

State of New Jersey

**Program and Process Management Auditing,
Financial Auditing and Grant Management, and
Integrity Monitoring/Anti-Fraud Services for
Disaster Recovery Assistance (Hurricane Sandy)**

Contract G-9004

Response to Pool 3 Engagement Query

**New Jersey Environmental Infrastructure Trust
Technical and Engineering Oversight**

November 19, 2013



Grant Thornton

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	Task 2	Task 3	Task 4	Travel	Total
Project/Calendar Yr 1	\$ 121,730.40	\$ 126,108.80	\$ 617,077.92	\$ 48,393.33	\$ 913,310.45
Project/Calendar Yr 2	\$ -	\$ -	\$ 317,824.00	\$ 17,791.67	\$ 335,615.67

TOTAL \$ 934,901.92 \$ 66,185.00 \$ 1,248,926.12

*If work can be fielded remote from the Trenton office, travel costs can be significantly reduced.

November 19, 2013

Department of Treasury
Dave Ridolfino
Associate Deputy State Treasurer
33 W. State Street, 9th Floor
PO Box 230
Trenton, NJ 08625-0230
integrityoversightmonitor@treas.state.nj.us

Subject: Contract G-9004, Response to Engagement Query, Pool 3 – New Jersey Environmental Infrastructure Trust (NJEIT), Technical and Engineering Oversight Services

Dear Mr. Ridolfino,

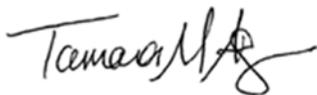
Enclosed please find Grant Thornton's proposal in response to the NJEIT engagement query for technical and engineering oversight services. Our proposed team, which consists of Grant Thornton LLP as the prime contractor, and TetraTech and Roberts Engineering as our subcontractors, provides a one stop shop for the technical, engineering and grants oversight needs that will arise for Superstorm Sandy environmental infrastructure projects funded through NJEIT.

Grant Thornton provides excellent experience and qualifications with the Department of Environmental Protection (DEP) programs. Our proposed project manager, David Barth, recently retired from DEP as the Director of Budget and Finance after 39 years with the Agency. In this capacity, he is deeply familiar with the funding mechanisms, project life cycle, environmental review process, and NJEIT and DEP oversight activities.

Our primary subcontractor, TetraTech, has provided engineering services to DEP's environmental infrastructure financing program through an EPA funded support contract and currently provides environmental and historic reviews for DEP under the RREM program. Roberts Engineering, a NJ local small business, has experience in preparing applications for NJEIT funding and in complying with all NJDEP and NJEIT requirements for authorizations to advertise and award contracts. Most recently Roberts Engineering, Group prepared the required documentation for two loans for the October 7th deadline.

We look forward to the opportunity to work with you on this effort. Should you require any additional information, please contact me at (703) 837-4474 or tamara.anger@us.gt.com, or our Contracts Specialist, Ms. Karin Whitwood, at (703) 837-4468 or karin.whitwood@us.gt.com.

Sincerely,



Tamara Anger, Principal
Grant Thornton LLP

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Background

On October 27, 2012, Governor Chris Christie signed Executive Order (EO) 104 declaring a State of Emergency in New Jersey in anticipation of Hurricane Sandy's landfall. The hurricane, reclassified as a Superstorm caused massive property damage and loss of life. Over 100 drinking water and sewage treatment facilities will require an estimated \$2.6 billion to implement ~370 Sandy recovery, repair, and resiliency projects. This is in addition to an estimated \$45 billion which was required pre-Sandy over the next two decades to address an aging infrastructure.



A subset of the recovery is the Sandy environmental infrastructure rebuilding projects are Federal Emergency Management Agency (FEMA) rebuild projects. For FEMA rebuilds, 90% of funding is provided through the FEMA Public Assistance (PA) program. The balance (10%) can be paid for out of a Community Development Block Grant (CDBG) local match, out of the local government/applicant budget (self-funded), through taking out a loan, or some combination of these. One year after Superstorm Sandy, many FEMA rebuild projects have not yet been approved by FEMA. Some facilities are cash strapped, as they need to implement FEMA rebuild projects. To address this issue, the New Jersey Environmental Infrastructure Trust (NJEIT) recently launched the SAIL bridge loan financing program. SAIL provides short-term financing to Sandy damaged facilities which are working through the FEMA process, but need immediate cash flow as they await receipt of FEMA reimbursement.

While NJEIT, working in partnership with the New Jersey Department of Environmental Protection (DEP) is experienced in providing financing for similar projects, NJEIT and DEP do not have the resources to perform the technical and engineering oversight for the new program. In addition, SAIL is reliant upon FEMA funds, which is a different funding source than the traditional NJEIT financing products. NJEIT is seeking to engage the services of an Integrity Oversight monitor with environmental engineering capabilities to serve as the NJEIT's technical oversight contractor. This document contains our response to this requirement.

Our Team

Our team is an Integrity Oversight Monitor with strong environmental engineering capabilities; and experience and qualifications with the Department of Environmental Protection (DEP) programs and FEMA Public Assistance grants management and oversight.

 **Grant Thornton** *Grant Thornton* is a leading audit, accounting, and advisory firm. Our proposed project manager, David Barth, recently retired from DEP as the Director of Budget and Finance after 39 years with the Agency. He is deeply familiar with the organizations, funding mechanisms, project life cycle, environmental review process, systems, and oversight activities. Grant Thornton also brings deep experience in FEMA grants management, compliance, and audit. Our team, through conducting closeout reviews and audits of hundreds of FEMA project worksheets (PWS) understands the top risks and recurring issues preventing timely reimbursement from FEMA. This experience is critical to *ensuring that any funds released by FEMA are in compliance with all FEMA federal and State requirements and any potential for FEMA de-obligation is minimized by ensuring full compliance with all regulations.*



Tetra Tech, Inc., (Tetra Tech) is a leading provider of specialized management consulting and technical engineering services. Clients include a diverse base of public and private-sector organizations located throughout the United States and internationally. The 2013 Engineering News-Record magazine's ranking of the Top 500 engineering firms in the country placed Tetra Tech as the 8th largest provider of engineering and technical services (July 2013). Tetra Tech is one of the leading firms in the nation in the field of disaster management and homeland security, with millions of dollars in revenue coming from contracts in such diverse areas as infrastructure hardening and protection; disaster recovery; emergency management, planning, and preparedness; community resilience; disaster recovery, grant management.

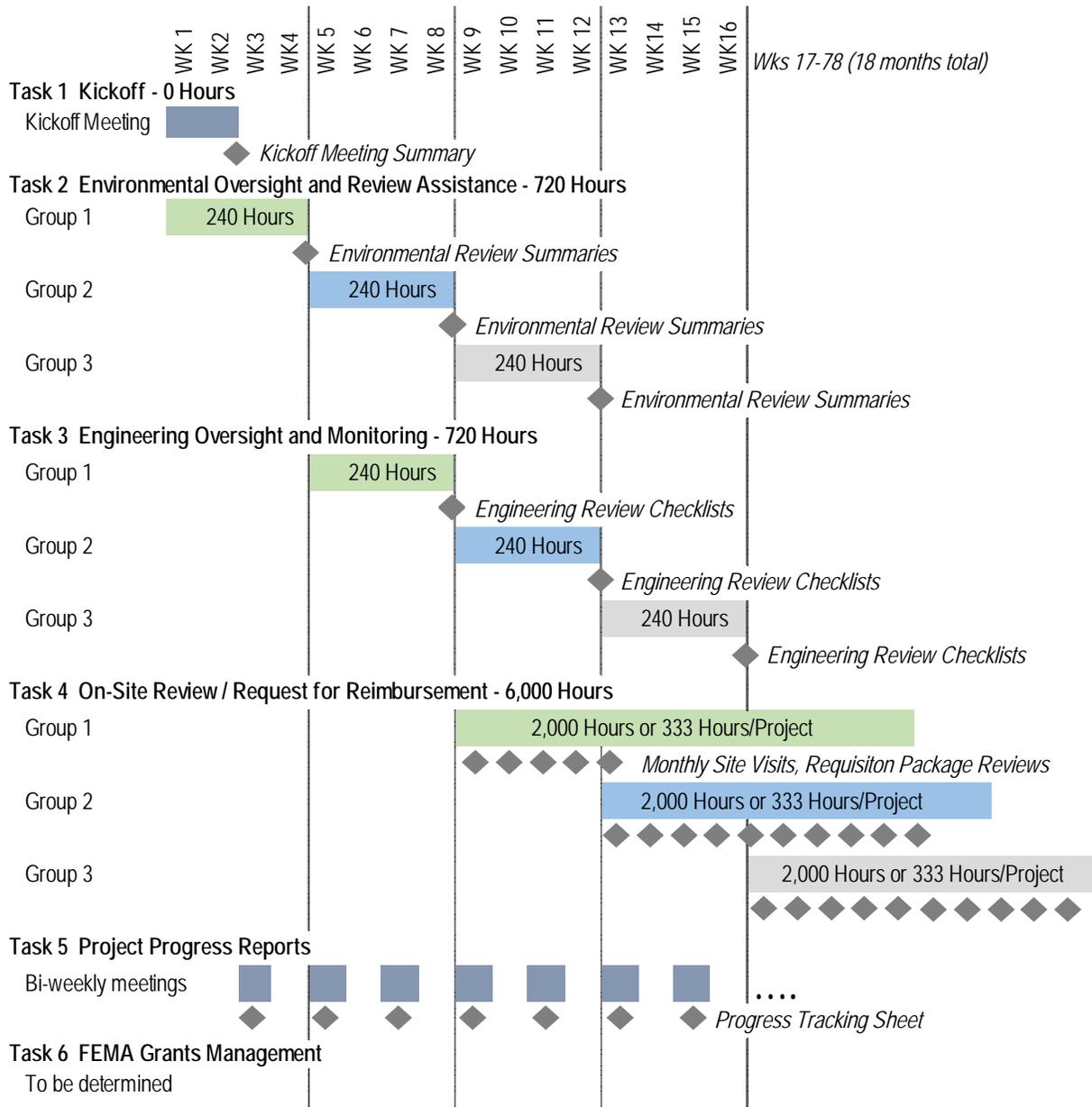
Tetra Tech has provided state and local government with Public Assistance and Hazard Mitigation Grant Program consulting services since 2005. Specifically relative to Superstorm Sandy and experience with recent changes to FEMA's policies and guidance, Tetra Tech is providing direct support to the Port Authority of New York and New Jersey and the State of New York. Tetra Tech provides environmental review and documentation support services for the New Jersey RREM program and for a variety of Sandy recovery programs being administered by New York state.



Roberts Engineering Group LLC is a NJ woman-owned, small business, civil engineering and surveying firm. They have provided construction and integrity monitoring services for multiple Federal and State funded construction projects ranging from several hundred thousand dollars to multi million dollars. Their work extends to estimating the cost of construction, as well as preparation of design documents and agreements to assure proper construction, and inspection and administration of the project construction. They bring many years of experience in working with the NJ Local Public contracts Law, preparing environmental permits, and in compliance with NJEIT/NJDEP requirements for obtaining NJEIT funding. Roberts Engineering Group has worked closely with the NJDEP and the NJEIT and has provided compliance with all requirements of the loan program during the application process, through the approval process and with final construction and close out of the loans. During the last four years, Roberts Engineering Group has assisted clients in obtaining millions of dollars through the program, and in preparing all documentation for loans, permits and design plans and specifications for twelve construction contracts. They are familiar with the NJDPE environmental program having prepared multiple and various permit applications to the State. Roberts Engineering Group has assured that its clients have been in full compliance with the requirements of the NJEIT loan program.

