

ENGAGEMENT QUERY

EQ2014-005-P2&3: Bayshore Regional Sewerage Authority - Incinerators

I. GENERAL INFORMATION:

On March 27, 2013, P.L. 2013, Chapter 37 (N.J.S.A. § 52:15D-1, et seq.), the Integrity Oversight Monitor Act (the Act) was enacted for the purpose of authorizing the deployment of Integrity Oversight Monitors for recovery and rebuilding contracts resulting from Superstorm Sandy and subsequent major storms in NJ. The Act authorizes the State Treasurer to require integrity oversight monitor services on any State or non-State, federally funded recovery and rebuilding contract of \$5 million or more. Pursuant to the Act, the Treasurer established a pool of qualified integrity monitors (Pool) from which the Treasurer could require the use of services on any State or federally funded recovery and rebuilding contracts. Consequently, the Treasurer has required integrity oversight monitoring on any such contracts valued at \$5 million or more.

The Department of Treasury (Treasury), on behalf of the Bayshore Regional Sewerage Authority (BRSA) is seeking quotes pursuant to the “Program and Process Management Auditing, Financial Auditing and Grant Management, and Integrity Monitoring/Anti-Fraud Services for Disaster Recovery Assistance” RFQ, and the “Prequalification Pools: Auditing and Other Related Services in Support of Disaster Recovery” RFP from prequalified contractors in Group 2: Financial Auditing and Grant Management, or Group 3: Integrity Oversight Monitor and Anti-Fraud (Contractor).

The State is seeking to retain the services of a prequalified Contractor from the Pool with knowledge of Federal Emergency Management Agency (FEMA) Public Assistance Programs, Department of Environmental Protection rules and regulations, New Jersey Environmental Infrastructure Trust rules and regulations, the design and construction of wastewater treatment facilities, and experience with state and local procurement processes, particularly the New Jersey Local Public Contracts Law (N.J.S.A. 40A:11-1 et seq.).

The purpose of this Engagement Query is to provide BRSA with an integrity oversight monitor in order to minimize the risk of deobligation, and prevent or rectify the duplication of benefits, process and payment errors, waste, fraud, abuse, malfeasance and mismanagement of funds. This Contractor will serve as the BRSA integrity oversight and anti-fraud monitor as pursuant to the Act.

The Engagement Query focuses on the contract related to the Niro Incinerator and the Air Emissions Hazard Mitigation Upgrade detailed in FEMA Project Worksheet (PW) 4740. **(Attachment 1)** The PW includes other contracts, but these contracts are not included in the Scope of Work since they fall below the proscribed threshold.

The Contractor procured as a result of this Engagement Query will be responsible for reviewing and evaluating financial and administrative functions for this contract; reviewing and evaluating construction deliverables; developing recommendations and strategies to ensure maximum Federal recoveries and prevent associated risks, if necessary; and providing ongoing quality assurance/quality control reviews and assessments.

Contract award is subject to the availability of federal funding. The level and amount of work to be awarded to the Integrity Oversight Integrity Monitor is not guaranteed.

A. Background

The project worksheet relates to the demolition and reconstruction of two incinerators, the Dorr Oliver and the Niro as well as its adjacent equipment. It also includes several other scopes of work, including sewage sludge incineration and dewatering at the Incineration and Plant Control Buildings. According to BRSA officials, they are currently in the design phase.

BRSA expects to receive funds from Hazard Mitigation Grant Programs Section 406 to fix equipment to meet air emissions standards. One contract of approximately \$9 million will be bid for the Niro incinerator and the required air emissions upgrade. The costs of these scopes of work are estimated at \$5.2 million and \$3-4 million, respectively.

BRSA intends to apply for a loan from the New Jersey Environmental Infrastructure Trust (NJEIT) to provide short term funding of anticipated expenses and long-term funding for all or a portion of expenses unreimbursed by FEMA. NJEIT has hired Grant Thornton as an internal Integrity Oversight Monitor with environmental engineering capabilities to serve as the NJEIT's technical oversight contractor. NJEIT and Grant Thornton perform environmental, engineering, and requisition reviews of project contract documents based on professional engineering standards. The NJEIT and Grant Thornton will review construction design, monitor construction management, and review requests for reimbursements, and the disbursement of funds to prevent, detect, and remediate fraud, waste, and abuse. The Contractor should note that all such information will be made available to aid the Contractor in performing its responsibilities herein. The Contractor is expected to leverage Grant Thornton programmatic findings without duplicating or recreating efforts.

B. Project Description and Contract Details

- Category F - Incinerators
- Current Estimate Niro Incinerator Costs: \$5.2 million
- Current Estimate Hazard Mitigation: \$3-4 million

The Niro repair will require two steps: 1. demolition and removal and 2. reconstruction. BRSA officials anticipate that one contractor will be necessary to complete both pieces of work.

According to PW 4740, Regulation 40 CFR part 60 sets limits for nine pollutants under the Clean Air Act. Air emissions standards have changed since the time the incinerators were built, and BRSA is now required to comply with part 60. Because part 60 was not enforced at the time the incinerators were destroyed, FEMA has elected to fund the incinerator rebuild to meet their pre-disaster design and will not fund upgrades to the incinerators outside of the Hazard Mitigation Grant Program. However, as these upgrades are required, BRSA officials expect that the work will be funded through the 406 Hazard Mitigation Grant Programs; however, as of January 27, 2014 FEMA had not yet approved such funding.

BRSA officials plan to use one contract for all of the work. The contract will be divided out by task order in order to keep the hazard mitigation and the rest of the FEMA reimbursement separate.

The work is expected to commence in July 2014, and to be completed in 2016.

C. Risk Assessment Summary

EY has completed the attached risk assessment for the incinerator work for BRSA as it relates to funding BRSA is receiving from the FEMA in connection with Superstorm Sandy, as well as funding for hazard mitigation. At the time of this risk assessment, there were 10 project worksheets written for BRSA, with only PW 4740 expected to have a contract greater than proscribed threshold of \$5 million. The contract, which has not been procured yet, is estimated to be above this threshold; therefore, this risk assessment only focuses on this contract. The risk assessment was performed based on the information provided by BRSA to date, and includes:

- FY2011 and FY2012 audited financial statements (including the A-133 single audit reports)
- Project Worksheet 4740
- Meeting among NJ State Treasury, BRSA and EY on September 10, 2013
- Follow-up teleconference between BRSA and EY on January 27, 2014

D. Items Noted during Risk Assessment

- Niro's reconstruction is currently being designed and no procurement has been performed. The contract has not gone out to bid, but BRSA officials indicated that they anticipate the contract will exceed \$5 million. In order to procure the contractor, BRSA plans to follow New Jersey state law.
- The FY2011 financial statements and A-133 single audit report did not disclose any control deficiencies. The financial statements were audited by Bart and Bart. Per the A-133 reports, BRSA has received federal loan and grant funding totaling \$3.85 million for a Clean Water program.
- In order to assist with the anticipated expenses, BRSA is planning to receive an NJEIT loan. As part of the loan process, NJEIT requires that environmental planning, construction design, permitting, bid specifications and procurement documentation be provided to them for review. Through the review of these documents, the NJEIT, and its Integrity Monitor, will seek to identify of fraud, waste, and abuse. This adds another layer of monitoring to the procurement phase, thus decreasing the associated risk.
- BRSA has insurance coverage, and officials expect to recover approximately \$1.5 million for Niro incinerator repairs, with an additional \$.9 million going towards the other repairs.
- While BRSA is not new to receiving federal funding, they have never received the large amount they are estimated to receive.
- This risk assessment covers an estimated \$9 million contract related to the Niro incinerator demolition/reconstruction and required air emissions upgrade. It does not cover the other

scopes of work listed in PW 4740 such as including sewage sludge incineration and dewatering at the incineration and plant control buildings.

Contract and Values in PW 4740

Type of Work	Funding Source	Estimated Cost of Work
Site #2 Niro Incinerator	FEMA	\$5.2M
Air Emissions Upgrade	Hazard Mitigation Grant Program Section 406	\$3-4M
Estimated Contract Total		\$9M
Site #1 Dorr Oliver (3 contracts)	FEMA	\$1.5M
Dewatering Equipment (Incineration Building)	FEMA	Unknown
Dewatering Equipment (Plant Control Building)	FEMA	Unknown
Total of Other Contracts below \$2 million		\$9.4 M
Total PW 4740		\$18.4M

II. SCOPE OF WORK (SOW) REQUIREMENTS:

Contractors must be able to perform all of the following tasks:

- A. Attend a kick-off meeting with representatives from the Department and BRSA to discuss the tasks and deliverables required under this work assignment. The Contractor is responsible for documenting and providing minutes of the meeting to the State Contract Manager within ten (10) days of the meeting.
- B. Review the BRSA's financial and administrative functions for this contract. Leveraging the NJEIT's Integrity Monitoring reviews and recommendations:
 1. Ensure that these functions adhere to all grant/assistance program guidelines, procurement rules, and reporting requirements.
 2. Verify that the contract procurement process is in accordance with all Federal, State and Local laws, regulations, and ordinances.
 3. Verify that payment process is consistent with applicable directives, and that there were no duplication of benefits, process and payment errors, waste, fraud, abuse, malfeasance or mismanagement of funds.
 4. If weaknesses, errors, etc. are detected, develop recommendations and strategies to ensure maximum Federal recoveries, compliance with all laws, and prevention of associated risks.

Report findings to the BRSA and copy the State Contract Manager.

C. Review and evaluate the construction deliverables for this contract. Leveraging the NJEIT's Integrity Monitoring reviews and recommendations:

1. Verify that construction plans, documentation, and permits comply with all Federal, State and Local laws, regulations, and ordinances.
2. Verify that all construction contract deliverables are provided, and within acceptable timeframes for the duration of the engagement.

Report findings to the BRSA and copy the State Contract Manager.

D. Provide ongoing quality assurance/quality control reviews for the duration of this engagement.

1. Ensure that payments are disbursed consistent with applicable directives, and that there are no duplication of benefits, process and payment errors, waste, fraud, abuse, malfeasance or mismanagement of funds.
2. Review construction progress through project closeout to ensure compliance with contract.
3. Provide ongoing guidance and problem resolution to support account reconciliations, and other issues related to the payment processing and reporting.

Report findings to the BRSA and copy the State Contract Manager.

E. Provide deliverables as set forth in this Engagement Query.

Each interested contractor is strongly urged to review the Act, contracts G-9004 and T-2939, the respective Method of Operation, and this Engagement Query to determine the best approach to develop its proposal and to meet the requirements of all tasks listed in this engagement query.

III. **DELIVERABLES**

The Contractor must ensure compliance with the following:

A. Required Timelines

1. Task A is required to be completed within ten (10) days of the kick-off meeting.
2. Task B is required to be completed within forty (40) days of the kick-off meeting.
3. Task C1 is required to be completed within forty (40) of the execution of the NIRO Incinerator/Air Emissions contract.
4. All other tasks shall be performed on an ongoing basis and in a timely manner for the duration of this engagement, and may have completion dates assigned by Treasury.
5. Status is to be reported to the State Contract Manager on a monthly and quarterly basis as set forth below.

