

**RESOLUTION DIRECTING WORK TO ENTECH ENGINEERING FOR THE
GREEN INFRASTRUCTURE- CONTRACT 3 PROJECT**

MOTIONED BY: Assadourian

SECONDED BY: Velazquez

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, Entech Engineering has been selected under resolution 22-127 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, Entech Engineering has submitted a proposal (Exhibit "A") to provide Engineering Services During Construction for the Green Infrastructure - Contract 3 Project; and

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

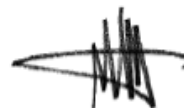
NOW THEREFORE, BE IT RESOLVED that the Authority, as recommended by the Facilities Review Board, directs Entech Engineering to provide professional engineering services during construction for the Construction for the Green Infrastructure - Contract 3 Project not to exceed \$63,750.00.

DATED: FEBRUARY 16, 2023

RECORD OF COMMISSIONERS' VOTE

	YES	NO	ABSENT
Commissioner Kappock	x		
Commissioner Marotta	x		
Commissioner Gardiner	x		
Commissioner Friedrich	x		
Commissioner Guzman			x
Commissioner Velazquez	x		
Commissioner Barrera	x		
Commissioner Zucconi	x		
Commissioner Assadourian	x		

**THIS IS TO CERTIFY THAT THIS RESOLUTION WAS DULY ADOPTED BY THE
NORTH HUDSON BOARD OF COMMISSIONERS ON FEBRUARY 16, 2023.**



SECRETARY

February 8, 2023

Frederic J. Pocci, Email: fpocci@nhudsonsa.com
North Hudson Sewerage
Authority 1600 Adams Street
Hoboken, N.J. 07030

**RE: North Hudson Sewerage Authority - Engineering Services during Construction - Green Infrastructure
Project Contract 3 - County of Hudson – State of New Jersey**

Dear Mr. Pocci:

EnTech Engineering of New Jersey, PA (EnTech) is excited to submit this proposal to provide Engineering Services during Construction for Green Infrastructure Project Contract 3.

EnTech has thoroughly reviewed the RFP and understands the goals and objectives necessary for the excellent and timely completion of this project. The specific details of our understanding and approach are described as part of this proposal.

The Engineers Construction Cost Estimate for this project is \$500,000.00 and the anticipated construction duration of the project is 40 calendar days. The project is being funded by a Federal 319H Grant. Field construction work is anticipated to take 45 days.

This proposal shall remain valid for ninety (90) days after the submission date.

About the EnTech Team

EnTech holds term engineering agreements with several public agencies and understands the requirements for successfully executing task orders under this annual engineering services contract. We offer a deep bench of engineers and inspectors with experience in combined sewer systems, stormwater and watermain, environmental, civil, geotechnical and traffic control services focused on ensuring that local roadways and infrastructure are accessible, safe, and optimized for the public agencies and the communities we serve.

Our Commitment to the North Hudson Sewerage Authority

We are committed to providing the North Hudson Sewerage Authority (NHSA) with the experienced and qualified personnel required for this contract. We have extensive relevant experience, a deep understanding of your operations and procedures, a uniquely qualified team of professionals, and a strong commitment to provide superior services.

EnTech's office is approximately 36 minutes/24 miles away from the North Hudson Sewerage Authority's Hoboken office, allowing us to be especially responsive and able to tend to the needs of this contract in an expedited manner.



Scope of Work/Approach to Work

Project Understanding

EnTech is pleased to submit this proposal to the North Hudson Sewerage Authority to provide supervision and management on all construction activities associated with this Green Infrastructure project. EnTech will provide supervision on all stages of the work from pre-construction kickoff meeting, construction, quality control & maintenance, and to closeout. Our team has conducted a preliminary review study of the contract drawings, specifications to establish the complexities of this project. The scope of the work for this NHSA project, as indicated in the RFP and construction drawings includes:

- 1- Construction of four stormwater planter between 46th and 47th Streets on Park Avenue, including installation of all subsurface GI components; concrete flow pads; energy dissipaters and trench drain grates at each asset; 8" HDPE perforated pipe connecting to existing inlet; replacing disturbed concrete curb and sidewalk; and planting.
- 2- Construction of six stormwater planter between 52nd and 53rd street on Park Avenue, including installation of all subsurface GI components; concrete flow pads; energy dissipaters and trench drain grates at each asset; 8" HDPE pipes connecting to existing inlet; replacing disturbed concrete curb and sidewalk; construction of two new sidewalk extensions; and planting.

EnTech has extensive experience in the design and construction of Green Infrastructure, whether it is Right of Way or On-site. Through this experience, we understand the complications of this work and are equipped with means and methods to prevent any delays due to these complications.

We have assembled a strong team of highly qualified and experienced personnel top-rated on NYCDDC projects, which is similar to this project. EnTech is ready and prepared to successfully provide all the services necessary and required for the inspection, management, and coordination of the project from commencement through substantial completion, final acceptance, and project closeout.

Pre-construction Phase

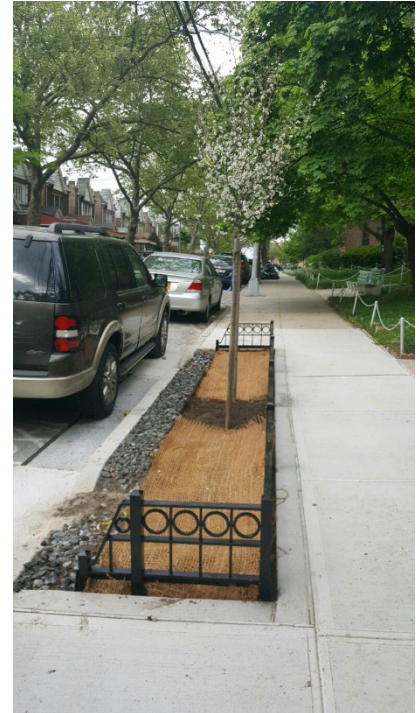
Upon contract assignment, the first responsibilities of our CM team will be to become fully familiar with the drawings and specifications of the project and develop an in-depth understanding of the project's goals and objectives, in order to ensure compliance during construction. A comprehensive set of construction contract documents will be assembled and confirmed for use by the CM Team. Our team will perform constructability reviews, operational analyses, value engineering reviews, and design reviews geared to minimize costs and

ultimately develop construction documents that prevent adverse impacts on NHTSA.

EnTech’s review will include a visual survey of existing conditions and locations of items identified on contract drawings to for a complete understanding of the proposed work. We understand that subsurface investigation and timely utility coordination in regards with construction of Green Infrastructure can prevent major delays in the construction phase. Therefore, we will proactively investigate any potential interference at the location of construction.

