



Request for Proposal

For the

**Engineering, Procurement,
Construction and Startup of a**

**Combined Heat and Power Plant (CHP)
At the Trinitas Regional Medical Center**

RFP No. CHP-2010

October 11, 2017

REQUEST FOR PROPOSAL
for Engineering, Procurement, Construction and Startup of a
Combined Heat and Power Plant (CHP)
At the Trinitas Regional Medical Center

SUMMARY INFORMATION TO CANDIDATES

REQUEST FOR PROPOSAL - Trinitas Regional Medical Center (Trinitas) in Elizabeth, New Jersey seeks qualified full service engineering, procurement and construction contractors (EPC) to complete the design, procure all equipment and materials, permit, construct, and startup a Combined Heat and Power (CHP) system to be installed within the Trinitas central utility plant (CUP). Through this Request for Proposal (RFP), Trinitas is soliciting Proposals from interested firms or entities that wish to participate in the selection process described in this RFP. It is anticipated that this selection process will result in the negotiation and execution of an agreement between the Trinitas and EPC contractor for the goods and services described herein. Trinitas is requesting that any firms or entities interested in providing the CHP-related services described within this RFP provide a response to this RFP to the Trinitas on or before November 17, 2017. The Trinitas CHP project will seek financing through the New Jersey Energy Resiliency Bank (NJERB). For the project to qualify for financing, the CHP facility must meet the efficiency, cost and rate of return requirements of the NJERB. Respondents must be familiar with the requirements of the NJERB applicable to an EPC and must further be capable of fully performing and compliance with those requirements. By virtue of submission of a response to this RFP, a respondent will acknowledge its satisfaction of the immediately preceding sentence.

1. EVALUATION CRITERIA - The selection process is qualification-based. Therefore, respondents will be evaluated on their ability to meet the specifications set forth in this RFP, through the provision of documentation which exhibits and demonstrates the following:

- The cost to construct the CHP Plant will be a consideration for selecting the successful respondent. The respondent shall demonstrate the ability to construct the project within this specification and a proposed Guaranteed Maximum Price (GMP) budget.
- The respondent demonstrates the ability to construct and deliver the CHP Plant and distribution system in the desired time frame.
- The respondent is knowledgeable and experienced and has a demonstrated track record of engineering, constructing and starting up CHP facilities for the health care or institutional markets
- The respondent can provide sufficient performance and payment bonding capacity of no less than cost of goods and services of the EPC contractor.
- The respondent exhibits the required capabilities for designing, constructing and placing into service a CHP system consistent with the project Basis of Design that is designed and engineered to (i) be installed at the lowest possible cost and (ii) achieve the highest possible

reliability and efficiency standards thus meeting the CHP efficiency requirements dictated by the NJERB.

- The respondent demonstrates the requisite experience in (i) constructing facilities in congested urban environments and (ii) performing as an EPC under the NJERB program.
- The respondent possesses the requisite organizational capacity, management team members, and project management systems (as exhibited through its demonstrated past experience in successfully delivering upon past such projects) to complete the entire project.
- The respondent possesses the capacity and capabilities to meet any and all other qualifications deemed significant to the Trinitas

An Evaluation Committee comprised of Trinitas management and consultants will review the submitted responses, and oral presentations by certain selected respondents may be requested.

A pre-proposal meeting has been scheduled for October 18, 2017 at 9 AM prevailing Eastern time located at Trinitas Regional Medical Center, 225 Williamson Street, Elizabeth, NJ 07202. A representative from your organization is strongly encouraged to attend this meeting; however, it is not mandatory to attend. The meeting will be followed with a tour of the existing Central Utility Plant (CUP).

All questions must be submitted in writing to Trinitas by the close of business (which is 4:30 PM) on October 25, 2017. Questions received after this date and time may be rejected at the sole discretion of the Trinitas. Answers to all submitted questions, along with any Addendums to this RFP, will be released by the Trinitas by no later than November 3, 2017.

The project Basis of Design Document (Attachment 1) and Bridging Drawings and Specifications (Attachments 2) can be downloaded by accessing the following web address:

https://concordengineering.egnyte.com/fl/xJ4xW2iCiB/2017-07-28_Issued_for_Bid_

SUBMITTALS - responses to this RFP may be mailed or emailed. Responses should be titled, clearly marked and addressed in the following manner:

Response to RFP No. CHP-2010
Trinitas CHP Project
Attention: Mr. Joseph L McTernan
Sr. Director of Community and Clinical Services
Trinitas Regional Medical Center
225 Williamson St
Elizabeth, NJ 07202
jmcternan@trinitas.org

All responses must be received by close of business (which is 4:30 PM) on November 17, 2017. Responses received after this date and time may be rejected at the sole discretion of Trinitas.

All questions regarding this RFP must be submitted by email writing to

Mr. Joseph L McTernan
Sr. Director of Community and Clinical Services
Trinitas Regional Medical Center
225 Williamson St
Elizabeth, NJ 07202
jmcternan@trinitas.org

Companies submitting proposal documents should recognize that, in accordance with N.J.S.A. 52:32-44, all New Jersey and out of State business organizations must obtain a Business Registration Certificate (BRC) from the Department of the Treasury, Division of Revenue, prior to conducting business with the State of New Jersey. This being the case, all respondents must submit proof of valid business registration along with their RFP response and qualification documents.

Companies submitting proposal documents are required to comply with the requirements of Public Law 2005, Chapter 51, Political Contributions, (formerly Executive Order 134, Political Contributions), as amended.

Companies submitting proposal documents are required to comply with the requirements of P.L. 1975, c. 127 (N.J.A.C. 17:27) (Affirmative Action), "Statement of Stockholders Exceeding 10%", as amended. Trinitas is an Equal Opportunity Purchaser.

Companies submitting proposal documents are also required to comply with the requirements of Section 43 of the New Jersey Economic Stimulus Bill of 2009, P.L. 2009, c. 90, which requires: a) workers to be paid not less than the prevailing wage rate for the worker's craft or trade as determined by the Commissioner of Labor and Workforce Development pursuant to P.L. 1963, c. 150 (N.J.S.A. 34:11-56.25, et seq.) and P.L. 2005, c. 379 (N.J.S.A. 34:11-56.58, et seq.); b) a project labor agreement that is written in a manner that enhances to the greatest extent possible employment opportunities in the county of the project location subject to the provisions of P.L. 2002, c. 44 (N.J.S.A. 52:38-1, et seq.); c) the general contractor, construction manager, design-build team or subcontractor for the CHP Facility shall be registered pursuant to P.L. 1999, c. 238 (N.J.S.A. 34:11-56.48, et seq.) and classified by the Division of Property Management and Construction to perform work on the CHP and related site utilities.

Trinitas assumes no liability or responsibility for the costs incurred by a firm or entity for any materials, efforts or expenses required in the preparation of this application or in connection with presentations or demonstrations made prior to the execution of a contract.

By: _____ Joseph L McTernan
Sr. Director of Community and Clinical Services
Trinitas Regional Medical Center

SECTION 1: Overview

Introduction

Trinitas is seeking qualified EPC Contractors to complete the design, procure equipment per project specifications, construct, startup and test Combined Heat and Power Plant (“CHP”) to be located in the Trinitas Central Utility Plant (CUP), pursuant to this Request-for-Proposal (“RFP”).

Upon review of RFP responses Trinitas may enter into a Memorandum of Understanding or execute a contract for EPC services.

SECTION 2: Statement of Work

General

The EPC Contractor is to design and build the CHP in accordance with the Basis of Design and Schematic Design Drawings included as Attachment 1 and 2 to be provided with the Request for Proposal.

All design and construction must conform to the rules and regulations of the New Jersey Department of Community Affairs, New Jersey Department of Environmental Protection, National Fire Protection Association, and any other laws regulating building construction that may be applicable to the Trinitas facility.

The EPC Contractor shall comply within the professional parameters and deliverables consistent with the most recent edition of “The Architect’s Handbook of Professional Practice” prepared by the American Institute of Architects (AIA). Professional Engineering Consultants and all other professional firms under the Agreement shall also comply with the AIA Handbook guidelines.

Project Description

Trinitas is a full-service healthcare facility serving those in the community in need of healthcare. The Trinitas family includes more than 2,700 employees, 502 physicians, and over 200 volunteers. The main Trinitas has 553 beds including a 124-bed long-term care center. Trinitas campus consists of 4 buildings; the Main Hospital which consists of the North Wing, South Wing, and Cancer Center, a Medical Office Building which is connected to a parking garage, Administrative Services Building, and the Central Utility Plant (CUP).

A new Combined Heat and Power (CHP) system providing electricity, steam and hot water for beneficial use by Trinitas is to be installed in the existing CUP building. The CHP system is designed around a packaged natural gas fired internal combustion engine nominally rated for 2,000 kW_e and designed for continuous base load operation. The CHP engine is to be provided in an acoustic enclosure complete with maintenance access. A post combustion urea based emissions control system is provided allowing continuous operation and meeting NJ and Federal operating air permit requirements.

The CHP system is to be provided with a 125 psig saturated steam engine exhaust gas Heat Recovery Steam Generator (HRSG). The engine package is to be provided with hot water heat recovery for beneficial use by the Trinitas facility. A CHP Master Control System is to be provided for control of CHP system.

An existing HVAC shop will be renovated to serve as the CHP engine room for the CHP system. Existing cooling towers will be removed and 3 new cooling towers will be installed with adequate capacity to accommodate the heat rejection requirements of the CUP chillers and new CHP engine.

The CHP system shall be provided with black start and islanding capability. When operating in islanding mode, the CHP system shall work in conjunction with the existing Trinitas system of emergency generators to serve critical Trinitas loads.

The CHP system is to be designed to mitigate noise from the new equipment and meet NJ State and local Elizabeth, NJ noise ordinances.

The Project will require an electrical interconnection agreement with PSE&G. Elizabethtown Gas will provide dedicated and metered gas supply for the CHP engine. A minor source air permit for the CHP system is required to operate the CHP system.

Project Construction

The EPC Contractor shall cooperate and coordinate with the Trinitas's designated Contractor Administrator (CA) and Owner's Engineer (OE) by complying with the following requirements:

- Attending construction coordination meetings
- Providing a construction schedule
- Schedule of permits and inspections
- Coordination with Trinitas of permit applications and inspections by permit authorities
- Coordination with Trinitas of inspection by PSE&G and Elizabethtown Gas of electrical and gas interconnection
- Communicating and coordinating the implementation of a safety program with Trinitas
- Locating temporary offices in space designated by Trinitas
- Directing employees to park in areas designated by Trinitas
- Adhering to Trinitas site access, egress, and traffic patterns
- Coordinating the delivery of equipment and materials with Trinitas

EPC contractor is responsible for all consumable and distributed requirements to construction of the project including but not limited to:

- Any onsite office desired by EPC contractor
- Sanitary facilities required for EPC contractors work force

Trinitas will accommodate requests for construction power as much as possible, but site resources are limited. The EPC contractor is to be respectful of Trinitas CUP personnel and mission and as much as practical avoid disruption of normal CUP activities.

Project Startup & Testing

Startup testing and participation in commissioning of the CHP shall be the responsibility of the EPC

Contractor. The EPC Contractor shall be required to provide, for review and approval, a startup-testing plan and schedule 120 days prior to the commencement of the CHP startup. As part of the startup testing and commissioning plan, the EPC Contractor shall provide the requirements for both functional systems testing as well as performance testing for the system. The functional and performance testing shall be performed by an independent testing firm retained by the EPC Contractor as a condition of substantial completion of the CHP. A Bidder may wish to provide a copy of any startup testing and commissioning plan it has completed and implemented for a facility consisting of a CHP.

The EPC contractor is responsible for:

- labor, consumables, first fills of oil, glycol and urea
- equipment technical representatives for equipment procured by contractor
- breaker settings and coordination
- coordination with utilities for final inspections and connections
- stack testing of engine to obtain operating permit

Requirements for project startup will be described in the final project RFP. The EPC contractor should consider that their responsibility will include:

- Factory acceptance test of engine package
- Factory functional test of control system
- Site functional test of CHP system demonstrating
 - Start / Stop / Emergency Stop of System
 - Functionality of CHP system as a complete and workable system
 - 24 hour run test
 - Black start and islanding capability
- Training of Trinitas personnel

Responsibility of Owner

- Fuel used for startup and commissioning of the engine
- Cooling tower water
- Circulating water chemicals
- Boiler feed-water chemicals
- Commissioning and M&V

Project Administration

Drawings and technical specifications of the energy plant for Trinitas's approval. EPC Contractor shall submit technical specifications not less than ten days prior to the anticipated date of release of such technical specifications for procurement. Drawings shall be submitted not less than ten days prior to the anticipated date of release for use in construction of the plant.

EPC Contractor shall attend project coordination meetings with the Trinitas and/or the Trinitas's Agents on a scheduled or unscheduled basis, as determined by the Trinitas. Such meetings will be convened for the purpose of discussing design, construction, permitting, scheduling, or other issues as

determined at the sole discretion of the Trinitas.

EPC Contractor shall provide monthly progress reports to the Trinitas showing current progress, future planned work, schedule performance including milestone achievement, coordination issues, and emerging issues.

EPC Contractor shall coordinate with the Owner for the purpose of scheduling tests and other activities to be witnessed by building inspectors.

Other

All labor used in the construction and start-up testing of the CHP shall be covered by an approved health and hospital insurance plan (licensed by the State of New Jersey Department of Banking and Insurance), an approved pension plan, and an approved apprentice training program pursuant to the standards established under the Department of Labor and Industry Act of 1948 (N.J.S.A. 34:1A-34 et seq.), and all labor is paid in full compliance with the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25, et seq. and other applicable statutes.

The EPC contractor, construction manager, design-build team, and subcontractors must be registered pursuant to the provisions of P.L. 1999, c. 238 (N.J.S.A. 34:11-56.48, et seq.) and shall be classified by the Division of Property Management and Construction to perform work on a public-private partnership higher education project.

Workers employed in construction shall be paid no less than Prevailing Wage as determined by the Commissioner of Labor and Workforce Development pursuant to N.J.S.A. 34:11-56.25 and 34:11-56 to - 58.

SECTION 3: Schedule

Current project milestones:

Solicitation of RFP for EPC Contractor to provide GMP:	October 11, 2017
EPC Bidders provide GMP Bids:	November 17, 2017
ERB Evaluation and Commitment to Finance:	December 18, 2017
Project Completion and Commissioning:	December 1, 2019

SECTION 4: EPC Contractor Proposal and the Selection Process

4.1 Selection Process

“Best qualified” means the EPC Contractors that the Trinitas determines in its sole discretion to be the best qualified for, and technically and administratively capable of, undertaking EPC of the CHP Facility as described herein, based upon the following scoring criteria:

Proposal Evaluation:	Available Points for Scoring
The cost to construct the CHP Plant	100
The respondent demonstrates the ability to construct and deliver the CHP Plant and distribution system in the desired time frame.	40
Contractor experience and demonstrated ability to engineer, construct and startup CHP facilities of similar scope and for the health care or institutional market	50
The respondent exhibits the required capabilities for designing, constructing and placing into service a CHP system consistent with the project Basis of Design that is designed and engineered to (i) be installed at the lowest possible cost; (ii) achieve the highest possible reliability and efficiency standards thus meeting the CHP efficiency requirements dictated by the NJERB.	40
The respondent demonstrates the requisite experience in constructing facilities in congested urban environments.	40
The respondent possesses the requisite organizational capacity, management team members, and project management systems (as exhibited through its demonstrated past experience in successfully delivering upon past such projects) to complete the entire project	40
Bonding capability	50
Negative Project History	40
Total Available Points for Scoring	400

4.2 Review of Responses to RFP

The Trinitas may conduct discussions with potential EPC Contractors to clarify information submitted by them, or to assure that the EPC Contractor fully understood and responded to the requirements of

the RFP.

By responding to this RFP, the respondent acknowledges and consents to the following conditions and statements relative to the procurement and the selection of an EPC Contractor:

- This RFP is not intended and shall not be construed to commit the Trinitas to enter into any agreement.
- All costs incurred by the EPC Contractor in connection with participating in this RFP process shall be borne by the EPC Contractor(s).
- Trinitas reserves the right to eliminate any EPC Contractor(s) who submits untimely, incomplete and/or inadequate responses or is otherwise not responsive to the requirements of this RFP.
- Trinitas may qualify EPC Contractor(s) whose responses contain deviations from the Qualification Guidelines.
- Trinitas reserves the right, without prior notice, to supplement, amend, or otherwise modify this RFP or otherwise request additional information from any EPC Contractor.
- By responding to the RFP, EPC Contractor acknowledges that while it may satisfy the Qualifications Guidelines, it may not be selected by Trinitas as the EPC Contractor.
- All Qualification Statements and Proposals in response to the RFP become the property of the Trinitas and will not be returned and may be made available to the public.
- Trinitas (including its staff and advisors) may request the right to visit any of the projects referenced in the Qualification Statement to, among other things, observe the operations of such facilities. Such site visits will be made at a mutually agreeable time and the cost of such visit shall be borne by Trinitas.
- EPC Contractor agrees to answer written questions and attend interview(s) or meetings with the Trinitas, if so requested.
- Award of any contract contemplated by this RFP is in the sole discretion of Trinitas and shall be subject to factors determined by Trinitas, including but limited to the availability of funds to Trinitas from the NJERB and timing of receipt thereunder. Any contract which may be awarded is expected to contain language that continued payments for the project is subject to receipt by Trinitas of funds from the NJERB. If funding from the NJERB is insufficient to pay any portion of any contract, parties to any agreement with Trinitas shall not have recourse to seek payment from Trinitas for such portion.
- Submittals cannot be withdraw within sixty (60) days after the actual date of the opening thereof.
- Trinitas reserves the right to reject any or all bids, or to waive informality or to accept a bid that in

its judgment will be in the best interest of Trinitas.

- Trinitas reserves the right to postpone the date and time announced for receipt of any contract. Such postponement may be made at any time prior to the established date and time for receipt by notice and addendum to the RFP to all potential bidders.
- Bidders or other authorized representatives are expected to fully inform themselves as to the conditions, requirements, and specifications before submitting responses. Failure to do so will be at the bidder's own risk, and it cannot secure relief on a plea of error. There is no allowance for errors either of omission or commission on the part of bidders. Bidders are responsible for including all pertinent information in the returned RFP package. Literature, brochures, data sheets, completed forms requested as part of the RFP package and any other facts which may affect the evaluation and subsequent contract award should be included. Materials such as legal documents and contractual agreements, which the bidder wishes to include as condition of the RFP, must also be in the returned RFP package. Failure to include all proper supplemental materials may be cause to reject the entire submittal.
- The bidder, by affixing his/her signature to the RFP, agrees to the following: "Bidder certifies that this RFP response is made without previous understanding, agreement, or connection with any person, firm, or corporation making a submittal for the same services, and is in all respects fair, without outside control, collusion, fraud, or other illegal action."
- The bidder shall observe and comply with all Federal, State, and local laws, ordinances and regulations that in any manner affect the conduct of the work. The bidder shall indemnify and save harmless Trinitas, all of its officers, bidders, and employees against any claim or liability arising from or based upon the violation of any such law, ordinance or regulation, whether by bidder, its employees, or any subcontractor.
- If any discrepancy or inconsistency is discovered in contract documents for this work in relation to any such law, ordinance, regulation, order or decree, the bidder shall forthwith report the same to Trinitas in writing; any necessary change shall be adjusted by appropriate modification. The bidder shall at all times observe and comply with, and cause all its subcontractors and employees to observe and comply with, all such existing laws, ordinances, regulations, orders, and decrees, and shall protect and indemnify Trinitas, its officers, and agents against any claim or liability arising from or based upon violation of any such law, ordinance, regulation, order or decree, whether by contractor or its employees. Ignorance on the part of the bidder will in no way relieve it from responsibility. Qualifications not submitted in accordance with the instructions contained herein shall be considered informal and may be rejected. Submittals must have the necessary insurance coverage, and the successful bidder(s) will be required to submit proof of insurance before work can begin.
- Trinitas reserves the right to accept or reject any or all submittals.
- Trinitas reserves the right to award the contract in whole to one bidder or individually to two or more bidders if it is in the best interest of Trinitas to do so.

SECTION 5: RFP Content

The responding EPC contractor shall provide:

- Letter of Interest – 1 page
- Executive Summary & Qualification Statement: A concise 2-page summary of qualifications highlighting the key points that meet the Trinitas’s objectives
- Guaranteed Maximum Price (GMP) Proposal
- Detailed Schedule identifying required tasks to complete EPC scope
- EPC team organization chart
- EPC list of subcontractors – 1 page description of each
- Experience list with references – no less than 3 similar projects
- Statement of Bonding Capacity
- Statement of Insurance Capability
- NJ Business Registration
- Construction QA/QC program
- Description of Negative History

5.1 Executive Summary, Qualification Statement

The EPC Contractor shall provide an executive summary, no longer than 2 pages, describing the EPC contractor’s capabilities and qualification to undertake the project scope.

The EPC Contractor is required to provide information regarding its project team. The EPC Contractor may propose to undertake the responsibilities contemplated by the RFP “on its own,” or an EPC Contractor may organize a Team to collectively address the Qualification Guidelines.

If an EPC Contractor forms such a team, the EPC Contractor must provide, along with its Qualification Statement, information for both the EPC Contractor and each member of the proposed team.

The EPC Contractor must also designate and identify a Principal Company. The Principal Company as used herein is that entity which (i) must be designated by the EPC Contractor as the entity responsible for negotiation of all agreements with the Trinitas related to this RFP and (ii) shall assume responsibility for all design, approvals, construction, start-up and acceptance-testing.

5.2 Guidelines for Qualifications

The EPC Contractor and/or Team Members should have proven experience in the design, procurement, construction and start-up of CHP facilities and integration into existing CUP or facility infrastructure including central energy plants, preferably cogeneration, central chilling and central steam or hot water plants and distribution systems. These facilities should be operating in compliance with applicable regulatory and contractual requirements and must be facilities from which successfully operated in a cost beneficial relationship to client served. The EPC Contractor should also demonstrate any detailed experience in the construction, operation, and maintenance of similar projects (“Reference Projects”) and produce evidence of its successful operation.

5.3. Organization and Execution Team

EPC Contractor shall provide an organizational chart depicting the team Members and shall also provide information with respect to the key individuals who will be on the EPC Contractor's project team including resumes. The EPC Contractor cannot change or substitute proposed team members without both (i) advance written notice to the Trinitas and (ii) the subsequent written consent of the Trinitas.

5.4 Reference Projects

Provide a list of a minimum of **three** most recent projects placed into service by the EPC Contractor of similar size and scope to the proposed project referenced in this RFP and the Technical Guidelines. For each project, EPC Contractor shall provide the information listed below utilizing the same alphanumeric notation.

- Name and address of project
- Names and telephone numbers of owner and operator references.
- Detailed description of the project, the relevant funding sources and financing strategies employed, and the development process used in performing the overall project.
- Gross initial construction cost
- Project schedule duration and statement of achieving contracted delivery schedule
- EPC Contractor's role in project design, permitting, construction, testing, operation, maintenance, and finance.
- Construction start and completion dates and date of operation.
- Current operating status of the Reference Projects.
- Description of claims, litigations, judgments, notices of violations or administrative enforcement actions arising out of the construction, operation and/or maintenance of the Reference Projects.

5.5 Negative History

In addition to all other factors bearing on qualifications, the Trinitas may consider the reputation and experience of the EPC Contractor, including negative prior experience of the Trinitas with the EPC Contractor and or Team Members, along with any information that might result in debarment or suspension of a EPC Contractor from contracting with the State of New Jersey or its agencies. An EPC Contractor that has been debarred or suspended by New Jersey or any of its agencies, or any other State of the United States, or related agencies will be disqualified.

The following information must be supplied by the EPC Contractor, in the form of a sworn or certified statement, which shall be attached to the Qualification Statement that is submitted by the EPC

Contractor in response to the RFP:

Full disclosure of all relevant facts relating to any resolved matters in which:

- The EPC Contractor has been found through court adjudication, arbitration, mediation or other contractually stipulated alternative dispute resolution mechanism, to have: failed to provide or perform goods or services; or failed to complete a contract in a timely manner; or otherwise performed unsatisfactorily under a prior contract. Docket Numbers, if applicable, related to those matters must be supplied.
- The EPC Contractor defaulted on a contract, thereby requiring the entity which awarded the contract to utilize the services of another contractor to provide goods or perform the services or to correct or complete the contract;
- The EPC Contractor and/or its Team Members ever defaulted on a contract thereby requiring the entity that awarded the contract to look to its surety for completion of the contract or the tender of the costs of compilation.
- The EPC Contractor is debarred or suspended from contracting with any of the agencies or department of the State of New Jersey or any other State of the United States.
- Full disclosure of all relevant facts relating to any unresolved pending matters in which it is alleged the EPC Contractor has:
 - Failed to provide or perform goods or services; failed to complete a contract in a timely manner; or otherwise performed unsatisfactorily under a prior contract.
 - defaulted on a contract, thereby requiring the entity which awarded the contract to utilize the services of another contractor to provide the goods or services of another contractor to perform or complete the contract
 - Defaulted on a contract, thereby requiring the entity that awarded the contract to look to the bidder's surety for completion of the contract of the tender of the costs of compilation.
 - Failure by the EPC Contractor to fully disclose the information as required above shall be cause for the Trinitas to disqualify the EPC Contractor. Trinitas reserves the right to require the EPC Contractor to supply additional information relating to any prior negative experience which it deems relevant to a proper determination of whether an EPC Contractor is qualified.

5.6 Business Guidelines

In responding to this RFP, the EPC contractor acknowledges that any subsequent commercial agreement to provide EPC services obligates the EPC Contractor to consider the following:

- The EPC Contractor will agree to obtain all approvals by a scheduled date and failure to do so will permit the Trinitas, at its discretion, to terminate the agreement with the EPC Contractor. In

the event of such termination, neither the Trinitas nor the EPC Contractor will have any further obligation to the other.

- Constructing the project in accordance with the agreement with Trinitas and passing acceptance tests prior to the scheduled acceptance date.
- Willingness to entertain and paying and negotiation terms of damages in the event that the CHP does not achieve Trinitas's full standards and/or in the event of a failure to make the CHP available for operation by the scheduled date.
- The EPC Contractor will comply with all applicable laws and pay all fines and bear all other consequences for failure to comply with such laws.
- All major subcontractors shall be approved by Trinitas.
- Each worker employed in the construction and plant operation maintenance services of the CHP shall be paid not less than the prevailing wage rate for the worker's craft or trade as determinate by the Commissioner of Labor and Workforce Development pursuant to P.L.L. 1963, c. 150 (N.J.S.A. 34:11-56.25. et seq.) and P.L. 2005, c. 379 (N.J.S.A. 34:11-56.58, et seq.)
- The EPC Contractor shall post a bond guaranteeing prompt payment of monies due to the contractor and its subcontractors and to all persons furnishing labor or materials to the contractor or his or her subcontractors in the prosecution of the CHP.
- The EPC Contractor must be willing to work under current State of NJ Standard Terms and Conditions.

SECTION 6: EPC Contractor's Additional Responsibilities

Trinitas shall not be obligated to pay any sum to the EPC Contractor, or to reimburse any party for the costs incurred in responding to this RFP.

Included as Attachment 3.0 are contracting requirements for participation in this work. Respondents to this RFP have an obligation to review and consider that these terms and conditions will be in force and precedent to entering into an EPC contract for the project scope of work.

Respondents are to fill out and sign Attachments

- 3.1 Verification of Professional Services Eligibility
- 3.2 SWMVB E Obligations
- 3.3 Non-Collusion Affidavit
- 3.4 Anti-Lobbying Certification
- 3.5 Certification of Drug Free Workplace

As representation that the Respondent has considered the terms and conditions and

acknowledges that any eventual EPC contract must comply with the requirements and terms and conditions, the Respondent shall initial Attachments

- 3.6 NJEDA Labor Standards Compliance Requirements
- 3.7 Community Development Block Grant (CDGB) Program Guidance and Contract Language
- 3.8 New Jersey State Terms and Conditions

Respondents are to fill out and sign Attachments

- 4.0 NJEDA Labor Standards Compliance

SECTION 7: Qualifications Submittal Schedule

The projected timetable of this project is as follows:

Deadline for Submission of Written Questions:	October 25, 2017 at 4:30PM
Submission of Response to RFP:	November 17, 2017 at 4:30PM

SECTION 8: General Requirements

Responses to the RFP should be organized as follows:

- Letter of Interest – 1 page
- Executive Summary and Qualification Statement: A concise 2-page summary of qualifications highlighting the key points that meet the Trinitas’s objectives
- Price Proposal
- EPC Schedule
- EPC team organization chart and key member resumes
- EPC list of subcontractors – 1 page description of each
- Experience list with references – no less than 3 similar projects
- Statement of Bonding Capacity
- Statement of Insurance Capability
- NJ Business Registration
- New Jersey Public Works Certificate
- Construction QA/QC program
- Description of Negative History
- Responses to State of NJ Requirements – Attachment 3.0
- Response to NJEDA Labor Standards Compliance – Attachment 4.0

General:

Provide any other information you believe appropriate and necessary for consideration of your firm to be selected as our EPC Contractor.

SECTION 9: Attachments

- 1.0 Basis of Design
- 2.0 Bridging Drawings and Specifications
- 3.0 State of New Jersey Requirements
 - 3.1 Verification of Professional Services Eligibility
 - 3.2 SWM/MBE Obligations
 - 3.3 Non-Collusion Affidavit
 - 3.4 Anti-Lobbying Certification
 - 3.5 Certification of Drug Free Workplace
 - 3.6 NJEDA Labor Standards Compliance Requirements
 - 3.7 Community Development Block Grant (CDBG) Conditions
 - 3.7.1 Exhibit 5.2 – Compliance Provisions for Construction Contracts
 - 3.7.2 Exhibit 5.3 – General Conditions
 - 3.7.3 Exhibit 5.5 – Compliance Provisions for Professional Services Contracts
 - 3.7.4 Exhibit 5.6 – Mandatory Contract Language for Professional Service & Construction Contracts
 - 3.7.5 HUD / NJ Voluntary Compliance Agreement
 - 3.8 New Jersey State Terms and Conditions
- 4.0 NJEDA Labor Standards Compliance

**Trinitas Regional Medical Center
Combined Heat and Power
RFP**

for

EPC Contractors

Attachments 1.0

Basis of Design

BASIS OF DESIGN DOCUMENT
COMBINED HEATING, COOLING, & POWER
For



Concord Engineering Group, Inc.
520 South Burnt Mill Road
Voorhees, New Jersey 08043

Rev B
Issued for Bid

1 PROJECT DESCRIPTION

Trinitas Regional Medical Center (Trinitas) is a full-service healthcare facility serving those in the community in need of healthcare. The Trinitas family includes more than 2,700 employees, 502 physicians, and over 200 volunteers. Trinitas has 553 beds including a 124-bed long-term care center. Trinitas campus consists of 4 buildings; the Main hospital which consists of the North Wing, South Wing, and Cancer Center, a Medical Office Building which is connected to a parking garage, Administrative Services Building, and the Central Utility Plant (CUP).

A new Combined Heat and Power (CHP) system providing electricity, steam and hot water for beneficial use by Trinitas is to be installed in the existing CUP building. The CHP system is designed around a packaged natural gas fired internal combustion engine nominally rated for 2,000 kWe and designed for continuous base load operation. The CHP engine is to be provided in an acoustic enclosure complete with maintenance access. A post combustion emissions control system is to be provided allowing continuous operation and meeting NJ and Federal operating air permit requirements.

The CHP system is to be provided with a 125 psig saturated steam engine exhaust gas Heat Recovery Steam Generator (HRSG). The engine package is to be provided with hot water heat recovery for beneficial use by the Trinitas facility. A CHP Master Control System is to be provided for control of CHP system.

An existing HVAC shop will be renovated to serve as the CHP engine room for the CHP system. Existing cooling towers will be removed and 3 new cooling towers will be installed with adequate capacity to accommodate the heat rejection requirements of the CUP chillers and new CHP engine.

The CHP system is to be provided with black start and islanding capability. When operating in islanding mode, the CHP system works in conjunction with the existing Trinitas system of emergency generators to serve critical Trinitas loads.

The CHP system is to be designed to mitigate noise from the new equipment and meet NJ State and local Elizabeth, NJ noise ordinances.

The project will require an electrical interconnection agreement with PSE&G. Elizabethtown Gas will provide dedicated and metered gas supply for the CHP engine. A minor source air permit for the CHP system is required to operate the CHP system.

2 DESIGN CRITERIA

2.1 Codes and Standards

The plant shall be designed and constructed by the EPC Contractor in accordance with the following list of codes and standards. The codes and standards shall be the latest editions in effect on the date the EPC contract is executed.