B. Required Reports and Documents

1. Findings of potential fraud, malfeasance, or criminal activity
 - Upon a finding of a likely criminal violation or lesser degree of any malfeasance, inefficiency, waste, fraud, abuse or mismanagement of funds, report findings to the

State Comptroller and the Attorney General **immediately** consistent with the requirements of the Act.

2. Monthly Status Reports

- Provide update on activities conducted on, or for, each task to include the type of activity, analysis, results, recommendations, resolutions, and/or preventative measures; and follow up on any previous outstanding issues. Provide monthly status reports to the State Contract Manager.

3. Quarterly Report (**Attachment 2**)

- On the first business day of each calendar quarter, the Contractor shall provide to the State Treasurer, for distribution to the Legislature and the Governor, a report detailing the Contractor's provision of services during the three-month period second preceding the due date of the report and any previously unreported provision of services, which shall include, but not be limited to, detailed findings concerning the Contractor's provision of services and recommendations for corrective or remedial action relative to findings of malfeasance and inefficiency. The report shall not include any information which may compromise a potential criminal investigation or prosecution or any proprietary information. The report shall include a privilege log which shall detail each omission of any such information.

4. Time Logs

- Copies (and upon request, originals) of time logs shall be maintained by the Contractor and shall include information on the allocation of hours worked by the Contractor and staff to the respective federally-funded programs and all other data required in order to ensure compliance with all federal requirements.

IV. OTHER CONTRACTOR REQUIREMENTS

The Contractor is required to comply with all of the terms, including pricing, of its State contract (contract G-9004 or T-2939, as applicable), the applicable provisions of the New Jersey Standard Terms and Conditions, and the associated Method of Operation for the selected contracts. For the purpose of this engagement, the Contractor's indemnification obligation shall be limited in the aggregate to 500% of the value of the contract

Contracts are available on the Department of the Treasury, Division of Purchase and Property website:

Contract G-9004 http://www.state.nj.us/treasury/purchase/noa/contracts/g9004_13-r-23144.shtml

Contract T-2939 http://www.state.nj.us/treasury/purchase/noa/contracts/t2939_14-x-23110.shtml

Or, on the NJ Sandy Transparency website:

<http://nj.gov/comptroller/sandytransparency/contracts/sandy/>

V. LENGTH OF ENGAGEMENT

The term of this engagement shall be for a period of two (2) years, and may be extended for all or part of one year. This engagement will begin once Task Orders and Purchase Orders are issued, and will end when all deliverables have been met and accepted by the State.

VI. CONFLICT OF INTEREST

Any person with FEMA/CDBG responsibilities, decision-making power or information may not obtain a financial interest or benefit from FEMA/CDBG activity or have any interest in the contract(s) or subcontract(s). Firms are prohibited from acting as a contractor for both the auditing and integrity monitoring requirements for the same project.

VII. CONFLICT FOR FUTURE ENGAGEMENTS

The Department of the Treasury will determine, on a case-by-case basis, if the Contractor will be eligible to receive additional integrity monitoring engagements. If it is determined that award of this engagement presents a conflict of interest for participation in future engagements, the Contractor will be precluded from accepting subsequent Engagement Queries.

VIII. PROPOSAL CONTENT

The Contractor shall provide a detailed proposal with a detailed budget to perform the SOW in this engagement to the State Contract Manager:

Dave Ridolfino, Associate Deputy State Treasurer
IntegrityOversightMonitor@treas.state.nj.us
 by 5pm on April 2, 2014

Questions related to this Engagement Query must be submitted to:

IntegrityOversightMonitor@treas.state.nj.us
 by 5pm on March 19, 2014

Note: Use the attached template to submit questions. The compilation of all questions and answers will be sent to the group prior to the Engagement Query response due date. **(Attachment 3)**

If the contractor is unable to bid because of a conflict of interest or scheduling, the contractor must provide notice to the Department within **three (3)** business days of the receipt of Engagement Query.

The contractor's proposal must contain the following elements:

- A. A detailed proposal including a detailed budget, to perform the scope of work reflecting the requirements of the engagement query for competitive price quotes. The proposal must explain how the contractor intends to accomplish each task listed in the SOW;

- B. A contract schedule that shall identify the performance milestones and associated deliverable items to be submitted as evidence of completion of each task and/or sub-task;
- C. Person-hour and/or labor category mix: A comprehensive chart showing the person-hours proposed to meet the requirements of the Engagement Query. The chart shall be designed to reflect the tasks, sub-tasks, or other work elements required by the Engagement Query. The chart shall set forth, for each task, sub-task or other work element, the total number of person-hours, by labor category, proposed to complete the contract. The hourly rates used for each labor category shall be the hourly rates, or lower than the hourly rates specified in the contract. The person hours must be those originally bid or lower. The Contractor is to fill in each task listed in Section II Scope of Work in the column provided, and determine how many hours are required to complete each task. Provide a **separate quote sheet** for each year covering the length of this engagement. (**Attachment 4**);
- D. Estimated travel and direct costs for the duration of the engagement. Refer to contract T2939: 3.7 Travel Expenses and Reimbursements and Section 6.7.2 Bidders' Price Schedule; and contract G9004: 3.6 Travel Expenses and Reimbursements, and Section 6.0 Cost Proposal. (**Note:** Include **total travel** and **direct costs** on **Attachment 4** in the boxes provided.);
- E. A description of FEMA consulting experience on similar projects that demonstrates knowledge of eligibility, documentation and procurement requirements. Include client results in recovering the proposing contractor's fees as direct administrative costs, and a list of any deobligation of funds by FEMA in any of your projects;
- F. 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. The list must include the name of the contracting entity; a detailed list of the scope of services and the contract term; and identification of any sub-contractors to be utilized for this engagement which must be consistent with those identified in the original proposal/bid;
- G. Summary of experience of the primary and sub-contractor for engagements of similar scope and size; and
- H. Resumes of any primary contractor or sub-contractor individuals proposed for this engagement.

IX. SELECTION PROCESS

The State Contract Manager, on behalf of the Treasurer, or the using agency will review the proposals and select the Contractor whose proposal is most advantageous, price and other factors considered.

The State Contract Manager, on behalf of the Treasurer or the using agency will then issue a letter of engagement with a "not to exceed" clause to the engaged firm and begin the issuance of Task Orders. A firm may submit pricing lower than its original bid price for a specific project. The firm will then be held to that lower pricing for all future engagements.

X. LIQUIDATED DAMAGES

To the extent that actions of the contractor result in failure to meet performance standards, the State may suffer damages that could be difficult or impossible to quantify.

Given the significance of rehabilitation of New Jersey communities, businesses, and programs, the necessity that all resources dedicated to the recovery from Superstorm Sandy be applied in an efficient manner, and the need to take all necessary precautions to prevent, detect, and remediate waste, fraud, and abuse, the State and the Contractor agree to the specified liquidated damage amounts for late delivery of the following deliverables.

The methodology utilized to calculate liquidated damages pertaining to reviewing and evaluating financial and administrative functions and construction deliverables to determine risk, and reporting on status are based on the assumption that failure to have these key elements in place will directly result in loss of Federal funds. In addition, failure to provide reports could prevent the State from taking action to rectify issues early on, and may also cause harm to the public in the form of waste by the government and inefficiency in rebuilding projects.

Task	Deliverable	Due Date	Liquidated Damages
Task B	Review and evaluate the financial and administrative functions	Within 40 business days of receipt of kick-off meeting	\$1000 a day for each day past due date
Task C1	Verify that construction plans, documentation, and permits comply with all Federal, State and Local laws, regulations, and ordinances.	Within 40 business days of the execution of the Niro Incinerator/Air Emissions Upgrade contract	\$1000 a day for each day past due date
Monthly Status Reports	Provide update on activities conducted on, or for, each task to include the type of activity, analysis, results, recommendations, resolutions, and/or preventative measures; and follow-up on any previous outstanding issues.	On the first business day of each month	\$1000 a day for each day past due date
Quarterly Reports	Report detailing the integrity oversight monitor's provision of services during the three-month period second	On the first business day of each calendar quarter	\$1000 a day for each day past due date

	preceding the due date of the report and any previously unreported provision of services		
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XI. NOTICE OF EXECUTIVE ORDER 125 REQUIREMENT FOR POSTING OF WINNING PROPOSAL AND CONTRACT DOCUMENTS

Pursuant to Executive Order No. 125, signed by Governor Christie on February 8, 2013, the Office of the State Comptroller (OSC) is required to make all approved State contracts for the allocation and expenditure of federal reconstruction resources available to the public by posting such contracts on an appropriate State website. Such contracts are posted on the New Jersey Sandy Transparency website located at:

<http://nj.gov/comptroller/sandytransparency/contracts/sandy/>

The contract resulting from this Engagement Query is subject to the requirements of Executive Order No. 125. Accordingly, the OSC will post a copy of the contract, including the Engagement Query, the winning bidder's proposal and other related contract documents for the above contract on the Sandy Transparency website.

In submitting its proposal, a bidder may designate specific information as not subject to disclosure. However, such bidder must have a good faith legal and/ or factual basis to assert that such designated portions of its proposal (i) are proprietary and confidential financial or commercial information or trade secrets or (ii) must not be disclosed to protect the personal privacy of an identified individual. The location in the proposal of any such designation should be clearly stated in a cover letter, and a redacted copy of the proposal should be provided.

The State reserves the right to make the determination as to what is proprietary or confidential, and will advise the winning bidder accordingly. The State will not honor any attempt by a winning bidder to designate its entire proposal as proprietary, confidential and/or to claim copyright protection for its entire proposal. In the event of any challenge to the winning bidder's assertion of confidentiality with which the State does not concur, the bidder shall be solely responsible for defending its designation.

XII. ATTACHMENTS

- Attachment 1: Project Work Sheet
- Attachment 2: Quarterly Report Template
- Attachment 3: Question Template
- Attachment 4: Cost Quote

**Engagement Query Questions or Request for Clarification
Engagement Query #: EQ2014-005-P2&3 Bayshore Regional Sewerage Authority**

Addendum 1

Part 1: Construction Update

#	Construction Update
1	The Niro Incinerator reconstruction contract should go out to bid in June, and construction should commence in October to late 2014. The air emissions upgrade, which is part of the same contract, will coincide with the Niro Incinerator reconstruction.

