NEW JERSEY WATER SUPPLY AUTHORITY

WSA – R27013

REQUEST FOR PROPOSALS

FOR

WASTEGATE CONTROLS IMPROVEMENT PROJECT: STANDBY GENERATOR AND SCADA REPLACEMENT

ALONG THE

DELAWARE AND RARITAN CANAL AT

WASHINGTON CROSSING, SCUDDERS FALLS, PERDICARIS, AND TEN MILE WASTE GATES

SOMERSET COUNTY, MERCER COUNTY

NEW JERSEY

OCTOBER 2026

1.0 INFORMATION FOR BIDDERS

1.1 PURPOSE AND INTENT

The purpose of this Request for Proposal (RFP) is to solicit Statements of Qualifications and Technical Proposals for the purpose of retaining a consultant for the "Wastegate Controls Improvement Project (Standby Generator and SCADA Replacement) along the Delaware and Raritan Canal: Washington Crossing, Scudders Falls, Perdicaris, and Ten Mile." The intent of this RFP is to award a contract to the successful Consultant for completion of four (4) separate capital projects located at four (4) of the Authority's Canal structures.

The following four (4) projects are included in the scope. Each shall have separate invoices (or be tracked separately within same invoice), deliverables, and construction schedules:

1. SCADA Improvements at Washington Crossing Wastegate
2. Standby Generator Replacement and SCADA Improvements at Scudders Falls Wastegate
3. Standby Generator Replacement at Perdicaris Wastegate
4. SCADA Installation at Ten Mile Wastegate

*The projects may be bid for construction together but should be prepared as separate plan and specification sets.

The consultant shall confirm compatibility of each component with all existing and proposed components and shall coordinate a schedule which minimizes shutdowns and maximizes construction seasons.

The intent of this RFP is to award a contract to the responsive consultant whose proposal, conforming to this RFP, is most advantageous to the Authority.

The expected Services are described in the Scope of Work Section. The Technical Proposal must address the required work.

Only Statements of Qualifications and Technical Proposals are being solicited under this RFP at this time. It is expected that the Consultant will provide the required services of New Jersey Licensed Professional Engineers to complete the scope of work. **No Fee Proposals are requested at this time**.

1.2 BACKGROUND

The Delaware and Raritan Canal (Canal) was built between 1830 and 1834 to serve as an artificial waterway that connects the Delaware River near Bulls Island in Kingwood Township to the Raritan River in the City of New Brunswick. The portion of the Canal between Bull's Island and Trenton is known as the feeder canal, and the portion between Trenton and New Brunswick is the main canal. The feeder is a 22-mile-long waterway that runs along the Delaware River. The main canal is a 43-mile-long waterway that runs from Trenton to New Brunswick, running along

the Millstone River and Raritan River for a majority of that run. The main canal used to connect Trenton to Bordentown, but that portion was filled as part of a WPA project. The Canal operated as a barge Canal on both sections until 1932. Subsequently in the 1940's the State of New Jersey took ownership of the Canal and initiated a rehabilitation program to transform the Canal into a public water supply transmission system.

The Canal is owned by the State of New Jersey and is under the auspices of the New Jersey Department of Environmental Protection (NJDEP). The Delaware and Raritan Canal Commission (DRCC) oversees the Canal for the preservation of its history and public recreational use. Projects within the DRCC review zones require approval from the DRCC. The Authority operates and maintains the Canal for water supply as part of the Raritan System. The Raritan System includes the Canal and the Spruce Run and Round Valley Reservoirs. The Canal currently services over fifteen water purveyors in central New Jersey utilizing approximately 100 million gallons of water per day that is diverted from the Delaware River Basin and transported by the Canal. The structural integrity of the Canal and its appurtenant structures is a high priority for the Authority to continue to deliver raw water to central New Jersey. The Canal is a vital water supply, a major recreational facility, and a significant cultural resource.

In 1973, the Canal was placed on the National and State Register of Historic Places. The Canal is also within the Delaware and Raritan Canal State Park (DRCSP). Projects that impact the Canal require prior written authorization or consent from the State Historic Preservation Office (SHPO). Accordingly, any rehabilitation or construction work undertaken along the Canal must consider the historic and cultural significance of the Canal and adverse effects to these features must be minimized. The Canal and the Delaware River are both under the jurisdiction of the Army Corps of Engineers.

The Delaware and Raritan Canal contains several wastegates along its length. The wastegates are sluicegates with conveyance systems to divert water out of the Canal (and typically into the Delaware, Millstone, or Raritan Rivers) during heavy rain events. This is to prevent heavy flows down the Canal which could result in flooding or overtopping the Canal embankment. With the exception of the Perdicaris wastegate, the wastegates are locally operated at each wastegate location by the Water Supply Operators (WSO).

The wastegates included in this project are located at Washington Crossing, in Hopewell Township, at Scudders Falls, in Ewing Township, at Perdicaris, in the City of Trenton, and at Ten Mile, in Franklin Township. Each of the wastegates were constructed or rehabilitated at different times in the history of the Canal. All subject wastegates have electrical actuators to operate them. Three of the four subject wastegates historically had operational supervisory and data acquisition (SCADA) systems (except Ten Mile wastegate). The SCADA system allows the WSO to monitor and control the wastegate structure remotely from the Canal Field Office (CFO). The SCADA systems malfunctioned, which require the WSO to physically visit the sites to make wastegate adjustments.

The wastegate at Perdicaris recently had its SCADA system restored. The system utilizes the GE VERNOVA IFIX software to operate the gate remotely from the CFO. The scope of this project is to restore or install SCADA functionality to the 3 remaining wastegates. The proposed hardware shall be compatible with the GE VERNOVA IFIX software licensed by NJWSA. The chosen Consultant or publicly bid Contractor will need to update the Graphic User Interface (GUI) on the CFO computer to incorporate the new SCADA & test the SCADA with CFO personnel.

Washington Crossing and Ten Mile have USGS concrete block structures utilized for monitoring Canal flow. These structures have existing electrical service that feed the wastegate systems. There are wastegate specific concrete structures at Scudders Falls and Perdicaris that have electrical service to feed the wastegate systems and also house standby generators for backup electrical power. The standby generators are diesel operated with onsite fuel storage and containment. The generators have reached the end of their service life and require replacement. There is no record of the last time either generator was operated or tested. The current condition of each unit is unknown. This scope of this project is to replace the standby generator at Scudders Falls and Perdicaris and propose alternatives for an onsite fuel source (natural gas service, propane service, etc.).

1.3 DOCUMENT REVIEW AND FACILITY INSPECTIONS

The New Jersey Water Supply Authority will provide Consultants with additional materials relevant to this project via the Authority's website at https://www.njwsa.org/procurement. These documents may be needed to prepare and submit accurate proposals. Such review, while recommended, is not mandatory. A list of documents is included in Attachment A.

All questions must be submitted in accordance with RFP Section 1.5.1.

1.4 SITE VISIT

The Standby Generator and SCADA Replacement at Wastegates along the Delaware and Raritan Canal: Washington Crossing, Scudders Falls, Perdicaris, and Ten Mile project locations are:

1. **Washington Crossing Wastegate**

- Near intersection of Washington Crossing – Pennington Road and River Road (Route 29) in Titusville, NJ 08560
- GPS Location 40°17'46.1"N 74°51'59.8"W
- USGS building accessible from Route 29, Wastegates on Delaware River side of Canal

2. **Scudders Falls Wastegate**

- Adjacent to River Road (Route 29), between Delaware Ave and Duffield Dr. in Ewing Township, NJ 08628
- GPS Location 40°16'16.0"N 74°51'05.9"W
- Wastegate building and wastegates on Delaware River side of Canal (towpath)

3. **Perdicaris Wastegate**

- Near intersection of West State Street and Perdicaris Place in Trenton, NJ 08618
- GPS Location 40°13'29.6"N 74°46'38.8"W
- Wastegate building and wastegates on West State Street

4. **Ten Mile Wastegate**

- Near the Confluence of the Raritan River and the Millstone River in Somerset, NJ 08873
- GPS Location 40°32'26.6"N 74°34'08.3"W
- USGS building located on Weston Canal Road, Wastegates located on the Millstone River side of Canal (towpath)

Inspection of the wastegates or buildings may be done Monday through Friday during hours of operation. Contact Dan Sadek at dsadek@njwsa.org or (908) 638-6121 ext. 1284 prior to visit to make an appointment. See the project location maps at Attachment "B".

No questions or inquiries regarding the substance of the RFP will be accepted or answered during the site visit.

1.5 KEY EVENTS IN THE SUBMISSION OF PROPOSALS

1.5.1 QUESTIONS AND INQUIRIES

It is the policy of the Authority to accept questions and inquiries from all potential Consultants receiving this RFP, up to the cutoff date detailed in Section 1.5.3.

After the submission of proposals, unless requested by the Authority, contact with the Authority is limited to status inquiries only and such inquiries are only to be directed to the Chief Engineer. Any further contact or information about the proposal will be considered an impermissible supplement of the Consultant's proposal.