ABMA	American Boiler Manufacturers Association
ARI	American Refrigeration Institute
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials
ASME	American Society of Mechanical Engineers
AWS	American Welding Society
BOCA	Building Officials & Code Administrators International, Inc.
CTI	Cooling Tower Institute
EIA	Electronic Industries Association RS232-C/RS422, RS485 Communications Protocols
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FGI	Facility Guidelines Institute 'Guidelines for Construction of Healthcare Facilities'
FM	Factory Mutual
HEI	Heat Exchange Institute
HI	Hydraulic Institute
IEEE	Institute of Electrical & Electronics Engineers
IBC-2015	International Building Code (NJ Edition)
ICEA	Insulated Cable Engineers Association
IFGC-2015	International Fuel Gas Code
IMC-2015	International Mechanical Code
ISA	Instrument Society of America
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NJDEP	New Jersey Department of Environmental Protection
NJUCC	New Jersey Uniform Construction Code
NSPC-2015	National Standard Plumbing Code
OSHA	Occupational Safety and Health Act
UL	Underwriters Laboratories

In addition, the design and construction of the facility shall comply with the requirements of the following agencies or entities:

PSE&G	Public Service Electric & Gas
Elizabeth Town Gas	

2.2 Equipment Design Criteria

Outdoor Design High Temperature:	94.0 °F dry bulb
Outdoor Design Low Temperature:	11.0 °F (zero wind speed)
Design Wind Speed:	NJ IBC
Design Wind Exposure:	NJ IBC
Snow Load (NJ Building Code):	NJ IBC
Seismic Coefficients:	NJ IBC

Seismic Performance: All CHP systems shall withstand the effects of earthquake motions determined according to ASCE/SEI 7. The term “withstand” means the unit will remain in place without separation of any parts from the device when subjected to the seismic forces and the unit will be fully operational after the seismic event. All brackets, hangers and supports shall be designed for increased forces due to seismic loadings in accordance with the requirements of Specification 230548 Mechanical Vibration, Noise and Seismic Controls. All CHP systems are intended to be installed with the ability to withstand the seismic forces as described above while continuing to serve the critical loads of the Hospital immediately following the event to allow the Hospital to continue to provide the necessary support services to the community. Signed & sealed calculations by a NJ Registered Professional shall be provided per ASCE/SEI 7 for all CHP related equipment, brackets, hangers and supports.

2.3 Fuel Availability

Distribution quality natural gas provided by local gas utility Elizabeth Town Gas

HHV @ 60 °F & 30” Hg Btu/cu ft	1030.00
Minimum Gas Supply Pressure, psig	5 psig available

A gas interconnection load letter has been submitted to Elizabethtown Gas. Elizabethtown Gas has confirmed that sufficient gas volume is available at 5 psig from the existing local distribution system.

A separate natural gas utility meter for the CHP unit will be required for the project. It is the EPC contractor’s responsibility to coordinate with the natural gas utility to ensure the new meter is installed and all new work is in accordance with the utility’s requirements.

2.4 Water Supply

Cooling tower water supply is from existing CUP system. Sufficient existing capacity for makeup and blowdown is available from CUP plant.

2.5 Design Temperatures

Ambient outdoor temperatures to be used for design of the plant equipment will be based on site design data tabulated in the 2013 ASHRAE Handbook of Fundamentals for Newark, New Jersey.

Outdoor electrical equipment and Urea tank will be based on the following ambient climate

conditions:

Winter Temperature: 19.4 °F Dry Bulb (99% Occurrence)

Summer Temperature: 91.0 °F Dry Bulb (1% Occurrence)
73.5 °F Mean Coincident Wet Bulb

Engine package ventilation will be based on the following ambient climate conditions: Summer

Temperature: 94.0 °F Dry Bulb (0.4% Occurrence)
74.9 °F Mean Coincident Wet Bulb

Cooling tower equipment will be based on the following ambient climate conditions: Summer

Temperature: 77.7 °F Wet Bulb (0.4% Occurrence)
88.8 °F Mean Coincident Dry Bulb

Indoor Temperatures to be used for the design of the heating ventilating and air conditioning systems are as follows:

2nd Floor Equipment Room

Winter Temperature: 60 °F
Summer Temperature: 104 °F

Engine Room

Winter Temperature: 60 °F
Summer Temperature: 104 °F

2.6 Permitting

All required state and local permits shall be obtained before construction commences on the CHP project.

Permits shall include:

- New Jersey Department of Community Affairs (DCA) Healthcare Plan Review
- City of Elizabeth Construction permit
- Soil Erosion and Sediment Control permit
- NJDEP Air Permit
- PSE&G – electrical interconnection application has been submitted by Owner's Engineer
- Elizabethtown Gas – gas load letter application has been submitted by Owner's Engineer
- No easements for CHP work is expected

The CHP system will have a separate air permit from the Trinitas CUP. Trinitas has an air permit consultant who will be used to obtain a final air permit to operate for the CHP facility. Upon selection of an engine the ECP contractor will provide all pertinent information to the Trinitas air permit consultant.

2.7 Noise

It is the EPC contractor's responsibility to ensure new equipment and existing equipment to remain is compliant with NJ State and Elizabeth local noise ordinates.

Sound measurements will be taken by the EPC Contractor prior to construction to verify existing conditions. After construction is complete new sound measurements should be taken to ensure new installation has had no impact or has produced a reduction in noise levels.

The project design drawings depict the requirements at the site boundary. The project design drawings depict a schematic design of the CHP package ventilation air inlet and discharge ductwork. Silencers, lagging and louvers should be applied to limit the noise emanating from the CHP package as much as practicable and to insure that the state and local noise requirements are met.

The cooling towers shall be provided to limit noise and achieve the state and local noise requirements.

The attached preliminary sound study was conducted using octave band data from basis of design vendors and assuming silencing equipment will be provided by the EPC contractor to meet noise ordinates. Any proposed deviation from basis of design vendors or silencing arrangements shall meet or exceed the requirements of the local noise ordinates at the site boundary. It is the EPC contractor's sole responsibility to ensure the design and installation of new equipment in addition to the existing equipment is compliant with NJ State and Elizabeth local noise ordinates.

3 SITE DEMOLITION

To install a new CHP system, cooling tower and balance of plant equipment will require demolition of existing equipment and refurbishment of the exiting HVAC shop into a new CHP engine room.

Refer to project drawings M301D and M302D for depiction of areas slated for demolition.

The EPC contractor is responsible for removal and disposal of any and all equipment, materials, debris from the site. Prior to any demolition activity the work to be performed shall be reviewed and approved by Trinitas.

4 BASIS OF DESIGN

A skid mounted packaged natural gas fired engine generator CHP system nominally rated at 2,000 kWe is to be provided within an acoustic enclosure for installation in an engine room located within the Trinitas CUP.

The engine room is currently an HVAC shop. The HVAC shop is to be converted to an engine

room as described herein and as per the design drawings.

The CHP system is to be designed for continuous operation supplying electricity, steam and hot water to the existing Trinitas utility systems.

The CHP system is to be designed for black-start and islanding operation.

New foundations shall be designed and installed in accordance with attached Geotechnical Analysis.

Features of the new major equipment and systems are summarized in the sections that follow:

4.1 Combined Heat & Power Package

The skid mounted package CHP system is to include but not limited to the following:

- Natural gas fired engine with all auxiliary equipment, instrumentation and appurtenances required for continuous duty operation nominally rated for 2,000 kW_e
- 4,160 V generator
- Paralleling switchgear & protection as required per E-102
- Acoustic enclosure
 - Designed for indoor installation
 - Maintenance and egress access doors and panels
- Enclosure ventilation system
- Enclosure package safety systems
 - Fire detection
 - Fugitive gas detection
 - Supervisory system
- Natural gas fuel train
 - Pressure regulation
 - Flow measurement
- Used and clean oil storage – preferably integral to the skid package
- Post combustion emissions treatment
 - SCR module
 - CO catalyst module
 - Urea storage tank
 - Urea pump
 - Atomizing air compressor
 - Ductwork
 - Local control panel for control of the emissions control system and designed to communicate with the Plant Master Control System
- Stack exhaust silencer and ductwork
 - Exhaust back pressure relief valve
- Skid mounted engine jacket heat recovery system
 - CHP process heat exchanger
 - CHP high temperature loop water pump
 - High temperature loop heat dump heat exchanger

- High temperature loop water temperature mixing valve
- Low Temperature Loop heat dump heat exchanger
- Low Temperature loop water pumps
- Skid mounted engine exhaust heat recovery steam generator (HRSG)
 - ASME VIII Section 1 design
 - Internal boiler feed pump
 - Blowdown system
 - Insulation
 - Bypass damper
 - Ductwork and expansion joint
 - Control panel
- Piping and valves
- Motor control center for engine and package auxiliary equipment and loads
- Battery system
- Neutral grounding resistor

The project design drawings and Packaged Engine Specification provide additional information.

Qualified Suppliers:

- Foley Caterpillar
- Cummins
- EnerG-Rudox
- Northeast Energy Systems Engine Generator

The engine generator shall be a single internal combustion natural gas only lean burn designed for continuous base load prime power and nominally rated at 2,000 kW_e at ISO conditions. The engine package is to be provided with all auxiliary equipment, instrumentation, controls and management for a complete and workable system contiguous to the engine package.

Heat Recovery Steam Generator:

Engine exhaust heat is to be recovered by a skid mounted and self-contained ASME VII Section 1 HRSG located adjacent to the CHP in the engine room as depicted in the project design drawings.

The HRSG is to be designed to recovery as much heat and produce as much steam as practicable from the available engine exhaust heat. Steam design conditions:

- 125 psig
- Saturated steam

Treated and deaerated feedwater is provided from the existing CUP at 227 F and 5 psig.

The HRSG is to be a complete and workable system and operate as an integral part of the CHP system. Attributes and appurtenances to be included:

- ASME VIII Section 1 design
- ASME VIII relief valve
- ASME code valves

- Internal boiler feed pump
- Blowdown system
- Insulation
- Bypass damper
- Ductwork and expansion joint
- Instrumentation
- Control panel for control of the HRSG and capable of communication and integration into the CHP Master control system

4.2 Engine Jacket Heat Rejection

The CHP engine package is to be designed to reject heat from the engine to be used by the Trinitas hospital. The engine jacket heat rejection system shall also be designed to allow continuous operation if and when sufficient heat rejection to the Trinitas CUP is not available.

Project design drawings M101, M102 and M103 provide guidance on the operability of the system.

The engine packager is to provide all heat exchangers, pumps, valves, instruments and controls to allow for continuous and self-contained operation of the engine.

The new cooling towers part of the overall CHP system scope and described below will provide sufficient cooling water and capacity for continuous operation of the CHP engine package.

4.3 Engine Exhaust Silencer

The engine package is to be provided with an exhaust silencer dampening the engine exhaust noise and limiting the backpressure to the engine. The exhaust silencer is to be installed in the CHP engine room above the engine package and upstream of the HRSG.

The exhaust silencer shall mitigate the engine exhaust noise to no more than 75 dBA free field at 3 ft. The exhaust silencer is to be provided with an integral backpressure relief valve of sufficient capacity to prevent damage to the engine and all exhaust ductwork, equipment and appurtenances in the event of a backfire.

4.4 CHP Package Enclosure and Ventilation System

The engine package is to be provided with a shop fabricated and installed acoustic enclosure suitable for indoor installation. The enclosure is to be provided with doors and panels suitable to allow routine maintenance and overhaul of the engine and generator. Doors will also be located to allow for proper egress of personnel in the package for the case when an emergency exit is needed.

The enclosure is to be designed to attenuate engine noise to no more than 75 dBA at 3 feet free field. The enclosure is to be provided with adequate ventilation to insure safe and reliable operation for the site design ambient conditions. Fresh air is supplied from an inlet duct external to the package enclosure bringing in air from outside of the CHP engine room. The enclosure

ventilation exhaust is routed from the package to the outside of the building through external ductwork. The enclosure ventilation is to be provided with ductwork flanges to allow connection to the external fresh and exhaust ductwork.

The package enclosure is to be designed to allow for installation into the CHP engine room with minimal disassembly and field erection.

4.5 CHP Package Safety

The enclosure is to be provided with self-contained safety systems to include but be limited to:

- Enclosure internal temperature
- Fugitive gas detection
- Fire detection
- Space over-pressurization

The safety systems are to shut-down and protect the CHP package and building in the event of detecting a hazardous condition.

4.6 Paralleling Switchgear, MCC, Control Panel, NGR and Other Electrical Equipment

The project electrical single line drawings E-101 and E-102 provide guidance on scope of electrical equipment to be provided as part of the CHP package.

4.7 Steam And Hot Water Distribution

Steam Distribution

The CHP HRSG is to provide steam to the existing CUP steam distribution header located in the CUP boiler hall.

Where practicable, the piping is sloped (1" in 40') in the direction of steam flow to aid in condensate removal. Where the steam flow is opposite the direction of slope, a greater slope is utilized (1" in 20'). Expansion loops and expansion joints are utilized to maintain stresses within Code allowable limits.

A steam flow measuring device is to be installed in the piping system with flow measurement provided to the Master Control System.

Refer to project drawings M103 and M311 for schematic design details.

Boiler Makeup Water & Chemical Feeds

Make-up water introduced into the HRSG is provided by the existing Trinitas CUP. Makeup water is deaerated and treated for use by their existing own 125 psig boiler system.

Refer to project drawings M103 and M311 for schematic design details.

Hot Water Distribution

Refer to project drawings M101, M103, M201, M302, M311, M312, M313 and M314 for schematic design details.

CHP engine jacket heat is provided to the existing Trinitas building hot water system by exchanging heat from the engine to the High Temp Loop Heat Exchanger (HX-101) provided as part of the CHP system. Circulating water from the Trinitas distributed heat exchangers is provided by pumps PHP 1 or PHP 2 and routed to Trinitas:

- Domestic Hot Water System
- Admin Building HVAC
- North Building HVAC

Pumps PHP1 and PHP2 are to be mounted on a single skid and provided with pumps, motors, valves, piping and instruments for a complete and workable system. Final sizing of all new pumps shall be the responsibility of the EPC contractor.

Pumps PHP1 and PHP 2 are 100% capacity. The Plant Master Control System controls which pump is lead and which pump is lag. The Plant Master Control System is to alternate the order of operation of the pumps.

Motors for PHP 1 & 2 are powered from the new 480 V MCC.

Domestic Hot Water System

Hot water is supplied from the engine jacket High Temperature Loop Heat Exchanger via pump skid containing PHP1 and PHP2. A new Domestic Hot Water Pre-Heat Exchanger (HX-110) and pump PHP5 system is to be provided and mounted on a skid complete with all valves, piping, instrumentation and controls for a complete and workable system as indicated on drawing M103. The skid is to be located in the Hot Water Room as indicated on drawing M302.

The motor for PHP5 is powered from the new 480V MCC “MCC-CHP”.

Admin Building HVAC

Hot water is supplied from the engine jacket High Temperature Loop Heat Exchanger via pump skid containing PHP1 and PHP2. A new Admin Building Pre-Heat Exchanger (HX-130) and pump PHP3 system is to be provided and mounted on a skid complete with all valves, piping, instrumentation and controls for a complete and workable system as indicated on drawing M103. The skid is to be located in the Admin Building Basement Level Equipment Room as indicated on drawing M313.

Process water to the Admin Building Pre-Heat Heat Exchanger from Trinitas is supplied from the existing Admin Building hydronic system as indicated on drawing M313.

Supply and return piping to and from the CHP system is to be routed through the existing utility tunnels in the most direct and practical route.

The motor for PHP3 shall be powered from an existing 208V power panel. The Contractor shall provide a local disconnect switch and a local starter with overcurrent protection. The Contractor is responsible for furnishing and installing all equipment required for the electrical integration of the new equipment with the existing system including but not limited to all power cables and control wiring.

North Building HVAC

Hot water is supplied from the engine jacket High Temperature Loop Heat Exchanger via pump skid containing PHP1 and PHP2. A new North Building Pre-Heat Exchanger (HX-120) and pump PHP4 system is to be provided and mounted on a skid complete with all valves, piping, instrumentation and controls for a complete and workable system as indicated on drawing M103. The skid is to be located in the North Building HVAC Mechanical Room as indicated on drawing M314.

Process water to the North Building Pre-Heat Heat Exchanger from Trinitas is supplied from the existing North Building hydronic system as indicated on drawing M314.

Supply and return piping to and from the CHP system is to be routed through the existing utility tunnels in the most direct and practical route.

The motor for PHP4 shall be powered from an existing 480V MCC in the mechanical room. The Contractor shall provide a local disconnect switch and a local starter with overcurrent protection. The Contractor is responsible for furnishing and installing all equipment required for the electrical integration of this new equipment with the existing system including but not limited to all power cables, starters and control wiring.

4.8 Natural Gas System

Delivery of the main gas supply at 5 psig (TBD) minimum shall be provided by Elizabethtown Gas Company. A new and separate gas meter for the CHP system is required and the installation and coordination with the local utility are the responsibility of the EPC contractor.

The gas distribution system shall be routed from the Elizabethtown CHP terminal to the engine package as described in the design drawings.

The gas system shall be installed in accordance with Elizabethtown Gas Company requirements and all local codes. The new service will only serve the CHP.

4.9 Cooling Towers & Condenser Water

Existing Cooling Tower Demo and Construction Phasing Plan

In order to maintain chilled water capacity for the Trinitas hospital, work to be completed for the cooling towers shall occur in the below phasing plan. A detailed work plan for demolition and new work shall be submitted to Trinitas for review and approval before phased work begins. The work plan shall include a description of work, list of sub-contractors responsible for work, detailed schedule, approved shop drawing submittals for all relevant materials and

equipment, etc.

- Existing Cooling towers CT-1 & CT-2 as well as the associated steel shall be demolished. Valves will be installed in the piping just above the roof penetrations for the condenser water supply and return piping. This will leave only CT-3 and Chiller 3 to supply chilled water for hospital use. Chiller-3 does not have sufficient capacity to supply the entire hospital load during high demand periods so the demolition of CT-1 & 2 shall occur during the beginning of the heating season
- New Steel for the new towers shall be installed
- New Towers are installed and connected to existing services for Cooling tower CT-1 & CT-2.
- New Towers will be commissioned and begin to supply condenser water for Chillers 2 & 3.
- Cooling tower CT-3 will be demolished as well as the most easterly major existing steel support. The other major steel support shall remain.
- Connection from just above the roof penetrations for the Condenser water for CT-3 shall be connected to the new Condenser water piping.
- Once the piping is connected to the existing piping system for Chiller-3, Chiller 3 and its associated pumps may run to allow the plant to return to full capacity.

Cooling Towers

The new cooling tower shall be induced draft, crossflow type, factory assembled, film fill, industrial duty, galvanized steel cooling tower with three (3) cells. The towers are to be installed on the roof of the single story portion of the CUP building.

The new cooling towers shall be installed to replace the heat rejection equipment on the roof of the existing CUP building. Auxiliary equipment such as condenser water pumps, make up water system, chemical feed system of the existing towers shall remain in place and be reused to the greatest extent practical. The new towers will serve the existing chillers and utilize existing condenser water pumps and piping inside the CUP. There will be an additional load on the new cooling towers from the heat dump heat exchangers from the engine. The system shall have adequate capacity for all design loads and be able to turn down to support the smallest individual load which will be only the engine running. At least one cooling tower cell will require its fans and shutoff valves to be served by emergency power in the case that loss of power occurs

Each cooling tower is to be designed for standalone operation and complete with fans, lovers, fill, drift elimination, blowdown and makeup water control and stainless steel basin for a complete and workable system.

The cooling towers are designed for the following conditions:

- Air-Inlet Arrangement: Two sides.
- Maximum Drift Loss: 0.005 percent of design water flow.
- Water Flow/Cell: 2,500 gpm.
- Minimum Water Flow/Cell: 550 gpm.
- Entering-Water Temperature: 95 deg F.
- Leaving-Water Temperature: 85 deg F.

- Entering-Air Wet-Bulb Temperature: 78 deg F.
- Fan Drive: Gear
- Fan Motor:
 - Type: Variable speed w/ Shaft Grounding Rings.
 - Electrical Characteristics: 480-V ac, 3 phase, 60 Hz.

- Sound Pressure Level: Provide Towers with Low Noise Fans. Guarantee 100% thermal performance at rated conditions while meeting the below sound pressure requirements at 5 ft, based on 0.0002 microbar reference:
 - Air Inlet Side: 80 dBA
 - End of Tower: 75 dBA
 - Top of Tower: 87 dBA
 - Basin Heater (2 per Cell): Electric
 - Basin Water Temperature: 40 deg F.
 - Outdoor Ambient Temperature: 0 deg F.
 - Capacity/Cell: By manufacturer.
 - Electrical Characteristics: 480-V ac, 3 phase, 60 Hz.

The cooling water basins shall be stainless steel and will have bottom outlet connections.

The cooling towers will be provided with internal ladders access platforms and walkways to perform maintenance on motors, drives, etc.

Each basin is to be provided with electric basin heater(s) sufficient to prevent freezing per the site ambient design conditions. Power for the cooling tower fan drives and basin heater(s) is to be provided from a new 480V MCC "MCC-CHP". Refer to project drawing E-103 & E-201.

Area lighting fixtures and lightning protection shall be provided by the cooling tower supplier. The area lighting and lightning protection shall encompass the area surrounding the cooling towers as well as the deck and stairs for the cooling towers. The lightning protection shall utilize lightning masts. The lighting fixtures shall be LED type with emergency battery back-ups. The contractor is responsible for grounding the cooling towers, deck and stairs to the existing grounding system. The contractor is also responsible for furnishing and installing the power cables from new panel PP-A/PP-B depending on voltage requirements for each cooling tower component which requires power in accordance with the NEC unless otherwise noted.

4.10 Cooling Tower Makeup Water & Chemical Feed

Cooling tower makeup water is provided from the Trinitas CUP. Circulating water chemistry will be maintained by the Trinitas staff and with their existing equipment.

4.11 Condenser Water from Cooling Towers

Condenser water is supplied to the CHP engine jacket heat rejection system from the new cooling towers with new condenser water supply pumps CTP4 & CTP5. Refer to project drawing P&ID M- 101 and General Arrangement M302.

CTP4 and CTP5 are to be mounted on a single skid and provided with pumps, motors, valves,

pipng and instruments for a complete and workable system.

Cooling water supply and discharge is to be provided at the skid edge and terminated at Class 150 raised face flanges.

Power to pump motors CTP-4 & 5 shall be provided from existing panel MCCE in the CUP building.

Panel MCCE has access to emergency power from emergency generator #3 in the CUP building. CTP-4 & CTP-5 will require emergency power for black starting of the CHP generator. The contractor shall furnish and install new local combination motor starters, local disconnects, controls, interconnecting conduit and wiring, etc. as required for a fully operational system. It is expected that there are at least (2) spare breakers available in panel MCCE which shall be utilized to feed motors CTP-4 & CTP-5. The contractor shall confirm availability of existing spare breakers in the field. CTP-4 is expected to require a size 1 combination motor starter fed from an existing spare breaker in panel MCCE with 15AT. CTP-5 is expected to require a size 1 combination motor started fed from an existing spare breaker in panel MCCE with 25AT. All ratings shall be verified with final design.

4.12 Plant Master Control System

A PLC based CHP Master Control System shall be provided to control the entire operation of the CHP system, monitor performance, collect and store data, provide reporting for M&V.

The system shall be provided in a floor standing NEMA 12 enclosure and mounted in the CHP equipment room.

The CHP Master Control System shall be provided with:

- Local touch screen HMI
- PLC
- I/O
- Power Supply
- Remote mounted display

Functionality of the system shall include as a minimum:

- Start / stop of the CHP system including auxiliary equipment
- Grid synchronization and parallel operation
- Engine generator load following of host loads
- Maintenance of minimum import kW
- Black start and islanding operation
- Communication with new and existing Automatic Transfer Switches
- Integration with the HRSG and bypass damper into existing boiler system
- Control of engine jacket water temperature to allow engine to run regardless of host hot water export
 - Engine Low and High Temp Pumps
 - Engine jacket water temperature control valve

- Control of and integration with post combustion emissions control equipment
- Package ventilation and dampers
- Generator voltage, current, frequency, power factor and VAR control
- Integration with safety systems
- Start and stop all Balance of Plant auxiliary equipment and systems as depicted on CHP system 480 V single line diagram to include
 - Cooling Towers
 - Cooling Tower actuated isolation valves
 - Condenser Water Pumps
 - Process Hot Water Pumps
 - Domestic Hot Water Pump
- Package E-Stop
- Remote E-Stop
- Package fugitive gas detection
- External room gas detection
- Package fire detection
- Package internal temperature
- Annunciation and system alarms and shutdown
- Performance monitoring and reporting
- Graphical representation of primary CHP systems:
 - Electrical one-line
 - Steam and Hot Water Flow
 - Engine status and performance
 - Engine enclosure status
 - Trending of CHP performance
 - Generator output (kWe)
 - Fuel Consumption (Btu/min)
 - HRSG steam flow (lb/hr)
 - Exported jacket water heat (Btu/min)
 - CHP Efficiency
 - Engine run hours
- Remote monitoring through internet connection

Attributes to include:

- Local touch screen HMI to be minimum size of 12 inches
- Remote mounted display to be minimum size of 18 inches
- Data tags to be accessible by outside system through Internet over I/P
- Host SCADA communication through Modbus TCP
- Alarm and shutdown historian

The PLC processor shall be industry recognized Rockwell, Siemens, ABB, Red Lion or approved equal microprocessor suitable for use in operating condition of up to 140°F.

All field run cables from all the field devices, marshalling cabinets, MCC, engine package shall be terminated in the PLC controller.

The Controller size shall be sufficient to fully meet the requirements of the CHP project plus 20% spare capacity for new I/O and programming.

The control system shall be designed for a 120 VAC power feed. Any power conversions (24 VDC, 48 VDC, etc.) shall be provided for within the control system.

The PLC processor shall have the capability of performing continuous analog control routines, discrete signal processing and real-time sequencing of equipment.

The control system is to be designed to allow manual override of equipment controls including start/stop and analog control functions.

A 4 hour rated UPS is to be provided. The UPS may be mounted remote to the CHP Master Control System.

Refer to Project design drawings I-101 for system architecture. Refer to project electrical single line drawings and P&IDs for additional information.

4.13 Engine Room

The existing CUP HVAC room is to be converted to the CHP engine room.

The Trinitas staff is responsible for removing and relocating all of the tools, bins, storage, etc. currently in the room and preparing the room for refurbishment as the CHP engine room.

The ventilation for the new engine room will need to be redesigned to properly cool the new equipment loads. The intent of the design is to move the exhaust fan from the East wall to the South wall. The design of the system has been preliminarily designed for the basis of design equipment and is reflected on the project drawings. Final design and set points for high speed (hot weather operation) and low speed (cold weather operation) will need to be determined during final design by the EPC Contractor.

4.14 Hot Water Room

The ventilation for the hot water room will need to be redesigned to properly cool the new equipment load. The intent of the design is to move the exhaust fan from the East wall to the South wall. The design of the system has been preliminarily designed for the basis of design equipment and is reflected on the project drawings. Final design and set points for high speed (hot weather operation) and low speed (cold weather operation) will need to be determined during final design by the EPC Contractor.

4.15 Area Classification & Building Safety

Project drawings E-206, FP-301 & FP-302 describe the relevant area classification and building safety required for new construction of the CHP system.

Plastic building insulation materials that produce hazardous vapors on combustion or heat or flame shall not be used.

Fire protection equipment shall be installed to conform to standards of the National Fire

Protection Association (NFPA) and devices listed by Underwriters Laboratories, Inc. shall be used.

IBC and local codes shall be used for project design.

The CHP engine room has a pre-existing standpipes and a dry pipe pre-action sprinkler system. Verification of the final fire suppression design is the responsibility of the engineer of record.

Portable fire extinguishers shall be provided in the CHP engine room as required in appropriate areas. Fire extinguishers shall be designed, selected, and installed in accordance with NFPA-10. Extinguishers will be ABC multi-purpose dry chemical in general with CO2 extinguishers for electrical applications.

Electrical installation shall conform to the National Electrical Code.

A new external stair platform is required to provide sufficient egress from the CUP second floor.

4.16 New HVAC Shop

A new HVAC shop is to be configured from existing space as indicated on project drawing A-101.

5 ELECTRICAL SYSTEMS

This section is a general description of the electrical design, equipment, and materials. Voltage insulation levels, interrupting capacities, continuous current capacities, circuit protection, and mechanical strengths shall be selected and coordinated in accordance with calculations and the requirements of IEEE, NEMA, ICEA, ANSI, and NFPA. System protective devices (relays, fuses, breaker trip unit, etc.) shall be selected and coordinated to insure that the interrupter nearest the point of a short circuit will open first and minimize disturbances on the rest of the system.

Protective Relaying

Refer to project electrical single line diagram E-102 for required multi-function, microprocessor based relays required for paralleling operating, utility interconnection, generator protection and to prevent export of power. Suitable ground overcurrent protection shall be provided in accordance with IEEE 1547 and PSE&G requirements.

Final design shall comply with PSE&G requirements for interconnection. Transformer Protection

TL-1301 shall be protected by an SEL-787 with differential and overcurrent functions.

The Contractor shall provide a complete coordination study for review by the Owner's Engineer. The Contractor shall develop and install all relay settings required for a fully

functional system based on the approved coordination study.

Motors

The new cooling tower cell fans shall feature VFD starting with integral disconnect switches and over-current protection. All other new motor loads which shall be fed from the MCC-CHP are expected to be squirrel cage induction motors suitable for direct online starters with local disconnect switches.

Refer to E-103 for the MCC single line diagram.

Plant Master Control System UPS

UPS power supply for the Plant Master Control System equipment shall be provided. The UPS system will consist of a rectifier/charger, inverter, static switch, maintenance bypass switch, alternate source transformer, and distribution panel.

Unit Substation

An outdoor, closed coupled, unit substation shall be provided. The unit substation shall include a transformer (TL-1301), neutral grounding resistor (NGR-TL-1301), metal-clad circuit breaker (52-GT), medium voltage fused disconnect switch (DS-TL-1301) as well as protection and controls as shown on E-102. All ratings shall be confirmed with the final design.

- TL-1301 – The transformer ratings have been calculated based on the CHP generator output and are as follows: Substation class, 2.5MVA, %Z=5.75, 3 phase, FR3 type, 65° KNAN, 13.2kV-4.16kV. The transformer winding configuration shown in the design drawings is wye (solidly grounded) – wye (resistance grounded) based on PSE&G requirements. The preferred winding configuration is wye (solidly grounded) – delta. Further confirmation of acceptable winding configuration with PSE&G is required by final designer.
- 52-GT – The circuit breaker ratings have been calculated based on the estimated maximum available fault current, transformer full load current, and the ratings of the existing 13.2kV main service switchboard and are as follows: 1200A continuous current, 15kV class, 500MVA class, 95kV BIL, 18kA RMS sym. Refer to equipment specifications for more details. The circuit breaker and bus ratings shall, at a minimum, match the ratings of the existing 13.2kV main service switchboard.
- NGR-TL-1301 – The neutral grounding resistor shall be rated to limit the neutral fault current to 400A for 10s at 2400V. A 400/5A CT shall be provided by the supplier for fault current sensing.
- DS-TD-1302 – The fused disconnect switch rating has been calculated based on the full load primary current of the distribution transformer that it feeds (TD-1302), estimated maximum available fault current, and the ratings of the existing 13.2kV main service switchboard and are as follows: 15kV class, 65E, 18kA RMS sym. Refer to equipment specifications for more details. The fused disconnect switch and bus ratings shall, at a minimum, match the ratings of the existing 13.2kV main service switchboard.

Firewall & Containment

The unit substation features an FR3 liquid type transformer. The transformer will contain approximately 300 gallons of FR3. A suitable containment pit shall be provided to surround the unit substation to prevent the transformer liquid from spilling to nearby areas. The containment pit shall consist of crushed stone covered with fiberglass grating. The final containment pit design shall be in accordance with Factory Mutual Global property loss prevention data sheets for transformers. The containment pit design shall include provisions for the racking out of circuit breaker 52-GT.

A firewall shall be provided at the unit substation. The firewall shall be a 2hr fire and impact rated modular transformer fire barrier to comply with the space restrictions in the unit substation area. The firewall height, length and arrangement shall be determined during final design and shall, at a minimum, protect the nearby CUP building and utility pole from a potential transformer fire in accordance with Factory Mutual Global property loss prevention data sheets for transformers, as well as NFPA 70 & NFPA 850.

Automatic Transfer Switch

A new ATS (ATS-BS-CHP) shall be provided as shown on E-103. The ATS ratings have been calculated based on vendor provided data for estimated shore power requirements of the generator package. The ATS shall be rated 200A, 480V, 3P+N and shall feature remote operation capability such that the CHP master control system can operate the ATS. This ATS shall be connected to an existing panel with an emergency generator power supply and will feed the generator shore power loads so that they have access to emergency power as required for black starting.

Motor Control Center

A new 480V MCC (MCC-CHP) shall be provided as shown in E-103. The ratings have been calculated based on the CHP plant ancillary requirements and existing site conditions. The MCC ratings are expected to be 800A, 3 phase, 4 wire, 42kA RMS, NEMA 3R (minimum) for outdoor use and shall include a current transducer which shall be wired to the CHP master control panel. The final MCC ratings shall be verified during final design development.

Main Breaker Retrofits

The existing main breakers/disconnect switches at the building service entrance for the North Wing, South Wing, & Cancer Center shall be replaced with new circuit breakers that can be remotely controlled by the new CHP master control panel. The contractor is responsible to field route the new control cabling for remote operation and breaker status indication as shown in the project single line drawings.

Main Service Switchboard (MSS) Retrofit

The existing main service switchboard shall be modified as shown in the project single line

drawings. This includes but is not limited to the addition of instrumentation transformers for protection, controls & metering, remote operation and breaker status indication for control by the CHP master control panel, and cable connection from the new CHP plant to the existing 13.2kV distribution bus.

Controllers for Low Voltage Motors

Single Phase Motor Controllers

In general, controllers for 120-volt single-phase motors will be manual motor starters except in special cases where magnetic contactor type starters are required. They will be fed from molded case circuit breakers located in a local power panel.

Three Phase Motor Controllers

Controllers for 3-phase low voltage motors will be the combination type consisting of a molded case air circuit breaker and a magnetic starter. Minimum starter size will be NEMA Size 1.

As a minimum, each starter will have three (3) overload relays and a control power transformer with a fused 120-volt secondary.

Motor controllers for indoor unclassified installations will be grouped, metal-enclosed, freestanding, dead-front, NEMA 1 type enclosure motor control centers with NEMA Class I Type B wiring. All starters NEMA size 1 through size 4 will be plug-in type.