Part 2: Modification

#	Page #	Engagement Query Section	Modification
1	6	Other Contractor Requirements	<p>Change: “For the purpose of this engagement, the Contractor’s indemnification obligation shall be limited in the aggregate to 500% of the value of the contract.”</p> <p>To: “For the purpose of this engagement, the Contractor’s indemnification is subject to the provisions and limitation outlined in Section 5.17.1 within Contract T2939”</p>

Part 3: Questions and Answers

#	Page #	Engagement Query Section	Question	Answer
1	1	General Information	<p>The focus of the Engagement Query (EQ) is the Niro Incinerator’s reconstruction and air emissions upgrade. The funding of the Air Emissions upgrade (also referred to as Pollution Control Equipment upgrade) is subject to FEMA 406 Hazard Mitigation Grant Program (HMGP) approval. PW 04740 (Page 13) estimates the HMGP at \$5.1 million.</p> <p>Should we assume that we are supporting the Air Emissions Upgrade when we provide pricing in our response?</p>	The Engagement Query focuses on the contract related to the Niro Incinerator and the air emissions hazard mitigation upgrade detailed in FEMA Project Worksheet (PW) 4740.

			If so, what is the anticipated start date for the Air Emissions Upgrade, and total duration of the project?	Please see construction update.
2	2 5	I.A II.C	Will the contractor be responsible for the compliance of the loan from NJEIT (if it occurs) or only be responsible for the resulting use of those funds as if they were FEMA grant funds (similar to a pre-spending authority or letter or no prejudice situation)?	The Contractor will not be responsible for the compliance of the NJEIT loan. The Contractor will be responsible for monitoring the resulting use of the NJEIT loan.
3	4	Contract and Values in PW4740	Please confirm we should not assume integrity monitoring activities/cost related to the Other Contracts below \$2.0M which cover Sites 1, 4 and 5 in PW 04740.	The Engagement Query focuses on the contract related to the Niro Incinerator and the Air Emissions Hazard Mitigation Upgrade detailed in FEMA Project Worksheet (PW) 4740. The PW includes other contracts, but these contracts are not included in the Scope of Work since they fall below the proscribed threshold.
4	4	Table – Contract Values in PW 04740	<p>The EQ “Contract and values in PW 4740” table on Page 4 of 10 references the estimated cost of work of the Air Emissions Upgrade (the 406 Hazard Mitigation measures) at \$3 - \$4 million. Page 13 of the PW estimates the FEMA’s 406 “Hazard Mitigation Proposal” at \$5.1 million.</p> <p>What are the reasons for the difference in the estimated cost of the HMGP measures? If there are elements of the HMGP upgrade measures that will not be included in the Scope of this Engagement Query, please identify these elements so that we can exclude them from in our response.</p>	Costs for hazard mitigation measures are estimates. At the time of the review, there was no definitive scope of work.
5	6	Other Contract	For the purpose of this engagement, the Contractor’s	This clause sets an upper limit to the value for which a contractor

		Requirements	<p>indemnification obligation shall be limited in the aggregate to 500% of the value of the contract.” Would it be possible for you to please explain what that exactly means in relation to additional requirements for us as a CPA Auditing firm?</p>	<p>may be obligated to indemnify the State/Party for whom the Task Order is issued should there be such a need to pursue indemnification. RFP Section 5.17.1 is supplementing Section 4.1 of the NJ Standard Terms and Conditions by limiting the contractor’s liability to 500% of the value of the contract except for the examples listed in the RFP Section.</p> <p>Additionally, all contractors must have \$5M in Professional Liability Insurance.</p>
6	8	Selection Process	<p>The State Contract Manager or the using agency will issue a letter of engagement once a Contractor has been selected.</p> <p>G9004 Year 2 contract rates go into effect in May 2014. So that we use the correct rates in our proposal, please provide the intended start date for work.</p> <p>What is the anticipated timing/date when this letter of engagement will be issued?</p> <p>What is the anticipated construction start date of the Niro Incinerator’s reconstruction?</p>	<p>The expectation is to issue a letter of engagement mid-April.</p> <p>Please see construction update.</p>

PA-02-NJ-4086-PW-04740(0) <u>P</u>	
Applicant Name:	Application Title:
BAYSHORE REGIONAL SEWERAGE AUTHORITY	UGW9211 Incinerators
Period of Performance Start:	Period of Performance End:
10-30-2012	04-30-2014

Bundle Reference # (Amendment #)	Date Awarded
PA-02-NJ-4086-State-0119(118)	11-15-2013

Subgrant Application - FEMA Form 90-91

Note: The Effective Cost Share for this application is 90%

FEDERAL EMERGENCY MANAGEMENT AGENCY PROJECT WORKSHEET						
DISASTER			PROJECT NO.	PA ID NO.	DATE	CATEGORY
FEMA	4086	- DR -NJ	UGW9211	025-UGW92-00	08-29-2013	F
APPLICANT: BAYSHORE REGIONAL SEWERAGE AUTHORITY				WORK COMPLETE AS OF: 08-05-2013 : 3 %		
Site 1 of 5						
DAMAGED FACILITY: Dorr Oliver Incinerator				COUNTY: Monmouth		
LOCATION: PA-02-NJ-4086-PW-04740(0): Site #1 Dorr Oliver Incinerator 40.450318, -74.174689					LATITUDE: 40.450318	LONGITUDE: -74.174689
DAMAGE DESCRIPTION AND DIMENSIONS: PA-02-NJ-4086-PW-04740(0): The Bayshore Regional Sewerage Authority (BRSA) Plant provides preliminary, primary and secondary treatment of the sewage utilizing the activated sludge process, followed by disinfection. Solids generated by the sewage treatment processes are thickened, dewatered and incinerated on-site. This PW addresses flood damage of the Plant's sludge processing equipment located in the Sludge Dewatering/Incineration Building and adjacent Plant Control Building. These flood damaged sites are: Site #1 Dorr Oliver Incinerator, Site #2 Niro Incinerator, Site #3 Air Pollution Control (APC) Emission Standards pursuant to 40 CFR Part 60, Site #4 Dewatering Equipment @ Incinerator Building and Site #5 Dewatering Equipment @ Plant Control Building. The Sludge Dewatering/Incinerator and Plant Control Buildings share adjoining basements, though they appear to be separate buildings at grade. During the incident period flood water drained out of the upper floor levels as the flood water receded, but the lower levels remained flooded until the salt water was pumped-out with rented diesel-powered pumps at about 10:00 AM on 11/1/2012. The equipment located at the upper level was submersed for about four hours. The equipment located at the lower level was submerged for approximately 64 hours, incurring significant damage. Temporary category B work is covered in PW# UGW9204. Cost Estimates were prepared by Applicant's engineering consultant, R3M Engineering, and have been reviewed and verified by the FEMA project specialist. Estimated costs have been based on contractor and vendor quotes; engineer's estimates; and RS Means CostWorks 2013, 1st Quarter Cost Data for Long Branch, NJ (zip code prefix 077), union wage rates. Labor estimates based on current State of NJ Dept. of Labor & Workforce Development, Prevailing Wage rates which were good through 6/2/2013. Note: #1) Some scopes shall be reevaluated after construction begins. #2) In an effort to help reduce reconstruction costs, the salvage credit value of wiring, motors and other components belongs to the contractor. This is a part of their contracts.						

- #3) Back up documentation includes specs for the damaged equipment.
 #4) Damaged items for all sites are being replaced in-kind except when the 1970's version is no longer available. In that case, the closest thing possible is being used.
 #5) The project specialist reviewed and validated at least 25% of the information contained in this PW.
 #6) Costs per site are included in the back-up.

Site #1 Dorr Oliver Incinerator
 40.450318, -74.174689
 DD

Constructed in 1974, the Dorr-Oliver incineration system is located in the Plant Control Building. The Building is a single story, steel framed, brick clad building with a footprint of about 70 ft x 100 ft. It has a bottom level at EL -2.4 and an upper floor at EL 10.5 (NAVD88). Beginning at about 6:30 PM on 10/29/12 Flood water entered the upper level of the Plant Control Building at floor EL 11.6 and flooded the buildings from the lower level (EL -1.3) to approximately 12" above the upper level floor.

As a result, electrical equipment such as motor control centers, transformers, control panels, field instrumentation and equipment control panels located below grade were damaged and inoperable.

Before the flood the dewatered sludge could be pumped to either one of the two incinerators or to a container located outdoors for hauling the sludge cake off-site for ultimate disposal. Pumping to a container is the only mode of sludge disposal currently available, since the NIRO and Dorr-Oliver incineration systems remain inoperable due to flood damage from Super Storm Sandy.

The following items were flood damaged.

- 1 Incinerator Bed Refractory
- 2 Incinerator Windbox (Refractory/Insulation)
- 3 Incinerator Bed Section Steel Shell
- 4 FAB Outlet Temp. Thermocouple
- 5 Bed Temp Thermocouples
- 6 Windbox/Preheated Air Thermocouples
- 7 Scrubber Thermocouple
- 8 Pressure Sense Impulse Lines
- 9 Mag flow meter for scrubber water
- 10 Scrubber level sensors
- 11 Oil Flow meters (AMCO 20 USG)
- 12 HX lower plenum
- 13 Preheated air duct
- 14 Fluidizing Air Blower/Motor
- 15 Fluidizing Air ductwork/valves
- 16 Motor Operated Valve for FAB
- 17 Sludge cake feed lines
- 18 Sludge inlet nozzle valves
- 19 Bed oil injection pump/motor
- 20 Bed oil piping/valves
- 21 Maxon valve for bed oil injection
- 22 Solenoids
- 23 Rotameters
- 24 Pressure gauges
- 25 Pressure relief
- 26 Overbed burner oil pump/motor
- 27 Maxon valve for overbed burner
- 28 Overbed burner valves/flex line
- 29 Freeboard spray pump/motor
- 30 Freeboard spray piping/valves
- 31 Purge Air blowers/motors
- 32 Purge Air lines for bed nozzles
- 33 Plant air compressor/motor
- 34 Kaeser SK-19 Compressor
- 35 Ash slurry pump/motor
- 36 Ash piping/valves
- 37 Scrubber steel shell
- 38 Convenience Electrical receptacles
- 39 MCC & Control Panel
- 40 Incinerator Sand
- 41 Wiring removal and cleaning of conduits
- 42 Estimated Salvage Value of Electrical Wiring

SCOPE OF WORK:

PA-02-NJ-4086-PW-04740(0):

Site #1 Dorr Oliver Incinerator
 SOW

WORK COMPLETED

Contracted labor and equipment removed the lower portion of insulating fire brick from the approximate location of the flood water line. A brick shelf was installed at this elevation. \$50K

WORK TO BE COMPLETED

Contracted labor and equipment will repair or remove and replace the following items.

