

**RESOLUTION DIRECTING WORK TO JACOBS FOR THE BOULEVARD EAST  
SEWER IMPROVEMENTS AND STERLING AVENUE DRAINAGE PROJECT**

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**MOTIONED BY:** Velazquez  
**SECONDED BY:** Gardiner

**WHEREAS**, the North Hudson Sewerage Authority (hereinafter "Authority") is a public body, duly formed under the Sewerage Authorities law, constituting Chapter 138 of the Laws of New Jersey of 1946, as amended (Chapter 14A of Title 40 of the New Jersey Statutes Annotated) and possesses the powers set forth therein; and

**WHEREAS**, JACOBS has been selected under resolution 20-114 to provide engineering services for various capital projects required throughout its service area that must be performed in order to maximize the performance of its waste water treatment facility, the capacity of its combined sewer system and/or to comply with its New Jersey Pollution Discharge Elimination System (NJPDES) permit; and

**WHEREAS**, JACOBS has submitted a proposal (Exhibit "A") to provide Engineering Services During Construction for the Boulevard East Combined Sewer Improvements and Sterling Ave. Drainage Improvements Project; and

**WHEREAS**, the Facilities Review Board has considered this request and proposal and recommends the approval of the full Board.

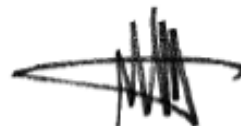
**NOW THEREFORE, BE IT RESOLVED** that the Authority, as recommended by the Facilities Review Board, directs JACOBS to provide professional engineering services during construction for the Boulevard East Combined Sewer Improvements not to exceed \$1,352,200.00 and Sterling Ave. Drainage Improvements Project not to exceed \$93,500.00.

**DATED: NOVEMBER 18, 2021**

**RECORD OF COMMISSIONERS' VOTE**

	<b>YES</b>	<b>NO</b>	<b>ABSENT</b>
Commissioner Soares			x
Commissioner Kappock	x		
Commissioner Marotta	x		
Commissioner Gardiner	x		
Commissioner Friedrich	x		
Commissioner Guzman	x		
Commissioner Velazquez	x		
Commissioner Barrera	x		
Commissioner White			x

**THIS IS TO CERTIFY THAT THIS RESOLUTION WAS DULY ADOPTED BY THE  
NORTH HUDSON BOARD OF COMMISSIONERS ON NOVEMBER 18, 2021.**




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**SECRETARY**

Mr. Fredric J. Pocci, P.E.  
Authority Engineer  
North Hudson Sewerage Authority  
1600 Adams Street  
Hoboken, New Jersey 07030

Via flash drive (read only format) and hardcopy

November 9, 2021

Subject: Proposal for Boulevard East Combined Sewer Improvements and Sterling Avenue Drainage Improvements Engineering Services During Construction

Dear Mr. Pocci:

Jacobs Engineering Group, Inc. (Jacobs) is pleased to provide this proposal to the North Hudson Sewerage Authority (Authority) to undertake the bid phase services and services during construction for the Boulevard East Combined Sewer Improvements and Sterling Avenue Drainage Improvements Project (Project). The engineering services Jacobs will provide are in accordance with the Request for Proposal released on October 13, 2021, Addendum 1 issued October 26, 2021, and due November 9, 2021.

## Project Understanding

Mott MacDonald is the design engineer for the Boulevard East Combined Sewer Improvements and Sterling Avenue Drainage Improvements Projects.

The Boulevard East Combined Sewer Improvements portion of the project consists of a new stormwater pumping station, collection system improvements within Hamilton Avenue, Boulevard East, Highwood Avenue, and Hudson Place in Weehawken, NJ.

The general scope of construction work includes:

- New 17 million gallon per day (MGD) below-grade pumping station, including three (3) new 90 Hp pumps, wet well, valve chamber, generator, and electrical controls
- New high-level stormwater conveyance system, including catch basins, storm piping to transport flow to the new pump station, and a new forcemain from the pump station to a proposed connection on Boulevard East.
- Upsize and replace the existing combined sewer within Hamilton Avenue, Boulevard East, Highwood Avenue, and Highwood Terrace.

NHSA intends to finance the project with a low interest loan obtained through the New Jersey Environmental Infrastructure Trust (NJEIT).

The selected NHSA Boulevard East Combined Services Construction Engineer (Engineer) will administer the services during construction, including bidding services, for a General Contractor to construct the work associated with the Project.

The Sterling Avenue Drainage Improvements portion of the project consists of the installation of an underground detention system that consists of 360-linear feet of HDPE pipe, 180 linear feet of PVC pipe, manholes, inlets, and associated restoration. The project is located behind the Woodrow Wilson School between Hauxhurst and Sterling Avenues.

NHSA has already received bids in the amount of approximately \$550,000 and the project is being funded directly by the Authority. As such, I-Bank requirements do not apply.

### **Key Success Factors that the Jacobs team offers the Authority**

- Vast amount of experience performing Construction Phase Services and Resident Engineering for the Authority - Jacobs has acted as the CM and Resident Engineer on various projects both within the Authority's WWTPs and collection systems. These projects encompass critical pump station projects, including but not limited to H1 Wet Weather Pump Station and H5 Wet Weather Pumping Station. Jacobs has a unique understanding where construction stumbling blocks may be encountered and how to mitigate them.
- In-Depth understanding of the Bidding Process – Having performed bidding services on various NHSA projects, Jacobs understands both the Authority's and NJDEP bidding process and requirements.
- NJEIT Funding – Jacobs has experience with NJEIT funding for both the Authority and other clients. This will ensure smooth coordination with iBank and meeting the administrative requirements of the loan.