Motor controllers for installation in outdoor areas may be grouped on switch racks. Each controller will be enclosed in an enclosure listed or approved for the area classification and, when applicable, sealed in accordance with the NEC.

Switchboards

Main Switchboards will be floor-mounted and rated 480V as required, 3 phase, 4 wire, 60 Hz. Molded case circuit breakers will be provided for main and feeder circuits.

Panelboards

Main panelboards will be floor-mounted and branch circuit panelboards will be wall-mounted type. They will be 480volt, 3 phase, 4-wire, with a full capacity neutral. Bolt-on main and branch circuit breakers will be provided. Panelboards will have a maximum of 42 overcurrent devices per panel.

The panelboard enclosure will be painted galvanized steel with knockouts and removable endwalls and a screwed-on front cover.

Grounding

All equipment and wiring systems shall be grounded in accordance with the requirements of the

NEC. Design drawing E-205 describes the grounding system for the new CHP equipment. Grounding details are described on drawing E-300.

Computer / Instrumentation

Appropriately sized ground bus and equipment connections will be installed for Computer/ Instrumentation grounding.

All Computer/ Instrumentation grounding will be in accordance with the DCS and PLC vendor's requirements.

Lighting

Illumination levels will be in accordance with the IESNA Standards. Design drawings E-202, E-203 & E-204 describe the lighting system for the new CHP equipment locations with demolition of existing areas. There is no lighting plan provided for the cooling tower area on the basis that lighting fixtures for this area are to be supplied by the cooling tower provider. Refer to the cooling tower section for more information.

The lighting system shown on the design drawings is diagrammatic. The contractor shall provide lighting calculations based on the final design to the Owner for review. Field verification is required for all mounting heights; coordinate all lighting elevations with existing utilities and final equipment sizes. Furnish supports and relocate existing as required to provide sufficient foot-candles. New lighting fixtures shall be wired to new low voltage panels PP-A or PP-B depending on final fixture voltage. Emergency lighting shall consist of units with self-contained battery packs. Outdoor fixtures shall contain integral photocells.

Underground Raceways and Cables

Refer to E-100 & E-200 for general and project specific notes/details regarding underground raceways & cables.

In general, underground cables will be routed via concrete encased duct lines. Types EB or DB PVC conduit will be used.

Underground cables installed under buildings will be in Schedule 40, rigid nonmetallic conduits extended at least 3 ft. outside the wall of the building.

The minimum cover requirements will conform to the requirements of the NEC.

Rigid steel galvanized conduit will be used for all lateral runs from nonmetallic conduit duct banks with 45 degrees through 90 degrees and risers.

All underground conduits will be encased in a concrete envelope providing a minimum outside encasement of 3 inches on all sides.

The top of the concrete envelope will be a minimum of 24 inches below finished grade and will

be colored red by sprinkling red oxide on the freshly poured concrete. The concrete envelope will be omitted within the confines of building foundations. All underground duct banks will have detectable warning tape above the duct banks.

Wherever the concrete encased conduit is subject to heavy traffic such as at roadway crossings, it will be structurally analyzed and reinforced with steel reinforcing bars as required.

Conduit entering switchgear, motor control centers, and similar equipment through a concrete floor will terminate in couplings set flush with the finished floor, nipped, with a ground bushing, and sealed with a plastic sealing compound.

Where conduit rises above grade, the encasing concrete will be extended a minimum of 3 inches above grade and be sloped for water runoff.

Aboveground Conduit and Fittings

Aboveground conduit will be EMT (where permitted by the NEC), hot-dipped galvanized except in wet, or corrosive humid atmospheres where aluminum, plastic coated, or plastic conduit may be better suited. Aboveground conduit will be securely and adequately supported in accordance with the National Electrical Code.

Aboveground conduit will be $\frac{3}{4}$ of an inch minimum, except that $\frac{1}{2}$ of an inch conduit may be used for short runs to instruments, telephones, and outdoor control boards.

Long radius elbows (factory bends) will be used for 1 $\frac{1}{4}$ -inch (40 mm) conduit and larger. Field bends will be in accordance with the National Electrical Code.

A maximum of three (3) 90° bends will be allowed in a conduit run between junction or pull boxes. During construction, temporary openings in the conduit system will be plugged or capped to prevent entrance of moisture and foreign matter.

Conduit between pipe supports and equipment will not be supported from piping. Conduit fittings will be selected in accordance with the National Electrical Code.

Where splices are required, boxes having sufficient volume to comply with the National Electrical Code will be used.

Expansion fittings will be installed in long straight, horizontal, and vertical conduit runs

Vented drains or drain seals will be provided at the low point of long, vertical, or horizontal runs of conduit where condensation could accumulate, and in outdoor areas where conduit enters boxes or enclosures from above.

Connections to equipment requiring removal from service or subjected to vibration or movement will be made with flexible conduit. Liquid-tight flexible metal conduit and approved fittings will be used for outdoor equipment in unclassified and Class I, Division 2 locations.

EMT (Electrical Metallic Tubing) may be used in indoor locations where the conduit will not be subject to severe physical damage and where hazardous atmospheres do not exist.

Control stations installed in classified areas will be factory-sealed type.

Cables for Service Above 600 Volts

Medium voltage power distribution cables will be 5 or 15 kV grade, Type MV-105, single copper conductors, Ethylene -propylene rubber (EPR) insulation (133%), flame-retardant and moisture- resistant PVC jacket and copper tape shielded. The current carrying capacity and short circuit withstand capability of cables will be in accordance with NEC and applicable ICEA tables and recommendations.

Power conductors will be installed in a separate conduit from control or instrument conductors.

Cables for Service 600 Volts and Below

Low voltage power and control cables will be 600-volt grade, Type RHH/RHW or XHHW (single or three conductor), ethylene propylene (EP), VW-1 insulation, or Type TC with overall flame- retardant and moisture-resistant jacket (multi-conductor power and control cables). For high temperature locations, wire with suitable insulation will be used where required. Refer to cable schedule (E-400) and installation specifications for more information. Where discrepancies exist between documents, the more stringent requirement shall apply.

Instrumentation cables will be 300-volt grade, Type PLTC, single or multiple twisted-shielded pairs, overall shielded (for multi-pair), flame retardant PVC insulation, Mylar tape shields (individual pairs and overall shield), and flame-retardant and moisture-resistant jacket.

Thermocouple extension wire will be 300-volt grade, single or multi-pair with construction similar to the instrumentation cables with Type E (Iron constantan) conductors, unless otherwise noted.

Fiber optic or coaxial cables will be provided for the PLC and fire system equipment as required. Minimum conductor sizes will be # 12 AWG for miscellaneous power circuits, and # 14 AWG for control circuits.

In general, wire and cables will be sized in accordance with NEC.

Multi-conductor control cables will be color coded or numbered in accordance with NEMA WC-5.

The manufacturer's recommendations will be used for the minimum bending radii of cables and wires.

Cable for installation in cable trays will be approved for tray installation.

Cables for variable speed drives will meet the drive manufacturer's requirements.

Wiring Levels/Classes and Separation

All electrical wiring will be categorized by level in accordance with the requirements of IEEE 518.

Cable/raceway separation by levels will be in accordance with the requirements of IEEE 518.

Control Systems Instrumentation

Materials

Installation specifications have been issued for all multi-conductor instrument wire and cable.

Enclosures for field junction boxes will be NEMA-12 for indoor applications and NEMA-4 for outdoor applications, with hinged removable doors and sub-panels for terminal strip mounting.

Terminal strips for instrument wiring will consist of 300 volt, medium duty tubular clamp polypropylene terminal blocks mounted on slide-rail strips.

Installation

Installation of all equipment shall follow the equipment manufacturers' recommendations.

Wiring for field instrument devices will be accomplished by installing individually shielded twisted pairs or triads for milliamp, DC, or millivolt signals in from field junction boxes.

Wiring from local field boxes to control cabinet will be multiple pair or triad cables with an overall shield for DC and milliamp signals routed in conduit or cable tray. Cables for millivolt signals will have both individual pair shields and overall shields. Wiring for AC signals will be multi-conductor cables routed in conduit or cable tray.

Home Run instrument cables will contain 20 % spare pairs, triads, and conductors; and they will be terminated and tagged at both field junction box and control room ends.

Individual shield drain wires for thermocouple pairs will be grounded at the instrument head only. Individual shield drain wires for milliamp, DC pairs, and triads will be cut and taped at the instrument head.

Shield drain wires at field junction boxes will be jumpered and connected to the overall shield drain wire in the Home Run cable for milliamp and DC Signals. For millivolt signals, individual pair shields in multiple pair cables will be connected to corresponding single pair shields; overall shield will be grounded at the control room. Shield wires will be insulated from ground at the junction box. Note: Shield for field-powered devices terminate in the field.

Individual shield drain wire for multi-pair thermocouple cables will be cut and taped at the control room. Overall shield drain wire for all other multi-pair cables will be grounded at the control room.

Tagging of all wires or pairs will be on both sides of each termination point.

Individual junction box and conduit systems will be provided for millivolt, AC, and milliamp/DC instrument signal levels.

Separation of circuits will be in accordance with the recommendations of IEEE 518 unless otherwise required by the PLC vendor.

Heat Tracing

Electric heat tracing is to be provided on outside piping associated with the cooling tower, circulating water system, and urea tank and transfer piping. Power for electrical heat tracing shall be fed from PP-A. Control of heat tracing shall be by local temperature actuated control. The contractor is responsible for furnishing and installing a fully functional heat tracing system.

Utility Metering & Relays

Refer to the project design drawings for metering instruments and relays required. The interconnection agreement with PSE&G will confirm the final relay protection scheme and equipment required.

6 PLANT OPERATION

The CHP system is to be designed for full time operation providing electricity, steam and hot water for use by Trinitas.

The following is an outline of plant operation. Final operating sequence, parameters, logic, controls, instrument and alarm set-points and all functional operation is the responsibility of the EPC contractor.

Normal Operation CHP System Start

Starting of the CHP system is at the Master Control System HMI. An operator manually starts the system from the HMI.

Prior to start, the Master Control System verifies that the cooling tower(s) are running and that faults are clear.

Admin and North Building Hot water pumps PHP3 and PHP 4 are local start. A plant operator should insure these pumps are running.

Operator Initiates Start:

- Pumps CTP 4 and CTP 5 start and run is verified
- Lead PHP pump starts and run is verified
- Domestic Hot Water Pump PHP 5 starts and run is verified
- Enclosure ventilation fans start and run is verified
- Engine jacket water cooling pump(s) start and run verified
- Engine starts and ramps to speed

- HRSG stack damper opens and modulates to allow hot exhaust gas to flow through the HRSG
- When ready and relay parameters are met, the generator synchronizes to CUP 4160 V bus

Steady State / Normal Operation

The engine generator load control ramps, loads and controls the engine output to maintain a minimum utility electrical import set-point.

The HRSG local control panel maintains control of the HRSG including bypass damper position and providing steam to the CUP steam supply header at 125 psig in a steady condition while operating in parallel with the existing steam generating system.

HRSG sampling and blowdown are to be per good operating practice.

The Emissions Control System controls injection of Urea to the SCR.

The CHP plant is expected to operate in parallel with the PSE&G system in a non-export scenario.

Cooling Towers

The cooling towers are provided with automatic level control with high and low level alarms and shut-downs. Measurement of makeup water flow rate is through a local flow meter with the measurement signal provided to the CHP Master Control System.

Sump heaters are provided for freeze protection. Control of the sump heaters and heat tracing is through local temperature actuated control.

Condenser water flow from the towers is based on maintenance of a desired set-point.

The cooling towers are provided with motor operated Condenser Water isolation valves for each of the 3 cells. The position of the valves is controlled from the new CHP control system. Valve limit status is brought to both the CUP control system and the CHP Master Control System.

Engine Jacket Water Heat Recovery

Engine jacket water heat is primarily rejected to the High Temp Loop Heat Recovery Heat Exchanger - this is beneficial heat recovery to the Trinitas system. Heat from engine jacket is transferred to the Trinitas:

- Domestic Hot Water System
- Admin Building Hot Water System
- North Building HVAC system

Analysis of the Trinitas hot water heat demand depicts that based on current energy consumption, the engine jacket will have more heat available than Trinitas can use.

The design of the jacket water heat rejection and beneficial use system should automatically bias the amount of heat rejected to the Trinitas system and the remaining heat to the “dump” system heat exchanger(s) depicted on project drawing M-101. The system is to be designed to allow for continuous operation of the engine, regardless of the amount of heat rejected for beneficial use by the Trinitas system.

New local heat recovery skids installed for Domestic Hot Water System, Admin Building System and North Building HVAC system are to be designed for local and standalone control of the amount of heat transferred to the Trinitas side of the heat exchanger.

The EPC engineer of record is responsible for the final design of the engine jacket water heat rejection system.

CHP System Stop & Shutdown

Stopping of the CHP system is at the Master Control System HMI. An operator manually stops the system from the HMI.

Upon initiation of a Stop, the Master Control System:

- Opens generator breaker and ramps down engine
- Modulates bypass stack damper position for controlled shutdown of HRSG
- Modulates control of engine jacket water temperature

The system is to be designed for safe shutdown of all CHP systems to minimize cycling wear and undue stress on all equipment and sub-systems.

Emergency Shutdown

Emergency shutdown of the system occurs to protect plant personnel and equipment from harm or hazardous conditions.

Automatic shutdown by the CHP Master Control System occurs if and when a hazardous condition is detected by the CHP monitoring instruments and systems.

Manual emergency shutdown of the system occurs:

- At the CHP Master Control HMI
- Manual E-Stop located in engine room and CUP control room

It is the responsibility of the EPC Engineer of Record to thoroughly design a system that protects personnel and equipment. It is the responsibility of the EPC to thoroughly test the system for functionality.

Black Start & Islanding Operation

Refer to Attachment A for the Black Start & Island Mode CHP Conceptual Description of Operation for guidance on black starting and island operation. EPC Contractor is responsible for final design and operation.

6.1 Pipe Sizing Criteria for Thermal Systems

General

The piping distribution system is the network of piping, pumps, and controls that connect the heating and cooling production equipment of the CHP to the Trinitas CUP and hot water systems.

Summary of Design Conditions

Pipe Velocities:

Above ground steam mains	50 - 120 ft/sec
Above ground water mains (welded steel)	6 - 17 ft/sec

Maximum System Operating Pressures:

Hot water	150 psig
Steam @ boiler	150 psig

System Design Pressures:

Water water piping & fittings	150 psig
Steam piping & fitting	150 psig

System Test Pressures:

Water piping & fittings	225 psig
Steam piping & fitting	225 psig

Minimum Slope for Drainage:

Water	1"/100 feet
Steam	5"/100 feet

Steam and Water Pressures

All steam and chilled water piping shall be designed to a maximum of 150 psig. Equipment (valves, fittings, etc.) installed within the CUP shall, where applicable, be ANSI Class 150. The differential pressure at each building will vary with its location in the distribution system. To maintain the best control valve operating conditions, the actual differential pressure conditions at each building location shall be used. The minimum differential pressure will be 15 psig at each building at the critical node.

Pipe Materials for Thermal Systems Steam:

Nominal Size: ½" to 2"; schedule 80 carbon steel and 3" to 24" schedule 40 carbon steel, ASTM A-53 Grade B SMLS or A106 Grade B.

Hot Water:

Nominal Size: ½” to 2” ; schedule 80 carbon steel and 3” to 24” schedule 40 carbon steel, ASTM A-53 Grade B SMLS or A106 Grade B.

Condenser Water:

Nominal Size: ½” to 2” ; schedule 80 carbon steel and 3” to 24” schedule 40 carbon steel, ASTM A-53 Grade B SMLS or A106 Grade B.

Meter Selection:

Various meter types are available for CHP data acquisition, control and M&V. Critical characteristics for proper installation include clearances and spatial limitations as well as the attributes presented in the Table below for the variety of options.

Meter Comparison Table

Type	Accuracy (+/-)	Rangeability	Pressure Loss
Electromagnetic	0.5-1.0% R	10:1	<3 psig
Vortex	0.5-1.25%R	25:1	3-5 psig
Turbine	0.25-1.0%R	50:1	3-5 psig
Ultrasonic	1.0-3.0%R	100:1	<3 psig

FS - Full Scale R – Rate

Steam, Gas and Hot Water Metering

Vortex meter shall be used for steam applications.

Vortex meter may be used for measurement of natural gas flow. The engine packager may choose their standard meter.

Electromagnetic flow meter (magmeter) shall be used for makeup water to the new cooling towers and for CHP hot water heat input into Trinitas.

7 Attachments

- 7.1** Black Start & Island Mode CHP Conceptual Description of Operation
- 7.2** Report of Geotechnical Exploration
- 7.3** Preliminary Sound Level Analysis

ATTACHMENT 1

Black Start & Island Mode CHP Conceptual Description of Operation

Black Start & Island Mode

CHP Conceptual Description of Operation

Introduction: There are currently five (5) existing emergency diesel generators that provide emergency power to the Hospital's essential loads (life safety, critical & equipment branches). Running the CHP plant in Island Mode is to be implemented during extended utility outages to minimize the running of the diesel generators. The intent of running the CHP plant in Island Mode is to extend the lifetime of the diesel fueled generation. When in Island Mode, a specific loading procedure needs to be implemented to maintain power quality throughout the electrical system. In order to minimize voltage and frequency deviation and keep the recovery time of the generator within 10 seconds, the generator should be step loaded such that no more than 10% of the nameplate capacity of the generator is picked up by the generator at once. For a 2MW generator of this nature, each step load is limited to 200kW. This description of operation is based on a worst-case scenario and considers peak essential loads. For the more common scenario during off-peak essential load conditions, the black start and Island Mode step loading operation is expected to be less stringent and allow for more non-essential loads to be switched to CHP generator power after all essential loads have been picked up.

Essential Loads: The Hospital's essential loads are backed up by the five (5) existing emergency diesel generators. When utility power is not available, the diesel generators provide power for the Hospital's essential loads through multiple ATS. Due to the absence of sub metering at the Hospital, the essential load demand of the Hospital has been estimated. 10 months of existing test data were available for the five (5) existing emergency generators. Refer to TABLE-1 for this data. This data was analyzed and the maximum load was considered based on the highest load recorded for each generator on any particular month. Since the tests were conducted during off peak hours, a conservative 15% margin was considered to account for load increases during peak operating hours. Refer to TABLE-2 for this calculation. The total peak essential load for the Hospital was estimated to be 1806kW through this process. The essential loads were further analyzed to estimate the amount of load on each individual ATS. Refer to TABLE-3 for this estimate. With the exception of emergency generator #3, each emergency generator serves multiple ATS. The load on each ATS was estimated by taking the essential load powered from each generator and distributing it proportionally based on individual current ratings of each ATS. Further confirmation of the individual ATS loads may be required and is not considered a part of this report.

Black Start: The CHP is capable of black starting during a total blackout condition when a power source is not available from the Utility. The engine generator ancillary equipment will require generator power to start the CHP plant. The current design approach allows for startup power from the existing diesel generator #3 located in the CUP building. The existing generator will have to temporarily provide a minimum of 166 kVA or roughly 200A at 480V, three-phase for the black start of the CHP plant. Generator 3 currently feeds panel EMDP via ATS 15. A spare 225AF breaker will be utilized on existing panel EMDP to supply power to the CHP start-up loads by way of a new ATS "ATS-BS-CHP". This new ATS will ensure

the CHP plant will switch back to power its own ancillary equipment after the black start condition.

Step Loading: In order to load the CHP generator in Island Mode, specific step loading procedures need to be implemented to maintain power quality throughout the electrical system. Refer to TABLE-5 for a summary of the step loading process. In the event that the Hospital experiences a Utility power outage, Hospital staff will contact the Utility and determine whether the outage will be for an extended period of time. Based on this information, Hospital staff will then decide whether to bring on the CHP generator in Island Mode. If it is desired to operate the CHP generator in this scenario, the CHP will black start as described above. It is expected that the 13.2kV main breaker in the existing main service switchgear will trip upon loss of utility power. Depending on facility loading conditions and fault scenarios, the CHP may or may not remain in operation. If the entire Hospital load is within the capacity of the CHP generator at the time of the Utility power outage and the protective relays do not trip the generator, the CHP generator will remain in operation (islanded from Utility) and the hospital loads will not experience an interruption in service. In the event that the CHP generator trips upon loss of utility power, the Hospital will lose normal power and the emergency generators will start to support the essential loads per the Hospital's current practice. The CHP generator will then need to black start and bring on the Hospital load in steps. Before the CHP is able to start, the CHP Master Control Panel will remotely open the main service entrance breakers for the Cancer Center, North Wing, South Wing and the 13.2kV breaker SS1 in the main service switchgear. This will ensure that the loads for each of these buildings can be brought back online when circumstances are permitted by the CHP Master Control Panel.

Given that one of the main objectives of the CHP generator is to supply power to essential loads in order to extend the life of the diesel fueled generation, and since the CHP generator will be at or near full capacity when powering the peak essential load of the Hospital, the priority of the step loading sequence is focused around supplying CHP generator power to the life safety loads first, followed by critical loads, and then equipment branch loads. As a result, the non-essential Hospital loads will need to be disconnected prior to switching CHP power to the facility. Based on an analysis of metering data, the amount of peak demand that is non-essential is expected to be approximately 25% of the total demand. The non-essential loads of the hospital are defined as any loads that are not currently connected to alternative sources of power through an ATS. The hospital staff can disconnect the non-essential loads by manually opening all non-essential branch breakers. All non-essential load feeders will need to be switched off prior to the CHP CP remotely closing the main breakers for the Cancer Center, North Wing, South Wing & 13.2kV SS1 feeder breaker.

When the CHP generator is ready to take on load, the CHP master control panel will remotely close the main breakers for the Cancer Center, North Wing, South Wing & 13.2kV SS1 feeder breaker as shown in E-102. Each ATS will sense a restoration of normal power and will switch back to normal power in a sequence determined by adjusting the timers on each ATS. The ATS timers should be set such that there is a minimum interval of 10s between each ATS switching back to normal power. The recommended sequence is shown in TABLE-4. The CHP master control panel will monitor and control the step loading of the generator.

There are two ATS (ATS 10 & ATS 15) which have a total load that is expected to exceed the step loading capability of the generator. Portions of the loads on ATS 10 & ATS 15 need to be shifted such that no more than 200kW is loaded onto the generator in one step. The load associated to the two ATS requires further investigation which is not considered a part of this report. This can be accomplished by adding one or more new ATS and panelboard(s) as required in order to redistribute portions of the existing loads on ATS 10 & 15 to ensure all the ATS loads are below 200kW.

Restoration of Utility Power: When Utility power is available to be restored, the CHP generator will synchronize with the Utility across the main breaker in the existing main service switchboard in a closed transition scenario. This will result in restoration of Utility power without any interruption in service for the loads which are powered by the CHP generator in Island Mode.

TABLE-1: EXISTING FIELD TEST DATA (EMERGENCY GENERATORS)					
Generator	1	2	3	A	B
Month	Load (Amps)	Load (Amps)	Load (Amps)	Load (Amps)	Load (Amps)
Oct-15	635	635	210	1072	581
Nov-15	635	635	210	1088	578
Dec-15	635	635	210	1144	603
Jan-16	610	610	210	1179	609
Feb-16	610	610	210	1077	627
Mar-16	635	635	210	1138	630
Apr-16	635	635	210	1057	589
May-16	640	640	210	1049	593
Jun-16	-	-	-	-	-
Jul-16	-	-	-	-	-
Aug-16	635	635	290	1103	566
Sep-16	635	635	260	1107	647
Max Load ¹	640	640	290	1179	647

¹10 months of existing generator testing data were analyzed and the max load was considered based on the highest load reported for each generator on any particular month.

TABLE-2: PEAK DEMAND EMERGENCY GENERATOR LOADING UNDER BLACKOUT CONDITIONS							
Generator #	Generator Size (kW)	Voltage	Max Demand from Table-1 (Amps) ¹	Max Demand (kW)	115% ²	# of ATS	Notes
1	655	480	640	425.7	489.5	6	Gen 1 & 2 are paralleled and serve 6 ATS combined
2	655	480	640	425.7	489.5	6	Gen 1 & 2 are paralleled and serve 6 ATS combined
3	350	480	290	192.9	221.8	1	
A	800	208	1179	339.8	390.8	4	
B	600	208	647	186.5	214.4	7	
Total	3060	-	3396	1570.5	1806.0	18	

¹Tests were conducted during off peak hours (The vast majority of tests conducted were carried out from 5:00am-6:30am).

²115% of the as tested loads were considered to account for the expected increase in load from the time the tests were performed.

TABLE-3: ATS LOADING ¹						
ATS #	Generator	Volts	ATS Size (A)	ATS Load (kW) ³	Notes	
5	1 & 2	480	800	188.7	Fire Pump	Surveyed (Normal Power Feeder Breaker is 800A)
10	1 & 2	480	1600	377.4	Equipment	Surveyed (ATS is 1600A, Feeder Breaker is 1600A)
11	1 & 2	480	200	47.2	Life Safety (75kVA XFMR)	Surveyed (Feeder Breaker is 200A ATS is 260A)
12	1 & 2	480	800	188.7	Critical	Surveyed (ATS is 800A)
14	1 & 2	480	600	141.5	CUP	ATS is 600A per existing drawing "E-1 Electrical One Line Riser Diagram 1998"
1047	1 & 2	480	150	35.4	XRAY	Surveyed (Feeder Breaker to ATS is 400A Branch Breaker to Load is 150A)
Subtotal	1 & 2	480	4150	979.0		
15	3	480	600	221.8	Panel EMDP in CUP	Surveyed (Panel EMDP is rated 600A)
Subtotal	3	480	600	221.8		
1	A	208	800	97.7	Tower Building	Surveyed (Feeder Breaker is 800A)
2	A	208	400	48.8	Panel ES-1	Surveyed (Feeder Breaker is 400A)
3	A	208	800	97.7	Panel X	Surveyed (Feeder Breaker is 800A)
4	A	208	1200	146.5	Panel MSA (1200A) & MSB	Surveyed (Feeder Breaker is 1200A, Panel MSA is rated 1200A)
Subtotal	A	208	3200	390.8		
6	B	208	800	91.7	Panel MSC	Feeder Breaker is 800A per existing drawing "E-1 Electrical One Line Riser Diagram 1998"
7	B	208	0	0.0	Feeds Elevators 3 & 4	ATS is downstream of ATS 6 per existing drawing "E-1 Electrical One Line Riser Diagram 1998"
8	B	208	0	0.0	Feeds MCCE	ATS is downstream of ATS 6 per existing drawing "E-1 Electrical One Line Riser Diagram 1998"
9	B	208	0	0.0	Feeds PPCL	ATS is downstream of ATS 6 per existing drawing "E-1 Electrical One Line Riser Diagram 1998"
13	B	208	800	91.7	Feeds EDP ICU	Feeder Breaker is 800A per existing drawing "E-1 Electrical One Line Riser Diagram 1998"
EL-C1	B	208	70	8.0	Cancer Center	Surveyed (Feeder Breaker is 200A, ATS is 70A)
EE-C1	B	208	200	22.9	Cancer Center	Surveyed (Feeder Breaker is 200A)
Subtotal	B	208	1870	214.4		

¹Individual ATS load data was not available.

²In order to estimate the load on each individual ATS, a combination of existing drawings, site surveying and engineering judgement were used as noted in the table.

³ATS load estimate was calculated by taking the existing generator test data with 15% margin from TABLE-2 and distributing the load proportionally based on ATS current rating for all ATS served by each generator.

TABLE-4: STEP LOAD SEQUENCE						
ATS # ²	ATS Load (kW)	Notes	Step Load Priority	ΔT (s) ATS Timer from Remote Main Breaker Close	Time to Ramp (s)	Total Gen Loading (kW)
BS-CHP	150	CHP Black Start Ancillary	Default	Signaled from CHP CP	10	150
11	47.2	Life Safety (75kVA XFMR)	1	0	10	197.2
EL-C1	8.0	Cancer Center	2	10	10	205.2
12	188.7	Critical	3	20	10	393.9
13	91.7	Feeds EDP ICU	4	30	10	485.7
6	91.7	Panel MSC	5	40	10	577.4
EE-C1	22.9	Cancer Center	6	50	10	600.3
2	48.8	Panel ES-1	7	60	10	649.2
5	188.7	Fire Pump	8	70	10	837.9
1047	35.4	XRAY	9	80	10	873.3
1	97.7	Tower Building	10	90	10	971.0
3	97.7	Panel X	11	100	10	1068.7
4	146.5	Panel MSA (1200A) & MSB	12	110	10	1215.2
14	141.5	CUP	13	120	10	1356.8
10 ¹	377.4	Equipment	14	130	10 +TBD	1734.2
15 ¹	221.8	Panel EMDP in CUP	15	140	10 +TBD	1956.0
9	-	Feeds PPCL	5a	Downstream of ATS 6, no timing modification required for this specific ATS as it will automatically transfer load when ATS 6 is switched back to normal power.	-	-
8	-	Feeds MCCE	5b	Downstream of ATS 6, no timing modification required for this specific ATS as it will automatically transfer load when ATS 6 is switched back to normal power.	-	-
7	-	Feeds Elevators 3 & 4	5c	Downstream of ATS 6, no timing modification required for this specific ATS as it will automatically transfer load when ATS 6 is switched back to normal power.	-	-

¹The expected loads for ATS 10 & 15 exceed the step loading capacity of the new generator. As such, the load transfer will require additional procedures to ensure the generator is properly loaded. Under no circumstances should the step load picked up by the generator exceed 200kW. 10s ramp time shown refers to initial automatically switched load which is to be less than 200kW plus the remaining load to be switched to CHP generator power through additional loading procedures. Refer to the Black Start & Island Mode CHP Conceptual Description of Operation for additional detail.

²The ATS load sequence should follow the general methodology of first bringing on all life safety loads, then critical loads, followed by equipment loads. The sequence shown attempts to follow this methodology based on existing documents and field surveying. It is apparent from the field surveys conducted that there has been work carried out that is not reflected in existing documents. As such, it is expected that the ATS step loading sequence shown in TABLE-4 may need to be further refined to ensure it follows the general methodology described above.

TABLE-5: Island Mode Conceptual Sequence of Operations Guide	
1	Loss of Utility - Main 13.2kV Breaker opens and 2MW CHP generator trips. ATS transfer to emergency and diesel generators feed essential loads as per current Hospital practice.
2	CHP CP opens mains for North Wing, Cancer Center, South Wing and 13.2kV SS1 Breaker
3	Hospital Staff manually opens normal power branch breakers to disconnect approximately 25% of non-essential hospital load
4	Black Start - 2MW CHP generator ramps up
5	CHP master control panel closes 52-GT
6	CHP master control panel switches ATS-BS-CHP back to normal power. CHP is now powering its own ancillary equipment
7	CHP CP closes mains for North Wing, Cancer Center, South Wing and 13.2kV SS1 Breaker
8	ATS sense normal power and transfer loads in a timed sequence (Refer to TABLE-4)
9	Hospital Staff manually close normal power branch breakers to transfer non-essential hospital load to CHP generator power based on remaining CHP capacity
10	When Utility power is available, the CHP generator will synchronize with Utility in a closed transition scenario across the existing main breaker in the main service switchboard without any interruption in service for the loads powered by the CHP generator in Island Mode

ATTACHMENT 2

Report of Geotechnical Exploration

*Providing Innovative Solutions to
Subsurface Problems Since 1985*



REPORT OF
GEOTECHNICAL EXPLORATION

Trinitas Medical Center
Physical Plant Upgrades
Elizabeth Township
Essex County, New Jersey

PREPARED FOR

SEILER + DRURY ARCHITECTURE, PC
420 Dekalb Street
Norristown, PA 19401

PROJECT 4921G1R1
June 15, 2017

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TABLE OF CONTENTS

	<u>PAGE</u>
EXECUTIVE SUMMARY	4
1. INTRODUCTION	5
2. PROPOSED CONSTRUCTION	5
3. GEOTECHNICAL EXPLORATION	5
4. GEOTECHNICAL BACKGROUND	6
4.1 SITE DESCRIPTION	6
4.2 GEOLOGY	6
4.3 SOILS	7
5. LABORATORY TESTING	7
6. SUBSURFACE CONDITIONS	8
7. GEOTECHNICAL ANALYSIS AND RECOMMENDATIONS	8
7.1 SIRE PREAPARTION	9
7.2 FOUNDATIONS	9
7.2.1 SEISMIC SITE COEFFICIENT	11
7.3 SLAB ON-GRADE	11
7.4 BACKFILL OF FOUNDATION AND UTILITY TRENCHES	11
7.5 FILL AND COMPACTION CRITERIA	12
7.6 LATERAL EARTH PRESSURES - RETAINING WALLS	13
8. QUALITY CONTROL	13
9. LIMITATIONS	14

FIGURES AND TABLES

FIGURE I: *SITE LOCATION*

FIGURE II: *GEOLOGY*

FIGURE III: *SOILS*

TABLE I: *LABORATORY TEST RESULTS*

TABLE II: *COMPACTION CRITERIA*

APPENDIX

SOIL PARTICLE SIZE ANALYSIS RESULTS
SOIL PLASTIC AND LIQUID LIMIT TEST RESULTS
TEST BORING LOGS
BORING LOCATION PLAN

EXECUTIVE SUMMARY

Purpose

This exploration was completed to evaluate the subsurface conditions and their effect upon the proposed site development. This exploration focused on the proposed combined heat and power plant (CHP) installation at the Trinitas Medical Center located at 225 Williamson Street in Elizabeth Township, Essex County, NJ.