- [1] Incinerator Bed Refractory. Replace all refractory brick including bed up to brick shelf in freeboard sections @ \$363,082 LS
- [2] Incinerator Windbox, Refractory/Insulation. Replace floor refractory and external insulation @ \$42,823 LS
- [3] Incinerator Bed Section Steel Shell. Re-plate bed section steel shell @ \$70,000
- [4] FAB Outlet Temp. Thermocouple. Replace (1) thermocouple @ \$3,937 ea = \$3,937
- [5] Bed Temp Thermocouples. Replace (3) thermocouples @ \$3,609 ea = \$10,826
- [6] Windbox/Preheated Air Thermocouples. Replace (3) thermocouples @ \$3,609 ea = \$10,826
- [7] Scrubber Thermocouple. Replace (1) thermocouple @ \$3,609 ea = \$3,609
- [8] Pressure Sense Impulse Lines. Replace wiring @ \$26,170 LS
- [9] Mag flow meter for scrubber water. Replace (1) Seametrics unit @ \$9,374 ea = \$9,374
- [10] Scrubber level sensors. Replace (2) Ztron III level switches @ \$3,469 ea = \$6,937
- [11] Oil Flow meters, AMCO 20 USG. Replace (1) AMCO 20 USG oil meter @ \$8,453 ea = \$8,453
- [12] HX lower plenum. Replace internal refractory, clean external shell @ \$22,817 LS
- [13] Preheated air duct. Clean ductwork, replace external insulation @ \$14,998 LS
- [14] Fluidizing Air Blower/Motor. Replace both blower and motor. \$107,931.

Note: Replace vs. rebuild option to be reevaluated after construction begins.

- [15] Fluidizing Air ductwork/valves. Clean ductwork and replace necessary valves @ \$9,304 LS
- [16] Motor Operated Valve for FAB. Replace (1) control valve & actuator @ \$10,251 LS = \$10,251
- [17] Sludge cake feed lines. Clean sludge piping @ \$13,007 LS
- [18] Sludge inlet nozzle valves. Replace (12) ball valves @ \$15,232 ea = \$182,781

Demco no longer manufactures this type of in place, nearly forty year old valve (butterfly type is now made). Not all valves may require replacement. Scope shall be reevaluated after construction begins. This is not a duplicate of Site #2, Item #91.

- [19] Bed oil injection pump/motor. Replace (1) pump and motor @ \$15,548 ea = \$15,548
- [20] Bed oil piping/valves. Clean piping, replace necessary valves @ \$41,262 LS Not all valves may require replacement. Scope shall be reevaluated after construction begins.
- [21] Maxon valve for bed oil injection. Replace (1) Maxon valve @ \$5,501 ea = \$5,501
- [22] Solenoids. Replace (11) bed oil solenoids for injection @ \$336 ea = \$3,694
- [23] Rotameters. Replace (9) Dwyer rotameters for bed oil injection @ \$411 ea = \$3,701
- [24] Pressure gauges. Replace (12) pressure gauges for bed oil injection @ \$233 ea = \$2,801
- [25] Pressure relief valves. Replace (9) pressure relief valves for bed oil injection @ \$224 ea = \$2,013
- [26] Overbed burner oil pump/motor. Replace (1) pump and (1) motor @ \$15,716 LS
- [27] Maxon valve for overbed burner. Replace (1) Maxon valve @ \$6,501 ea = \$6,501
- [28] Overbed burner valves/flex line. Clean piping, replace necessary valves @ \$6,103 LS
- [29] Freeboard spray pump/motor. Replace (1) pump and (1) motor @ \$23,877 LS
- [30] Freeboard spray piping/valves. Clean piping, replace valves @ \$2,501 LS
- [31] Purge Air blowers/motors. Replace (2) blowers and (2) motors @ \$14,075 ea = \$28,151
- [32] Purge Air lines for bed nozzles. Clean lines and replace valves @ \$12,906 LS
- [33] Plant air compressor/motor. Replace Curtis CA series air compressor with 5 HP motor @ \$14,308 ea = \$14,308
- [34] Kaeser SK-19 Compressor. Replace Kaeser SK-15 compressor @ \$28,003 ea = \$28,003
- [35] Ash slurry pump/motor. Replace (1) pump and (1) motor @ \$61,688 LS
- [36] Ash piping/valves. Clean lines and replace valves @ \$8,004 LS
- [37] Scrubber steel shell. Re-plate scrubber shell @ \$60,000 LS
- [38] Convenience Electrical receptacles. Clean and reuse conduits, replace wiring @ \$37,500 LS
- [39] Motor Control Center (MCC) & Control Panel. Repair lower section of MCC & control panel @ \$60,000 LS
- [40] Incinerator Sand. Replace (10) Ton of bed sand @ \$6,670 LS
- [41] Wiring removal and cleaning of conduits. Remove damaged wiring, blow out and swab conduits @ \$1,538 LS
- [42] Estimated Salvage Value of Electrical Wiring. In an effort to help reduce reconstruction costs, the credit for salvage value of removed wiring, motors and other components belongs to the contractor. This is part of their contract.

Site 2 of 5

DAMAGED FACILITY:

Niro Incinerator

COUNTY: Monmouth

LOCATION:

PA-02-NJ-4086-PW-04740(0):

Site #2 Niro Incinerator
40.450197, -74.179389

LATITUDE:

40.450318

LONGITUDE:

-74.174689

DAMAGE DESCRIPTION AND DIMENSIONS:

PA-02-NJ-4086-PW-04740(0):

Site #2 Niro Incinerator
40.450197, -74.179389

The Niro fluidized bed incinerator is designed to incinerate a mixture of primary and waste activated sewage sludge, plus oil and grease,

from the BRSA facility. Thickened sludge is polymer conditioned and pumped to the belt filter presses for dewatering by two variable speed, progressing cavity pumps. Filter cake from the belt presses is then pumped by a Schwing piston pump into the Niro incinerator through two nozzles.

DD

Beginning at about 6:30 PM on 10/29/12 Flood water entered the upper level of the Sludge Dewatering and Incineration Building at floor EL 12.5 and flooded the building from the lower level (EL -1.5) to approximately 7" above the upper level floor. The flood water damaged equipment located within the Sludge Dewatering/Incineration Building at all levels, particularly the equipment located below grade level. As a result, electrical equipment such as motor control centers, transformers, control panels, field instrumentation and equipment control panels located below grade were damaged and are inoperable. The NIRO incineration reactor, fluidizing blower, sand and ash pumps, oil pumps, air pollution control (APC) equipment, electrostatic precipitator, heat exchanger and many appurtenances located below grade were also critically damaged and are inoperable.

Before the flood the dewatered sludge could be pumped to either one of the two incinerators or to a container located outdoors for hauling the sludge cake off-site for ultimate disposal. Pumping to a container is the only mode of sludge disposal currently available, since the NIRO and Dorr-Oliver incineration systems remain inoperable due to flood damage from Super Storm Sandy. The following items were flood damaged.

- 1 Ash Pump/Motor #s 1 & 2
- 2 Ash piping/valves
- 3 Scrubber Ash Pump -- Control Panels
- 4 Fluidized Bed Blower/Motor
- 5 Fluidized Bed -- Control Panel
- 6 Motor Operated Valve for FAB
- 7 Fluidizing Air ductwork/valves
- 8 Preheat Blower/Motor for Fire Burner
- 9 Preheat Blower -- Control Panel
- 10 Fuel Metering Transmitter for Injection
- 11 Fuel Metering Transmitter for Metering
- 12 Fuel Oil Injector Pumps/Motor #s 1 & 2
- 13 Injector Oil Pump #1 & #2 -- Control Panels
- 14 Fuel Oil Meter for Injector Pump
- 15 Fuel Oil Meter for Metering Pump
- 16 Fuel Oil Meter Pumps/Motor #s 1 & 2
- 17 Injector Metering Oil Pump #s 1 & 2 -- Control Panels
- 18 Fuel Level Monitor & Leak Detector
- 19 Bed level rotameters for oil/gas guns
- 20 Bed level pressure gauges
- 21 Oil/Gas injection bed piping/valves
- 22 High Pressure Spray Pump/Motors # 1 & #2
- 23 High Pressure Spray Piping
- 24 High Pressure Spray Pump -- Control Panels
- 25 H.P. Spray Water Filter (upper & lower)
- 26 Instrument Air Compressor Air Dryer
- 27 Kaeser Air Compressor
- 28 Instrument Air piping/valves
- 29 Mag Meter for Process Water
- 30 Mag Meter for Process Water Converter
- 31 Mag Meter for Venturi Scrubber
- 32 Mag Meter for Venturi Scrubber Converter
- 33 Mag Meter for Caustic to WESP
- 34 Mag Meter for Caustic to WESP Converter
- 35 Mag Meter for Caustic to Scrubber
- 36 Mag Meter for Caustic to Scrubber Converter
- 37 Mechanical Mixer -- Control Panel
- 38 Caustic Metering Pump/Motor # 1 for Scrubber
- 39 Scrubber Caustic Metering Pump -- Control Panel
- 40 Caustic Metering Pump/Motor # 2 for WESP
- 41 ESP Caustic Metering Pump -- Control Panel
- 42 Caustic Metering Pump Piping
- 43 Purge Air Blower/Motor #s 1 & 2
- 44 Purge Air Blower Silencers
- 45 Purge Air Piping/Valves
- 46 Injector Purge Blower -- Control Panels
- 47 pH Monitor for WESP
- 48 pH Monitor of Scrubber
- 49 Preheat Burner Oil Pump/Motor
- 50 Preheat Burner Oil Pump -- Control Panel
- 51 Preheat Burner -- Control Panel (NA)
- 52 Preheat Burner Oil Bustle
- 53 Preheat Burner Gas Bustle
- 54 Pressure Regulating Valves for Oil Guns
- 55 Pressure Regulating Valves for Instrument Air
- 56 Plume Suppression Blower/Motor
- 57 Plume Suppression Blower -- Control Panel
- 58 Sand Transport -- Control Panel

- 59 Sand Air Compressor #s 1 & 2
- 60 Sand Air Compressor -- Air Dryer
- 61 Sand Control Valve
- 62 Sand Compressed Air Tank
- 63 Scrubber Transmitter for Low, Low-Low Level
- 64 Level Transmitter for High, High-High Level
- 65 Bed Temp Thermocouple A-D
- 66 Windbox Temp. Thermocouple
- 67 Preheated Air Duct Thermocouple
- 68 Primary Heat Exchanger Flue Gas Outlet Thermocouple
- 69 Plume Suppression Blower Outlet Temp. Thermocouple
- 70 Venturi Inlet Temp. Thermocouple
- 71 Venturi Outlet Temp. Thermocouple
- 72 Scrubber Outlet Plenum Temp. Thermocouple
- 73 FAB Outlet Temp. Thermocouple
- 74 FAB Outlet Temp. Transmitter
- 75 FAB Outlet Pressure Transmitter
- 76 Bed Temp. Transmitters A-D
- 77 Windbox Temp. Transmitter
- 78 Intermediate Freeboard Temp. 1 Transmitter
- 79 Primary Heat Exchanger Hot Air Outlet Transmitter
- 80 Primary Heat Exchanger Flue Gas Outlet Transmitter
- 81 Plume Suppression Blower Outlet Temp. Transmitter
- 82 Venturi Outlet Temp. Transmitter
- 83 WESP Low & Low-Low Level Transmitter
- 84 Sludge Cake Pressure Transmitters
- 85 Recirculation Pump/Motor # 1 for WESP
- 86 Wet ESP Recirculating Pump -- Control Panel
- 87 WESP Sump Pumps/Motors #s 1 & 2
- 88 ESP Ash Pump #s 1 & 2 -- Control Panel
- 89 WESP High, High-High Level Transmitter
- 90 Sludge Cake Feed Line
- 91 Sludge Inlet Nozzle Valves
- 92 Sludge Line Pressure Sensors
- 93 Venturi Electro-Pneumatic Double Acting Valve
- 94 Incinerator Bed Refractory
- 95 Incinerator Windbox Refractory
- 96 Incinerator Refractory Dome
- 97 Pressure Sense Impulse lines
- 98 Primary HX Lower Plenum
- 99 Primary HX
- 100 Secondary HX
- 101 Secondary HX Lower Plenum
- 102 Expansion Joint for Preheated Air Duct
- 103 Expansion Joint for between HXs
- 104 Expansion Joint for Primary HX air inlet
- 105 Expansion Joint for Secondary HX air inlet
- 106 Preheat burner duct refractory
- 107 Convenience Electrical Receptacles
- 108 Equipment Junction Boxes
- 109 Incinerator Sand
- 110 Wiring removal and cleaning of conduits
- 111 Estimated Salvage Value of Electrical Wiring

SCOPE OF WORK:

PA-02-NJ-4086-PW-04740(0):

Site #2 Niro --
SOW

WORK TO BE COMPLETED

Contracted labor and equipment will repair or remove and replace the following items.