Contract Schedule (Item A)

This section contains the contract schedule, with performance milestones and associated deliverable items to be submitted as evidence of completion of each task and/or sub-task. Overall, we propose to complete the deliverables outlined in the Engagement Query within the required timeframes. We understand that the top priority is to 1) move these critical infrastructure repair projects to construction through the engineering and technical support we provide with the Environmental Reviews (Task 2) and Engineering Oversight (Task 3) for 18 projects within a 16-week time frame; and 2) insure that the work is eligible for FEMA reimbursements. This initial work will be organized into three groups of 6 projects per group. Throughout the life of each project and upon completion of the project, our team will review requests for reimbursement (and the associated site visits each month) for the project(s), which are estimated to last 18 months.



We expand on our approach to each of the tasks on the following pages.

TASK 1 – TECHNICAL AND ENGINEERING SUPPORT KICK-OFF MEETING

Engagement Query Task Description

Within 10 days of work assignment approval and receipt of a task order, the Contractor shall hold a kick-off meeting with NJEIT to discuss tasks and deliverables required under this work assignment.

Approach Overview & Highlights

Within 10 days of work assignment approval and receipt of a task order, Grant Thornton will hold a kick-off meeting with NJEIT. The goal for the project kick-off will be to achieve agreement with NJEIT officials on the tasks and deliverables required under the task order. Grant Thornton's Project Manager will attend the kickoff meeting along with our TetraTech team members.

In the kick-off meeting, Grant Thornton will present a Project Plan ("Plan") for the completion of the tasks and deliverables. The draft Plan will include the activities of TetraTech as the dedicated technical and engineering oversight contractor, as well as the interface of these activities with Grant Thornton's administrative oversight activities. All comments and suggestions received during the kick-off discussion will be incorporated into a revised Plan. The Plan will be provided to NJEIT officials for review and approval. When the NJEIT comments are received, Grant Thornton will finalize the Plan. The approved Project Plan will reflect a common agreement on approach, timeline, communication protocol, stakeholder engagement techniques, required documentation and files, project logistics, deliverable outlines and objectives.

Following the kick-off meeting, Grant Thornton will also prepare a memorandum of the meeting. The memorandum will be provided to NJEIT and other designated stakeholders such as the NJ Office of Emergency Management (OEM) for concurrence.

Grant Thornton will work efficiently to request, access and gather required documentation by understanding NJEIT, the 18 environmental infrastructure projects, and sub-recipient file structures. We will establish a document repository utilizing Grant Thornton's SharePoint resources or a State-designated system, whichever is preferred by NJEIT.

Grant Thornton understands the importance of establishing and maintaining an NJEIT presence with project personnel who are knowledgeable, accessible, and reliable. Establishing this presence will be a high priority for the Grant Thornton team during this Task.

Performance Milestones

1. Completion of the kickoff meeting with NJEIT officials
2. Approval of a Project Plan for the tasks and deliverables in the task order
3. Finalization of a memorandum of the kick-off meeting for distribution to NJEIT and NJOEM officials
4. Access to SharePoint or a State-designated system by team members, NJEIT and NJOEM officials

Deliverables

D1 Kickoff Meeting Summary

The Contractor shall provide a written summary of the meeting to the NJEIT and NJ Office of Emergency Management (OEM) within ten (10) calendar days of the kick-off meeting.

TASK 2 – ENVIRONMENTAL OVERSIGHT AND REVIEW ASSISTANCE

Engagement Query Task Description

The Contractor shall provide oversight and technical and engineering support to the NJEIT by assessing environmental and permitting compliance. An environmental review shall consist of reviewing a FEMA produced record of environmental consideration report (Attachment A) and identification of the required permits (Attachment B). The Contractor shall resolve any issues pertaining to the completion of the review but should an issue or item arise as a result of the environmental review that requires State approval then the Contractor shall notify the NJEIT immediately in order to seek approval. During all contacts with individuals outside of NJEIT, Contractor staff shall identify themselves as a contractor with NJEIT.

Approach Overview & Highlights

The Team brings NJEIT an in-depth comprehension of the requirements of NEPA, as well as corresponding state environmental impact assessment regulations. The NEPA drives, in large part, the FEMA produced record of environmental consideration report. Our staff has successfully completed thousands of NEPA projects over the last 30 years. Our interdisciplinary approach enables us to perform all aspects of NEPA analysis, from scoping and public involvement, issue identification, alternative development, effects analysis, EIS or EA documentation to preparing Records of Decision.

We offer insight and methods developed from work on high-profile NEPA projects, and an understanding of the intricacies of working in an arena where opposition is often intense; a proven track record of completing NEPA documents within tight time schedules, including completion within one year; in-depth, on-the-ground, and practical experience in natural resources issues; the ability to foresee agency and public involvement issues and to address them appropriately as they arise and the proven procedures that ensure issue resolution before environmental review documentation is released.

We regularly provide regulatory support to our clients, assessing their regulatory needs and assisting them with the record keeping requirements that are found in a wide variety of federal, state, and local laws and regulations. We have over 80 personnel on staff with regulatory and compliance experience and they often have established relationships with regulators. They work directly with our project personnel throughout the project to determine the impact of applicable regulations to the proposed activities and provide the options available. Our regulatory staff also regularly support and train our field personnel in the relevant aspects of the local regulations to ensure they have the appropriate knowledge to comply with the applicable regulations. Our regulatory experience includes the following regulations:

1. National Historic Preservation Act (36 CFR Part 800)
2. Floodplain Management (Executive Order 11988; 24 CFR Part 55)
3. Wetland Protection (Executive Order 11990; 3 CFR 2, 5)
4. Coastal Zone Management Act (16 USC 1451, 307(c), (d))
5. Sole Source Aquifers (40 CFR Part 149)
6. Endangered Species Act (50 CFR Part 402)
7. Wild and Scenic Rivers Act (16 USC 1271, 7(b), (c))
8. Clean Air Act (40 CFR Parts 6, 51, 93)
9. Farmland Protection Policy Act (7 CFR Part 658)
10. Environmental Justice (Executive Order 12898)
11. Noise Abatement and Control (24 CFR Part 51, Subpart B)
12. Explosive and Flammable Operations (24 CFR Part 51, Subpart C)

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13. Toxic Chemicals and Radioactive Materials (24 CFR Part 58, 5(i)2)
 14. Airport Clear Zones and Accident Potential Zones (24 CFR Part 51, Subpart D)
 15. FEMA statutory requirements at 44 CFR Part 10
 16. Applicable New Jersey laws

In addition the Team has extensive regulatory experience with permits listed in Attachment B of the Engagement Query including:

1. Applying for and obtaining Pollution Discharge Elimination System permits for a number of projects in a number of states including NJ. Developing and submitting Discharge Monitoring Reports (DMRs).
2. Developing and applying for air permits – permit to construct and permit to install/operate. Performing air dispersion modeling, regulatory negotiations, representing clients in public meetings, etc.
3. Coastal Area Facilities Review permit, and Waterfront development permit for boat ramps, installation of outfalls, modeling of outfall structures, etc.
4. Development and update of SPCC (Spill Prevention Control and Countermeasures) plans for industrial clients.
5. Wetlands delineation, wetlands related permits.
6. US Army Core of Engineers permit for dredge and fill in waterways.

For this project, the team will dedicate three qualified staff to work in the Trenton offices of the Division of Water Quality's Municipal Finance and Construction Element for the purpose of conducting reviews of the environmental files and associated Records of Decision and required permits. The team will leverage its expertise to ensure the appropriate conclusions have been reached, and more importantly, are well-documented. When information to document environmental conditions and permits cannot be readily accessed from file review, the team will outreach directly to the project owner to obtain the information sought. The team will also consult with NJDEP other applicable state and federal regulatory agencies to ensure all conditions associated with FEMA's Record of Environmental Considerations Report is consistent with the project requirements.

Assumptions:

1. The assignment date is assumed to be that when all documentation required for review is available to the team.
 2. Deficiencies identified in environmental permits attained or documentation of the environmental records of decision are not the responsibility of our team to correct.
 3. Should regulatory interpretation be required of a local, state or federal agency in order to provide permitting and environmental review clearance, the team will request and receive from NJ EIT a deadline extension, thereby affording additional time for response from the applicable agency.
 4. It is assumed that the FEMA produced record of environmental consideration report will have already been produced for each of the 18 projects; Tetra Tech will review the report to confirm that the process meets FEMA requirements.
 5. The Team will not be held liable or responsible for any Liquidated Damages arising out of the negligence of the design or construction contractor for not having secured the required permits or delays in construction schedule during the period when securing said permits. Additionally should
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certain permits require public hearing or public comment periods that result in further delay of the construction schedule, the Team shall not be held liable for such delays.

Performance Milestones

In order to achieve approximately 18 environmental reviews in the twelve-week timeframe the Contractor shall endeavor to meet the following milestones:

Weeks after Work Assignment Approval	Number of Completed Environmental Reviews
4	6
8	12
12	18

Deliverables

D2 Environmental Review Summaries: A complete environmental review summary will be provided as a deliverable for this task. The completed environmental review will include the following:

- A review of the FEMA produced record of environmental consideration report. It is assumed that this report will have already been produced for each of the 18 projects; The Team will review the report to confirm that the process meets FEMA requirements. The Team will replicate the review process as appropriate to meet FEMA standards.
- Based on the review of the Record of Environmental Considerations Report, a master list of required permits will be developed for each of the projects. This list will also incorporate the permits identified in the Permit Status Worksheet developed by the NJEIFP.

The master list of required permits for each project will be compared to the permits that have been applied for, and permits that have already been acquired for the project. The list will be updated to reflect the date the permits were applied for, and the likely date it will be acquired, and will flag any permits that may have been missed by the design/construction contractor. If permits have not been acquired, The Team will work with both the project representative as well as NJDEP/NJEIT to ensure that all permits are acquired for the project prior to certification.

The completed environmental review summary and supporting documentation will be provided within five (5) calendar days after review completion. Additionally, completion of an environmental review for a project will also be documented in the weekly project progress tracking report required under Task 5 of this work assignment.

TASK 3 – ENGINEERING OVERSIGHT AND MONITORING

Engagement Query Task Description

The Contractor will provide technical and engineering support to the NJEIT by conducting engineering reviews of projects funded through the Statewide Assistance Infrastructure Loan Program (SAIL), a program designed to aid local government units meet cash flow needs during project construction for periods up to 47 months in anticipation of FEMA. The technical review will be in compliance with NJEIT standards, using a checklist provided by NJEIT. Attachment C is included with this work assignment to

provide a sample checklist that shall be completed. These projects shall be assigned to the Contractor by NJEIT on a rolling basis. The purpose of the assistance shall be to provide a professional assessment of project contract documents using the NJEIT engineering review checklist and process. The Contractor must have knowledge of the New Jersey Environmental Financing Program (NJEIFP), the Stafford Act and all applicable FEMA regulations as provided in Title 44 of the Code of Federal Regulations (CFR) and FEMA policies that govern the Public Assistance and/or Hazard Mitigation programs and shall adhere to the application of the Stafford Act and those applicable regulations and policies as a condition for the acceptance of and expenditure of said FEMA funding. The Contractor shall resolve any issues pertaining to the completion of the checklist or process but should an issue or item arise as a result of the engineering review that requires State approval then the Contractor shall notify NJEIT immediately in order to seek NJEIT approval. During all contact with individuals outside of NJEIT, Contractor staff shall identify themselves as a contractor with NJEIT.