Scope

A total of two (2) borings were completed at the subject site, one at either end of the planned engine installation area. The borings were extended into very dense weathered shale (as indicated by spoon refusal) at depths ranging from 12'10" to 13'10" below the existing top of slab elevation (assumed as 100.00 feet for reference purposes). The test borings were completed within the existing building using a tripod apparatus transported via hand truck to the test drilling locations. The test borings were located in the field by DBA personnel using the CHP General Arrangement layout plan, sheet M301, undated. Site design was underway during the implementation of our exploration. Therefore, final site design may vary from the preliminary design used to complete this exploration. A copy of the site plan used for our exploration which has been annotated with our test boring locations is included in the appendix of this report.

Findings

The results of our exploration indicate the presence of an existing fill deposit beneath the existing slab in subbase stone in each of the test borings completed. This fill extended to depths ranging from 2.2 feet to 2.3 feet below the top of the existing slab elevation. Due to variations in both the strength and content of this fill material, it is recommended that the equipment foundations be designed to penetrate this fill material and bear on the underlying dense, undisturbed virgin soil of Stratum II. See Section 7.2 for additional information.

Recommendations:

The site conditions are suitable for the support of the proposed structure. A shallow foundation system, designed utilizing an allowable bearing capacity of **4.0 KSF**, with slab on grade construction is feasible provided that the recommendations included herein are followed.

1. INTRODUCTION

David Blackmore and Associates, Inc. (DBA) has completed the geotechnical exploration of the subject site in accordance with our Proposal 4921G1P1, dated May 31, 2017. This exploration was completed to evaluate the existing subsurface conditions and their effect upon the proposed site development. Specifically, DBA has provided recommendations regarding the following:

- Foundation support of the proposed generator installation, including soil bearing pressures, bearing elevations, foundation design recommendations, and anticipated settlement for shallow foundations,
- Relative elevations of surface and subsurface features,
- Fill and compaction criteria,
- Lateral earth pressures for retaining walls, and
- General geotechnical related construction procedures.

The following section (2. PROPOSED CONSTRUCTION) summarizes the information available to DBA regarding the proposed site development. This report has been prepared based on the proposed construction. Changes to the proposed construction may require alterations to this report or additional investigative work. DBA should be notified of significant changes to the proposed construction.

2. PROPOSED CONSTRUCTION

The proposed construction consists of a combined heat and power plant (CHP) installation. This installation is to include a generator engine installation within the existing Physical Plant structure. The focus of this exploration is to evaluate the subgrade conditions for the support of this generator engine foundation.

3. GEOTECHNICAL EXPLORATION

A total of two (2) borings were completed at the subject site, one at either end of the planned engine installation area. The borings were extended to spoon refusal on very dense weathered shale at depths ranging from 12.83 to 13.83 below the existing top of slab elevation (assumed as 100.00 feet for reference purposes). The

test borings were completed within the existing building using a tripod apparatus transported via hand truck to the test drilling locations.

The test borings were located in the field by DBA personnel using the CHP General Arrangement layout plan, sheet M301, undated. The test borings were drilled by our subcontractor, **The Corcoran Drilling Company**, under the direction of DBA personnel.

All test boring logs and a test boring location plan are included in the appendix of this report.

4. GEOTECHNICAL BACKGROUND

4.1 SITE DESCRIPTION

The subject site is located within the existing physical plant building on the campus of the Trinitas Medical Center in Elizabethtown New Jersey. The Medical center campus is bound by South street to the south, South Broad Street to the west and Pearl Street to the North and East. Williamson Street runs north – south through the central portion of the medical building campus. The address of the physical plant is 200 Williamson Street. The generator engine installation is within the southeastern corner of the structure

A photocopy of the USGS Topographical Map, Elizabeth Quadrangle, indicating the site is included as Figure I.

4.2 GEOLOGY

Available geological sources indicate the site is underlain by reddish brown and brown shale, mudstone and siltstone of the Passaic Formation. This formation can be described as predominantly red beds consisting of argillaceous siltstone; silty mudstone; argillaceous, very fine-grained sandstone; and shale; mostly reddish-brown to brownish-purple, and grayish-red. Where layering is preserved, most bedforms are wavy parallel lamination and trough and

climbing-ripple cross lamination. Thickness of the formation is about 3,500 m (11,483 ft).

A photocopy of the USGS Geological Map of the Elizabeth Quadrangle, indicating the site is included as Figure II.

4.3 SOILS

Soil records indicate the site soils to be of the following series:

UR – Urban land: Urban land describes areas of which the natural soil profile has been covered due to construction and/or grading activity. These areas are primarily made up of buildings and paved areas.

A photocopy of site mapping prepared at the USDA Natural Resources Conservation Service website indicating the site is included as Figure III.

5. LABORATORY TESTING

Representative soil samples taken during the field exploration were tested in DBA's laboratory for basic engineering properties. The laboratory testing consisted of classification of soil samples for engineering purposes. The laboratory testing included Particle Size Analysis (ASTM D442), Plastic and Liquid Limits (ASTM D4318), and Natural Moisture Content (ASTM D2216). The Unified Soil Classification System (USCS) was used to assign group symbols and group names to the soils tested.

A summary of the test results is provided in Table I. A photocopy of the particle size analysis results and the plastic and liquid limit analysis results are included in the appendix of this report.

6. SUBSURFACE CONDITIONS

The results of the drilling program revealed a fairly consistent subsurface profile. The following strata, beneath the 4-5 inch thick concrete slab and 4 to 5 inch thick slab subbase stone, can describe a typical soil profile.

Stratum I: 1.42' to 1.5' thick; FILL consisting of reddish brown fine sand and silt with occasional shale fragments mixed with some cinders, brick fragments and a trace to some organic silt. In general, the lower portion of this stratum contained carrying amounts of organic silt/miscellaneous debris content. This stratum is considered to be variable in content and density with SPR¹¹ values ranging from 5 blows per foot (B/F) to 17 B/F. This stratum was encountered in each of the test borings completed.

Stratum II: 8.58' to 10.33' thick; Reddish brown fine sand and silt with occasional shale fragments and pebbles with some clay. This stratum is medium dense to dense with SPR values ranging from 11 B/F to 23 B/F. The average SPR value is 15.7 B/F. This stratum was encountered in each of the boring completed

Stratum III: Weathered reddish brown and gray shale. Each of the borings were terminated within this stratum at a depth ranging from 12'10" to 13'10". This stratum is considered to be dense to very dense with SPR values ranging from 62 B/F to 50 blows per 4-inch penetration. The average SPR value for this stratum is over 100 B/F.

Bedrock: Bedrock was not encountered in test borings completed but is anticipated to be within the upper 15 feet of the subsurface profile.

Groundwater²: Groundwater was not encountered in test borings completed.

7. GEOTECHNICAL ANALYSIS AND RECOMMENDATIONS

The results of our exploration indicate the presence of an existing fill deposit beneath the existing slab in subbase stone in each of the test borings completed. This fill material consisted primarily of reddish brown fine sand and silt with occasional shale fragments. The lower portion of this material contained some organic silt/miscellaneous debris content. This stratum extends to depths ranging

¹ SPR = the Standard Penetration Resistance or number of blows required of a 140-pound hammer dropping 30", to drive a 2" OD split spoon sampler one foot.

² The groundwater information provided is based on conditions encountered during the drilling program. Seasonal fluctuations in the groundwater table are to be expected.

from 2.2 feet to 2.3 feet below the top of the existing slab elevation. Due to variations in both the strength and content of this fill material, it is recommended that the equipment foundations be designed to penetrate this fill material and bear on the underlying dense, undisturbed virgin soil of Stratum II. See Section 7.2 for additional information.

The site conditions are suitable for the support of the proposed structure. A shallow foundation system, designed utilizing an allowable bearing capacity of **4.0 KSF**, with slab on grade construction is feasible provided that the recommendations included herein are followed.

7.1 SITE PREPARATION

All deleterious materials including topsoil, root mass, trees and vegetation, asphalt and other materials determined in the field by the Geotechnical Engineer to be unsuitable shall be removed from all structural areas (buildings, pavements, and walkways) prior to placement of *structural fill*.

7.2 FOUNDATIONS

Foundations shall bear on the undisturbed soils of Stratum II, Stratum III, or on *structural fill*. **The existing fill (Stratum IF) is not considered to be suitable for foundation support.** If this material is encountered during foundation excavation and extends below the proposed foundation elevation, the foundations shall be lowered to the underlying undisturbed soils of Stratum II or Stratum III. Alternately, the existing fill material can be excavated and replaced with *structural fill*. Refer to Section 7.5, Fill and Compaction Criteria. Soft conditions encountered during foundation construction shall also be excavated and replaced with *structural fill*. This removal shall extend laterally outside the foundation excavation a distance equal to the undercut depth.

Foundations shall be designed for a maximum soil bearing capacity of **4.0 KSF** on Stratum II, Stratum III, or *structural fill*. If the column loads are to be

revised during a re-design of the structure then the bearing capacity of the soils may have to be subsequently modified. DBA shall be notified of any significant changes in this regard.

Foundation settlements for the bearing capacities provided herein are to be within a tolerance of one-inch total and one-half inch differential. It is anticipated that the bulk of this settlement will take place during the construction period. Settlements of this magnitude are within normal construction tolerances. In the event more stringent settlement tolerances are required a reduction of the allowable bearing capacity and/or a change in depth to bearing strata may be required.

To protect against differential settlements, foundations shall not be placed intermittently on soils and boulders. Small boulders encountered within or directly beneath the footing bearing surface shall be removed and replaced with *structural fill*. Larger boulders shall either be fully or partially removed and replaced with *structural fill*. Trench excavation through areas containing boulders may require substantial over-excavation to facilitate boulder removal. Partial removal can be completed by splitting or hammering to a minimum of 12" below the footing bottom elevation. Boulder protrusion into the bottom or side of the proposed footing is not an acceptable condition. Boulders can be dislodged in bulk excavations.

Exterior foundations or foundations in unheated areas shall be provided a minimum of 36" compacted soil cover above the footing bottom for frost protection.

7.2.1 SEISMIC SITE COEFFICIENT

A review of Section 1613.5.5 of the International Building Code (IBC 2012 edition)/ASCE 7 and the existing soil profile indicates that a site class C should be used in the design of the proposed structure for seismic load resistance.

7.3 SLAB ON-GRADE

The exposed slab subgrade areas shall be proofrolled with a heavy walk behind smooth drum roller (minimum 2-ton static weight) to detect the presence of loose or soft zones. This proofrolling operation shall be performed under the supervision of the Geotechnical Engineer. Loose or soft zones detected during the proofrolling operation shall be repaired to the satisfaction of the Geotechnical Engineer.

Based on the soil type encountered, standard penetration testing of the existing slab subgrade, and provided that all structural fill will be placed in accordance with the fill and compaction criteria set forth in Section 7.5, an estimated modulus of subgrade reaction of 150 psi/inch may be used for the design of slab sections. Should an increased modulus of subgrade reaction be required for the proposed design it is recommended that field or laboratory testing be completed to establish specific modulus values.

All slab subgrade areas shall be evaluated by the Geotechnical Engineer prior to pouring the slab so that repair can be completed.

7.4 BACKFILL OF FOUNDATION AND UTILITY TRENCHES

All foundation and utility trenches shall be backfilled with *structural fill*, under the supervision of a Geotechnical Engineer (Refer to Section 7.5, Fill and Compaction Criteria).

7.5 FILL AND COMPACTION CRITERIA

Fill supporting slabs, pavements, and foundations is considered herein to be *structural fill*. *Structural fill* shall be placed on an approved, proofrolled, nonyielding, level subgrade, in lifts not exceeding 8 inches (loose thickness), unless otherwise directed by the Geotechnical Engineer. *Structural fill* shall be maintained nominally at *Optimum Moisture Content* (ASTM D-698) and uniformly compacted to the percentages of *Maximum Dry Density* (ASTM D-698) provided in Table III - Compaction Criteria.

Suitable *structural fill* shall consist of clean soils without deleterious inclusions. On-site soils identified as *Stratum II* and *Stratum III* are acceptable for use as *structural fill* if given the opportunity to dry and the soils are maintained nominally at *Optimum Moisture Content*. The organic/miscellaneous content encountered within the existing fill material of Stratum IF is not suitable for re-use as structural fill. Samples retrieved from the upper 5 feet of the subgrade indicated moisture contents ranging from 12.6 to 17.3 percent. The optimum moisture content for compaction of these soils is estimated to range between 12 and 15 percent. Therefore, some of these soils may require aeration and drying prior to re-use as *structural fill*, which is best accomplished in the summer months. Specific moisture content test results and associated depths are indicated on the test boring logs in the appendix of this report.

Borrow fill shall be clean well-graded soils with good strength characteristics with a maximum particle size of 3 inches and containing not more than 20% silt/clay (by weight). Samples of on-site or borrow sources of fill shall be submitted to the Geotechnical Engineer for testing at least 1 week before use on site. A minimum of 65 lbs. or two (2) five-gallon buckets is required for testing.

7.6 LATERAL EARTH PRESSURES - RETAINING WALLS

The retaining/loading dock walls of the structure, if proposed, should be designed for an at rest condition (K_0). The foundations and walls must be fully drained to relieve potential hydrostatic pressure. A foundation/wall drainage system is recommended. Soil backfill around the basement walls shall be well compacted and should consist of granular soils to prevent the trapping of water.

Retaining walls outside the structure which are free to rotate should be similarly designed except with an active earth pressure as opposed to K_0 condition. Soil parameters used to establish the effective fluid pressures (excluding hydrostatic loads) and some additional parameters which may be used in the design of a retaining wall system are summarized in the following table:

SOIL PROPERTIES FOR DETERMINATION OF LATERAL LOADS

Parameter	Stratum II	Stratum III
Angle of Internal Friction, ϕ	28 degrees	30 degrees
Moist unit weight, γ_m	125 pcf	120 pcf
Active Earth Pressure Coefficient, K_a	0.36	0.33
Passive Earth Pressure Coefficient, K_p	2.77	3.03
At Rest Earth Pressure Coefficient, K_0	0.53	0.50
Soil/Mass concrete interface friction Angle, δ	22 degrees	24 degrees

8. QUALITY CONTROL

This report was prepared to provide design criteria for the design team. DBA assumes that Geotechnical and Construction Quality Control Services will be provided in order to implement the recommendations provided herein and to

identify unanticipated or changed conditions. The Geotechnical Engineer's representative should review the consistency and texture of the exposed soils with the conditions encountered by this exploration as described herein. Since localized loose and yielding subgrade conditions may be encountered between test locations, provisions for the undercutting and subsequent replacement of these materials should be anticipated in the construction documents. The environmental quality of the subgrade soils was not reviewed as part of this evaluation. All materials generated by grading and excavation shall be managed in accordance with regulatory requirements.

DBA can provide a contract for Geotechnical and Construction Quality Control Services (Special Inspections), as required. A pre-work meeting with the design professionals, contractors, and the Geotechnical Engineer is strongly recommended.

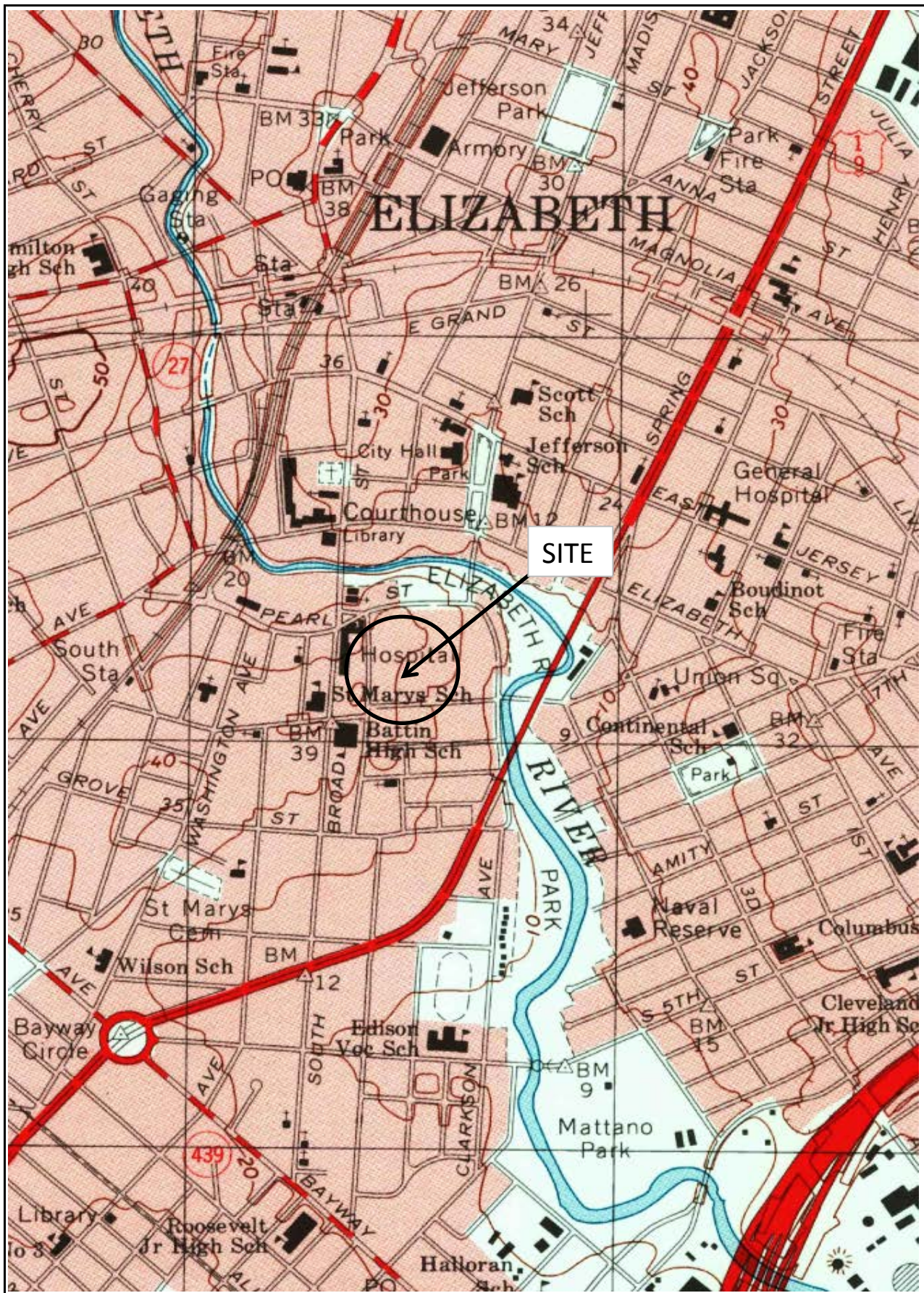
9. LIMITATIONS

Services performed by DBA, including the Geotechnical Exploration, report, and any subsequent construction monitoring have been or will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other warranty or guarantee is indicated or intended in this report or any opinion, document or otherwise stated.

The recommendations included herein are based on the conditions encountered by the test borings performed at the subject site. It is noted that, although soil quality has been inferred from the interpolation of the site sampling data, subsurface conditions beyond the test borings are, in fact, unknown. As a result, these recommendations may require modifications based on the conditions encountered and exposed during construction excavation. Should any conditions encountered during construction differ from those described in the report, this office

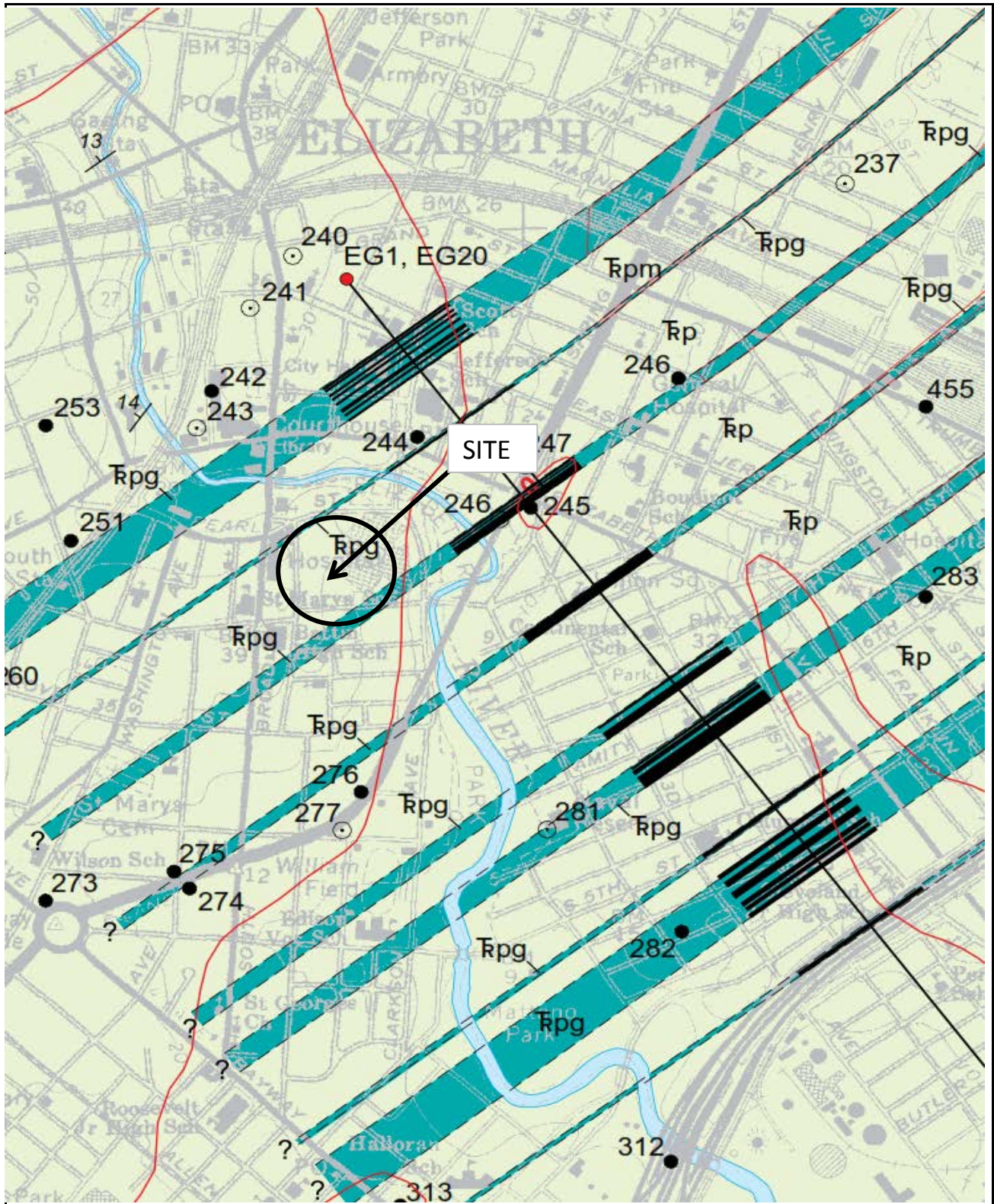
should be notified immediately in order to review and possibly modify the recommendations included in this report.

FIGURES AND TABLES



GEOTECHNICAL & ENVIRONMENTAL ENGINEERS
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 3335 West Ridge Pike
 Pottstown, Pennsylvania 19464
 Telephone: (610) 495-6255 FAX: (610) 495-7353

Project 4921G1
Figure I
SITE LOCATION & TOPOGRAPHY
 USGS 7.5 Minute Topographic Quadrangle
 Elizabeth Quadrangle



KEY

Trp-Possaic Formation - siltstone, silty mudstone and shale

GEOTECHNICAL & ENVIRONMENTAL ENGINEERS
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Project 4921G1
Figure II
SITE GEOLOGY
 USGS Bedrock Geologic Mapping
 Elizabeth Quadrangle



KEY

UR - Urban Land

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Project 4921G1

Figure III
SITE SOILS

Soil Mapping via USDA Natural Resources Conservation Service

**TABLE I
LABORATORY TEST RESULTS**

BORING #	B1 B2	B1 B2	B1	B2
SAMPLE #	S-2	S-4	S-1	S-1
DEPTH	3'-5'	7'-9'	1'-3'	1'-3'
STRATUM	II	II	IF	IF
NMC* (%)	12.6 14.1	18.0 18.0	16.3	17.3

* NMC = Natural Moisture Content

SOIL PARTICLE SIZE DISTRIBUTION

<u>SIEVE #</u>	<u>PERCENT PASSING BY WEIGHT</u>			
3/4"	100.0	100.0	100.0	100.0
3/8"	89.2	100.0	100.0	100.0
4	80.0	93.4	95.8	95.1
10	69.4	81.7	87.5	88.0
40	52.0	66.5	74.3	76.0
100	41.5	56.6	63.5	67.4
200	36.3	50.9	56.6	61.9

ATTERBERG LIMIT ANALYSIS

LL*	27	34	N/A	N/A
PL*	21	19	N/A	N/A
PI*	6	15	N/A	N/A

* LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index

USCS CLASSIFICATION

Eng. Class.	SC-SM	CL	ML	ML
Descr.	Reddish brown silty, clayey sand w/ gravel	Reddish brown sandy lean clay	FILL – Red brown sandy silt	Fill – sandy silt

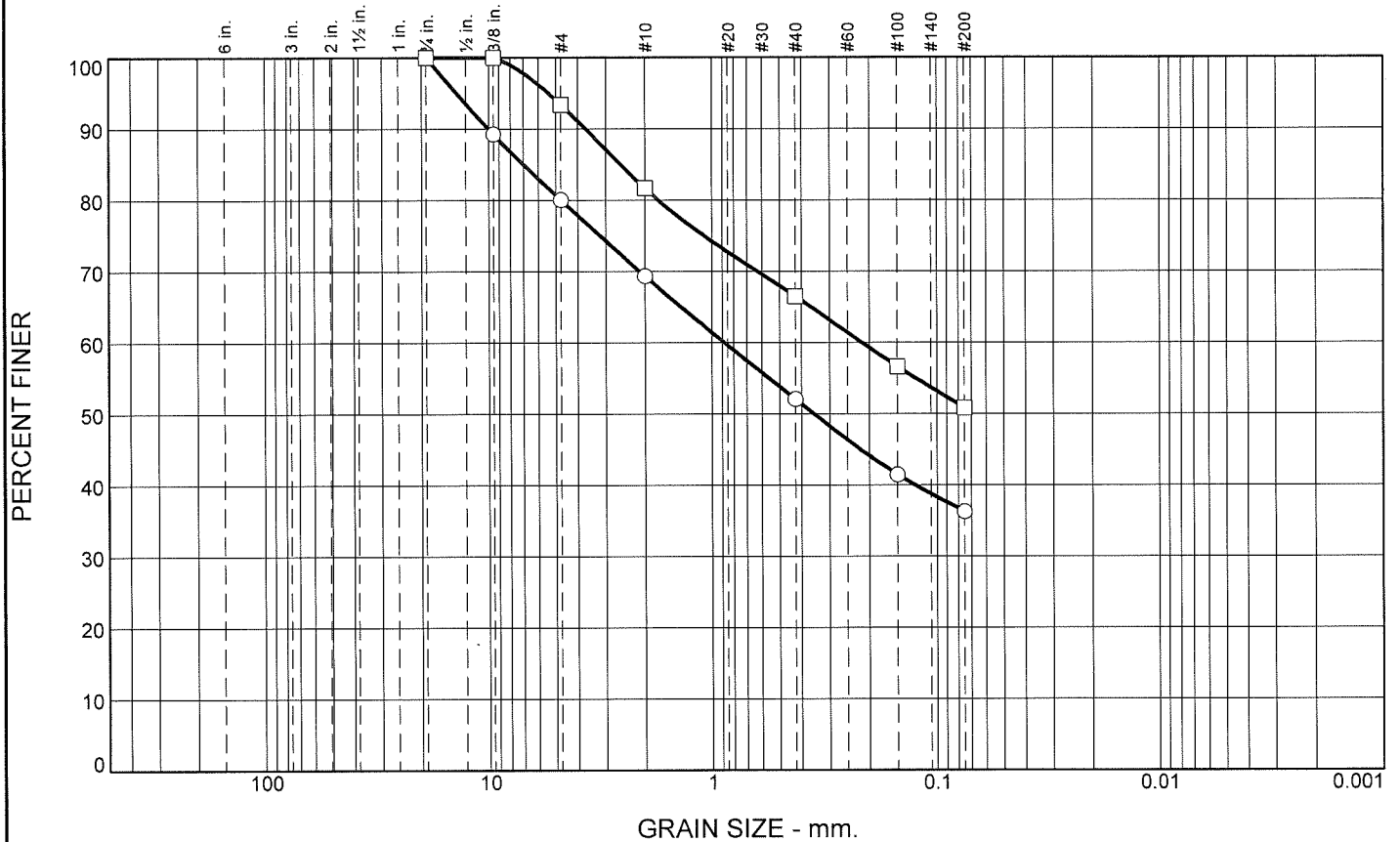
**TABLE II
COMPACTION CRITERIA**

LOCATION	PERCENT COMPACTION (ASTM-D698)
Foundations	98%
Floor Slabs	98%
Pavements	95%
Berms (non-structural)	93%

APPENDIX

SOIL PARTICLE SIZE ANALYSIS RESULTS

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	20.0	43.7	36.3		SC-SM	A-4(0)	21	27
□	0.0	6.6	42.5	50.9		CL	A-6(5)	19	34

SIEVE inches size	PERCENT FINER	
	○	□
.75	100.0	100.0
.375	89.2	100.0
GRAIN SIZE		
D60	0.8793	0.2159
D30		
D10		
COEFFICIENTS		
C _c		
C _u		

SIEVE number size	PERCENT FINER	
	○	□
#4	80.0	93.4
#10	69.4	81.7
#40	52.0	66.5
#100	41.5	56.6
#200	36.3	50.9

Material Description

○ Reddish brown silty, clayey sand with gravel

□ Reddish brown sandy lean clay

REMARKS:

○ NMC B1-S2: 12.6%
B2-S2: 14.1%

□ NMC B1-S4: 18.0%
B2-S4: 18.0%

○ Source of Sample: B1 & B2 Depth: 3'-5' Sample Number: B1S2 & B2S2

□ Source of Sample: B1 & B2 Depth: 7'-9' Sample Number: B1S4 & B2S4



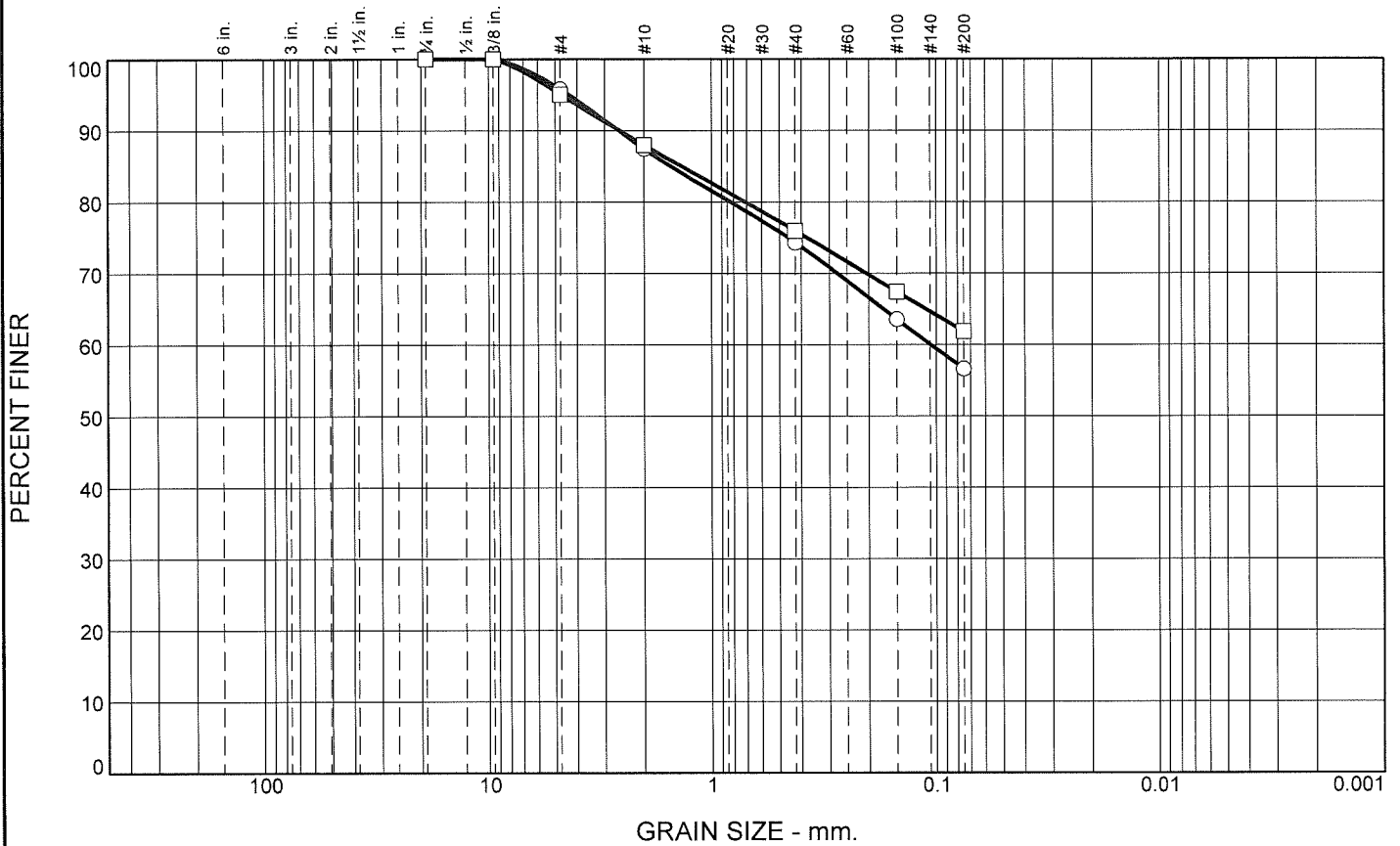
DAVID BLACKMORE & ASSOCIATES, INC.