- [1] Ash Pump/Motor #s 1 & 2. Replace (2) pumps and (2) motors @ \$54,130 pr = \$108,260
- [2] Ash piping/valves. Clean piping, replace valves @ \$8,004 LS = \$8,004
- [3] Scrubber Ash Pump - Control Panels each contain a time meter, scrubber seal water and level control interlocks. Replace (2) Control Panels @ \$60,000 ea = \$120,000
- [4] Fluidized Bed Blower/Motor Repair Blower with Factory Rebuild rotating assembly, bearing kit, 2 seal kits, and new 200 HP motor @ \$106,562 LS
- [5] Fluidized Bed - Control Panel contains interlocks for purge, air blower off, Low purge air, blower pressure, low scrubber water flow, high scrubber temperature and WESP blower off. The FAB needs to be running to start preheat blower, sludge feed pumps, preheat burner and oil injection. Industry standard monitoring for large motors includes, not limited to,: bearing temp, winding temp, amps, voltage, vibration, air temperature, blower surge, etc., with local alarm panel. Replace (1) Control Panel @ \$60,000 LS

- [6] Motor Operated Valve for FAB. Replace (1) Control Valve/Actuator @ \$10,251 ea = \$10,251
- [7] Fluidizing Air ductwork/valves. Clean piping, replace valves @ \$9,304 LS = \$9,304
- [8] Preheat Blower/Motor for Fire Burner. Repair Option: Factory Rebuild Blower (rotating assembly, bearing kit, 2 seal kits). Replace 5 HP motor @ \$34,500 LS = \$34,500.
- [9] Preheat Blower - Control Panel contains interlocks for a) FAB low air flow and b) preheat burner blower must be running to start preheat burner, plus a time meter. Replace (1) Control Panel. @ \$60,000 ea = \$60,000
- [10] Fuel Metering Transmitter for Injection. Replace (1) KEP display and Enclosure Replace @ \$4,924 ea = \$4,924
- [11] Fuel Metering Transmitter for Metering. Replace (1) KEP display and Enclosure @ \$4,924 ea = \$4,924
- [12] Fuel Oil Injector Pumps/Motor #s 1 & 2. Replace (2) pumps and (2) 0.75 HP motors @ \$15,112 ea = \$30,224.
- [13] Injector Oil Pump #1 & #2 - Control Panels contain: FAB off, FAB low airflow, high/low bed temp, low O2 flue gas, high HX flue gas inlet, high preheat air outlet temp, (7) permissive interlocks before starting injection (airflow and temperature) and a pump speed meter, Replace (2) Control Panels @ \$60,000 ea = \$120,000
- [14] Fuel Oil Meter for Injector Pump. Replace (1) Kent Oil Meter @ \$3,756 ea = \$3,756
- [15] Fuel Oil Meter for Metering Pump. Replace(1) Kent Oil Meter @ \$3,756 ea = \$3,756
- [16] Fuel Oil Meter Pumps/Motor #s 1 & 2. Replace (2) pumps and (2) 0.75 HP motors @ \$15,112 ea = \$30,224.
- [17] Injector Metering Oil Pump #s 1 & 2 - Control Panels contain: FAB off, FAB low airflow, high/low bed temp, low O2 flue gas, high HX flue gas inlet and high preheat air outlet temp.. Replace (2) Control Panels @ \$60,000 ea = \$120,000.
- [18] Fuel Level Monitor & Leak Detector. Replace (2) Pneumercator units @ \$8,853 ea = \$17,706
- [19] Bed level rotameters for oil/gas guns. Replace (30) Kobold Instruments @ \$2,719 ea = \$81,557
- [20] Bed level pressure gauges. Replace (12) Helicoid instruments @ \$2,937 ea = \$35,247
- [21] Oil/Gas injection bed piping/valves. Clean piping, replace valves @ \$40,036 LS.
- [22] High Pressure Spray Pump/Motors # 1 & #2. Replace (2) Pumps and (2) 7.5 HP motors @ \$15,594 ea = \$31,189
- [23] High Pressure Spray Piping. Clean and reuse @ \$2,501 LS
- [24] High Pressure Spray Pump- Control Panels each contain high pressure spray pumps interlock for roof spray solenoid open, temperature interlocks for start/stop and a time meter. Replace (2) Control Panels @ \$60,000 ea = \$120,000
- [25] H.P. Spray Water Filter (upper & lower). Replace (2) water filters @ \$1,281 ea = \$2,562
- [26] Instrument Air Compressor Air Dryer. Replace with (1) Hankison HPR50 Air Dryer @ \$6,328 ea = \$6,328
- [27] Kaeser Air Compressor. Replace (1) Kaeser Compressor SK-15 @ \$40,189 ea = \$40,189
- [28] Instrument Air piping/valves. Clean piping, replace valves @ \$11,254 LS
- [29] Mag Meter for Process Water. Replace electrodes and wiring @ \$7,124 LS
- [30] Mag Meter for Process Water Converter. Replace (1) Mag Meter @ \$7,874 ea = \$7,874
- [31] Mag Meter for Venturi Scrubber. Replace electrodes and wiring @ \$7,124 LS
- [32] Mag Meter for Venturi Scrubber Converter. Replace (1) Mag Meter @ \$7,874 ea = \$7,874
- [33] Mag Meter for Caustic to WESP. Replace electrodes and wiring @ \$7,124 LS
- [34] Mag Meter for Caustic to WESP Converter. Replace (1) Mag Meter @ \$7,874 = \$7,874
- [35] Mag Meter for Caustic to Scrubber. Replace electrodes and wiring @ \$7,124 LS
- [36] Mag Meter for Caustic to Scrubber Converter. Replace (1) Mag Meter @ \$7,874 = \$7,874
- [37] Mechanical Mixer - Control Panel contain relays for high, low level, spill and an hour meter. Replace (1) Control Panel @ \$60,000 ea = \$60,000
- [38] Caustic Metering Pump/Motor # 1 for Scrubber. Replace (1) pump and (1) 0.5 HP motor @ \$18,880 ea = \$18,880
- [39] Scrubber Caustic Metering Pump - Control Panel contains temperature alarms and pump speed controller which regulates the caustic supply to maintain a set pH at the outlet from the cooling tower. Replace (1) Control Panel @ \$60,000 ea = \$60,000
- [40] Caustic Metering Pump/Motor # 2 for WESP. Replace (1) pump and (1) 0.5 HP motor @ \$18,880 ea = \$18,880
- [41] ESP Caustic Metering Pump - Control Panel contains valve and pressure interlocks with associated sequence timers. Replace (1) Control Panel @ \$60,000 ea = \$60,000
- [42] Caustic Metering Pump Piping. Clean and reuse @ \$8,756 LS
- [43] Purge Air Blower/Motor #s 1 & 2. Factory Rebuild (2) blower rotating assemblies, bearing kits, 2 seal kits, with new 20 HP motor @ \$27,999 ea = \$55,998
- [44] Purge Air Blower Silencers. Replace (2) Stoddard L21-3 Silencers @ \$2,049 ea = \$4,097
- [45] Purge Air Piping/Valves. Clean piping, replace valves @ \$12,906 LS
- [46] Injector Purge Blower - Control Panels each contain interlocks to ensure that Purge Air blower must be running (with minimum air pressure) to start FAB, preheat burner, sludge feed pump and oil injection. Contains hour meter. Replace (2) Control Panels @ \$60,000 ea = \$120,000
- [47] pH Monitor for WESP. Replace (1) Great Lakes pH transmitter @ \$3,487 ea = \$3,487
- [48] pH Monitor of Scrubber. Replace (1) Great Lakes pH transmitter @ \$3,487 ea = \$3,487
- [49] Preheat Burner Oil Pump/Motor. Replace (1) pump and (1) 1 HP motor @ \$15,895 ea = \$15,895
- [50] Preheat Burner Oil Pump Control Panel has: permissive relays for airflow interlock, hour meter. Replace Control Panel @ \$60,000 ea= \$60,000
- [51] Preheat Burner Control Panel Contains: burner management controller, fuel flow meters, local alarm.-(Fluidized Air Blower) FAB off, FAB low air flow, preheat burner blower off, high preheat gas inlet temp, high preheat outlet air temp, high dome DP, high windbox temp, preheat burner high/low gas/atomizing air pressure, preheat burner oil pressure low, preheat burner pilot gas pressure low, preheat burner flame off, preheat burner fuel oil/ combustion air block valves open, preheat burner main gas valve closed and permissive relays for flame safety. Replace (1) Control Panel @ \$60,000 LS
- [52] Preheat Burner Oil Bustle. Replace Entire Fives North American system @ \$333,849 LS
- [53] Preheat Burner Gas Bustle. Replace Entire Fives North American system @ \$333,849 LS
- [54] Pressure Regulating Valves for Oil Guns. Replace regulating valves @ \$29,233 LS
- [55] Pressure Regulating Valves for Instrument Air. Replace regulating valves @ \$17,006 LS
- [56] Plume Suppression Blower/Motor. Factory Rebuild blower rotating assembly, bearing kits, 2 seal kits with new 10 HP motor @ \$89,464 LS.
- [57] Plume Suppression Blower - Control Panel Contains start/stop buttons with time meter. Replace (1) Control Panel @ \$60,000 ea = \$60,000
- [58] Sand Transport - Control Panel contain valve and pressure interlocks and associated sequence timers. Replace (1) Control Panel @ \$60,000 ea = \$60,000 ea
- [59] Sand Air Compressor #s 1 & 2. Replace (2) Kaeser ASD-40 compressors @ \$35,596 ea = \$71,192
- [60] Sand Air Compressor - Air Dryer. Replace (1) Hankison Model HPRP200 rated for 200 scfm at 100 psig @ \$10,640 LS