Project administration and field inspection procedures will be developed, including:

- Taking pre-construction photos,
- Creating the RE’s daily log and daily report forms that are acceptable to the NHTSA,
- Developing correspondence and communication protocols,
- Developing contractor payment review and approval timelines and procedures,
- Verifying subcontractor and vendor approval procedures,
- Creating non-conformance reports and logs, and
- Establishing submittal log and approval procedures
- Review and approval of Contractors submittals including safety, quality, staffing, closeout plan and shop drawings
- Review and approval of agreed change orders including preparing independent estimates of the proposed change order work
- Monitoring budget utilization versus work progress
- Reviewing contractor’s monthly invoices
- Preparing monthly and needed progress reports
- Assisting with the closeouts and obtaining all required warranties, O&M Manuals; as applicable.



A pre-construction meeting will be scheduled with all relevant project stakeholders, including NHTSA, contractor, CM team and other involved parties, to establish communication and to identify and mitigate any stakeholder issues affecting construction activities.

EnTech will assure that all required construction permits are obtained from Weehawken and West New York and street closures and maintenance of traffic control and pedestrian flow is coordinated. We will also review all permits obtained during the design/ preconstruction phase. Based on our review, we will create a log to track permit conditions, compliance requirements, and renewal times.

Construction Phase

During the construction phase, EnTech team will manage the construction project, maintaining project budgets and schedules; ensure proper record-keeping; oversee project safety; review submittals, RFIs, payment applications and provide inspection services.

EnTech’s inspection team will monitor and supervise the Contractor’s work, equipment, and materials used for construction to verify conformance to the construction plans and specifications, NHTSA and other applicable agency requirements. Our team will take ample photographs, time logs, and field notes to document any issue and



provide a field order to direct the contractor and modify the work if needed. Our team will also inform the Contractor about requirements for certificates from manufacturers and/ or testing laboratories that must be submitted to meet the quality assurance requirements of the specifications.

EnTech has taken into consideration the intricacies of the project being a joint bid project, where the utility operator is performing capital work under the construction contract. Extensive coordination among all parties is imperative to the project's success. Should utility relocations or modifications be required for this work, we will review and approve the required work and will make sure that all work is planned and performed prior to the start of contractual work.

EnTech will make sure that all **environmental protection measures** including soil erosion and sediment control and SPPP is in place during all phases of the work. We will supervise and record the results of all analytical laboratory testing (e.g. excavated soil), functional and performance tests as per contract requirements, and make sure the required testing is identified and performed in a timely manner.



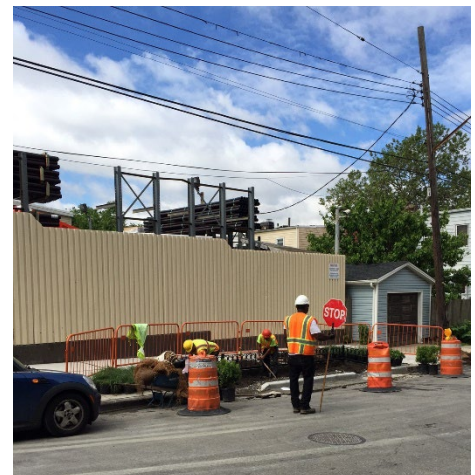
Our team will review and record all the RFIs, payment applications, and any correspondences before sending them to the client, and track all submittals, and RFIs by using appropriate software and platform such as 'Procore' to make sure all the required submittals/shop drawings are approved before performing any activity and RFI will be answered in a timely manner.

We will coordinate with **Mott MacDonald** for any design changes that are required and we will have them included in the agreement. Progress meetings will be held, at least bi-weekly, to maintain communication between the owner, engineer and contractor. This is important due to the short duration of this project. Bi-weekly meetings will be scheduled, with the contractor, to address any standing issues and to review the progress of the work. EnTech will provide daily reports of activities on site, and monthly reports with updates on project progress, critical issues, submittals, community outreach, and payment status. The monthly reports will be prepared according to Authority's format outlining and will include financial summary of the Contractor and Engineer's contract. We will also participate in Authority's Facility Service Committee meetings to discuss any issues, change orders and Authority concerns.

Health and Safety

EnTech strongly believes that a safe construction project is essential to ensure high quality service. We will review and monitor the safety programs submitted by the construction contractor as well as all the required safety standards, make appropriate recommendations to improve those programs as necessary, and will ensure that the contractor follows all the required safety protocols and precautions.

A considerable volume of vehicular traffic is anticipated during rush hours along Park Avenue. Additionally, school drop off and pick up mandate a continuous focus on MPT (should work be required during school year). Our Staff will ensure that the traffic stipulation is enforced





with the proper MPT. The REI team will inspect MPT compliance daily and correct any deviations, if any discovered.

Community Outreach

When it comes to work on right of way, we understand the importance of establishing appropriate communication channels with the community. Our community liaison team will be involved with the project from its commencement to ensure that the community is informed about the work in advance and to become a fixture for the project and the “GO TO” person for the community when they need assistance with project complexities and complaints.

This is specifically of high importance for the location close to the school, north of 52nd Street. We will provide information to the school about the work and provide ample time for them to express any concerns or question prior to the work. We will respond to public complaints, determine solutions, and prepare letters in a timely manner in accordance with the Authority's policies and procedures.

Schedule Control

At EnTech, we tightly link our approaches to quality, cost, and schedule tracking and control. Prior to construction starting in the field, our project control team will develop a rough baseline schedule by using advanced project schedule software. Our CM team will review the construction schedule submitted by the contractor, in conjunction with the NHTA, to ensure that sequence of work complies with all applicable contract requirements, contract milestones, daily and/or seasonal work hour restrictions and any applicable permit conditions.

It is anticipated that the schedule will be updated on a regular basis, and EnTech will review and analyze the project's progress in relation to the approved schedule. We will closely observe items on the critical path, which may delay the project, such as change orders and overruns, for long-lead time items. Any potential and actual delays will be identified and reported to NHTA immediately. EnTech will ensure that the Contractor implements corrective measures to mitigate any actual and/or potential delays.

Maintaining Budget

In conjunction with schedule control, it is critical during our project engagements to control the costs of the work, whether planned contract work or change order work due to owner-requested changes, unforeseen conditions, or deficiencies in the contract documents. Our team will work closely with the contractor to identify potential change orders and unanticipated conditions and any issues that may affect the cost of the project.

By proactively identifying issues and developing a plan to address and mitigate the issues prior to the item becoming a problem, the cost impact on the project will be decreased to the greatest extent possible. The early

identification and negotiation of work, if any, not anticipated in the original design and contract documents will be important to keep additional costs to a minimum.

Our team will maintain daily inspection reports to provide an accurate and up-to-date account of all contract work performed by each Contractor. The RE's report will also document all labor, equipment and materials for disputed work performed by the Contractor. Our team will maintain all necessary field documentation so that we can review, process, and approve Contractor invoices expeditiously, verify the performance of change order work and verify and/or disallow any and all work performed by the Contractor on disputed work.

Post Construction and Closeout

Upon substantial completion of this work, EnTech will make a final review of the construction to determine that all work has been completed in agreement with the intent of the contract documents. We will then recommend the acceptability of the work to the authority. EnTech will coordinate with the contractor, NHSA, NJDEP and other appropriate regulatory agencies to inspect the work and create the punch list.