Client: Seiler + Drury Architecture PC
Project: Trinitas Medical Ctr Physical Plant Upgrades

Project No.: 4921G1

Plate

Particle Size Distribution Report



	+3"	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○	0.0	4.2	39.2	56.6		ML	A-4(0)	NP	NP
□	0.0	4.9	33.2	61.9		ML	A-4(0)	NP	NP

SIEVE inches size	PERCENT FINER	
	○	□
.75	100.0	100.0
.375	100.0	100.0
GRAIN SIZE		
D ₆₀	0.1056	
D ₃₀		
D ₁₀		
COEFFICIENTS		
C _c		
C _u		

SIEVE number size	PERCENT FINER	
	○	□
#4	95.8	95.1
#10	87.5	88.0
#40	74.3	76.0
#100	63.5	67.4
#200	56.6	61.9

Material Description
 ○ Red brown sandy silt (FILL)
 □ Sandy silt (FILL)

REMARKS:
 ○ NMC B1-S1: 16.3%
 □ NMC B2-S1: 17.3%

○ Source of Sample: B1 Depth: 1'-3'
 □ Source of Sample: B2 Depth: 1'-3'

Sample Number: S1
 Sample Number: S1



DAVID BLACKMORE & ASSOCIATES, INC.

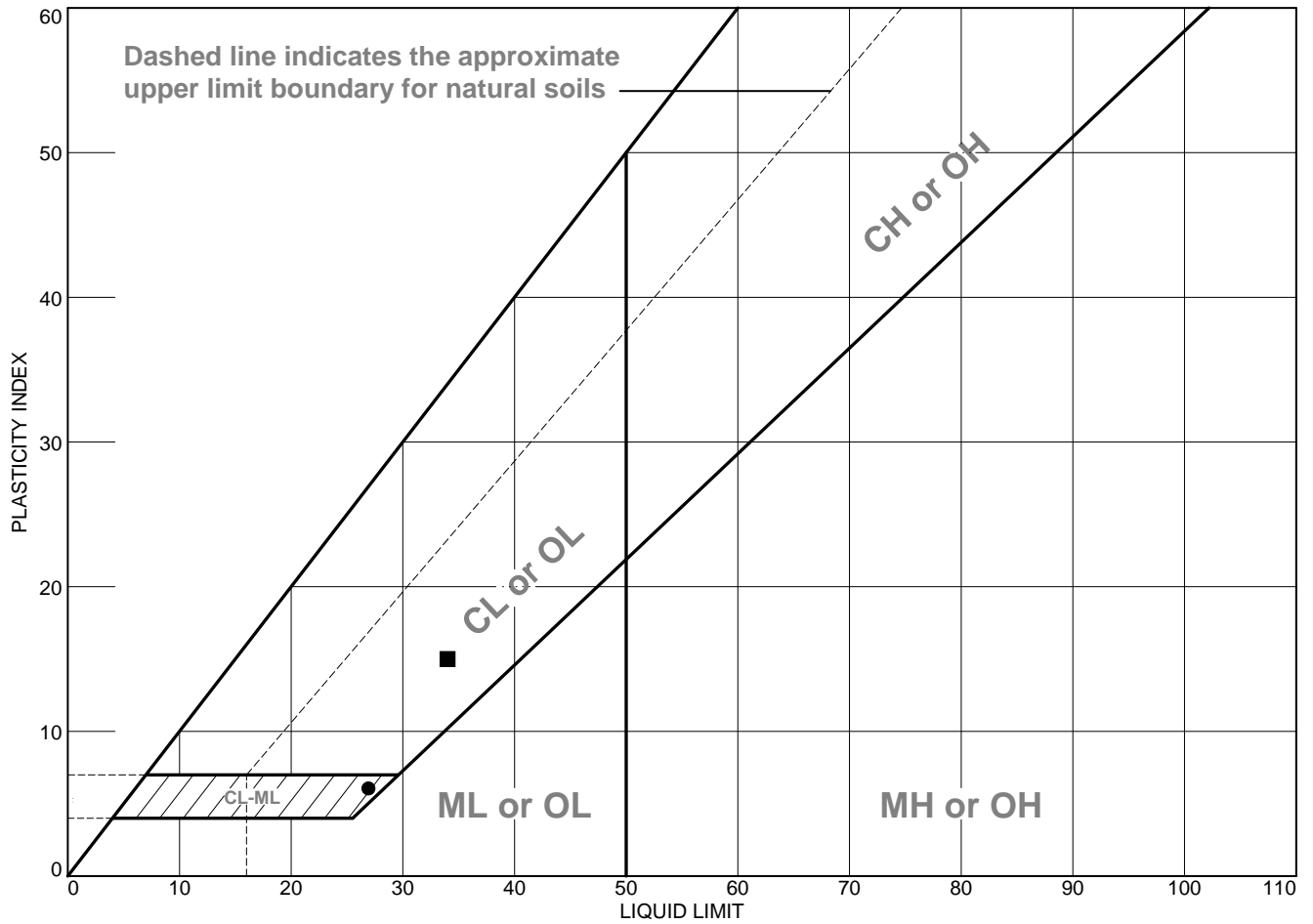
Client: Seiler + Drury Architecture PC
 Project: Trinitas Medical Ctr Physical Plant Upgrades

Project No.: 4921G1

Plate

SOIL PLASTIC AND LIQUID LIMIT TEST RESULTS

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Reddish brown silty, clayey sand with gravel	27	21	6	52.0	36.3	SC-SM
■	Reddish brown sandy lean clay	34	19	15	66.5	50.9	CL

Project No. 4921G1 **Client:** Seiler + Drury Architecture PC
Project: Trinitas Medical Ctr Physical Plant Upgrades

● **Source:** B1 & B2 **Depth:** 3'-5' **Sample No.:** B1S2 & B2S2
 ■ **Source:** B1 & B2 **Depth:** 7'-9' **Sample No.:** B1S4 & B2S4

Remarks:
 ● NMC B1-S2: 12.6%
 B2-S2: 14.1%
 ■ NMC B1-S4: 18.0%
 B2-S4: 18.0%



TEST BORING LOGS



DAVID BLACKMORE & ASSOCIATES, INC.
Geotechnical & Environmental Engineers

Phone: 610-495-6255 Fax: 610-495-7353
 www.dbaengineering.com

Boring Number : B1

Sheet 1 of 1

Project : Trinitas Medical Center
 Location: 225 Williamson Street
 Twp/City/State: Elizabeth Township, Essex County, PA
 Drilling Contractor : Corcoran Drilling Co., Inc.
 X Coordinate (ft) : 0 Y Coordinate (ft) : 0
 Drilling Method #1 : 6" Diamond core bit from 0" to 4"
 Drilling Method #2: 2" OD Split spoon sampler from 1' to 13' 10"

Project Number : 4921G1
 Date Drilled : 6/1/2017
 Inspected by : BDM
 Boring Depth: B1
 Ground Surface Elevation (ft msl) : 100.0'
 Water Level - Immediate (ft bgs) : DRY (5 min)
 Water Level -Static (ft bgs):

DEPTH BELOW	WATER LEVEL	LITHOLOGY			SAMPLING DATA									
		LITHOLOGIC SYMBOL	GEOLOGIC DESCRIPTION OF SOIL AND ROCK STRATA	DEPTH (FT)	ELEVATION	NUMBER	Water Content	SPT DATA	SPT Value	SPT GRAPH (Blows Per Foot)				
											510	20	30	40
			Concrete (4")	0.33	99.67									
			Modified Stone (5")	0.75	99.25									
1.0			Stratum IF FILL consisting of reddish brown fine sand and clayey silt with occasional shale fragments	1.50	98.50									
2.0			FILL consisting of gray and reddish brown organic silt	2.25	97.75	S-1*		8-9-8-8	17					
3.0			Stratum II Reddish brown fine sand and silt with occasional shale fragments, some clay			S-2		6-8-9-17	17					
4.0						S-3		7-8-8-9	16					
5.0						S-4		9-8-9-10	17					
6.0						S-5		8-7-7-7	14					
7.0						S-6		9-11-12-27	23					
8.0						S-7		37-50/4"	100					
9.0			Stratum III Reddish brown and gray weathered shale	12.58	87.42									
10.0														
11.0														
12.0														
13.0														
14.0			Spoon Refusal on Dense Weathered Shale	13.83	86.17									
15.0														

The boring results represent subsurface conditions at the boring locations only and are not necessarily representative of conditions at other locations. Water levels are taken at the time of drilling and are not indicative of seasonal variations in the ground water level. NR = No Recovery, S = Split Spoon sample (2" O.D.), C = Rock Coring Run.



DAVID BLACKMORE & ASSOCIATES, INC.
Geotechnical & Environmental Engineers

Phone: 610-495-6255 Fax: 610-495-7353
 www.dbaengineering.com

Boring Number : B2

Sheet 1 of 1

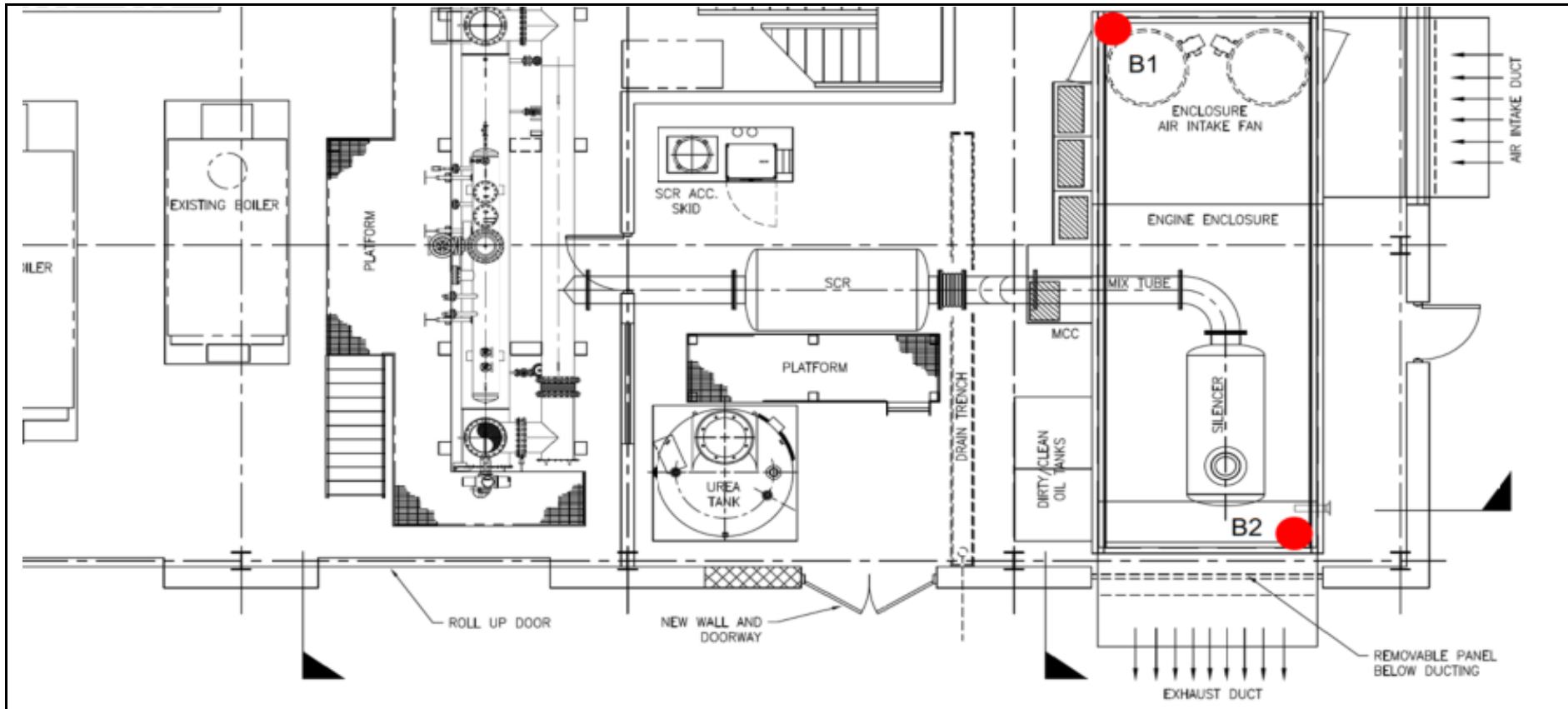
Project : Trinitas Medical Center
 Location: 225 Williamson Street
 Twp/City/State: Elizabeth Township, Essex County, PA
 Drilling Contractor : Corcoran Drilling Co., Inc.
 X Coordinate (ft) : 0 Y Coordinate (ft) : 0
 Drilling Method #1 : 6" Diamond core bit from 0" to 5"
 Drilling Method #2: 2" OD Split spoon sampler from 1' to 12' 10"

Project Number : 4921G1
 Date Drilled : 6/1/2017
 Inspected by : BDM
 Boring Depth: B2
 Ground Surface Elevation (ft msl) : 100.0'
 Water Level - Immediate (ft bgs) : DRY (5 min)
 Water Level -Static (ft bgs):

DEPTH BELOW	WATER LEVEL	LITHOLOGY			SAMPLING DATA					
		LITHOLOGIC SYMBOL	GEOLOGIC DESCRIPTION OF SOIL AND ROCK STRATA	DEPTH (FT)	ELEVATION	NUMBER	Water Content	SPT DATA	SPT Value	SPT GRAPH (Blows Per Foot)
			Concrete (5")	0.33	99.67					
			Modified Stone (4")	0.75	99.25					
1.0			Stratum I F	1.42	98.58					
2.0			FILL consisting of reddish brown fine sand and silt, occasional shale fragments	2.17	97.83	S-1*		4-3-2-4	5	
3.0			FILL consisting of dark brown and brown fine sand and silt with some brick and cinders, trace of organic silt							
4.0			Stratum II			S-2*		4-5-6-9	11	
5.0			Reddish brown fine sand and silt with occasional shale fragments and pebbles, some clay							
6.0						S-3*		9-9-8-9	17	
7.0										
8.0			Notes: *Sample was moist			S-4*		6-6-9-10	15	
9.0			Cleaned out hole at 5' and 9'							
10.0						S-5*		4-5-6-8	11	
11.0			Stratum III	10.75	89.25					
12.0			Reddish brown and gray weathered shale			S-6		10-26-36-50/4"	62	
13.0				12.83	87.17					
14.0			Spoon Refusal on Dense Weathered Shale							
15.0										

The boring results represent subsurface conditions at the boring locations only and are not necessarily representative of conditions at other locations. Water levels are taken at the time of drilling and are not indicative of seasonal variations in the ground water level. NR = No Recovery, S = Split Spoon sample (2" O.D.), C = Rock Coring Run.

TEST BORING LOCATION PLAN



REFERENCE DRAWINGS:-

1. REFER TO M-201 FOR GENERAL LOCATION WITHIN SITE
3. REFER TO S-XXX FOR STRUCTURAL DETAILS.

KEY

● Test Boring Location



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 3335 West Ridge Pike
 Pottstown, Pennsylvania 19464
 Telephone: (610) 495-6255 FAX: (610) 495-7353

Project 4921G1R1
TEST BORING LOCATION PLAN
 Generator Engine Installation
 Trinitas Medical Center
 Elizabeth, NJ

ATTACHMENT 3

Preliminary Sound Level Analysis



Table: **T-2087-061617-0**

Page: **1**

Title: **Analysis of Engine Enclosure Inlet and Exhaust Air Sound Levels**

Project: **Trinitas Hospital**

Revision: **0**

Date: **6/29/17**

Descriptor	Octave Band Center Frequency, Hz										dBA	dBC
	31.5	63	125	250	500	1000	2000	4000	8000			
1. Engine Mechanical Lw												
LwA (Caterpillar, 6/8/17)	93	95	95.8	102.2	107.1	108.4	109.8	112.3	121.6	122.8		
A-wtg	39.4	26.2	16.1	8.6	3.2	0.0	-1.2	-1.0	1.1			
Lw Mech	132.4	121.2	111.9	110.8	110.3	108.4	108.6	111.3	122.7	122.8	130.5	
Est. Loss thru Untreated Inlet/Disch Ducts	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3		
Lw Unsilenced Inlet and Discharge Ducts (Cat)	129	118	109	108	107	105	106	108	120	119.8		
2. Actual Measured Interior Lp												
Interior Lp Measured 6-20-17	95.5	102.2	106.1	102.4	105.4	102.7	98.6	95.7	102.6	108.3		
Est. Loss into Inlet/Discharge Ducts	-3	-3	-3	-3	-3	-3	-3	-3	-3	-3		
Design Unsilenced Lp at Exits	92	99	103	99	102	100	96	93	100	105.3		
Est. Face Area of Ducts	6	m ²										
Design Unsilenced Lw at Exits	100	107	111	107	110	108	103	100	107	113.1		Use
3. Calculate Exit Sound Levels and Prop Line Sound Levels using Measured Int. Lp												
<i>Path Attenuation:</i>												
Source Receiver Distance	5	m										
Hemispherical Distance Loss, m	5		-22	-22	-22	-22	-22	-22	-22	-22		
Air Absorption (10°C / 70%RH), m	5		0	0	0	0	0	0	0	0		
Anomalous Attenuation, m	5		0	0	0	0	0	0	0	0		
Directivity, deg.	n/a		0	0	0	0	0	0	0	0		
Number of Sources	1		0	0	0	0	0	0	0	0		
Other Loss			0	0	0	0	0	0	0	0		
<i>Sum of Path Attenuation:</i>			-22	-22	-22	-22	-22	-22	-22	-22		
Est. Lp at Property Line (Unsilenced)	78	85	89	85	88	86	81	78	85	91		94
NJ Nighttime Noise Standard	86	71	61	53	48	45	42	40	38	50		
Shortfall	8	-14	-28	-32	-40	-41	-39	-38	-47	-41		
IAC 10 LFS (-1000 fpm Flow)	15	23	33	50	52	52	45	30	20			
Est Lp at Property Line with 10' Silencer	63	62	56	35	36	34	36	48	65	64		66
IAC 3Es (-1000 fpm Flow)	2	5	10	17	28	36	34	23	16			
Est Lp at Property Line with 10' + 3' Silencer	61	57	46	18	8	-2	2	25	49	48		61

Trinitas Regional Medical Center
Combined Heat and Power
RFP
for
EPC Contractors

Attachments 2.0

**Bridging Drawings and Specifications Shall Be Downloaded
By Accessing the Following Web Address:**

https://concordengineering.egnyte.com/fl/xJ4xW2iCiB/2017-07-28_Issued_for_Bid_

**Trinitas Regional Medical Center
Combined Heat and Power
RFP**

for

EPC Contractors

Attachments 3.0

VERIFICATION OF PROFESSIONAL SERVICES ELIGIBILITY

**Please attach a copy of firm's Business Registration Certificate (BRC) to this form.*

1. Request for Clearance of Professional Services is hereby made by:

Name of Subrecipient _____
CDBG-DR Number _____

2. Identification of the professional firm for which clearance is requested:

Legal Business Name _____
DUNS number _____
Street Address, City, _____
State, and Zip Code _____
Phone Number(s) _____

3. Name of the principles of the firm and their title/position are as follows.

(Complete names preferred: Example—John Buford Brown is preferable to John Brown)

Name of Principals	Title(s)
_____	_____
_____	_____

4. Description of professional services? _____

5. Signed: _____ Date _____
 City/Municipality CEO or Representative

6. (To be completed by the NJEDA)

Professional firm cleared: Yes No Date: _____

Signature, NJEDA's staff _____

Faxed or Mailed To _____

Comments: _____

(SBE/WBE/MBE/VBO)

Procedures for Implementation of 40 CFR Part 31.136(e) and 15 U.S.C. 632 (Federal)
Procedures for Implementation of N.J.A.C. 17:13 and 17:14 (SWVMB's) and P.L. 2011 ch. 147 VBOs

The General Contractor must fully comply with the requirements, terms, and conditions of the Federal and State policy to encourage contracting with business enterprises whose ownership is qualified or certified as one of the following or any combination thereof:

1. Small business enterprises (SBE's)
2. Minority business enterprises (MBE's)
3. Women business enterprises (WBE's)
4. Veteran owned business enterprises (VBO's)

These requirements extend to the New Jersey Department of Community Affairs – “NJCA” – (as the primary recipient of CDBG/DR federal funds) and flow down to the New Jersey Economic Development Authority “NJEDA” (as sub-recipient of CDBG/CR federal funds) for various economic revitalization programs.

The NJEDA and all other participating parties (including contractors and subcontractors) will take all necessary affirmative steps and best efforts to afford small, women, minority and veteran owned business enterprises, and labor surplus firms the maximum practicable opportunity to participate in federally-assisted contracts.

The guidelines below are to ensure that procedures are in place to ensure that good faith efforts will be undertaken to ensure that small and disadvantaged businesses, minority firms, and women-owned and veteran-owned businesses can compete for and win a fair share of the contracts that are awarded by the Department of Community Affairs, its sub recipients and contractors receiving funding under that CDBG/DR program.

General Contractor's Responsibilities

The General Contractor must fully comply with the requirements, terms and conditions of the Federal and State policy to award a fair share of sub agreements to small, women's, minority and veteran owned business enterprises.

The General Contractor commits itself to take affirmative action contained herein prior to contract execution.

Affirmative Actions required by General Contractors - SBE/WBE/MBE/VBO UTILIZATION

1. When feasible, segmented total work required to permit maximum SBE/WBE/MBE/VBO participation.
2. Assuring that SBE/WBE/MBE/VBO business enterprises are solicited whenever they are potential sources of goods or services. This activity may include:
 - a. Sending letters or making other personal contacts with SBE/WBE/MBE/VBO firms. (Use the State of New Jersey website found at: https://www20.state.nj.us/TYTR_SAVI/vendorSearch.jsp or other SBE/WBE/MBE/VBOs known to General Contractor. SBE/WBE/MBE/VBOs should be contacted when other potential subcontractors are contacted, within reasonable time (fifteen days) prior to bid submission or closing date for receipt of initial offers. Such letters or other contacts should communicate the following:

- i. Specific descriptions of the work to be contracted;
 - ii. How and where to obtain a copy of plans and specifications or other detailed information needed to prepare a detailed price quotation;
 - iii. Date quotation is due to General Contractor;
 - iv. Name, address, phone number of the person in the General Contractor's firm whom the prospective SBE/WBE/MBE/VBO subcontractor should contact for additional information.
 - b. Sending letters or making other personal contacts with local, state, Federal, and private agencies and SBE/WBE/MBE/VBO associations relevant to the project. Such contacts should provide the same information provided in the direct contacts to SBE/WBE/MBE/VBOs.
3. Establishing delivery schedules, if feasible, which will encourage participation by SBE/WBE/MBE/VBOs.

Determination of General Contractor's Compliance

It is to be noted that the General Contractors must demonstrate compliance with SBE/WBE/MBE/VBO requirements to be deemed responsible.

To demonstrate compliance, the General Contractors must complete the "General Contractor's Schedule of Small, Women's, Minority and Veteran Owned Business Enterprise Utilization Worksheet – Sandy CDBG-DR Economic Revitalization" form (NJEDA SWMVBE General Contractors Form 1) and submit to the NJEDA.

The following information must be completed in the form:

1. Name of the SBE/WBE/MBE/VBO firm(s), their address and contact persons
2. Description of work to be performed by the SWMVBE firm;
3. Aggregate dollar amount of work to be performed by the SWMVBE firms.

Good faith efforts including documentation of contracts made with SBE/WBE/MBE/VBO firms, including but not limited to:

1. Description or contacts to SBE/WBE/MBE/VBO organizations, agencies and associations which serve SBE/WBE/MBE/VBOs, including names of organizations, agencies, associations and date(s) of contact;
2. Description of contracts to SBE/WBE/MBE/VBO firms, including number of contacts, fields or trades (e.g. equipment or material supplier, excavators, transport services, electrical subcontractors, plumbers, etc.) and the date of contacts.

The General Contractor should use the New Jersey Department of Treasury, Division of revenue – Small Business Registration and SBE/WBE/MBE/VBO Certification Unit NJ Selective Assistance Vendor Information (NJ SAVI) database at:

https://www20.state.nj.us/TYTR_SAVI/vendorSearch.jsp

Additional Affirmative steps shall include:

Mandatory Construction Contract Language and Specifications:

1. Inclusion of the following mandatory contract language goods and services, construction and professional services contract:
 "Sub recipient and/or borrower agrees to use its best efforts to afford small business, women's business, minority business and veteran owned business enterprises and Section 3 businesses,

the maximum practicable opportunity to participate in the performance of this contract. As used in this contract, the terms “small business” means a business that meets the criteria set forth in section 3(a) of the Small Business Act, as amended (15 U.S.C. 632) and N.J.A.C. 17:13 and N.J.A.C. 17:14; and “minority and women’s business enterprise” means a business at least fifty-one (15%) percent owned and controlled by minority group members or women; or businesses certified or registered, including self-certification pursuant to N.J.A.C. 17:45 et al.

For the purpose of this definition, “minority group members” are Afro-Americans, Spanish-speaking, Spanish surnamed or Spanish-heritage Americans, Asian-Americans and American Indians. The sub recipient and/or borrower may rely on written representations by businesses regarding their status as minority and female business enterprises in lieu of an independent investigation.”

2. Placing qualified small, minority, veterans and women owned business enterprises on solicitation lists;
3. Assuring that small and minority businesses and women’s and veteran’s business enterprises are solicited whenever they are potential sources;
4. Dividing total requirements, when economically feasible, into small tasks or quantities to permit maximum participation by small and minority businesses, and women’s and veterans business enterprises;
5. Establishing delivery schedules, where the requirement permits, which encourages participation by small and minority business and women’s and veteran’s business enterprises;
6. Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce; and
7. Requiring the prime contractor, if sub-contracts are to be let, to the affirmative steps listed above.
8. Directing bidding firms to use the New Jersey Department of Treasury, Division of Revenue – Small Business Registration and SWMVBE Certification Unit “NJ Selective Assistance Vendor Information (NJ SAVI) database at https://www20.state.nj.us/TYTR_SAVI/vendorSearch.jsp.
9. All General Contractors will be required to complete and submit the NJEDA Office of Recovery/Sandy “General Contractor’s Schedule of Small, Minority, Women’s and Veteran Owned Business Enterprise Utilization Worksheet” (NJEDA SWMVBE General Contractor’s Form #A1) as part of their bid submission to NJEDA.

Post Closing Compliance Monitoring

After construction contracts have been awarded and once any construction activity is commenced, the project’s General Contractor or construction manager will be required to complete and submit to the NJEDA Office of Recovery Sandy “SWMVBE Monthly Contract and Subcontract Activity Report” (NJEDA SWMVBE Compliance Report Form #2) as an attachment to each invoice submitted to NJEDA requesting disbursement of CDBG/CR funds. (See attached form).

For the purposes of these guidelines, “contracting agency” means the State or any board, commission, committee, authority or agency of State (N.J.S.A. 53:32-17 et seq.)

The Office of Small Business Assistance within the New Jersey Department of Treasury has specific oversight of the small business set-aside programs. The Office of Minority Business Enterprises with the New Jersey Department of Treasury has specific oversight of the small, women, minority and veteran owned business programs.

**GENERAL CONTRACTOR’S SCHEDULE OF SMALL, WOMEN’S, MINORITY
AND VETERAN OWNED BUSINESS ENTERPRISES
UTILIZATION WORKSHEET
SANDY CDBG-DR ECONOMIC REVITALIZATION**

This form must be submitted with each bid:

GRANT OR LOAN APPLICANT		DATE	
NAME OF PROJECT		PROJECT NO. (5 DIGITS)	
NAME OF GENERAL CONTRACTOR		TAX ID NO. (9 DIGITS)	
ADDRESS, CITY, STATE AND ZIP			
CONTACT NAME		PHONE NUMBER	
CONTRACT AMOUNT(\$)		PROJECTED CONTRACT EFFECTIVE DATE	

SBE % OF CONTRACT: _____ MBE % OF CONTRACT: _____ WBE % OF CONTRACT: _____ VOB % OF CONTRACT: _____

NAME OF SBE, WBE, MBE OR VOB CONTRACTOR OR SUBCONTRACTOR	ADDRESS, CITY, STATE, ZIP	CONTACT PERSON	TAX ID NUMBER	SCOPE OF WORK OR DESCRIPTION OF TRADE, SERVICE OR SUPPLY	ACTUAL DOLLAR AMOUNT OF CONTRACT (SUBCONTRACT)	SBE (Y/N)	WBE (Y/N)	MBE (Y/N)	VOB (Y/N)

GENERAL CONTRACTOR – PRINT NAME

SWMVBE LIAISON OFFICER

PHONE NUMBER

EMAIL ADDRESS

Attachment 3.3

NON-COLLUSION AFFIDAVIT

State of New Jersey
County of _____

ss:

I, _____ residing in _____
(name of affiant) (name of municipality)

in the County of _____ and State of _____ of full age, being
duly sworn according to law on my oath depose and say that:

I am _____ of the firm of _____
(title or position) (name of firm)

_____ the bidder making this Proposal for the bid entitled
_____, and that I executed the said proposal with full authority to do so that said
bidder has not, directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken
any action in restraint of free, competitive bidding in connection with the above named project; and that all
statements contained in said proposal and in this affidavit are true and correct, and made with full knowledge
that the _____ relies upon the truth of the statements contained in
said Proposal and in the statements contained in this affidavit in awarding the contract for the said project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such
contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee,
except bona fide employees or bona fide established commercial or selling agencies maintained by
_____.

Subscribed and sworn to

before me this day

Signature

_____, 2____

(Type or print name of affiant under signature)

Notary public of

My Commission expires _____

(Seal)

ANTI-LOBBYING CERTIFICATION (Sample)

Section 319 of Public Law 101-121 prohibits recipients of Federal contracts, grants, and loans from using appropriated funds for lobbying the Executive or Legislative branches of the Federal Government in connection with a specific contract, grant, cooperative agreement, or loan.

The Federal Register (page 52070, dated December 20, 1989) specifically forbids the Department of Housing and Urban Development (HUD) from awarding contracts, grants, cooperative agreements, or loans unless the recipient has made an acceptable certification regarding lobbying.

This new requirement has since been narrowed to signed certifications for all awards of Federal funds over \$100,000. This begins with the State's grant and applies to all Subrecipients, contractors, subcontractors, suppliers, etc. for all contracts, grants, cooperative agreements, or loans over \$100,000.

Failure of the Subrecipient to obtain this certification from all awards of \$100,000 or more will result in a program finding and suspended disbursement of Federal funds for the applicable activity or contract.

A copy of this certification can be found on the following page.

CERTIFICATION REGARDING GOVERNMENT-WIDE RESTRICTION ON LOBBYING

(For contracts, grants, cooperative agreements, and loans over \$100,000)

The undersigned certifies, to the best of his knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards (at all tiers, including contracts under grants, loans, and cooperative agreements, subcontracts, and subgrants) over \$100,000, and that all Subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S.C. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Name of Entity (city, county, contractor, etc.)

Name of Certifying Official (Mayor, Presiding Commissioner, President, etc.)

Signature of Certifying Official

Date

Certification for a Drug-Free Workplace

U.S. Department of Housing and Urban Development

Attachment 3.5

Applicant Name

Program/Activity Receiving Federal Grant Funding

Acting on behalf of the above named Applicant as its Authorized Official, I make the following certifications and agreements to the Department of Housing and Urban Development (HUD) regarding the sites listed below:

I certify that the above named Applicant will or will continue to provide a drug-free workplace by:

a. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Applicant's workplace and specifying the actions that will be taken against employees for violation of such prohibition.

b. Establishing an on-going drug-free awareness program to inform employees ---

(1) The dangers of drug abuse in the workplace;

(2) The Applicant's policy of maintaining a drug-free workplace;

(3) Any available drug counseling, rehabilitation, and employee assistance programs; and

(4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.

c. Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph a.;

d. Notifying the employee in the statement required by paragraph a. that, as a condition of employment under the grant, the employee will ---

(1) Abide by the terms of the statement; and

(2) Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction;

e. Notifying the agency in writing, within ten calendar days after receiving notice under subparagraph d.(2) from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every grant officer or other designee on whose grant activity the convicted employee was working, unless the Federalagency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant;

f. Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph d.(2), with respect to any employee who is so convicted ---

(1) Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended; or

(2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;

g. Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs a. thru f.

2. Sites for Work Performance. The Applicant shall list (on separate pages) the site(s) for the performance of work done in connection with the HUD funding of the program/activity shown above: Place of Performance shall include the street address, city, county, State, and zip code. Identify each sheet with the Applicant name and address and the program/activity receiving grant funding.)

Check here if there are workplaces on file that are not identified on the attached sheets.

I hereby certify that all the information stated herein, as well as any information provided in the accompaniment herewith, is true and accurate.