- [61] Sand Control Valve. Replace Dezurik valve @ \$8,503 LS
- [62] Sand Compressed Air Tank. Clean and replace valves on 240 gal air tank @ \$5,001 LS
- [63] Scrubber Transmitter for Low, Low-Low Level. Replace (2) Point level switches @ \$4,324 ea = \$8,648
- [64] Level Transmitter for High, High-High Level. Replace (2) Ztron III level switches @ \$3,129 ea = \$6,257
- [65] Bed Temp Thermocouple A-D. Replace (4) thermocouples @ \$3,609 ea = \$14,435
- [66] Windbox Temp. Thermocouple. Replace (1) thermocouple @ \$3,609 ea = \$3,609
- [67] Preheated Air Duct Thermocouple. Replace (1) thermocouple @ \$3,609 ea = \$3,609
- [68] Primary Heat Exchanger Flue Gas Outlet Thermocouple. Replace (1) thermocouple @ \$3,609 ea = \$3,609
- [69] Plume Suppression Blower Outlet Temp. Thermocouple. Replace (1) thermocouple @ \$3,609 ea = \$3,609
- [70] Venturi Inlet Temp. Thermocouple. Replace (1) thermocouple @ \$3,609 ea = \$3,609
- [71] Venturi Outlet Temp. Thermocouple. Replace (1) thermocouple @ \$3,609 ea = \$3,609
- [72] Scrubber Outlet Plenum Temp. Thermocouple. Replace (1) thermocouple @ \$3,609 ea = \$3,609
- [73] FAB Outlet Temp. Thermocouple. Replace (1) thermocouple @ \$3,609 ea = \$3,609
- [74] FAB Outlet Temp. Transmitter. Replace (1) Rosemount transmitter @ \$4,237 ea = \$4,237
- [75] FAB Outlet Pressure Transmitter. Replace (1) Rosemount transmitter @ \$4,237 ea = \$4,237
- [76] Bed Temp. Transmitters A-D. Replace (4) Rosemount transmitters @ \$2,409 ea = \$9,637
- [77] Windbox Temp. Transmitter. Replace (1) Rosemount transmitter @ \$4,237 ea = \$4,237
- [78] Intermediate Freeboard Temp. Replace (1) Rosemount transmitter @ \$4,237 ea = \$4,237
- [79] Primary Heat Exchanger Hot Air Outlet Transmitter. Replace (1) Rosemount transmitter @ \$4,237 ea = \$4,237
- [80] Primary Heat Exchanger Flue Gas Outlet Transmitter. Replace (1) Rosemount transmitter @ \$4,237 ea = \$4,237
- [81] Plume Suppression Blower Outlet Temp. Transmitter. Replace (1) Rosemount transmitter @ \$4,237 ea = \$4,237
- [82] Venturi Outlet Temp. Transmitter. Replace (1) Rosemount transmitter @ \$4,237 ea = \$4,237
- [83] WESP Low & Low-Low Level Transmitter. Replace (2) Point level switches @ \$6,761 ea = \$13,523
- [84] Sludge Cake Pressure Transmitters. Replace (2) Rosemount transmitters @ \$4,237 ea = \$8,474
- [85] Recirculation Pump/Motor # 1 for WESP. Replace (1) pump and (1) 5 HP motor \$15,643 LS
- [86] Wet ESP Recirculating Pump - Control Panel contains WESP seal water interlock . Replace (1) Control Panel @ \$60,000 ea = \$60,000
- [87] WESP Sump Pumps/Motors #s 1 & 2. Replace (2) pumps and motors Replace \$12,315 2 \$24,630
- [88] ESP Ash Pump #s 1 & 2 - Control Panel contains WESP seal water interlock based on level control and time meter for each pump, Replace (1) Control Panel @ \$60,000 LS
- [89] WESP High, High-High Level Transmitter. Replace (2) Ztron III level switches @ \$5,566 ea = \$11,132
- [90] Sludge Cake Feed Line. Clean and reuse @ \$10,007 LS
- [91] Sludge Inlet Nozzle Valves. Replace (12) 8 IN ball valves @ \$15,232 ea \$182,781
Demco no longer manufactures this type of in place, nearly forty year old valve (butterfly type is now made). Not all valves may require replacement. Scope shall be reevaluated after construction begins. This is not a duplicate of Site #1, item #18.
- [92] Sludge Line Pressure Sensors. Replace (2) Red Valve Co. series 40 pressure sensors @ \$10,802 ea = \$21,604
- [93] Venturi Electro-Pneumatic Double Acting Valve. Replace (1) valve/actuator @ \$12,253 ea = \$12,253
- [94] Incinerator Bed Refractory. Replace Bed Refractory up to freeboard support shelf @ \$361,717 LS
- [95] Incinerator Windbox Refractory. Replace windbox & floor refractory @ \$76,189 LS
- [96] Incinerator Refractory Dome. Remove & replace refractory dome & skews, reuse tuyeres @ \$399,992 LS
- [97] Pressure Sense Impulse lines Replace wiring @ \$26,170 LS
- [98] Primary HX Lower Plenum. Replace external insulation & internal refractory @ \$29,178 LS
- [99] Primary HX. Disassemble, ship out, replace internal IFB, & reinstall @ \$224,825 LS
- [100] Secondary HX Replace external insulation. Repair @ \$12,407 LS
- [101] Secondary HX Lower Plenum. Replace external insulation & internal refractory @ \$27,386 LS
- [102] Expansion Joint for Preheated Air Duct. Replace (1) Expansion Joint @ \$97,623 ea = \$97,623
- [103] Expansion Joint for between HXs. Replace (1) Expansion Joint @ \$97,623 ea = \$97,623
- [104] Expansion Joint for Primary HX air inlet. Replace (1) Expansion Joint @ \$57,123 ea = \$57,123
- [105] Expansion Joint for Secondary HX air inlet. Replace (1) Expansion Joint 2 \$57,123 ea = \$57,123
- [106] Preheat burner duct refractory. Replace internal refractory @ \$38,006 LS
- [107] Convenience Electrical Receptacles. Clean and reuse conduits; replace wiring @ \$37,500 LS
- [108] Equipment Junction (Pull) Boxes. All wires to be removed, conduits cleaned if possible, and necessary wires replaced. Scope of live connections to be refined after construction begins. Replace (7) junction (a.k.a. pull) boxes @ \$37,500 ea = \$262,500
- [109] Incinerator Sand. Replace (9) ton of bed sand @ \$9,509 LS
- [110] Wiring removal and cleaning of conduits. Remove damaged wiring, blow out and swab conduits @ \$3,543 LS
- [111] Estimated Salvage Value of Electrical Wiring. In an effort to help reduce reconstruction costs, the credit for salvage value of removed wiring, motors and other components belongs to the contractor. This is part of their contract.

Site 3 of 5

DAMAGED FACILITY:		COUNTY: Monmouth	
Sewage Sludge Incinerator (SSI) Emissions Upgrades			
LOCATION:		LATITUDE: 40.450318	LONGITUDE: -74.174689
PA-02-NJ-4086-PW-04740(0):			
Site #3 Sewage Sludge Incinerator (SSI) Emissions 40CFR Part 60 40.450197, -74.179389			
DAMAGE DESCRIPTION AND DIMENSIONS:			

PA-02-NJ-4086-PW-04740(0):

Site #3 Sewage Sludge Incinerator (SSI) Emissions 40CFR Part 60, known as CAA2016
DD

Provide codes and standards upgrades per 40 CFR Part 60.

Should FEMA fund both or one incinerator upgrades to meet CAA2016?

SCOPE OF WORK:

PA-02-NJ-4086-PW-04740(0):

Per FEMA Policy #9527.4 (B)(1)(a) five criteria must be met to allow FEMA to fund upgrades.

The five criteria under 44 CFR §206.226(d) apply to codes that change the predisaster construction of a facility. A code that mandates an upgrade in addition to repairs, changes the predisaster construction of a facility.

Per FEMA Policy #9527.4 (B)(1)(c) reads in part:

If a code does not meet the five criteria, code-mandated upgrades will not be eligible, and funding will be limited to repairs necessary to bring the facility back to its predisaster design or construction.

Per 44 CFR §206.226(d)(5)

For any standard in effect at the time of a disaster, it must have been enforced during the time it was in effect.

Per CAA 129 (b)(3)

The Effective Date of Enforcement is to be no later than five years after May 20, 2011

Per CAA 129 (b)(2) Enforcement could have commenced sooner, but the following has not been completed.

State plans. Not later than 1 year after the Administrator promulgates guidelines for a category of solid waste incineration units, each State in which units in the category are operating shall submit to the Administrator a plan to implement and enforce the guidelines with respect to such units. The State plan shall be at least as protective as the guidelines promulgated by the Administrator and shall provide that each unit subject to the guidelines shall be in compliance with all requirements of this section not later than 3 years after the State plan is approved by the Administrator but not later than 5 years after the guidelines were promulgated. The Administrator shall approve or disapprove any State plan within 180 days of the submission, and if a plan is disapproved, the Administrator shall state the reasons for disapproval in writing. Any State may modify and resubmit a plan which has been disapproved by the Administrator.

It is recommended that the incinerators be rebuilt to their pre-disaster design, function and capacity because 40 CFR Part 60 was not enforced at the time of the event.

See Determination Memo.

Site 4 of 5

DAMAGED FACILITY:

Dewatering Equipment @ Incineration Building

COUNTY: Monmouth

LOCATION:

LATITUDE:
40.450197

LONGITUDE:
-74.179389

PA-02-NJ-4086-PW-04740(0):

Site #4 40.450197, -74.179389

DAMAGE DESCRIPTION AND DIMENSIONS:

PA-02-NJ-4086-PW-04740(0):

Site #4 Dewatering Equipment @ Incineration Building

DD

The Sludge Conditioning System is largely located on the upper level of the Sludge Dewatering and Incineration Building at floor EL 12.5 and did not incur much damage.

The Sludge Dewatering System is composed of equipment located at both the upper level of the Sludge Dewatering and Incineration Building and the lower levels of the Sludge Dewatering and Incineration Building and the Plant Control Building. The two belt filter presses and equipment control panels are located at the upper level of the Sludge Dewatering and Incineration Building and did not incur much damage. However, the equipment located below the upper levels became submerged and incurred significant damage. The equipment located below the upper levels includes two sludge transfer pumps, two scum pumps, one cake piston-pump, piping and motor-operated valves for transferring both thickened and dewatered sludge, thickened sludge shredder, and belt filter presses washwater pumps. The control panels for all these equipment items located in the lower level were damaged and are inoperable.

The following items were flood damaged:

- 1 Belt Press Feed Pump, motor and instrumentation #s 3&4

- 2 Variable Frequency Drive (VFD) Panels for the Belt Press Feed Pump #s 3&4 –
- 3 City Water Booster Pump System
- 4 Emergency Generator #3
- 5 Fire Alarm Panel & Devices: Saltwater damaged 4-smoke Detectors, 4-Heat Detectors, 3-Pull Stations and 3-6" Water Flow(Main), 2-Horn/Strobes and 1200 to 1600ft of wire.
- 6 Belt Filter Press #s 3&4 -- Control Panel
- 7 Filter Cake Feed Pump #2 and Power Pack
- 8 Heat Recovery Unit #1
- 9 Instrument Air Compressor
- 10 Belt Filter Press #s 3&4 -- Magnetic Flow Meters
- 11 MCC-9 Units were partially submerged in salt water causing unreparable damage to buckets, starters, VFDs and transformers. Enclosure is rusting due to salt water contact.
- 12 MCC-10 Units were partially submerged in salt water causing unreparable damage to buckets, starters, VFDs and transformers. Enclosure is rusting due to salt water contact.
- 13 Motorized Strainer
- 14 Motorized Strainer -- Motor & Control Panel
- 15 Overhead Door 8' W x 10' H, aluminum curtain doors with chain hoist, located on South and East sides of the building. Door curtain and tracks were damaged beyond repair by flood waters.
- 16 Polymer Pump #s 1-4 -- DC Motor
- 17 Low Pressure Water Pump #s 1&2
- 18 Low Pressure Water Pump #s 1&2 – Motors & Controllers
- 19 Remote Terminal Unit 900
- 20 Sludge Density Meter
- 21 Submersible Sump Pump #s 1-4
- 22 Submersible Sump Pumps --Control Panel #s 1&2
- 23 Seal Water Pump #s 1-4, unit by Moyno; and Motors: Motors were damaged by flood waters and are unreparable. Motors are close-coupled to the pumps. Pumps are circulating, cast iron, close coupled, end suction, bronze impeller, flanged joints, 1-1/2 hp, up to 40 gpm, 1-1/2" size
- 24 Seal Water Pumps - Motor Control Flood water entered the cabinets and caused damage and corrosion to select interior parts. Two (2) control switches, push button, momentary contact, standard operator, w/double block 2NO 2NC, 600 V 10 A. One (1) control switch, push button, maintained contact, selector operator, w/double block 2NO 2NC, 600 V 10 A. Four (4) control switches, indicating light unit, full voltage, front mount, 110-125 V. Six (6) relays, enclosed, 2 pole, 600 V AC, 12 A, NEMA 1.
- 25 Wash Booster Pump #s1-2
- 26 Wash Booster Pump #s 1-2 -- Motors
- 27 Level Transmitters for sludge storage tank
- 28 Cleaning / Disinfect Lower level, floor, walls and ceiling; upper level floor and lower walls flooded with salt water and sewage. Total area about 45,800sf.
- 29 Fire Sprinkler System . The Incineration buildings have a wet-pipe fire sprinkler system installed across the entire basement. The sprinkler heads are brass and many have steel heat shields and/or guards around them to protect them from heat and accidental contact. These sprinkler heads are corroding from contact with salt water.
- 30 Salvage:

SCOPE OF WORK:

PA-02-NJ-4086-PW-04740(0):

Site #4 Dewatering Equipment @ Incineration Building
SOW

WORK TO BE COMPLETED

Contracted labor and equipment will repair or remove and replace the following components of the Sludge Dewatering and Handling System located in the Sludge Dewatering and Incineration Building.

- [1] Belt Press Feed Pump #s 3 & 4 & , Motor and Instrumentation: Replace bearings and seals on Moyro Series 2000 pumps Replace instruments and (2) Baldor 10 HP motors @ \$10,000 ea = \$20,000
- [2] Variable Frequency Drive (VFD) Panels for the Belt Press Feed Pump #s 3 & 4 : Replace panels and controls @ \$10,000 ea = \$20,000
- [3] City Water Booster Pump, Auroroa 40 gpm @ 135 ft of head @ 3,500 rpm: Replace entire skid-mounted pump system and control panel and valves @ \$50,000 LS
- [4] Emergency Generator #3 Cat #3512, SR4, 12 cylinder diesel, 1250 KW : Inspect and repair electrical controls and mechanical damage @ \$7,000 LS
- [5] Fire Alarm Panel, Repair or replace Simplex 4100 series is covered under Site #5, item #2.
- [6] Belt Filter Press # 3 & 4 Control Panel: Measuring 3 Ft x 2 Ft x 8 Ft with Programmable Logic Controller (PLC). Install new transformers, replace some damaged wiring, replace relays @ \$10,000
- [7] Filter Cake Feed Pump #2: Schwing KSP-10 and Power Pack: Replace pump, power pack and feeder, see quote @ \$244,500 Note: Not a duplicate of Site #5, item #3.
- [8] Heat Recovery Unit #1: Heatex # E-RKHC-1BP-3000. Repair ductwork and insulation damage @ \$5,000
- [9] Instrument Air Compressor: ESME Corp # 10WTR45A Replace unit and receiver @ \$2,500
- [10] Belt Filter Press #s 3 & 4 Fisher & Porter Magnetic Flow Meters, 10 In diameter: Replace unit and receiver.\$12,000
- [11] Motor Control Center (MCC) #9 is located in the basement of the Incineration Building. It provides power for the sludge dewatering and pumping equipment, and for all the building services such as lighting, heating, ventilation, air conditioning, heat recovery, sump pumps, water pressure booster system and the like, for the remainder of the building including the areas where the NIRO incinerator is located. The estimate for MCC #9 will be refined after construction begins. Replace General Electric 8000 Line complete with buckets, starters, VFDs and transformers @ \$410,000

- [12] MCC-10 provides power for the incineration equipment that is associated with the NIRO Clean lower portion of MCC-10 @ \$6,000
- [13] Motorized Strainer: Cleveland Gear Size 0001. Replace bearings and seals on rotating screens @ \$3,000
- [14] Motorized Strainer 1/3 HP Motor & Control Panel: Replace (2) motors, backwash solenoid, local control panel and wiring to strainer @ \$9,500 LS
- [15] Overhead Door: 8' W x 10' H, aluminum curtain doors with chain hoist. Replace door and hardware @ \$6,000
- [16] Polymer Pumps #s 1-4 Baldo DC Motors, ½ HP, Magnetic Dirve. Replace DC drives @ \$2,000 ea x 4 = \$8,000
- [17] Low Pressure Water Pumps 1 & 2, StranCo GT 1200: Replace bearings and seals @ \$2,000 ea = \$4,000
- [18] Low Pressure Water Pumps @ 1 & 2 Motors & Controller: Replace (2 ea) motors and control panels. Equipment 20 years old & obsolete. Provide equal @ \$8,500 ea = \$17,000
- [19] Remote Terminal Unit 900: Repair damaged components in lower portion of cabinet. Clean out cabinet @ \$2,000 LS
- [20] Sludge Density Meter: Replace in-line transmitter @ \$5,000
- [21] Submersible Sump Pump #s 1-4: Replace (2) commercial grade units @ \$3,000 ea x 2 = \$6,000.
- [22] Submersible Sump Pump #s Control Panels #s 1 & 2: Replace panels @ \$8,500 ea x 2 = \$17,000
- [23] Seal Water Pump #s 1-4: Replace cast iron circulating pumps, close coupled, end suction, bronze impeller, flanged joints, 1-1/2 hp, up to 40 gpm, 1-1/2" size pumps @ \$3,000 ea x 4 = \$12,000.
- [24] Seal Water Pump #s 1-4 Motor Controllers: Replace flood damaged controllers consisting of (2) control switches, push button, momentary contact, standard operator, w/double block 2NO 2NC, 600 V 10 A. One (1) control switch, push button, maintained contact, selector operator, w/double block 2NO 2NC, 600 V 10 A. Four (4) control switches, indicating light unit, full voltage, front mount, 110-125 V. Six (6) relays, enclosed, 2 pole, 600 V AC, 12 A, NEMA 1. for a total value @ \$8,500 ea x 4 = \$34,000
- [25] Wash Booster Pump #s 1-2, 100 gpm @ 197 ft head, Deming model #3121: Replace bearings and seals @ \$2,000 ea x 2 = \$4,000.
- [26] Wash Booster Pump #s 1-2 Motors: Replace 10 HP Motors @ \$2,00 ea = \$4,000
- [27] Level Transmitters for Sludge Storage Tank: Replace Siemens ultrasonic transmitters @ \$2,00 ea = \$4,000
- [28] Clean and disinfect floor, walls and ceiling lower level, and upper level floors and walls. Temporary category B work is covered in PW# UGW9204.
- [29] Fire Sprinkler System Head Replacement:
 - a) Drain complete Sprinkler system riser or sectional for repairs in (Saltwater) flood damaged areas
 - b) Remove all (Saltwater) flood damaged corroded Sprinkler Heads for replacement
 - c) Install new Sprinkler Heads matching type and temperature of damaged existing Sprinkler Head
 - d) Refill complete Sprinkler system riser or sectional in repaired areas, Check for leaks in repaired areas
 - e) Bleed Sprinkler system Branch piping of any trapped Air.
 Change sprinkler heads on lower floor and test sprinkler system. Labor @ \$4750 Parts/Hardware @ \$905 = \$5,655 LS
- [30] Salvage: In an effort to help reduce reconstruction costs, the credit for salvage value of removed wiring, motors and other components belongs to the contractor. This is part of their contract.

Site 5 of 5

DAMAGED FACILITY: Dewatering Equipment @ Plant Control Building	COUNTY: Monmouth	
LOCATION: PA-02-NJ-4086-PW-04740(0): Site #5 Dewatering Equipment @ Plant Control Building 40.450318, -74.174689	LATITUDE: 40.450318	LONGITUDE: -74.174689

DAMAGE DESCRIPTION AND DIMENSIONS:

PA-02-NJ-4086-PW-04740(0):

Site #5 Dewatering Equipment @ Plant Control Building

DD
 Sludge Dewatering and Handling System located in the Plant Control Building
 The equipment located below the upper levels became submerged and incurred significant damage. This includes and the Supervisory Control and Data Acquisition (SCADA) system, electrical switchgear and motor control center, transformers, field instrumentation and equipment, two sludge transfer pumps, two scum pumps, cake piston-pumps, motor-operated valves, thickened sludge shredder, and belt filter presses washwater pumps. The control panels for all these equipment items located in the lower level were damaged.

Flood water entered the upper level of the Plant Control Building at floor EL 10.2 and flooded the buildings from the lower level (EL -2.4) to approximately 12" above the upper level floor (EL 11.2). The equipment located at the upper level was submersed for about four hours. The equipment located at the lower level was submerged for approximately 64 hours.