We understand that there might be functional testing required for at the time of final inspection of Green Infrastructure and we are prepared to help with that. Based on designer and DEP recommendations, and experience from previous ROW GI projects, EnTech will prepare a project-specific Operation and Maintenance manual including overall process operation description, ancillary system operational descriptions, and maintenance requirements.

Our REI team will initiate the work on close out folder during the construction phase. The closeout folder is part of the process that starts during the Pre-Construction Phase planning efforts. The closeout folder encompasses the substantial completion memo, substantial completion letter, final contract cost analysis, deductions due, certificate of completion, complete copies of registered change orders and overruns, contractor evaluation, final acceptance letter, final payment package, the Post-Construction Report, and all other contract documents. We will perform the required negotiations, prepare closeout documents, process the final payment requisition, ensure all permits are closed out, deliver the complete record of the project reports and testing results and work with all parties to complete the project to NHSA's satisfaction.

Cost Estimate (Green Infrastructure | Work Order Duration 45 Days)

Phase	Task Description	Proposed Hours	Proposed Cost
Construction Phase Services			
Task 1	Contract Execution and Pre-Construction Meeting	35.0	\$ 4,562.00
Task 2	Resident Engineering/Inspection	190.0	\$ 24,766.00
Task 3	Authority's Agent during Construction	70.0	\$ 9,124.00
Task 4	Construction Administration	90.0	\$ 12,798.00
	Other Direct Costs	N/A	\$ 2,500.00
Design Engineer Professional Services			
	Design Engineer Services		\$ 10,000.00
TOTAL PROPOSED COST			\$ 63,750.00

Note 1: Mott MacDonald Engineering Services includes submittal reviews for the specification sections noted in Section 2, Task 4. Services also include responding to RFIs for these same divisions.

Note 2: The fee proposal above is stipulated on providing REI services on a part-time basis due to the limited scope of work and limited project duration.

Detailed Project Schedule

Green Infrastructure		Classic Schedule Layout			02-Feb-23 15:30		
Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start	Finish	Resources
1001	Mobilization & MPT	1	1	0%	01-Mar-23	01-Mar-23	
1002	Excavation and curb removal of Planter 1 & 2	1	1	0%	02-Mar-23	02-Mar-23	
1003	Base compaction and forming Planter 1 & 2	1	1	0%	03-Mar-23	03-Mar-23	
1004	Concrete Pour and Cure Panter 1 & 2	2	2	0%	06-Mar-23	07-Mar-23	
1005	Excavation and curb removal Planter 3 & 4	1	1	0%	08-Mar-23	08-Mar-23	
1006	Base compaction and forming Panter 3 & 4	1	1	0%	09-Mar-23	09-Mar-23	
1007	Concrete Pour and Cure Panter 1 & 2	2	2	0%	10-Mar-23	13-Mar-23	
1008	Trench Drain and overflow placement	1	1	0%	14-Mar-23	14-Mar-23	
1009	Stone and soil placement	1	1	0%	15-Mar-23	15-Mar-23	
1010	Excavation and pipe placement (77 LF)	1	1	0%	16-Mar-23	16-Mar-23	
1011	Excavation and pipe placement (56 LF)	1	1	0%	17-Mar-23	17-Mar-23	
1012	Mobilization & MPT	1	1	0%	20-Mar-23	20-Mar-23	
1013	Excavation and curb removal of Planter 1 & 2	1	1	0%	21-Mar-23	21-Mar-23	
1014	Base compaction and forming Planter 1 & 2	1	1	0%	22-Mar-23	22-Mar-23	
1015	Concrete Pour and Cure Panter 1 & 2	2	2	0%	23-Mar-23	24-Mar-23	
1016	Excavation and curb removal of Planter 3 & 4	1	1	0%	27-Mar-23	27-Mar-23	
1017	Base compaction and forming Planter 3 & 4	1	1	0%	28-Mar-23	28-Mar-23	
1018	Concrete Pour and Cure Panter 3 & 4	2	2	0%	29-Mar-23	30-Mar-23	
1019	Excavation and curb removal of Planter 5 & 6	1	1	0%	31-Mar-23	31-Mar-23	
1020	Base compaction and forming Planter 5 & 6	1	1	0%	03-Apr-23	03-Apr-23	
1021	Concrete Pour and Cure Panter 5 & 6	2	2	0%	04-Apr-23	05-Apr-23	
1022	Excavation and sub preration for sidewalk extension	1	1	0%	06-Apr-23	06-Apr-23	
1023	Concrete pour and cure for sidewalk extensions	3	3	0%	07-Apr-23	11-Apr-23	
1024	Trench Drain and overflow placement Panter 1, 2, 3	1	1	0%	12-Apr-23	12-Apr-23	
1025	Stone and soil placement Panter 1, 2, 3, 4, 5 & 6	2	2	0%	13-Apr-23	14-Apr-23	
1026	Excavation and pipe placement (121 LF)	1	1	0%	17-Apr-23	17-Apr-23	
1027	Excavation and pipe placement (143 LF)	1	1	0%	18-Apr-23	18-Apr-23	
1028	Excavation and pipe placement (130 LF)	1	1	0%	19-Apr-23	19-Apr-23	
1029	Misc Sidewalk and Curb Restoration	2	2	0%	20-Apr-23	21-Apr-23	
1030	Tree Guard Instalation (10 Planters)	3	3	0%	24-Apr-23	26-Apr-23	
1031	Planting (10 Panters)	3	3	0%	27-Apr-23	01-May-23	
1032	Demobilization	1	1	0%	02-May-23	02-May-23	

Actual Work
 Critical Remaining W...