Approach Overview & Highlights

We propose a multidisciplinary team that includes environmental, civil (site), process mechanical, electrical, structural, geotechnical, and plumbing engineers for the engineering review. Engineers' specific to a discipline will be utilized based on the project's scope and requirements.

The team brings NJEIT a multifaceted approach to engineering oversight and monitoring. Our staff of professional engineers has successfully completed thousands of design and oversight projects over the last decade. Our multidisciplinary approach enables us to perform engineering oversight of all aspects of design, from detailed design to construction. Our team has been involved with developing designs, drawings, specifications, construction contract documents, as-builts, bid sheets, contractor management, and contractor oversight for federal, state, municipal, and private clients. In addition, our team of professionals is aware of the latest in construction technology, standards, and codes.

The Team will provide technical and engineering support to the NJEIT by conducting engineering reviews of projects funded through the Statewide Assistance Infrastructure Loan Program (SAIL) as described in the Engagement Query. The technical review will meet NJEIT standards, and will utilize the checklist provided by NJEIT. At the start of the project, the Team will review the checklist and augment it as required. The Team will provide a professional assessment of project contract documents using the NJEIT engineering review checklist and process. The Team will apply its extensive knowledge of the New Jersey Environmental Financing Program (NJEIFP), the Stafford Act (42 U.S.C. 5121), and other applicable FEMA regulations (44 CFR) and FEMA policies that govern the Public Assistance.

The Team will adhere to the application of the Stafford Act and other applicable regulations and policies for approval of expenditure of FEMA funding. The Team will resolve any issues that arise related to the completion of the checklist or process. The Team will notify NJEIT should any issues arise as a result of the engineering review that requires State approval. The Team will identify themselves as a contractor with NJEIT when contacting individuals outside of NJEIT.

The Team will provide reports and checklists that will, as a minimum, be consistent with the outline and format provided in the RFP. The Team will follow internal Quality Assurance (QA) and Quality Control (QC) practices, and will prepare the reports and checklists that are in accordance with good engineering and construction management practices.

Assumptions:

1. The technical and engineering review will be provided to meet the project intent. A detailed check of the engineering design such as check of engineering calculations is not envisioned. Professional judgment and engineering judgment will be used as required
2. A core team of engineers will work out of the NJDEP office in Trenton as required by NJEIT. We propose a multidisciplinary approach, the team for each project will be modified to meet the specific project requirements; the same team members will however be used for the duration of each project. Based on project requirements, should a large team be required, the Team may recommend reviewing the contract documents at the Team's offices. Recommendations will be made in order to provide the most cost-effective solution to NJEIT. It is NJEIT's prerogative to accept or reject the Team's recommendations. It is also assumed that copies of the plans, specifications, contract documents (including bid sheets, bid bond, performance bond, payment bond, etc.), and other relevant documents will be readily available at the start of each project. It is also assumed that at least one hard copy and one electronic copy will be provided to the Team at the start of each project.
3. Since the detailed engineering scope of each of the 18 projects is unavailable at the present time, the precise mix of engineering disciplines to be utilized is presently being estimated based on professional judgment.
4. The Team will not be held liable or responsible for any Liquidated Damages due to the design or construction contractor not providing the plans, specifications, contract documents (including bid sheets, bid bond, performance bond, payment bond, etc.), and other relevant documents on a timely basis at the start of each project. It is also assumed that at least one hard copy and one electronic copy will be provided to the Team at the start of each project, and the review clock will begin only after receipt of all relevant documents have been received by the Team.
5. It is assumed that submission of the report will meet the intent of the contract. Any comments provided by NJEIT or NJDEP will not be considered towards the schedule and the calculations for potential liquidated damages. The provision of comments from the NJDEP and NJEIT and the schedule (number of days) for the provision of such comments is not set out in the RFP. In addition, since the Team has no control over the schedule for the provision of comments by NJ DEP or NJEIT, the time for provision of comments or responding to comments has not been included in the schedule.

Performance Milestones

In order to achieve approximately 18 environmental reviews in the twelve-week timeframe the Contractor shall endeavor to meet the following milestones:

Weeks after Work Assignment Approval	Number of Completed Engineering Reviews
4	6
8	12
12	18

Deliverables

D3 Engineering Review Checklist: The Team will provide a completed NJEIT engineering review checklist and supporting documentation for each project that is reviewed. The completed engineering review checklist and supporting documentation will be provided within five (5) calendar days of the receipt of all documents, and review completion. The completion of an engineering review for a

project will be documented in the weekly project progress tracking report (Task 5) of this work assignment.

TASK 4 – REQUEST FOR REIMBURSEMENT (REQUISITION) REVIEW AND ON-SITE INSPECTION ASSISTANCE

Engagement Query Task Description

The Contractor will provide technical and engineering support to the NJEIT by conducting multiple requisition reviews for all projects submitting a request for reimbursement (Attachment D). The purpose of the requisition review is to ensure that all amounts being requested by a Project Sponsor are eligible and properly justified as well as in line with the approved project scope. The Contractor will be required to regularly perform location based “on-site” inspections (Attachment E) every 30 days in order to verify that ongoing work is compliant with approved design and specifications and that any potential waste, fraud, and abuse is eliminated.

Approach Overview & Highlights

We propose a team of engineers and construction inspectors for this task. Engineers’ specific to a discipline will be utilized based on the project requirements. Our staff of professional engineers and certified construction inspectors has successfully completed a number of construction oversight and construction/contractor management projects over the last decade. Our team has been involved with construction management and contractor oversight for federal, state, municipal, and private clients.

The Team will provide technical and engineering support to the NJEIT by conducting multiple requisition reviews for all projects submitting a request for reimbursement. The requisition review will help establish that the amounts being requested by a Project Sponsor are eligible and properly justified as well as in line with the approved project scope. The Team will regularly perform location based “on-site” inspections every 30 days (monthly) in order to verify that ongoing work is compliant with approved design and specifications and that any potential waste, fraud, and abuse is identified and eliminated. The requisition review will consist of the following:

1. Review of the contract documents (drawings, specifications, and scopes of work) to ensure work is performed in accordance with the intent of the contract documents.
 2. Review of the construction contractor’s bid sheet for quantities and schedule of values. No material takeoff is envisioned at this stage since such work would already have been performed.
 3. Field verification of the contractor’s percent complete, compared to the measurement payment section of the specifications, and engineering/professional judgment will be utilized.
 4. Make recommendations for withholding and releasing retainage at the end of the project.
 5. Approval of payment based on contract documents and field verification.
 6. Perform change order review on an as required basis including review of unit rates, percent markups, and other rates based on the bid sheet and contract documents.
 7. Perform material takeoffs and cost analysis based on experience for any change order requests.
 8. The purpose of the requisition review is to ensure that all amounts being requested by a Project Sponsor are eligible and properly justified as well as in line with the project worksheet approved project scope. The Team will be required to regularly perform location based “on-site” inspections every 30
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days in order to verify that ongoing work is compliant with approved design and specifications and that any potential waste, fraud, and abuse is eliminated.

Performance Milestones

- The average project is estimated to take 18 months to complete from date of award. Site inspections are once monthly throughout this period. Requisition reviews will occur on a continuous basis.

Deliverables

D4 Completed Requisition Package: The Team will provide a completed approved or denied requisition package and supporting documentation including monthly site inspection reports for each project that is reviewed. The approved or denied requisition package and supporting documentation will be provided within five (5) calendar days after receipt of each request for reimbursement. Additionally, all requisition approvals/denials will be documented in the weekly project progress tracking report (Task 5) of this work assignment. Any denials as a result of alleged waste, fraud or abuse will be reported to the NJEIT immediately. Any denials because of incorrect information, missing information, and lack of backup documentation will also be reported.

TASK 5 – PROJECT PROGRESS REPORTS

Engagement Query Task Description

Due to the short timeframe to complete the necessary reviews, the Contractor will conduct bi-weekly (every two weeks) meetings with NJEIT and OEM to ensure that any problems related to Tasks 2, 3, and 4 are quickly identified, discussed, and corrected with a minimum of delay and to minimize potential misunderstandings. The bi-weekly meetings shall range from thirty (30) minutes to one hour in length, and shall typically be held on Thursday unless scheduling conflicts occur at which point the meeting shall be rescheduled to another day in the same week that is convenient for the NJEIT and the Contractor and possibly OEM. The Contractor shall also provide a simple progress tracking sheet that lists the assigned projects, types of reviews complete (environmental, engineering, requisition), the start and end dates of the reviews, and the number of hours spent per review. These reports shall be in addition to the monthly progress report required by the contract.

Approach Overview & Highlights

The NJEIT Engagement Query establishes three areas that are key to expediting the processing and review of projects and to prevent, detect, and remediate waste, fraud, and abuse. As NJEIT's technical oversight contractor, Grant Thornton will provide third-party technical and engineering oversight in the areas of environmental (Task 2), engineering (Task 3), and requisition (Task 4) reviews based on professional engineering standards as well as NJEIT checklists and standards. These reviews would comply with the Performance Surveillance Plan included in the Engagement Query's Scope of Work. Grant Thornton would ensure that the environmental, engineering, and requisition reviews are designed and applied to eliminate potential for waste, fraud, and abuse.

As required, Grant Thornton would conduct bi-weekly meetings with NJEIT and OEM. The meetings will include the identification and discussion of problems identified during the previous two week period, as well as updates on the status of corrective actions for previously identified problems. Grant Thornton would recommend appropriate corrective actions.

Grant Thornton will develop a “simple progress tracking sheet” to be used in the bi-weekly meetings. The tracking sheet will be in the format of the table below. It will be kept current during each bi-weekly period and will be updated, as appropriate, based upon discussions during the bi-weekly meetings.

Project Progress Tracking Sheet						
Projects	Type of Review Completed			Start Date	End Date	Hours Spent
	Environmental	Engineering	Requisition			

The project progress tracking sheets will be provided to NJEIT on the Monday following each bi-weekly meeting. The sheets will also be uploaded into Grant Thornton’s SharePoint or another State-designated system as identified by NJEIT.

As a supplement to the above project tracking sheet, Grant Thornton will also track the status of corrective actions for problems identified during the environmental, engineering, and requisition reviews. The status of corrective actions tracking will include problems identified by project, Grant Thornton’s recommended corrective action(s), NJEIT’s accepted actions, and the status of the corrections. The status of corrective actions tracking information will be used in the bi-weekly meetings and uploaded into SharePoint or another State-designated system as identified by NJEIT.

Sub-tasks

- Coordinate with NJEIT officials to establish dates and times for the bi-weekly progress meetings
- Develop the required Progress Tracking Sheet and the Corrective Actions Status Tracking System
- Update both tracking systems during each two-week period for use in the bi-weekly meetings
- Provide the tracking information to NJEIT on the Monday following each bi-weekly meeting.
- On a bi-weekly basis, upload the tracking information into SharePoint or another State-identified system for access by NJEIT, OEM, and Grant Thornton team members.

Performance Milestones

- Proposal of dates and times for bi-weekly project process meetings to NJEIT
- Submission of bi-weekly updated tracking information to NJEIT
- Bi-weekly uploading of tracking and status information into SharePoint or another State-identified system

Deliverables

- D5** Bi-weekly project progress tracking sheets are due on the Monday following the meeting.
- Schedule of dates and times for bi-weekly project process meetings
 - Updated Project Progress Tracking and Corrective Actions Tracking information provided to NJEIT on Monday following the bi-weekly progress meetings

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- Tracking information uploaded into an automated system on a bi-weekly basis
-

TASK 6 – OTHER

Engagement Query Task Description

At the option of the NJEIT, the Contractor may also be engaged to provide integrity monitoring services in relation to Federal Emergency Management Agency (FEMA) grants management, including maintaining the necessary documentation for compliance with program requirements and monitoring procurement and vendor invoice accuracy and associated controls.