### **Scope of Work**

Engineering services to be performed by Jacobs under this proposal will include the tasks listed below from the Request for Proposal:

#### **Boulevard East Combined Sewer Improvements**

- Bid Phase Services
- Construction Phase Services
  - Task 1: Contract Execution and Pre-Construction Meeting
  - Task 2: Resident Engineering/Inspection
  - Task 3: Authority's Agent During Construction
  - Task 4: Construction Administration
  - Task 5: Special Inspections

#### **Sterling Avenue Drainage Improvements**

- Construction Phase Services
  - Task 1: Inspection
  - Task 2: Construction Administration

Jacob's project team prepared the scope of services with a knowledge and understanding of the Authority's objectives, the requirements of the project, and the design of project The Scope of Work in the request for proposal will be executed as written and included as Attachment 1 and Attachment 3.

### **Cost Estimate for Engineering Services**

Jacobs proposes to provide Engineering Services in accordance with the Request for Proposal. Services will be provided on a Time and Material basis in accordance with the terms of our most recent On Call Services agreement with the Authority and the proposed changes submitted to the Authority via letter dated January 12, 2021. We have calculated our fees based on the level of effort we estimate it will take to administer the work, with the construction work being performed by a competent contractor who will complete the work in accordance with the times noted in the Contract Documents. Our fee for Engineering Services for Boulevard East

Combined Sewer Improvements Project and Sterling Avenue Drainage Improvements Project are shown in Table 1 and Table 2, respectively.

TABLE 1  
Boulevard East Combined Sewer Improvements Project - Tabulation of Engineering Costs and Hours

Phase	Task Description	Proposed Hours	Proposed Cost (\$)
Bid Phase Services			
	Bid Services -Labor	146	\$24,500
	Bid Services – Other Direct Costs and Printing		\$2,000
Construction Phase Services			
Task 1	Contract Execution and Pre-Construction Meeting	125	\$24,300
Task 2	Resident Engineering/Inspection	2,496	\$507,200
Task 3	Authority's Agent During Construction	200	\$44,800
Task 4	Construction Administration	3,071	\$663,300
	Other Direct Costs		\$6,100
Special Inspections			
Task 5	Special Inspections		\$30,000
Design Engineer Professional Services			
	Mott MacDonald Engineering Services		\$50,000 <sup>(1)</sup>
Project Totals		6,038	\$1,352,200

Note 1. Mott MacDonald Engineering Services per the RFP.

TABLE 2  
Sterling Avenue Drainage Improvements Project - Tabulation of Engineering Costs and Hours

Phase	Task Description	Proposed Hours	Proposed Cost (\$)
Construction Phase Services			
Task 1	Inspection	240	\$48,200
Task 2	Construction Administration	64	\$18,400
	Other Direct Costs		\$1,900
Design Engineer Professional Services			
	Mott MacDonald Engineering Services		\$25,000 <sup>(1)</sup>
Project Totals		328	\$93,500

Note 1. Mott MacDonald Engineering Services per the RFP.

## Project Schedule

Jacobs anticipates that the time required to complete the Boulevard East Combined Sewer Improvements Project will be

Key Project Dates:

Action	Boulevard East Date	Sterling Avenue Date
Advertise for Bids	January 2022	Complete
Receive Bids on Construction	February 2022	Complete
NJDEP Authorization to Award	March 2022	N/A
Issue Notice to Proceed to General Contractor	April 2022	N/A
General Contractor Completes Major Submittals and Receives Approvals, and Completes Major Materials Procurements	April 2022-June 2022	December 2021-January 2022
Contractor Final Completion	May 2023	May 2022

approximately 18 months from SDC engineer notice to proceed, anticipated in December 2021. The on-site construction work is anticipated to require 12 months. Bidding phase work will commence immediately upon receipt of the notice to proceed. A detailed description of the approach is provided in Attachment 2 with a project schedule GANTT chart.

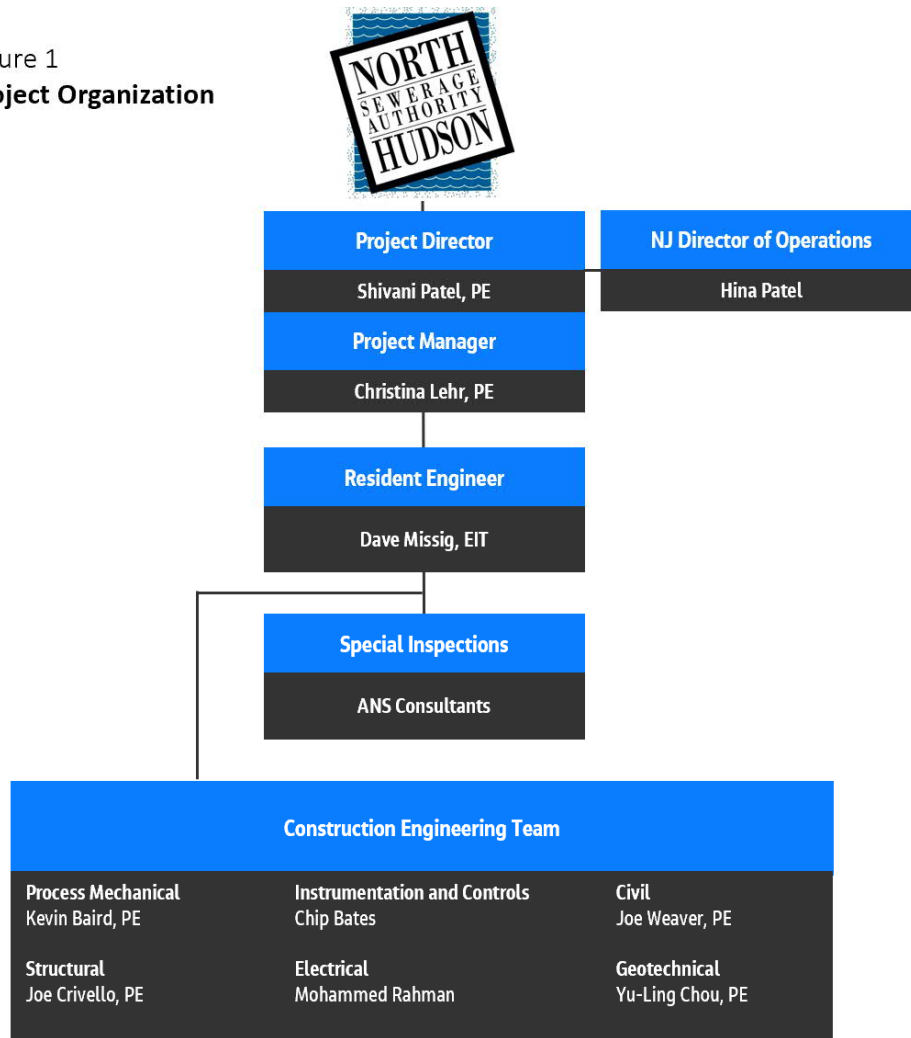
Jacobs anticipates that the time required to complete the Sterling Avenue Drainage Improvements Project will be approximately 5 months from SDC engineer notice to proceed, anticipated in December 2021. A detailed description of the approach is provided in Attachment 4 with a project schedule GANTT chart.