Remaining Work
 Milestone

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TASK filter: All Activities

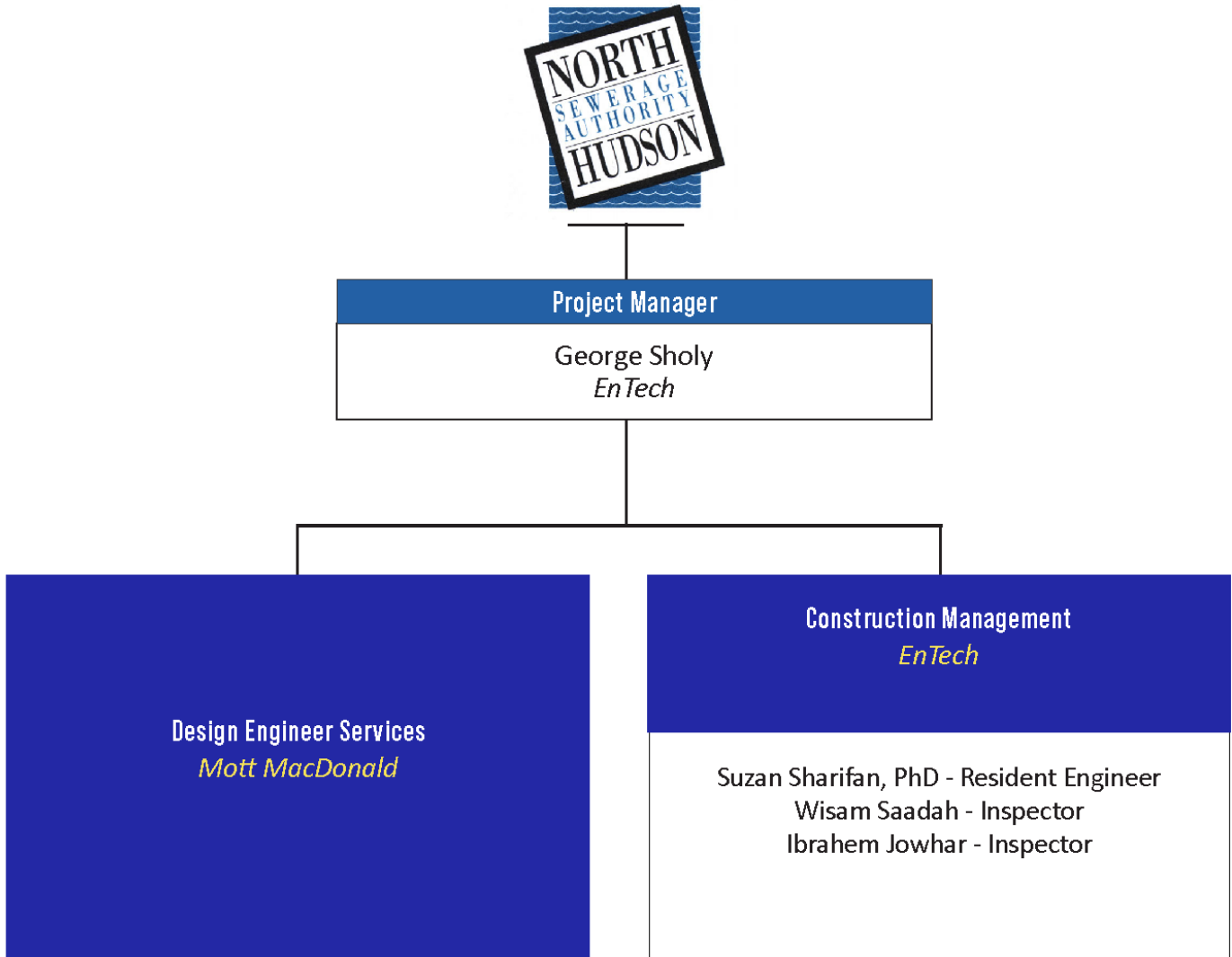
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Detailed Project Schedule (cont'd)

Green Infrastructure			Classic Schedule Layout														02-Feb-23 15:30								
	Budgeted Total Cost	Total Float	February 2023				March 2023				April 2023				May 2023				June 2023				July 2023		
			05	12	19	26	05	12	19	26	02	09	16	23	30	07	14	21	28	04	11	18	25	02	09
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Personnel Assigned to the Project

Organization Chart



Note 1: Additional inspectors will be utilized only if primary inspector is not available due to illness/emergency or planned time off.

George Sholy

Project Manager

Mr. Sholy has 35+ years of experience in the construction industry, specifically working with **on water/wastewater, green infrastructure**, NJDOT, airport, transportation, and infrastructure improvement projects. In addition to his field experience, he has directed all aspects of operations, including: management of a multi-disciplinary team of staff, maintaining excellent relationships with clients, and delivering projects on time and within budget. Mr. Sholy has a considerable portfolio of projects that involved the planning, design, and construction management of large-scale water/wastewater, green infrastructure, highway and transportation projects. His expertise encompasses a wide range of design disciplines, including concept development, transportation planning, land use planning, and alternative analysis. Mr. Sholy is experienced in final design, including horizontal and vertical geometry, traffic control, grading plans, drainage plans, erosion and sedimentation control plans, specifications, quantities, cost estimation, pavement design, and utility relocations. He has also served as liaison between environmental and engineering technical experts and has overseen the preparation of project technical reports and documents along with project plans, specifications, schedules, and budgets. He successfully managed several construction inspection/management projects.

Professional Experience

NYCDEP | Upgrade of the 233rd Street, Conner Street, and 154th Street Pumping Stations | Bronx, NY

Project Manager: Rehabilitation of three New York City Department of Environmental Protection (NYCDEP) wastewater pumping stations to improve their reliability and efficiency. The project includes upgrades to hydraulics, influent structures, structural and architectural systems, mechanical, electrical, and plumbing (MEP) systems, and utilities. Mechanical upgrades include new pumps, piping, and valves; replacement of existing discharge force main to a new discharge location; and HVAC system replacement. George manages the budget, staffing, and coordination between design disciplines for a team responsible for laser scanning and BIM modeling. He provides QC review of deliverables and ensures work is completed according to NYCDEP standards. He creates work plans and manages the time and coordination between projects to ensure timely completion of tasks.

NYCDEP | Ashokan Reservoir Headworks Reconstruction | Ulster County, NY

Project Manager: Rehabilitation of the headworks at Ashokan Reservoir, three masonry buildings containing valves, gates, and tunnels that convey water from the reservoir into the Catskill Aqueduct. Improvements include structural rehabilitation and replacement of gates and valves with modern equipment. The project is part of a \$750 million New York City Department of Environmental Protection (NYCDEP) program to upgrade infrastructure at the reservoir, which supplies approximately 40% of New York City's drinking water. George is overseeing a team providing VDC services including development of an existing conditions BIM model, BIM updates during design, and visualizations. He leads client coordination and resource allocation.



Years of Experience

35+

Education

BS, Civil and Construction Engineering Technology; Temple University (1986)

BS, Business Management; Franklin Pierce University (1984)

Training

- OSHA 10-Hour Construction Safety and Health
- OSHA Confined Space Entry
- FHWA Value Engineering Training
- FHWA 5-Day Context Sensitive Design

Professional Affiliations

- American Society of Highway Engineers (ASHE)
- ASHE Past Board Member

NYCDEP | Tallman Island WRRF Headworks Improvements | Queens, NY

Project Manager: Assorted improvements to the headworks at Tallman Island Wastewater Resource and Recovery Facility (WRRF) for the New York City Department of Environmental Protection (NYCDEP). Improvements at the 60-mgd facility include replacement of sluice gates, mechanical screens, velocity gates, and associated controls, as well as various structural, mechanical, and systems upgrades. George is managing a team providing civil design, laser scanning, BIM modeling, and demolition and site removal plans. He monitors the project schedule and budget, coordinates staff resources, and leads coordination with the client.

NYCDEP | Oakwood Beach WRRF Power Distribution Improvements | Staten Island, NY

Project Manager: Replacement of obsolete electrical distribution equipment at the Oakwood Beach Wastewater Resource Recovery Facility (WRRF), for the New York City Department of Environmental Protection (NYCDEP), to extend the plant's useful life. The scope of work includes the demolition, relocation, and replacement of motor control centers (MCCs), an indoor switchgear, and two transformers. George is overseeing the provision of civil design and VDC services throughout the design and construction phases. He leads client coordination, oversees completion of deliverables, and monitors schedule, budget, and QA/QC processes.

NYCDEP | Upgrade of Mersereau Avenue, Mayflower Avenue, and Richmond Avenue Pumping Stations | Staten Island, NY

Project Manager: Comprehensive renovation of three New York City Department of Environmental Protection (NYCDEP) wastewater pumping stations to maintain efficient and low-maintenance operations. The upgrade design addresses system hydraulics, influent structures, structural and architectural considerations, mechanical systems, electrical equipment, security, force mains, utility service, and telemetry. George is overseeing a team providing virtual design and construction (VDC) services including laser scanning, BIM development, and clash detection.

NYCDEP | Upgrade of Paerdegat, Avenue U, and 19th Street Pumping Stations | Brooklyn, NY

Project Manager: Repairs and upgrades to three New York City Department of Environmental Protection (NYCDEP) wastewater pumping stations, to bring them to a state of good repair and allow reliable, efficient, low-maintenance service. George oversaw a team responsible for conducting laser scanning of the existing stations and preparing 3D and 4D BIM models. He also managed the preparation of drawings for facility plan and basis of design reports, covering alternative design scenarios.

PANYNJ | JFK New Terminal 6 Design-Build | Queens, NY

Project Manager: A \$3.9 billion, 1.2 million-sf terminal at JFK International Airport, part of a major redevelopment by the Port Authority of New York and New Jersey (PANYNJ) to accommodate dramatic expected passenger growth. Terminal 6 will feature 9 wide-body aircraft gates and adjoin Terminal 5. It replaces the former Terminal 6 and the existing Terminal 7. Other project components include a new ground transportation center and redeveloped roadways. George is overseeing a team providing civil design services as part of the design-build team, including soil erosion and sediment control plans, stormwater pollution prevention plan (SPPP), and pavement design for landside roadways. He additionally manages staff augmentation services with the design-build contractor.

NYCDEP | Power Distribution Improvements at Bowery Bay WRRF | Queens, NY

Project Manager: Simplification and conversion of the remaining 208V distribution systems at Bowery Bay Wastewater Resource Recovery Facility (WRRF) to 480V. The scope of the New York City Department of Environmental Protection (NYCDEP) project involved replacing the 208V electrical equipment, associated wiring, and motors with 480V equipment, as well as the construction of a new digester electrical building. George is managing a team providing geotechnical exploration and analysis, as well as project controls including cost estimation and master scheduling services, including reviewing contractor's schedule and processing delay claims. He oversees the allocation of staff resources, leads coordination with the client, and oversees the completion of deliverables in accordance with client expectations.

Suzan Sharifan, PE, PhD, ENV SP

Resident Engineer

Suzan Sharifan is an engineer and project manager with 13 years of experience, including 6 years providing construction management services for green infrastructure, water and wastewater infrastructure, bridges, and other projects in the New York metropolitan area. She manages projects comprising varied tasks across numerous sites; administers design and construction contracts on behalf of project owners; and oversees the work of designers, construction managers, and contractors. Suzan reviews shop drawings and submittals, processes change orders and payments, prepares contractor and consultant invoices, and monitors project schedules and budgets. She has excellent communication and writing skills, which she employs to coordinate between clients, contractors, partner agencies, and other project stakeholders. Suzan has a deep technical background in environmental and civil engineering, including a PhD from Imperial College London.

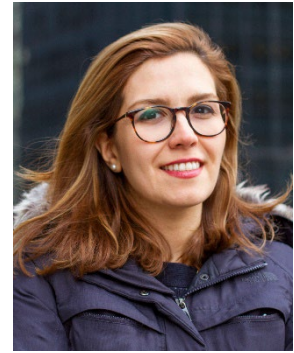
Professional Experience

NYCEDC | Green Infrastructure Program Owner's Representative | Citywide, NY

Project Manager: A \$ 380 M program consisting of thousands of green infrastructure installations, to collect stormwater, reduce sewer overflows, improve water quality, and increase resilience to flooding. Improvements range from small bioswales and infiltration basins along right-of-way (ROW) to larger installations at city-owned sites such as parks, parking lots, and housing developments. The New York City Department of Environmental Protection (NYCDEP) program, which is managed by the New York City Economic Development Corporation (NYCEDC), spans five watershed areas across the city. Suzan leads the owner's representative team and manages 21 design and construction management contracts on behalf of the NYCEDC. She monitors project schedules and budgets; facilitates communication between the client, designers, and construction managers; and coordinates with partner agencies. She reviews and processes change orders, RFIs, submittals, payments, and progress reports, and she performs regular site visits to review project progress and to verify work conformance with drawings, specifications, and quality standards. Suzan oversees project closeout and permitting, enabling completion of a high volume of projects.

NYCDDC | REI for Green Infrastructure in Newtown Creek CSO Area | Queens, NY

Office Engineer: A \$3.5 million project to construct more than 150 bioswales to capture stormwater along streets in the Newtown Creek combined sewer overflow (CSO) tributary area, for the New York City Department of Design and Construction (NYCDDC). Construction included removal of existing sidewalks and curbs; excavation of the material underneath to a depth of 5 feet; backfilling with a layer of broken stone wrapped in geotextile fabric and engineered soil; new concrete sidewalks, curbs, and inlets; and tree planting. Suzan audited and processed the contractor's partial and substantial payment submissions to ensure that documentation complied with contract requirements. She prepared field cards and as-built drawings, conducted field observations to verify accuracy of reports,



Years of Experience

13

Education

PhD, Environmental Engineering;
Imperial College London, UK
(2014)

MS, Environmental Engineering;
Sharif University of Technology,
Iran

BS, Civil Engineering, Ferdowsi
University of Mashhad, Iran

Licenses and Certifications

- Professional Engineer:
Delaware
- Envision Sustainability
Professional (ENV SP)
- Concrete Field Testing
Technician Grade I (ACI)

Training

- OSHA 10-Hour Construction
Safety and Health
- OSHA 40-Hour HAZWOPER
- OSHA Confined Space Entry
- NYCDDC Water Main Training
- RCRA 8-Hour Hazardous Waste
Management Training

and prepared change orders and RFIs. She wrote monthly progress reports, coordinated with design team for approval of materials, and coordinated progress meetings.

NYCDDC | REI for Right-of-Way Bioswales in Multiple Tributary Areas | Queens, NY

Office Engineer: Approximately 400 bioswales to manage stormwater runoff along ROW in several combined sewer overflow (CSO) tributary areas across Queens. The \$7.4 million NYCDDC project included removal of existing sidewalks and curbs; excavation of the material to a depth of 5 feet; backfilling with geotextile-wrapped stone and engineered soil; pouring new concrete sidewalks, curbs and inlets; and planting. Suzan audited and processed the contractor's partial and substantial payment submissions and ensured that supporting documentation complied with the contract documents. She created field cards and as-builts drawings, conducted field observations to verify accuracy of reports, and prepared change orders and RFIs. She prepared progress reports, reviewed approval status of submittals, and coordinated with design team for approval of materials.

TBTA | Henry Hudson Bridge Toll Plazas and Southbound Approach Reconstruction CA/CI | Manhattan and Bronx, NY

Project Engineer: \$90 million reconstruction of toll plazas, approach roadways, and support facilities at the Henry Hudson Bridge, a two-level spandrel arch bridge that carries the Henry Hudson Parkway between Manhattan and the Bronx over Spuyten Duyvil Creek. This Triborough Bridge and Tunnel Authority (TBTA) project included removal of toll islands and reconstruction of toll plazas on both upper and lower levels, reconstruction of the southbound approach roadway, deck replacement, relocation of support columns, utility and lighting upgrades, and reconstruction of a maintenance garage. Suzan responded to RFIs, developed cost estimates, and processed multimillion-dollar change orders. She reviewed contractor payrolls, invoices, and submittals, which she verified against time and material reports. To prepare RFI responses she performed research and site visits, and compiled resulting information into comprehensive reports. She coordinated with the contractor, designer, and client.

NYCDDC | Water Main and Sewer Upgrades along Cypress Avenue REI | Queens, NY

Office Engineer: Replacement of trunk and distribution water mains and upgrade of combined storm and sanitary sewers along 0.3 miles of Cypress Avenue, a residential and commercial area in western Queens. The \$42 million New York City Department of Design and Construction (NYCDDC) project was necessary to alleviate persistent flooding in the area, increase fire protection capabilities, and improve water quality by replacing old unlined cast iron water mains. Suzan coordinated construction activities with contractor, city agencies, and other project stakeholders. She reviewed inspectors' reports, checked and recorded daily quantities, coordinated with the New York City Department of Environmental Protection (NYCDEP) for water shutdowns, prepared contractor partial payments and change orders, performed site visits, and prepared field cards and tap cards.

TBTA | Henry Hudson Bridge Painting and Structural Rehabilitation CA/CI | Manhattan and Bronx, NY

Environmental Project Engineer: Structural repairs and painting of the lower roadway, upper roadway, and steel arch of the Henry Hudson Bridge, which carries the Henry Hudson Parkway between Upper Manhattan and the Bronx over Spuyten Duyvil Creek. The \$43 million Triborough Bridge and Tunnel Authority (TBTA) project included paint removal and associated containment measures, as well as repairs to on-grade concrete and asphalt, concrete deck slabs, and urgent steel repairs. Work was accomplished through the installation of temporary platforms under the upper roadway and under the arch. Suzan supported environmental components of the project. She responded to RFIs, developed cost estimates, and coordinated scheduling and the processing of change orders. She reviewed contractor payrolls, invoices, and submittals, which she verified against the time and material reports.

NYCDDC | Pershing Square East Plaza Reconstruction | New York, NY

Project Engineer: Design of a permanent pedestrian plaza along the eastern portion of Park Avenue between East 41st and East 42nd Street, outside the main entrance to Grand Central Terminal, to enhance pedestrian circulation around the historic train station and its underground subway station. The New York City Department of Design and Construction (NYCDDC) project includes streetscaping, planting, lighting, seating, and improvements to underlying infrastructure including water main, sewer, and utilities. Suzan performed historical research into previous transit lines in the area and incorporated her findings into a comprehensive report.

Wisam Saadah

Civil Engineer/Construction Inspector

Wisam Saadah has 6 years of experience providing resident engineering inspection (REI) services for water main, sewer, roadway, sidewalk, pedestrian ramp, and streetscape projects in the New York metropolitan area. He monitors contractor work for quality, compliance with contract documents, and adherence to safety regulations, and he supervises site activity including the implementation of maintenance and protection of traffic (MPT) plans. Wisam has extensive experience with projects for the New York City Department of Design and Construction (NYCDDC), and he is well versed in the codes and standards governing construction in the New York region. His background also includes CAD drafting and clash detection for civil and structural tasks.

Professional Experience

NYCDDC | 70th Street Combined Sewer Replacement REI | Queens, NY

Construction Inspector: \$102 million installation of 96" combined sewer along 0.4 miles of 70th Street in the Middle Village area, to relieve sewer backups and street flooding. The sensitive installation involves microtunneling, with shafts at each intersection and multiple support of excavation (SOE) systems such as soldier piles and liner plates. The NYCDDC project also includes replacement of existing 96" sewer with 12' x 8' box culvert in a tightly constricted space under a Long Island Rail Road (LIRR) overpass; distribution water main replacement; and new and modified catch basins and chambers. Wisam is inspecting construction for conformance to contract drawings and specifications, shop drawings, and safety protocols. He compiles daily inspection reports, prepares submittals, and reviews contractor payment packages to ensure accurate compensation. He coordinates among the contractor and multiple agencies including the NYCDDC, NYCDOT, LIRR, and utilities, including coordination for extensive soil monitoring required for microtunneling. He created a custom log to track SOE elements, which proved instrumental in determining that additional support was required and subsequent design modifications to the SOE system.

NYCDDC | Baruch College Pedestrian Plaza REI | New York, NY

Construction Inspector: Creation of the one-block Clivner-Field Plaza in Midtown Manhattan to provide open space for CUNY's Baruch College and the surrounding community, and to enhance the integrated, communal feeling of the school's campus. The \$5.9 million New York City Department of Design and Construction (NYCDDC) project included water main replacement, street lighting, traffic signal work, landscaping, and construction of various seating areas, including seat walls, monumental steps, and benches. Wisam inspected work on-site for adherence to contract drawings, specifications, and safety regulations. He conducted extensive coordination and communication for the highly visible project among the NYCDDC, NYCDOT, CUNY, college administration, and contractor, and he implemented staging and phasing measures to minimize disruption to students and pedestrians. His other responsibilities included preparing daily inspection reports, drafting project submittals, and reviewing payment packages.



Years of Experience

6

Education

BS, Civil Engineering; Temple University (2015)

Licenses and Certifications

- Concrete Field Testing Technician Grade I; ACI

Training

- OSHA 10-Hour Construction Safety and Health
- OSHA Confined Space Entry
- NYCDDC Water Main Training

NYCDDC | Complex Pedestrian Ramps Reconstruction REI | New York, NY

Construction Inspector: An \$8.4 million initiative to reconstruct more than 30 complex pedestrian ramps in Manhattan, which were adjacent to transit, historic, or landmark facilities or which required modifications due to adjacent catch basins and sewers. The New York City Department of Design and Construction (NYCDDC) project included the replacement of catch basins, chute connections, water main, curbs, sidewalks, traffic signals, and street lighting, as well as utility relocation. Wisam oversaw contractor work on-site for compliance with construction drawings and specifications, including installation of transition manholes, catch basins, and catch basin chutes for storm and combined sewers. He monitored the site for safety, including enforcing use of personal protective equipment (PPE); coordinated permitting; recorded material quantities and calculated payments; and prepared construction cards. He coordinated with Con Edison, the MTA, and inspection teams to arrange utility relocation.

NYCDDC | Reconstruction of Step Street on West 229th Street REI | Bronx, NY

Construction Inspector: \$6.6 million reconstruction of a deteriorated pedestrian step street connecting Heath Avenue and Kingsbridge Terrace in the hilly western Bronx. The New York City Department of Design and Construction (NYCDDC) project replaced the 230-foot-long stairway with new granite steps and nine landings, built to meet modern safety and construction standards. Work included new retaining walls, railings, benches, planters, and drainage, as well as relocation of water main and sewers. Wisam prepared and updated the construction schedule, processed submittals and RFIs, managed work orders, maintained as-built drawings, and documented project progress.

NYCDDC | Hurricane Sandy Roadway Resurfacing Phase II REI | Citywide, NY

Construction Inspector: \$10 million resurfacing and repair of roadways damaged by Hurricane Sandy, as well as limited installation of curbs and sidewalks. Locations spanned the five boroughs, including numerous sites in areas such as the Rockaway Peninsula and the Staten Island shore, which suffered extensive damage from the storm surge. Wisam provided construction inspection services during milling, paving, curb installation, and pedestrian ramp installation. His duties included coordinating construction activities and ensuring that maintenance and protection of traffic (MPT) was conducted correctly and that construction did not adversely impact the surrounding area. He monitored site safety, documented work progress, and prepared daily reports.

TBTA | Henry Hudson Bridge Toll Plazas and Southbound Approach Reconstruction | New York, NY

CAD Designer: \$87 million replacement and rehabilitation of the upper level toll plaza and supporting deck and structure of the Henry Hudson Bridge, a two-level spandrel arch bridge that carries the Henry Hudson Parkway between Manhattan and the Bronx over Spuyten Duyvil Creek. Work included removal of toll islands and reconstruction of toll plazas on both levels, reconstruction of the southbound approach roadway, deck replacement, relocation of support columns, utility and lighting upgrades, and reconstruction of a maintenance garage. Wisam drafted civil designs using AutoCAD and Microstation for structural elements of the toll plaza, such as supporting columns, footings, and tollbooths. He reviewed drawings created by other design team members for accuracy and consistency with specifications.

Ibrahem Jowhar

Civil Engineer/Construction Inspector

Mr. Jowhar is an engineer and construction inspector with 13 years of experience centering on water main and sewer projects in the New York metropolitan area, in addition to industrial, residential, and commercial projects. He monitors water main and sewer installations for conformance to contract specifications and safety regulations, reviews and interprets contract documents, implements quality control measures, reports on construction progress, and coordinates between clients, design teams, and contractors. He has also provided structural design services and is familiar with design software tools.

Professional Experience

NYCDDC | Water Main and Sewer Upgrades along Cypress Avenue REI | Queens, NY

Construction Inspector: Replacement of trunk and distribution water mains and upgrade of combined storm and sanitary sewers along 0.3 miles of Cypress Avenue, a residential and commercial area in western Queens. The \$42 million New York City Department of Design and Construction (NYCDDC) project was necessary to alleviate persistent flooding in the area, increase fire protection capabilities, and improve water quality by replacing old unlined cast iron water mains. Mr. Jowhar is responsible for monitoring daily work on-site in accordance with NYCDDC guidelines, overseeing compliance with contract drawings and specifications, and inspecting contractor work for quality. He prepares daily inspection reports, including quantities and as-built drawings.

NYCDDC | Subaqueous Water Main Extension to Randalls Island REI | New York, NY

Construction Inspector: The \$26 million extension of 20" ductile iron pipe (DIP) subaqueous water main to Randalls Island under the Bronx Kill strait, from an existing 36" water main in the Bronx. The project also included new 12" high-pressure subaqueous gas main, including fire hydrants and appurtenances, replacement of an existing cast iron trunk main with steel pipe, microtunneling below railroad tracks and the strait, full-width resurfacing of a portion of Brook Avenue, and curb and sidewalk replacement. Mr. Jowhar monitored contractor work for adherence to contract drawings and specifications, including the excavation and installation of a high-pressure gas main and backfill, which he also inspected for conformance with ConEd specifications. He inspected the preparation and fusing of the gas main, gas valves, and connections. He prepared inspection reports including quantities and as-built drawings, identified interferences with the path of the gas main, and oversaw the geotechnical monitoring in the Bronx in preparation for the installation of secant piles and the receiving shaft for microtunneling.

NYCDDC | Distribution Water Main Extension and Replacement REI | New York, NY

Inspector: \$5.8 million in water main installation across three locations in Manhattan. The project involved replacing a total of 4,700 lf of 16" water main and 3,300 lf of 12" cast iron pipe with 20" and 12" ductile iron pipe (DIP). 12" water main tie-ins and 6" hydrant extensions were replaced and updated, fire hydrants installed and upgraded, pavement restored, and utilities relocated. The project was executed in close proximity to New York City Transit (NYCT) underground facilities. Mr. Jowhar reviewed construction specifications and contract drawings,



Years of Experience

13

Education

BS, Civil Engineering; University of Technology, Iraq (2007)

Licenses and Certifications

- Concrete Field Testing Technician Grade I (ACI)

Training

- OSHA 10-Hour Construction Safety and Health
- OSHA Confined Space Entry
- NYCDDC Water Main Training

supported the field staff, prepared and reviewed daily inspection reports ensuring accuracy and completeness, reviewed contractor's submittals, and prepared in-service drawings and field cards.

Asian Concrete Industries Company | Design and Construction of Concrete Factory | Kabad, Kuwait

Project Engineer: Design and construction of a concrete factory. Mr. Jowhar assisted in the design of high-performance concrete and self-compacting concrete. He performed various concrete tests to verify compliance with standards and specifications. He conducted trial mixes and raw materials tests for roadway subsurface and pavement. He provided pricing, maintained project data, and tracked changes throughout the project life cycle.

Private Client | Construction of Two Hotels | Kuwait City, Kuwait

Project Engineer: Design and construction of two high-rise towers: a 65-story hotel and a 50-story residential building. Mr. Jowhar inspected concrete structures, block work, plastering, water proofing, shoring work, piles work, and foundation. He examined the use of total station and level instruments, building settlement and verticality checking, aluminum and steel work for curtain walls, and other on-site work. He reviewed civil shop drawings and prepared bills of quantities, inspection reports, and cost reports.

Relevant Experience of the Firm and Proposed Team

GCNC77-01/02 | REI for Green Infrastructure in Newtown Creek CSO Area | Queens, NY *New York City Department of Design & Construction*

Client
NYCDDC

EnTech Role
Prime Consultant

Reference
Nathalie Pierre-Georges, PE
Deputy Director
718.391.2477

Completion
09/2014 – 12/2017

Construction Cost
\$3.5M

EnTech provided Resident Engineering Inspection (REI) services for the construction of 160 right-of-way (ROW) bioswales and other green infrastructure installations in the Newtown Creek tributary area of southwestern Queens. The project forms part of the NYC Green Infrastructure Plan to reduce the occurrence of combined sewer overflows (CSO), when the combined sewer system is unable to accommodate rainfall, resulting in sewage being discharging into local waterways.

Streets and sidewalks, two top contributors to storm water runoff, make up approximately 27% of land in combined sewer drainage areas of the city. This represents a significant opportunity to manage stormwater using source controls. Bioswales and similar installations are intended to collect, filter, and manage stormwater. They capture storm water from the curb before it enters the sewer, and help reduce the volume of storm water directed to wastewater treatment facilities.

EnTech coordinated and monitored construction including removal of existing sidewalks and curbs, excavation of the material underneath to a depth of 5 feet, backfilling with a layer of broken stone wrapped in geotextile fabric and engineered soil, and pouring new concrete sidewalks, curbs, and inlets. The final step involved planting trees and protecting them with a steel guard. EnTech provided construction inspectors, office engineers, and public outreach liaisons to ensure construction activities moved forward as planned and the public was properly informed of work. The project was completed on schedule, meeting its quality and safety goals.



Green Infrastructure Program Owner's Representative | Citywide, NY

New York City Economic Development Corporation

Client
NYCEDC

EnTech Role
Prime Consultant

Reference
Jennifer Steacy
VP, Capital Program
332-323-5027
jsteacy@edc.nyc

Completion
05/2019 - Ongoing

Construction Cost:
\$380M

Green infrastructure such as bioswales and infiltration basins are critical tools for managing stormwater throughout New York City. These installations collect and filter stormwater at the source, reducing combined sewer overflows (CSOs), improving water quality, and increasing overall resilience to flooding. **EnTech** is providing owner's representative services to the New York City Economic Development Corporation (NYCEDC) to oversee the design and construction of thousands of green infrastructure installations, totaling more than \$405 million, across five watershed areas in the Bronx, Brooklyn, and Queens.

EnTech is coordinating the design and construction of improvements ranging from small bioswales and infiltration basins along right-of-way (ROW), to larger underground installations at city-owned sites such as parks, parking lots, and housing developments. The firm is managing 21 design and construction management contracts owned by the NYCEDC, which is managing construction on behalf of the New York City Department of Environmental Protection (NYCDEP). **EnTech's** team monitors project schedules and budgets, and facilitates communication among the client, designers, construction managers, and numerous other stakeholders.

EnTech tracks the progress of multiple contracts simultaneously, keeping the client updated regarding progress and critical issues. The team performs regular site visits to review project progress, and to verify work conformance with drawings, specifications, and quality standards. **EnTech** reviews design modifications to ensure they are consistent with the scope and objective of the projects, and advises the NYCEDC and NYCDEP accordingly.

The firm represents the NYCEDC in meetings with partner agencies, utilities, and design and CM teams during preconstruction, construction, and closeout phases. The firm expedites permits for client agencies including the New York City Department of Parks and Recreation (NYCDPR) and New York City Housing Authority (NYCHA) for green infrastructure installations on or adjacent to property owned by these agencies.

EnTech has exceeded the quality standards set for this project, in addition to assuming project management responsibilities beyond those laid out in the original scope of work. The program is on track to meet its current budgets, which account for agreed-upon cost increases to reflect change orders stemming from expanded scopes, unforeseen field conditions, and site improvements.



Left: A completed bioswale collecting water from a city street

Right: Green infrastructure under construction at NYCHA's Low Houses

HWXP136C – Reconstruction of Grand Concourse | Phase 4 REI, Bronx, NY

New York Department of Design and Construction

Client
NYCDDC

Grand Concourse is a key traffic artery and one of the Bronx’s most iconic roadways, lined with architecturally significant buildings. However, the roadway requires significant infrastructure and safety improvements. The Vision Zero program, which aims to eliminate traffic deaths in New York City, identified Grand Concourse as one of four priority “Great Streets,” with pressing need for safety upgrades.

EnTech Role
Prime Consultant

Reference
Fares Abdulrazzek
Engineer-in-Charge
abdulraf@ddc.nyc.gov
347-575-0462

EnTech is providing resident engineering inspection (REI) services to the New York City Department of Design and Construction (NYCDDC) for the fourth phase of the reconstruction of this critical boulevard. The federally funded, \$60M Phase 4 reconstructs Grand Concourse, including service roads, for approximately 1.3 miles, from East 175th Street to East Fordham Road. When complete, the reconstruction will entail major safety and aesthetic improvements for Bronx residents and commuters. Work includes rebuilding roadways and sidewalks; widening medians; replacing combined sewers and distribution water main; upgrading underground electrical, gas, and telecommunications utilities; and installing new streetlights, traffic signals, and decorative planters, as well as foundations for public artwork at the intersection of

Completion
1/2020 - Ongoing

Construction Cost
\$60M

Grand Concourse and Morris Avenue.

EnTech’s team is managing construction and overseeing contractor work. The firm’s preconstruction services included inspection of infrastructure and utilities within the project area, including water mains, sewers, traffic signals, streetlights, catch basins, bus shelters, and fire hydrants. EnTech’s team established project procedures, including the Quality Assurance and Construction Support (QACS) plan. During construction, the team is monitoring contractor work for safety, quality, and adherence to contract documents. The team oversees site safety and maintenance and protection of traffic (MPT) measures to protect both workers and pedestrians in the densely crowded area. **EnTech** leads coordination with the client, partner agencies, and utility companies such as Con Edison, Verizon and Crown Castle. The team monitors the project budget and schedule; oversees community liaison services; processes submittals and change orders; and oversees QA/QC procedures.



The firm is coordinating resolutions to significant challenges in the field, many of which relate to the New York City Transit (NYCT) subway service that runs underneath Grand Concourse. The original construction documents did not accurately account for NYCT structures including electrical substations, station entrances, vents, and emergency exits. The **EnTech** team is coordinating design modifications for roadways, curb and sidewalks, and planter walls, making these elements shallower to accommodate the underground structures. In many instances, the REI team modifies designs on the fly in the field, preventing the need for change orders and thereby saving the client money and time.

Further challenges include the busy environment, with construction is surrounded by pedestrian and vehicular traffic around the clock. EnTech is managing the staging of lane closures, with only one lane closing at a time to minimize traffic disruptions.

We appreciate the opportunity to provide the North Hudson Sewerage Authority with this proposal. I am authorized to discuss and/or enter into negotiations with the NHTA with respect to this proposal. I will make sure our firm's resources will be available to the NHTA for the life of this contract. We look forward to working with you and appreciate your consideration of our proposal. Should you have any questions or require any clarification on this proposal, please contact me at sbayat@entechpc.com or 732-781-0000 x220.

Very truly yours,

EnTech Engineering of New Jersey, PA

A handwritten signature in blue ink that reads "Susan Bayat". The signature is written in a cursive style with a long horizontal stroke extending from the end of the name.

Susan Bayat, PE
President

Copies: Don Conger, dconger@nhudsonsa.com

Belissa Vega, bvega@nhudsonsa.com