Approach Overview & Highlights

The Federal Emergency Management Agency's (FEMA) grant management requirements are extensive. Non-compliance with the requirements results in incurred costs being disallowed; reimbursement claims declined, and project closeouts being delayed. Because Public Assistance grant programs are only closed when all projects within the program have been closed, individual project delays result in PA programs remaining open for extended period of time, sometimes years.

FEMA reimbursements require that costs claimed be appropriately accounted for, supported, and accurately reported. The claimed costs must be reasonable and allowable. The cost must also be in accordance with the approved Project Worksheet. Costs claimed must be supported by appropriate documentation. Over the years, audits have reported significant problems with supporting documentation. These problems have ranged from a total lack of documentation to unsigned invoices or other documentation used by sub-grantees to support reimbursement claims. Reconciliations of costs to sub-grantees accounting systems is also a requirement that is not always completed. The grant provided for each project must be recorded against that project and not co-mingled with other projects. The accounting system must be appropriately interfaced with the grant award process and the sub-grantees payment processing system on a project-by-project basis

With the approval of New Jersey Environmental Infrastructure Trust (NJEIT) officials, Grant Thornton will provide integrity monitoring services in relation to FEMA grants management as defined in Task 6. Grant Thornton will ensure that sub-recipients comply with FEMA requirements.

For Task 6, Grant Thornton's approach will be to serve as NJEIT's administrative oversight contractor. Desk audits and project site visits will be performed to ensure that:

- Costs claimed are in accordance with the respective Project Worksheet,
 - Supporting documentation for costs claimed is maintained as required,
 - Required reconciliations of costs incurred to sub-recipient accounting systems are performed,
 - Invoices are accurate and timely submitted,
 - Procurement activities are performed and documented are in accordance with federal and State requirements, and
 - Appropriate controls are in place to protect against waste, fraud, and abuse.
-

Performance Milestones

- Approval of the communication structure for Grant Thornton as the administrative oversight monitor
- Approval of Monthly status reports on Grant Thornton's activities and accomplishment

Sub-Tasks

- Establish a communication structure that requires all project-related documentation to be reviewed by Grant Thornton;
- Conduct desk audits of costs claimed to determine if appropriate documentation is maintained, that the costs have been appropriately recorded in the accounting system, invoices are accurate and timely, and that reconciliations of invoices have been completed.
- Review financial and project-status reports to evaluate the accuracy of the reports to each other and for the project in general (This task will use information received from the technical and engineering oversight monitoring activities);
- Review all procurement activities to ensure that:
 - The procurements were competitive or, if not, that appropriate justifications for single source were approved and that required cost and price analyses were performed, and
 - That required procurement file have been maintained;
- Conduct site visits, as necessary, to review on-site management and administrative activities and controls.
- Provide monthly status reports of Grant Thornton's activities and accomplishments to NJEIT.

Deliverables

Monthly Status Reports

Person-hour and/or labor category mix and Detailed Budget (Items B/C)

Below is the price estimate and budget, based on the assumptions outlined in the Engagement Query. Attachment G contains the prescribed Cost Quote template, along with labor detail (labor hours by labor category, by task; and travel assumptions

	Task 2	Task 3	Task 4	Travel	Total
Project/Calendar Yr 1	\$ 121,730.40	\$ 126,108.80	\$617,077.92	\$ 48,393.33	\$ 913,310.45
Project/Calendar Yr 2	\$ -	\$ -	\$317,824.00	\$ 17,791.67	\$ 335,615.67
		TOTAL	\$934,901.92	\$ 66,185.00	\$ 1,248,926.12

*If work can be fielded remote from the Trenton office, travel costs can be significantly reduced.

List of Disaster Recovery Engagements or Task Orders (Item D)

This section contains a detailed list of engagements or task orders in which the firm is **currently providing services** for any type of disaster recovery, including those of sub-contractors proposed for this engagement.

Contracting Entity	Contract Term	Detailed List of Scope of Services
Federal Emergency Management Agency (Nationwide Infrastructure Support Technical Assistance Consultants – NISTAC E) Grant Thornton	Base period: 2/27/13 – 2/26/14 3 option years through 2/26/17	Provide financial analysis services on projects and applicants as required under the Public Assistance (PA) Program: <ul style="list-style-type: none"> • Analyzing applications for Community Disaster Loans under the provisions of 44 CFR, Part 206, subpart k, as amended or such other provision as directed by Client. • Reviewing applications for loan cancellations. • Assessing an applicant's current financial ability to repay a loan and provide expert witness services. • Reviewing labor and equipment documentation to support claims for reimbursement under the provisions of 44 CFR, Part 206, subparts c, g, and h, as amended or such other provision as directed by FEMA.
Texas Department of Public Safety, Division of Emergency Management Grant Thornton	Jun 2013 – May 2016	Engaged to conduct compliance audits of projects utilizing FEMA Public Assistance Grants. The audits involve evaluating internal controls, examining the sub-recipients' supporting documentation for project expenditures, evaluating their compliance with relevant statutes, regulations and grant agreements, and reporting the audit results. Project expenditures are audited in accordance with 44 Code of Federal Regulations, OMB Circulars A-133 (and the Compliance Supplement), A-87, A-122, A-110, A-21 and A-102 as well as FEMA-specific guidance. In addition under the current contract, we were awarded grant monitoring tasks which involve ensuring completion of work within established timelines and in accordance with prescribed standards and regulations.
NY Housing Trust Fund Corporation TetraTech	2013 - 2015	Disaster recovery planning and reconstruction services. Developing community-level recovery plans for three upstate New York jurisdictions devastated by flooding from Tropical Storms Lee and Irene in 2011. Specifically, Tetra Tech is performing community outreach, strategic visioning, risk assessment, a housing and community needs assessment, and critical infrastructure analysis in support of an overarching economic redevelopment plan for Margaretville, Shandaken, and Washingtonville, NY.

Contracting Entity	Contract Term	Detailed List of Scope of Services
NJ Department of Environmental Protection (DEP) TetraTech	2013 – 2015	Environmental review services for projects being funded by disaster recovery grants. Conducting HUD and NEPA environmental review and compliance. This includes Tier 1 and Environmental Assessments, CATEX Documentation, and Tier 2 assessments that address issues and impacts to endangered species, wetlands, hazardous waste sites, air emissions, noise emissions, and archaeological and architectural resources.
State of Missouri TetraTech	2008 – 2018	Following federally-declared disaster, our onsite staff ensure sub-grantees meet program and administrative requirements for residential flood buyouts, flood infrastructure projects, and tornado safe room projects. Under our contract, staff conduct the following: review of applications for eligible activities, design standards, valid target population, and eligible costs; review of operation plan and maintenance plan; and monitor cost effectiveness.
Port Authority of New York and New Jersey (subcontractor to Adjuster's International) TetraTech	2013	Conducting FEMA Section 406 project worksheet development, including project scoping and cost estimate development. Tetra Tech conducted research of initial damage estimates, conducted site visits of damage facilities owned and operated by the PANYNJ (i.e. airports, port facilities, PATH, World Trade Center), developed engineering scopes of work and cost estimates for integrating mitigation to repair or restoration project worksheets to be submitted to FEMA
NY Homes and Community Renewal (subcontractor to ProSource Technology) TetraTech	2013	Environmental review services for projects being funded by disaster recovery grants. Conducting HUD and NEPA environmental review and compliance. This includes Tier 1 and Environmental Assessments, CATEX Documentation, and Tier 2 assessments that address issues and impacts to endangered species, wetlands, hazardous waste sites, air emissions, noise emissions, and archaeological and architectural resources.

Contracting Entity	Contract Term	Detailed List of Scope of Services
NY Division of Homeland Security and Emergency Services (subcontractor to Adjuster's International TetraTech	2013	Providing benefit cost-analysis (BCA) for projects applying to the state for FEMA Hazard Mitigation Grant Program funding. Tetra Tech staff are part of a dedicated team working in Albany to review HMGP applications for completeness, conduct BCA analyses, and determine eligibility of projects for HMGP funding.
City of New Orleans TetraTech	2012 - 14	Contracted to provide emergency response and recovery support to the City of New Orleans. This may include incident management team staffing, emergency operations center staffing, or disaster recovery coordination staff. No tasks have been received to date.
Borough of Hightstown Roberts Engineering	2012-2013	Preparation of loan application to the New Jersey Environmental Infrastructure Loan program for a Post chlorination Tank at the Borough owned water treatment plant. The New Jersey Department of Environmental Protection required that chlorination be the last step in the treatment process in order to approve a permit to operate a new 1000 gallon per minute potable water well. The design of the post chlorination tank complied with all of the Loan program requirements. The tank was the first of its type to be used in the State of New Jersey and the Department of Environmental Protection approved the tank for use throughout the State. The project included land surveying, design, preparation of specifications and permits, and construction management and administration. All requirements of the loan were properly managed and completed. The project received a First Place Award from the New Jersey Society of Municipal Engineers for Project of the Year in 2012.

Identification of any sub-contractors to be utilized for this engagement (Item E)

We are proposing TetraTech and Roberts Engineering as sub-contractors on this engagement. Both were proposed sub-contractors in our initial bid.

Resumes of employees of the bidder and any sub-contractor proposed for this engagement (Item F)

See Appendix A for the Team's organizational structure and resumes.

Relevant Experience (Item G)

Grant Thornton. As a large CPA firm, Grant Thornton is experienced in maintaining compliance and auditing large programs. While there is a strong technical and engineering oversight component to the NJEIT integrity monitoring activities defined in the Engagement Query, our Project Manager's DEP program and financial management background (outlined in Appendix A – Organizational Chart and Resumes), and firm's experience with FEMA grants monitoring and audits (outlined in Appendix A – Organizational Chart and Resumes; and List of Current Engagement (Item D)), provides a necessary additional level of risk mitigation as NJEIT must be reimbursed by FEMA for the SAIL program to be successful. Grant Thornton, through our experience conducting closeout reviews and audits of hundreds of FEMA project worksheets (PWs) understands the top risks and recurring issues preventing timely reimbursement from FEMA. This experience is critical to *ensuring that any funds released by FEMA are in compliance with all FEMA federal and State requirements and any potential for FEMA de-obligation is minimized by ensuring full compliance with all regulations.*

TetraTech. Tetra Tech brings to NJ EIT a wide variety of experience relative to this scope of work. Most recently, the team has gained valuable insight to FEMA's updated public assistance policies and guidance through our ongoing engagement with the Port Authority of New York and New Jersey. The team is providing damage assessment, conceptual engineering design and scope of work development, and cost estimating support to the client. Tetra Tech provided these services through the conduct of site inspection and PW development tailored to individual sites.

Similarly, they are acutely aware of the NJ DEP-led environmental review process for projects being funded by Sandy recovery grants. Specifically, Tetra Tech is serving as one of the NJDEP contractors, providing these services for the New Jersey RREM program being managed by DCA. Tetra Tech is also providing similar environmental review and documentation services to the New York State Homes and Community Renewal Division for recovery programs being administered throughout the state.

Couple the expertise garnered from these recent engagements with the broad experience Tetra Tech's environmental and engineering services group has for providing high quality, customer-service oriented service to the water and wastewater industry around the country, they offer the best overall value as the primary engineering integrity monitor to NJEIT for this engagement. They provided services for the following types of projects:

- Multidisciplinary engineering team that evaluated the condition of the state-wide wastewater treatment infrastructure in the state of Delaware and made recommendations for allocation of resources and funding for upgrades.
- Upgrade of a number of wastewater treatment plant solids handling system including all aspects of design, construction management, and startup.
- Upgrade of industrial wastewater and stormwater infrastructure at a number of industrial facilities in the Northeast.
- Design, contractor procurement, construction management, and startup of numerous wastewater and stormwater pump stations and forcemains in a number of states in the Northeast and mid-Atlantic region.
- Construction of existing and upgrade of numerous groundwater treatment plants in a number of states including the states of New Jersey, Delaware, New York, Pennsylvania, Maryland, Virginia, and Florida.

TetraTech brings a multidisciplinary team of experts (wastewater and water treatment process, process mechanical, electrical, civil, structural, geotechnical, architectural, and construction management) to this assignment who can provide the maximum value to NJEIT. Due to the significant volume of work to be undertaken, unknowns related to individual project schedules, Tetra Tech can scale-up by using employees from multiple offices in the Northeast and mid-Atlantic region. Similarly, Tetra Tech can scale-down as required to provide the most cost effective and efficient allocation of NJEIT funds for this project.

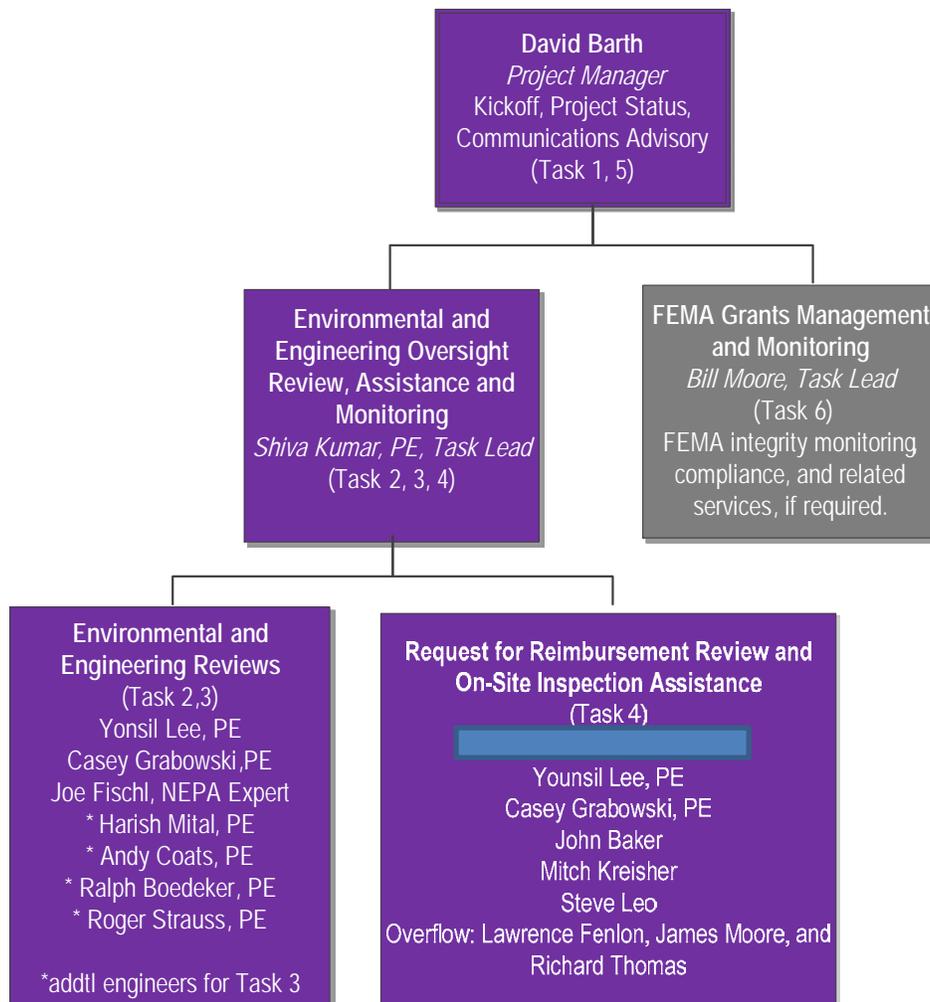
Tetra Tech boasts a rate of repeat business of more than 80% and has experienced consistent industry growth over the last eight years. These metrics can only be attained by a firm that is focused on continuous improvement, leveraging innovative technologies and the comprehensive expertise offered by a firm of our size, and implementing sound business strategies focused on exceeding our customers' expectations. In addition to the current disaster recovery engagements listed in response to Item D, the following are additional relevant project references.

Contracting Entity	Contract Term	Detailed List of Scope of Services
Artesian Water Company (Tetra Tech)	2001 to 2012	Tetra Tech designed and constructed a number of water treatment plants and provided construction oversight for plants that ranged in size from 1 to 4 MGD. Helped procure permits during construction.
US EPA Groundwater Treatment Plants	Design and construction completed in 2001 to 2010	Tetra Tech designed, helped procure contractors, and performed construction oversight for half a dozen groundwater treatment plants. Helped procure permits during construction, and process contractor invoices.
Municipal Water treatment plants under US Navy contract	2007 to present	Tetra Tech designed and constructed a number of water treatment plants and provided construction oversight for plants that ranged in size from 1 to 4 MGD. Helped procure permits during construction, and process contractor invoices.
Lockheed Martin Groundwater Treatment Plant	Ongoing	Tetra Tech is in the process of completing a Environmental Impact Statement in accordance with NEPA requirements for a groundwater pump and treat project in Maryland. This project included ensuring compliance with the state of Maryland tidal and non-tidal wetlands acts, the Chesapeake Bay Protection Act, Section 402 NPDES requirements, and consultation with the Maryland Department of the Environment (MDE), Maryland Department of Natural Resources (MDNR), Baltimore County EPS, and the USACE. In the process of designing a groundwater treatment plant.

Roberts Engineering Group. Roberts Engineering Group has worked closely with the NJDEP and the NJEIT and has provided compliance with all requirements of the loan program during the application process, through the approval process and with final construction and close out of the loans. During the last four years, they have assisted clients in obtaining millions of dollars through the program, and in preparing all documentation for loans, permits and design plans and specifications for twelve construction contracts. They are familiar with the environmental programs having prepared multiple and various permit applications to the State. Recently, for the Borough of Roosevelt, Roberts Engineering Group prepared the loan application to the NJEIT loan program for four loans to undertake a full upgrade of the water treatment plant and the entire water distribution system. The work involved compliance with the loan as well as the Local Public Contracts Law, preparation of all necessary permitting, preparation of plans and specifications. The project included the cleaning and cement lining of 15,000 linear feet of cast iron water main, and upgrades to the water treatment plant including the replacement of sand filters, security upgrades and a full replacement of the electrical service and pumps. The projects required close coordination with representatives of the NJDEP and NJEIT to assure full compliance with the program. During construction, the quality of the contractors work will be inspected and monitored, compliance with NJEIT requirements will be assured, and approval of payments will be conditioned on proper installation and compliance with local and state laws and loan requirements.

Appendix A: Organization Chart and Resumes (Item F)

Our proposed team brings the full complement of compliance and integrity monitoring services to bear in support of NJEIT's needs. Our Project Manager, David Barth, understands the DEP, environmental infrastructure programs and policies, NJEIT financing and compliance activities, the myriad of Federal, state and private funding sources available for these projects, and FEMA grants management requirements. He will be responsible for maintaining adherence to performance standards, communications, project status, and all other aspects of team delivery. Reporting to David, Shiva Kumar, from TetraTech, will lead environmental review and engineering support tasks (Tasks 2, 3 and 4). He is supported by inspectors, engineers, and other specialized talent. We've also noted three (3) additional 'overflow' resources (Fenlon, Moore, Thomas) which are available to support requests for reimbursement and on-site inspection, in the event all requests come in simultaneously. Also reporting to David, Bill Moore will lead any FEMA grants management related compliance activities, should the need arise. Bill has over 49 years of government accounting and auditing experience; over 10 years performing audits and reviews of Federal assisted grant programs, including FEMA grants.



The organization chart above represents initial staffing. To establish standards and for consistency and efficiency, we've bid TetraTech staff for all engineering positions related to the 18 projects described in the Engagement Query. However, once standards are established, Roberts Engineering Group will provide

engineering resources if new projects require support. Multiple members of their staff have over 25 years of experience in construction of public infrastructure, with specialized expertise in water and wastewater. If required, they will provide inspection oversight to assure compliance with the contract documents and permits received. They would also support requisition reviews, as they are experienced in approving construction improvements in support of contractor's requests for payment.

Key Resources

Key resources are the primary resources supporting the project on a continuous basis, assuming that their capacity can handle the requirements (i.e. assuming that the work would be spread across all weeks of a month and not be assigned all in one week). All other resources are being bid as part-time support.

- **David Barth, Project Manager.** Mr. Barth is Grant Thornton's proposed project manager. He has over 39 years of experience with State government starting with the construction oversight of historic restoration and recreational development projects. During the past twenty years he has been responsible for the Department of Environmental Protection's operating and capital budgets and managed the fiscal aspects of its grant and loan funded programs including the original wastewater treatment loan program.
- **William Moore, CPA, Task Lead, FEMA Grants Management and Monitoring (if required).** Mr. Moore has managed over 70 audits of DHS/FEMA programs and activities for the Department of Homeland Security's Office of Inspector General. The objectives of these performance audits were to evaluate the economy, efficiency, and effectiveness of the grantee's management of the federal grant funds. The audits included evaluations of internal controls, compliance with federal requirements and regulations. The audit findings identified unsupported costs, non-compliant activities, and inefficient management situations. The costs questioned from the audits were reported to the DHS Office of Inspector General. Ineligible use of funds, noncompliant procurements, and weaknesses in internal controls were frequent conditions reported from these audits. The recovery of the funds was the responsibility of OIG in conjunction with cognizant FEMA officials. FEMA was responsible for the de-obligation of funds confirmed as unsupported, wasted, or not used in compliance with federal requirements and regulations.
- **Shiva Kumar, PE, Task Lead, Environmental and Engineering Oversight Review, Assistance and Monitoring** – Mr. Kumar is a Senior Environmental Engineer and Project Manager with over 20 years of technical experience in environmental engineering, design, construction management, oversight, and restoration fields. He is an experienced consultant who has represented federal, state, and industrial clients. He is an experienced professional in the preparation of technical/cost proposals for engineering scopes of work; completion of technical environmental permit applications covering the management of hazardous waste, construction, water discharges, and air emissions. He has worked as a process engineer designing groundwater treatment plants, water treatment plants, pump stations, and Stormwater treatment facilities. He has developed designs, specifications, and work plans, and has been involved in equipment vendor and system supplier negotiations, preparation of O&M manuals, and managing O&M activities. Project management experience includes project planning, cost control, budgeting, scheduling, subcontract management, construction management (develop request for proposals, conduct pre-bid meetings, bid-openings), and procurement of subcontractors.
- **Younsil Lee, PE** – Ms. Lee has thirteen years of experience in the civil and environmental engineering field and provides technical support as a civil/environmental engineer for clients in the government and private sectors. Project support includes project and task management; erosion and sediment control; stormwater management; technical report writing; quality assurance and quality control for technical

documents; construction management; project planning; watershed management programs; sewer rehabilitation and client communication.