The following items were flood damaged:

- 1 Press Air Compressor
- 2 Fire Alarm System
- 3 Filter Cake Feed Pump #1 & Power Pak
- 4 Mag Meter and convert for thickened sludge pumps.
- 5 MCC (Motor Control Center) - #6 for the Dorr-Oliver

- 6 Power Center #4
- 7 Electrical Coordination & Arc Flash Protection
- 8 Plant Process Control Center
- 9 Process Control Center (PCC) for Sludge Valves
- 10 PCC (Process Control Center) for Sludge Holding Tank
- 11 Plant Phone System
- 12 Remote Terminal Unit 600
- 13 Scum Pump #s 11&12
- 14 Scum Pump #s 11&12 -- Motors
- 15 Sludge Control Valve for Concentration #s 1-4
- 16 Submersible Sump Pumps
- 17 Sludge Transfer Pump #s 1-2 and Motors
- 18 Cleaning/Disinfect

SCOPE OF WORK:

PA-02-NJ-4086-PW-04740(0):

Site #5 Dewatering Equipment @ Plant Control Building
SOW

WORK TO BE COMPLETED

Contracted labor and equipment will repair or remove and replace the following items.

- [1] Press Air Compressor: Replace Quincy Air Compressor Model # 106-26 unit and receiver @ \$2,500
- [2] Fire Alarm System: Includes Site #4, item #5.

Total Fire Safety, LLC 2/19/13 quote is: New Fire Alarm Devices to be replaced and installed in existing location of saltwater damaged Device 3-Smoke Detectors, 2-Heat Detectors, 2-Pull Stations, 1-6" Water Flow device, 1-HornjStrobe and 1200 to 1600ft of direct replacement wire. Labor and materials to include, but not limited to:

- a) Remove all flood damaged (Saltwater) Fire alarm Devices and circuit Wiring exposed to Salt water
 - b) Flush FA Conduit out with HOT fresh water, then send cleaning plug VIA compress air through conduit to expel fresh water and Debris. Dry Conduit to best as possible.
 - c) Install New Wiring for Fire Alarm System circuits (Matching existing type and size) throughout Flooded damaged areas in Basements and lower levels throughout complex, Building and location will be noted.
 - d) Install new Fire Alarm Devices, Smoke Detectors, Heat Detectors, Pull Stations, Water Flow Horn/strobes. Matching existing technology and function of flood damaged Devices
 - e) Check over Master Fire alarm Control Panel after all field repairs, Restore supply power to Fire Alarm Panel and replace Battery Backup batteries. Note additional faults and generate repair proposal
 - f) Check over Remote Fire alarm DGP Nodes after all field repairs, Restore supply power to Remote DGP Nodes One at a time, replace Battery Backup batteries. Replace sensors, lights, horns, pull stations, and wiring on lower levels and panel cards as required @ \$47,300
- [3] Filter Cake Feed Pump #1 & Power Pack: Replace pump, power pack and feeder, see quote @ \$244,500 Note: Not a duplicate of Site #4, item #7.
 - [4] Mag Meter and Convert for Thickening Sludge Pumps: Replace meter and converter @ \$6,000
 - [5] MCC-6: powers everything in the Plant Control building associated with sludge thickening (pumps, valves and concentration tanks), sludge pumping (transfer pumps the standby cake pump), grease pumps, seal water pumps, sludge grinder, belt filter press feed pumps, SCADA controls, limited building lighting and some heating and air conditioning. Total replacement required @ \$225,000
 - [6] Power Center #4: handles many of the building services for the Control Building including the remainder of the lighting, receptacles, heating and air conditioning, exhaust fans, roadway lighting and other non-process related functions. Total replacement required @ \$150,000
 - [7] Electrical Coordination & Arc Flash protection: Revised codes and regulation adoption to be verified. Provide Arch Flash Protection @ \$75,000 LS
 - [8] Plant Process Control Center: Repair damaged internal components @ \$15,000
 - [9] Process Control Center (PCC) for Sludge Valves: Total replacement required @ \$20,000
 - [10] PCC (Process Control Center) for Sludge Holding Tank: Total replacement required @ \$20,000 LS
 - [11] Plant Phone System: Repair damaged internal components of WATSU ADIX OMEGA Phone System @ \$10,000 LS
 - [12] Remote Terminal Unit 600: is a remote and separate component of MCC#6 (Motor Control Center #6). Total replacement required @ \$20,000 LS
 - [13] Scum Pump #s 11 & 12: Install new bearings and seals in Penn Valley 4D plunger type pump, 25 gpm @ 100 Ft head @ \$2,500 ea = \$5,000
 - [14] Scum Pump #s 11 & 12 Motors: Install new US Motor brand motors and drives, 5 HP, 1760 rpm, variable speed @ \$10,000 ea = \$20,000
 - [15] Sludge Control Valve for Concentration #s 1-4: Replace (2) electric valve actuators for six inch plug valves @ \$10,000 ea = \$20,000
 - [16] Submersible Sump Pumps: Replace (2) commercial grade sump pumps @ \$3,000 ea = \$6,000
 - [17] Sludge Transfer Pump & Motors #s 1-2: Repair one 45 gpm pump and replace its 5 HP motor. Replace second 45 gpm pump with new pump and 5 HP motor. @ \$25,000 LS.
 - [18] Clean and disinfect floor, walls and ceiling lower level, and upper level floors and walls.
Temporary category B work is covered in PW# UGW9204.

From Site #4, item #5, extra as mirrors Site #5, item #2

- a) Remove all flood damaged (Saltwater) Fire alarm Devices and circuit Wiring exposed to Salt water
- b) Flush FA Conduit out with HOT fresh water, then send cleaning plug VIA compress air through conduit to expel fresh water and Debris. Dry Conduit to best as possible.
- c) Install New Wiring for Fire Alarm System circuits (Matching existing type and size) throughout flood damaged areas in basements and lower levels throughout complex, building and location will be noted.
- d) Install new Fire Alarm Devices, Smoke Detectors, Heat Detectors, Pull Stations, Water Flows Horn/strobes. Matching existing technology and function of flood damaged Devices
- e) Check over Master Fire alarm Control Panel after all field repairs, Restore supply power to Fire Alarm Panel and replace Battery Backup batteries.
- f) Check over Remote Fire alarm DGP Nodes after all field repairs, Restore supply power to Remote DGP Nodes One at a time, replace Battery Backup batteries.
Replace flood damaged sensors, lights, horns, pull stations, and wiring and panel cards as required @ \$ 50,000 LS.

NOTES:

RECORD RETENTION: Complete records and cost documents for all approved work must be maintained for at least three (3) years from the date the last project was completed or from the date final payment was received, whichever is later. Applicant is responsible for retention of all documentation associated with this project.

SUPPORTING DOCUMENTATION: 20% or more of the documentation to support this project has been reviewed and verified by the Applicant and Project Specialist for eligibility and correctness.

PROCUREMENT: The Applicant is required to adhere to State Government Procurement rules and regulations and maintain adequate records to support the basis for all purchasing of goods and materials and contracting services for projects approved under the Public Assistance program, as stated in 44 CFR 13.36. The Applicant has advised they have/will follow their normal procurement procedures.

PERMITS: The PA Project Specialist has advised the Applicant that it is their responsibility to obtain all applicable local, state and federal permits prior to any construction or debris disposal activity referenced on this project. Applicant has also been advised that the lack of obtaining and maintaining these documents may jeopardize funding.

INSURANCE: The Applicant is aware that all projects are subject to an insurance review as stated in 44 CFR §§ 206.252 and 206.253. If applicable, an insurance determination will be made either as anticipated proceeds or actual proceeds in accordance with the Applicant's insurance policy that may affect the total amount of the project.

DIRECT ADMINISTRATIVE COSTS: The sub-grantee requested Direct Administrative Costs (DAC) that are directly chargeable to this specific project. Associated eligible work is related administration of the PA project only an in accordance with 44 CFR 13.22. These costs are treated consistently and uniformly as direct costs in all federal awards and other subgrantee activities and are not included in any approved indirect costs rates. Labor rates for DAC were provided by the applicant. DAC hours were estimated for preparation and delivery of costs and damages to FEMA Project Specialist, Site inspection and PW-specific meetings.

HAZARD MITIGATION MEASURES: The applicant wishes to pursue 406 mitigation measures on this project. Since the Plant is located in a CRBA zone and due to the extent of damages caused by major flooding, Applicant has not yet identified possible 406 mitigation measures for the Plant site. Applicant has identified that specific mitigation measures are required for the standby-generator and the above-ground diesel fuel tank located in and adjacent to Blower Bldg. #2. The Applicant will address mitigation measures and provide the Hazard Mitigation Proposal for both the Plant Site, and the generator and fuel tank. The time elapsed may exceed six months from the date this project was submitted. When the applicant submits the documentation for the hazard mitigation proposal to the state, and FEMA concurs, a version/amendment of this project will be prepared.

Does the Scope of Work change the pre-disaster conditions at the site? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Special Considerations included? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Hazard Mitigation proposal included? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is there insurance coverage on this facility? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

PROJECT COST

ITEM	CODE	NARRATIVE	QUANTITY/UNIT	UNIT PRICE	COST
1	0000	Work Completed	0/LS	\$ 0.00	\$ 0.00
2	9001	Contract	1/LS	\$ 67,051.00	\$ 67,051.00
3	0000	Work to be Completed	0/LS	\$ 0.00	\$ 0.00
4	9000	CEF Cost Estimate (See Attached Spreadsheet)	1/LS	\$ 15,662,733.00	\$ 15,662,733.00
5	9901	Direct Administrative Costs (Subgrantee)	1/LS	\$ 8,318.60	\$ 8,318.60
6	0000	Insurance Adjustments - 5900/5901	0/LS	\$ 0.00	\$ 0.00
7	5901	Deduct Anticipated Insurance Proceeds	1/LS	\$ -2,400,000.00	\$ -2,400,000.00

8	0909	Hazard Mitigation Proposal	1/LS	\$ 5,102,147.00	\$ 5,102,147.00
				TOTAL COST	\$ 18,440,249.60
PREPARED BY GREGORY FORD		TITLE Technical Specialist		SIGNATURE	
APPLICANT REP. Robert C Fisher		TITLE Executive Director		SIGNATURE	

Engagement Query Questions or Request for Clarification

Firm:

Engagement Query #:

Page #	Engagement Query Section	Question

Cost Quote

Cell to be completed by Contractor
Protected Cells

Firm Name:	
Engagement Number:	

Cost Quote for: <input type="checkbox"/> Year 1 <input type="checkbox"/> Year 2 <input type="checkbox"/> Year 3		Fill in Task																						Total Hours Per Staff Category	Total \$ Per Staff Category		
Staffing Category	Hourly Billing Rate (\$)	Hours		Amount (\$)		Hours		Amount (\$)		Hours		Amount (\$)		Hours		Amount (\$)		Hours		Amount (\$)		Hours		Amount (\$)		Total Hours Per Staff Category	Total \$ Per Staff Category
Partner/Principal/Director			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
Program Manager			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
Project Manager			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
Subject Matter Expert			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
Supervisor/Senior Consultant			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
Consultant			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
Associate/Staff			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
Administrative Support			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
Other			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
Other			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
Other			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
Other			\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00		\$0.00	0	\$0.00		
		0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00 (Staffing)

Total Direct Cost	
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\$0.00 (Direct Cost)

Total Travel Cost	
--------------------------	--

\$0.00 (Travel Cost)

Grand Total **\$0.00**