Warning: HUD will prosecute false claims and statements. Conviction may result in criminal and/or civil penalties. (18 U.S.C. 1001, 1010, 1012; 31 U.S.C. 3729, 3802)

Name of Authorized Official

Title

Signature

Date

X

EXHIBIT 5-2

**CDBG COMPLIANCE PROVISIONS
for**

CONSTRUCTION CONTRACTS

(These provisions must be included in all construction contracts)

CONTENTS

1. EQUAL EMPLOYMENT OPPORTUNITY (Equal Opportunity Clause)
2. STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS
3. NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION
4. CERTIFICATION OF NONSEGREGATED FACILITIES
5. CIVIL RIGHTS
6. SECTION 109 OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974
7. SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968 - COMPLIANCE IN THE PROVISION OF TRAINING, EMPLOYMENT AND BUSINESS OPPORTUNITIES
8. SECTION 503 OF THE REHABILITATION ACT OF 1973 (29 USC 793)
9. SECTION 504 OF THE REHABILITATION ACT OF 1973, AS AMENDED
10. AGE DISCRIMINATION ACT OF 1975
11. CERTIFICATION OF COMPLIANCE WITH AIR AND WATER ACTS
12. SPECIAL CONDITIONS PERTAINING TO HAZARDS, SAFETY STANDARDS AND ACCIDENT PREVENTION
13. FLOOD DISASTER PROTECTION
14. ACCESS TO RECORDS - MAINTENANCE OF RECORDS
15. INSPECTION
16. REPORTING REQUIREMENTS
17. CONFLICT OF INTEREST

18. ACTIVITIES AND CONTRACTS NOT SUBJECT TO EXECUTIVE ORDER 11246, AS AMENDED
19. PATENTS
20. COPYRIGHT
21. TERMINATION FOR CAUSE
22. TERMINATION FOR CONVENIENCE
23. ENERGY EFFICIENCY
24. SUBCONTRACTS
25. DEBARMENT, SUSPENSION, AND INELIGIBILITY
26. PROTECTION OF LIVES AND HEALTH
27. BREACH OF CONTRACT TERMS
28. PROVISIONS REQUIRED BY LAW DEEMED INSERTED
29. CHANGES
30. PERSONNEL
31. ANTI-KICKBACK RULES
32. ASSIGNABILITY
33. INTEREST OF CONTRACTOR
34. POLITICAL ACITIVITY
35. COMPLIANCE WITH THE OFFICE OF MANAGEMENT AND BUDGET
36. DISCRIMINATION DUE TO BELIEFS
37. CONFIDENTIAL FINDINGS
38. LOBBYING
39. FEDERAL LABOR STANDARDS PROVISIONS

1. EQUAL EMPLOYMENT OPPORTUNITY (Equal Opportunity Clause)

(applicable to contracts and subcontracts above \$10,000)

During the performance of this contract, the Contractor agrees as follows:

- A. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- B. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration without regard to race, color, religion, sex, or national origin.
- C. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the Contract Compliance Officer advising the said labor union or workers' representatives of the Contractor's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- D. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor.
- E. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Department and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and others.
- F. In the event of the Contractor's noncompliance with the non-discrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, as amended, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- G. The Contractor will include the provisions of the sentence immediately preceding paragraph A and the provisions of paragraphs A through G in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Department, the Contractor

may request the United States to enter into such litigation to protect the interest of the United States.

**2. STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS**

(applicable to contracts and subcontracts above \$10,000)

A. As used in these specifications:

- (1) "Covered area" means the geographical area described in the solicitation from which this contract resulted;
- (2) "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;
- (3) "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.
- (4) "Minority" includes:
 - (a) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (b) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South America or other Spanish Culture or origin, regardless of race);
 - (c) Asian and Pacific Islander (all persons having origins in any of the original people of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (d) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

B. When the Contractor, or any subcontractor, at anytime, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract, in excess of \$10,000, the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

C. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in compliance with the provisions of any such Hometown Plan. Each Contractor or subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under

the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

- D. The Contractor shall implement the specific affirmative action standards provided in paragraphs G(1) through G(16) of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing contracts in geographical areas where they do not have a federal or federally-assisted construction contract shall apply the minority and female goals established for the geographic area where the contract is being performed. Goals are published periodically in the Federal Register in notice form and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.
- E. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.
- F. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.
- G. The Contractor shall take specific affirmative action to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:
 - (1) Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.
 - (2) Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.

- (3) Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.
- (4) Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement have not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.
- (5) Develop on-the-job training opportunities and/or participate in training programs for the area which expressly includes minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under G(2) above.
- (6) Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on a bulletin board accessible to all employees at each location where construction work is performed.
- (7) Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foreman, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.
- (8) Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.
- (9) Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for acceptance of applications for apprenticeship or other

training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

- (10) Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a Contractor's work force.
- (11) Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.
- (12) Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.
- (13) Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.
- (14) Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.
- (15) Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitation to minority and female contractor associations and other business associations.
- (16) Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

H. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (G(1) through G(16)). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under G(1) through G(16) of these specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation shall not be a defense for the Contractor's non-compliance.

I. A single goal for minorities and a separate single goal for women has been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both

minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

- J. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any persons because of race, color, religion, sex, or national origin.
- K. The Contractor shall not enter into any subcontract with any person or firm debarred from government contracts pursuant to E.O. 11246.
- L. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to E.O. 11246, as amended.
- M. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph G of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.
- N. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the government and to keep records. Records shall at least include for each employee, the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number where assigned, social security number, race, sex, status (e.g., mechanic, apprenticeship trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and location at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.
- O. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application or requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

3. NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION

(applicable to contracts and subcontract over \$10,000)

- A. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
- B. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Goals for minority participation: (see table below per N.J.A.C 17:27-7.2)

Goals for female participation: 6.9%

These goals are applicable to all the Contractor's construction work (whether or not it is federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographic area located outside of the covered area, it shall apply the goals established for such geographic area where the work is actually performed.

With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a) and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

MINORITY PARTICIPATION GOALS

COUNTY	MIN. GOAL (%)	COUNTY	MIN. GOAL (%)
Atlantic	18	Middlesex	24
Bergen	22	Monmouth	15
Burlington	15	Morris	16
Camden	19	Ocean	7
Cape May	5	Passaic	36
Cumberland	27	Salem	10
Essex	53	Somerset	20
Gloucester	9	Sussex	4
Hudson	60	Union	45
Hunterdon	3	Warren	5
Mercer	30		

- C. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the sub-contract; and the geographical area in which the contract is to be performed.

- D. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is *(insert description of the geographical areas where the contract is to be performed, giving the State, county, and city, if any):*

4. **CERTIFICATION OF NONSEGREGATED FACILITIES**
(applicable to contracts and subcontracts over \$10,000)

By the submission of this bid, the bidder, offeror, applicant or subcontractor certifies that he/she does not maintain or provide for his/her establishments, and that he/she does not permit employees to perform their services at any location, under his/her control, where segregated facilities are maintained. He/she certifies further that he/she will not maintain or provide for employees any segregated facilities at any of his/her establishments, and he/she will not permit employees to perform their services at any location under his/her control where segregated facilities are maintained. The bidder, offeror, applicant or subcontractor agrees that a breach of this certification is a violation of the equal opportunity clause of this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason.

He/she further agrees that (except where he/she has obtained for specific time periods) he/she will obtain identical certification from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the equal opportunity clause; that he/she will retain such certifications in his/her files; and that he/she will forward the following notice to such proposed subcontractors (except where proposed subcontractors have submitted identical certifications for specific time periods).

5. **CIVIL RIGHTS**

The Contractor shall comply with the provisions of Title VI of the Civil Rights Act of 1964. No person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

6. **SECTION 109 OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974**

The Contractor shall comply with the provisions of Section 109 of the Housing and Community Development Act of 1974. No person in the United States shall on the grounds of race, color, national origin, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title. Section 109 further provides that discrimination on the basis of age under the Age Discrimination Act of 1975 or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, as amended, is prohibited.

7. **SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968 - COMPLIANCE IN THE PROVISION OF TRAINING, EMPLOYMENT AND BUSINESS OPPORTUNITIES**

A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3).

The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

- B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.
- C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each, and the name and location of the person(s) taking applications for each of the positions, and the anticipated date the work shall begin.
- D. The contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.
- E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.
- F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- G. With respect to work performed in connection with Section 3 covered Indian housing assistance, Section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of Section 3 and section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with Section 7(b).

8. SECTION 503 OF THE REHABILITATION ACT OF 1973 (29 USC 793)
(applicable to contracts and subcontracts over \$10,000)

- A. The contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is otherwise qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.
- B. The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.
- C. In the event of the Contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.
- D. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the contracting officer. Such notices shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.
- E. The Contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Rehabilitation Act of 1973, and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.
- F. The Contractor will include the provisions of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary issued pursuant to Section 503 of the Act, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance.

9. SECTION 504 OF THE REHABILITATION ACT OF 1973, AS AMENDED

The Contractor agrees that no otherwise qualified individual with disabilities shall, solely by reason of his disability, be denied the benefits, or be subjected to discrimination including discrimination in employment, any program or activity that receives the benefits from the federal financial assistance.

10. AGE DISCRIMINATION ACT OF 1975

The Contractor shall comply with the provisions of the Age Discrimination Act of 1975. No person in the United States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under, any program or activity receiving federal financial assistance.

11. CERTIFICATION OF COMPLIANCE WITH AIR AND WATER ACTS

(applicable to contracts and subcontracts exceeding \$100,000)

The Contractor and all subcontractors shall comply with the requirements of the Clean Air Act, as amended, 42 USC 1857 et seq., the Federal Water Pollution Control Act, as amended, 33 USC 1251 et seq., and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended.

In addition to the foregoing requirements, all nonexempt contractors and subcontractors shall furnish to the owner, the following:

- A. A stipulation by the Contractor or subcontractors, that any facility to be utilized in the performance of any nonexempt contract or subcontract, is not listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR Part 15, as amended.
- B. Agreement by the Contractor to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 USC 1857 c-8) and Section 308 of the Federal Water Pollution Control Act, as amended, (33 USC 1318) relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.
- C. A stipulation that as a condition for the award of the contract, prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility utilized, or to be utilized for the contract, is under consideration to be listed on the EPA List of Violating Facilities.
- D. Agreement by the Contractor that he will include, or cause to be included, the criteria and requirements in paragraph (1) through (4) of this section in every nonexempt subcontract and requiring that the Contractor will take such action as the government may direct as a means of enforcing such provisions.

12. SPECIAL CONDITIONS PERTAINING TO HAZARDS, SAFETY STANDARDS AND ACCIDENT PREVENTION

- A. Lead-Based Paint Hazards
(include in contracts for construction or rehabilitation of residential structures)

The construction or rehabilitation of residential structures is subject to the HUD Lead-Based Paint regulations, 24 CFR Part 35. The Contractor and subcontractors shall comply with the provisions for the elimination of lead-based paint hazards under Subpart B of said regulations. The Owner will be responsible for the inspections and certifications required under Section 35.14 (f) thereof.

- B. Use of Explosives (Modify as required)

When the use of explosives is necessary for the prosecution of the work, the Contractor shall observe all local, state and federal laws in purchasing and handling explosives. The Contractor shall take all necessary precaution to protect completed work, neighboring property, water lines, or other underground structures. Where there is danger to structures or

property from blasting, the charges shall be reduced and the material shall be covered with suitable timber, steel or rope mats.

The Contractor shall notify all owners of public utility property of intention to use explosives at least 8 hours before blasting is done close to such property. Any supervision or direction of use of explosives by the engineer does not in any way reduce the responsibility of the Contractor or his Surety for damages that may be caused by such use.

C. **Danger Signals and Safety Devices (Modify as Required)**

The Contractor shall make all necessary precautions to guard against damages to property and injury to persons. He shall put up and maintain in good condition, sufficient red or warning lights at night, suitable barricades and other devices necessary to protect the public. In case the Contractor fails or neglects to take such precautions, the Owner may have such lights and barricades installed and charge the cost of this work to the Contractor. Such action by the Owner does not relieve the Contractor of any liability incurred under these specifications or contract.

13. FLOOD DISASTER PROTECTION

This contract is subject to the requirements of the Flood Disaster Protection Act of 1973 (P.L. 93-234). Nothing included as a part of this contract is approved for acquisition or construction purposes as defined under Section 3(a) of said Act, for use in an area identified by the Secretary of HUD as having special flood hazards which is located in a community not then in compliance with the requirements for participation in the National Flood Insurance Program pursuant to Section 201(d) of said Act; and the use of any assistance provided under this contract for such acquisition for construction in such identified areas in communities then participating in the National Flood Insurance Program shall be subject to the mandatory purchase of flood insurance requirements or Section 102(a) of said Act.

Any contract or agreement for the sale, lease, or other transfer of land acquired, cleared or improved with assistance provided under this Contract shall contain, if such land is located in an area identified by the Secretary as having special flood hazards and in which the sale of flood insurance has been made available under the National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4001 et seq., provisions obligating the transferee and its successors or assigns to obtain and maintain, during the ownership of such land, such flood insurance as required with respect to financial assistance for acquisition or construction purposes under Section 102(a) of Flood Disaster Protection Act of 1973.

14. ACCESS TO RECORDS - MAINTENANCE OF RECORDS

The State of New Jersey, the Department of Housing and Urban Development, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers and records of the Contractor which are directly pertinent to this specific contract, for the purpose of audits, examinations, and making excerpts and transcriptions. All records connected with this contract will be maintained in a central location by the unit of local government and will be maintained for a period of five (5) years from the official date of the State's final closeout of the grant.

15. INSPECTION

The authorized representative and agents of the State of New Jersey and the Department of Housing and Urban Development shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

16. REPORTING REQUIREMENTS

The Contractor shall complete and submit all reports, in such form and according to such schedule, as may be required by the Owner.

17. CONFLICT OF INTEREST

A. No officer or employee of the local jurisdiction or its designees or agents, no member of the governing body, and no other public official of the locality who his/her tenure or for one year thereafter, shall have any interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed. Further, the Contractor shall cause to be incorporated in all subcontracts the language set forth in this paragraph prohibiting conflict of interest.

B. No member of or delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this contract or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

18. ACTIVITIES AND CONTRACTS NOT SUBJECT TO EXECUTIVE ORDER 11246, AS AMENDED

(applicable to contracts and subcontracts of \$10,000 and under)

During the performance of this contract, the Contractor agrees as follows:

A. The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

B. The Contractor shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by Contracting Officer setting forth the provisions of this non-discrimination clause. The Contractor shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

C. Contractors shall incorporate foregoing requirements in all subcontracts.

19. PATENTS

A. The Contractor shall hold and save the Owner and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for, or on account of any patented or unpatented invention, process, article, or appliance

manufactured or used in the performance of the contract including its use by the Owner, unless otherwise specifically stipulated in the Contract Document.

- B. License or Royalty Fees: License and/or Royalty Fees for the use of a process which is authorized by the Owner of the project must be reasonable, and paid to the holder of the patent, or his authorized license, direct by the Owner and not by or through the Contractor.
- C. If the Contractor uses any design device or materials covered by letters, patent or copyright, he shall provide for such use by suitable agreement with the owner of such patented or copy-righted design device or material. It is mutually agreed and understood, that without exception the contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The Contractor and/or his Sureties shall indemnify and save harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copy-righted design, device or materials or any trademark or copy-right in connection with work agreed to be performed under this contract, and shall indemnify the Owner for any cost, expense, or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

20. COPYRIGHT

No materials, to include but not limited to reports, maps, or documents produced as a result of this contract, in whole or in part, shall be available to the Contractor for copyright purposes. Any such materials produced as a result of this contract that might be subject to copyright shall be the property of the Owner and all such rights shall belong to the Owner.

21. TERMINATION FOR CAUSE

If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner his obligations under this contract, or if the Contractor shall violate any of the covenants, agreements, or stipulations of this contract, the Owner shall thereupon have the right to terminate this contract by giving written notice to the Contractor of such termination and specifying the effective date thereof, at least five (5) days before the effective date of such termination. In such event, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, and reports prepared by the Contractor under this contract shall, at the option of the Owner, become the Owner's property and the Contractor shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder. Notwithstanding the above, the Contractor shall not be relieved of liability to the Owner for damages sustained by the Owner by virtue of any breach of the contract by the Contractor, and the Owner may withhold any payments to the Contractor for the purpose of set-off until such time as the exact amount of damages due the Owner from the Contractor is determined.

22. TERMINATION FOR CONVENIENCE

The Owner may terminate this contract at any time by giving at least ten (10) days notice in writing to the Contractor. If the contract is terminated by the Owner as provided herein, the Contractor will be paid for the time provided and expenses incurred up to the termination date.

23. ENERGY EFFICIENCY

The Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

24. SUBCONTRACTS

- A. The Contractor shall not enter into any subcontract with any subcontractor who has been debarred, suspended, declared ineligible, or voluntarily excluded from participating in contacting programs by any agency of the United States Government or the State of New Jersey.
- B. The Contractor shall be as fully responsible to the Owner for the acts and omissions of the Contractor's subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by the Contractor.
- C. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractor to the Contractor by the terms of the contract documents insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the contract documents.
- D. Nothing contained in this contract shall create any contractual relation between any subcontractor and the Owner.

25. DEBARMENT, SUSPENSION, AND INELIGIBILITY

The Contractor represents and warrants that it and its subcontractors are not debarred, suspended, or placed in ineligibility status under the provisions of 24 CFR 24 (government debarment and suspension regulations).

26. PROTECTION OF LIVES AND HEALTH

The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the worksite, which occur as a result of his prosecution of the work. The safety provisions of applicable laws and building and construction codes, in addition to specific safety and health regulations described by Chapter XIII, Bureau of Labor Standards, Department of Labor, Part 1518, Safety and Health Regulations for Construction, as outlined in the Federal Register, Volume 36, No. 75, Saturday, April 17, 1971, Title 29 - LABOR, shall be observed and the Contractor shall take or cause to be taken, such additional safety and health measures as the Owner may determine to be reasonably necessary.

27. BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the Contractor or the Contractor's subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this contract. The duties and obligations imposed by the contract documents and the rights and remedies available thereunder

shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

28. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion or correction.

29. CHANGES

The Owner may, from time to time, request changes in the scope of the services of the Contractor to be performed hereunder. Such changes, including any increase or decrease in the amount of the Contractor's compensation which are mutually agreed upon by and between the Owner and the Contractor, shall be incorporated in written and executed amendments to this Contract.

30. PERSONNEL

The Contractor represents that it has, or will secure at its own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the Owner.

All the services required hereunder will be performed by the Contractor or under its supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and local law to perform such services.

No person who is serving sentence in a penal or correctional institution shall be employed on work under this Contract.

31. ANTI-KICKBACK RULES

Salaries of personnel performing work under this Contract shall be paid unconditionally and not less often than once a month without payroll deduction or rebate on any account except only such payroll deductions as are mandatory by law or permitted by the applicable regulations issued by the Secretary of Labor pursuant to the "Anti-Kickback Act" of June 13, 1934 (48 Stat. 948; 62 Stat. 740; 63 Stat. 108; Title 18 U.S.C. 874; and Title 40 U.S.C. 276c). The Contractor shall comply with all applicable "Anti-Kickback" regulations and shall insert appropriate provisions in all subcontracts covering work under this contract to insure compliance by the subcontractors with such regulations, and shall be responsible for the submission of affidavits required of subcontractors thereunder except as the Secretary of Labor may specifically provide for variations of or exemptions from the requirements thereof.

32. ASSIGNABILITY

The Contractor shall not assign any interest in this Contract, and shall not transfer any interest in the same (whether by assignment or novation) without prior written approval of the Owner provided that claims for money due or to become due the Contractor from the Owner under this Contract may be assigned to a bank, trust company, or other financial institution, or to a Trustee

in Bankruptcy, without such approval. Notice of any such assignment or transfer shall be furnished promptly to the Owner.

33. INTEREST OF CONTRACTOR

The Contractor covenants that he presently has no interest and shall not acquire any interest direct or indirect in the above described project or any parcels therein or any other interest which would conflict in any manner or degree with the performance of his services hereunder. The Contractor further covenants that in the performance of this Contract no person having any such interest shall be employed.

34. POLITICAL ACTIVITY

The Contractor will comply with the provisions of the Hatch Act (5 U.S.C. 1501 et seq.), which limits the political activity of employees.

35. COMPLIANCE WITH THE OFFICE OF MANAGEMENT AND BUDGET

The parties agree to comply with the regulations, policies, guidelines, and requirements of the Office of Management and Budget, Circulars A-95, A-102, A-133, and A-54, as they relate to the use of Federal funds under this contract.

36. DISCRIMINATION DUE TO BELIEFS

No person with responsibilities in operation of the project to which this grant relates will discriminate with respect to any program participant or any applicant for participation in such program because of political affiliation or beliefs.

37. CONFIDENTIAL FINDINGS

All of the reports, information, data, etc., prepared or assembled by the Contractor under this Contract are confidential, and the Contractor agrees that they shall not be made available to any individual or organization without prior written approval of the Owner.

38. LOBBYING

The Contractor certifies, to the best of his or her knowledge and belief that:

1. No federally appropriated funds have been paid or will be paid, by or on behalf of the contractor, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
2. If any funds other than federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the

contractor shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

39. FEDERAL LABOR STANDARDS PROVISIONS

The Contractor shall abide by the requirements of the Federal Labor Standards Provisions (HUD-4010).

EXHIBIT 5-3

This list of recommended contract clauses are not required items but are generally accepted for use as “good practice”. They are herewith provided for your use and benefit.

COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM GENERAL CONDITIONS

1. Definitions
2. Additional Instructions and Detail Drawings
3. Schedules, Reports and Records
4. Drawings and Specifications
5. Shop Drawings
6. Materials, Services, and Facilities
7. Inspection and Testing of Materials
8. Substitutions
9. Patents
10. Surveys, Permits, and Regulations
11. Protection of Work, Property, Persons
12. Supervision by Contractor
13. Changes in Work
14. Changes in Contract Price
15. Time for Completion and Liquidated Damages
16. Correction of Work
17. Subsurface Conditions
18. Suspension of Work, Termination and Delay
19. Payments to Contractor
20. Acceptance of Final Payments as Release
21. Assignments
22. Separate Contracts
23. Architect/Engineer's Authority
24. Lands and Right-of-Way
25. Guarantee
26. Remedies
27. Taxes
28. Provisions Required by Law Deemed Inserted
29. Protection of Lives and Health
30. Interest of Member of Congress
31. Other Prohibited Interests
32. Suspension of Work

1. DEFINITIONS

The following terms as used in this contract are respectively defined as follows:

- a. "Contractor": A person, firm, or corporation with whom the contract is made by the Owner.
- b. "Subcontractor": A person, firm or corporation supplying labor and materials or only labor for work at the site of the project for, and under separate contract or agreement with the contractor.
- c. "Work on (at) the project": Work to be performed at the location of the project, including the transportation of materials and supplies to or from the location of the project by employees of the Contractor and any Subcontractor.

- d. "Written Notice": Any work to any party of the Agreement relative to any part of this in writing and considered delivered and the service thereof completed, when posted by certified or registered mail to the said party at their last given address, or delivered in person to said party or their authorized representative on the work.

2. ADDITIONAL INSTRUCTIONS AND DETAIL DRAWINGS

The Contractor may be furnished additional instructions and detail drawings, by the A/E, as necessary to carry out the work required by the contract documents.

The additional drawings and instructions thus supplied will become a part of the contract drawings. The Contractor shall carry out the work in accordance with the additional detail drawings and instructions.

3. SCHEDULE, REPORTS AND RECORDS

The Contractor shall submit to the owner such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, records and other data where applicable as are required by the contract documents for the work to be performed.

Prior to the first partial payment estimate the Contractor shall submit construction progress schedules showing the order in which the Contractor proposes to carry on the work, including dates at which the various parts of the work will be started, estimated date of completion of each part and as applicable.

The dates at which special drawings will be required and respective dates for submission of shop drawings, the beginning of manufacture, the testing and the installation of materials, supplies and equipment.

The Contractor shall also submit a schedule of payments that the Contractor anticipates will be earned during the course of the work.

4. DRAWINGS AND SPECIFICATIONS

The intent of the drawings and specifications is that the Contractor shall furnish all labor, materials, tools, equipment and transportation necessary for the proper execution of the work in accordance with the contract documents and all incidental work necessary to complete the project in an acceptable manner, ready for use, occupancy or operation by the owner.

In case of conflict between the drawings and specification, the specification shall govern. Figure dimensions on drawings shall govern over general drawings.

Any discrepancies found between the drawings and specifications and site conditions or any inconsistencies or ambiguities in the drawings or specifications shall be immediately reported to the A/E in writing, who shall promptly correct such inconsistencies or ambiguities in writing.

Work done by the Contractor after discovery of such discrepancies, inconsistencies or ambiguities shall be done at the Contractor's risk.

5. SHOP DRAWINGS

The Contractor shall provide shop drawings as may be necessary for the prosecution of the work as required by the contract documents. The A/E shall promptly review all shop drawings. The A/E's approval of any shop drawing shall not release the Contractor from responsibility for deviations from the contract documents. The approval of any shop drawing which substantially deviates from the requirement of the contract documents shall be evidenced by a change order.

When submitted for the A/E's review, shop drawings shall bear the Contractor's certification that he has reviewed, checked and approved the shop drawings and that they are in conformance with the requirements of the contract documents.

Portions of the work requiring a shop drawing or sample submission shall not begin until the shop drawing or submission has been approved by the A/E. A copy of each approved shop drawing and each approved sample shall be kept in good order by the Contractor at the site and shall be available to the A/E.

6. MATERIALS, SERVICES AND FACILITIES

It is understood that except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, water, light, power, transportation, supervision, temporary construction of any nature, and all other services and facilities of any nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

Materials and equipment shall be so stored as to insure the preservation of their quality and fitness for the work. Stored materials and equipment to be incorporated in the work shall be located so as to facilitate prompt inspection.

Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned as directed by the manufacturer.

Material, supplies and equipment shall be in accordance with samples submitted by the Contractor and approved by the A/E.

Materials, supplies or equipment to be incorporated into the work shall not be purchased by the Contractor or by any Subcontractor subject to a chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller when a Payment Bond is not required the contract documents.

7. INSPECTION AND TESTING OF MATERIALS

All materials and equipment used in the construction of the project shall be subject to adequate inspection and testing in accordance with generally accepted standards, as required and defined in the contract documents

The Owner shall provide all inspection and testing services not required by the contract documents.

The Contractor shall provide at the Contractor's expense the testing and inspection services required by the contract documents.

If the contract documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any work to specifically be inspected, tested or approved by someone other than the Contractors, the Contractor will give the A/E timely notice of readiness. The Contractor will then furnish the A/E the required certificates of inspection, testing approval.

Inspections, tests or approvals by the A/E or others shall not relieve the Contractor from the obligations to perform the work in accordance with the requirements of the contract documents.

The A/E and the A/E's representatives will at all times have access to the work. In addition, authorized representatives and agents of any participating Federal or State agency shall be permitted to inspect all work, materials, payrolls, records or personnel, invoices of materials and other relevant data and records. The Contractor will provide proper facilities for such access and observation of the work and also for any inspection or testing thereof.

If any work is covered contrary to the written instruction of the A/E it must, if requested by the A/E, be uncovered for the A/E's observation and replaced at the Contractor's expense.

If the A/E considers it necessary or advisable that covered work be inspected or tested by others, the Contractor, at the A/E's request, will uncover, expose or otherwise make available for observation, inspection or testing as the A/E may require, that portion of the work in question, furnishing all necessary labor, materials, tools and equipment,. If it is found that such work is defective, the Contractor will bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, if, however, such work is not found defective, the contractor will be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction and an appropriate change order shall be issued.

Authorized representatives and agents of the Department of Housing and Urban Development (HUD) and/or the New Jersey Economic Development Authority (NJEDA) shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

8. SUBSTITUTIONS

Whenever a material, article, or piece of equipment is identified on the drawings and specifications by referenced to brand name or catalog numbers, it shall be understood that this is referenced for the purpose of defining the performance or other salient requirements and that other products of equal capacities, quality and function shall be considered. The Contractor may recommend the substitution of material, article or piece of equipment of equal substance and function for those referred to in the contract documents by referenced to brand name or catalog number, if, in the opinion of the A/E, such material, article or piece of equipment is of equal substance function to that specified, the A/E may approve its substitution and use by the Contractor. Any cost differential shall be deductible from the contract price and the contract documents shall be appropriately modified by change order. The Contractor warrants that if substitutes are approved, no major changes in the function or general design of the project will result. Incidental changes or extra component parts required to accommodate the substitute will be made by the Contractor without a change in the contract price or contract time.

9. PATENTS

The Contractor shall pay all applicable royalties and license fees, and shall defend all suits or claims for infringement of any patent rights and save the owner harmless from loss on account thereof, except that the Owner shall be responsible for any such loss when a particular process, design, or product of a particular manufacturer or manufacturers is specified, however, if the Contractor has reason to believe that design, process or product specified is an infringement of a patent, the Contractor shall be responsible for such loss unless the Contractor promptly gives such information to the A/E.

10. SURVEYS, PERMITS, AND REGULATIONS

The Owner shall furnish all boundary surveys and establish all base lines for locating the principal component parts of the work together with a suitable number of bench marks adjacent to the work as

shown in the contract documents. From the information provided by the Owner, unless otherwise specified in the contract documents, the Contractor shall develop and make all detail surveys needed for construction such as slope stakes, batter boards, stakes for pipe locations and other working points, lines, elevations and cut sheets.

The Contractor shall carefully preserve bench marks, reference points and stakes and, in case of willful or careless destruction, shall be charged with the resulting expense and shall be responsible for any mistake that may be caused by their unnecessary loss or disturbance.

Permits and licenses of temporary nature necessary for the prosecution of the work shall be secured and paid for by the contractors unless otherwise stated in the supplemental general conditions. Permits, licenses and easements for permanent structures or permanent changes in existing facilities shall be secured and paid for by the owner, unless otherwise specified. The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations bearing on the conduct of the work as drawn and specified. If the Contractor observes that the contract documents are at variance therewith, the Contractor shall promptly notify the A/E in writing, and any necessary changes shall be adjusted as provided in Section 13 changes in the work.

11. PROTECTION OF WORK, PROPERTY, PERSONS

The Contractor will be responsible for initiating, maintain and supervising all safety precautions and programs in connection with the work. The Contractor will take all necessary precautions for the safety or, and will provide the necessary protection to prevent damage, injury or loss to all employees on the work and other persons who may be affected thereby, all the work and all materials or equipment to be incorporated therein, whether in storage on or off the site, and other property at the site or adjacent thereto, including trees, shrubs, lawns, walk pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction. The Contractor shall comply with all pertinent provisions of the Occupational Safety and Health Administration (OSHA) and any State Safety and Health agency requirements.

The Contractor will comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction. The Contractor will erect and maintain, as required by the conditions and progress of the work, all necessary safeguards for safety and protections. The Contractor will notify owners of adjacent utilities when prosecution of the work may affect them. The Contractor will remedy all damage, injury or loss to any property caused directly or indirectly, in whole or part, by the Contractor, any Subcontractor or anyone directly or indirectly employed by any of them or anyone whose acts any of them be liable, except damage or loss attributable to the fault of the contract documents or to the acts or omissions of the owner, of the A/E or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of the Contractor.

In emergencies affecting the safety of persons or the work or property at the site or adjacent thereto, the Contractor, without special instructions or authorization from the A/E or owner, shall act to prevent threatened damage, injury or loss. The Contractor will give the A/E prompt written notice of any significant changes in the work or deviations from the contract documents caused thereby and a change order shall thereupon be issued covering the changes and deviations involved.

12. SUPERVISION BY CONTRACTOR

The Contractor will supervise and direct the work. He will be solely responsible for the means, methods, techniques, sequences and procedures of construction. The Contractor will employ and maintain on the work a qualified supervisor or superintendent who shall have been designated in writing by the Contractor or the Contractor's representative at the site. The supervisor shall have full

authority to act on behalf of the Contractor and all communications given to the supervisor shall be a binding as if given to the Contractor. The supervisor shall be present on the site at all times as required to perform adequate supervision and coordination of the work.

13. CHANGES IN WORK

The Owner may at any time, as need arises, order changes within the scope of the work without invalidating the agreement. If such changes increase or decrease the amount due under the contract documents, or in the time required for performance of the work, an equitable adjustment shall be authorized by change order. Change order shall be used to adjust quantities of installed units which are different than those shown in the bid schedule because of final measurements. Final measurements shall not be considered changes in the work. Final measurements will determine compensation to the Contractor based on unit price shown in bid schedule.

The A/E, also, may at any time, by issuing a field order, make changes in the details of the work. The Contractor shall proceed with the performance of any changes in the work so ordered by the A/E unless the Contractor believes that such field order entitles the Contractor to a change in contract price or time or both, in which event the Contractor shall give the A/E written notice thereof within seven (7) days after the receipt of the ordered change. Thereafter the Contractor shall document the basis for the change in contract price or time within thirty (30) days. The Contractor shall not execute such changes pending the receipt of an executed change order or further instruction from the owner.

14. CHANGES IN CONTRACT PRICE

The contract price may be changed only by a change order. The value of any work covered by a change order or any claim for increase or decrease in the contract price shall be determined by one or more of the following methods in the order of precedence listed below.

- a. Unit prices previously approved
- b. An agreed lump sum

15. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

The date of beginning and the time for completion of the work are essential conditions of the contract documents and the work embraced shall be commenced on a date specified in the "Notice to Proceed"

The Contractor will proceed with the work at such rate of progress to insure full completion within the contract time. It is expressly understood and agreed, by and between the Contractor and the Owner, that the contract time for the completion of the work described herein is a reasonable time, taking into consideration the average climatic and economic conditions and other factors prevailing in the locality of the work.

If the Contractor shall fail to complete the work within the contract time or extension of time granted by the Owner, then the Contractor will pay to the Owner the amount for liquidated damages as specified in the bid each calendar day that the Contractor shall be in default after the time stipulated in the contract documents.

The Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the work is due to the following and the contractor has promptly given written notice of such delay to the Owner or A/E.

To any preference, priority or allocation order duly issued by the Owner.

To unforeseeable causes beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, or the public enemy, acts of the Owner, acts of another Contractor in the performance of a contract with the owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and abnormal and unforeseeable weather; and to any delays of Subcontractors occasioned by any of the causes specified in this article.

16. CORRECTION OF WORK

The Contractor shall promptly remove from the premises all work rejected by the A/E for failure to comply with the contract documents, whether incorporated in the construction or not, and the Contractor shall promptly replace and reexecute the work in accordance with the contract documents and without expense to the owner and shall bear the expense of making good all work of other Contractors destroyed or damaged by such removal or replacement.

All removal and replacement work shall be done at the Contractor's expense. If the Contractor does not take action to remove such rejected work within ten (10) days after receipt of written notice, the Owner may remove such work and store the materials at the expense of the Contractor.