- **Casey Grabowski, PE** – Mr. Grabowski has 11 years of work experience in the civil and environmental engineering field as well as land survey field. His civil engineering experience includes site assessment, site design, site planning, minor and major subdivisions, storm water management, utility routing, and acquiring regulatory approvals. His survey experience includes GIS, GPS, surface modeling, field work, managing field data, quality assurance, drafting, as-builtting, and preparing exhibits. He is currently managing 1 full-time survey crew. His environmental engineering experience includes the design of soil remediation projects and groundwater treatment projects, and the design of municipal water supply treatment systems. His project management experience includes proposal writing, material take-off and bidding assistance, sub-contracting, and general project coordination including client, inter-company, and regulatory correspondence.
- **Joseph Fischl, NEPA Subject Matter Expert** – Mr. Fischl has 30 years of experience in technical management/consulting and research activities involving both private and public sectors. His consulting/management experience includes ecological site characterization/mapping; threatened and endangered species surveys; wetland delineation, mitigation/restoration design, and permitting; preparation of environmental assessments and environmental impact statements; training and supervision of field research assistants. Mr. Fischl's research experience includes design and implementation of field studies investigating avian behavior and population dynamics, and the analysis and interpretation of results. Mr. Fischl is currently the Biological Sciences Group Technical Lead and also provides guidance for northeast region staff. He supervises biological sciences staff; reviews biological, ecological and environmental assessments and reports evaluating physical and/or chemical impacts to the environment resulting from the construction of new facilities, or the remediation of contaminated or disturbed sites. He also provides technical direction, recommendations, and evaluations for field sampling procedures for terrestrial and aquatic, vegetation and wildlife resources.



Engineering Review Resources

Mr. Mital, Mr. Coats, Mr. Boedecker, and Mr. Strauss will provide specialized engineering expertise in support of Task 3. Their involvement in each project will be based upon the type of project under review.

- **Harish Mital, PE** – Mr. Mital has over 35 years of experience in design of municipal, industrial, and hazardous wastewater collection and treatment systems; preparation of feasibility studies, construction plans, and specifications related to water, wastewater, ground water and soil treatment systems; project management, construction management and supervision; startup and testing support; shop drawing reviews; design of mechanical, process, and instrumentation systems; preparation of NPDES and storm water permit application; management of design-build plants, and demolition activities.

- **Andrew T. Coats, PE** – Mr. Coats has over 15 years of experience in structural engineering and project management of various types of structures including federal, educational, industrial and commercial facilities, fitness centers, stadiums, water treatment plants, wastewater treatment plants, residential properties and marinas. His duties have included recommending framing systems and configurations, developing bid documents, reviewing shop drawings and submittals, providing on-site assessments, reviewing as-built construction and recommending acceptance during construction phase of projects. Mr. Coats is proficient in the design and analysis of steel framed structures, timber, cold-formed metal framing, reinforced masonry, reinforced concrete, retaining structures, deep and shallow foundations structures and analysis, assessment and renovations of existing structures.
- **Ralph H. Boedeker, PE** – Mr. Boedeker has 29 years of professional experience in the engineering field. He is a Senior Project Manager/Engineer for Environmental and Geotechnical projects and manages a Geotechnical Engineering and Construction Materials Testing and Inspection Department. Mr. Boedeker has a vast experience in geotechnical engineering including geotechnical subsurface investigations, SPT boring and rock coring drilling, laboratory and field material testing, construction QA/QC inspection/testing and monitoring, International Building Code testing/inspection/certification requirements for building construction, geosynthetic design, slope stability and embankment design, earthen dam design and inspections, settlement analysis, foundation analysis (shallow and deep foundations), deep foundation installations, retaining structures, excavation support systems, flexible pavement design, investigation and evaluation of adverse earthwork conditions, landfill closure systems and field consulting. Mr. Boedeker is also a senior project manager/engineer in the environmental engineering field.
- **Roger Strauss, PE** – Mr. Strauss has over 32 years of professional experience in the steel making industry. His experience includes electrical design and management; construction management; and, facilities planning. Mr. Strauss has developed a thorough knowledge of rules and regulations throughout his career and maintains excellent relationships with local and state agencies. His expertise is utilized in an advisory capacity within Tetra Tech. Mr. Strauss also provides total project implementation, including start-up, commissioning and training services.

Requisition Review and Site Inspection Support Resources

- **John J. Baker** – Mr. Baker is a Construction Inspector for Tetra Tech and has over 21 years of experience in residential and commercial construction and construction inspection. Mr. Baker also has experience in surveying, development of detailed construction plans, preparation of specifications and bid documents, mechanical design, and computer-aided drafting. Mr. Baker has experience supervising contractors and construction crews, and monitoring quality of construction and compliance with plans, specifications, and contract documents. He also provides constructability reviews.
- **Mitch Kriesher, EIT** - Mr. Kriesher is a civil engineer / QC engineer with over 3 years of experience involving water resources, water and wastewater treatment, sewer system design and improvements, and heavy construction projects requiring complex technical, planning, scheduling and management skills. He has knowledge of facility plans, such as Storm Water Pollution Prevention and Water Quality and Quantity Control Plans; hydrologic and hydraulic analyses and modeling; design of stormwater management/erosion and sedimentation control measures; stormwater conveyance systems; technical bid specifications; and contractor drawings. Mr. Kriesher has also performed subcontractor procurement, field construction oversight, and soil sampling for post-excavation and waste characterization purposes.

- **Steve Leo** – Mr. Leo has over 25 years of experience in equipment design, installation, and testing of water, wastewater, stormwater, and pump station facilities. He has extensive knowledge of and has been directly involved in the coordination and preparation of construction documents and preparation of as built drawings. He has experience in surveying, development of detailed construction plans, preparation of specifications and bid documents, mechanical design, and computer-aided drafting. He also has experience supervising contractors and construction crews, and monitoring quality of construction and compliance with plans, specifications, and contract documents.

Overflow Team (if there is a scenario where requisitions are not staggered throughout the month)

- **Lawrence Fenlon, CET** - Mr. Fenlon has over forty years of experience in construction, including pile installation, reinforced concrete construction, controlled fill placement, building construction, highway construction, water and sewerage facilities construction, project representation, site remediation, landfill closure quality assurance, and contract administration and construction cost estimating. His experience also extends to technical design of site engineering projects, construction materials testing, and soils laboratory work.
- **James B. Moore, EI** - Mr. Moore has twenty-three years of engineering and design experience of municipal, industrial, and hazardous wastewater collection and treatment systems, nine of those years have included operations and maintenance experience, and two years of project management experience. He is able to communicate effectively with management and clients on all levels. His project experience includes wastewater collection, conveyance, treatment and disposal facility design, preparation of plans and specifications related to water, wastewater, and ground water treatment systems, construction management and supervision, startup and testing support, shop drawing review, design of mechanical, process, and instrumentation systems, and operations and maintenance and project management of pump and groundwater treatment facilities.
- **Richard Thomas, CET** – Mr. Thomas has thirty four years of project construction experience, including construction monitoring, preparation of change orders, the incorporation of engineering design changes in the field, coordination of construction trades, on-site soil and concrete sampling and testing, and verification that construction is in compliance with approved plans and specifications. Conducts construction progress meetings, distributes minutes, maintains and updates all construction correspondence and drawings.

E. David Barth, *Project Manager*

Mr. Barth is Grant Thornton's proposed project manager. He has over 39 years of experience with State government starting with the construction oversight of historic restoration and recreational development projects. During the past twenty years he has been responsible for the Department of Environmental Protection's operating and capital budgets and managed the fiscal aspects of its grant and loan funded programs including the original wastewater treatment loan program.

Work History and Relevant Experience

Grant Thornton

Manager, Global Public Sector, November 2013 – Present

- Responsible for the development of program and process management controls and operational improvements. Provide technical knowledge and expertise to review and make recommendations to improve/streamline grant management and fiscal processes to insure the accountability of all funding uses. Provide performance and program monitoring and project management services.

New Jersey Department of Environmental Protection

Director, Division of Budget and Finance, July 2002 – June 2013

- Responsible for the implementation, execution and management of DEP's operating and capital budgets including related federal funding. Responsible for the integration of programmatic budget needs, strategic directions and financial solutions. This includes developing the schedule, issuing the necessary guidance, overseeing and preparing the required financial analyses of multiple funding options as part of DEP's annual budget process.
- Responsible for the development of a management structure to identify, maximize and manage federal funding sources for New Jersey's Rebuilding and Recovery efforts as they relate to the New Jersey Department of Environmental Protection;
- Established the process and procedures to ensure the necessary internal controls were in place to oversee the spending and grant compliance conditions are met during the implementation phases of rebuilding; and
- Coordinated an internal Department of Environmental Protection team to tie together the multiple state and federal funding sources to the goals of Environmental Infrastructure, Natural and Cultural Resources and Hazard Mitigation Work Groups and their alignment to FEMA's Resource Support Functions/Framework. These efforts included the connection to multiple federal agencies, interpretation and analysis of federal appropriation laws and underlying federal enabling statutes; meeting with federal funding partners and understanding their individual grant programs; participating with the Governor's Office of Rebuilding and Recovery and gaining a personal knowledge of the process and being able to present the information to the Department's executive staff, Work Group leaders, and key Department staff.

Education and Certifications

- Masters, Administration, Rider College
- B.A., US History, Fairfield University

William (Bill) Moore, CPA, CPM, CGFM, *FEMA Grants Management and Monitoring Team Lead*

Work History & Relevant Experience

Grant Thornton

Senior Manager, September 2013 - Present

Foxx & Company

Senior Manager, October 1996 – September 2013

- **Department of Homeland Security (DHS).** Mr. Moore was Foxx's Senior Manager for over 50 audits of DHS programs and activities. The reports issued have been well received and beneficial to the Department. Improved program management and overall compliance with regulations, as well as increased efficiency and effectiveness in the use of federal funds have resulted from these audits. The audits included: 30 audits of Assistance to Fire fighter grants management by individual fire departments, 13 audits of the management of disaster assistance grants by state emergency management offices, 16 audits of first responder grants to individual states, and 6 audits of FEMA internal processes and procedures. Mr. Moore also managed audits of the removal of Hurricane Katrina debris from Louisiana's Saint Bernard Parish, St. Tammany Parish, Washington Parish, East Baton Rouge Parish, Plaquemines Parish and the City of Kenner.
- **Department of Labor (DOL).** Mr. Moore managed 3 audits of the DOL's management of Recovery Act funds. The audits included: the DOL's implementation of the Federal Additional Compensation (FAC) program within ten selected states; compliance with Davis Bacon Act prevailing wage requirements by recipients of Recovery Act funds, and DOL's oversight of Recovery Act funds provided to states to enhance employment opportunities for the unemployed.

- Certified Public Accountant
- Over 49 years of government accounting and auditing experience
- Over 10 years of experience performing audits and reviews of Federal assisted grant programs, including FEMA grants
- Experience conducting audits in accordance with the Government Auditing Standards

Government Accountability Office

Manager, 1984 – 1995; Auditor, 1964 – 1984

From 1964 through 1995, Mr. Moore was an auditor for the GAO. He started at the entry level and was a member of the Senior Executive Service (SES) when he retired. For 22 years, his GAO headquarters responsibilities included performance audits at several federal agencies, including Agriculture, DOD, GSA, HUD, and NASA. He was a member of the Comptroller General's Steering Committee for implementation of Federal Managers Financial Integrity Act, and was responsible for implementing the act at NASA, DOD, and the State Department. As GAO's Cincinnati Regional Office Manager for 11 years, Mr. Moore managed Cincinnati-based auditors for all GAO Ohio, West Virginia, Indiana, and Kentucky audits.

Education and Certifications

- B.S., Accounting, West Liberty State College, 1964
- Degree in National Security Management, Industrial College of Armed Forces, 1981
- Executive Excellence Program, Federal Executive Institute, 1988
- Certified Public Accountant
- Certified Government Financial Manager
- Certified Professional Manager

Shiva Kumar, PE, *Task Lead, Environmental and Engineering Oversight Review, Assistance and Monitoring*

Mr. Shiva Kumar is a senior environmental engineer with over 18 years of technical experience in environmental engineering, compliance, assessment, and restoration fields. He is an experienced consultant who has represented federal (EPA), state (Delaware and Maryland), and industrial clients. He is an experienced professional in the preparation of technical/cost proposals for environmental scopes of work; completion of technical environmental permit applications covering the management of hazardous wastes, water, and air emissions. He has worked as a process engineer designing groundwater treatment plants, water treatment plants, pump stations, and Stormwater treatment facilities. He has developed designs, specifications, and work plans, and has been involved in equipment vendor and system supplier negotiations, preparation of O&M manuals, and managing O&M activities.

Project management experience includes project planning, cost control, budgeting, scheduling, subcontract management, construction management (develop request for proposals, conduct pre-bid meetings), and procurement of subcontractors.

Work History and Relevant Experience

Process Engineer and Engineering Manager; Calverton Fenceline Design - NAVFAC, 2011 to 2013 – Responsible for process design during the FS phase of the project. Managed the engineering design for a 100 gpm groundwater pump and treat system. The pump and treat system utilized self-priming pumps, tray air strippers for removal of VOCs, cartridge filters for removal of oxidized metals and TSS, and reinjection of the treated groundwater.

Project Manager and Engineering Manager – Remedial Design (RD), Lockheed Martin Dump Road Area (DRA) site (Middle River, Maryland) 12/2011 – Present – Design a pump-and-treat system employing a series of process units (precipitation, advanced oxidation, air stripping, and activated carbon) to remediate site groundwater contaminated with chlorinated compounds, 1,4-dioxane, and metals. Treated water will be ultimately discharged to nearby surface water. Procure all permits, and manage all engineering work including installation of potable water lines, water conveyance lines, installation of treatment building, and negotiations with system suppliers.

Design Engineer, Aqua, NY Water Treatment Facility – Department of the Navy, Mid-Atlantic – Performed engineering services for a new 3,000 SF Water Treatment Facility in Nassau County, New York. This project involves modifications to an existing 2000 gpm water treatment facility, to include the removal of Organic contaminants from the groundwater utilizing Liquid Phase Granulated Activated Carbon filtration technology. The treatment plant is housed in a 3,000 sq. ft accessory building where chlorination, fluoridation and final Phosphate polishing are additionally done. Piping, controls, new Switchgear for the entire site and backup emergency generator are housed inside this building.

Project Engineer, Deer Meadow Water Treatment Facility, Artesian Water Company (Delaware) – Provided process and engineering services during the design of the project. The project consisted of a 250 gpm water treatment facility for the removal of iron (up to 10 mg/l) from the groundwater utilizing greensand filtration technology including automatic backwashing of filters. The treatment plant is housed in a 3,400 sq. ft building. Included were chlorination, fluoridation piping, controls and backup emergency generator housed inside a pump house. This project utilized "Green Technology" that included reuse of wastewater and using geothermal energy for building HVAC.

Project Engineer; Windsong Farms Water Treatment Facility, Artesian Water Company (Delaware) – Project engineer during this design/build project. The project consisted of a 500 gpm water treatment facility

for the removal of arsenic (up to 15 mg/l) from the groundwater utilizing granular ferric hydroxide (GFH) filtration technology including an automatic backwash of filters. The treatment plant is housed in a 1,400 sq. ft building. Included were pH adjustment systems, chlorination, fluoridation piping, controls and backup emergency generator housed inside a pump house. Prior to detailed design phase, a bench-scale test and a 6-month long pilot test was performed to determine life expectancy of GFH media and bed volume. The entire system is fully automated for remote operation.

Project Engineer; Stonewater Creek Water Treatment Facility, Artesian Water Company (Delaware) – Project engineer and process engineer for this design/build project. The project consists of a 500 gpm water treatment facility for the removal of nitrate (up to 15 mg/l) from the groundwater utilizing ion exchange technology followed by chlorination. The treatment plant is housed in a 1,500 sq. ft building. Included were pH adjustment systems, piping, controls and backup emergency generator housed inside a pump house. The entire system is fully automated for remote operation.

Project Engineer; Bayville Water Treatment Facility, Artesian Water Company (Delaware) – Project engineer and process engineer for this design/build project. The project consists of a 2 MGD water treatment facility for the removal of iron (up to 25 mg/l) and manganese from the groundwater utilizing aeration, flocculation and chemical precipitation, clarification and filtration technologies followed by chlorination. The treatment plant is housed in a 5,000 sq. ft building. The entire system is fully automated for remote operation.

Engineering Manager; Southbridge Regional Water Treatment Plant, Sioux City, Iowa; 2009 to 2010 – Responsible for the design of a 10 mgd (expandable to 30 mgd) membrane filtration water treatment plant. The facility included PALL membrane filtration modules, CIP systems, chemical feed systems and high service pump station.

Project Manager & Project Engineer; Richmond Advanced Recycled Water Treatment Project, East Bay Municipal Utility District, Oakland, CA; 2009 to 2010 – Develop O&M Manual including standard operating procedures (SOPs), pre-start checklist, system start-up, system shutdown, etc. for various systems of the plant. This is a reuse plant that uses MF for pre-treatment and RO for removal of dissolved solids.

Project Engineer; Ciba Pigments; Wastewater Pretreatment Facility; Newport, Delaware; 1998-1999 – Process Engineer and Project Engineer during the design of this project. The project included several regional pumping systems (up to 5,000 gpm) to transfer process waste from various operating areas into two above ground 500,000 gallon flow equalization tank, pH neutralization system (pH 1.0 to 13.0) for a flow of 1 MGD, programmable controller for all controls and data transmission. Provided area wide wastewater characterization environmental permitting and technical support during construction, procurement services, startup and testing and operators training. This project received an Honor Award from the Consulting Engineers Council of Delaware.

Project Engineer; Ciba Pigments; Stormwater Management Project; Newport, Delaware; 1998-2000 – Process lead and project engineer for this project. The project included several regional pumping systems (up to 7,500 gpm) to transfer stormwater, fire water, and contaminated water from various operating areas into an above ground 800,000 gallon storage tank. This water is being reused as nonpotable water or discharged to a treatment plant if required. All systems are automated via a programmable logic controller. Provided environmental permitting and technical support during construction, procurement services, startup and testing. This project received A National Storm Water Program Excellence Award® from the USEPA in 1999.

Project Manager; Groundwater Treatment Plant O&M and Upgrade, Greenwood Chemical Site, VA; US EPA RAC Contract; \$2.5M Revenue; 2002 to 2006. Responsible for directing and overseeing O&M; and recommending, designing, and implementing treatment plant upgrades. Responsible for budgeting costs, allocating resources, directing design teams, and client interaction. The unit processes consist of a pretreatment system, gravity filter, UV oxidation (30 kW), air stripper, and granular activated carbon, and five chemical feed systems. Developed a 5-year review report.

Education

M.S., Environmental Engineering, University of Maryland at College Park, 1994

B.S., Civil Engineering, National Institute of Engineering, University of Mysore, 1989

Registrations/Affiliations

Professional Engineer; (Maryland); No. 25855; 2001

Professional Engineer; New York; No. 17229; 2011

Professional Engineer; Delaware; No. 090555-1; 2012

OSHA 1910.120 40-Hour HAZWOPER Training; Feb 1997

Publications

Kumar, S., and Davis A.P., "Heterogeneous Photocatalytic Oxidation of Nitrotoluenes," Water Environment Research, 1238-1245, Volume 69, Number 7, November/December 1997.

Younsil Lee, PE

Ms. Lee has thirteen years of experience in the civil and environmental engineering field and provides technical support as a civil/environmental engineer for clients in the government and private sectors. Project support includes project and task management; erosion and sediment control; stormwater management; technical report writing; quality assurance and quality control for technical documents; construction management; project planning; watershed management programs; sewer rehabilitation and client communication.

Work History and Relevant Experience

Civil Site Work for Martin State Airport Groundwater Treatment Facility – Provides engineering support for site development including construction documents and technical specifications to construct groundwater treatment facility in Baltimore County, MD. Task includes site parking, road design, utility layout, stormwater management, erosion and sediment control, and grading. She also prepared the permit applications for regulatory agencies.

Design of Swale abandonment for Maryland State Programmatic General Permit – Provided engineering support to achieve Maryland State Programmatic General Permit from Army Corps of Engineers for the project. Task includes stormwater management technical reports and construction documents including stormwater management plan, erosion and sediment control plan, and grading plan. She directly interacted with the regulatory agency to acquire the permit approval.

Design Erosion and Sediment Controls for Lockheed Martin Middle River Complex – Provided engineering support for the erosion and sediment control design for groundwater remediation design in Baltimore County, MD. Tasks include preparing erosion and sediment control and grading plans, and acquiring plan approval from the regulatory agency. She addressed the reviewer's comments and the client's concerns.

Utility Cross-Connection Investigation for Lockheed Martin Middle River Complex – Provided engineering support and site inspection for utility cross-connection investigation at the Lockheed Martin Middle River Complex. Tasks include identifying the possible utility pathways and cleaning of the sanitary and storm sewer pipes. She performed the site inspection as the resident inspector during the site investigation, reviewed the contractor's inspection report and their payment submittals

Civil Site Work for Dover Air Force Repair/Construct Pallet & Net Facility – Provided engineering support for site development including construction documents. Ms. Lee was responsible for writing technical reports including stormwater management, and designing erosion and sediment control plan and stormwater management plan.

Civil Site Work for Navy Calverton Fenceline Groundwater Treatment Facility – Provided engineering support for site development including construction documents and technical specifications to construct groundwater treatment facility.

Project Engineer; Edgemoor Gardens Reconstruction; Wilmington, DE – Assessed infrastructure physical condition and developed basis of design. Developed contract documents including construction plans and specifications for the sewer reconstruction, estimated construction cost. Prepared permit application and acquired approval from regulatory agencies. Prepared easement plats and agreements, cleanout installation plans and specifications.

Project Engineer; North Brandywine 2005 Sewer Rehabilitation; Wilmington, DE – Assessed infrastructure physical condition and developed basis of design. Developed contract documents including

construction plans and specifications for the sewer rehabilitation utilizing various methodologies including sewer main lining, later lining, and test and seal. Prepared easement plats and agreements, cleanout installation plans and specifications.

Project Engineer; Lehigh County Authority Sewer Interceptor Rehabilitation; Allentown, PA –
Assessed infrastructure physical condition and developed contract documents including construction plans and specifications for the sewer interceptor rehabilitation utilizing trenchless technology. Prepared and acquired permit approval from PennDOT for the construction.

Education

M.C.E., Civil Engineering, University of Delaware, Newark, DE, 2001

B.S., Environmental Engineering, Pusan Nation University, Busan, South Korea, 1999

Registrations/Affiliations

Registered Professional Engineer, License # 24GE04651700, New Jersey, Since 2006

Registered Professional Engineer, License # 17637, Delaware, Since 2012

Certified Erosion, Sediment, and Stormwater Inspector, Delaware Cert # 20100324031

Certified Construction Document Technologist, Cert # 1498143, Since 2007

Casey Grabowski, PE

Mr. Grabowski has 11 years of work experience in the civil and environmental engineering field as well as land survey field. His civil engineering experience includes site assessment, site design, site planning, minor and major subdivisions, storm water management, utility routing, and acquiring regulatory approvals. His survey experience includes GIS, GPS, surface modeling, field work, managing field data, quality assurance, drafting, as-building, and preparing exhibits. He is currently managing 1 full-time survey crew. His environmental engineering experience includes the design of soil remediation projects and groundwater treatment projects, and the design of municipal water supply treatment systems. His project management experience includes proposal writing, material take-off and bidding assistance, sub-contracting, and general project coordination including client, inter-company, and regulatory correspondence.

Work History and Relevant Experience

Project Engineer, Building 1908, Dover Air Force Base, Delaware – Prepared the civil/site portion of the construction drawings and specifications for a warehouse facility including the design of a drinking well / chlorination system as well as a ½ mile sanitary force main / pump station. In addition to traditional site design, notable work included using AutoTurn software for oversized vehicle traffic simulation, infiltration trench design (stormwater management), specifying directional drilling/boring under a state right-of-way for utilities, and managing a survey crew. Work adhered to the AEC 4.0 CADD Standard and LEED 2009.

Project Engineer, Blackhawk Washrack, Delaware Army National Guard (DEARNG), New Castle County Airport, Delaware (2011-2012) – Prepared the construction drawings and specifications for the conversion of an existing concrete area into a containment area that meets federal standards for a helicopter wash pad. In addition to traditional site design, notable work included treatment train design for the wasted washwater and coordination with the electrical and mechanical engineers to design an electronic pumping / valve operation system that contains the wasted washwater when in use but allows stormwater to flow freely when the system is not in use.

Project Engineer, DeIDOT, Kenton Water Main, Delaware – Designed a community well, small water main, and service lines for a group of about 10 homes, including a small treatment system. Work also included coordinating or performing typical survey services such as field work, property and right-of-way surveying, and utilizing public data such as LiDAR and aerial photography to prepare a design basemap.

Project Engineer, PADEP, Horsehead Industries / Brickyard Landfill, Monaca, Pennsylvania – Prepared a design report / work plan for interim remediation response at a HSCA site. The goal was to improve drainage and provide vegetative stabilization on steep slopes at a slag yard. Due to the budget constraints of an interim response, options were very limited.

Project Engineer, DNREC, Statewide Wastewater Assessment 2011-2016, Delaware – Conducted a statewide interview and assessment of all municipal wastewater treatment plants, including the major private providers. Work included preparing a customized database, conducting interviews, entered the data into the database, Q/A'ing and cross-checking the data, writing the report, collecting or creating GIS data, spatially referencing GIS data, and linking GIS data to the database, and prepared GIS exhibits. Spoke/presented data at the Clean Water Advisory Committee (CWAC).

Project Engineer, NAVFAC, Calverton Sports Club Water Service Line, Calverton, NY – Complete site design services for a ½ mile water service line to an isolated Sportsman's Club on Long Island, NY. Work required close communication with the club as the area is both environmentally and aesthetically sensitive. Also managed a survey crew and compiled property survey-related documents (deeds, plats).

Project Engineer, NAVFAC, Calverton Fenceline GWTP, Calverton, NY – Site design for a small pump-and-treat groundwater treatment plant, including coordination with the architect and process engineer. Considering the site is in an environmentally sensitive area, the site design incorporated a minimalistic yet effective layout. Other site design items of note included an infiltration basin, recovery well lines, injection well lines and trenches, and coordination of site utilities. Also managed a survey crew and assisted with project management duties such as compiling construction drawings and specifications for all disciplines.

Project Engineer, NAVFAC, Title I Groundwater Remediation, Aqua New York Water Plant, Bethpage, NY – Prepared the civil/site portion of construction drawings and specifications for upgrades to a 200 gpm groundwater treatment facility housed in a 3,000 sq ft building to treat trace chemicals found in groundwater using activated carbon. Directly assisted the project manager in coordinating all other disciplines (process, mechanical, electrical, structural, architectural, and survey).

Project Engineer, Watson Johnson Landfill Superfund Site, Environmental Protection Agency (EPA), Quakertown, PA – As lead designer, prepared civil engineering drawings and specifications for a 21-acre multi-layer soil and geosynthetic landfill cap, including stormwater management, landfill gas, and wetlands restoration components. Assisted with the Construction Quality Assurance Plan, the long-term O&M Plan, and the easement / land acquisition documents. Made recommendations to the environmental engineer with the site aspects of the groundwater remediation portion of the project outside of the landfill area. This site included more than 35 monitoring wells and surface soil and surface water/sediment characterization of more than 60 locations.

Project Engineer, Havertown PCP Superfund Site, Environmental Protection Agency (EPA), Havertown, PA – The design for this site included a $\frac{3}{4}$ mile force main to transmit contaminated water and to remediate about an acre of soil in a tight, residential area. Work included preparing all of the civil portion and part of the mechanical portion of the regulatory and construction documents, the Basis of Design Report, technical specifications, the Erosion and Sediment Control Plan, and community outreach exhibits. Other work on this site included preparing volume computations and several GIS exhibits for groundwater wells.

Project Engineer, Ordnance Products, Inc, Environmental Protection Agency (EPA), North East, MD – Oversaw preparation of the site plans, site details, and erosion and sediment control plans for a soil restoration project on a 95-acre abandoned munitions site. Also performed an in-depth Q/A on all the technical specifications and tailored them to restore the site back to a natural, vegetative state.

Project Engineer, Lower Darby Landfill Superfund Site, Environmental Protection Agency (EPA), Philadelphia, PA – Prepared conceptual grading and stormwater management plans for the Feasibility Study, including recommendations on flood mitigation, wetlands restoration, watercourse relocation, and property/utility information. Also prepared several other exhibits and managed survey field work.

Education

B.S. Civil Engineering, University of Delaware, 2003

Registrations/Affiliations

Professional Engineer in Delaware

LEED Accredited Professional

Member of SAME, ASCE, US Green Building Council, Technology Forum of Delaware

Honor Society: Chi Epsilon

Joseph Fischl

Mr. Fischl has 30 years of experience in technical management/consulting and research activities involving both private and public sectors. His consulting/management experience includes ecological site characterization/mapping; threatened and endangered species surveys; wetland delineation, mitigation/restoration design, and permitting; preparation of environmental assessments and environmental impact statements; training and supervision of field research assistants. Mr. Fischl's research experience includes design and implementation of field studies investigating avian behavior and population dynamics, and the analysis and interpretation of results.

Mr. Fischl is currently the Biological Sciences Group Technical Lead in Morris Plains and also provides guidance for northeast region staff. He supervises biological sciences staff; reviews biological, ecological and environmental assessments and reports evaluating physical and/or chemical impacts to the environment resulting from the construction of new facilities, or the remediation of contaminated or disturbed sites. He also provides technical direction, recommendations, and evaluations for field sampling procedures for terrestrial and aquatic, vegetation and wildlife resources.

Work History and Relevant Experience

Permitting Lead BP Wind Energy, Cape Vincent Wind Farm, Jefferson County, NY (2012-present).

Provided services to BP Wind Energy to prepare and submit a complete application for an Article 10 Certificate of Environmental Compatibility & Public Need to the New York State Board on Electric Generation Siting and the Environment (Siting Board) for the proposed 200-280 MW Cape Vincent Wind Farm project located in Jefferson County, New York.

Wetlands Ecologist Deepwater, Block Island Wind Farm and Transmission System, RI (2012-present). As part of the siting and permitting efforts for Deepwater Wind's 30 MW Wind Farm located on Block Island with off shore routing and interconnection in Narragansett, provided technical support for preparation of the wetland sections of the Environmental Report and permit applications to the US Army Corps of Engineers, the Rhode Island Department of Environmental Management and the Rhode Island Coastal Resources Management Council.

Avian Ecologist Excelerate, Aguirre GasPort, Puerto Rico (2012-present). Served as technical lead evaluating avian impacts as part of the environmental impact analysis supporting the FERC application to construct and operate the Aguirre Offshore GasPort Project, which includes an offshore import terminal, an regasification vessel to receive liquefied natural gas, and a subsea pipeline to transport the natural gas to the Central Aguirre power plant.

Wetlands Ecologist EDPR, Marble River Wind Farm, Wetland Mitigation Oversight, Clinton County, NY (2011-present). Provided oversight of the restoration (0.43 acres), establishment (2.08 acres) and enhancement (8.09 acres) of wetlands required for mitigation to compensate for temporary and permanent impacts resulting from construction of 98 wind turbines and associated ancillary facilities. Oversight included review of grading, spring and fall plantings, and regular site inspections to assess compliance with design specifications. Tasks also included of assessment of permanent stream crossings and recommendations for appropriate culverts to accommodate movement of aquatic life.

Permitting Lead Alcatel Lucent, Former Whippany Facility Remediation, Whippany, NJ (2011-present). Permit lead for preparation of NJDEP General Freshwater Wetlands Permit (GP4) and Individual Flood Hazard Area Permit applications for impacts associated with remediation of polychlorinated biphenyl (PCB) in soils and sediments related to activities conducted at Alcatel Lucent's former Whippany facility.

Project area included potential presence of federal and state listed species (Indiana Bat, bog turtle and wood turtle).

Project Manager Clipper Windpower Development Company, Paragon Windpower Project, Hornby, NY (2012). Responsible for coordinating the preparation of the New York State Environmental Quality Review (SEQR) Environmental Assessment Form (EAF), and Scoping Statement for an 80 MW wind power project located in Steuben County, New York. Responsibilities also included coordination with the lead agency.

Permitting Lead Iberdrola, Hardscrabble Wind Farm Incidental Take Permit, NY (2011-present). Assisted Iberdrola in the preparation of an incidental take permit for the Hardscrabble Wind Farm location in Herkimer County, New York. Responsibilities included development of mechanism to engage discussion with the NYSDEC to reduce conflicts between listed species and economic development, and integrates land-use activities with conservation goals as required by state regulations (6 NYCRR Part 182).

Wetlands Lead NextEra Energy Resources, LLC, Ensign Wind Energy Center, Ensign, Gray County, KS (2010-2011). Conducted desktop and field inspections to identify and delineate federal jurisdictional waters of the United States associated with the 12-mile overhead transmission line corridor for the Project.

Permitting Specialist Confidential Client, Solar Energy Projects, Southern NJ (2010). Responsible for conducting regulatory compliance analyses for several potential solar site in southern New Jersey. Analysis addressed federal, state permit requirements as well as consistency with local zoning ordinances and land use plans. Summary also included suggested permitting strategies.

Permitting Lead University Initiative Project, Kean University, Union, NJ (2010). Permitting lead for the proposed upgrade an existing bridge that spans the Elizabeth River at the Morris Avenue Campus of Kean University located in Union and Hillside Townships, Union County, NJ. Prepared a NJDEP General Permit 10A (GP10A) permit and Individual Flood Hazard Area Permit.

Education

MS (Master of Science), Ecology, Rutgers University, 1983

BS (Bachelor of Science), Wildlife Biology, Rutgers University, 1976

Registrations/Affiliations

Habitat Evaluation Procedures (USFWS), US, Earned 3/1/91

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