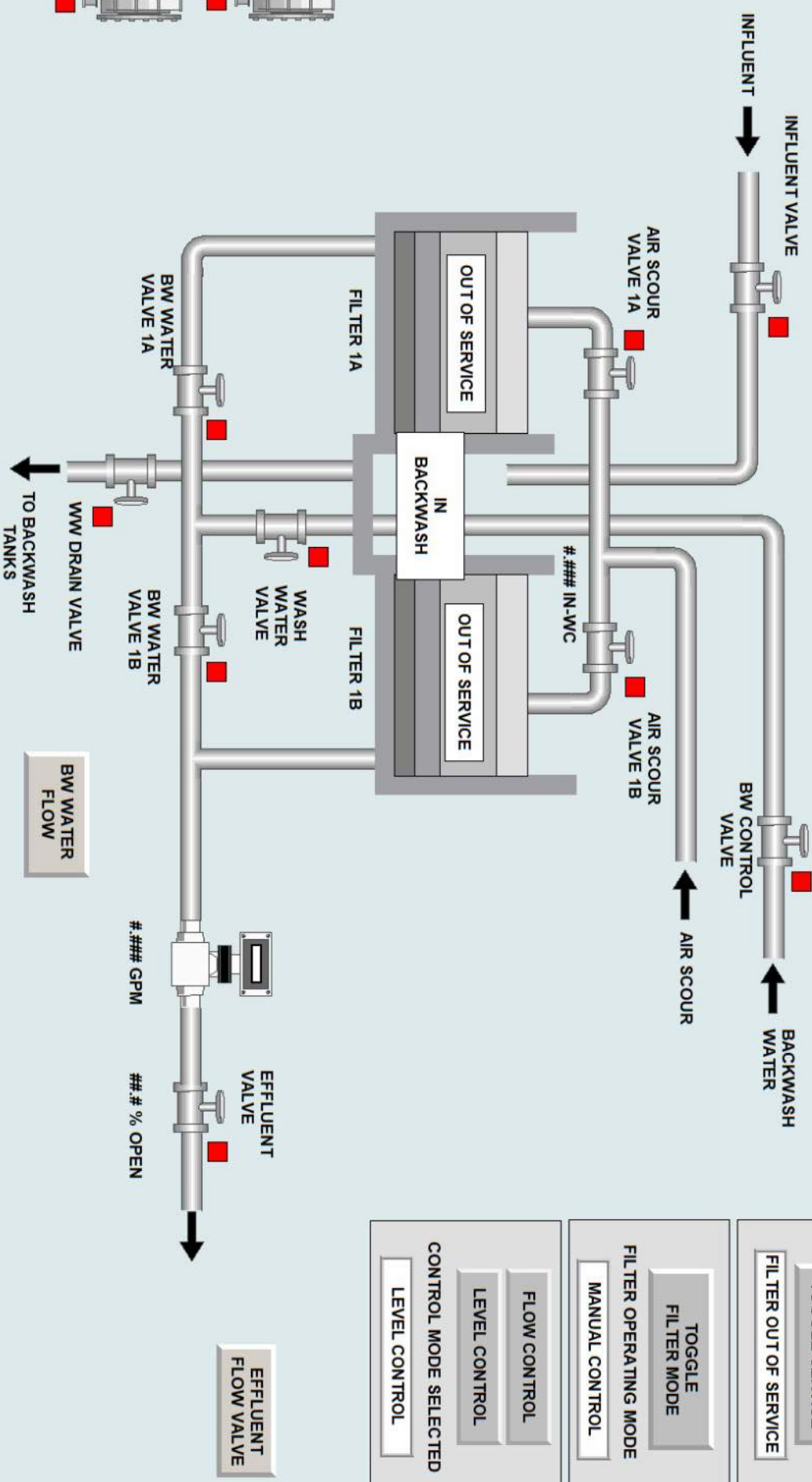
TREND
SELECT

FILTER
TOTALS

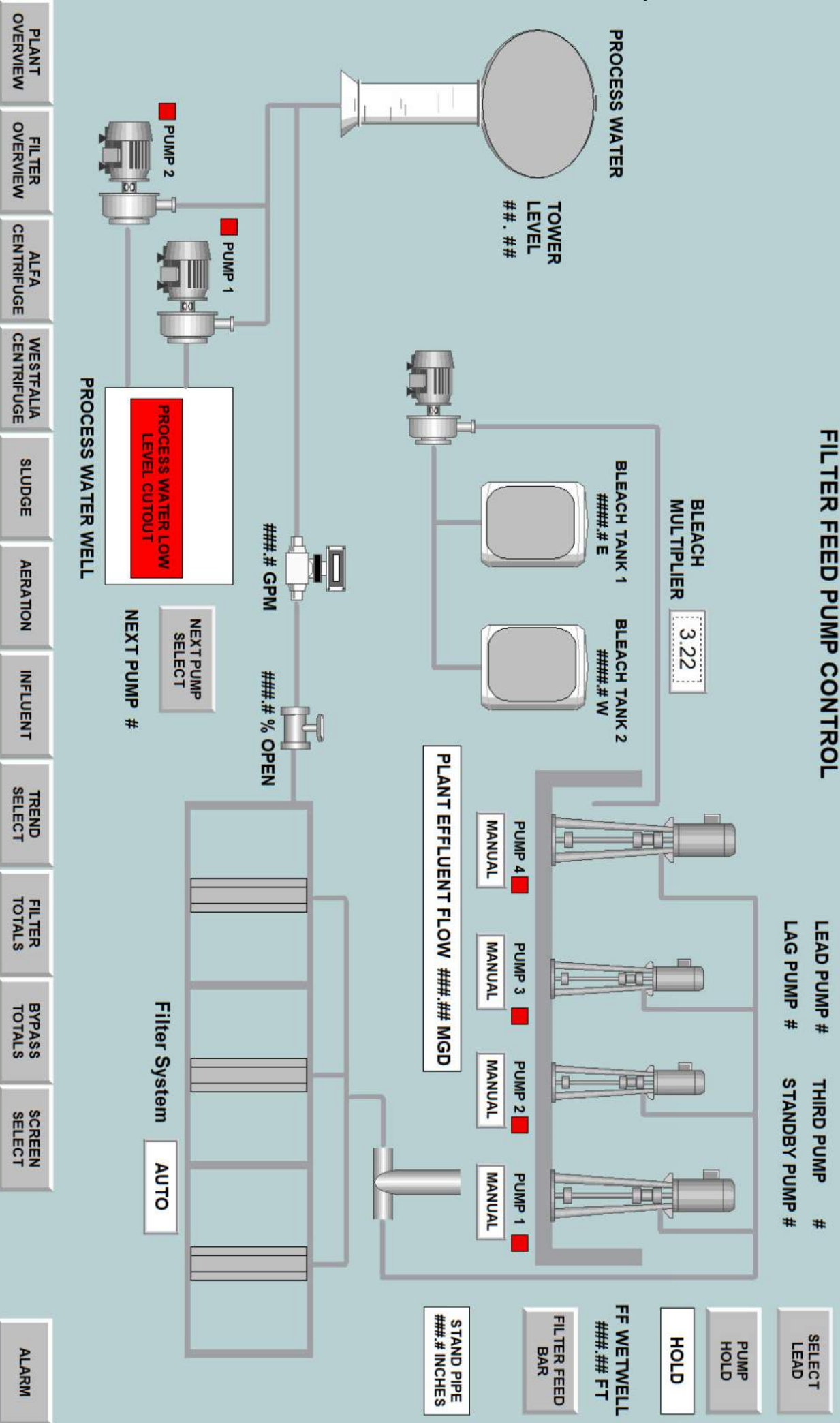
BYPASS
TOTALS

SCREEN
SELECT

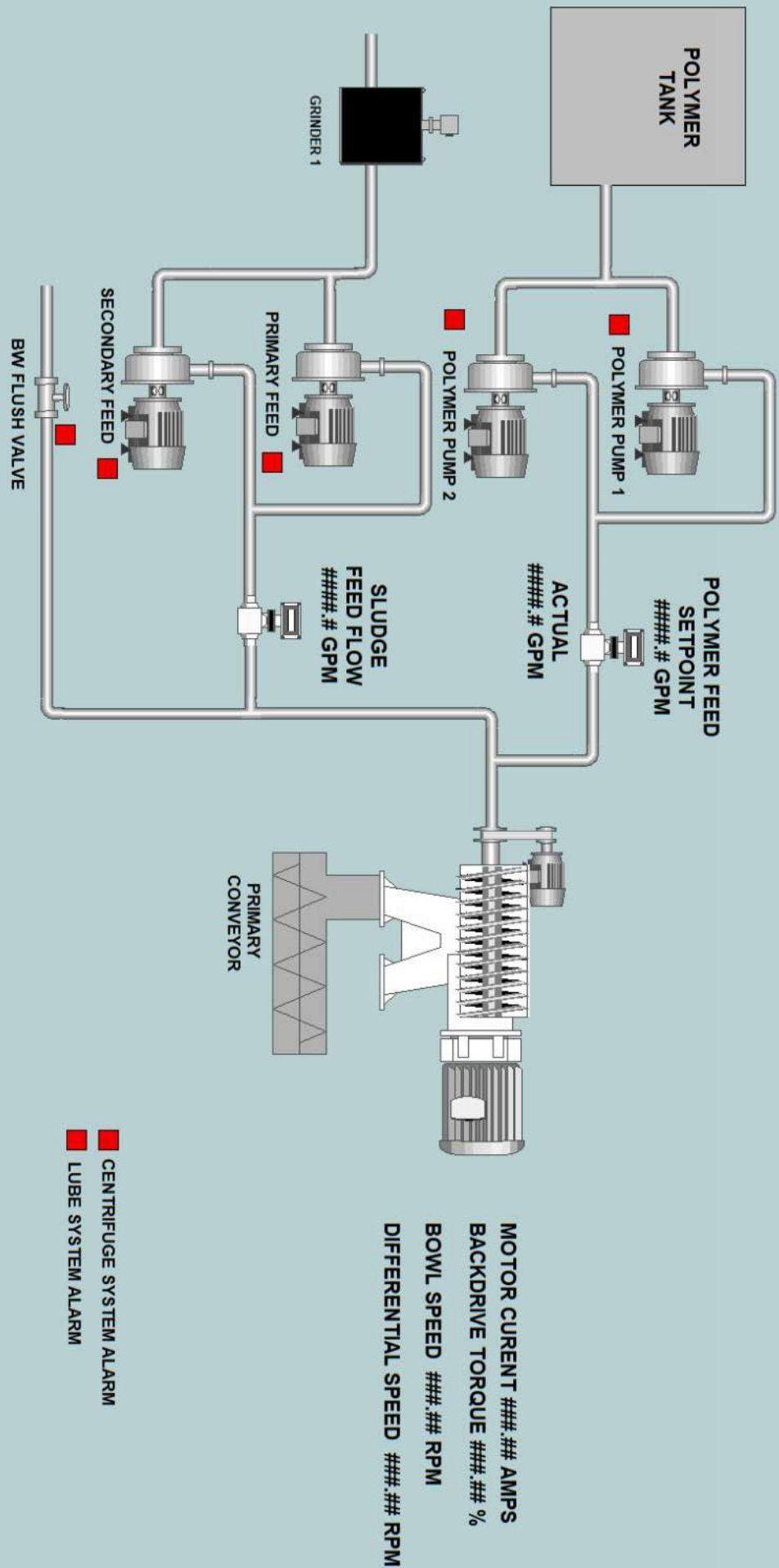
ALARM



FILTER FEED PUMP CONTROL



ALFA CENTRIFUGE



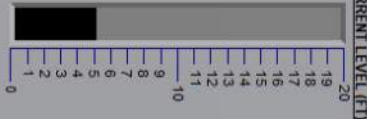
WET WELL LEVEL CONTROL

PUMP LEVEL CONTROL

The first pump on is always Pump #5. The next stage is at 6.0' where Pump #5 will turn off and 1 large pump will turn on. 2nd large pump at 7.0', 3rd large pump at 8.0' and 4th large pump at 9.0'

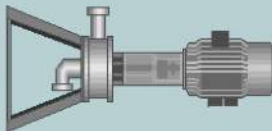
STAGE	On Level	Off Level
1st Pump	4.5'	2.5'
2nd Pump	6.0'	3.5'
3rd Pump	7.0'	4.5'
4th Pump	8.0'	5.5'
5th Pump	9.0'	6.5'

**Note: The live wet well levels are approximate, and also depends on which level xducer is selected for control. Therefore, the pump on/off is approximate.

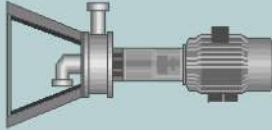


INFLUENT OVERVIEW

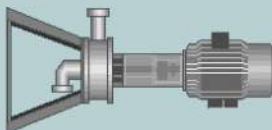
RAW SEWAGE
PUMP # 1



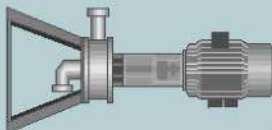
RAW SEWAGE
PUMP # 2



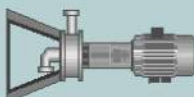
RAW SEWAGE
PUMP # 3



RAW SEWAGE
PUMP # 4



RAW SEWAGE
PUMP # 5



SPEED ## # HZ
CURRENT ### # AMPS

SPEED ## # HZ
CURRENT ### # AMPS

SPEED ## # HZ
CURRENT ### # AMPS

SPEED ## # HZ
CURRENT ### # AMPS

SPEED ## # HZ
CURRENT ### # AMPS

TOTAL RUN
TIMES (HR)
ON TIME S...S
OFF TIME S...S

S...S
S...S

S...S
S...S

S...S
S...S

S...S
S...S

SCREENER

PHENOL PUMP



SPEED ## # HZ



MAKE-UP AIR UNIT (MAU-1)
RUNNING

AIR QUALITY

LEL
###

SETTINGS
ALARM SET 10
ALARM RESET 8
WARN SET 8
WARN RESET 6

H2S
###

ALARM SET 10
ALARM RESET 8
WARN SET 8
WARN RESET 6

O2
###

ALARM SET 19.5
ALARM RESET 19.8
WARN SET 19.8
WARN RESET 20.1

INFLUENT
DATA
INFLUENT FLOW
(FMTA)
MGD
WET WELL # 1
LEVEL
FT
WET WELL # 2
LEVEL
FT

WEATHER
STATION
OUTSIDE AIR
TEMPERATURE
DEG F
CURRENT DAY
RAIN FALL
IN
YESTERDAY DAY
RAIN FALL
IN

RAIN GAUGE RESET
REQUIRED. PRESS
RESET BUTTON

RESET

PLANT
OVERVIEW

FILTER
OVERVIEW

ALFA
CENTRIFUGE

WESTFALIA
CENTRIFUGE

SLUDGE

AERATION

INFLUENT

TREND
SELECT

FILTER
TOTALS

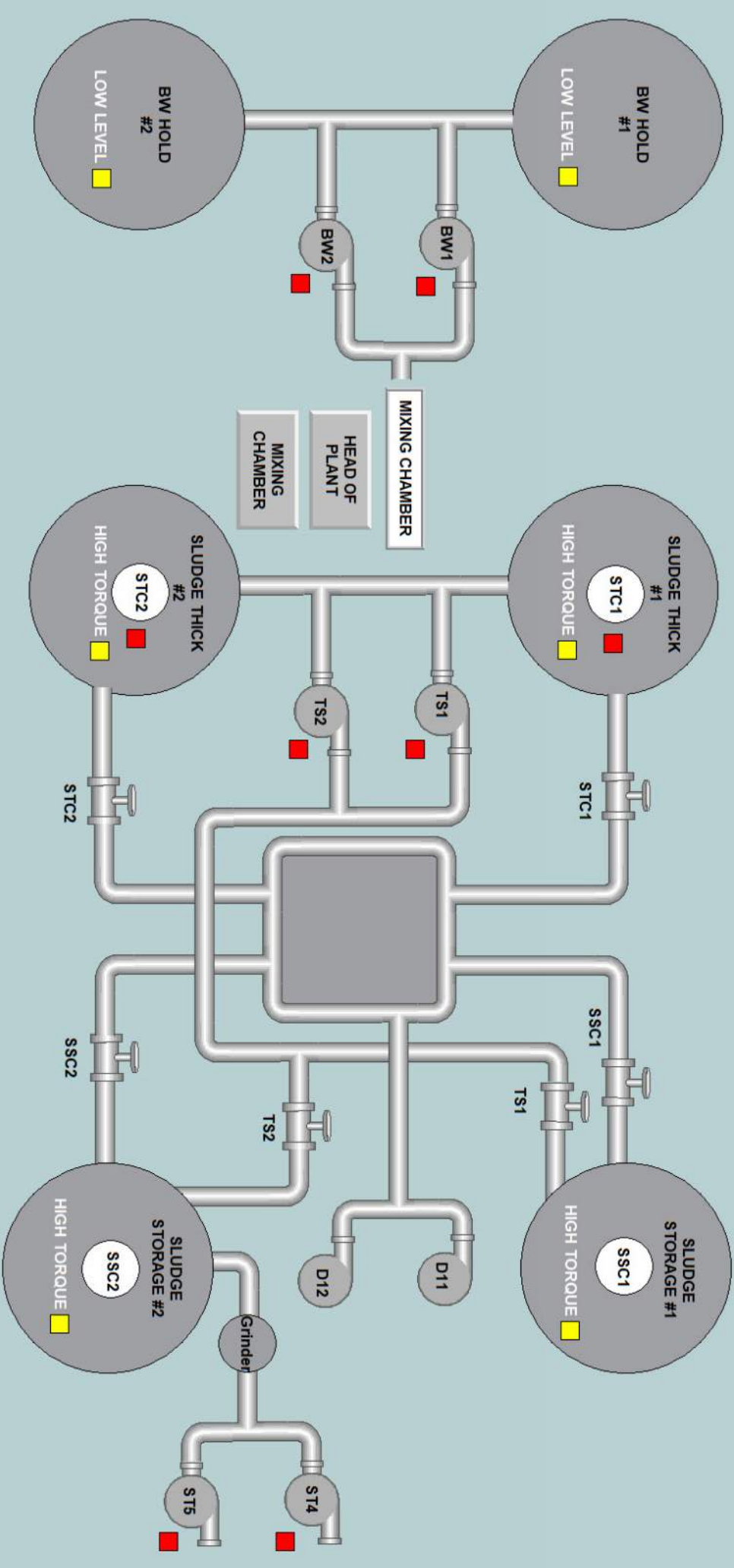
BYPASS
TOTALS

SCREEN
SELECT

ALARM

SLUDGE STATUS

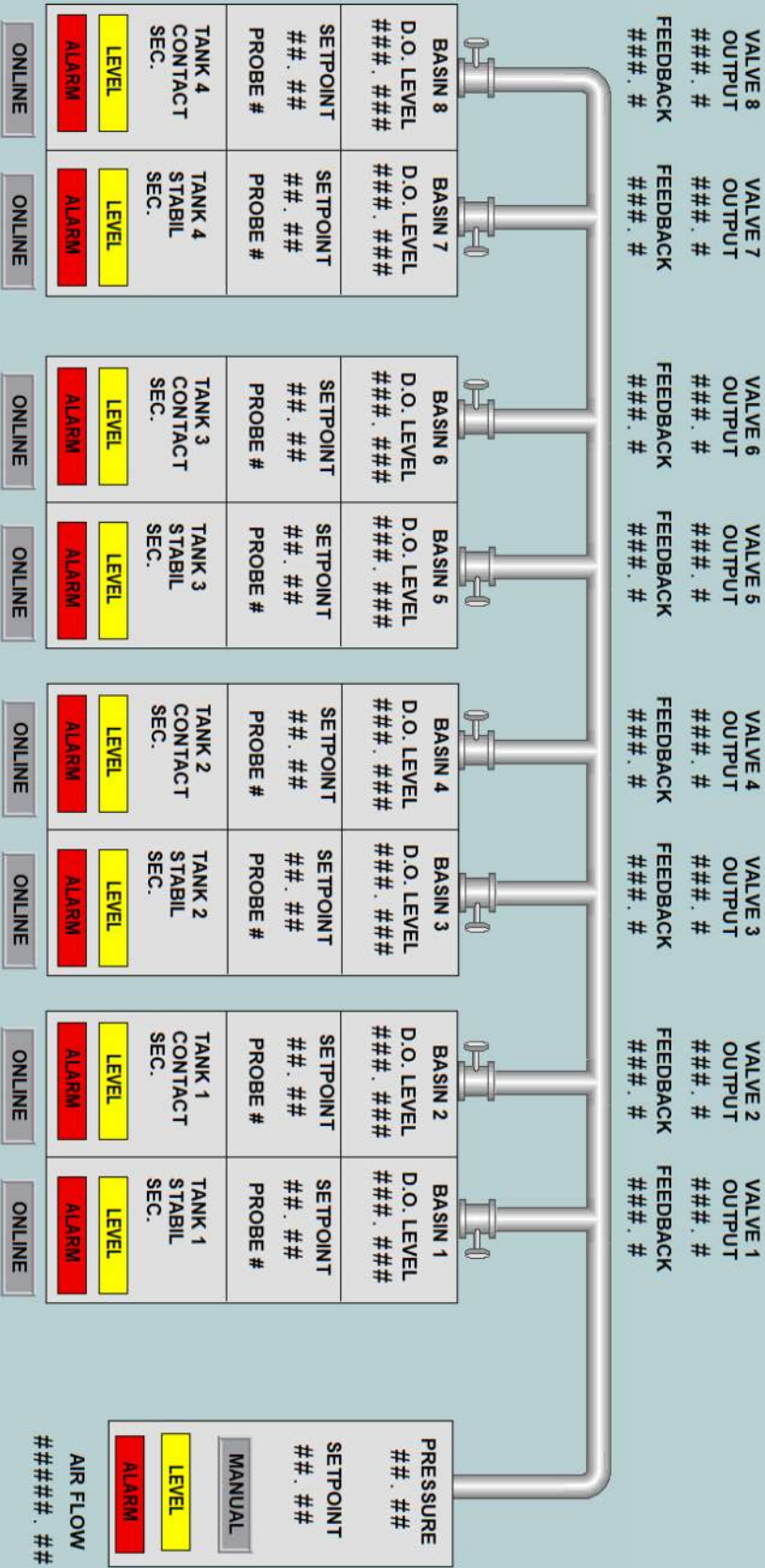
Tuesday, February 12, 2019 16:52:35



■ SLUDGE SYSTEM ALARM

- PLANT OVERVIEW
- FILTER OVERVIEW
- ALFA CENTRIFUGE
- WESTFALIA CENTRIFUGE
- SLUDGE
- AERATION
- INFLUENT
- TREND SELECT
- FILTER TOTALS
- BYPASS TOTALS
- SCREEN SELECT
- ALARM

BASIN STATUS

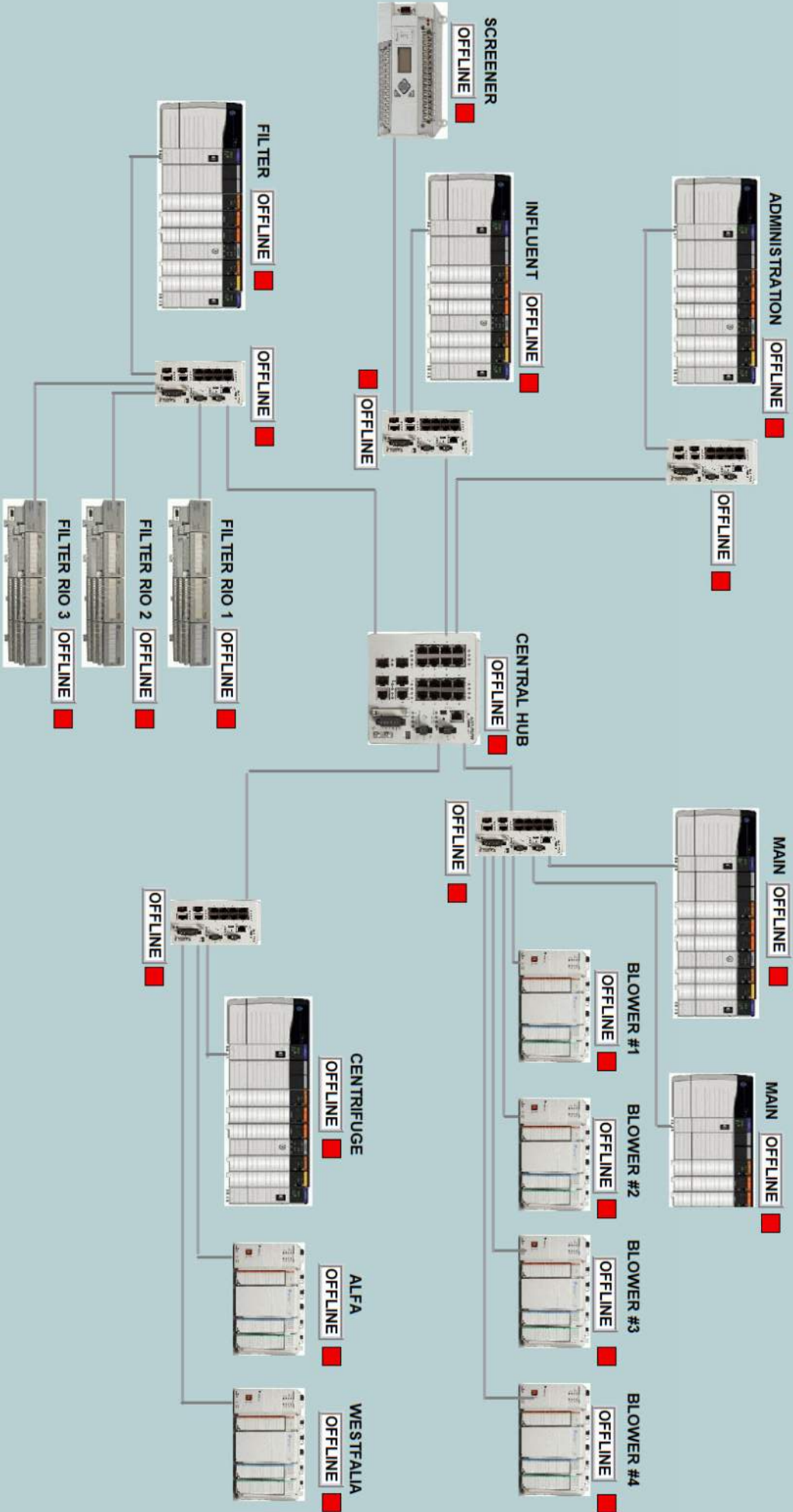


CHANGE BLOWER
SEQUENCE

START NEXT
BLOWER

Tuesday, February 12, 2019 16:47:40

NETWORK COMMUNICATIONS



PLANT OVERVIEW

FILTER OVERVIEW

ALFA CENTRIFUGE

WESTFALIA CENTRIFUGE

SLUDGE

AERATION

INFLUENT

TREND SELECT

FILTER TOTALS

BYPASS TOTALS

SCREEN SELECT

ALARM

TREND SELECT

BLOWER #1
INLET VALVE

FILTER #1

BACKWASH
VALVE FCV15

BYPASS GATE
12 HOUR

CENTRIFUGE
ALFA

Laser Test

BLOWER #1
VIB / TEMP

FILTER #2

BACKWASH

BYPASS GATE
MONTH

CENTRIFUGE
WESTFALIA

BLOWER #2
INLET VALVE

FILTER #3

FLOWS &
PUMP STATUS

FLOWS, LEVEL
& RAINFALL

BLOWER #2
VIB / TEMP

FILTER FEED
WW LEVEL

FILTER FLOW
ACT VS SP

BLOWER #3
INLET VALVE

FFP4 VS
FLOW

BLOWER #3
VIB / TEMP

BLOWER #4
INLET VALVE

BLOWER #4
VIB / TEMP

PLANT
OVERVIEW

FILTER
OVERVIEW

ALFA
CENTRIFUGE

WESTFALIA
CENTRIFUGE

SLUDGE

AERATION

INFLUENT

TREND
SELECT

FILTER
TOTALS

BYPASS
TOTALS

SCREEN
SELECT

ALARM

276.00							
220.78							
165.56							
110.34							
55.12							
-0.10							
14:54:37 2/2/2018	15:06:37 2/2/2018	15:18:37 2/2/2018	15:30:37 2/2/2018	15:42:37 2/2/2018	15:54:37 2/2/2018		
Caption		Units					
<div><div></div><div></div><div></div></div>	Min	Max					
BACKWASH PUMP #1 RUNNING	-0.10	276.00	???				
BACKWASH PUMP #2 RUNNING	-0.10	276.00	???				
BUFFERED BYPASS FLOW	-0.10	276.00	???				
PRIMARY POLYMER SETPOINT	-0.10	276.00	???				
POLYMER FLOW RATE VALUE	-0.10	276.00	???				
MAIN DRIVE MOTOR CURRENT	-0.10	276.00	???				
BOWL SPEED	-0.10	276.00	???				
DIFFERENTIAL SPEED	-0.10	276.00	???				
SLUDGE FEED FLOW RATE	-0.10	276.00	???				
???	-0.10	276.00	???				

NEXT FILTER FOR BW ##

CURRENT BW STEP

##

CURRENT MODE

START SEMI AUTO BW

TOTALS

FILTER
SELECT

ELAPSED TIME
IN CURRENT STEP

####. #

AUTOMATIC

ADVANCE BW STEP

ABANDON BW

FILTER 1

FILTER 2

FILTER 3

BW TIMES

WEEKLY

TRENDING

FILTER 1
FLOW
TOTALS

NON RESETABLE FLOW TOTAL (MULT BY 1000)

PREVIOUS DAY FLOW TOTAL

CURRENT FLOW TOTAL RESET AT MIDNIGHT

CURRENT FLOW TOTAL SINCE LAST BACKWASH

##. ## MGD
##. ## MGD
##. ## MGD
##. ## MGD

FILTER 2
FLOW
TOTALS

NON RESETABLE FLOW TOTAL (MULT BY 1000)

PREVIOUS DAY FLOW TOTAL

CURRENT FLOW TOTAL RESET AT MIDNIGHT

CURRENT FLOW TOTAL SINCE LAST BACKWASH

##. ## MGD
##. ## MGD
##. ## MGD
##. ## MGD

FILTER 3
FLOW
TOTALS

NON RESETABLE FLOW TOTAL (MULT BY 1000)

PREVIOUS DAY FLOW TOTAL

CURRENT FLOW TOTAL RESET AT MIDNIGHT

CURRENT FLOW TOTAL SINCE LAST BACKWASH

##. ## MGD
##. ## MGD
##. ## MGD
##. ## MGD

BW
FLOW
TOTALS

NON RESETABLE FLOW TOTAL (MULT BY 1000)

PREVIOUS DAY FLOW TOTAL

CURRENT FLOW TOTAL RESET AT MIDNIGHT

#####. ## MGD
##. ##### MGD
##. ##### MGD

PLANT
OVERVIEW

FILTER
OVERVIEW

ALFA
CENTRIFUGE

WESTFALIA
CENTRIFUGE

SLUDGE

AERATION

INFLUENT

TREND
SELECT

FILTER
TOTALS

BYPASS
TOTALS

SCREEN
SELECT

ALARM

No message selected.

0	0	0	0	0	Filter: Not Filtered	Sorted by: Event Time (Descending)
---	---	---	---	---	----------------------	------------------------------------

LEGEND

ALARM
RESET

ALARM
HISTORY

Appendix B

SCADA Buildout Plan

Appendix B SCADA Buildout Plan



NFWB WWTP SCADA System

SCADA/PLC Panel Buildout Plan

List of New/Modified Panels – 3/20/19

The following is a summary of the recommended new and modified panels to complete buildout of the WWTP SCADA network and incorporate all treatment process equipment. This plan provides for monitoring and control of the equipment that will be installed under the upcoming capital projects starting in 2019. The panel locations are shown on the attached Figure 1 Proposed Communication Site Plan. Additions to some of the existing panels are also recommended to complete buildout of the SCADA system.

Attached to this document are Draft Input/Output (IO) Lists for the recommended panels covering the proposed process equipment. The IO lists do not yet include miscellaneous IO for items like heating and ventilation equipment monitoring, unit substation electrical monitoring, spare IO, UPS monitoring, etc. However, the IO for these items should be reviewed with the NFWB and capital project design engineers, and accounted for, as these lists get finalized.

1. New Disinfection PLC panel for new hypo chemical feed equipment in the Odor Control Bldg. This panel is required for the upcoming Disinfection Project 6 (AECOM design engineer).
 - a. Locate in the MCC-3 room or in the Odor Control Room near the new equipment.
 - b. Panel shall include an Allen Bradley CompactLogix PLC and IO for the equipment per attached list.
 - c. Ethernet extension to the new panel from the CFCP-A panel in the A Train via fiber optic cable.
 - d. Include a new OIT touch screen panel to be located in the Odor Control Room near the new equipment. HMI shall be an Allen Bradley Panelview Plus Performance model, minimum 10 inch screen.
2. New Chlorine Contact Tank (CCT) PLC Panel for new chlorine residual analyzer, sample pumps and mixer equipment at the CCT. This panel is required for the upcoming Disinfection Project 6 (AECOM design engineer).
 - a. Locate where the existing "Composite Sampler 3" is currently mounted (maximum of 36 inches wide).
 - b. Panel shall include an Allen Bradley CompactLogix PLC and IO for the equipment per attached list.
 - c. Ethernet extension to the new panel from IP-3 near the MCC-5 area. Ethernet shall be fiber optic cable installed in same trench as the new hypo feed piping – trench will exit the east end of the sludge/grit pump gallery and go to the south (inlet) end of the CCT. The Ethernet trench will need to be extended to the CCT Bldg. or run exposed in conduit along the CCT wall.
 - d. Include a new HMI touch screen mounted on the door of the CCT PLC panel. OIT shall be an Allen Bradley Panelview Plus Performance model, minimum 10 inch screen.

3. New Dewatering PLC Panel to replace the existing belt filter press dewatering system blue control console, including signals from new BFP control panels and lime stabilization system. This panel is required for the Dewatering Project 3 (Arcadis design engineer).
 - a. Locate in the former vacuum pump room. The new BFP panels will also be in this room.
 - b. Dewatering Project 3 currently does not include replacement of the lime stabilization panels, although these may need replacement to add the lime system into SCADA.
 - c. Panel shall include an Allen Bradley CompactLogix PLC and IO for the equipment per attached list.
 - d. Ethernet extension to the new panel from the IP-3 panel in the MCC-5 area via fiber optic cable.
 - e. Include a new OIT touch screen panel to be located in the BFP room near the BFP equipment. OIT shall be an Allen Bradley Panelview Plus Performance model, minimum 10 inch screen.
4. New IP-3 Section 2 Remote IO Panel to for adding the new Sed Basin 5 equalization pumps, Sed Basin 1-5 flocculation area chain and flight sludge collectors, and the polymer mixing system. This panel is required for the Sed Basin Project 1 (AECOM design engineer) and the Dewatering/Polymer Project 3 (Arcadis design engineer).
 - a. Locate next to the existing IP-3 PLC panel, near the MCC-5 area.
 - b. Panel shall include remote IO racks and IO for the equipment per attached list.
 - c. Ethernet extension to the new panel from the IP-3 panel.
 - d. Include additions to the existing OIT at IP-3
5. Replace existing IP-4 PLC Panel in order to incorporate control of the Thickened Sludge Pump (TSP) VFDs. This panel is required for the new dewatering control system via OIT touchscreen at the BFP area, as part of the Dewatering Project 3 (Arcadis design engineer).
 - a. Locate in the TSP Bldg where the existing IP-4 is located.
 - b. Panel shall include an Allen Bradley CompactLogix PLC and IO for the equipment per attached list.
 - c. Incorporate existing monitoring points for the sludge thickeners.
 - d. Provides SCADA control of the 5 TSP VFDs.
6. Add monitoring points to the existing Scum Bldg Remote IO Panel for the new scum filtering removal equipment, and Sed Basin 2-5 chain and flight sludge collectors. These additions will be part of the Sed Basin Project 1 that AECOM is the design engineer.
 - a. Panel is located in the Scum Bldg electrical room.
 - b. The Phase 3 rehab project design provided some spare IO to incorporate the proposed equipment.
 - c. An OIT may be added to the Scum Bldg
7. Add monitoring points to the IP-2 Main Pump PLC panel.
 - a. Points to monitor the bar screen screenings conveyor and grit conveyor that are being replaced under Project 3.
 - b. Some of these additions are not part of a specific defined project.
 - c. GHD recommended some new air monitoring sensors for the main wet well and screen room. These should be added to the SCADA system.
8. Add monitoring points to the Main Control PLC panel.

- a. These additions are not part of a specific project as currently defined
 - b. GHD recommended some new air monitoring sensors for the carbon storage room. These should be added to the SCADA system.
9. Add monitoring of the 115kV main electrical substation equipment digital relays. A fiber optic line was installed out to the main switchgear bldg. with the intent to tie in some digital relay equipment under a future project. The relays are not yet connected to the SCADA system. Some additional equipment may also be installed and incorporated from the main substation under the Electrical Upgrades Project 5 (EI Team design engineer).
10. Add signals from miscellaneous new equipment at the Gorge Pump Station to the existing PLC panel as part of Project 2 (GHD design engineer). Improve the telemetry communication with the WWTP SCADA system to allow remote monitoring and control of the GPS from the WWTP.
11. In the future the NFWB should replace the old Backwash Pump / Air Blower Control Panel and move the IO for this equipment over the Backwash Remote IO Panel or Disinfection Panel.

Attachments

Figure 1 – Proposed Communication Site Plan
PLC Panel - Draft Input/Output Lists

Appendix C

SCADA Implementation Plan



NFWB WWTP SCADA System
Implementation Plan – 3/20/19

Items completed under GHD's SCADA Study

1. Develop recommended PLC Panel Buildout Plan with panel locations/type and the network extensions of the SCADA Ethernet Network
2. Develop preliminary input/output (IO) list for each PLC panel to handle the new equipment from upcoming projects. These lists must be finalized during the design phase of each project.
3. Budget estimates to convert the SCADA system from GE to Rockwell. This includes new software and labor hours to redevelop the graphics. Also included is implementation of Rockwell's automatic backup file saving system and Historian data logging for the SCADA system.
4. Budget estimates for SCADA services during the upcoming Capital Projects.

Items to be completed by the NFWB's SCADA Engineer prior to **the** construction phase of the upcoming Capital Projects

1. Development of NFWB's SCADA Graphics Standards based on example CSI graphics
2. Redevelop existing SCADA system 150 graphic screens with Rockwell software
3. Install and setup Rockwell backup file saving AssetCentre software
4. Install and setup Rockwell Historian software
5. Develop Daily and Monthly reporting forms
6. Assist the NFWB with setup of the system on new SCADA computers
7. Training on new Rockwell SCADA system

Items to be completed under the design phase of each Capital Project

1. Each Capital Project design engineer shall finalize the IO lists and design requirements for the new PLC Panels, working along with the SCADA Engineer
2. SCADA Engineer shall attend at least two (2) design progress meetings per project.
3. SCADA Engineer shall review and comment on at least two (2) design submittals per project.
4. Each individual project shall provide the PLC panels associated with that project.
 - a. Sed Basin Project 1 (AECOM)
 - i. IP-3 Section 2 Remote IO Panel
 1. Install this panel under Project 1 or 3, whichever project is first
 - ii. Scum Remote IO Panel Additions
 - b. Gorge Pump Station Project 2 (GHD)
 - i. Additions to the existing panel at the GPS
 - ii. Improve telemetry with the WWTP
 - c. Dewatering, Polymer, Screen/Grit Conveyor Project 3 (Arcadis)
 - i. Dewatering PLC Panel and OIT
 - ii. IP-3 Section 2 Remote IO Panel
 - iii. Additions to IP-2
 - d. Electrical Upgrades Project 5 (EI Team)
 - i. Main Substation

- e. Disinfection System Project 6 (AECOM)
 - i. Disinfection PLC Panel and OIT
 - ii. CCT PLC panel and OIT
- 5. Individual project specifications will define the final panel design, wiring, and IO requirements
 - a. SCADA Engineer shall provide a PLC panel design/checkout specification to each Capital Project design engineer so each panel is supplied and installed the same way.
- 6. Each Capital Project design engineer shall develop a final control system narrative to define the PLC programming requirements for each process and the associated SCADA graphics.

Items to be completed under the construction phase of each Capital Project by the Contractors

- 1. Each individual project construction contract Electrical Contractor (EC) should include supply and install of the new panels. This will minimize risk for the NFWB. GHD does not recommend that the NFWB retain a separate Control System Integrator (CSI) directly to supply all of the panels.
- 2. The EC shall subcontract with a CSI to generate the detailed panel drawings during the submittal phase, then build, test, and checkout the panels.
- 3. The EC retained CSI shall integrate the equipment and field instrumentation with the new panels after installation.

Items to be performed by the NFWB's SCADA Engineer for each project during construction

- 1. Review and approve the Contractor's PLC Panel submittals for each project in parallel with the design engineer to ensure that each panel meets the requirements of the SCADA buildout plan and PLC panel specifications.
- 2. PLC/SCADA/OIT programming based on control narratives provided by the individual Capital Project design engineers. Screen graphics shall be developed and reviewed with the design engineer and NFWB during the construction phase.
- 3. Use of a NFWB retained SCADA Engineer will ensure consistency of the programming style and graphics throughout the entire SCADA system.
- 4. SCADA Engineer shall provide NFWB training for use of new SCADA graphics.

APPENDIX A

ACKNOWLEDGEMENT OF ADDENDA

RFP TITLE: RFP NO. _____

DIRECTIONS: Complete Part I or Part II, whichever is applicable.

PART I: LISTED BELOW ARE THE DATES OF ISSUE FOR EACH
ADDENDUM RECEIVED IN CONNECTION WITH THIS RFP:

ADDENDUM # 1: DATED _____ , 20__

ADDENDUM # 2: DATED _____ , 20__

ADDENDUM # 3: DATED _____ , 20__

ADDENDUM # 4: DATED _____ , 20__

ADDENDUM # 5: DATED _____ , 20__

ADDENDUM # 6: DATED _____ , 20__

PART II: _____ INITIAL HERE IF NO ADDENDUM WAS RECEIVED
IN CONNECTION WITH THIS RFP INITIAL HERE

DATE: ____/____/____

PROPOSER (SIGNATURE): _____

PROPOSER (NAME): _____

PROPOSER (FIRM): _____

APPENDIX B

CERTIFICATE OF NON-COLLUSION

Pursuant to New York State Public Authorities Law, Article 9, Title 4, Section 2878, the undersigned consultant hereby subscribes and affirms as true, under the penalties of perjury, the following statement of non-collusion:

By submission of this bid/proposal, each bidder/proposer and each person signing on behalf of any bidder/proposer certifies, and in the case of a joint bid/proposal each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his/her knowledge and belief:

- (1) The prices in this bid/proposal have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder/proposer or with any competitor;
- (2) Unless otherwise required by law, the prices which have been quoted in this bid/proposer have not been knowingly disclosed by the bidder/proposer and will not knowingly be disclosed by the bidder/proposer prior to opening, directly or indirectly, to any other bidder/proposer or to any competitor; and,
- (3) No attempt has been made or will be made by the bidder/proposer to induce any other person, partnership, or corporation to submit or not to submit a bid/proposal for the purpose of restricting competition.

DATE: ____/____/____

PROPOSER (SIGNATURE): _____

PROPOSER (NAME): _____

PROPOSER (FIRM): _____

STATE OF _____)
) ss.:
COUNTY OF _____)

On the ____ day of _____, 2019, before me, the undersigned, a Notary Public in and for said state, personally appeared _____ as a representative of _____, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity, and that by his/her signature on the instrument, the entity on behalf of which the individual acted executed the instrument.

Notary Public

REQUEST FOR PROPOSALS
ACKNOWLEDGEMENT AND CERTIFICATION

proposer has made a firm offer and agrees to be bound by its terms. Proposer has carefully read the RFP and all addenda, and in submitting this proposal acknowledges proposer understands and agrees to be bound by the requirements set forth in the RFP, except as explicitly stated on a separate sheet attached to this proposal and entitled "Exceptions."

DATE: ____/____/____

STATE OF _____)
) ss.:
COUNTY OF _____)

Notary Public

Appendix D

EFC REQUIRED CONTRACT LANGUAGE

SECTION 1 REQUIREMENTS AND PROCEDURES FOR BUSINESS PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISES AND EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITY GROUP MEMBERS AND WOMEN

The Minority- and Women- Owned Business Enterprises ("MWBE") and Equal Employment Opportunities requirements of this section apply to Contractors and Subcontractors working pursuant to: (1) Contracts for labor, services (including, but not limited to, legal, financial, and other professional services), supplies, equipment, materials, or any combination of the foregoing, greater than \$25,000; (2) Contracts that are initially under this threshold but subsequent change orders or contract amendments increase the Contract value to above \$25,000; and, (3) change orders greater than \$25,000.

Disregard this section if it does not apply to this Contract or Subcontract.

I. General Provisions

- A. Contractors and Subcontractors are required to comply with New York State Executive Law Article 15-A and 5 NYCRR Parts 140-145 ("MWBE Regulations") for all State contracts as defined therein, with a value (1) in excess of \$25,000 for labor, services (including, but not limited to, legal, financial, and other professional services), supplies, equipment, materials, or any combination of the foregoing, or (2) in excess of \$100,000 for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon.
- B. Failure to comply with all of the requirements herein may result in a finding by the Recipient that the Contractor is non-responsive, non-responsible, and/or has breached the Contract, leading to the withholding of funds or such other actions, liquidated damages pursuant to subsection III(F) of this section, or enforcement proceedings as allowed by the Contract.
- C. If any terms or provisions herein conflict with Executive Law Article 15-A or the MWBE Regulations, such law and regulations shall supersede these requirements.
- D. Upon request from the Recipient's Minority Business Officer ("MBO") and/or EFC, Contractor will provide complete responses to inquiries and all MWBE and EEO records available within a reasonable time. For purposes of this section, MBO means the duly authorized representative of the State financial assistance Recipient for MWBE and EEO purposes.

II. Equal Employment Opportunities (EEO)

- A. Each Contractor and Subcontractor performing work on the Contract shall undertake or continue existing EEO programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, EEO shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation.
- B. Contractor represents that it has submitted an EEO policy statement to Recipient prior to the execution of this Contract.

C. Contractor represents that its EEO policy statement includes the following language:

1. The contractor will not discriminate on the basis of race, creed, color, national origin, sex, age, disability, or marital status against any employee or applicant for employment, will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination and will make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on Contracts relating to State financial assistance projects.
 2. The Contractor shall state in all solicitations or advertisements for employees that, in the performance of the Contract relating to this State financial assistance project, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.
 3. The Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status, and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein.
- D. The Contractor will include the provisions of Subdivisions II(A), II(C), and II(E) in every Subcontract in such a manner that the requirements of these subdivisions will be binding upon each Subcontractor as to work in connection with the Contract.
- E. The Contractor shall comply with the provisions of the Human Rights Law (Executive Law Article 15), and all other State and Federal statutory and constitutional non-discrimination provisions. The Contractor and Subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

F. Required EEO Forms

1. EEO Staffing Plan
To ensure compliance with this section, the Contractor represents that it has submitted prior to execution of this Contract an EEO Staffing Plan to the Recipient's MBO to document the composition of the proposed workforce to be utilized in the performance of the Contract by the specified categories listed, including ethnic background, gender, and federal occupational categories.
2. EEO Workforce Employment Utilization Report ("Workforce Report")
 - a. The Contractor shall submit a Workforce Report, and shall require each of its Subcontractors to submit a Workforce Report to the Recipient, in such format as shall be required by EFC on a quarterly basis during the term of the Contract.
 - b. Separate forms shall be completed by Contractor and any Subcontractor.
 - c. In limited instances, the Contractor may not be able to separate out the workforce utilized in the performance of the Contract from the Contractor's and/or Subcontractor's total workforce. When a separation can be made, the Contractor shall submit the Workforce Report and indicate that the information provided related to the actual workforce utilized on the Contract. When the workforce to be utilized on the Contract cannot be separated out from the Contractor's and/or Subcontractor's total workforce, the Contractor shall submit the Workforce Report and indicate that the information provided is the Contractor's total workforce during the subject time frame, not limited to work specifically under the Contract.

III. Business Participation Opportunities for MWBEs

A. Contract Goals

1. For purposes of this Contract, EFC establishes the following goals for New York State certified MWBE participation ("MWBE Combined Goals") based on the current availability of qualified MBEs and WBEs.

Program	MWBE Combined Goal*
Clean Water State Revolving Fund, Drinking Water State Revolving Fund, & Green Innovation Grant Program	20%
NYS WIIA Grants (also receiving EFC loan)	Clean Water project 23% Drinking Water project 26%
NYS Intermunicipal Grants (also receiving EFC loan)	Clean Water project 24% Drinking Water project 24%
NYS financial assistance only	30%
Engineering Planning Grant	30%

*May be any combination of MBE and/or WBE participation

2. For purposes of providing meaningful participation by MWBEs on the Contract and achieving the MWBE Contract Goals established in Section III-A hereof, the Contractor should reference the directory of New York State Certified MWBEs found at the following internet address: <https://ny.newnycontracts.com>.
3. The Contractor understands that only sums paid to MWBEs for the performance of a commercially useful function, as that term is defined in 5 NYCRR § 140.1, may be applied towards achievement of applicable MWBE participation goals. For construction-related services Contracts or Subcontracts, the portion of the Contract or Subcontract with an MWBE serving as a supplier, and so designated in ESD's Directory, that shall be deemed to represent the commercially useful function performed by the MWBE shall be 60% of the total value of the Contract or Subcontract. The portion of a Contract or Subcontract with an MWBE serving as a broker, as denoted by NAICS code 425120, that shall be deemed to represent the commercially useful function performed by the MWBE shall be the monetary value for fees, or the markup percentage, charged by the MWBE.
4. Where MWBE Contract Goals have been established herein, pursuant to 5 NYCRR § 142.8, the Contractor must document "good faith efforts" to provide meaningful participation by MWBEs as Subcontractors or suppliers in the performance of the Contract. In accordance with Section 316-a of Article 15-A and 5 NYCRR § 142.13, the Contractor acknowledges that if it is found to have willfully and intentionally failed to comply with the MWBE participation goals set forth in the Contract, such a finding constitutes a breach of Contract and the Contractor shall be liable to the Recipient for liquidated or other appropriate damages, as set forth herein.

B. MWBE Utilization Plan

1. The Contractor represents and warrants that Contractor has submitted an MWBE Utilization Plan to the Recipient prior to the execution of this Contract.
2. The Contractor agrees to use such MWBE Utilization Plan for the performance of MWBEs on the Contract pursuant to the prescribed MWBE goals set forth in Section III-A of this section.
3. The Contractor further agrees that a failure to submit and/or use such MWBE Utilization Plan shall constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, the Recipient shall be entitled to any remedy provided herein, including but not limited to, a finding that the Contractor is not responsive.

4. Contractor must report any changes to the Utilization Plan after Contract award and during the term of the Contract to the Recipient's MBO. Contractor shall indicate the changes to the MBO in the next Monthly MWBE Contractor Compliance Report after the changes occurred. At EFC's discretion, an updated MWBE Utilization Plan form and good faith effort documentation may be required to be submitted. When a Utilization Plan is revised due to execution of a change order, the change order should be submitted to the MBO with the revised Utilization Plan.
5. The Contractor shall submit copies of all fully executed subcontracts, agreements, and purchase orders that are referred to in the MWBE Utilization Plan to the MBO within 30 days of their execution.

C. Requests for Waiver

1. If the Contractor, after making good faith efforts, is unable to comply with MWBE goals, the Contractor may submit a Request for Waiver to the Recipient documenting good faith efforts by the Contractor to meet such goals. If the documentation included with the waiver request is complete, the Recipient shall forward the request to EFC for evaluation, and EFC will issue a written notice of acceptance or denial within twenty (20) days of receipt.
2. If the Recipient, upon review of the MWBE Utilization Plan and updated Quarterly MWBE Contractor Compliance Reports determines that the Contractor is failing or refusing to comply with the MWBE Contract Goals and no waiver has been issued in regards to such non-compliance, the Recipient may issue a notice of deficiency to the Contractor. The Contractor must respond to the notice of deficiency within seven (7) business days of receipt. Such response may include a request for partial or total waiver of MWBE Contract Goals.

D. Monthly MWBE Contractor Compliance Report ("Monthly MWBE Report")

The Contractor agrees to submit a report to the Recipient by the third business day following the end of each month over the term of this Contract documenting the payments made and the progress towards achievement of the MWBE goals of the Contract. The Monthly MWBE Report must be supplemented with proof of payment by the Contractor to its Subcontractors (e.g., copies of both sides of a cancelled check) and proof that Subcontractors have been paid within 30 days of receipt of payment from the Recipient. The final Monthly MWBE Report must reflect all Utilization Plan revisions and change orders.

E. Liquidated Damages - MWBE Participation

In accordance with Section 316-a of Article 15-A and 5 NYCRR §142.13, if it has been determined by the Recipient or EFC that the Contractor has willfully and intentionally failed to comply with the MWBE participation goals, the Contractor shall be obligated to pay to Recipient liquidated damages or other appropriate damages, as specified herein and as determined by the Recipient or EFC.

Liquidated damages shall be calculated as an amount not to exceed the difference between:

1. All sums identified for payment to MWBEs had the Contractor achieved the approved MWBE participation goals; and,
2. All sums actually paid to MWBEs for work performed or materials supplied under this Contract.

The Recipient and EFC reserve the right to impose a lesser amount of liquidated damages than the amount calculated above based on the circumstances surrounding the Contractor's non-compliance.

In the event a determination has been made by the Recipient or EFC which requires the payment of damages identified herein and such identified sums have not been withheld, Contractor shall pay

such damages to the Recipient within sixty (60) days after they are assessed unless prior to the expiration of such sixtieth day, the Contractor has filed a complaint with the Empire State Development Corporation – Division of Minority and Women’s Business Development (“ESD”) pursuant to Subdivision 8 of Section 313 of the Executive Law in which event the damages shall be payable if the Director of ESD renders a decision in favor of the Recipient.

SECTION 2 PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED SERVICE-DISABLED VETERAN-OWNED BUSINESSES

The requirements of this section apply to Contractors and Subcontractors working pursuant to:

- (1) Contracts for labor, services (including, but not limited to, legal, financial, and other professional services), supplies, equipment, materials, or any combination of the foregoing, greater than \$25,000;
- (2) Contracts that are initially under this threshold but subsequent change orders or contract amendments increase the Contract value to above \$25,000; and, (3) change orders greater than \$25,000.

Disregard this section if it does not apply to this Contract or Subcontract.

I. General Provisions

Contractors and Subcontractors are required to comply with New York State Executive Law Article 17-B and 9 NYCRR Part 252 for all State contracts as defined therein, with a value (1) in excess of \$25,000 for labor, services (including, but not limited to, legal, financial, and other professional services), supplies, equipment, materials, or any combination of the foregoing, or (2) in excess of \$100,000 for the acquisition, construction, demolition, replacement, major repair or renovation or real property and improvements thereon.

II. Contract Goals

- A. EFC hereby establishes an overall goal of 6% for SDVOB participation, based on the current availability of qualified SDVOBs. For purposes of providing meaningful participation by SDVOBs, the Contractor should reference the directory of New York State Certified SDVOBs found at: http://ogs.ny.gov/Core/docs/CertifiedNYS_SDVOB.pdf.
- B. Pursuant to 9 NYCRR § 252.2(n), Contractor must document “good faith efforts” to provide meaningful participation by SDVOBs as subcontractors or suppliers in the performance of the Contract.

III. SDVOB Utilization Plan

- A. In accordance with 9 NYCRR § 252.2(i), Contractor represents and warrants that it has submitted a completed SDVOB Utilization Plan to Recipient prior to the execution of this Contract.
- B. Contractor certifies that it will follow the submitted SDVOB Utilization Plan for the performance of SDVOBs on the Contract pursuant to the prescribed SDVOB contract goals set forth above.
- C. Contractor further agrees that a failure to use SDVOBs as agreed in the Utilization Plan shall constitute a material breach of the terms of the Contract. Upon the occurrence of such a material breach, the Recipient shall be entitled to any remedy provided herein, including but not limited to, a finding of Contractor non-responsibility.
- D. Contractor must report any changes to the Utilization Plan after Contract award and during the term of the Contract to the Recipient’s MBO. Contractor shall indicate the changes to the MBO in the next Monthly SDVOB Contractor Compliance Report after the changes occurred. At EFC’s discretion, an updated SDVOB Utilization Plan form and good faith effort documentation may be required to be submitted. When a Utilization Plan is revised due to execution of a change order, the change order should be submitted to the MBO with the revised Utilization Plan.
- E. The Contractor shall submit copies of all fully executed subcontracts, agreements, and purchase orders that are referred to in the SDVOB Utilization Plan to the MBO within 30 days of their execution.

IV. Request for Waiver

- A. If Contractor, after making good faith efforts, is unable to comply with the SDVOB Contract goals, Contractor may submit a request for a partial or total waiver to the Recipient, documenting good faith efforts by Contractor to meet such goals. If the documentation included with the waiver request is complete, the Recipient shall forward the request to EFC for evaluation, and EFC will issue a written notice of acceptance or denial within twenty (20) days of receipt.
- B. Contractor shall attempt to utilize, in good faith, the SDVOBs identified within its SDVOB Utilization Plan, during the performance of the Contract. Requests for a partial or total waiver of established goal requirements made subsequent to Contract award may be made at any time during the term of the Contract to the Recipient, but must be made no later than prior to the submission of a request for final payment on the Contract.
- C. If the Recipient, upon review of the SDVOB Utilization Plan and Monthly SDVOB Contractor Compliance Report determines that Contractor is failing or refusing to comply with the SDVOB Contract goals and no waiver has been issued in regards to such non-compliance, the Recipient may issue a notice of deficiency to Contractor. Contractor must respond to the notice of deficiency within seven business days of receipt. Such response may include a request for partial or total waiver of SDVOB Contract goals.

V. Monthly SDVOB Contractor Compliance Report (“Monthly SDVOB Report”)

In accordance with 9 NYCRR § 252.2(q), Contractor is required to report monthly SDVOB contractor compliance to the Recipient during the term of the Contract for the preceding month's activity, documenting progress made towards achieving the Contract SDVOB goals. The Contractor agrees to submit a report on to the Recipient by the third business day following the end of each month over the term of this Contract. The Monthly SDVOB Report must be supplemented with proof of payment by the Contractor to its Subcontractors (e.g., copies of both sides of a cancelled check) and proof that Subcontractors have been paid within 30 days of receipt of payment from the Recipient. The final Monthly SDVOB Report must reflect all Utilization Plan revisions and change orders.

VI. Breach of Contract and Damages

In accordance with 9 NYCRR § 252.2(s), any Contractor found to have willfully and intentionally failed to comply with the SDVOB participation goals set forth in the Contract, shall be found to have breached the contract and Contractor shall pay damages as set forth therein.

SECTION 3 REQUIREMENTS REGARDING SUSPENSION AND DEBARMENT

The requirements of this section apply to all Contracts and Subcontracts.

The Contractor and any Subcontractors have not been deemed ineligible to submit a bid on or be awarded a public contract or subcontract pursuant to Article 8 of the State Labor Law, specifically Labor Law § 220-b. In addition, neither the Contractor nor any Subcontractors have contracted with, or will contract with, any party that has been deemed ineligible to submit a bid on or be awarded a public contract or subcontract under Labor Law § 220-b.

In addition, the Contractor and any Subcontractors have not been deemed ineligible to submit a bid and have not contracted with and will not contract with any party that has been deemed ineligible to submit a bid under Executive Law § 316.

Attachment 1
New York State Environmental Facilities Corporation
EQUAL EMPLOYMENT OPPORTUNITY POLICY STATEMENT
NEW YORK STATE FINANCIAL ASSISTANCE PROGRAMS

I, _____, am the authorized representative of _____.
Name of Representative Name of Contractor/Service Provider
I hereby certify that _____ will abide by the equal employment
Name of Contractor/Service Provider
opportunity (EEO) policy statement provisions outlined below.

- (i) The Contractor will not discriminate on the basis of race, creed, color, national origin, sex, age, disability, or marital status against any employee or applicant for employment, will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination and will make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on Contracts relating to Water Grant projects.
- (ii) The Contractor shall state in all solicitations or advertisements for employees that, in the performance of the Contract relating to this Water Grant project, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.
- (iii) The Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status, and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein.
- (iv) The Contractor shall comply with the provisions of the Human Rights Law (Article 15 of the Executive Law), including those relating to non-discrimination on the basis of prior criminal conviction and prior arrest, and with all other State and federal statutory and constitutional non-discrimination provisions. The Contractor and Subcontractors shall not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status.
- (v) The Contractor will include the provisions of subdivisions (i) through (iv) in every Subcontract in such a manner that the requirements of these subdivisions will be binding upon each Subcontractor as to work in connection with the Contract.

X

Contractor/Service Provider Representative

Attachment 2
New York State Environmental Facilities Corporation
Equal Employment Opportunity (EEO) Staffing Plan

Municipality:	County:	Project No.:	Contract ID:
Service Provider Name:		Date:	

Report Includes – Please select one from the options below:

- ☐ Workforce utilized on this contract
- ☐ Contractor/subcontractor's total workforce

Reporting Entity – Please select one from the options below:

- ☐ Prime Service Provider
- ☐ Subcontractor

Job Categories	Hispanic/ Latino		Not Hispanic or Latino											
			Male						Female					
	Male	Female	White	Black/ African American	Native Hawaiian/ Other Pacific Islander	Asian	Native American/ Alaska Native	Two or More Races	White	Black/ African American	Native Hawaiian/ Other Pacific Islander	Asian	Native American/ Alaska Native	Two or More Races
Senior Level Officials/Managers	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Level Officials/Managers	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Professionals	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Technicians	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sales Workers	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Administrative Support Workers	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Skilled Craftsmen	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operatives Semi-Skilled	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Laborers & Helpers	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Service Workers	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Journeypersons														
Apprentices														
Trainees														

Electronic Signature of Service Provider: ☐ I certify that the information submitted herein is true, accurate and complete to the best of my knowledge.
Name (Please Type):

Date:

Attachment 2
New York State Environmental Facilities Corporation
Equal Employment Opportunity (EEO) Staffing Plan
INSTRUCTIONS

All Service Providers (including legal, engineering, financial advisory or other professional services, and labor) and each subcontractor identified in the bid or proposal must complete an EEO Staffing Plan and submit it no later than the date of execution of the contract to the Recipient's Minority Business Officer (MBO). Where the work force to be utilized in the performance of the contract **can** be separated out from the contractor's or subcontractors' total work force, the contractor shall complete this form *only for the anticipated work force to be utilized on the contract*. Where the work force to be utilized in the performance of the contract **cannot** be separated out from the contractor's or subcontractors' total work force, the contractor shall complete this form for the contractor's or subcontractors' *total work force*.

RACE/ETHNIC IDENTIFICATION: Definitions of race and ethnicity for purposes of completion of this form are as follows:

- **Hispanic or Latino** - A person having origins in Cuba, Mexico, Puerto Rico, South or Central America.
- **White** - A person having origins of Europe, the Middle East, or North Africa.
- **Black or African-American** - A person having origins in any of the black racial groups of Africa.
- **Native Hawaiian or Other Pacific Islander** - A person having origins in any of the peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
- **Asian** - A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian Subcontinent
- **American Indian or Alaska Native** – A person having origins in any of the original peoples of North, Central, and South America and who maintain tribal affiliation or community attachment.
- **Two or More Races** - All persons who identify with more than one of the above (Non-Hispanic or Latino) five races.

DESCRIPTION OF JOB CATEGORIES: The major job categories used in EEO Staffing Plan are as follows:

- **Senior Level Officials and Managers** - Individuals residing in the highest levels of organizations who plan, direct and formulate policies, set strategy and provide the overall direction of enterprises/organizations for the development and delivery of products or services.
- **Mid-Level Officials and Managers** - Individuals who receive directions from the Senior Level management and serve as managers, other than those who serve as Senior Level Officials and Managers, including those who oversee and direct the delivery of products, services or functions at group, regional or divisional levels of organizations.
- **Professionals** - Most jobs in this category require bachelor and graduate degrees, and/or professional certification. In some instances, comparable experience may establish a person's qualifications.
- **Technicians** - Jobs in this category include activities that require applied scientific skills, usually obtained by post-secondary education of varying lengths, depending on the particular occupation, recognizing that in some instances additional training, certification, or comparable experience is required.
- **Sales Workers** - These jobs include non-managerial activities that wholly and primarily involve direct sales.
- **Administrative Support Workers** - These jobs involve non-managerial tasks providing administrative and support assistance, primarily in office settings.
- **Skilled Craftsmen** – Includes higher skilled occupations in construction (building trades craft workers and their formal apprentices) and natural resource extraction workers. Examples of these types of positions include: boilermakers; brick and stone masons; carpenters; electricians; painters.
- **Operatives Semi-Skilled** - Most jobs in this category include intermediate skilled occupations and include workers who operate machines or factory-related processing equipment. Most of these occupations do not usually require more than several months of training. Examples include: textile machine workers.
- **Laborers & Helpers** - Jobs in this category include workers with more limited skills who require only brief training to perform tasks that require little or no independent judgment.
- **Service Workers** - Jobs in this category include food service, cleaning service, personal service, and protective service activities.

See the bid packet at www.efc.ny.gov or your designated MBO for further guidance.

Attachment 3

Instructions for Completing and Submitting the Equal Employment Opportunity Workforce Utilization Report

The Equal Employment Opportunity (“EEO”) Workforce Utilization Report (“Report”) is used by contractors and subcontractors to report the actual workforce utilized in the performance of the contract broken down by job title for a particular reporting period. When the workforce utilized in the performance of the contract can be separated out from the contractor’s and/or subcontractor’s total workforce, the contractor and/or subcontractor shall submit a Report of the workforce utilized on the contract. When the workforce to be utilized on the contract cannot be separated out from the contractor’s and/or subcontractor’s total workforce, information on the contractor’s and/or subcontractor’s total workforce shall be included in the Report.

Instructions for Completing the Report

1. **Reporting Entity.** Check off the appropriate box to indicate if the entity completing the Report is the contractor or a subcontractor.
2. **Federal Employer Identification Number (“FEIN”).** Enter the FEIN assigned by the Internal Revenue Service (“IRS”) to the contractor or subcontractor for which the Report has been prepared. If the contractor or subcontractor uses a social security number instead of a FEIN, leave this field blank. The contractors and subcontractors for recipients of a grant only (such as an Engineering Planning Grant (EPG), a Water Infrastructure Improvement Act (WIIA) grant, or an Intermunicipal Grant Program (IMG) grant) do not need to fill out this section of the Report.
3. **Name.** Enter the name of the contractor or subcontractor for which the Report has been prepared.
4. **Address.** Enter the address of the contractor or subcontractor for which the Report has been prepared.
5. **Contract Number.** Enter the number of contract that the Report applies to, if applicable.
6. **Reporting Period / Month.** Check off the box that corresponds to the applicable quarterly or monthly (not both) reporting period for this Report. The Report is to be submitted on a monthly basis for construction contracts, and a quarterly basis based on the calendar quarter for all other contracts, during the life of the contract.
7. **Workforce Identified in Report.** Check off the appropriate box to indicate if the workforce being reported is just for the contract or the contractor’s or subcontractor’s total workforce.
8. **Preparer’s Name, Preparer’s Title, Date.** Enter the name and title for the person completing the Report, enter the date upon which the Report was completed, and check the box accepting the name entered into the Report as the digital signature of the preparer.
9. **Occupation Classifications (SOC Major Group) and SOC Job Title.** First, enter the applicable Occupation Classification (SOC Major Group) so a dropdown menu appears under SOC Job Title. Choose the SOC Job Title that best describes the worker.
10. **EEO Job Title and SOC Job Code.** The EEO Job Title and the SOC Job Code will automatically populate in the spreadsheet based upon the Occupation Classifications (SOC Major Group) and SOC Job Title selected. Please do not modify the information populated in these fields.

11. **Race/Ethnic Identification.** Race/ethnic designations do not denote scientific definitions of anthropological origins. For the purposes of this Report, an employee must be included in the group to which he or she appears to belong, identifies with, or is regarded in the community as belonging. However, no person should be counted in more than one race/ethnic group. The race/ethnic categories for this Report are:
- **WHITE** (not of Hispanic origin) all persons having origins in any of the original peoples of Europe, North Africa, or the Middle East.
 - **BLACK/AFRICAN AMERICAN** a person, not of Hispanic origin, who has origins in any of the black racial groups of the original peoples of Africa.
 - **HISPANIC/LATINO** a person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race.
 - **ASIAN, NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER** a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent or the Pacific Islands.
 - **NATIVE AMERICAN/ALASKAN NATIVE** a person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition.
12. **Number of Employees and Number of Hours.** Enter the number of employees and the total number of hours worked by such employees for each SOC Job Title under the columns corresponding to the gender and racial/ethnic groups with which the employees most closely identify.
13. **Total Compensation.** Enter the total compensation paid to all employees for each SOC Job Title, each gender, and each racial/ethnic group. Contractors and subcontractors should report only compensation for work on the contract paid to employees during the period covered by the Report. Compensation should include only sums which must be reported in Box 1 of IRS Form W-2. The contractors and subcontractors for recipients of a grant only (such as an EPG, a WIIA, or an IMG grant) do not need to fill out this section of the Report.
14. **For EFC Use Only.** This section is for EFC use only and does not need to be filled out by the contractor/subcontractor.

Instructions for Submitting the Report

The Report is to be submitted on a monthly basis for construction contracts, and a quarterly basis based on the calendar quarter for all other contracts, during the life of the contract.

EFC will provide a Report form in Excel format to the Recipient's Minority Business Officer ("MBO"). The Recipient's MBO is responsible for providing the Report form to all contractors. Each contractor is responsible for providing the Report form to all subcontractors.

Reports are to be submitted electronically in Excel format, using the Report form provided, within ten (10) days of the end of each month or quarter, whichever is applicable. For example, the January monthly Report for a construction contract is due by February 10th and the January – March quarterly Report for a non-construction contract is due by April 10th.

Once the Report form has been completed, each contractor/subcontractor must submit the Report form to EFC and the Recipient's MBO. The Report form must be submitted to EFC according to the following instructions:

1. Go to www.efc.ny.gov/eeoreporting.
2. Enter the requested information pursuant to the instructions on the page. Make sure to choose the correct applicable funding program (Clean Water State Revolving Fund (SRF), Drinking Water SRF, non-SRF Grant Only (e.g. EPG, WIIA, IMG)) and the correct reporting period (reporting

quarter for non-construction OR reporting month for construction). Enter the reporting period of the data, not the date it's submitted.

3. Submit your Report(s) pursuant to the instructions on the page.
4. If you are a contractor, use the naming convention provided by EFC (in the "For EFC Use Only" section of the Report form) for naming the file for upload (i.e., Funding Program – Project Number– Contractor short name (up to fifteen characters) – MWBE ID). The funding programs include CW (clean water SRF), DW (drinking water SRF), and GO (non-SRF grant only). If you are a subcontractor, use the naming convention provided by EFC and replace the contractor's short name with the first fifteen characters of the subcontractor's name, omitting any spaces or special characters.

Questions

If you have questions about or require assistance completing or submitting the Report, please contact EFC at mwbe@efc.ny.gov or 518-402-6924.

NYSEFC EEO Workforce Utilization Report

Reporting Entity	<input type="checkbox"/> Contractor	<input type="checkbox"/> Subcontractor
FEIN		
Contractor Name		
Contractor Address		
Contract Number		

Reporting Period - Select One			
<input type="checkbox"/> January 1 - March 31	<input type="checkbox"/> April 1 - June 30		
<input type="checkbox"/> July 1 - September 30	<input type="checkbox"/> October 1 - December 31		
Reporting Month - Select One			
<input type="checkbox"/> January	<input type="checkbox"/> February	<input type="checkbox"/> March	
<input type="checkbox"/> April	<input type="checkbox"/> May	<input type="checkbox"/> June	
<input type="checkbox"/> July	<input type="checkbox"/> August	<input type="checkbox"/> September	
<input type="checkbox"/> October	<input type="checkbox"/> November	<input type="checkbox"/> December	
Workforce Identified in Report			
<input type="checkbox"/> Workforce Utilized in Performance of Contract			
<input type="checkbox"/> Contractor/Subcontractor's Total Workforce			

Preparer's Name: _____

Preparer's Title: _____

Date: _____

☐ By checking this box, I certify that I personally completed this document and I adopt the name typed above as my electronic signature under the NYS Electronic Signatures and Records Act, with like legal force and effect as if I had physically signed the document.

[illegible]

For EFC Use Only		Municipality:		MWBE ID		Contract ID		Contract Amount	
	Applicant			Project No.		Registration No.		MWBE Eligible Contract Amount	
	Prime Contractor/Service Provider			GIGP/EPG No.		CFA No.		EFC Representative	
	Program		County		Contractor Short Name		Date Generated		

Attachment 4
NYS Environmental Facilities Corporation
Minority- & Women- Owned Business Enterprise (MWBE) Utilization Plan

Instructions for Contractors & Service Providers:

Contractors and Service Providers must complete Sections 2 and 3. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format to the Recipient's designated Minority Business Officer (MBO) no later than the date of contract execution.** Incomplete forms will be found deficient. If more than 10 subcontractors are used, additional pages for Section 3 can be found on EFC's website.

If the prime contract is being performed by the parties to a Joint Venture, Teaming Agreement, or Mentor-Protégé Agreement that includes a certified MWBE, please contact EFC for assistance.

MWBE firms must be certified by the NYS Empire State Development Corporation (ESD) in order to be counted towards satisfaction of MWBE participation goals. The utilization of certified MWBEs for non-commercially useful functions may not be counted towards utilization of certified MWBEs in the Utilization Plan. Please note whether a firm is serving as a broker or supplier on the contract. A broker is denoted by NAICS code 425120 and is designated as a broker in ESD's MWBE Directory. A supplier is denoted by a NAICS code beginning with 423 or 424, or a NIGP code that does not begin with the number 9, and is designated as a supplier in ESD's MWBE Directory. If a firm is serving as a broker, please additionally provide the percentage of the broker's commission on the contract.

See the Bid Packet at www.efc.ny.gov or consult your designated MBO for further guidance.

Instructions for Minority Business Officers (MBO):

The MBO must complete Section 1. The MBO may designate an Authorized Representative to complete and submit quarterly payment reports on its behalf, and, if so designated, the MBO's Authorized Representative must also complete Section 1. The Authorized Representative may only submit quarterly payment reports on behalf of the MBO and may not submit any other required forms or reports for the MBO. The MBO must complete Section 1 even if designating an Authorized Representative. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format via e-mail to your EFC MWBE Representative.**

The subject heading of the e-mail to the EFC MWBE Representative should follow the format "UP, Project Number, Contractor." EFC will review the Utilization Plan and notify the MBO via e-mail of its acceptance or denial.

Within 10 days of EFC's acceptance of a Utilization Plan, EFC will post the approved Utilization Plan on the EFC website.

Attachment 4
NYS Environmental Facilities Corporation
Minority- & Women- Owned Business Enterprise (MWBE) Utilization Plan

SECTION 1: MUNICIPAL INFORMATION				
Recipient/Municipality:			County:	
Project No.:	GIGP/EPG No.:	Contract ID:	Registration No. (NYC only):	
Minority Business Officer:		Email:	Phone #:	
Address of MBO:				
Electronic Signature of MBO: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.				Date:
Complete if applicable:				
Authorized Representative:		Title:		
Authorized Rep. Company:		Email:	Phone #:	
Electronic Signature of Authorized Rep.: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.				Date:

SECTION 2: PRIME CONTRACTOR / SERVICE PROVIDER INFORMATION				
Firm Name:			Contract Type: <input type="checkbox"/> Construction <input type="checkbox"/> Other Services	
Prime Firm is Certified as: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> N/A <input type="checkbox"/> Other: Please repeat information in the Utilization Plan below (Section 3). If dual certified, you must select either MBE <u>or</u> WBE.				
Address:		Phone #:	Fed. Employer ID #:	
Description of Work:				
Award Date:	Start Date:	Completion Date:	MWBE GOAL Total	PROPOSED MWBE Participation
Total Contract Amount: \$ MWBE Eligible Contract Amount: \$ (MWBE Goals are applied to this amount and includes all change orders, amendments, & waivers)			MBE: % \$	MBE: % \$
			WBE: % \$	WBE: % \$
			Total: % \$	Total: % \$

Attachment 4
NYS Environmental Facilities Corporation
Minority- & Women- Owned Business Enterprise (MWBE) Utilization Plan

SECTION 3: M/WBE SUBCONTRACTOR INFORMATION				
This Submittal is:	<input type="checkbox"/> The First/Original Utilization Plan <input type="checkbox"/> Revised Utilization Plan #:			
NYS Certified M/WBE Subcontractor Info		Contract Amount:		For EFC Use:
		MBE (\$)	WBE (\$)	
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				

Attachment 4
NYS Environmental Facilities Corporation
Minority- & Women- Owned Business Enterprise (MWBE) Utilization Plan

SECTION 3: M/WBE SUBCONTRACTOR INFORMATION continued				
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				
Name:	Fed. Employer ID#:			
Address:	Phone #:			
Scope of Work:	Email:			
Select Only One: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> Other:	Start Date:			
Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	Completion Date:			
Full Contract Amount: \$				
SIGNATURE				

Attachment 4
NYS Environmental Facilities Corporation
Minority- & Women- Owned Business Enterprise (MWBE) Utilization Plan

Electronic Signature of Contractor: ☐ I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and that all MWBE subcontractors will perform a commercially useful function.

Date:

Name (Please Type):

Attachment 5
New York State Environmental Facilities Corporation
Minority & Women Owned Business Enterprise (MWBE) Waiver Request Form

Instructions for Contractors & Service Providers:

Contractors and Service Providers must complete Sections 2, 3, and 4. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format to the Recipient's designated Minority Business Officer (MBO).** Incomplete forms will be found deficient.

See the Bid Packet at www.efc.ny.gov or consult your designated MBO for further guidance.

Instructions for Minority Business Officers (MBO):

The MBO must complete Section 1. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format via e-mail to your EFC MWBE Representative.** The subject heading of the e-mail to the EFC MWBE Representative should follow the format "Waiver Request, Project Number, Contractor." EFC will review and notify the MBO via e-mail of its acceptance or denial.

If a partial MWBE waiver is requested, an MWBE Utilization Plan must also be submitted for the amount of proposed MWBE participation.

SECTION 1: MUNICIPAL INFORMATION				
Recipient/Municipality:			County:	
Project No.:	GIGP/EPG No.:	Contract ID:	Registration No. (NYC only):	
Minority Business Officer (MBO):		Email:	Phone #:	
Address of MBO:				
Signature of MBO: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.				Date:

SECTION 2: PRIME CONTRACTOR / SERVICE PROVIDER INFORMATION				
Firm Name:			Contract Type: <input type="checkbox"/> Construction <input type="checkbox"/> Other Services	
Prime Firm is Certified as: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> N/A <input type="checkbox"/> Other:				
Address:		Phone #:	Fed. Employer ID #:	
Contact Information of Firm Representative Authorized to Discuss Waiver Request:				
Name:		Title:	Phone #:	E-mail:
Description of Work:			EFC MWBE GOAL Total	
Award Date:	Start Date:	Completion Date:	MBE: % \$	
Total Contract Amount: \$ MWBE Eligible Contract Amount: \$ (MWBE Goals are applied to this amount and includes all change orders, amendments, & waivers)			WBE: % \$	
			Total: % \$	

Attachment 5
New York State Environmental Facilities Corporation
Minority & Women Owned Business Enterprise (MWBE) Waiver Request Form

SECTION 3: TYPE OF MWBE WAIVER REQUESTED

1. ☐ **Full Waiver** (No MWBE participation)
2. ☐ **Partial Waiver** (Less than the MWBE goals; indicate below the proposed MWBE participation)

PROPOSED MWBE Participation

MBE: % \$

WBE: % \$

Total: % \$

3. ☐ **Specialty Equipment/Services Waiver** (Must be of SIGNIFICANT cost - list of equipment and cost must be attached in addition to the supporting documentation outlined below)

SECTION 4: SUPPORTING DOCUMENTATION

To be considered, the Request for Waiver Form must be accompanied by the documentation requested in items 1 – 9, as listed below. If a Specialty Equipment Waiver is requested, it must be accompanied by the documentation requested in items 1 - 13. If a Specialty Services Waiver is requested, it must be accompanied by the items requested in items 1 – 9 and item 14. Copies of the following information and all relevant supporting documentation must be submitted along with the request. Please contact EFC for assistance, including sample documentation.

1. A letter of explanation setting forth your basis for requesting a partial or total waiver and detailing the good faith efforts that were made.
2. Copies of advertisements in any general circulation, trade association, and minority- and women-oriented publications in which you solicited MWBEs for the purposes of complying with your participation goals, with the dates of publication.
3. Screenshots of search results (by business description or commodity code) from Empire State Development Corporation's (ESD) MWBE Directory of all certified MWBEs that were solicited for purposes of complying with your MWBE participation goals.
4. Copies of faxes, letters, or e-mails sent to MWBE firms to solicit participation and their responses.
5. A log of solicitation results, consisting of the list of MWBE firms solicited for the contract and the outcome of the solicitations. The log should be broken out into separate areas for each task that is solicited (e.g., trucking, materials, electricians) and clearly provide a rationale for firms included on the completed Utilization Plan as well as for those not chosen. The log should show: that each MWBE firm was contacted twice by two different methods (e.g., fax and phone); who was spoken to; what was said; and the final outcome of the solicitation.
6. A description of any contract documents, plans, or specifications made available to MWBEs for purposes of soliciting their bids and the date and manner in which these documents were made available. Specifically, include information on the scope of work in the contract and a breakout of tasks or equipment, such as

Attachment 5
New York State Environmental Facilities Corporation
Minority & Women Owned Business Enterprise (MWBE) Waiver Request Form

a schedule of values for a construction contract or a proposal or excerpt from a professional services agreement.

7. Documentation of any negotiations between you, the Contractor, and the MWBEs undertaken for purposes of complying with your MWBE participation goals.
8. Any other information you deem relevant which may help us in evaluating your request for a waiver. Examples may include sign-in sheets from any pre-bid meetings where MWBE firms were invited, attendance at MWBE forums, etc.
9. EFC and the MBO reserve the right to request additional information and/or documentation.

Additional Documentation for Requests for Specialty Equipment Waivers:

10. Copies of the appropriate pages of the technical specification related to the equipment showing the choices for manufacturers or other information that limits the choice of vendor.
11. Letter, e-mail or screenshot of website from the manufacturer listing their distributors in NYS and the locations.
12. Screenshots of ESD's MWBE Directory searches for the manufacturer and distributor showing that they are not found in the Directory.
13. An invoice or purchase order showing the value of the equipment.

Additional Documentation for Requests for Specialty Service Waivers:

14. A letter of explanation containing information about the scope of work and why no MWBE firms could be subcontracted to provide that service.

Note: Unless a Total Waiver has been granted, Firms will be required to submit all reports and documents pursuant to the provisions set forth in the procurement and/or contract, as deemed appropriate by EFC, to determine MWBE compliance. In cases where EFC accepts a full or partial waiver of MWBE participation goals, the waiver request will be posted to EFC's website.

SIGNATURE

Electronic Signature of Contractor:

☐ I certify that the information submitted herein is true, accurate and complete to the best of my knowledge.

Name: (Please Type):

Date:

Attachment 6
New York State Environmental Facilities Corporation
Monthly Minority- & Women- Owned Business Enterprise (MWBE) Contractor Compliance Report
("Monthly MWBE-SDVOB Report")

Instructions:

- Contractors are to complete the report in Word version and email to the Recipient's Minority Business Officer ("MBO") on a monthly basis.
- If you require additional pages, you may find them on EFC's website at www.efc.ny.gov.
- All** MWBE Subcontractors for this contract **MUST** be listed on the form regardless of whether they were paid this month.
- Please save Report as "*MReport – (Project No). – (Municipality) – (Firm Name) – (Date)*" and send the Word version of this document.
- Proofs of payment in the amounts shown below must be transmitted to the MBO with the report.

Municipality:		County:		Contract ID:		Month:	Year:	
Project No.:		GIGP/EPG No:		Registration No. (NYC only):				
Prime Contractor/Service Provider:				Award Date:		Start Date:		
Date all MWBE / SDVOB subs paid in full:								
Signature of Contractor: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief. Date:								
Last Month's Contract Amt: \$ Revised Contract Amt: \$ Change Order Amt: \$	MWBE Eligible Amt: \$ (Goals are applied to this amount and includes eligible change orders, amendments & waivers)		EFC MWBE Goals		Total Paid to Prime			
			MBE: % WBE: % Total: %	MBE Amt: \$ WBE Amt: \$ Total Amt: \$	Total Paid this Month: \$ Total Paid to Date: \$			
	SDVOB Eligible Amount \$		EFC SDVOB Goals					
			SDVOB 6 %	SDVOB Amt: \$				
NYS Certified MWBE / SDVOB Contractor & Subcontractor		Please Specify Any Revisions this Month.		Subcontractor Total Amount		Payments this Month	Previous Payments	Total Payments Made to Date
				Original	Revised			
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A		<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED						
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A		<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED						

Attachment 6
New York State Environmental Facilities Corporation
Monthly Minority- & Women- Owned Business Enterprise (MWBE) Contractor Compliance Report
("Monthly MWBE-SDVOB Report")

NYS Certified MWBE / SDVOB Contractor & Subcontractor	Please Specify Any Revisions this Month.	Subcontractor Contract Amount		Payments this Month	Previous Payments	Total Payments Made to Date
		Original	Revised			
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker __% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker __% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker __% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker __% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker __% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					

Attachment 6
New York State Environmental Facilities Corporation
Monthly Minority- & Women- Owned Business Enterprise (MWBE) Contractor Compliance Report
("Monthly MWBE-SDVOB Report")

NYS Certified MWBE / SDVOB Contractor & Subcontractor	Please Specify Any Revisions this Month.	Subcontractor Total Amount		Payments this Month	Previous Payments	Total Payments Made to Date
		Original	Revised			
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: Choose all that apply: <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: MWBE Only - Select Only One: <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					

Attachment 6
New York State Environmental Facilities Corporation
Monthly Minority- & Women- Owned Business Enterprise (MWBE) Contractor Compliance Report
("Monthly MWBE-SDVOB Report")

NYS Certified MWBE / SDVOB Contractor & Subcontractor	Please Specify Any Revisions this Month.	Subcontractor Total Amount		Payments this Month	Previous Payments	Total Payments Made to Date
		Original	Revised			
Name: Fed. Employer ID#: <u>Choose all that apply:</u> <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: <u>MWBE Only - Select Only One:</u> <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: <u>Choose all that apply:</u> <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: <u>MWBE Only - Select Only One:</u> <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: <u>Choose all that apply:</u> <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: <u>MWBE Only - Select Only One:</u> <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Name: Fed. Employer ID#: <u>Choose all that apply:</u> <input type="checkbox"/> MBE <input type="checkbox"/> WBE <input type="checkbox"/> SDVOB <input type="checkbox"/> Other: <u>MWBE Only - Select Only One:</u> <input type="checkbox"/> Broker ___% <input type="checkbox"/> Supplier <input type="checkbox"/> N/A	<input type="checkbox"/> Subcontractor is REMOVED <input type="checkbox"/> NEW Subcontractor <input type="checkbox"/> Subcontract Amt. INCREASED <input type="checkbox"/> Subcontract Amt. DECREASED					
Additional Pages can be found at www.efc.ny.gov TOTAL						
Please explain any revisions and note the scope of work that new subcontractors will be providing. Please note that change orders over \$25K may require that good faith efforts be made to obtain additional participation:						

Attachment 7
NYS Environmental Facilities Corporation
Service Disabled Veteran-Owned Business (SDVOB) Utilization Plan

Instructions for Contractors & Service Providers:

Contractors and Service Providers must complete Sections 2 and 3. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format to the Recipient's designated Minority Business Officer (MBO) no later than the date of contract execution.** Incomplete forms will be found deficient. If more than 10 subcontractors are used, additional pages for Section 3 can be found on EFC's website.

If the prime contract is being performed by the parties to a Joint Venture, Teaming Agreement, or Mentor-Protégé Agreement that includes a certified SDVOB, please contact EFC for assistance.

The utilization of certified SDVOBs for non-commercially useful functions may not be counted towards utilization of certified SDVOBs in the Utilization Plan. SDVOB firms must be certified by NYS Office of General Services in order to be counted towards satisfaction of SDVOB participation goals.

See the Bid Packet at www.efc.ny.gov or consult your designated MBO for further guidance.

Instructions for Minority Business Officers (MBO):

The MBO must complete Section 1. The MBO may designate an Authorized Representative to complete and submit quarterly payment reports on its behalf, and, if so designated, the MBO's Authorized Representative must also complete Section 1. The Authorized Representative may only submit quarterly payment reports on behalf of the MBO and may not submit any other required forms or reports for the MBO. The MBO must complete Section 1 even if designating an Authorized Representative. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format via e-mail to your EFC MWBE-SDVOB Representative.**

The subject heading of the e-mail to the EFC MWBE-SDVOB Representative should follow the format "UP, Project Number, Contractor." EFC will review the Utilization Plan and notify the MBO via e-mail of its acceptance or denial.

Within 10 days of EFC's acceptance of a Utilization Plan, EFC will post the approved Utilization Plan on the EFC website.

Attachment 7
NYS Environmental Facilities Corporation
Service Disabled Veteran-Owned Business (SDVOB) Utilization Plan

SECTION 1: MUNICIPAL INFORMATION				
Recipient/Municipality:			County:	
Project No.:	GIGP/EPG No.:	Contract ID:	Registration No. (NYC only):	
Minority Business Officer:		Email:	Phone #:	
Address of MBO:				
Electronic Signature of MBO: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.				Date:
Complete if applicable:				
Authorized Representative:		Title:		
Authorized Rep. Company:		Email:	Phone #:	
Electronic Signature of Authorized Rep.: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.				Date:

SECTION 2: PRIME CONTRACTOR / SERVICE PROVIDER INFORMATION				
Firm Name:			Contract Type: <input type="checkbox"/> Construction <input type="checkbox"/> Other Services	
Prime Firm is Certified as: <input type="checkbox"/> SDVOB Please repeat information in the Utilization Plan below (Section 3).				
Address:		Phone #:	Fed. Employer ID #:	
Description of Work:				
Award Date:	Start Date:	Completion Date:	SDVOB GOAL Total	PROPOSED SDVOB Participation
Total Contract Amount: \$ SDVOB Eligible Contract Amount: \$ (Goals are applied to this amount and includes all change orders, amendments, & waivers)			Total: 6% \$	Total: % \$

Attachment 7
NYS Environmental Facilities Corporation
Service Disabled Veteran-Owned Business (SDVOB) Utilization Plan

SECTION 3: SDVOB SUBCONTRACTOR INFORMATION

This Submittal is:	<input type="checkbox"/> The First/Original Utilization Plan <input type="checkbox"/> Revised Utilization Plan #:		
NYS Certified SDVOB Subcontractor Info		Participation:	For EFC Use:
		SDVOB (\$)	
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		

Attachment 7
NYS Environmental Facilities Corporation
Service Disabled Veteran-Owned Business (SDVOB) Utilization Plan

SECTION 3: SDVOB SUBCONTRACTOR INFORMATION continued			
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		
Name:	Fed. Employer ID#:		
Address:	DSDVBD Control #:		
Scope of Work:	Phone #:		
Full Subcontract Amount: \$	Email:		
Start Date:	Completion Date:		

SIGNATURE	
Electronic Signature of Contractor: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and that all SDVOB subcontractors will perform a commercially useful function. Name (Please Type):	Date:

Attachment 8
NYS Environmental Facilities Corporation
Service Disabled Veteran Owned Business (SDVOB) Waiver Request Form

Instructions for Contractors & Service Providers:

Contractors and Service Providers must complete Sections 2, 3, and 4. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format to the Recipient's designated Minority Business Officer (MBO).** Incomplete forms will be found deficient.

See the Bid Packet at www.efc.ny.gov or consult your designated MBO for further guidance.

Instructions for Minority Business Officers (MBO):

The MBO must complete Section 1. **Submit the completed, signed (electronic signature box checked and dated) form in Microsoft Word format via e-mail to your EFC MWBE-SDVOB Representative.** The subject heading of the e-mail to the EFC MWBE-SDVOB Representative should follow the format "Waiver Request, Project Number, Contractor." EFC will review and notify the MBO via e-mail of its acceptance or denial.

If a partial SDVOB waiver is requested, an SDVOB Utilization Plan must also be submitted for the amount of proposed SDVOB participation.

SECTION 1: MUNICIPAL INFORMATION				
Recipient/Municipality:			County:	
Project No.:	GIGP/EPG No.:	Contract ID:	Registration No. (NYC only):	
Minority Business Officer (MBO):		Email:	Phone #:	
Address of MBO:				
Signature of MBO: <input type="checkbox"/> I certify that the information submitted herein is true, accurate and complete to the best of my knowledge and belief.				Date:

SECTION 2: PRIME CONTRACTOR / SERVICE PROVIDER INFORMATION				
Firm Name:			Contract Type: <input type="checkbox"/> Construction <input type="checkbox"/> Other Services	
Address:		Phone #:	Fed. Employer ID #:	
Contact Information of Firm Representative Authorized to Discuss Waiver Request:				
Name:	Title:	Phone #:	E-mail:	
Description of Work:			EFC SDVOB GOAL Total	
Award Date:	Start Date:	Completion Date:	Total: 6 % \$	
Total Contract Amount: \$ SDVOB Eligible Contract Amount: \$ (SDVOB Goals are applied to this amount and includes all change orders, amendments, & waivers)				

Attachment 8
NYS Environmental Facilities Corporation
Service Disabled Veteran Owned Business (SDVOB) Waiver Request Form

SECTION 3: TYPE OF SDVOB WAIVER REQUESTED

1. ☐ **Full Waiver** (No SDVOB participation)
2. ☐ **Partial Waiver** (Less than the SDVOB goal; indicate below the proposed SDVOB participation)

PROPOSED SDVOB Participation

Total: % \$

3. ☐ **Specialty Equipment/Services Waiver** (Must be of SIGNIFICANT cost - list of equipment and cost must be attached in addition to the supporting documentation outlined below)

SECTION 4: SUPPORTING DOCUMENTATION

To be considered, the Request for Waiver Form must be accompanied by the documentation requested in items 1 – 9, as listed below. If a Specialty Equipment Waiver is requested, it must be accompanied by the documentation requested in items 1 - 13. If a Specialty Services Waiver is requested, it must be accompanied by the items requested in items 1 – 9 and item 14. Copies of the following information and all relevant supporting documentation must be submitted along with the request. Please contact EFC for assistance, including sample documentation.

1. A letter of explanation setting forth your basis for requesting a partial or total waiver and detailing the good faith efforts that were made.
2. Copies of advertisements in any general circulation, trade association, in which you solicited SDVOBs for the purposes of complying with your participation goal, with the dates of publication.
3. A list of firms found as a result of a search (by business description or commodity code) of OGS's SDVOB Directory and solicited for purposes of complying with your SDVOB participation goal.
4. Copies of faxes, letters, or e-mails sent to SDVOB firms to solicit participation and their responses.
5. A log of solicitation results, consisting of the list of SDVOB firms solicited for the contract and the outcome of the solicitations. The log should be broken out into separate areas for each task that is solicited (e.g., trucking, materials, electricians) and clearly provide a rationale for firms included on the completed Utilization Plan as well as for those not chosen. The log should show: that each SDVOB firm was contacted twice by two different methods (e.g., fax and phone); who was spoken to; what was said; and the final outcome of the solicitation.
6. A description of any contract documents, plans, or specifications made available to SDVOBs for purposes of soliciting their bids and the date and manner in which these documents were made available. Specifically, include information on the scope of work in the contract and a breakout of tasks or equipment, such as a schedule of values for a construction contract or a proposal or excerpt from a professional services agreement.

Attachment 8
NYS Environmental Facilities Corporation
Service Disabled Veteran Owned Business (SDVOB) Waiver Request Form

7. Documentation of any negotiations between you, the Contractor, and the SDVOBs undertaken for purposes of complying with your SDVOB participation goal.
8. Any other information you deem relevant which may help us in evaluating your request for a waiver. Examples may include sign-in sheets from any pre-bid meetings where SDVOB firms were invited, attendance at SDVOB forums, etc.
9. EFC and the MBO reserve the right to request additional information and/or documentation.

Additional Documentation for Requests for Specialty Equipment Waivers:

10. Copies of the appropriate pages of the technical specification related to the equipment showing the choices for manufacturers or other information that limits the choice of vendor.
11. Letter, e-mail or screenshot of website from the manufacturer listing their distributors in NYS and the locations.
12. The name and federal employee identification number of the manufacturer and distributor for EFC to search the SDVOB Directory.
13. An invoice or purchase order showing the value of the equipment.

Additional Documentation for Requests for Specialty Service Waivers:

14. A letter of explanation containing information about the scope of work and why no SDVOB firms could be subcontracted to provide that service.

Note: Unless a Total Waiver has been granted, Firms will be required to submit all reports and documents pursuant to the provisions set forth in the procurement and/or contract, as deemed appropriate by EFC, to determine SDVOB compliance. In cases where EFC accepts a full or partial waiver of SDVOB participation goals, the waiver request will be posted to EFC's website.

SIGNATURE

Electronic Signature of Contractor:

☐ I certify that the information submitted herein is true, accurate and complete to the best of my knowledge.

Name: (Please Type):

Date:

**STATEMENT ON SEXUAL HARASSMENT
PURSUANT TO STATE FINANCE LAW § 139-1**

DATE: ____/____/____

PROPOSER (FIRM): _____

STATE OF _____)
) ss.:
COUNTY OF _____)

Notary Public

New York State Finance Law Sections 139-j and 139-k ("Lobbying Law") — Disclosure Statement

General Information All procurements by the Niagara Falls Water Board ("NFWB") in excess of \$15,000 annually, are subject to New York State's State Finance Law Sections 139-j and 139-k, effective January 1, 2006 ("Lobbying Law").

Pursuant to the Lobbying Law, all "contacts" (defined as oral, written or electronic communications with the NFWB intended to influence a procurement) during a procurement - from the earliest notice of intent to solicit bids/proposals through final award and approval - must be made with one or more designated Point(s) of Contact only. Exceptions to this rule include written questions during the bid/proposal process, communications with regard to protests, contract negotiations, and RFP conference participation. Nothing in the Lobbying Law inhibits any rights to make an appeal, protest, or complaint under existing administrative or judicial procedures.

Violations of the policy regarding permissible contacts must be reported to the appropriate NFWB officer and investigated accordingly. The first violation may result in a determination of non-responsibility and ineligibility for award to the violator and its subsidiaries, affiliates and related entities. The penalty for a second violation within four (4) years is ineligibility for bidding/proposing on a procurement and/or ineligibility from being awarded any contract for a period of four (4) years. The NFWB will notify the New York State Office of General Services ("OGS") of any determinations of non-responsibility or debarments due to violations of the Lobbying Law. Violations found to be "knowing and willful" must be reported to the NFWB Executive Director and OGS.

Moreover, the statutes require the NFWB to obtain certain affirmations and certifications from bidders and proposers. This Disclosure Statement contains the forms with which offerors are required to

Instructions New York State Finance Law §139-k(2) obligates the NFWB to obtain specific information regarding prior non-responsibility determinations. This information must be collected in addition to the information that is separately obtained pursuant to New York State Finance Law §163(9). In accordance with New York State Finance Law §139-k, an offeror must be asked to disclose whether there has been a finding of non-responsibility made within the previous four (4) years by any governmental entity due to: (a) a violation of New York State Finance Law §139-j or (b) the intentional provision of false or incomplete information to a governmental entity.

As part of its responsibility determination, New York State Finance Law §139-k(3) mandates consideration of whether an offeror fails to timely disclose accurate or complete information regarding the above non-responsibility determination. In accordance with law, no procurement contract shall be awarded to any offeror that fails to timely disclose accurate or complete information under this section, unless the factual elements of the limited waiver provision can be satisfied on the written record.

Disclosure of Prior Non-Responsibility Determinations

Name of Bidder/Proposer: _____

Address: _____

Name and Title of Person Submitting this Form: _____

Has any governmental entity¹ made a finding of non-responsibility regarding the Bidder/Proposer in the previous four years?

☐ Yes ☐ No

If yes: Was the basis for the finding of the Bidder's/Proposer's non-responsibility due to a violation of State Finance Law §139-j?

☐ Yes ☐ No

¹ A "governmental entity" is: (1) any department, board, bureau, commission, division, office, council, committee or officer of New York State, whether permanent or temporary; (2) each house of the New York State Legislature; (3) the unified court system; (4) any public authority, public benefit corporation or commission created by or existing pursuant to the public authorities law; (5) any public authority or public benefit corporation, at least one of whose members is appointed by the governor or who serves as a member by virtue of holding a civil office of the state; (6) a municipal agency, as that term is defined in paragraph (ii) of subdivision(s) of section one-c of the Legislative Law; or (7) a subsidiary or affiliate of such a public authority. (SFL §139-j, paragraph 1.a.)

New York State Finance Law Sections 139-j and 139-k ("Lobbying Law") — Disclosure Statement

Was the basis for the finding of Bidder's/Proposer's non-responsibility due to the intentional provision of false or incomplete information to a governmental entity?

Yes

☐

No

☐

If yes to any of the above questions, provide details regarding the finding of non-responsibility below:

Governmental Entity: _____ Year of Finding of Non-responsibility: _____

Basis of Finding of Non-Responsibility: _____

(Add additional pages as necessary)

Has any governmental entity terminated or withheld a procurement contract with the Bidder/ Proposer due to the intentional provision of false or incomplete information?

Yes

☐

No

☐

If yes, please provide details regarding the termination/withholding below:

Governmental Entity: _____ Date of Termination: _____

Basis for Termination: _____

(Add additional pages as necessary)

Bidder's/Proposer's Affirmation and Certification

By signing below, the Bidder/Proposer:

- a) Affirms that the Bidder/Proposer understands and agrees to comply with the policy regarding permissible contacts in accordance with New York State Finance Law Sections 139-j and 139-k.
- b) Certifies that all information provided to the NFWB with respect to New York State Finance Law §139-j and §139-k is complete, true and accurate.

By: _____ Date: _____

(Signature of Person Certifying)

Print Name and Title: _____ Title: _____

Bidder/Proposer or Contractor/Consultant (Full Legal Name): _____

Address of Bidder/Proposer or Contractor/Consultant: _____

**NFWB's Right
to Terminate**

The NFWB reserves the right to terminate a Contract (including any lease, license, entry permit, or sale documents) in the event it is found that the certification filed by the Bidder/Proposer, in accordance with New York State Finance Law §139-k, was intentionally false or intentionally incomplete. Upon such finding, the NFWB may exercise its termination right by providing written notification to the Bidder/Proposer in accordance with the written notification terms of the Contract.