17. SUBSURFACE CONDITIONS

The Contractor, before bidding the project, has the responsibility to become familiar with the site of the project and the conditions under which work will have to be performed during the construction period.

Excavating for foundations of surface structure: buildings, bridges, tanks, towers, retaining walls and other types of surface structures.

The Contractor shall promptly, and before such conditions are disturbed, except in the event of an emergency, notify the owner by written notice of subsurface or latent physical conditions at the site differing materially from those indicated in the contract documents.

Or unknown physical conditions at the site of unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for the contract documents.

The Owner shall promptly investigate the conditions, and if it is found that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for, performance of the work, an equitable adjustment shall be made and the contract documents shall be modified by a change order. Any claim of the Contractor for adjustment hereinafter shall not be allowed unless the required written notice has been given; provided that the Owner may, if the Owner determines the facts so justify consider and adjust any such claims asserted before the date of the final payment.

Excavating for below-surface structures: water mains, sewers, power and telephone cables and other types of below surface structures.

No extra compensation will be paid for rock excavation or varying geologic features encountered on the project, unless so shown as a bid item in the Bid Schedule for bid.

If man-made hazards are encountered by the Contractor, excluding utilities, which are not visible from the surface, such as buried concrete foundations, buried garbage dumps that cannot be by-passed and requires additional work, then the procedure set forth in (e) will be followed.

18. SUSPENSION OF WORK, TERMINATION AND DELAY

The Owner may suspend the work or any portion thereof for a period of not more than ninety days or such further time as agreed upon by the Contractor, by written notice to the Contractor and the A/E which shall fix the date on which work shall be resumed. The Contractor will resume that work on the date do fixed. The Contractor will be allowed an increase in the contract price or an extension of the contract time, or both, directly attributable to any suspension.

If the Contractor is adjudged a bankrupt or insolvent, or makes a general assignment for the benefit of its creditors, or if a trustee or receiver is appointed for the Contractor or for any of its property, or if Contractor files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or applicable laws, or repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment, or repeatedly fails to make promptly payments to Subcontractors or for labor, materials or equipment or disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction of the work or disregards the authority of the A/E, or otherwise violates any provision of the contract documents, then the owner may, without prejudice to any other right or remedy and after giving the Contractor and its surety a minimum of ten (10) days from delivery of a written notice, terminate the services of the Contractor and take possession of the project and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor and finish the work by whatever method the Owner may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the work is finished. If the unpaid balance of the contract price exceeds the direct and indirect costs of completing the project, including compensation for additional professional services, such excess shall be paid to the Contractor. If such costs exceed such unpaid balance, the Contractor will pay the difference to the owner. Such costs incurred by the Owner will be determined by the A/E and incorporated in a change order.

Where the Contractor's services have been so terminated by the owner, said termination shall not affect any right of the Owner against the Contractor then existing or which may thereafter accrue. Any retention or payment of monies by the owner due the Contractor will not release the Contractor from compliance with the contract documents.

After ten (10) days from delivery of written notice the Contractor and the A/E, the Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the project and terminate the contract. In such case the Contractor shall be paid for all work executed and any expense sustained plus reasonable profit.

If, through no act or fault of the Contractor, the work is suspended for a period of more than ninety (90) days by the Owner or under an order of court or other public authority, or the A/E fails to act on any request for payment within thirty (30) days after its is submitted, or the Owner fails to pay the Contractor substantially the sum approved by the A/E or awarded by arbitrators within thirty (30) days of its approval and presentation, then the Contractor may, after ten (10) days from delivery of written notice to the Owner and the A/E terminate the contract and recover from the Owner payment for all work executed and all expenses sustained. In addition and in lieu of terminating the contract, if the A/E has failed to act on a request for payment or if the owner has failed to make any payment as aforesaid, the Contractor may upon ten (10) days written notice to the owner and the A/E stop the work until paid all amount then due, in which event and upon resumption of the work, change orders shall be issued for adjusting the contract price or extending the contract time or both to compensate for the costs and delays attributable to the stoppage of the work.

If the performance of all or any portion of the work is suspended, delayed, or interrupted as a result of a failure of the owner or A/E to act within the time specified in the contract documents, or if no time is specified, within a reasonable time, an adjustment in the contract price or an extension of the

contract time, or both, shall be made in change order to compensate the Contractor for the costs and delays necessarily caused by the failure of the owner or A/E.

The Owner, without terminating the service of the Contractor or written notice to the Surety, through the A/E may withhold – without prejudice to the rights of the Owner under the terms of the agreement – or on account of subsequently discovered evidence, nullify the whole or part of any approved partial payment estimate to such extent as may be necessary to protect the owner from loss on account of: defective work not remedied, claims filed or reasonable evidence indicating probable filing of claims, failure of Contractor to make payments properly to Subcontractors or for material or labor, a reasonable doubt that the work can be completed for the balance then unpaid damages to another Contractor and performance of work in violation of the terms of the contract documents.

19. PAYMENTS TO CONTRACTOR

At least ten (10) days before each progress payment falls due (but not more often than once a month), the Contractor will submit to the A/E a partial payment estimate filled out and signed by the Contractor covering the work performed during the period covered by the partial payment estimate and supported by such data as the A/E may reasonable require. The A/E will, within ten (10) days after receipt of each partial payment estimate, either indicate in writing approval of payment, and present the partial payment estimate to the Owner, or return the partial payment estimate to the Contractor indicating in writing the reasons for refusing to approve payment. In the latter case, the Contractor may make the necessary corrections and resubmit the partial payment estimate. The Owner will, within ten (10) days of presentation of an approved partial payment estimate pay the Contractor a progress payment on the basis of the approved partial payment estimate less the retainage. The retainage shall be an amount equal to 10% of said estimate until completion and acceptance of the work. The 10% retainage may be reduced by change order if completion and acceptance of the work is delayed due to valid circumstances and the work is usable for its intended purpose by the owner. If reduction in the retainage is approved the remaining retainage shall be an amount sufficient to complete the work.

The request for payment may also include an allowance for the cost of major materials and equipment which are suitable stored either at or near the site. Payment does not relieve the Contractor of his responsibility for the safe keeping of this material and equipment.

Prior to completion and acceptance of the work, the owner, with approval of the A/E and with the concurrence of the Contractor, may use any completed or substantially completed portions of the work. Such use shall not constitute an acceptance of such portions of the work.

The Owner shall have the right to enter the premises for the purpose of doing work not covered by the contract documents. This provision shall not be construed as relieving the Contractor of the sole responsibility for the care and protection of the work, or the restoration of any damaged work except such as may be caused by agents or employees of the owner.

Upon completion and acceptance of the work, the A/E shall issue a certificate attached to the final payment request that the work has been accepted under the conditions of the contract documents. The entire balance found to be due to the Contractors, including the retained percentages, but except such sums as may be lawfully retained by the Owner, shall be paid to the Contractor within thirty (30) days of completion and acceptance of the work. The A/E's certificate of acceptance will be on the document "Consultant's Certification for Acceptance and Final Payment".

The Contractor will indemnify and save the Owner or the Owner's agents harmless from all claims growing out of the lawful demand of Subcontractors, laborers, workmen, mechanics, material, men

and furnishers of machinery and parts thereof, equipment, tools and all supplies incurred in the furtherance of the performance of the work. The Contractor shall, at the Owner's request furnish satisfactory evidence that all obligations of the nature designated above have been paid, discharged, or waived. If the Contractor fails to do so the Owner may, after having notified the Contractor, either pay unpaid bills or withhold from the Contractor's unpaid compensation a sum of money deemed reasonable sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the Contractor shall be resumed in accordance with the terms of the contract documents, but in no event shall the provisions of this sentence be construed to impose any obligations upon the Owner to either the Contractor, the Contractor's Surety, or any third party. In paying any unpaid bills of the Contractor, any payment so made by the Owner shall be considered as a payment made under the contract documents by the Owner to the Contractor and the Owner shall not be liable to the Contractor for any such payments made in good faith.

If the Owner fails to make payment thirty (30) days after approval by the A/E, in addition to other remedies available to the Contractor, there shall be added to each such payment interest at the maximum legal rate commencing on the first day after said payment is due and continuing until the payment is received by the Contractor.

20. ACCEPTANCE OF FINAL PAYMENTS AS RELEASE

The acceptance by the Contractor of final payment shall be and shall operate as a release to the Owner of all claims and all liability to the Contractor other than claims in stated amounts as may be specifically excepted by the Contractor for all things done or furnished in connection with this work and for every act and neglect of the Owner and others relating to or arising out of this work. Any payment, however final or otherwise, shall not release the Contractor or its sureties from any obligations under the contract documents or the Performance and Payment Bonds.

21. ASSIGNMENTS

Neither the Contractor nor the Owner shall sell, transfer, assign, or otherwise dispose of the contract or any portion thereof, or of any right, title or interest therein, or any obligations thereunder, without written consent of the other party.

22. SEPARATE CONTRACT

The Owner reserves the right to let other contracts in connection with this project. The Contractor shall afford other Contractors reasonable opportunity for the introduction and storage of their materials and the execution of their work, and shall properly connect and coordinate the work with theirs. If the proper execution or results of any part of the Contractor's work depends upon the work of any other Contractor, the Contractor shall inspect and promptly report to the A/E any defects in such work that render it unsuitable for such proper execution and results.

The Owner may perform additional work related to the project or the Owner may let other contracts containing provisions similar to these. The Contractor will afford the other Contractors who are parties to such contracts (or the Owner, if the Owner is performing the additional work) reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate the work with theirs.

If the performance of additional work by other Contractors or the Owner is not noted in the contract documents prior to the execution of the contract, written notice thereof shall be given to the Contractor prior to starting any such addition work. If the Contractor believes that the performance of such additional work by the Owner or others involves it in additional expense or entitles it to any

extension of the contract time the Contractor may make a claim thereof as provided in Section 14 and 15.

23. ARCHITECT/ENGINEER'S AUTHORITY

The A/E shall act as the Owner's representative during the construction period, shall decide questions which may arise as the quality and acceptability of materials furnished and work performed, and shall interpret the intent of the contract documents in a fair and unbiased manner. The A/E will make visits to the site and determine if the work is proceeding in accordance with the contract documents.

The Contractor will be held strictly to the intent of the contract documents in regard to the quality of materials, workmanship, and execution of the work. Inspections may be at the factory or fabrication plant of the source of the material supply.

The A/E will not be responsible for the construction means, controls, techniques, sequences, procedures or construction safety.

The A/E shall promptly make decisions relative to interpretation of the contract documents. The A/E shall be responsible for obtaining an acknowledgement of the "Consultant's Certification for Acceptance and Final Payment" from the Owner before the certifications may take effect.

24. LANDS AND RIGHT-OF-WAY

Prior to issuance of Notice to Proceed, the Owner shall obtain all lands and rights-of-way necessary for the carrying out and completion of work to be performed pursuant to the contract documents, unless otherwise mutually agreed.

The Owner shall provide to the Contractor information which delineates and describes the lands owned and right-of-way acquired.

The Contractor shall provide at its own expense and without liability to the Owner any additional land and access thereto that the Contractor may desire for temporary construction facilities, or for storage of materials.

25. GUARANTEE

The Contractor shall guarantee all materials and equipment furnished and work performed for a period of one (1) year from the date of completion and acceptance of the work. The Contractor warrants and guarantees for one (1) year from the date of completion and acceptance of the work that the completed work is free from all defects due to faculty materials or workmanship and the Contractor shall promptly make such corrections as may be necessary by reason of such defects including the repairs of any other damages that were caused by defects in the work. The Owner will give notice of observed defects with reasonable promptness. In the event that the Contractor should fail to make such repairs, adjustments, or other work that may be made necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred. In emergency where, in the judgment of the Owner, delay would cause serious loss or damage, repairs and replacement of defects in the work and damage caused by defects may be made without notice being sent to the Contractor, and the Contractor shall pay the cost thereof. The Performance Bond shall remain in full force and effect through the guarantee period.

26. REMEDIES

Except as may be otherwise found in the contract documents, all claims, disputes, counter-claims, and other matters in question between the Owner and Contractor arising out of or related to this

agreement or the breach thereof, will be decided by arbitration if the parties hereto mutually agree, or in a court of competent jurisdiction within the state in which the Owner is located.

27. TAXES

The Contractor will pay all sales, consumer, use and other similar taxes required by the laws of the place where the work is performed.

28. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion or correction.

29. PROTECTION OF LIVES AND HEALTH

The Contractor shall exercise proper precaution at all times for the protection of persons and property and shall be responsible for all damages to persons or property, either on or off the site, which occur as a result of his prosecution of the work. The safety provisions of applicable laws and building and construction codes, in addition to specific safety and health regulations described by Chapter XIII, Bureau of Labor Standards, Department of Labor, Part 1518, Safety and Health Regulations for Construction, as outlined in the Federal Register, Volume 36, No. 75, Saturday, April 17, 1971. Title 29 - LABOR, shall be observed and the Contractor shall take or cause to be taken, such additional safety and health measures as the Contracting Authority may determine to be reasonably necessary. OSHA requirements must be followed.

30. INTEREST OF MEMBER OF OR DELEGATE TO CONGRESS

No member of or Delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this contract or to any benefit that may arise there from, but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

31. OTHER PROHIBITED INTERESTS

No official of the Owner who is authorized in such capacity and on behalf of the Owner to negotiate, make, accept, or approve, or to take part in negotiating, making, accepting, or approving any architectural, engineering, inspection, construction, or material supply contract or any subcontract in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part hereof. No officer, employee, architect, attorney, engineer, or inspector of or for the owner who is authorized in such capacity and on behalf of the Owner to exercise any legislative, executive, supervisory, or other similar functions in connection with the construction of the project, shall become directly or indirectly interested personally in this contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

32. SUSPENSION OF WORK

Should the Owner be prevented or enjoined from proceeding with work either before or after the start of construction by reason or any litigation or other reason beyond the control of the Owner, the Contractor shall not be entitled to make or assert claim for damage by reason of said delay; but time for completion of the work will be extended to such reasonable time as the Owner may determine will compensate for time lost by such delay with such determination to be set forth in writing.

EXHIBIT 5-5
CDDBG COMPLIANCE PROVISIONS
FOR
PROFESSIONAL SERVICES CONTRACTS

CONTENTS

1. EQUAL EMPLOYMENT OPPORTUNITY (Equal Opportunity Clause)
2. CERTIFICATION OF NONSEGREGATED FACILITIES
3. CIVIL RIGHTS
4. SECTION 109 OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974
5. SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968 - COMPLIANCE IN THE PROVISION OF TRAINING, EMPLOYMENT AND BUSINESS OPPORTUNITIES
6. SECTION 503 OF THE REHABILITATION ACT OF 1973 (29 USC 793)
7. SECTION 504 OF THE REHABILITATION ACT OF 1973, AS AMENDED
8. AGE DISCRIMINATION ACT OF 1975
9. CERTIFICATION OF COMPLIANCE WITH AIR AND WATER ACTS
10. FLOOD DISASTER PROTECTION
11. ACCESS TO RECORDS - MAINTENANCE OF RECORDS
12. INSPECTION
13. REPORTING REQUIREMENTS
14. CONFLICT OF INTEREST
15. ACTIVITIES AND CONTRACTS NOT SUBJECT TO EXECUTIVE ORDER 11246, AS AMENDED
16. PATENTS
17. COPYRIGHT
18. TERMINATION FOR CAUSE
19. TERMINATION FOR CONVENIENCE

20. ENERGY EFFICIENCY
21. SUBCONTRACTS
22. DEBARMENT, SUSPENSION, AND INELIGIBILITY
23. BREACH OF CONTRACT TERMS
24. PROVISIONS REQUIRED BY LAW DEEMED INSERTED
25. CHANGES
26. PERSONNEL
27. ANTI-KICKBACK RULES
28. ASSIGNABILITY
29. INTEREST OF CONTRACTOR
30. POLITICAL ACTIVITY
31. COMPLIANCE WITH THE OFFICE OF MANAGEMENT AND BUDGET
32. DISCRIMINATION DUE TO BELIEF
33. CONFIDENTIAL FINDINGS
34. LOBBYING

1. EQUAL EMPLOYMENT OPPORTUNITY (Equal Opportunity Clause)
(applicable to contracts and subcontracts above \$10,000)

During the performance of this contract, the Contractor agrees as follows:

- A. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- B. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration without regard to race, color, religion, sex, or national origin.

- C. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the Contract Compliance Officer advising the said labor union or workers' representatives of the Contractor's commitment under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- D. The Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, as amended, and the rules, regulations, and relevant orders of the Secretary of Labor.
- E. The Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the Department and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and others.
- F. In the event of the Contractor's noncompliance with the non-discrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, as amended, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- G. The Contractor will include the provisions of the sentence immediately preceding paragraph A and the provisions of paragraphs A through G in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, as amended, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provisions, including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the Department, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

2. **CERTIFICATION OF NONSEGREGATED FACILITIES**

(applicable to contracts and subcontracts over \$10,000)

By the submission of this bid, the bidder, offeror, applicant or subcontractor certifies that he/she does not maintain or provide for his/her establishments, and that he/she does not permit employees to perform their services at any location, under his/her control, where segregated facilities are maintained. He/she certifies further that he/she will not maintain or provide for employees any segregated facilities at any of his/her establishments, and he/she will not permit employees to perform their services at any location under his/her control where segregated facilities are maintained. The bidder, offeror, applicant or subcontractor agrees that a breach of this certification is a violation of the equal opportunity clause of this contract.

As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason.

He/she further agrees that (except where he/she has obtained for specific time periods) he/she will obtain identical certification from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the equal opportunity clause; that he/she will retain such certifications in his/her files; and that he/she will forward the following notice to such proposed subcontractors (except where proposed subcontractors have submitted identical certifications for specific time periods).

3. CIVIL RIGHTS

The Contractor shall comply with the provisions of Title VI of the Civil Rights Act of 1964. No person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

4. SECTION 109 OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974

The Contractor shall comply with the provisions of Section 109 of the Housing and Community Development Act of 1974. No person in the United States shall on the grounds of race, color, national origin, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under this title. Section 109 further provides that discrimination on the basis of age under the Age Discrimination Act of 1975 or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, as amended, is prohibited.

5. SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968 - COMPLIANCE IN THE PROVISION OF TRAINING, EMPLOYMENT AND BUSINESS OPPORTUNITIES

- A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.
- C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training

positions, the qualifications for each, and the name and location of the person(s) taking applications for each of the positions, and the anticipated date the work shall begin.

- D. The contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.
- E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.
- F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- G. With respect to work performed in connection with Section 3 covered Indian housing assistance, Section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of Section 3 and section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with Section 7(b).

6. SECTION 503 OF THE REHABILITATION ACT OF 1973 (29 USC 793)

(applicable to contracts and subcontracts over \$10,000)

- A. The contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is otherwise qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.
- B. The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.
- C. In the event of the Contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.

- D. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the contracting officer. Such notices shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.
- E. The Contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Rehabilitation Act of 1973, and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.
- F. The Contractor will include the provisions of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary issued pursuant to Section 503 of the Act, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance.

7. SECTION 504 OF THE REHABILITATION ACT OF 1973, AS AMENDED

The Contractor agrees that no otherwise qualified individual with disabilities shall, solely by reason of his disability, be denied the benefits, or be subjected to discrimination including discrimination in employment, any program or activity that receives the benefits from the federal financial assistance.

8. AGE DISCRIMINATION ACT OF 1975

The Contractor shall comply with the provisions of the Age Discrimination Act of 1975. No person in the United States shall, on the basis of age, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under, any program or activity receiving federal financial assistance.

9. CERTIFICATION OF COMPLIANCE WITH AIR AND WATER ACTS

(applicable to contracts and subcontracts exceeding \$100,000)

The Contractor and all subcontractors shall comply with the requirements of the Clean Air Act, as amended, 42 USC 1857 et seq., the Federal Water Pollution Control Act, as amended, 33 USC 1251 et seq., and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended.

In addition to the foregoing requirements, all nonexempt contractors and subcontractors shall furnish to the owner, the following:

- A. A stipulation by the Contractor or subcontractors, that any facility to be utilized in the performance of any nonexempt contract or subcontract, is not listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR Part 15, as amended.
- B. Agreement by the Contractor to comply with all the requirements of Section 114 of the Clean Air Act, as amended, (42 USC 1857 c-8) and Section 308 of the Federal Water Pollution

Control Act, as amended, (33 USC 1318) relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued thereunder.

- C. A stipulation that as a condition for the award of the contract, prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA, indicating that a facility utilized, or to be utilized for the contract, is under consideration to be listed on the EPA List of Violating Facilities.
- D. Agreement by the Contractor that he will include, or cause to be included, the criteria and requirements in paragraph (1) through (4) of this section in every nonexempt subcontract and requiring that the Contractor will take such action as the government may direct as a means of enforcing such provisions.

10. FLOOD DISASTER PROTECTION

This contract is subject to the requirements of the Flood Disaster Protection Act of 1973 (P.L. 93-234). Nothing included as a part of this contract is approved for acquisition or construction purposes as defined under Section 3(a) of said Act, for use in an area identified by the Secretary of HUD as having special flood hazards which is located in a community not then in compliance with the requirements for participation in the National Flood Insurance Program pursuant to Section 201(d) of said Act; and the use of any assistance provided under this contract for such acquisition for construction in such identified areas in communities then participating in the National Flood Insurance Program shall be subject to the mandatory purchase of flood insurance requirements or Section 102(a) of said Act.

Any contract or agreement for the sale, lease, or other transfer of land acquired, cleared or improved with assistance provided under this Contract shall contain, if such land is located in an area identified by the Secretary as having special flood hazards and in which the sale of flood insurance has been made available under the National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4001 et seq., provisions obligating the transferee and its successors or assigns to obtain and maintain, during the ownership of such land, such flood insurance as required with respect to financial assistance for acquisition or construction purposes under Section 102(a) of Flood Disaster Protection Act of 1973.

11. ACCESS TO RECORDS - MAINTENANCE OF RECORDS

The State of New Jersey, the Department of Housing and Urban Development, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any books, documents, papers and records of the Contractor which are directly pertinent to this specific contract, for the purpose of audits, examinations, and making excerpts and transcriptions. All records connected with this contract will be maintained in a central location by the unit of local government and will be maintained for a period of five (5) years from the official date of the State's final closeout of the grant.

12. INSPECTION

The authorized representative and agents of the State of New Jersey and the Department of Housing and Urban Development shall be permitted to inspect all work, materials, payrolls, records of personnel, invoices of materials, and other relevant data and records.

13. REPORTING REQUIREMENTS

The Contractor shall complete and submit all reports, in such form and according to such schedule, as may be required by the Owner.

14. CONFLICT OF INTEREST

A. No officer or employee of the local jurisdiction or its designees or agents, no member of the governing body, and no other public official of the locality who his/her tenure or for one year thereafter, shall have any interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed. Further, the Contractor shall cause to be incorporated in all subcontracts the language set forth in this paragraph prohibiting conflict of interest.

B. No member of or delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this contract or to any benefit that may arise there from, but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

15. ACTIVITIES AND CONTRACTS NOT SUBJECT TO EXECUTIVE ORDER 11246, AS AMENDED

(applicable to contracts and subcontracts of \$10,000 and under)

During the performance of this contract, the Contractor agrees as follows:

A. The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

B. The Contractor shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by Contracting Officer setting forth the provisions of this non-discrimination clause. The Contractor shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

C. Contractors shall incorporate foregoing requirements in all subcontracts.

16. PATENTS

A. The Contractor shall hold and save the Owner and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for, or on account of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the contract including its use by the Owner, unless otherwise specifically stipulated in the Contract Document.

- B. License or Royalty Fees: License and/or Royalty Fees for the use of a process which is authorized by the Owner of the project must be reasonable, and paid to the holder of the patent, or his authorized license, direct by the Owner and not by or through the Contractor.
- C. If the Contractor uses any design device or materials covered by letters, patent or copyright, he shall provide for such use by suitable agreement with the owner of such patented or copy-righted design device or material. It is mutually agreed and understood, that without exception the contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The Contractor and/or his Sureties shall indemnify and save harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copy-righted design, device or materials or any trademark or copy-right in connection with work agreed to be performed under this contract, and shall indemnify the Owner for any cost, expense, or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

17. COPYRIGHT

No materials, to include but not limited to reports, maps, or documents produced as a result of this contract, in whole or in part, shall be available to the Contractor for copyright purposes. Any such materials produced as a result of this contract that might be subject to copyright shall be the property of the Owner and all such rights shall belong to the Owner.

18. TERMINATION FOR CAUSE

If, through any cause, the Contractor shall fail to fulfill in a timely and proper manner his obligations under this contract, or if the Contractor shall violate any of the covenants, agreements, or stipulations of this contract, the Owner shall thereupon have the right to terminate this contract by giving written notice to the Contractor of such termination and specifying the effective date thereof, at least five (5) days before the effective date of such termination. In such event, all finished or unfinished documents, data, studies, surveys, drawings, maps, models, photographs, and reports prepared by the Contractor under this contract shall, at the option of the Owner, become the Owner's property and the Contractor shall be entitled to receive just and equitable compensation for any work satisfactorily completed hereunder. Notwithstanding the above, the Contractor shall not be relieved of liability to the Owner for damages sustained by the Owner by virtue of any breach of the contract by the Contractor, and the Owner may withhold any payments to the Contractor for the purpose of set-off until such time as the exact amount of damages due the Owner from the Contractor is determined.

19. TERMINATION FOR CONVENIENCE

The Owner may terminate this contract at any time by giving at least ten (10) days notice in writing to the Contractor. If the contract is terminated by the Owner as provided herein, the Contractor will be paid for the time provided and expenses incurred up to the termination date.

20. ENERGY EFFICIENCY

The Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).

21. SUBCONTRACTS

- A. The Contractor shall not enter into any subcontract with any subcontractor who has been debarred, suspended, declared ineligible, or voluntarily excluded from participating in contacting programs by any agency of the United States Government or the State of New Jersey.
- B. The Contractor shall be as fully responsible to the Owner for the acts and omissions of the Contractor's subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by the Contractor.
- C. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractor to the Contractor by the terms of the contract documents insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the contract documents.
- D. Nothing contained in this contract shall create any contractual relation between any subcontractor and the Owner.

22. DEBARMENT, SUSPENSION, AND INELIGIBILITY

The Contractor represents and warrants that it and its subcontractors are not debarred, suspended, or placed in ineligibility status under the provisions of 24 CFR 24 (government debarment and suspension regulations).

23. BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the Contractor or the Contractor's subcontractors may result in the suspension or termination of this contract or such other action that may be necessary to enforce the rights of the parties of this contract. The duties and obligations imposed by the contract documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

24. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion or correction.

25. CHANGES

The Owner may, from time to time, request changes in the scope of the services of the Contractor to be performed hereunder. Such changes, including any increase or decrease in the amount of the Contractor's compensation which are mutually agreed upon by and between the Owner and the Contractor, shall be incorporated in written and executed amendments to this Contract.

26. PERSONNEL

The Contractor represents that it has, or will secure at its own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the Owner. All the services required hereunder will be performed by the Contractor or under its supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and local law to perform such services.

No person who is serving sentence in a penal or correctional institution shall be employed on work under this Contract.

27. ANTI-KICKBACK RULES

Salaries of personnel performing work under this Contract shall be paid unconditionally and not less often than once a month without payroll deduction or rebate on any account except only such payroll deductions as are mandatory by law or permitted by the applicable regulations issued by the Secretary of Labor pursuant to the "Anti-Kickback Act" of June 13, 1934 (48 Stat. 948; 62 Stat. 740; 63 Stat. 108; Title 18 U.S.C. 874; and Title 40 U.S.C. 276c). The Contractor shall comply with all applicable "Anti-Kickback" regulations and shall insert appropriate provisions in all subcontracts covering work under this contract to insure compliance by the subcontractors with such regulations, and shall be responsible for the submission of affidavits required of subcontractors thereunder except as the Secretary of Labor may specifically provide for variations of or exemptions from the requirements thereof.

28. ASSIGNABILITY

The Contractor shall not assign any interest in this Contract, and shall not transfer any interest in the same (whether by assignment or novation) without prior written approval of the Owner provided that claims for money due or to become due the Contractor from the Owner under this Contract may be assigned to a bank, trust company, or other financial institution, or to a Trustee in Bankruptcy, without such approval. Notice of any such assignment or transfer shall be furnished promptly to the Owner.

29. INTEREST OF CONTRACTOR

The Contractor covenants that he presently has no interest and shall not acquire any interest direct or indirect in the above described project or any parcels therein or any other interest which would conflict in any manner or degree with the performance of his services hereunder. The Contractor further covenants that in the performance of this Contract no person having any such interest shall be employed.

30. POLITICAL ACTIVITY

The Contractor will comply with the provisions of the Hatch Act (5 U.S.C. 1501 et seq.), which limits the political activity of employees.

31. COMPLIANCE WITH THE OFFICE OF MANAGEMENT AND BUDGET

The parties agree to comply with the regulations, policies, guidelines, and requirements of the Office of Management and Budget, Circulars A-95, A-102, A-133, and A-54, as they relate to the use of Federal funds under this contract.

32. DISCRIMINATION DUE TO BELIEFS

No person with responsibilities in operation of the project to which this grant relates will discriminate with respect to any program participant or any applicant for participation in such program because of political affiliation or beliefs.

33. CONFIDENTIAL FINDINGS

All of the reports, information, data, etc., prepared or assembled by the Contractor under this Contract are confidential, and the Contractor agrees that they shall not be made available to any individual or organization without prior written approval of the Owner.

34. LOBBYING

The Contractor certifies, to the best of his or her knowledge and belief that:

1. No federally appropriated funds have been paid or will be paid, by or on behalf of the contractor, to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
2. If any funds other than federally appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a member of Congress, an officer or employee of Congress, or an employee of a member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the contractor shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

EXHIBIT 5-6

The below enumerated Contract Exhibits and Mandatory Contract Language must be a made a part of the contract between Professional Service Vendor or Construction Contractor and Owner/Sub-Recipient.

1. Contract Exhibits

A. **Professional Service Contracts** shall include all applicable exhibits included in Appendix 5; State of NJ Standard Terms and Conditions (Exhibit 5-1), CDBG General Conditions, as applicable (Exhibit 5-3), Voluntary Compliance Agreement and Conciliation Agreement (Exhibit 5-4), and CDBG Compliance Provisions for Professional Services Contracts (Exhibit 5-5).

B. **Construction Contracts** shall include all applicable exhibits included in Appendix 5; State of New Jersey Standard Terms and Conditions (Exhibit 5-1), CDBG Compliance Provisions for Construction Contracts (Exhibit 5-2), CDBG General Conditions, as applicable (Exhibit 5-3), and Voluntary Compliance Agreement and Conciliation Agreement (Exhibit 5-4).

2a. Mandatory Contract Language (for Professional Service and Construction Contracts)

“Sub recipient and/or borrower agrees to use its best efforts to afford small businesses, minority business enterprises, women’s business enterprises (including Section 3 businesses) and veteran –owned businesses the maximum practicable opportunity to participate in the performance of this contract. As used in this contract, the terms “small business” means a business that meets the criteria set forth in section 3(a) of the Small Business Act, as amended (15 U.S.C. 632), and “minority and women’s business enterprise” means a business at least fifty-one (51) percent owned and controlled by minority group members or women. For the purpose of this definition, “minority group members” are Afro-Americans, Spanish-speaking, Spanish surnamed or Spanish-heritage Americans, Asian-Americans and American Indians. The Sub recipient and/or borrower may rely on written representations by businesses regarding their status as minority and female business enterprises in lieu of an independent investigation.”

And:

“The contractor must demonstrate to the NJEDA’s satisfaction that a good faith effort was made to ensure that minorities and women have been afforded equal opportunity to gain employment under the NJEDA’s contract with the contractor. Payment may be withheld from a contractor’s contract for failure to comply with these provisions.

Evidence of a “good faith effort” includes, but is not limited to:

- A. *The Contractor shall recruit prospective employees through the State Job bank website, managed by the Department of Labor and Workforce Development, available online at <http://NJ.gov/JobCentralNJ>;*

- B. *The Contractor shall keep specific records of its efforts, including records of all individuals interviewed and hired, including the specific numbers of minorities and women;*
- C. *The Contractor shall actively solicit and shall provide the NJEDA with proof of solicitations for employment, including but not limited to advertisements in general circulation media, professional service publications and electronic media; and*
- D. *The Contractor shall provide evidence of efforts described at B. above to the NJEDA no less frequently than once every 12 months.*
- E. *The Contractor shall comply with the requirements set forth at N.J.A.C. 17:27.”*

2b. Performance Standards and Guarantees (for Procured Professional Service and Construction Contracts)

The following contract provision language must be included in each Contract or Agreement subject to procurement, which doesn't already include similar performance penalty (i.e. liquidated damages clauses) language.

“Effective and efficient operation of the project is necessary to promote the best interests of all parties, especially the public. To the extent that actions of the Contractor result in failure to meet performance standards, the Owner may suffer damages that could be difficult or impossible to quantify. As a result, situations may arise where the imposition of liquidated damages may be required to compensate for the failure to meet performance standards.

If the Contractor fails to meet any of the performance standards or conditions of the contract, the Owner may withhold payment for damages from the fees or premiums due to the Contractor in an amount equal to the damages stated in this section. Such payments shall not relieve the Contractor of its obligation to remedy any breach of the performance standards to which they relate. Nothing in this section shall limit the Owner's right to seek damages or any other remedy at law or equity not specified in this section.