It is requested that Bidders with long, complex, or multiple-part questions submit them as far in advance as possible. Questions should follow the organization of the RFP and should be asked in consecutive order, from beginning to end. Each question should begin by referencing the page number and the paragraph number of the RFP to which it relates.

1.5.2 QUESTION PROTOCOL

Written questions can be e-mailed or mailed to the attention of Steve Gates, Chief Engineer, at the following address:

Stephen Gates, Chief Engineer
New Jersey Water Supply Authority
1851 Route 31

PO Box 5196
Clinton, NJ 08809
E-mail: sgates@njwsa.org

1.5.3 WRITTEN QUESTION PERIOD

Written questions concerning the RFP must be received prior to the cut-off date.

CUT-OFF DATE	Monday, December 14, 2026
TIME	Close of Business (4:30 PM)

CAUTION: Any revisions to the RFP resulting from the written question period will be formalized and distributed to all prospective Consultants as a written addendum to the RFP.

1.5.4 SUBMISSION OF PROPOSAL

Only Statements of Qualifications and Technical Proposals are being solicited under this RFP at this time. **No Fee Proposals are requested at this time**.

In order to be considered for award, three (3) hard copies and one (1) electronic copy (pdf) of the proposal must be physically received by the Authority at the appropriate location by the required time. Delays in delivery are the responsibility of the Consultant and will not be considered by the Authority.

ANY PROPOSAL NOT RECEIVED ON TIME OR AT THE RIGHT LOCATION WILL BE REJECTED. THE DATE, TIME AND LOCATION ARE:

DATE:	Wednesday, December 23, 2026
TIME:	4:00 PM
LOCATION:	Procurement New Jersey Water Supply Authority 1851 Route 31 Post Office Box 5196 Clinton, NJ 08809 **Directions to the New Jersey Water Supply Authority can be found on the following website:** www.njwsa.org

1.6 ADDITIONAL INFORMATION

1.6.1 REVISIONS TO THIS RFP

In the event that it becomes necessary to clarify or revise this RFP, such clarification or revision will be by addendum. The addenda will be issued on the Authority's website https://www.njwsa.org/procurement.

There are no designated dates for release of addenda.

1.6.2. ADDENDUM AS A PART OF THIS RFP

Any addenda to this RFP shall become part of this RFP and part of any contract resulting from this RFP.

1.6.3 ISSUING OFFICE

This RFP is issued by the Authority. The Authority is the sole point of contact for the Consultant for purposes of this RFP.

1.6.4 CONSULTANT RESPONSIBILITY

The Consultant assumes sole responsibility for the complete effort required in this RFP. No special consideration shall be given after proposals are opened because of a Consultant's failure to be knowledgeable of all of the requirements of this RFP. By submitting a proposal in response to this RFP, the Consultant represents that it has satisfied itself, from its own investigation, of all the requirements of this RFP.

1.6.5 COST LIABILITY

The Authority assumes no responsibility and bears no liability for and no proposal shall include costs incurred by Consultants before the award of the contract resulting from the RFP.

1.6.6 CONTENTS OF PROPOSAL

The entire content of every proposal becomes a public record. This is the case notwithstanding any statement to the contrary made by a Consultant in its proposal.

All proposals, as public records, are available for public inspection. After contract award, interested parties can make an appointment with the Authority to inspect proposals received in response to this RFP.

1.6.7 JOINT VENTURE

If a joint venture is submitting a proposal, the agreement between the parties relating to such joint venture should be submitted with the joint venture's proposal. Authorized signatories from

each party comprising the joint venture must sign the proposal. A list of the required forms, certifications and registrations is noted in Section 1.8.1 of this RFP.

1.6.8 SUBCONSULTANTS

Should the Consultant propose to utilize a subconsultant(s) to fulfill any of its obligations, the primary Consultant shall be responsible for any subconsultant's: (a) performance; (b) compliance with all of the terms and conditions of the contract; and (c) compliance with the requirements of all applicable laws.

- The Consultant must provide a detailed description of services to be provided by each subconsultant, referencing the applicable Section or Subsection of this RFP.
- The Consultant should provide detailed resumes for each subconsultant's management, supervisory and other key personnel that demonstrate knowledge, ability and experience relevant to that part of the work which the subconsultant is designated to perform.
- The proposing Consultant should provide documented experience demonstrating that each subconsultant has successfully performed work on contracts of a similar size and scope to the work that the subconsultant is designated to perform in the Consultant's proposal.

Substitution or Addition of Subconsultants

- If it becomes necessary for the Consultant to substitute and/or add a subconsultant after contract award, the Consultant will identify the proposed new subconsultant and the work to be performed. The Consultant must provide detailed justification documenting the necessity for the substitution or addition.
- The Consultant must provide detailed resumes of the proposed subconsultant's management, supervisory and other key personnel that demonstrate knowledge, ability and experience relevant to that part of the work which the subconsultant is to undertake.
- In the event a subconsultant is proposed as a substitution, the proposed subconsultant must equal or exceed the qualifications and experience of the subconsultant being replaced. In the event the subconsultant is proposed as an addition, the proposed subconsultant's qualifications and experience must equal or exceed that of similar personnel proposed by the Consultant in its proposal.
- The Consultant shall forward a written request to substitute or add a subconsultant to the Authority for consideration.

No substituted or additional subconsultants are authorized to begin work until the Consultant has received written approval from the Authority.

A list of the required forms, certifications and registrations is noted in Section 1.8.1 of this RFP.

1.7 EVALUATION OF THE SUBMITTED PROPOSALS

The Authority will evaluate the submitted (written) proposals based on the following criteria with the indicated weights:

a. Approach presented in the Technical Proposal including Schedule for the proposed work. **(45 points)**
   - Technical approach and project understanding
   - List of anticipated approvals and permits
   - Schedule

b. Experience and technical competence of the personnel proposed for the project. The Consultant shall submit a proposed organization chart that will be responsible for the project along with resumes of members of the project team. The designated Project Manager must be clearly identified and their experience on similar projects must be demonstrated. Members of the project team who have worked on reference projects should be identified. **(30 points)**

c. Record of satisfactory performance by the firm on similar projects. Record must establish the ability to properly manage the contract including project costs, quality control and completion of the work on schedule. The evaluation will consider all members of any joint venture. **(20 points)**
   - Company work history on relevant projects
   - Identification of sub-consultants
   - References
   - Experience working with New Jersey Department of Community Affairs

d. Location of the firm and the location of primary personnel proposed for project provided that there are an appropriate number of qualified firms therein for consideration. **(5 points)**

1.8 FORM OF CONTRACT

Appendix A is a copy of the Contract that is used by the Authority for Professional Services. The Consultant(s) will be required to execute the Contract and provide documentation of the necessary insurance coverage before any work is authorized.

1.8.1 FORMS, REGISTRATIONS AND CERTIFICATIONS REQUIRED

The following is a list of the required Forms, Registrations and Certifications that must be included in the Vendor's Proposal. Appendix B contains the required forms.

STANDARD RFP FORMS, REGISTRATIONS AND CERTIFICATIONS:

- NJWSA Information Sheet
- Ownership Disclosure Form
- Disclosure of Investigations and Other Actions Involving the Vendor Form
- Source Disclosure Form
- Vendor Certification and Political Disclosure Form Public Law 2005, Ch 271
- MacBride Principles Form
- Affirmative Action Form
- Diane B. Allen Equal Pay Act Certification
- Business Registration Certification
- Subcontractor Utilization Plan Instructions & Form
- Notice of Intent to Subcontract Form
- Non-Collusion Affidavit
- New Jersey Business Ethics Guide Certification
- Notice of All Contractor Set-Off for State Tax Notice
- Indemnification Certification
- Insurance Certificate

If a joint venture is submitting a proposal, the following forms must be submitted for each party to the joint venture:

- NJWSA Information Sheet
- Ownership Disclosure Form
- Disclosure of Investigations and Other Actions Involving the Vendor Form
- Affirmative Action Form
- Diane B. Allen Equal Pay Act Certification
- Business Registration Certificate

All subcontractors to the Principal Consultant must submit the following:

- Business Registration Certificate

The Principal Consultant must furnish for the Authority's review and written approval the above items prior to a subcontractor being allowed to begin work on a project. The receipt and review of the above by the Authority does not alleviate the Principal Consultant's responsibility to ensure subcontractors' compliance with the Contract requirements.

2.0 SCOPE OF SERVICES

GENERAL DESCRIPTION

The proposed projects take place on State property and are subject to review and approval by the New Jersey Department of Community Affairs – State Buildings Unit. Canal Stationing is

referenced to the stationing shown on the plans entitled “Photogrammetric and Topographic Mapping of the Delaware and Raritan Canal” prepared by John G. Reutter Associates and available for reference.

1. SCADA Improvements at Washington Crossing Wastegate

The Washington Crossing wastegate structure was constructed in the mid-1950’s. It is located at Station 720+15 along the Delaware and Raritan Canal. It is located adjacent to the intersection of River Road (Route 29) and Washington Crossing Pennington Road in the Titusville section of Hopewell Township. It is located at GPS coordinates 40°17'46.1"N 74°51'59.7"W and is located on parcel Block 137 Lot 1.

The wastegate historically had a SCADA system (control and telemetry panel, canal level indicator, telephone line, etc.) but it has ceased working. It is believed that the building that houses the SCADA equipment was not conducive to the equipment. The equipment was housed in a USGS gaging station block building that has communication and electrical service.

The wastegates are currently locally operated at the gates via electric actuators. In April 1999, the concrete structure was rehabilitated and the wastegates were replaced.

The purpose of this project is to restore SCADA functionality to the system. The project expects to replace hardware within the USGS building. The Perdicaris Wastegate is currently operated remotely from the CFO and utilizes GE VERNOVA IFIX software to open and close the gate; the proposed hardware for the Washington Crossing gate shall be compatible with the computer and software located at the CFO.

The selected Consultant shall perform the investigation and design work necessary for replacement of the SCADA system. The SCADA system will be required to monitor water levels and flow rates of the canal, and remotely open and close wastegates to the desired elevation. The Consultant will be responsible for reviewing previous reports and plans, conducting a site investigation, evaluating existing conditions, and evaluating possible alternatives. The Consultant shall assume performing necessary electrical analysis, design, and construction code permitting work, as necessary. It is expected that the consultant will secure all necessary permits and approvals, prepare construction plans and technical specifications, and provide on-call construction management services during the work. The Consultant shall oversee functional testing of the new SCADA system with CFO personnel to verify communication and controls.

The Consultant shall perform a SCADA engineering analysis to determine the most suitable replacement solution for the existing system. The proposed design shall include evaluation and replacement of existing field instrumentation, control hardware, communications infrastructure, and operator interface systems. The proposed design shall also include an evaluation of any necessary temperature control equipment to be installed. Potential options may include implementation of a modern SCADA platform utilizing updated hardware and software

architecture, integration of fiber optics, radio, or cellular communication systems, and incorporation of redundant servers and network paths.

All work must comply with current International Society of Automation (ISA) and International Electrotechnical Commission (IEC) standards, construction codes, applicable NFPA standards, and any other applicable code. The Consultant shall coordinate with the New Jersey Department of Community Affairs (NJDCA), and any other applicable agencies to secure the required permits and approvals.

It is the responsibility of the Consultant to ensure that the proposed SCADA system is designed and installed in a manner that minimizes operational risk, environmental impact, and regulatory exposure to the Authority over the long term. This work shall be coordinated with other projects described herein taking place along the Delaware and Raritan Canal. The consultant shall provide the services of a New Jersey Professional Engineer for any portion of work required. Plans and Specifications shall be stand-alone documents that do not reference other widely available specifications.

2. Standby Generator Replacement and SCADA Improvements at Scudder Falls Wastegate

The Scudder Falls wastegate and concrete structure were constructed in the mid-1980's. It is located at Station 821+20 along the Delaware and Raritan Canal. It is located adjacent to River Road (Route 29) between Delaware Ave. and Duffield Dr. in Ewing Township. It is located at GPS coordinates 40°16'16.0"N 74°51'05.9"W and is located on parcel Block 427 Lot 1.

The wastegate historically had a SCADA system (control and telemetry panel, canal level indicator, telephone line, etc.) but it has ceased working. The SCADA system was housed in a concrete block structure located adjacent to the wastegate. This structure also houses a standby generator, automatic transfer switch, fuel storage, etc. which activate in the event of a power outage so the wastegates can be operated. The existing generator is a fully automatic, diesel-powered unit rated at 10kW, 120/240V, single-phase, 41.7 amp unit. The generator also supplies power to a 5kW heater and the control panel.

The wastegates are currently locally operated at the gates via electric actuators. Electric service is provided via overhead lines over the Canal from a pole on Route 29.

The purpose of this project is to restore SCADA functionality to the system. The project expects to replace SCADA hardware within the Authority's concrete building. The Perdicaris Wastegate is currently operated remotely from the CFO and utilizes GE VERNOVA IFIX software to open and close the gate; the proposed hardware for the Scudders Falls gate shall be compatible with the computer and software located at the CFO.

The Consultant shall perform the investigation and design work necessary for replacement of the SCADA system. The Consultant shall investigate capability for the generator status to be viewable remotely. The SCADA system will be required to monitor water levels and flow rates of the canal,

remotely open and close wastegates to the desired elevation, and monitor the standby generator status. The Consultant will be responsible for reviewing previous reports and plans, conducting a site investigation, evaluating existing conditions, and evaluating possible alternatives. The Consultant shall assume performing necessary electrical analysis, design, and construction code permitting work, as necessary. It is expected that the consultant will secure all necessary permits and approvals, prepare construction plans and technical specifications, and provide on-call construction management services during the work. The Consultant shall oversee functional testing of the new SCADA system with CFO personnel to verify communications and controls.

The Consultant shall perform a SCADA engineering analysis to determine the most suitable replacement solution for the existing system. The proposed design shall include evaluation and replacement of existing field instrumentation, control hardware, communications infrastructure, and operator interface systems. Potential options may include implementation of a modern SCADA platform utilizing updated hardware and software architecture, integration of fiber optics, radio, or cellular communication systems, and incorporation of redundant servers and network paths.

This project also requires the design of the replacement of the standby generator. The existing generator is original to the structure and at the end of its service life. The project expects the consultant to design a suitable replacement generator and associated controls (automatic transfer switch, etc.). The generator and fuel are currently located within the concrete building. This work may require testing, upgrade, or replacement of existing electrical components and wiring for code compliance and/or function with the new equipment. The scope requires the investigation of a proposed fuel source for the generator. A fuel source that has a long shelf life is desired at the site. Visual impacts to the historic fabric of the Canal shall be considered when evaluating fuel sources.

The Consultant shall perform the investigation and design work necessary for the replacement of the existing standby generator and automatic transfer switch. This includes evaluating available fuel options, utility access, emissions impacts, control hardware, communication infrastructure, and generator and wire conduit/fuel piping location requirements. The consultant shall review existing electrical drawings, reports, and plans, conduct a site investigation, assess existing electrical and mechanical conditions, and coordinate the generator, ATS, and fuel tank size and locations, as necessary.

All work must comply with applicable electrical, building, and fire codes, as well as relevant NFPA standards, including NFPA 70 (National Electrical Code), NFPA 110 (Standard for Emergency and Standby Power Systems), and all applicable International Society of Automation (ISA) and International Electrotechnical Commission (IEC) standards. The Consultant shall coordinate with the New Jersey Department of Community Affairs (NJDCA), and any other agencies having jurisdiction to obtain all required permits and approvals. The consultant shall provide the services of a New Jersey Professional Engineer for any portion of work required. The Plans and Specifications shall be standalone documents that do not reference other widely available

specifications. This work shall be coordinated with other projects described herein taking place along the Delaware and Raritan Canal.

3. Standby Generator Replacement at Perdicaris Wastegate

The Perdicaris Wastegate was presumably built in the 1950's and rehabilitated in the early 1980's. It is located at Station 1101+00 along the Delaware and Raritan Canal. It is located adjacent to the intersection of Perdicaris Place and West State Street in the City of Trenton. It is located at GPS coordinates 40°13'29.6"N 74°46'38.9"W and on parcel Block 2506 Lot 1.

The wastegate is housed in a concrete block structure and is served by electric service. SCADA controls from the CFO to the Perdicaris Wastegate were recently restored, utilizing GE VERNOVA IFIX software to operate the wastegate. The Perdicaris structure also houses a standby generator, automatic transfer switch, fuel storage, etc. which activate in the event of a power outage so the wastegate can be operated. The existing generator is a fully automatic, diesel-powered unit rated at 17.5kW, 130/208V, three-phase, 61 amp unit.

This project requires the design of the replacement of the standby generator. The existing generator is at the end of its service life. The project expects the consultant to design a suitable replacement generator and associated controls (automatic transfer switch, etc.). This work may require testing, upgrade, or replacement of existing electrical components and wiring for code compliance and/or function with the new equipment. The scope requires the investigation of a proposed fuel source for the generator. A fuel source that has a long shelf life is desired at the site. Visual impacts to the historic fabric of the Canal shall be considered when evaluating fuel sources. It has been confirmed that natural gas is available to the site from PSE&G. A will serve letter is provided in the list of available information.

The Consultant shall perform the investigation and design work necessary for the replacement of the existing standby generator and automatic transfer switch. The Consultant shall investigate capability for the generator status to be viewable remotely. This includes evaluating available fuel options, utility access, emissions impacts, control hardware, communication infrastructure, and generator and wire conduit/fuel piping location requirements. The consultant shall review existing electrical drawings, reports, and plans, conduct a site investigation, assess existing electrical and mechanical conditions, and coordinate the generator, ATS, and fuel source and hookups, as necessary.

It is expected that the consultant will secure all necessary permits and approvals, prepare construction plans and technical specifications, and provide on-call construction management services during the work. All work must comply with applicable electrical, building, and fire codes, as well as relevant NFPA standards, including NFPA 70 (National Electrical Code), NFPA 110 (Standard for Emergency and Standby Power Systems), and all applicable International Society of Automation (ISA) and International Electrotechnical Commission (IEC) standards. The Consultant shall coordinate with the New Jersey Department of Community Affairs (NJDCA), and any other agencies having jurisdiction to obtain all required permits and approvals. The consultant shall

provide the services of a New Jersey Professional Engineer for any portion of work required. The Plans and Specifications shall be standalone documents that do not reference other widely available specifications. This work shall be coordinated with other projects described herein taking place along the Delaware and Raritan Canal.

4. SCADA Installation at Ten Mile Wastegate

The Ten Mile Wastegate is located at Station 2590+42 along the Delaware and Raritan Canal. It is located near the confluence of the Raritan River and the Millstone River in the Somerset section of Franklin Township, Somerset County (08873). It is located at GPS coordinates 40°32'26.6"N 74°34'08.2"W and is located on parcel Block 515 Lot 4.

The wastegate is currently locally operated onsite via an electrical actuator. There is a USGS building accessible from Weston Canal Road which has electrical service that feeds the wastegate.

The purpose of this project is to install a SCADA system to control the wastegate from the CFO. The project expects to install hardware within the USGS building. The Perdicaris Wastegate is currently operated remotely from the CFO and utilizes GE VERNOVA IFIX software to open and close the gate; the proposed hardware for the Ten Mile Wastegate shall be compatible with the computer and software located at the CFO.

The selected Consultant shall perform the investigation and design work necessary for installation of the SCADA system. The SCADA system will be required to monitor water levels and flow rates of the canal, and remotely open and close wastegates to the desired elevation. The Consultant will be responsible for reviewing previous reports and plans, conducting a site investigation, evaluating existing conditions, and evaluating possible alternatives. The Consultant shall assume performing necessary electrical analysis, design, and construction code permitting work, as necessary. It is expected that the consultant will secure all necessary permits and approvals, prepare construction plans and technical specifications, and provide on-call construction management services during the work. The Consultant shall oversee functional testing of the new SCADA system with CFO personnel to verify communications and controls.

The Consultant shall perform a SCADA engineering analysis to determine the most suitable installation solution for the proposed system. The proposed design shall include evaluation of proposed field instrumentation, control hardware, communications infrastructure, and operator interface systems. The proposed design shall also include an evaluation of any necessary temperature control equipment to be installed. Potential options may include implementation of a modern SCADA platform utilizing updated hardware and software architecture, integration of fiber optics, radio, or cellular communication systems, and incorporation of redundant servers and network paths.

All work must comply with current International Society of Automation (ISA) and International Electrotechnical Commission (IEC) standards, construction codes, applicable NFPA standards, and

any other applicable code. The Consultant shall coordinate with the New Jersey Department of Community Affairs (NJDCA), and any other applicable agencies to secure the required permits and approvals. It is expected that the consultant will secure all necessary permits and approvals, prepare construction plans and technical specifications, and provide on-call construction management services during the work.

It is the responsibility of the Consultant to ensure that the proposed SCADA system is designed and installed in a manner that minimizes operational risk, environmental impact, and regulatory exposure to the Authority over the long term. This work shall be coordinated with other projects described herein taking place along the Delaware and Raritan Canal. The consultant shall provide the services of a New Jersey Professional Engineer for any portion of work required. Plans and Specifications shall be stand alone documents that do not reference other widely available specifications.

The Scope of Services required herein includes the following three tasks:

The Consultant shall prepare contract documents for each of four (4) projects included in this RFP:

1. SCADA Improvements at Washington Crossing Wastegate
2. Standby Generator Replacement and SCADA Improvements at Scudder Falls Wastegate
3. Standby Generator Replacement at Perdicaris Wastegate
4. SCADA Installation at Ten Mile Wastegate

Each project shall be invoiced separately and shall include the three phases detailed below:

Phase I: Investigation, Planning and Schematic Design
Phase II: Design Development
Phase III: Construction Management

Phase I: Investigation, Planning and Schematic Design

1. The Consultant shall conduct an initial investigation that includes, but is not limited to:

    - Investigate existing conditions;
    - Review documentation related to the prior work and site constraints;
    - Coordination with Authority personnel to understand operational needs;
    - Site visit(s) to assess access limitations, structural constraints, utilities, and potential construction staging areas.

2. The Consultant shall identify all permits and approvals required and provide any additional investigations and/or coordination necessitated thereby.

3. The Consultant will prepare a Schematic Design Report for submittal to the Authority. The report shall include, but not be limited to:

    - Evaluation of installation location and site-specific constraints;
    - Assessment of required excavation depth, backfill, and support pad design;
    - Proposed alternatives;
    - For each alternative, include advantages, disadvantages, expected service life, permit requirements and limitations of same, and cost estimates;
    - Construction impacts and concerns;
    - Recommend with justification preferred alternative for accomplishing the requirements of this project;
    - Assess the Environmental Impact;
    - Description of safety systems, monitoring equipment, and shut-off mechanisms;
    - Identification of construction concerns, such as access, staging, temporary shutdowns, and coordination with facility operations;
    - Summary of required inspections and tests;
    - Schematic site plan showing improvement location and layout;
    - Preliminary construction cost estimate and schedule.

In estimating the effort required for the Phase I work, the Consultant should consider the following:

- Attending a kickoff and periodic job meetings with the Authority;
- Site work necessary to perform the required tasks;
- Preparing the Schematic Design Report and supplying electronic copies for review;
- Revising and finalizing the Schematic Design Report after receiving comments from the Authority;
- Submitting three (3) copies of the Final Schematic Design Report signed and sealed by a professional engineer licensed in the state of New Jersey and one copy in electronic format suitable to the Authority;
- Assist the Authority in meetings with other agencies if necessary;

Attachment A is a list of the available information, previous studies and reports to be used during the course of this work.

Phase II: <u>Design Development</u>

From the selected alternative, the Consultant shall prepare construction plans and technical specifications for the project. Plans must be signed and sealed by a professional engineer licensed by the state of New Jersey.

The Consultant shall also be responsible for supplying content for the Invitation for Bidders Document, attending and conducting the Mandatory Site Visit for Bidders (if required), reviewing

Bids received and recommending the Most Responsive Bidder. The Authority will provide the Consultant with a sample "front–end" document. It shall be the responsibility of the Consultant to incorporate into their technical specifications all supplemental information as they feel is necessary, but the Consultant should not duplicate nor contradict any language in the Authority's sample front end.

During Phase II work the Consultant shall:

- Attend project meetings with the Authority and other agencies as necessary;
- Produce Draft Construction Plans/Specifications and provide electronically, and supply two (2) hard copies to the Authority to review;
- Specifications must be fully developed standalone set and cannot be a supplement to other reference specifications.
- On behalf of the Authority, prepare and submit all permit applications with supporting information and documents (the Authority will pay all permit-associated fees). Permits may include but not necessarily be limited to the jurisdictions of:

    a) New Jersey Department of Community Affairs Permitting;
    b) DRCC;
    c) NJ State Historic Preservation Office;
    d) Local construction permits;
    e) Fire Safety Code compliance;
    f) Any other applicable permits;

- Revise the construction plans and specifications as required;
- Prepare and submit the final Construction Plans and Technical Specifications, appropriate for public bidding, to the Authority. Please note the Authority is a state agency that must follow specific procurement procedures. The Consultant should be well versed in the requirements of public procurements in New Jersey.
- Construction plans shall be provided electronically in PDF and AutoCAD format suitable to the Authority. Technical Specifications shall be provided in PDF and MS Word format suitable to the Authority. Signed and sealed hard copy sets of Construction Plans and Technical Specifications shall be provided to the Authority. Please submit details of relevant work in shapefile format. The shapefiles may represent work in point, line, or polygon format. The shapefiles should be coordinated using NAD1983 State Plane New Jersey FIPS 2900 (US Feet). The shapefiles should contain complete metadata stating sources and important spatial details. Any tabular attributes accompanying the files should be fully described in the metadata;
- An AutoCAD formatted survey shall be provided to the Authority.
- Prepare a revised cost estimate on the basis of the final design;
- Submit an estimated construction schedule
- Assist the Authority during the bidding process by conducting a mandatory pre-bid conference (if deemed necessary, including preparing agenda and minutes), assisting

the Authority with any addenda to the bid, reviewing bids received and recommending the most responsible bidder.

- All features of the design plans must be able to be competitively bid (no sole source items).

Phase III: Construction Management

During the Construction Phase, the Consultant will be responsible for on-call construction management services under the direction of a professional engineer. Construction Management will include, but may not be limited to:

- Conducting pre-construction meeting (including preparing the agenda and minutes);
- Administering the Construction Contract;
- Advising the Contractor of interpretation and intent of the Contract Documents;
- The Consultant shall provide a part-time, on-site on-call inspector to verify compliance with the contract plans and specifications for the duration of the construction. The Authority will provide a full-time inspector. The Consultant should assume that they will provide inspection services for at least 8 hours per week on site;
- Checking and approving shop drawings, samples, and other submissions of the Contractor for conformity with design and compliance with the Contract Documents. Consultant shall prepare a submittal list for Contractor to adhere to;
- Providing consultation on Requests for Information in conjunction with Authority staff, and providing timely responses to general inquiries from Authority staff or the Contractor regarding the project within the same business day.
- Reviewing monthly payments requested by the Contractor and making recommendations on such payment requests;
- Conducting on-site Progress Meetings with the Contractor and other interested parties twice a month during construction and as required and appropriate. Provide on a timely basis, written agenda minutes of these meetings.
- Reporting on and making recommendations to the Authority as to work progress;
- Participating in conferences and meetings as the Authority may deem necessary;
- Submit signed and sealed “As-Built” drawings and project completion report of the constructed facilities to the Authority in PDF and AutoCAD format (version applicable to the Authority). Consultant responsible for preparing as-built survey based upon actual built conditions.

REFERENCE STUDIES AVAILABLE

The following documents are attached in this RFP:

- Attachment A is a list of documents available for review. The documents that can be reviewed at Authority’s website https://www.njwsa.org/procurement.

- Attachment B contains recent maps and photographs prepared by New Jersey Water Supply Authority staff.

3.0 INSURANCE REQUIREMENTS

See attached contract in Appendix A.

Attachment A
Available Information, Data and Reports

For the

STANDBY GENERATOR AND SCADA REPLACEMENT AT WASTEGATES ALONG THE DELAWARE AND RARITAN CANAL: WASHINGTON CROSSING, SCUDDERS FALLS, PERDICARIS AND TEN MILE

1. "Rehabilitation of the Concrete Structure and Replacement of the Waste Gates at Washington Crossing Spillway" Hopewell Township, Mercer County, NJ, by A.G. Lichtenstein & Associates, April 1999.

2. "Delaware and Raritan Canal Capital Improvement Program – Scudder's Falls Spillway Waste Gate Installation" Ewing Township, Mercer County, NJ, by Malcolm Pirnie, Inc. February 1986.

3. "Replacement of Waste Gate at Perdicaris Place" City of Trenton, Mercer County, NJ, by Goodkind & O'dea, Inc., July 9, 1982.

4. "Ten Mile Waste Gate" Franklin Township, Somerset County, NJ, by the New Jersey Department of Conservation and Economic Development Division of Water Policy and Supply, October 1952.

5. "Temporary Water Stop System on a Waste Gate Structure on the Delaware and Raritan Canal" Franklin Township, Somerset County, NJ, by Johnson, Mirmiran, & Thompson, December 2015.

6. "Ten Mile Waste Gate" Franklin Township, Somerset County, NJ, by the New Jersey Water Supply Authority, November 2016.

7. "Underwater Replacement of Sluice Gates and Installation of Motorized Gate Operators at the Ten Mile Flood Gates Structure" Franklin Township, Somerset County, by the New Jersey Water Supply Authority, February 2017.

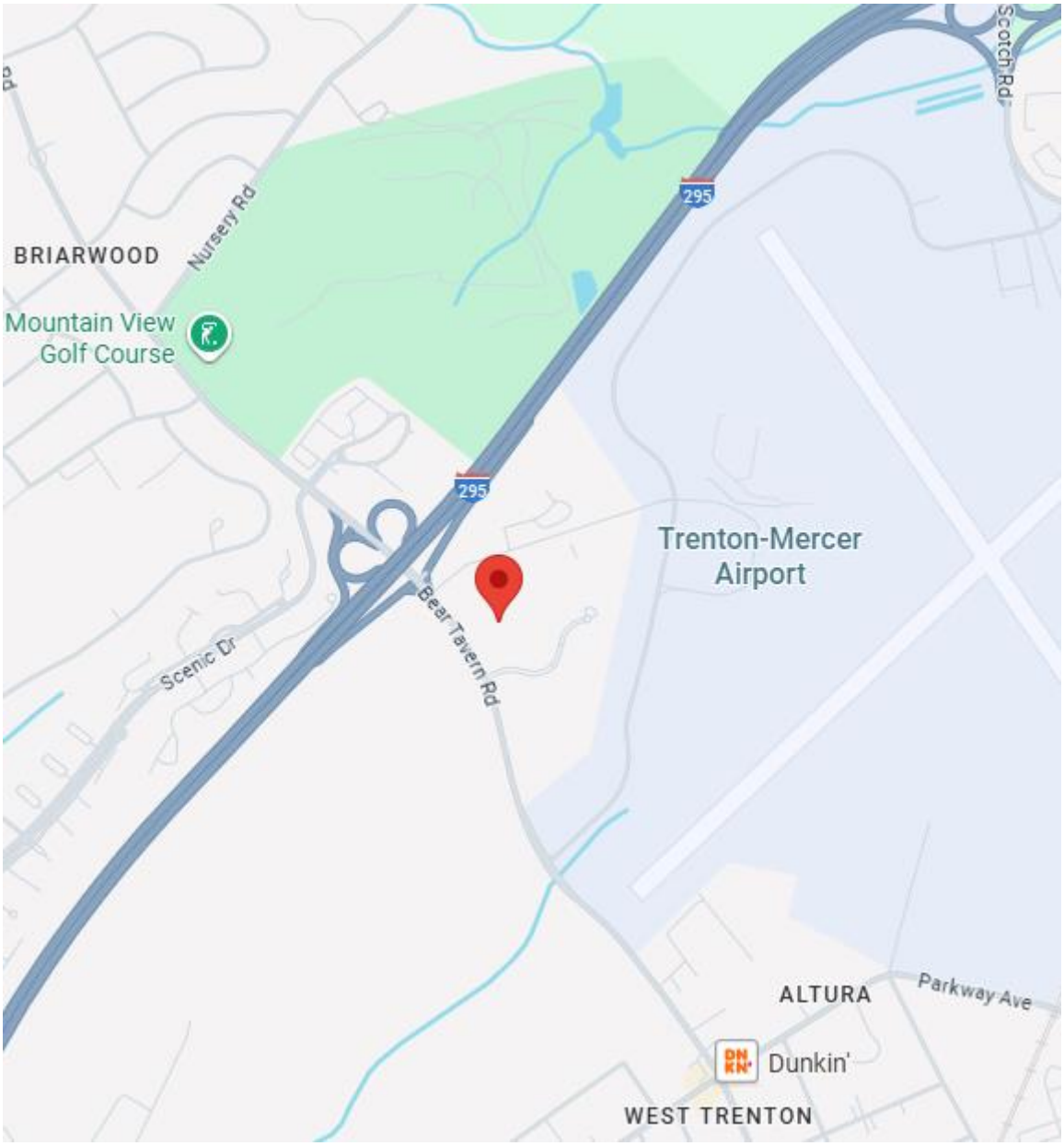
8. "Will Serve Gas" City of Trenton, Mercer County, NJ, by Public Service Electric & Gas Company, April 2026.

Attachment B

Maps and Photographs

Canal Field Office

Maps and Photographs



PROJECT LOCATION
(Source Google Maps Retrieved October 2025)

SATELLITE VIEW OF THE SITE
(Source Google Maps Retrieved October 2025)

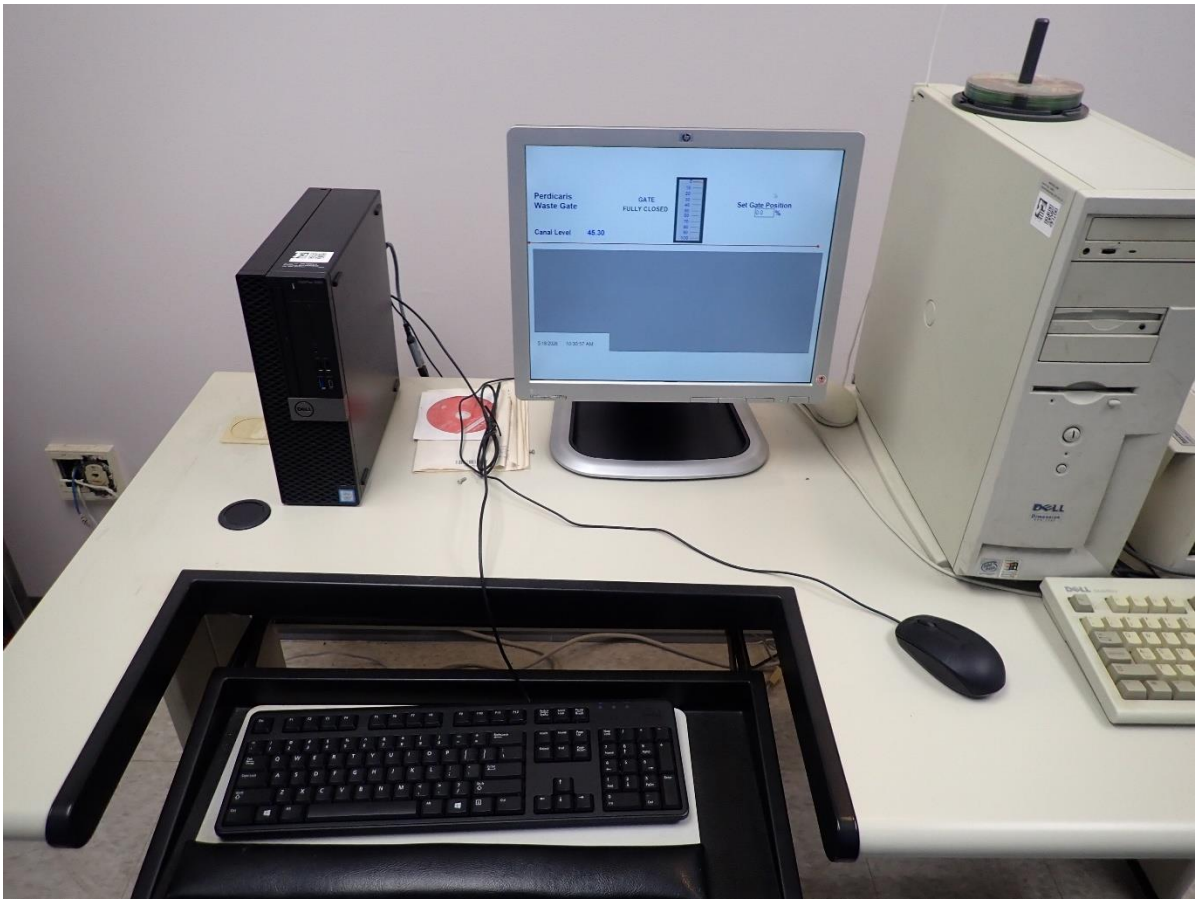
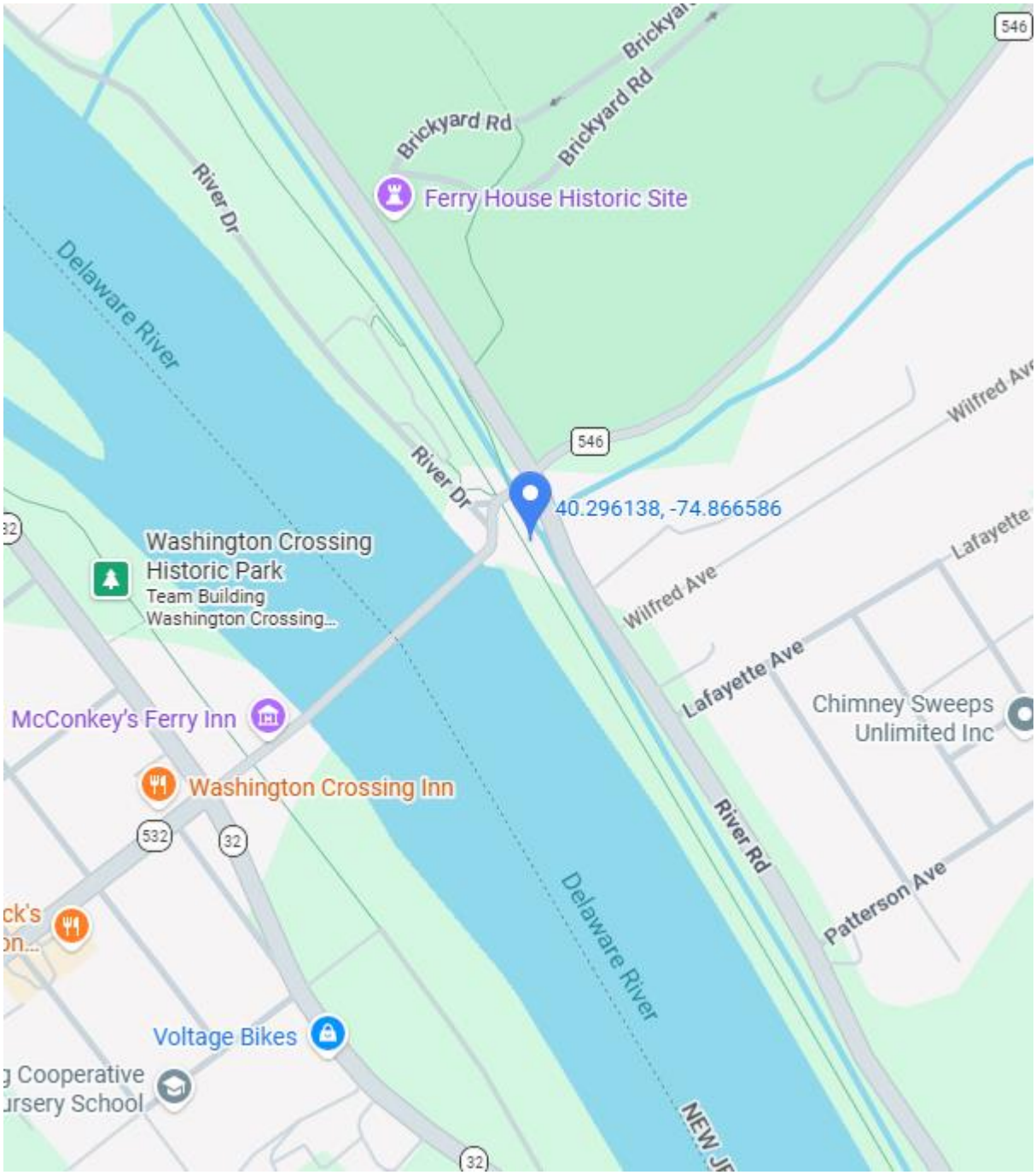


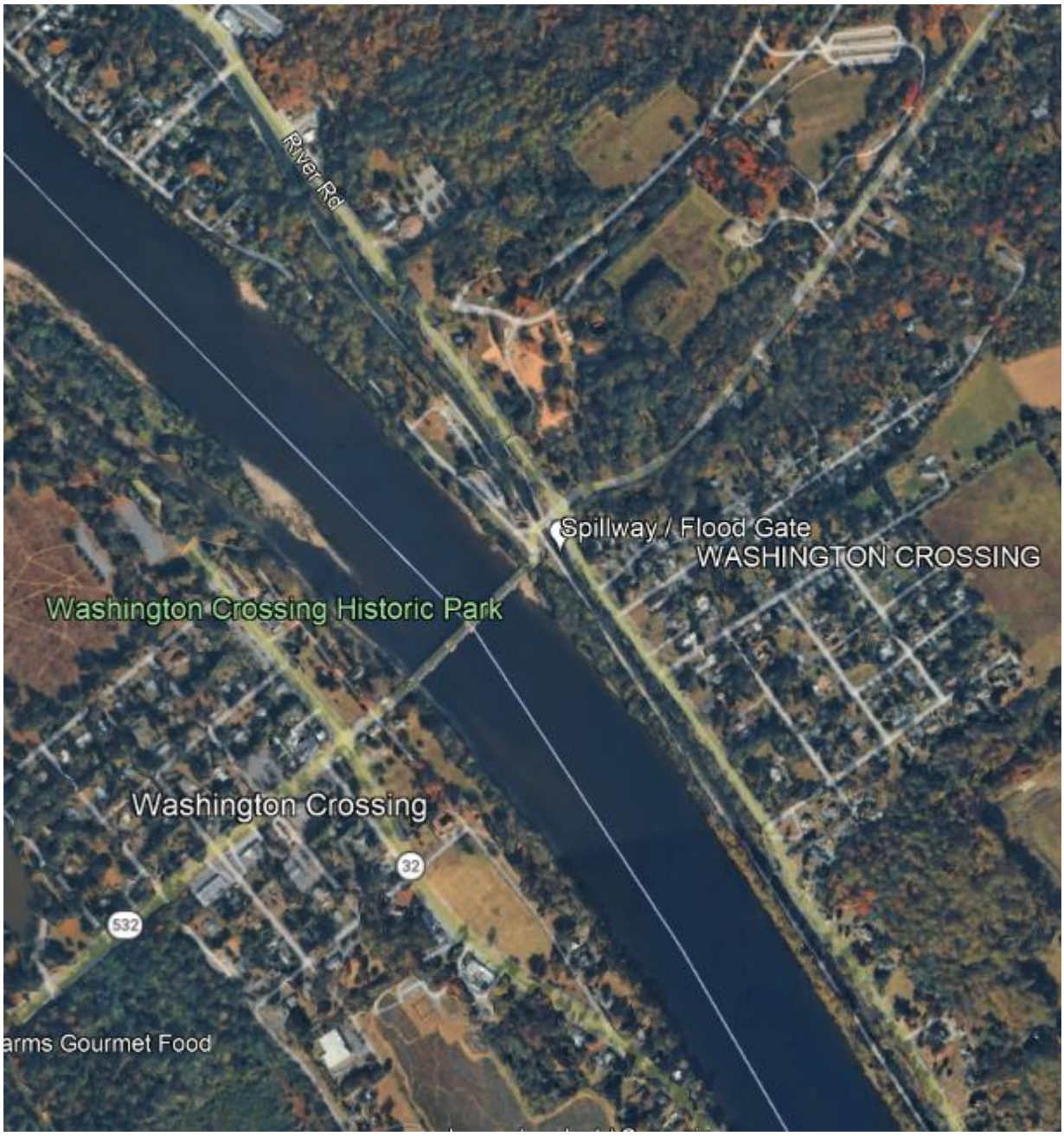
Image of Existing SCADA System

Washington Crossing Wastegate

Maps and Photographs



PROJECT LOCATION
(Source Google Maps Retrieved May 2026)



SATELLITE VIEW OF THE SITE
(Source Google Maps Retrieved May 2026)

Image of Washington Crossing Wastegate
View from Route 29

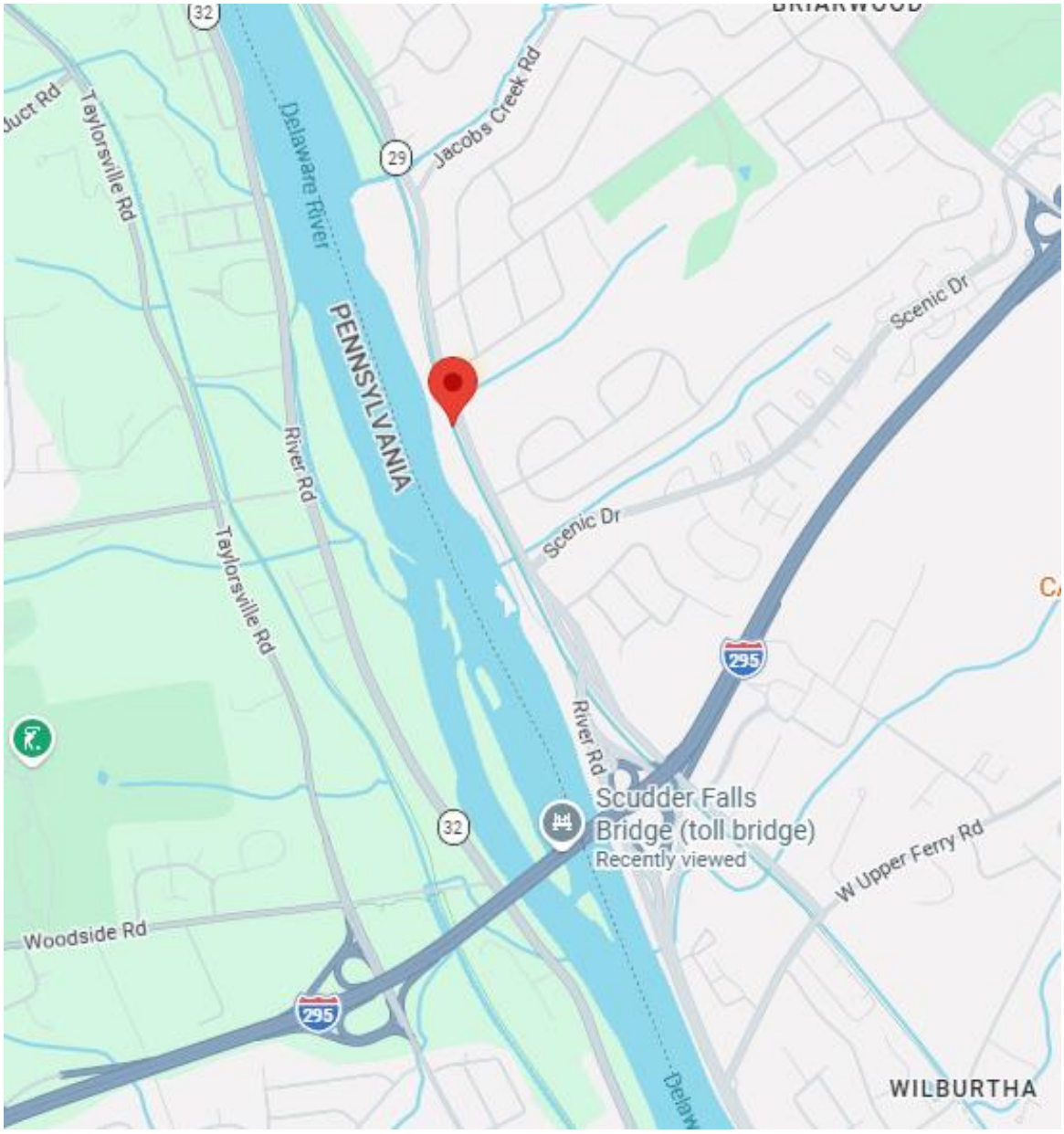
Image of Washington Crossing USGS Building
View adjacent to Route 29

Image of Control and Telemetry Panel
View from within Structure

Image of Electrical Panel
View from within Structure

Scudders Falls Wastegate

Maps and Photographs



PROJECT LOCATION
(Source Google Maps Retrieved May 2026)

SATELLITE VIEW OF THE SITE
(Source Google Maps Retrieved May 2026)

Image of Scudders Falls Wastegates and Access
View from D&R Canal Multi-use Trail

Image of Concrete Structure
View from D&R Canal Multi-use Trail

Image of Concrete Structure Entrance
View looking towards Canal

Image of Concrete Structure Interior
View from within Structure

Image of Standby Generator
View from within Structure

Image of Automatic Transfer Switch and Electrical Panel
View from within Structure

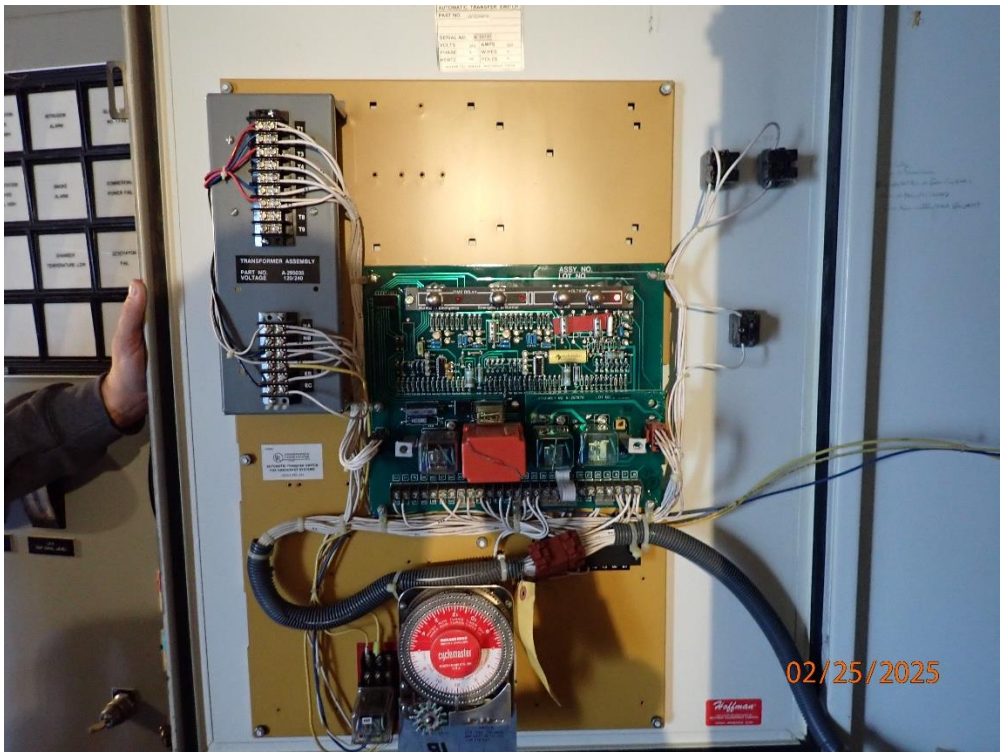
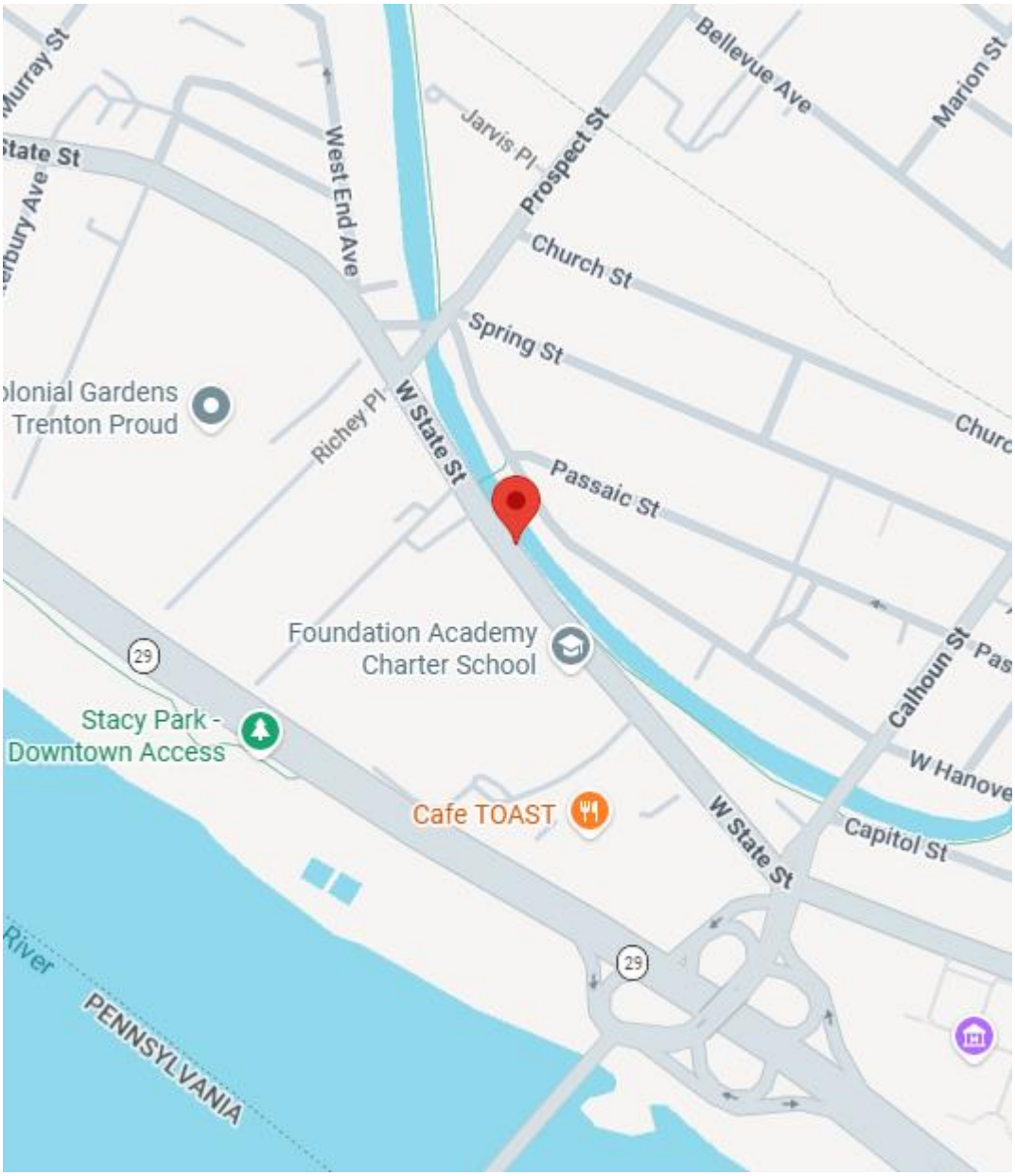


Image of Automatic Transfer Switch and Electrical Panel
View from within Structure

Image of Generator and Diesel Fuel Tank
View from within Structure

Perdicaris Wastegate

Maps and Photographs



PROJECT LOCATION
(Source Google Maps Retrieved May 2026)

SATELLITE VIEW OF THE SITE
(Source Google Maps Retrieved May 2026)

Image of Concrete Building Structure
View from West State Street

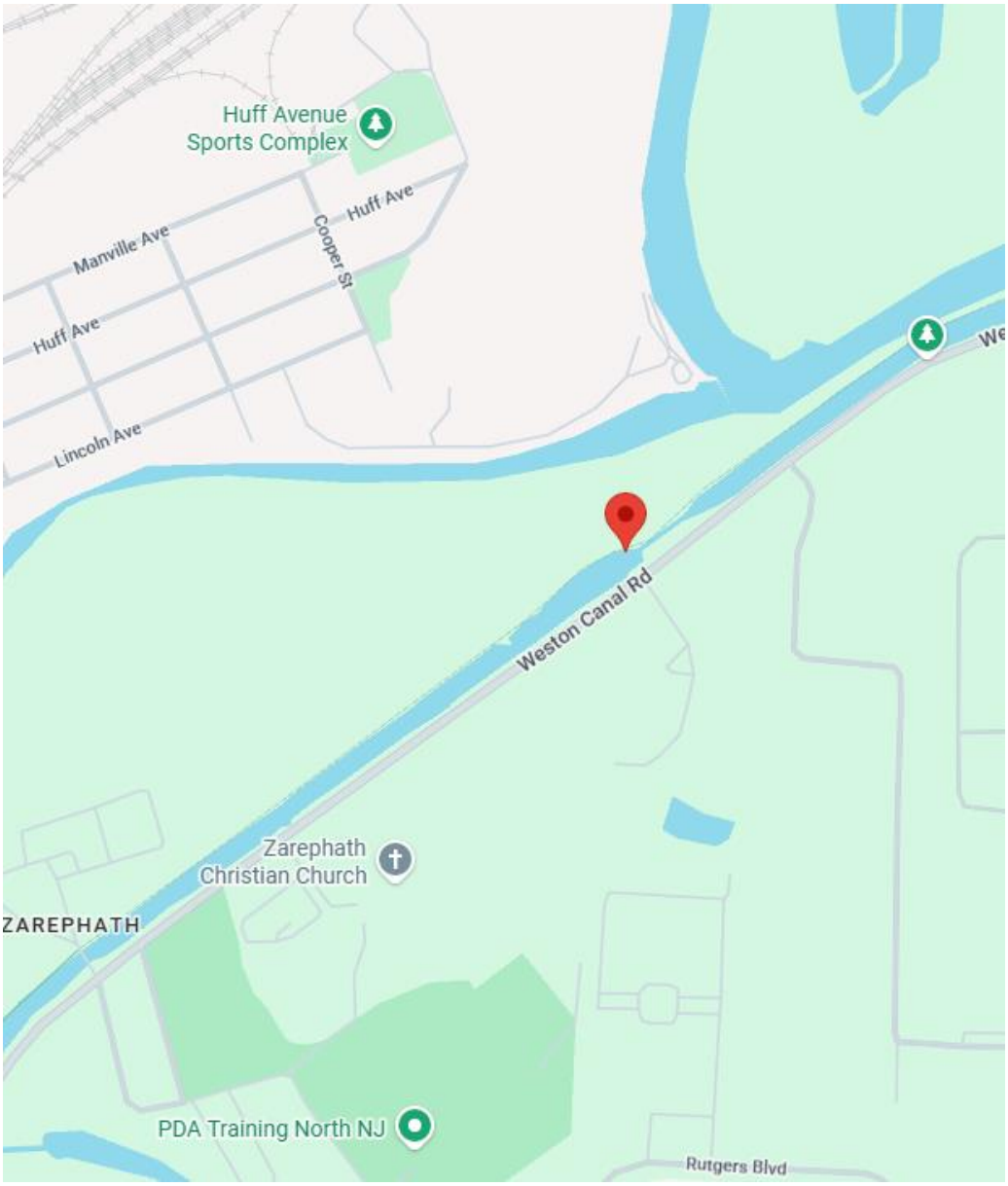
Image of Standby Generator
View from within Structure

Image of Automatic Transfer Switch
View from within Structure

Image of Diesel Fuel Tank
View from within Structure

Ten Mile Wastegate

Maps and Photographs



PROJECT LOCATION
(Source Google Maps Retrieved May 2026)

SATELLITE VIEW OF THE SITE
(Source Google Maps Retrieved May 2026)

Image of Ten Mile USGS Building
View adjacent to Weston Canal Road

Image of Ten Mile Wastegate
View from Multi-use Trail

Image of Remote Control Terminal (RTU)
View from within Structure

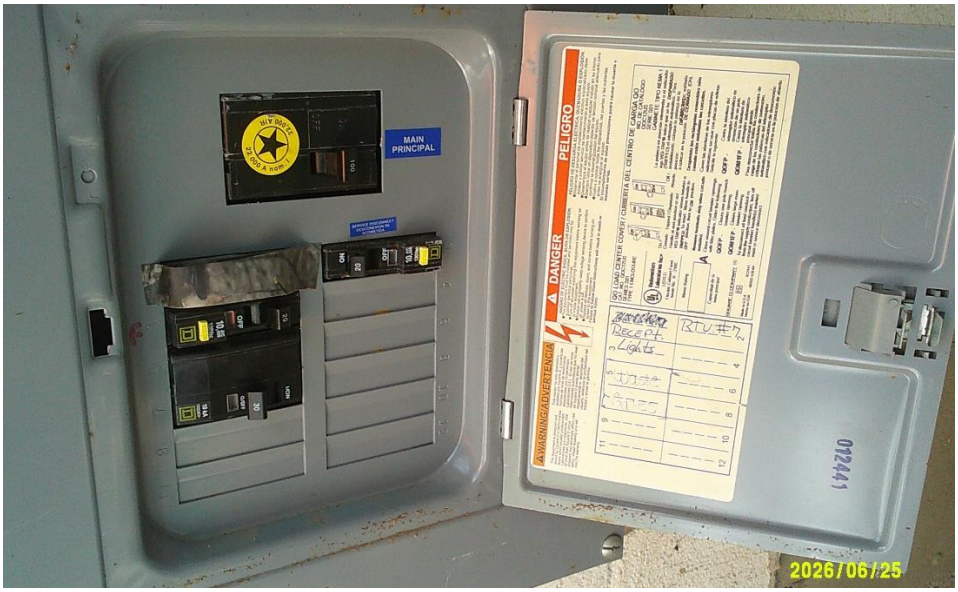


Image of Electrical Panel
View from within Structure

Appendix A

Sample Professional Services Contract

Appendix B

Required Forms & Certifications