## Personnel Assigned to the Project

We are proposing an experienced and efficient project team to provide Engineering Services During Construction for the Boulevard East Combined Sewer Improvements and Sterling Avenue Drainage Improvements projects. All team members have demonstrated experience in pump station and stormwater construction projects. Team members include staff familiar to the Authority, who have provided on-site services during construction for the Authority's capital improvements projects at the H1 Wet Weather Pump Station and the H5 Wet Weather Pump Station.

Our proposed project team will be led by Shivani Patel, PE as the Project Director – Shivani was the project director of various projects, the most recent being the of the H6/H7 CSO LTCP Project design. Christina Lehr, PE will be the Project Manager – Christina has been the project manager for various NHSA projects including the H6/H7 CSO LTCP Project design and LTCP Program Management. Dave Missig will be the Resident Engineer. Dave was the Resident Engineer on both the H1 Wet Weather Pump Stations Project and the H5 Wet Weather Pump Station Project. The organization of the project team is shown in Figure 1.

Figure 1  
Project Organization



## Relevant Experience of the Firm and Proposed Team

Jacobs is a leader in wastewater, stormwater and CSO engineering and construction services in the United States and abroad. We have partnered with the Authority for over 30 years on programs and projects. Our team members have experience with H1 and H5 Wet Weather Pumping Stations designs for the Authority. This stormwater and Combined Sewer Overflow design and local pump station construction experience will provide the Authority with the most seasoned team to execute the construction phase for these critical upgrades. As the industry's No. 1 Ranked Sewer/Wastewater Treatment firm (Engineering News-Record, June 2018), Jacobs has worked with municipal, national, and industrial clients worldwide to provide comprehensive high-quality engineering services for wastewater treatment facilities, collection systems, and pumping stations. With our combined staff of over 75,000 people worldwide, Jacobs delivers a full range of services that satisfy client needs for progressive engineering, design, consulting, program management, and construction management. The Jacobs team has provided engineering services for the Authority for more than 29 years and brings a wealth of knowledge about the Authority's system as well as broad world-class treatment and conveyance system experience. Under the General Engineering Services Contract, we were responsible for assisting the Authority in achieving and maintaining permit compliance at its two WWTPs, acting as the Authority's agent with the New Jersey Department of Environmental Protection (NJDEP), EPA, and other agencies, and assisting the Authority in securing financial bonds. Jacobs has regularly assisted the Authority in maintaining State Revolving Fund (SRF) loans for capital improvement projects via the New Jersey Environmental Infrastructure Trust (NJEIT)/IBank. In addition, we have worked closely with the Authority in the development of its capital plan. This experience and

knowledge with the Authority's organization, standards, wastewater and CSO facilities, and tools provides a team that will successfully assist the Authority construct the Boulevard East Combined Sewer Improvement and Sterling Avenue Drainage Improvements project efficiently and successfully. Attachment 3 provides a detailed description of Jacobs experience in general and particularly our project team.

Jacobs looks forward to providing continuing service to the North Hudson Sewerage Authority, and we thank you for your consideration of this proposal. If you have any questions or require additional information regarding this proposal, please contact Shivani at 862-242-7067.

Sincerely,

Jacobs Engineering Group

A handwritten signature in black ink that reads "Shivani Patel". The signature is written in a cursive, flowing style.

Shivani Patel, PE  
Project Director

Attachments:

- Attachment 1—Scope of Work – Boulevard East Combined Sewer Improvements Project
- Attachment 2—Project Approach – Boulevard East Combined Sewer Improvements Project
- Attachment 3—Scope of Work – Sterling Avenue Drainage Improvements Project
- Attachment 4—Project Approach – Sterling Avenue Drainage Improvements Project
- Attachment 5—Experience and Project Team

# Scope of Work – Boulevard East Combined Sewer Improvements

The engineer responsibilities shall be by the Services During Construction Engineer (SDC Engineer) unless specifically identified as the responsibility of the Design Engineer, as identified within Table 2 below or otherwise specified. The engineer shall provide the following scope of service for the project.

## Bid Phase Services

The Engineer will assist the Authority during the bid phase as described below:

- Coordinate with the Authority and prepare a recommendation to advertise the project to the Board.
- Prepare a bid schedule and submit same to NJDEP.
- Prepare the bid advertisement for publication. The Authority will advertise the project and pay any advertisement costs.
- Notify the following State agencies of the advertisement: NJDEP Municipal Finance and Construction Element, NJDEP Office of Equal Opportunity and Public Contract Assistance, and the New Jersey Department of the Treasury Office of Equal Opportunity and Public Contract Assistance.
- Upload Contract Documents as PDF copies via ftp site for distribution to all prospective Plan Holders and plan room service companies. Engineer will also provide copies of Contract Documents for use by the Authority and the Authority's Operations Firm. Assume for reproduction purposes that the following paper copies will be required:
  - 20 sets of specifications,
  - 20 sets of full-size contract drawings,
  - 40 sets of half-size contract drawings.
- Assume the Design Engineer will make available PDF copies of the construction documents for the Engineer's use.
- Maintain a detailed list of all Plan Holders and their contact information.
- Keep a record of all inquiries for information requested by, and clarifications made to Plan Holders during the Bid Phase.
- Prepare all clarifications and up to a maximum of two addenda as required to clarify or modify the Contract Documents.
- Distribute up to a maximum of two addenda to all plan holders via fax or overnight mail and keep copies of all distribution records.
- Seek and gain approval by NJDEP for all project addenda prior to issuance to Plan Holders.
- Conduct and attend a pre-bid conference and site tour for Plan Holders and prospective bidders. Engineer will perform all coordination required for the pre-bid conference, including but not limited to; NJDEP notification, stakeholder notification, utility notification, City notification and property owner notification.
- Prepare minutes of the pre-bid conference.
- Conduct the public bid opening at the offices of the Authority. Engineer will provide two attendees at the bid opening.



- Evaluate the bids and provide a detailed written recommendation of award to the Authority.
- Present the bid report to the Authority Board at two separate meetings.
- Prepare and submit all bid correspondence to the NJDEP Municipal Finance and Construction Element seeking their authorization to award the project.
- Prepare a notice to the State Comptroller in accordance with NJSA 52:15C-10 advising them of a contract award.

## Construction Phase Services

The Engineer will perform services during construction as described below.

### Task 1 - Contract Execution and Pre-Construction Meeting

- Prepare and distribute all necessary paperwork required for execution of the Contract between the Contractor and the Authority.
- Provide five paper copies of the Contract for execution.
- Schedule and conduct a pre-construction conference with the Authority, Contractor, NJDEP, and key stakeholders.
- Prepare minutes of the pre-construction conference and distribute same.
- Prepare and issue a Notice to Proceed to the Contractor.

### Task 2 – Resident Engineering/Inspection

The Engineer will provide a Full Time Resident Engineer to perform the services described below:

- Observe the on-site construction work when the Contractor's field activities are in progress to ensure that the work is being completed in accordance with the Contract Documents. This includes, but is not limited to, the removal of excavated materials, installation of support of excavation systems, construction dewatering and groundwater treatment and disposal operations, concrete placement, precast structure placement, conveyance pipe installation, architectural installations, and electrical, mechanical and HVAC work.
- Coordinate with the Contractor and City of Weehawken regarding street closures and maintenance of traffic control and pedestrian flow.
- Maintain project records, diaries, daily inspection reports/pictures and documents.
- Conduct inspections and develop punch lists.
- Witness and record the results of all functional and performance tests.
- Respond to public complaints, including contacting complainants, determining solutions; prepare letters, etc. in accordance with the Authority's policies, which requires timely action by the Engineer.

### Task 3 - Authority's Agent During Construction

Engineer will perform the following:

- Aid the NHSA's General Contractor to obtain construction permits from the City of Weehawken.
- Act as Authority's Agent with regard to the Contractor's compliance with the contract documents.
- Oversight of the Contractor's compliance with NJDEP's program for Socially and Economically Disadvantaged individuals and generate, review, and submit all required forms to NJDEP for this program.
- Act as Authority's Agent with regard to the Authority's and Contractor's compliance with New Jersey Department of Treasury Office of Equal Opportunity and Public Contract Assistance requirements. Engineer will generate, review and submit all required forms to the NJDEP for this program.
- Obtain and keep on file all records related to the NJDEP's program for Socially and Economically Disadvantaged individuals and the New Jersey Department of the Treasury Office of Equal Opportunity and Public Contract Assistance requirements.
- Obtain and keep on file all Certified Payroll records obtained from the Contractor.
- Obtain and keep on file the Initial Project Workforce Report and the Monthly Manning Reports.
- Submit two paper copies of the Contractor's complete payment application and two additional paper copies of the Engineer's invoice to provide Services During Construction to the Authority's designated representative on a monthly basis.
- Administer the American Iron and Steel provisions of the contract documents.
- One year after the final acceptance of the Work, prepare, execute and submit to the Authority and NJDEP a Certificate of Performance on NJDEP form CCS-006.
- Administer the permits and approvals obtained for the project; including, but not limited to: NJDEP Flood Hazard Area Permit, HEP – Soil Erosion and Sediment Control certificate, Construction Permits, and Zoning certificate.

### Task 4 - Construction Administration

The Engineer will provide administration of the Contract and represent the Authority in observing the Contractor's compliance with the Contract Documents. The Engineer will perform the following:

- Review the Contractor's Health and Safety plan.
- Coordinate with the various utility companies.
- Meet with the Contractor's representatives and the Authority to assist in implementing the construction progress. Engineer will act as initial interpreter of the requirements of the Contract Documents and judge the acceptability of the work and make decisions on all claims of the Authority and Contractor relating to the acceptability of the work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of the work.
- Conduct monthly progress meetings with the Contractor to review and record the progress of the work, and to resolve any problems with the project. Conduct additional meetings as necessary to resolve conflicts or specific problems. A Project Manager for the Engineer will chair all meetings and submit minutes of meetings to all attendees.
- Review, certify and process the Contractor's payment requests on a monthly basis. Prepare a payment application cover letter, engineer's summary payment certificate, Authority payment voucher and submit with recommendations and supporting documentation to the Authority for processing.

- Submit a monthly progress report prepared in accordance with the Authority's format outlining all pertinent activities during the month, including but not limited to work performed, milestones, problems, pending change orders and claims, and time delays. The monthly progress report will contain a financial summary of the Construction contract as well as a financial summary of the Engineer's contract with the Authority. Submit the monthly progress report to the Authority one week prior to the Board meeting.
- Be present at the Authority's Facility Service Committee meetings on an as needed basis to discuss problems with the project, present construction change orders and answer questions from the Authority on the project.
- Provide Construction Management supervision and control of the resident inspection team to ensure quality control and assist with all problems.
- Provide technical interpretations of the Contract Documents and evaluate requested deviations from the approved design or specifications per the Division of Work responsibilities for the Engineer and Design Engineer.
- Maintain project records, diaries and documents.
- Respond to Contractor Requests for Information (RFI's) and provide written responses to the Contractor. It is assumed Jacobs will respond to 10 RFIs.
- Provide technical review of shop drawings, diagrams, illustrations, catalog data, schedules and samples, the results of tests and inspections, and other data which the Contractor is required to submit. Submitted material will be reviewed for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Such review is not intended as an approval of the submittals if they deviate from the Contract Documents or contain errors, omissions, and inconsistencies, nor is it intended to relieve the Contractor of his full responsibility for Contract performance, nor is the review intended to ensure or guarantee lack of inconsistencies, errors, and/or omissions between the submittals and the Contract requirements. It is assumed Jacobs will review 70 submittals.
- Prepare and administer all necessary Field Orders.
- Prepare and administer all necessary Work Change Directives.
- Assist in negotiating, with the Contractor, the scope and cost of a reasonable and customary number of change orders. Prepare such change orders as may be required and submit them to the Authority for approval. Following approval by the Authority and the Contractor, administer same with the Contractor. Submit all change orders to the NJDEP Municipal Finance and Construction Element for their review and approval. It is assumed that Jacobs will prepare two Change Orders.
- Administer all allowance items in the Contract.
- Meet with representatives of the Authority and appropriate regulatory agencies when requested and necessary for consultation or conferences in regard to construction of the project.
- Coordinate with the General Contractor and Licensed Site Remediation Professional (LSRP) to properly sample, characterize, and delineate contaminated soils and groundwater on the project site, administer the methods and procedures for removal and disposal of contaminated soils, and treatment and disposal of extracted groundwater
- Recommend the acceptability of the work and issue a Certificate of Substantial Completion along with a punch-list upon the Contractor achieving the project milestones.
- Prepare routine letters, memorandum, reports, change orders and miscellaneous paperwork as directed by the Authority for signature by the Authority.

- Respond to public complaints, including contacting complainants, determining solutions, prepare letters, etc. in accordance with the Authority's policies and procedures, which requires timely action by the Engineer.
- Make a final review of the construction to determine if the Work has been completed in conformance with the intent of the Contract Documents. Facilitate a final inspection of the Work by the Contractor, Authority, NJDEP and other appropriate regulatory agencies so they may make the final observation of the construction.
- Upon final acceptance of the Work, prepare and submit a Certification to the New Jersey State Department of Environmental Protection certifying that the project has been completed in accordance with the intent of the Contract Documents. Engineer will use NJDEP form WQM-005 to certify the work.
- Review record drawings provided by the Contractor of changes to the work.
- Prepare a final set of record drawings in electronic format.
- Provide appropriate technical assistance during start-up, functional testing, and performance testing. Verify operation of individual valves, common equipment and individual systems and subsystems.
- Facilitate training of the Authority's Operations Firm by the equipment manufacturer's representatives. Provide training to the Authority's Operations Firm on the operation of the entire facility as a system.
- Prepare a project-specific Operations and Maintenance Manual to include an overall process operational description, ancillary system operational descriptions, and individual maintenance needs.
- Assist in negotiating final payment for construction and submit a final letter report upon which final settlement and termination of the Construction Contract can be based. Document proceedings of all final settlement negotiations and record basis for final payment.
- Prior to recommending release of Final Payment, ensure the Contractor has furnished all administrative items required by the Contract Documents, and verify there are no outstanding liens, or claims.
- Prepare and submit all required close-out documentation required for each permit which has been, or will be, necessary for the project. These include but are not limited to; local construction permits.
- Engineer will provide the Authority with a complete electronic file in PDF format of all documents that they prepared on behalf of the Authority that is included in this RFP.

## Task 5 – Special Inspections

The Engineer will administer and oversee the special inspections and special testing of the Contractor's work, as required by the NJUCC, the City of Weehawken Construction Code Office, the prevailing adopted IBC, and as may also be identified in the contract documents.

# Project Approach and Schedule – Boulevard East Combined Sewer Improvements Project

To execute construction in a timely manner, obtaining road occupancy and road opening permits and coordinating with Weehawken must be initiated early. Another important aspect of the project is coordination with the Licensed Site Professional (LSRP) making sure that the soils are characterized, excavated and disposed of properly.

Early submission and approval of any excavation support plan including sheet piling and foundation piling will be critically important to keeping the construction on schedule. The shop drawings for the pumps and electrical equipment is important as the equipment typically has a longer lead time, and if not procured in a timely manner, can result in project delays.

Figure 2 Boulevard East Combined Sewer Improvements																					
CONSTRUCTION PHASE TIMELINE																					
	2021			2022												2023					
	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY			
MONTHS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			
<b>Complete Design (Mott MacDonald)</b>																					
<b>Submit to NJEIT</b>																					
<b>NJEIT Comments</b>																					
<b>Bid Docs to NJEIT</b>																					
<b>EIT Approval to Advertise</b>																					
<b>Advertise-Receive Bids, Recommend Award</b>																					
<b>Submit Request to Award</b>																					
<b>NHSA Award Resolution</b>																					
<b>Bonds and Insurance</b>																					
<b>Issue NTP, January 2020</b>																					
<b>Construction Work</b>																					
Submittals and Equipment Procurement																					
Obtains Permits																					
Establish Traffic Control Measures																					
Test Pits																					
Blockage removal, sewer and manhole cleaning and dewatering, video inspection																					
Sewer Installation																					
Excavation & Earth Support Wetwell																					
Soil Sampling and Disposal																					
Wetwell																					
Perform Repair of Sewers and Manholes, removal and replacement																					
Mechanical																					
Electrical & I&C																					
Pump Station Testing																					
Permanent Pavement and Restoration																					
Final Cleanup and Demob																					
<b>Substantial Completion</b>																					
<b>Final Completion</b>																					

# Scope of Work – Sterling Avenue Drainage Improvements

The engineer shall provide the following scope of service for the project.

## Construction Phase Services

The Engineer will perform services during construction as described below.

### Task 1 –Inspection

The Engineer will provide an Inspector to perform periodic inspections and the services described below:

- Observe the on-site construction work when the Contractor's field activities are in progress to ensure that the work is being completed in accordance with the Contract Documents. The Inspector is budgeted to be onsite and make observations for 30, 8- hour days, as requested by the Design Engineer. Within the 30 day level of effort allotment, the Inspector will provide inspections, witness and record the results of all functional and performance tests, develop punch lists, and review Payment Applications.
- A daily report and photographs for each observation day will be provided to the Design Engineer.

### Task 2 - Construction Administration

- It is assumed that the Design Engineer will review submittals and RFIs
- Obtain and keep on file all Certified Payroll records obtained from the Contractor.
- Submit Contractor's complete payment application and Engineer's invoice to provide Services During Construction to the Authority's designated representative on a monthly basis.
- Provide oversight of the Inspector and communicate project specifics to the Authority
- It is assumed the Design Engineer will respond to public complaints, including contacting complainants, determining solutions; prepare letters, etc. in accordance with the Authority's policies, which requires timely action by the Design Engineer.
- It is assumed the Design Engineer will coordinate with the Contractor and City of Weehawken regarding street closures and maintenance of traffic control and pedestrian flow
- Review record drawings provided by the Contractor of changes to the work and provide red-lines to the Design Engineer to incorporate into the CADD files and submit final electronic Record Drawings.

# Project Approach and Schedule – Sterling Avenue Drainage Improvements

Since the Construction Contract has already been awarded and the Contractor has begun submitting submittals, Jacobs will need to quickly understand the status of the project and begin reviewing submittals. A Pre-construction meeting will be scheduled as soon as possible following the Authority issuing a NTP to Jacobs.

Next, in order to execute construction in a timely manner, obtaining road occupancy and road opening permits and coordinating with Weehawken will be initiated. Another important aspect of the project is making sure that the soils are characterized, excavated and disposed of properly. Jacobs will begin discussions with the Contractor expedite the planning and execution of the soil testing and removal tasks.

Figure 2 Sterling Avenue Drainage Improvements						
CONSTRUCTION PHASE TIMELINE						
		2021	2022			
		DEC	JAN	FEB	MAR	APR
	MONTHS	1	2	3	4	5
<b>Construction Work</b>						
Submittals and Equipment Procurement						
Obtains Permits						
Establish Traffic Control Measures						
Test Pits						
Construct Drainage System						
Permanent Pavement and Restoration						
Final Cleanup and Demob						
<b>Substantial Completion</b>						
<b>Final Completion</b>						



## Experience and Project Team

Jacobs, has served municipal, state, federal, and private-sector clients in water, wastewater, environmental, transportation, industrial, and related fields. We intend to keep making a difference—achieving and exceeding your expectations and those of the community. We are proud of our commitment to be the best in setting exemplary standards in client satisfaction, social responsibility, technical innovation, leadership, and stakeholder consensus and involvement.

### Qualifications

As the industry's No. 1 Ranked Sewer/Wastewater Treatment firm (Engineering News-Record, 2020), Jacobs has worked with municipal, national, and industrial clients worldwide for over 71 years to provide comprehensive high-quality engineering services for wastewater treatment facilities, collection systems, and pumping stations.

Jacobs is a leader in wastewater services in the United States and abroad. We understand the issues the Authority faces with the ever-increasing demands to provide quality service to its communities, renewal of aging infrastructure, and environmental and regulatory requirements. With our unparalleled expertise in wastewater treatment and infrastructure engineering, we progress projects from concept to construction, from initial objective to full operation.

### Jacobs Has a Proven Record of Delivering Quality Service to the Authority

The Jacobs team has provided engineering services for the Authority for more than 30 years and brings a wealth of knowledge about the Authority's system as well as broad world-class treatment, conveyance system, and construction experience. As part of the General Engineering Services Contract, which Jacobs had the honor to work on for 20 years, we were responsible for assisting the Authority in achieving and maintaining permit compliance at its two WWTPs, acting as the Authority's agent with the NJDEP, EPA, and other agencies, and assisting the Authority in securing financial bonds. Jacobs has regularly assisted the Authority in securing and maintaining SRF loans for capital improvement projects via the NJEIT using our experience with agency representatives and demonstrated abilities to secure funding. In addition, we have worked closely with the Authority in the development of its capital plan. Jacobs has the background and knowledge required to help the Authority plan for and implement improvements efficiently and successfully.

### Representative Relevant Project Experience

The following are brief descriptions of projects relevant to the Boulevard East Combined Sewer Improvements Project.

North Hudson Sewerage Authority H6/H7 CSO Long Term Control Plan Project Design Phase 1- December 2019. The design of the H6/H7 CSO Long Term Control Plan project is the first element and first phase of the Authority's LTCPs for the Adams Street service area. The comprehensive H6/H7 CSO Long Term Control Plan Project includes new storm sewers, stormwater pretreatment, stormwater storage tank system, stormwater pumping station, and force main to the existing Adams Street Wastewater Treatment Plant outfall on the Hudson River. The stormwater storage tank system and Northwest Resiliency Park are being developed by the North Hudson Sewerage Authority and the City of Hoboken.

The proposed stormwater pretreatment system, stormwater storage tank system, and pumping station will be located on the former Henkel Soap/BASF Brownfield Site, which is a capped contaminated site and subject to an alternate use limitation (AUL) due to previous contamination. The site is approximately 6.1 acres of property located between Adams and Madison Streets, east to west, and

12th to 13th Streets, south to north. Figure 1 below depicts the project site; including the proposed high-level stormwater collection system.

The City has constructed a one (1) million gallon underground stormwater storage tank on the project site. Stormwater flows from the new stormwater collection system will be conveyed to the tank by gravity through two (2) vortex separators adjacent to the tank. The flow from the tank will be conveyed by gravity to the new stormwater pumping station. The pumping station will be designed to discharge a peak flow rate of approximately 30-mgd at full build out, with the initial capacity being designed for 7.5 million gallons per day. The pump station will house five (5) submersible wet pit pumps. The pumps will discharge to a high level 30-inch diameter force main that connects to the existing 48-inch diameter Adams Street Wastewater Treatment plant outfall. The stormwater force main will be a dedicated force main interconnected with the Adams Street WWTP effluent pipe.

The H6/H7 CSO LTCP – Phase 1 design was completed by Jacobs and Mott MacDonald. The Phase 1 construction scope of work includes; all of the project elements located on the NWRP site: vortex separators, pump station wetwell, pump station control building, and underground utilities. The work also includes construction of the stormwater collection system and stormwater force main “stub-outs” into 13<sup>th</sup> Street for ease of connection to the future phases of work.

Adams Street WWTP PURAC Improvements Designs and Services During Construction - Phases I, II and III (2014 - Present) The PURAC Flo-filter process at the North Hudson Sewerage Authority's Adams Street WWTP is a 25-year old secondary and tertiary treatment process consisting of dissolved air flotation (DAF) followed by sand filtration. A number of components reached the end of their useful life and the process has had a number of failures. JACOBS completed a facilities assessment in 2013 and developed a conceptual design of upgrades along with a multi-year capital improvement plan for phased completion of system upgrades. In 2014, JACOBS completed Phase 1 of design upgrades for a new instrumentation and control (I&C) system, which was identified as the priority in design to provide for positive process control of the new mechanical equipment being installed with the upgrades in later phases. In 2015 JACOBS completed Phase 2 of design upgrades for adding clearwell access to improve sand removal and protect new underdrains that are being installed in Phase 3; the design also included float sludge piping and trough spray nozzles. Phase 3 design was completed in 2017 for all remaining mechanical, electrical, I&C and structural replacements and improvements in the PURAC facility. Upgrades for the 10 filter cells include new filter media, underdrains, troughs, air dispersion system, float sludge skimmers and new common systems such as air scour blowers, compressors, sludge pumps, booster pumps for spray systems. To better facility operations, additional I&C was added for optimized valve controls on 86 valves for all mechanical processes, structural concrete treatment to retard chloride degradation, and a structural platform to improve access for valve maintenance. JACOBS developed an innovative design and pre-procurement strategy for key process equipment (DAF/Flo-filter, air scour blowers and influent slide gates) needed at the start of construction to accelerate the construction schedule, which required splitting the construction documents into four contracts. JACOBS participated in close coordination between the Authority and the New Jersey Department of Environmental Protection for meeting low-interest state loan requirements. JACOBS also provided design engineering assistance to the Authority during construction of Phases 1 and 2. Jacobs is presently performing services during construction for Phase 3; work will continue into 2021.



*Adams Street WWTP PURAC Filter Cells*

H5 Wet Weather Pump Station (Design 2014, SDC 2015-2016). Jacobs completed the design of the H5 Wet Weather Pumping Station and then provided services during construction. This stormwater management improvement project consisted of the construction of a 40 mgd pump station for the H5 drainage basin to pump excess wet weather flow to the Hudson River during major storm events that coincide with high tide. The project included a below-grade pump station that intercepts flows from the H5 outfall and pumps the flow back into the existing H5 outfall at the intersection of 11<sup>th</sup> Street and Sinatra Drive North. Additionally, a below-grade electrical vault was constructed to house the electrical and instrumentation and controls equipment that service the pump station. Lastly, an emergency generator was installed should there be power outage when the pump station is online.



*H5 Wet Weather Pumping Station*

H1 Screening and Wet Weather Pump Station Design and Services During Construction (2008 to 2011). Jacobs completed the design work and bidding phase of the project and provided construction oversight. The H1 CSO Screening and Wet Weather Pump Station was placed into successful initial operation in October 2011. The pump station was designed to relieve street flooding in the southwestern portion of Hoboken associated with intense storm events occurring at high tide in the Hudson River. The wet-weather pump station operates during storm events that coincide with high tide, screening and conveying excess combined sewer overflow that would otherwise be trapped in the collection system during these conditions, causing street flooding. JACOBS worked closely with important project stakeholders, such as; New Jersey Transit, Port Authority, and the Hudson County Engineer's Office to coordinate acceptable locations for the CSO screens, pump station and electrical support facilities. JACOBS performed the permitting services for this project to obtain permits for, or from the following: Waterfront Development, Treatment Works Approval, Soil Erosion and Sediment Control, and U.S. Army Corps of Engineers signoff. The design maximizes the use of existing outfalls and easements to convey the combined storm flow to the river. The project was honored with a 2012 ACEC NJ Engineering Excellence Distinguished Award and a National Recognition Award in the 2012 ACEC Engineering Excellence Awards (EEA) competition.



*Completed H1 WWPS Electrical and Controls Building*

#### NHSA WWTP Services During Construction (2007 to 2017)

Our former Parsippany, NJ office; newly relocated to Morristown, has provided Engineering Services for bidding and services during construction for many of the Authority's projects at its WWTPs. Here is a listing of some of the more recent projects in the past twelve years:

- Adams Street WWTP Ultraviolet (UV) Disinfection System Replacement (2009-2012)
- Combined Sewer WWTP and Pump Station Improvements Project (2008 to 2013) - including replacement of three PURAC recycle pumps and isolation valves at the Adams Street WWTP.
- River Road WWTP Emergency Trickling Filter Media Replacement Project (2008 to 2009)
- 2008 WWTP Improvements Project (2007 to 2009)
- Adams Street WWTP Alternative Energy Project (2004 to 2010).
- Adams Street WWTP Mechanical Bar Screen Replacement (2004 to 2006)
- Adams Street Sludge Pump Replacement (2007 to 2008)
- Adams Street WWTP Pump Controls Replacement Project (2004 to 2008)
- Adams Street WWTP Improvements Liquid Treatment Processes Project (2006 to 2011)
- River Road WWTP Mechanical Bar Screen Replacement and Outfall Pier Improvements (2007 to 2009).
- River Road WWTP Improvements to Liquid Treatment Processes Project (2006 to 2011)

## Proposed Project Team Experience

Jacobs delivers local team experienced with providing services to the Authority, supported by industry experts to deliver exceptional services during construction. Jacobs is proposing a project team with a proven track record of success in delivering projects for the Authority – a team that is poised to meet any project challenges that may arise. We are offering a seasoned project team which, because of its experience on similar projects, is able to anticipate issues and potential problems before they occur. Our team members have learned through experience how to solicit the resources they need to solve any given problem, thus protecting the project's cost, schedule, and quality. Our staff has worked on numerous projects for the Authority. We have expert knowledge of the CSO wet weather pumping stations, collection system, WWTPs, and solids/floatables facilities. More importantly, our staff knows the way the Authority plans and executes projects and knows the Authority's expectations of their consultants.

### Management Staff

#### Shivani Patel, PE - Project Director

Shivani will serve as the project director for this contract to ensure that our project team has the necessary resources that will be needed. Shivani is an experienced project director and wastewater engineer with over 22 years of experience that includes program and project management, design (conceptual through final), services during construction, and post-construction services for numerous wastewater treatment facilities. Shivani has been project manager on upgrades and modifications to numerous pump stations and WWTPs. Additionally, Shivani has provided resident engineering services on major construction projects. Shivani's experience with the Authority includes: Program Manager, H6/H7 CSO LTCP Project, H1 and H5 Wet Weather Pump Stations; On-Call Services Coordination; Park Avenue & 11th Street Siphon Assessments and Design; W1234 Solids/Floatables Design; H6/H7 LTCP Project; and, all three phases of the PURAC replacement designs.

#### Christina Lehr, PE - Project Manager

Christina offers strong management and leadership experience and will serve as the project manager for this contract, responsible for regular communications with the NHTA and overseeing the efforts of our project team delivering the work. Christina is a Project Manager with 9 years of experience in the planning, design, and construction of a diverse spectrum of water and wastewater infrastructure improvement projects. Christina has worked on various NHTA projects, including Long Term Control Plan Projects: System Characterization, Alternatives Analysis, and Selection of Alternatives, the H1-H5 Drainage Plan, design of H6/H7 CSO LTCP Project, Phase 1 and 2, and the SDC of the H6/H7 CSO LTCP Project, Phase 1

#### Dave Missig - Resident Engineer

Dave will serve as the resident engineer for this contract and will provide daily inspection tasks to ensure work is in conformance with the contract documents. He has over 20 years of experience in a wide variety of large-scale construction projects locally with his present experience as the Resident Engineer for the NHTA's H1 Wet Weather Pump Station and the H5 Wet Weather Pump Station. Other recent project experience includes resident engineer work for water and wastewater projects; major projects include NYC DEP CAT/DEL UV Project and Port Richmond Disinfection Projects, Middlesex Water Company Ozone Upgrade Project, Stamford Solids Dryer Facility Project and Upgrade and Expansion Project, and New Jersey American Water ASR Facility and Pipeline Project.

### Special Inspections

#### ANS Consultants —Special Inspections

ANS Consultants, Inc. (ANS) is a full-service Engineering Services and Construction Materials Testing Laboratory located in South Plainfield, NJ. ANS has a full-time staff of 60 employees, consisting of Professional Engineers, Senior Engineers, Project Managers and Technicians. ANS Consultants provides Construction Material Testing

Services such as concrete, asphalt, and soil testing as well as specialized Engineering Services in NJ, NY, PA, DE, MD, VA, CT and MA. Relevant ANS testing and inspection services include the following:

- Special Inspections of: Concrete placement, reinforcing steel, anchor bolts, and structural steel
- Full time CAWI and CWI welding inspectors
- Certified to perform Ultrasonic testing of welds, magnetic particle testing or liquid dye penetrant testing either on the job or in the laboratory
- Concrete coring and soil sampling inside the building, below floor slab
- Asbestos testing, lead base paint sampling and testing, waste classification of soil samples for TPHC, TCL/TAL
- Concrete Cylinder testing and reporting.