<i>Scope Description</i>	<i>Performance Requirement</i>	<i>Time Frame</i>	<i>Performance Guarantee</i>

Prior to the assessment of any of the damages as a result of failure to meet performance standards in this section, the Owner shall provide written notice to the Contractor specifying the nature and details of each violation, including reference to the section(s) under which the damages are proposed to be assessed and the amount of the assessment. The Owner's notice, which will be sent to the Contractor after receipt of the Contractor measurement report, will specify whether the Contractor will be required to pay the amount of the assessment to

the Owner or whether the assessed amount will be withheld from the Contractor's next payment(s).

Payment of the Contractor's invoice without resolution of such claims, shall be without prejudice to the Contractor's and Owner's rights and obligations to continue to attempt to resolve such claims or if they are not resolved, assess performance guarantees therefore.

The Owner's decision not to invoke performance guarantees in any instance of performance deficiency shall not be deemed to be a waiver of the Owner's right to invoke performance guarantees in any other instance."

NJEDA LABOR STANDARDS COMPLIANCE REQUIREMENTS

This project is subject to the following and all bidders shall be required to comply with the following:

- A. Section 3 of the Housing and Urban Development Act of 1968
- B. Federal Labor Standards Provisions
- C. The provisions of the Davis-Bacon and Related Acts, federal prevailing wage determinations and New Jersey Prevailing Wage Act (N.J.S.A. 34:11-56.25 et. Seq.)
- D. Anti-Kickback Regulations under Section 2 of the Act of June 13, 1934, known as the Copeland Act.
- E. Equal Employment Opportunity
- F. Affirmative Action requirements (P.L. 1975, C.127, N.J.S.A. 10:5-1 et. Seq.) Bidders are required to comply with the requirements of N.J.S.A.10:5-31 et seq. and N.J.A.C 17:27.

Section 3 of the Housing and Urban Development Act of 1968

Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u) (as amended), requires that economic opportunities generated by certain HUD financial assistance for housing (including Public and Indian Housing) and community development programs shall, to the greatest extent feasible, be given to low and very low-income persons, particularly those who are recipients of government assistance for housing, and to businesses that provide economic opportunities for these persons. Section 3 does apply to all professional services and construction contracts of at least \$100,000.

Section 3 Clause –

Section Compliance in the Provision of Training, Employment and Business Opportunities

- A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). NJEDA- CDBG-DR Administrative Manual (Revised 6/10/15) 90 The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- B. The parties to this contract agree to comply with HUD's regulations in 24 CFR part 135, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 135 regulations.
- C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each, and the name and location of the person(s) taking applications for each of the positions, and the anticipated date the work shall begin.

- D. The contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 135, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 135. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 135.
- E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 135 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR part 135.
- F. Noncompliance with HUD's regulations in 24 CFR part 135 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.
- G. With respect to work performed in connection with Section 3 covered Indian housing assistance, Section 7(b) of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450e) also applies to the work to be performed under this contract. Section 7(b) requires that to the greatest extent feasible (i) preference and opportunities for training and employment shall be given to Indians, and (ii) preference in the award of contracts and subcontracts shall be given to Indian organizations and Indian-owned Economic Enterprises. Parties to this contract that are subject to the provisions of Section 3 and section 7(b) agree to comply with Section 3 to the maximum extent feasible, but not in derogation of compliance with Section 7(b).

Federal Labor Standards Provisions

This project is required to comply with the labor standards provisions as outlined in form HUD-4010.

Davis Bacon and Related Act and NJ Prevailing Wage Act

All laborers and mechanics employed by construction contractors or sub-contractors under contract in excess of \$2,000 financed in whole or in part with grants or loans under the CDBG/DR Program shall be paid wages at rates not less than those prevailing on similar construction. The Davis-Bacon Act as amended (40 U.C.S. 276(a)- et seq) applies to the rehabilitation of residential property only if such property equals or exceeds eight units.

Copeland Act

The Copeland Act, known as the "anti-kickback" prohibition, is applicable to work performed by laborers and mechanics. Implementing Department of Labor regulations provide that all laborers and mechanics shall be paid unconditionally and not less often than once a week and without subsequent deduction or rebate except "permissible" salary deductions. Contractors and sub-contractors are required to submit appropriate weekly compliance statements and payrolls to the Contractors, subcontractors, borrower, and/or sub-recipients.

Equal Employment Opportunity

The selected bidder must comply with a range of Equal Employment Opportunity (EEO) requirement including but not limited to:

- A. The affordance of equal opportunities to all persons;
- B. The prohibition against person being excluded or denied program benefits on the basis of race, color, religion, sex, national origin, age or disability;
- C. The inclusion of and outreach to small, minority, women and veteran-owned businesses; and
- D. Section 3 resident and business employment, training, and contracting opportunities.

Prospective bidders and the selected contractor should familiarize themselves with the NJEDA CDBG-DR Administrative Manual found at www.njeda.com/sandyconstruction. Additional information on Equal Employment Opportunity requirements can be found in Chapter VI.

Affirmative Action

N.J.A.C. 17:27-3.7 requires all contractors and subcontractors, if any, to further agree as follows;

- a. The contractor or subcontractor agrees to make good faith efforts to meet targeted county employment goals established in accordance with N.J.A.C. 17:27-5.2. NJEDA- CDBG-DR Administrative Manual (Revised 6/10/15) 72
- b. The contractor or subcontractor agrees to inform in writing its appropriate recruitment agencies including, but not limited to, employment agencies, placement bureaus, colleges, universities, and labor unions, that it does not discriminate on the basis of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex, and that it will discontinue the use of any recruitment agency which engages in direct or indirect discriminatory practices.
- c. The contractor or subcontractor agrees to revise any of its testing procedures, if necessary, to assure that all personnel testing conforms with the principles of job-related testing, as established by the statutes and court decisions of the State of New Jersey and as established by applicable Federal law and applicable Federal court decisions.
- d. In conforming with the targeted employment goals, the contractor or subcontractor agrees to review all procedures relating to transfer, upgrading, downgrading and layoff to ensure that all such actions are taken without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex, consistent with the statutes and court decisions of the State of New Jersey, and applicable Federal law and applicable Federal court decisions.

This project is also subject to the goals for both its federally involved and non-federally involved construction. The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a) and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

MINORITY PARTICIPATION GOALS

COUNTY	MIN. GOAL (%)	COUNTY	MIN.GOAL (%)
Atlantic	18	Middlesex	24
Bergen	22	Monmouth	15
Burlington	15	Morris	16
Camden	19	Ocean	7

COUNTY	MIN. GOAL (%)	COUNTY	MIN.GOAL (%)
Cape May	5	Passaic	36
Cumberland	27	Salem	10
Essex	53	Somerset	20
Gloucester	9	Sussex	4
Hudson	60	Union	45
Hunterdon	3	Warren	5
Mercer	30		

VOLUNTARY COMPLIANCE AGREEMENT
AND CONCILIATION AGREEMENT

BETWEEN

THE UNITED STATES OF AMERICA
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
OFFICE OF FAIR HOUSING AND EQUAL OPPORTUNITY



AND

LATINO ACTION NETWORK,
NEW JERSEY STATE CONFERENCE OF THE
NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE,
AND
FAIR SHARE HOUSING CENTER
("COMPLAINANTS")

AND

THE STATE OF NEW JERSEY;
AND
THE NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS
("RESPONDENTS")

CASE NUMBERS:

Title VI No.: 02-13-0048-6

TITLE VIII No. 02-13-0303-8

CASE FILED: APRIL 3, 2013

VOLUNTARY COMPLIANCE AGREEMENT AND CONCILIATION AGREEMENT

I. PARTIES

Complainants

Latino Action Network

c/o Frank Argote-Freyre, President
P.O. Box 943
Freehold, NJ 07728

NJ State Conference of the NAACP

c/o Richard Smith, President
4326 Harbor Beach Boulevard, # 775
Brigantine, New Jersey 08203

Fair Share Housing Center, Inc.

c/o Peter J. O'Connor, Executive Director
510 Park Blvd.
Cherry Hill, NJ 08002

Representatives:

Kevin D. Walsh, Esq.
Adam M. Gordon, Esq.
Fair Share Housing Center
510 Park Blvd.
Cherry Hill, NJ 08002

Michael Allen, Esq.
Relman Dane and Colfax, PLLC
1225 19th St NW # 600
Washington, DC 20036

Respondent

State of New Jersey, Department of Community Affairs
c/o Richard Constable, Commissioner
101 S. Broad Street
PO Box 800
Trenton, NJ 08625-0800

Representative: Sanjay P. Ibrahim, Esq.
Parker Ibrahim & Berg

Subject Property

All property assisted by the award of Community Development Block Grant - Disaster Recovery funding under the Disaster Relief Appropriations Act of 2013 (Public Law 113-2) to fund recovery activities related to Superstorm Sandy.

II. INTRODUCTION

On April 3, 2013, Complainants Latino Action Network (“LAN”), and Fair Share Housing Center (“FSHC”) filed a complaint with the U.S. Department of Housing and Urban Development (the “Department” or “HUD”), Office of Fair Housing and Equal Opportunity (“FHEO”), alleging that the State of New Jersey (“State”) engaged in discriminatory housing practices with respect to the provision of services under Title VI of the Civil Rights Act of 1964 (“Title VI”), Title VIII of the Civil Rights Act of 1968, as amended (the federal Fair Housing Act) (the “Act”); Section 109 of Title I of the Housing and Community Development Act of 1974 (“Section 109”) and failed to affirmatively further fair housing.

On April 23, 2013, the complaint was amended to add the New Jersey State Conference of the National Association for the Advancement of Colored People (“NAACP”) as a Complainant and the New Jersey Department of Community Affairs (“DCA”) as a Respondent. The State and DCA are collectively referred to as ‘Respondents’ or ‘Recipients.’ Collectively, the Complainants and Respondents are referred to herein as the “Parties.”

The Recipients agree to enter into this Agreement in order to ensure compliance with their responsibilities under Title VI, Section 109 and the Act, and to affirmatively further fair housing.

The Parties understand that the Respondents deny any violation of law, and that this Agreement does not constitute an admission by the Respondents or evidence of a determination by the Department of any violation of Title VI, Section 109, the Act, or the obligation to affirmatively further fair housing.

The Parties agree that nothing contained in this Agreement shall be construed to be a finding or determination by the Department that the Recipients or any of their agents or employees intentionally engaged in unlawful practices. The Parties agree that nothing contained in this document shall be construed as an admission of liability by the Respondents or any of their agents or employees with respect to the Complainants’ allegations.

The Department and the Respondents, having agreed to settle and resolve voluntarily all disputed issues hereby agree and consent to the terms of this Agreement.

III. DEFINITIONS

Action Plan: The DCA Community Development Block Grant Disaster Recovery Action Plan approved by HUD on April 29, 2013, and any subsequent amendment thereto.

Agreement: This Conciliation Agreement.

Complainants: Collectively, Latino Action Network, Fair Share Housing Center and the New Jersey Conference of the NAACP.

Complaint: The housing discrimination complaint filed by Complainants LAN and FSHC on April 3, 2013 and joined by NAACP on April 15, 2013.

DCA: The New Jersey Department of Community Affairs

DCA's Sandy Website: The URL located at <http://www.state.nj.us/dca/divisions/sandyrecovery/>, as well as the links provided from that webpage and any subsequent URL providing public information about Sandy Recovery programs..

Department or HUD: The United States Department of Housing and Urban Development

Federal Financial Assistance: This includes (1) grants, loans, and advances of federal funds, (2) the grant or donation of federal property and interests in property, (3) the detail of federal personnel, (4) the sale and lease of, and the permission to use federal property or any interest in such property without consideration or at nominal consideration, or at a consideration which is reduced for the purpose of assisting the Recipient, or in recognition of the public interest to be served by such sale or lease to the Recipient, and (5) any federal agreement, arrangement, or other contract which has one of its purposes the provision of assistance. The term "Federal financial assistance" does not include a contract of insurance or guaranty. 24 C.F.R. § 1.2(e).

FHEO: HUD's Office of Fair Housing and Equal Opportunity

Housing Recovery Centers or HRCs: The Housing Recovery Centers operated by DCA to provide information and assistance for applicants regarding CDBG-DR funded programs.

HMFA: The New Jersey Housing and Mortgage Finance Agency

Limited English Proficient (LEP) Persons: Individuals who do not speak English as their primary language and who have a limited ability to read, write, speak, or understand English because of their national origin.

Low- and Moderate-Income (LMI) Persons: Persons with an income as defined by 42 U.S.C. § 5302 (a) (20) (A), meaning, respectively, income that does not exceed 50% of area median income, and above 50% of area median income and that does not exceed 80% of area median income.

Language Assistance Plan (LAP): A written implementation plan that addresses identified needs of the LEP persons they serve. Recipients should have a process for continuously monitoring and updating the Plan.

Party: The Complainants and Recipients.

Recipient(s): The state of New Jersey and the New Jersey Department of Community Affairs, collectively.

Sandy, or Superstorm Sandy: The storm that made landfall in New Jersey on or about October 29, 2012.

Nine Most Impacted Counties: In the State of New Jersey the county jurisdictions of Atlantic, Bergen, Cape May, Essex, Hudson Middlesex, Monmouth, Ocean and Union.

State: The State of New Jersey and each department, agency or other subpart in the New Jersey State government, whether or not directly responsible for CDBG-DR funded activities related to Sandy recovery.

Subrecipient: For purposes of this agreement, the New Jersey Redevelopment Authority, the Housing and Mortgage Finance Agency, the New Jersey Economic Development Authority, and the Department of Environmental Protection. Nothing in this Agreement changes applicable regulatory or judicial interpretations of what constitutes a subrecipient.

Tranche: The anticipated sequential allocation of Sandy CDBG-DR funding referenced in the HUD Notice as 'Round[s]', 78 Fed. Reg. 14329 & 30, and in the Action Plan as 'tranche[s]', p. iii.

Vital Document: Any document that is critical for ensuring meaningful access to the Recipient's major activities and programs by beneficiaries generally and LEP persons specifically.

IV. GENERAL PROVISIONS

- A. The term of this Agreement shall be until six months after the closeout by HUD of the grant(s) to New Jersey of all funds pursuant to Pub. L. 113-2. The effective date is the date on which the Agreement is signed by the representative of the Office of Fair Housing and Equal Opportunity on behalf of HUD.
- B. This Agreement is binding upon all of the officers, trustees, directors, agents, employees, heirs, successors and assigns of the Recipients, when acting in their official capacities on behalf of the State or DCA and the Subrecipients.

- C. This Agreement does not in any way limit or restricts the Department's authority to investigate any complaints against the Recipient pursuant to Title VI, Section 109, the Fair Housing Act, or any other statutory or regulatory authority within the Department's jurisdiction. This Agreement resolves all of the Department's outstanding concerns under these authorities to date.
- D. No amendment to, modification of, or waiver of any provision of this Agreement shall be effective unless all of the following conditions are met: (a) all signatories to the Agreement are notified in advance of the proposed amendment, modification, or waiver; (b) the amendment, modification, or waiver is in writing; and (c) the amendment, modification, or waiver is approved and signed by an authorized representative of the Recipients and the FHEO Director for Region II, or his designee. Any such amendment, modification, or waiver shall be effective only in the specific instance and for the specific purpose for which given.
- E. The Agreement does not increase or diminish the ability of any person or class of persons to exercise their rights under Title VI, Section 109, the Fair Housing Act, or any other federal, state, or local civil rights statute or authority. This Agreement does not create any private right of action for any person or class of persons not a party to this Agreement.
- F. The Recipients acknowledge that they have an affirmative duty not to discriminate under the Act and that it is unlawful to retaliate against any person or entity because that person or entity has made a complaint, testified, assisted, or participated in any manner in a proceeding under the Act. The State will administer all Action Plan programs in a manner that provides fair housing choice to people of all backgrounds without discrimination.
- G. The State will ensure that all construction, reconstruction and rehabilitation of damaged, assisted housing will be conducted in a manner that affirmatively furthers fair housing and is compliant with the Fair Housing Act and the Americans with Disabilities Act.
- H. All of the provisions of this Agreement are applicable to actions taken by Recipients following the effective date of the Agreement, without regard to when the CDBG-DR funding was allocated, unless otherwise specified.
- I. Within thirty (30) days of the effective date of this Agreement, Recipients shall inform all contractors, employees and the principals of Subrecipients, responsible for compliance with this Agreement, including any officers and board members, of the terms of this Agreement and shall provide each such person with a copy of this Agreement.
- J. This Agreement will be a public document upon its effective date. A copy of this Agreement shall be made available to any person for his/her review.

- K. For the purposes of this Agreement, “days” refers to calendar days. If the reporting day falls on a weekend or a federal holiday, the report will be due the first business day after the weekend or holiday.
- L. This Agreement does not supersede, or in any manner change the rights, obligations and responsibilities of the Parties under any and all court orders, or settlements of other controversies involving compliance with federal or state civil rights statutes.
- M. This Agreement does not affect any requirements for the Recipient to comply with all requirements of the Act, Title VI or Section 109 not addressed in this Agreement.
- N. The Recipients shall designate appropriate personnel to coordinate compliance with this Agreement and communicate with the Department about the Agreement upon request at a mutually convenient time.
- O. The Parties agree that the execution of this Agreement may be accomplished by separate execution of consents to this Agreement, and that the original executed signature pages attached to the body of the Agreement constitute one document.
- P. The Parties further agree that if the Department, Complainants or Respondents discover any typographical errors after the execution of this Agreement, the Department is authorized to correct such errors without the consent of the Parties.
- Q. The Department shall accept as true and official execution of this Agreement, a scanned or faxed copy of the executed signature page(s) contained in Section X. of this Agreement.
- R. Complainants’ signatory hereby acknowledges legal and binding authority to hereby execute this agreement on behalf of all named Complainants in this matter.
- S. Respondents’ signatory hereby acknowledges legal and binding authority to hereby execute this agreement on behalf of all named Respondents in this matter.
- T. For purposes of this Agreement, the required reports and documentation of compliance must be submitted simultaneously to:

Jay Golden, Regional II Director
Office of Fair Housing and Equal Opportunity
U. S. Department of Housing and Urban Development
26 Federal Plaza, Room 3532
New York, NY 10278
Jay.Golden@hud.gov

Wanda S. Nieves, Newark FHEO Center Director
Office of Fair Housing and Equal Opportunity
U. S. Department of Housing and Urban Development
One Newark Center, 13th Floor
Newark, NJ 07102
Wanda.S.Nieves@hud.gov

IV. RELIEF IN THE PUBLIC INTEREST

A. Fund for Restoration of Multi-Family Housing (FRM)

1. Recipients will allocate an additional \$215,000,000.00 for the Fund for Restoration of Multi-Family Housing in addition to the \$379,520,000.00 previously allocated to FRM.
2. Recipients, recognizing the significant need to support the replacement and development of multifamily housing to serve renters displaced by Superstorm Sandy, may reallocate additional funds that are not utilized or needed in any other program from CDBG-DR funding to FRM, subject to approvals required by HUD, from other programs in the approved Action Plan, in any future amendment to the Action Plan relating to the use of CDBG-DR funds, but will not reallocate funds from other programs that have been identified as serving the needs of renters, namely those programs identified as “Renter Housing and Rental Programs” in Exhibit B-1 to the March 25, 2014 Action Plan.
3. Recipients shall allocate FRM funds for all three rounds by county in accordance with percentages that are generally proportionate to the amount of damage experienced in each of the nine impacted counties. This calculation shall include funds that have already been allocated and funds to be allocated. The State agrees to set aside the following minimum percentages of the total amount allocated for FRM from all CDBG-DR funds, including but not limited to all funds allocated in the first and second tranche CDBG_DR Action Plan and any funds allocated from future federal funds and/or unexpended funds allocated from other programs pursuant to this agreement: Monmouth and Ocean Counties, 52 percent, Atlantic County, 20 percent. The State shall also give preference to the most impacted communities within each county using a prioritization list such as that proposed by NJ HMFA in May 2014 or a substantially similar list based on the degree of major and severe damage to renters.
4. Recipients shall set aside at least 60 percent of the total amount allocated for FRM from all CDBG-DR funds for developments outside Targeted Urban Municipalities (TUMs), which shall be defined for this Agreement pursuant to the definition in the rule adopted by the New Jersey Housing and Mortgage Finance Agency at 45 N.J.R. 1511(a), and the remainder shall be allocated to developments inside TUMs.

5. Of the total FRM funds a minimum of 60 percent of the total amount allocated for FRM from all CDBG-DR funds both outside TUMs and overall shall be dedicated to units that are open to families with children without preference or restriction other than described in this Agreement and affirmatively marketed to those people and groups “least likely to apply” as required by the New Jersey Qualified Allocation Plan as adopted at 45 N.J.R. 1511(a). State Uniform Housing Affordability Control, N.J.A.C. 5:80, requirements on bedroom distribution shall control.
6. The set-aside process for most impacted counties, TUMs, and families with children described above shall be implemented as follows. The State shall provide an initial application period of at least seventy-five (75) days after the effective date of guidelines adopted by NJ HMFA incorporating this set-aside process, which application process shall only require the documents referenced in Section 1 of the FRM Document Checklist proposed by NJ HMFA in May 2014, excluding the Resolution of Need, which to the degree required by state statute may be required by the time of final commitment of funds. The State shall then provide a list of the initial applications received including a listing by county, TUM/non-TUM, and families with children/other. Final applications, including the documents referenced in Section 2 of the FRM Document Checklist (exclusive of, Treatment Works Approval, CAFRA approvals, and Pinelands approvals which shall be closing requirements and not application criteria), shall be due no earlier than October 30, 2014. In the event there are not enough eligible applications from the most underserved counties and/or outside of TUMs and/or serving families with children to result in these allocations as of the October 30, 2014 deadline, Recipients agree to reserve sufficient funds required to meet those targets in subsequent rounds. In scheduling any future rounds, HMFA shall report to the public the allocation of funding designated to each underserved county, inside/outside of TUMs, and serving families with children in order to meet the funding targets. HMFA will schedule any subsequent rounds giving applicants sufficient time to prepare development plans. If, after two subsequent funding rounds, the targets have not been met, the HMFA may allocate the funds as required to generally meet the needs of low and moderate income households.
7. Recipients shall require that at least 50 percent of the units of each bedroom size in each FRM development approved by HMFA after the effective date of this Agreement shall be affordable to households at or below 50 percent of Area Median Income, including that at least 10 percent of units of each bedroom size shall be affordable to households at or below 30 percent of Area Median Income. Up to 15 percent of housing funded in TUMs may be made available to households between 60%-120% of area median income, thus providing income diversification.
8. Unless a specific action is required by federal statute or regulation, municipal support or funding for a development shall not be a point factor in any funding decisions for FRM funding provided that to the degree a resolution of need is required by state statute, Recipients may require such resolution by the time of final commitment of funds.
9. Recipients will require the greater of 15-year affordability or the length of affordability and/or extended use period required by any non-FRM source of

funding used in the project by deed restriction on all new affordable rental housing approved by the HMFA Board for funding via the Section 4.2.1, Fund for Restoration of Multi-Family Housing after the effective date of this Agreement. Nothing in this Agreement shall be interpreted to require that the deed restriction provided to enforce the length of affordability shall require monitoring by the CDBG-DR program for any period longer than required by federal statute or regulation; monitoring pursuant to other established federal and/or state programs shall be acceptable.

10. To minimize relocation and enable return of residents to their pre-storm communities, Recipients will require, as a contractual condition of all loans or grants for developers and operators of rental housing assisted under the Action Plan, including both FRM and any other rental housing funds for which a final commitment of funds is made after the effective date of this agreement, that such units will be made available for the first 90 days to LMI applicants who were displaced by and/or experienced major or severe damage from Superstorm Sandy based on either FEMA registration or alternative proof of damage, impact or displacement, as to be further set forth in a policy to be adopted by the HMFA.
 11. Unless required by federal statute or regulation, no household occupying, or which hereafter occupies, an affordable unit approved by HMFA for funding through FRM after the effective date of this Agreement shall be evicted solely because the household income rises above the initial income eligibility ceiling.
 12. Within sixty (60) days of the effective date of this agreement, the New Jersey Housing and Mortgage Finance Agency shall adopt modifications to its FRM Program Guidelines consistent with this Agreement.
- B. Fund for Restoration of Multifamily Housing (FRM) – Public and Assisted Housing and Sandy Special Needs Housing Fund (SSNHF)
1. The \$30,000,000 in FRM-Public Housing funds in the first and second tranche Action Plans and the \$60,000,000 in SSNHF funds referenced in this agreement shall be considered as separate from the FRM funds and not subject to the requirements outlined above in section IV(A) of this Agreement; all other FRM funds shall be subject to the requirements outlined above in section IV(A).
 2. No later than 45 days after the effective date of this Agreement, Recipients will consult with all Public Housing Authorities (PHAs) in the State, and assisted housing owners and operators to detail the damage to these homes by Superstorm Sandy, and prepare, submit to HUD and post on the DCA's Sandy Website, a detailed description of the type and degree of damage from Sandy to PHA-owned and operated and assisted housing, by development and building, including a comprehensive cost estimate for remaining repairs, and describe the remaining unmet needs to recover from Superstorm Sandy so that reasonable mitigation measures can be undertaken. As

part of this analysis, the State shall indicate which public or assisted housing still have units damaged by Sandy that remain uninhabitable as of the time of the analysis, and prioritize funding to address unmet needs to rehabilitate or reconstruct those units without loss of number of units or number of bedrooms per unit in the municipality in which those units existed before Sandy.

3. No returning resident duly qualified for public or assisted housing prior to Sandy will be subject to any recertification requirement except continuing household income qualification if required by other applicable federal regulations and assignment to unit with the number of bedrooms if required by the applicable regulations. No household will be denied the right to return hereunder because of a change in household members if the head of household or a majority of members of the pre-Sandy household apply to return but may be required to occupy a unit with the number of bedrooms required by the applicable regulations.
4. Notwithstanding any agreement in any other matter, Recipients shall allocate at least an additional \$10,000,000 for SSNHF which shall result in total SSNHF funding from CDBG-DR funds of no less than \$60,000,000.
5. DCA will apply for a waiver necessary to allow CDBG-DR funds to be layered with other federal funding sources such as HOME to produce supportive housing and/or other affordable rental housing.

C. Tenant Based Rental Assistance

1. CDBG-DR tenant-based rental assistance is restricted to three months unless specified by a waiver authorized by HUD. A waiver request is pending with HUD to allow the assistance for a maximum of 24 months. Provided HUD approves any and all necessary waivers, Recipients will continue to develop a Tenant-Based Rental Assistance Program and apply to HUD for any waivers necessary to implement the program.
2. Recipients shall allocate at least an additional \$15,000,000 for tenant-based rental assistance. Such funds shall supplement, and not supplant, the \$17,000,000 proposed by the State to be reallocated from the Landlord Incentive Program to tenant-based rental assistance.
3. These funds shall be allocated as follows:
 - a. There will be a preference for households at or below 30% of area median income;

- b. At least 75% of the additional \$15,000,000 in rental assistance must be used for families at or below 30% of area median income;
- c. Recipients agree to provide vouchers of up to 130% of fair market rent to enable recipients to move to municipalities and neighborhoods that have few vouchers, subject to any necessary approvals by HUD.
- d. DCA will establish policies and procedures for operation of this program, will post the policies and procedures on DCA's Sandy Website before initiating the program; the state will, within 120 days after adoption hold training for, all SHRAP provider organizations and other interested community-based organizations. DCA will also include outreach and counseling for these vouchers as part of the contract required in Section VI. F.

- 4. To the greatest extent feasible, households wishing to return to their pre-Sandy community with this assistance shall be supported and funded to do so.
- 5. These funds may, subject to approvals required by HUD, be reallocated from other CDBG-DR programs, provided that no such funds shall be reallocated from other programs that have been identified as serving the needs of renters, namely those programs identified as "Renter Housing and Rental Programs" in Exhibit B-1 to the March 25, 2014 Action Plan. These funds may also, subject to approvals required by HUD, be allocated from additional CDBG-DR funding that may become otherwise available.
- 6. Recipients agree to apply for any available HUD funding to support additional rental vouchers to meet the housing needs of New Jersey renters.

D. Review of RREM Applicants Determined to be Ineligible and Status for Wait Listed Applicants

- 1. DCA shall, within one hundred and fifty (150) days of execution of this Agreement, complete a review of all applicants initially found ineligible for the RREM program who have not filed an appeal, using the same review process already in place for people who have filed an appeal. DCA has completed its review of all persons who filed an appeal. DCA shall provide all applicants initially found to be ineligible with a determination of whether upon review they are eligible or not, any documents that DCA still needs to fully process their application, a mechanism by which applicants can get information on the status of their

application, and an explanation of the determination, the right to appeal a final decision to the Office of Administrative Law, and the information customarily required in a New Jersey court filing pursuant to N.J. Rules of Court 4:4-2 regarding the ability to find an attorney through the Lawyer Referral Service or Legal Services of New Jersey, which information shall be provided consistent with the LEP requirements in this Agreement.

2. For any applicant deemed to be eligible in the above-described review, the applicant shall be placed in the order of priority that the applicant would have been in had the application initially been accepted, and funded according to that priority. Recipients shall ensure sufficient funds remain in the RREM program to effectuate this priority.
3. Within thirty (30) days of the completion of the review required pursuant to this subsection, DCA shall provide to FHEO an updated version of the information required to be provided with respect to the RREM program pursuant to this Agreement and an analysis of the application approval rate for RREM by race, ethnicity and income. DCA shall as part of that report provide an assessment of any further adjustments necessary to reduce or eliminate disparities.
4. DCA shall develop and implement a system through which all RREM applicants can receive the most current information on their application's status by telephone, consistent with the LEP requirements in this Agreement.

E. LMI Homeowners Rebuilding Program

1. DCA shall administer a new program serving homeowners who were not served by the prior RREM program, limited to the LMI populations, particularly those who are LEP, of the nine impacted counties. DCA has committed \$40 million for this program; a minimum of \$10 million of the funds committed to this program shall be initially reserved for owners of manufactured housing whose homes were damaged, subject to HUD's approval if necessary. DCA agrees to make available to the public, including on DCA's Sandy Website, the eligibility criteria for the program, including the manufactured housing component, at or before the time that the program opens to applicants.
2. Funding for the new program not needed for the manufactured housing plan described above shall be distributed to homeowners not previously served by RREM with major or severe damage. The application process shall be in all aspects implemented in concert with the housing counseling and outreach and LEP requirements in this Agreement, and shall be open to the nine previously identified most impacted counties. DCA will accept alternative proof of substantial damage for applicants who are unable to or cannot get a substantial damage letter in this program, using

the same provisions provided for RREM in the LEP section of this agreement.

3. Any funds remaining from implementation of this program or from other allocations to the RREM program may be reallocated to the FRM program and DCA may provide that such reallocation will happen as part of its CDBG-DR third tranche action plan so that no further approvals will be needed for such reallocation to take place.

F. Housing Counseling and Outreach

1. Recipients shall implement outreach and housing counseling services to LMI homeowners and renters as follows:

- a. DCA has identified organizations and community partners who will conduct additional robust outreach for the FRM and LMI Homeowners Rebuilding programs in the nine most impacted counties. DCA will fund those outreach efforts with funds totaling \$2 million beginning in July 2014. As part of these efforts, DCA shall provide outreach to LEP communities in each of the nine impacted counties by contracting or subcontracting with community-based organizations with experience working with racial or ethnic minority communities and low and moderate income people in that county in areas most heavily impacted by Sandy, including LEP communities, and the majority of the outreach funding shall be provided to organizations with such experience.

- b. DCA will convene, within 10 days from the date of execution of this agreement, a meeting of a working group to discuss community outreach planning. The Complainant organizations will be invited to this meeting.

- c. DCA will provide housing counseling services through its existing network of HUD-certified housing counseling agencies and, if needed, may issue a separate RFP for such services in the nine previously identified most impacted counties. A proposal may include one or more counties. These housing counseling agencies will provide comprehensive counseling services for both homeowners and renters in order to identify all available homeowner and renter programs and other available resources and to assist with both the application and processing once approved, all in one-stop locations in all nine previously identified most impacted counties. Housing counseling shall be provided in facilities located in lower-income communities impacted by Superstorm Sandy. The counseling shall include financial literacy training, fair housing counseling including mobility counseling and fair housing rights, and any assistance needed to residents of public and assisted housing that are required to be relocated. Counseling agencies shall be required to demonstrate

their ability to collect and report agency and client-level data including client intake, file maintenance, financial and credit analysis, outreach, client notification, and reporting pursuant to 24 CFR 214.103 (f), and meet any additional requirements to interface with state and federal reporting on CDBG-DR funds including but not limited to collecting and reporting the information required pursuant to the Recordkeeping and Reporting provisions of this Agreement.

d. LEP services: All outreach and housing counseling services provided pursuant to this section shall be performed in accordance with the State's LAP. The specific references to LEP communities above shall not be construed as limitations on the full compliance of all such services with the LAP.

e. Recipients agree to provide a minimum of \$2 million per year for housing counseling services until and including the year when the HUD closeout for the CDBG-DR funding occurs, with the final year to be prorated depending on when the closeout occurs and if CDBG-DR funds are available.

G. Access to All CDBG-DR Funded Programs for LMI and LEP Persons who are Potentially Eligible for the Programs

1. Pursuant to the non-discrimination requirements of Title VI at 24 C.F.R. § 1.4, the Recipients are required to take reasonable steps to provide meaningful access to federally funded programs for LEP persons. To comply with their Title VI LEP obligations, the Recipients agree to take the following actions.

a. Completion of Four Factor Analysis. Within 60 days of execution of this Agreement, DCA shall provide a complete Four-Factor Analysis for the nine most affected counties as referenced in the HUD LEP Guidance and shall submit a copy to FHEO. This shall include determining the following:

i. Number or proportion of LEP persons eligible to be served or likely to be encountered by the program, supported by census data or other relevant data, including language for LEP populations of 5% or 1,000 persons in each of the nine most affected counties, considering all languages in the following chart: