

**INSTRUCTIONS - REQUEST FOR QUOTATION
TO SELECT A CONTRACTOR TO IMPLEMENT A
STORAGE BUILDING RENOVATION PACKAGE**

PROJECT # A1257-07

**Department of Military and Veteran Affairs
Vineland Veterans Memorial Home
Vineland, NJ 08809**

**ESCO: CENTRICA BUSINESS SOLUTIONS (“CBS”)
MANDATORY SITE WALK-THROUGH THURSDAY JANUARY 12th, 2023 (1PM-3PM)
REQUEST FOR INFO. DUE: NO LATER THAN 2:00 PM ON FRIDAY, JANUARY 20th, 2023
QUOTATIONS DUE: NO LATER THAN 2:00 PM ON FRIDAY, FEBRUARY 3rd, 2023**

Revision 1 Item	What Changed?
a	
b	
c	
d	

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**Request for Quotation:
General Guidelines and Instructions for Quoting CONTRACTORS**

The response to the RFQ shall set forth the proposed fee (the “MBVRP Fee”) to be paid to the CONTRACTOR to implement the WAREHOUSE RENOVATIONS PROJECT, details of which are set forth more fully herein. If CBS elects to implement the MBVRP, CBS and the CONTRACTOR will initially enter a negotiated contract setting forth the CONTRACTOR’s obligation to provide all construction work, including all labor, materials, equipment and fees required for the implementation of the MBVRP. Pursuant to the negotiated contract, the CONTRACTOR will procure all subcontract trades in accordance with the Energy Savings Improvement Program Law, N.J.S.A. 52:34-25, *et seq.*, (the “ESIP Law”) and all applicable State contracting requirements.

Pursuant to N.J.S.A. 34:11-36, all ESIP work that meets the definition of “public work” is subject to prevailing wage rates. Each subcontractor chosen by the CONTRACTOR shall certify that all employees have completed a registered apprenticeship program that provided each trainee with combined classroom and on-the-job training under the direct and close supervision of a highly skilled worker in an occupation recognized as an apprentice-able trade, registered by the Office of Apprenticeship of the United States Department of Labor (the “Office”) and meeting the standards established by the Office, or registered by a State apprenticeship agency recognized by the Office. Refer to “A1257-08 Main Bldg. Vestibule Renov. Bid Docs” section on Certification for Subcontractors - Required Apprenticeship Program and Trades it applies.

Each CONTRACTOR’s quotation shall include: (1) a firm lump-sum fee (the “MBVRP Fee”) to cover all costs associated with scope of MBVRP and (2) unitary costs for adders and deducts.

The ESIP Agreement contemplated by this RFQ will require the awarded CONTRACTOR to perform the following tasks, but not limited to:

- Obtain appropriate work permits. **DCA Permits will be paid to DCA by CBS.**
- Perform the engineering for the fire protection system and submit shop drawings for DCA approval.
- Perform the Safe renovation of Warehouse Renovation SOW.
- Provide as-built documentation, cut sheets, O&M instructions, warrantee information.
- Proper disposal and recycle manifests.
- Demonstrate that the installation operates as intended.
- Training maintenance staff on new systems.
- Coordinate with CBS’s project team as required.
- Submit progress payment authorizations based on an agreed schedule of values.
- All installed equipment and workmanship shall be warrantied for a minimum period of one year after customer acceptance. All parts, labor and costs will be covered during this period.
- Coordination of tie-ins is required. All interruptions shall be coordinated and scheduled with the staff with plenty of advanced notice.
- Perform other tasks reasonably deemed to be necessary and appropriate by the contract documents.
- Compliance with local and VVMH Covid work requirements is included.

I. SCOPE INTRODUCTION AND GENERAL OVERVIEW

Engineered Final Design for Installation Specifications and Drawings supersede the information provided in the below A. General Overview.

Executive Summary and Background

The goal of this project is to renovate the existing Storage Building to allow for more adequate and accessible storage of facility materials. The existing building is the old kitchen building with associated kitchen equipment that was abandoned in place and the building is being used to store materials for the facilities department. Problem issues with the current warehouse layout is floor space, equipment interferences, fire protection not to code and associated HVAC and lighting.

New Building Layout

Various options for the renovation of the warehouse were discussed and reviewed. The ultimate scope of work is finalized as part of the design work. Based upon discussions, the ultimate goal of this project is to remove walls, equipment, and associated material to maximize floor space for storage of material.

II. ESIP PROJECT INSTRUCTIONS TO BIDDERS

IB i. Timetable

Centrica Business Solutions (CBS) anticipates that the selection process described below will follow the schedule of the following critical dates:

ANTICIPATED SCHEDULE OF EVENTS

Activity	Date
Request for Quotation Released	Friday January 5, 2023
Mandatory Pre-Quotation Meeting and Site Visit	Thursday, January 12, 2023 (1PM-3PM)
Cut-off date for CONTRACTOR questions and requests for clarifications	Wednesday, January 25, 2023 (1PM)
CBS responses to all CONTRACTOR questions and requests for clarifications	Tuesday, January 31, 2023
Quotations Due	Friday, February 3, 2023 (1PM)
Post Bid review with lowest responsible Bidder	TBD, within 5 Business Days of Bid
Bidders to Hold Pricing	60 Business Days from Quote

Note (for guidance): CBS will be negotiating contract with the lowest responsible Bidder and be ready to execute Agreements, Award Contract, and issue Notice to Proceed.

IB ii. Mandatory Pre-qualification Conference and Site Visit(s)

CBS will conduct a mandatory pre-quotation meeting and site visit of the buildings that have been included within the scope of this RFQ. The pre-quotation meeting is mandatory to ensure that proper communication is established between CBS and classified CONTRACTORS, that CBS's program expectations are addressed and understood by all CONTRACTORS, all relevant project data is delivered to the CONTRACTORS and that all facility inspections are properly coordinated through designated personnel. The mandatory pre-quotation meeting and site visit will occur **at 1:00 p.m., Thursday, January 12, 2023, at the DMAVA Vineland Veterans Memorial Home, 524 North West Boulevard, Vineland, NJ 0860-2895. Meeting will start at the Warehouse Building.** CBS reserves the right, at its discretion, to schedule one or more additional site visits on another day and/or subsequent days if circumstances require. All questions from participating CONTRACTORS shall be in writing, and, together with all responses by CBS, shall be distributed to all participating CONTRACTORS in a written Bulletin, which shall become part of the contract documents.

Any participating CONTRACTOR may submit a written request for information or clarification up to the cut-off date provided in paragraph "IB i." above. CBS shall respond in writing to each such request and shall distribute all requests and responses to all participating CONTRACTORS. All such requests and responses shall become part of the contract documents. Quotations will not be accepted

from a CONTRACTOR that has not participated in the mandatory pre-quotation meeting and site visit of the buildings included within the scope of this RFQ.

IB iii. Questions or Requests for Information

Classified CONTRACTORS shall direct all questions or requests for information or clarifications in writing, by electronic mail, to the CBS Construction Manager at the address below. All questions and/or requests for information must contain contact information for the primary person to whom the response can be directed. Responses to all questions received will be distributed to all participating firms in the form of a Bulletin.

All questions and/or requests for information must be submitted in writing and reference the section of the RFQ and page number to which the question and/or the RFQ pertains. Questions should be asked in consecutive order, from beginning to end, following the organization of the RFQ. Except for questions regarding RFQ formatting or procedure, there will be no response to oral inquiries. Questions must be submitted **no later than 1:00 p.m., Wednesday, January 25, 2023**. Classified CONTRACTORS are urged to submit questions pertaining to substantive terms of the RFQ or the proposed contractual relationship as soon as possible, to maximize the time available to respond to those questions before the quotation is due. CBS shall forward to each submitting CONTRACTOR all submitted questions received by CBS together with CBS's responses thereto in the form of a Bulletin.

IB 1 Bid Quotes

IB 1.1 Sealed Quotes for the work described herein must be received and time-stamped at:

Centrica Business Solutions (CBS)
VVMH Maintenance Building Field Office
Vineland Veterans Memorial Home
524 NW Boulevard
Vineland, NJ 08809
Attn: Christopher Reeves, CBS Construction Superintendent
Phone #: 615-542-2058; Email: Christopher.Reeves@centrica.com
ca

The closing date and time for bids will be stated in the Advertisement for Bid. Bidders are cautioned that reliance on the US Postal Service or other mail delivery or courier service for timely delivery of Quotes is at the bidders' risk. Failure by a bidder to have a sealed Quote reach **Centrica Business Solutions** by the prescribed time will result in rejection of the unopened submission.

The costs of preparing a quotation in response to this RFQ, including, but not limited to the costs associated with site visits and preliminary engineering analyses, will not be reimbursed by CBS.

IB 1.2 Bids may be accepted on the following branches of work, as applicable:

- a. Lump Sum All Trades
- b. General Construction
- c. Plumbing
- d. Heating, Ventilating and Air Conditioning
- e. Fire Protection

- f. Electrical
- g. Special Categories as may be required

IB 1.3 Contractors classified by DPMC may obtain contract documents reach ***Centrica Business Solutions***. Each bidder is herewith put on notice that its general classification by DPMC is not the sole basis for qualification for the award of work. CBS reserves the right to deny award to any bidder that is not clearly responsible, based upon experience, past performance, financial capability or other material factors, to perform the work required herein.

IB 1.4 There is no cost for bid documents.

IB 1.5 Bid Quotes based upon the plans, specifications, general, special, and supplementary conditions and bulletins shall be deemed as having been made by the contractor with full knowledge of the conditions therein. Bidders are required to visit the site prior to submitting Quotes for the work herein described, and to have thoroughly examined the conditions under which the contract is to be executed, including those reasonably observable conditions of the premises which would hinder, delay, or otherwise affect the performance of the contractor required under the terms of the contract. CBS will not allow claims for additional costs because of the contractor's failure to become aware of the reasonably observable conditions affecting its required performance. The bidder is required to make appropriate allowances in the preparation of the bid for the accommodation of such conditions. Bidders must warrant in the bid documents that the bidder is familiar with conditions existing at the site at the time the bid is submitted.

IB 1.6 Bid Quotes shall be submitted on the standard form provided by CBS. The name and address of the bidder must be indicated on the envelope, as well as indication of the project number, project location and other appropriate identification.

The Bidder must submit an original and **two (2)** bound copies of the Required Bid Documentation.

IB 1.7 All amounts in the bid documents shall be stated in numerical figures only.

IB 1.8 The bidder must include in the bid envelope: (1) the Quote signed by the bidder, (2) the executed affidavit of non-collusion, (3) the executed Source Disclosure Certification Form as further described in section IB1.11, (4) the executed Disclosure of Investment Activities in Iran Form, (5) bid security as further described in Section IB6 and (6) Registered Apprenticeship Program Compliance certification form.

IB 1.9 Quotes shall remain open for acceptance and may not be withdrawn for a period of 75 calendar days after the bid opening date.

IB 1.10 Quotes not submitted and filed in accordance with instructions contained herein and in the Advertisement for Bids may be rejected as non-responsive.

IB 1.11 Procurement Reform

- a. RESTRICTIONS ON POLITICAL CONTRIBUTIONS - Chapter 51 is not applicable to CBS subcontractors.
- b. Source Disclosure Certification - Pursuant to N.J.S.A. 52:34-13.2, *et seq.*, all bidders submitting a Quote shall be required to complete a Source Disclosure Certification that all services will be performed in the United States. The bidder shall disclose the location by country where services under the contract will be performed and any subcontracted services will be performed. The Source Disclosure Certification will be attached to the bid Quote.

- c. MacBride Principles - Pursuant to N.J.S.A. 52:34-12.2, a bidder must complete a certification on the form provided prior to contract award to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates pursuant to N.J.S.A. 52:34-12.2, that the bidder has no ongoing business activities in Northern Ireland and does not maintain a physical presence therein through the operation of offices, plants, factories, or similar facilities, either directly or indirectly, through intermediaries, subsidiaries or affiliated companies over which it maintains effective control; or will take lawful steps in good faith to conduct any business operations it has in Northern Ireland in accordance with the MacBride principles of nondiscrimination in employment as set forth in N.J.S.A. 52:18A-89.8 and in conformance with the United Kingdom's Fair Employment (Northern Ireland) Act of 1989 and permit independent monitoring of their compliance with those principles. If a contractor who would otherwise be awarded a contract or agreement does not complete the certification, then CBS may determine, in accordance with applicable law and rules, it is in the best interest of CBS to award the contract or agreement to the next responsible bidder who has completed the certification. If CBS finds the contractor to be in violation of the principles which are the subject of this law, s/he shall take such action as may be appropriate and provided for by law, rule or contract, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the contractor in default and seeking debarment or suspension of the contractor.
- d. Investment Activities in Iran - Pursuant to N.J.S.A. 52, 32-55, *et seq.*, any person or entity that submits a bid or Quote or otherwise proposes to enter into or renew a contract must complete a certification with their bid on the form provided to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates, is identified on the Department of Treasury's Chapter 25 list as a person or entity engaging in investment activities in Iran. The Chapter 25 list is found on the Division of Purchase and Property's website at www.state.nj.us/treasury/purchase/pdf/Chapter25List.pdf. Bidders must review this list prior to completing the certification. Failure to complete the certification may render a bidder's Quote non-responsive. If CBS finds a person or entity to be in violation of law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.

IB 2 Bid Modification

IB 2.1 A bidder may modify its bid Quote by electronic mail or letter at any time prior to the scheduled closing time for receipt of bids, provided such communication is received by CBS prior to such closing time. A mailed-confirmation of any modification signed by the bidder must have been mailed and time-stamped by the US Postal Service prior to the specified closing time. Such confirmation, whether transmitted electronically or by mail, shall be accompanied by a newly executed affidavit of non-collusion.

IB 2.2 Communications shall not reveal the basic bid price but shall only provide the amount to be added, subtracted, or modified so that the final prices or terms will not be revealed until the sealed Quote is opened. If written confirmation of the telegraphic modification is not received two working days before the scheduled closing time, no consideration will be given to the telegraphic modification.

IB 2.3 Bids may be withdrawn upon receipt of a bidder's written request prior to the time fixed for the bid opening. A bidder's right to withdraw a bid is lost after a bid has been opened. If an error has been made in the bid amount, request for relief from the bid may be made in writing to CBS. The written request shall be signed by an authorized corporate officer. A determination of whether the bidder will be released shall be at the sole discretion of CBS, who shall issue a finding within five working days of receipt of all pertinent information relating to such request for relief.

IB 3 Consideration of Bids

IB 3.1 Award of Contracts or Rejection of Bids:

- e. Contracts will be awarded to the lowest responsible bidder. The awards will be made, or the bids rejected, within 75 calendar days from the date of the opening of bids. At the discretion of CBS, a bid extension may be requested from the bidders if circumstances warrant an extension.
- f. CBS reserves the right to award the contract on the basis of the single bid for the entire work, or on the basis of a separate bid and alternate, or any combination of separate bids and alternates, which CBS deems best serves the interest of the State.
- g. CBS reserves the right to waive any bid requirements when such waiver is in the best interests of the State, and where such waiver is permitted by law. Such waiver shall be at the sole discretion of CBS.
- h. CBS reserves the right to reject any and all bids when such rejection is in the best interests of the State. CBS also may reject the bid of any bidder which, in CBS's judgment, is not responsible or capable of performing the contract obligations based on financial capability, past performance, or experience.

IB 3.2 The bidder to be awarded the contract shall execute and deliver the requisite contract documents, including payment and performance bonds, within the time specified. Upon the bidder's failure or refusal to comply in the manner and within the time specified, CBS may either award the contract to the next low responsible bidder or re-advertise for new Quotes. In either case, CBS may hold the defaulting bidder and its surety liable for the difference between the applicable sums quoted by the defaulting bidder and the sum which CBS may be obligated to pay to the contractor which is contracted to perform and complete the work of the defaulting bidder.

IB 4 Awards

IB 4.0 In executing a contract, the successful bidder agrees to perform the required work in a good and workmanlike manner to the reasonable satisfaction of CBS, and to complete all work within the number of calendar days specified in its contract.

IB 4.1 Successful bidders will be notified of the time and place for the signing of contracts. Key requirements in the contract, including, but not limited to, the number of days of performance of the contract, manner and schedule of payments, and other administrative details will be reviewed at the award meeting. The time and place of the first job meeting will be announced at the award meeting. Refer to "A1257-08 Main Bldg. Vestibule Renov. Bid Docs" section on Firm Bid requirements stating that the project will be fully completed and ready for occupancy within a certain number of calendar days.

IB 4.2

IB 4.3 CBS reserves the right to award the contract upon the basis of a single bid for the entire work, or based on separate bids for each prime trade when the total of the separate bids is less than the single bid. Alternates will be accepted or rejected in numerical sequence as cited in the bid documents and shall not be selected at random except as provided herein. Add alternates and deduct alternates will be specified separately. CBS may choose from the add and deduct alternates without priority between the two groups so long as selection within each group is in numerical sequence from the first to the last. This limitation shall not apply, however, to any alternates concerning proprietary items. CBS, with the approval of the Using Agency, may accept alternates out of sequence, provided CBS states the reasons for so doing, in writing, within five working days following the opening of bids.

IB 4.4 Should submission of unit prices be required for specified items of work in bid Quotes, they will be considered in the evaluation of bids as set forth in the bid Quote form.

IB 4.5 The successful bidder and all of its subcontractors are required to comply with the requirements of N.J.S.A. 10:5-31 et seq., regarding Equal Employment Opportunity in Public Works Contracts.

IB 5 Qualification of Bidders

IB 5.1 If the successful bidder is a corporation not organized under the laws of the State of New Jersey or is not authorized to do business in this State (foreign corporation), the award of the contract shall be conditioned upon the prompt filing by the said corporation of a certificate to do business in this State and complying with the laws of this State in that regard. This filing must be made with the Division of Revenue. No award of contract will be made until the Division of Revenue confirms this authorization.

IB 5.2 CBS requires that each contractor, except in the case of a single contractor, shall perform a minimum of 35 percent of the contract work by the contractor's own forces. However, CBS has the sole discretion to reduce this percentage depending upon the nature and circumstances in any case, if CBS determines that to do so would be in the best interests of the State and provided that the bidder submits a written request with the original bid Quote.

IB 5.3 CBS reserves the right to reject a bidder at any time prior to the signing of a contract if information or data is obtained which, in the opinion of CBS, adversely affects the responsibility and/or the capability of the bidder to undertake and to complete the work, regardless of the bidder's previous qualification or classification. CBS may conduct any investigation as it deems necessary to determine the bidder's responsibility and capacity, and the bidder shall furnish all information and data for this purpose as requested by CBS.

IB 5.4 Each bidder must be classified by DPMC in accordance with the provisions of the classification statute, NJSA 52:35-1, *et seq.* In the case of a single bid for all the work, the bidder shall include in the bid the names of its principal subcontractors (in categories as listed in IB1.2 above), which must also be classified in accordance with the said statute.

IB 5.5 At the time of the bid due date, the bidder and the subcontractors must be registered in accordance with “The Public Works Contractor Registration Act”, N.J.S.A. 34:11-56.48, *et seq.* All questions regarding registration shall be addressed to:

Contractor Registration Unit
New Jersey Department of Labor
Division of Wage & Hour Compliance
P O Box 389
Trenton, NJ 08625-0389
Telephone: 609-292-9464
FAX: 609-633-8591

IB 5.6 In accordance with N.J.S.A. 52:32-44, *et seq.* Public Law 2001, Chapter 134, all contractors and subcontractors providing goods/services to State agencies and authorities are required to provide the contracting agency or authority with proof of registration with the Department of Treasury, Division of Revenue. The basic registration process involves the filing of Form NJ-Reg., which can be filed online at www.state.nj.us/njbgs/services.html or by calling (609) 292-7077 or (609) 292-1730.

IB 6 Deposit and Bid Bond

IB 6.1 The Quote, when submitted, shall be accompanied by a Bid Bond satisfactory to CBS, for the sum of not less than fifty percent (50%) of the Total Bid including alternates, if applicable.

IB 6.2 The Bid Bond shall be properly filled out, signed, and witnessed.

IB 6.3 The Bid Bond shall be accompanied by a copy of the power of attorney executed by the surety company or companies. The power of attorney shall set forth the authority of the attorney-in-fact who has signed the bond on behalf of the surety company to bind the company and shall further certify that such power is in full force and effect as of the date of the bond.

IB 6.4 If the bidder whose Quote is accepted is unable to provide the performance and payment bonds or fails to execute a contract, then such bidder and the bid bond surety, where applicable, shall be obligated to pay to CBS the difference between the amount of the bid and the amount which CBS contracts to pay another party to perform the work. The bidder and the surety shall pay, upon demand, the entire amount of CBS's difference in cost. Should there be a deficiency in excess of the bid deposit, the bidder shall make immediate payment to CBS for any such deficiency. Nothing contained herein shall be construed as a waiver of any other legal remedies that CBS may have against the contractor.

IB 6.5 Attorneys-in-fact who sign bid bonds or contract bonds must file a certified power-of-attorney with the State indicating the effective date of that power.

IB 7 Performance and Payment Bond

IB 7.1 The successful bidder shall furnish within ten (10) calendar days after notice of award both a performance bond in statutory form in an amount equal to one hundred percent (100%) of the total contract price as security for the faithful performance of this contract and a payment bond in statutory form in amount equal to one hundred percent (100%) of the contract price as security for the payment of all persons and firms performing labor and furnishing materials in connection with this contract. The performance bond and the payment bond may be combined or in separate instruments in

accordance with law. If combined, they must be for 200% of the award amount. No contract shall be executed unless and until each bond is submitted to and approved by CBS. The surety must be presently authorized to do business in the State of New Jersey. In addition to the other coverage provided, the Bond shall cover all Contract guarantees and any other guarantees/warranties issued by the Contractor.

IB 7.2 The cost of all performance and payment bonds shall be paid for by the successful bidder.

IB 7.3 If at any time CBS, for justifiable cause, is dissatisfied with any surety which has issued or proposes to issue a performance or payment bond, the contractor shall, within ten calendar days after notice from CBS to do so, substitute an acceptance bond (or bonds). The substituted bond(s) shall be in such form and sum and executed by such other surety or sureties as may be satisfactory to CBS. The premiums on such bond(s) shall be paid by the contractor. No contract shall be executed and/or no payment made under a contract until the new surety or sureties shall have furnished such an acceptable bond to CBS.

IB 7.4 Bonds must be legally effective as of the date the contract is signed. Each must indicate the contractor's name exactly as it appears on the contract. Current attorney-in-fact instruments and financial statement of the surety must be included with the bonds. Bonds must be executed by an authorized officer of the surety. Bonds furnished under this section shall conform in all respects to the requirement and language of NJSA 2A:44-143 to 147.

IB 8 Bulletins and Interpretations

IB 8.1 No interpretation of the meaning of the plans, specifications or other pre-bid documents will be provided to any bidder unless such interpretation is made in writing to all prospective bidders prior to the opening of bids. Any such interpretations must be identified in bid Quotes submitted. Any interpretations which are not entered in accordance with this provision shall be unauthorized and not binding upon CBS.

IB 8.2 Every request for an interpretation relating to clarification or correction of the plans, specifications, or other bid documents as well as questions concerning this RFQ and the procedures for responding to the RFQ shall be directed in writing, addressed to:

Centrica Business Solutions (CBS)
3 Rosell Drive
Ballston Lake, NY 12019
Attn: Geoffrey Frey, CBS Project Manager
Phone #:518-928-2547; Email: Geoff.Frey@centrica.com

and must be received per this document's IB i. Timetable prior to the date fixed for the opening of the bids. Any and all interpretations, clarifications or corrections and any supplemental instructions must be issued by CBS in the form of written bulletins (addendums) and mailed by certified mail, return receipt requested, or by electronic notice to all prospective bidders not later than three (3) working days prior to the date of the opening of bids. All bulletins issued shall become part of the contract documents and shall be acknowledged in all bid Quotes. Failure of a bidder to acknowledge receipt of all such bulletins and interpretations by the time of bid opening shall result in its Quote being considered non-responsive, at the option of CBS.

IB 8.3 Each bidder shall be responsible for thoroughly reviewing the contract documents prior to the submission of bids. Bidders are advised that no claim for expenses incurred or damages sustained as a result of any error, discrepancy, omission, or conflict in the contract documents shall be recognized

by CBS unless, and only to the extent that, a written request for interpretation, clarification or correction has been submitted in compliance with Section IB8.2 and provided the matter has not been addressed by CBS through the issuance of a bulletin interpreting, clarifying or correcting such error, discrepancy, omission or conflict.

IB 9 Assignments

IB 9.1 The contractor shall not assign all or any part of this contract without written consent of CBS. Money due (or to become due) the contractor hereunder shall not be assigned for any purposes whatsoever.

IB 10 Federal Excise Taxes and State Sales Tax

IB 10.1 In general, bidders, in preparing bids, must take into consideration applicable Federal and State tax laws.

IB 10.2 Materials, supplies or services for exclusive use in erecting structures or buildings or otherwise improving, altering or repairing all State-owned property are exempt from the State sales tax. The successful bidder must submit Division of Taxation form ST13, Exempt Use Certificate, to the seller of all materials, supplies or services that will be incorporated into the Work.

IB 10.3 Bidders must determine the current status and applicability of any tax laws, and the contractor may make no claim based upon any error or misunderstanding as to the applicability of any tax laws.

IB 10.4 Purchases or rentals of equipment are not exempt from any tax under the State Sales Tax Act.

IB 11 Restrictive Specifications

IB 11.1 Should any bidder determine before the bid due date that any portion of the specifications or drawings specify a particular product which can be provided by only one supplier or manufacturer, with the result that competitive prices are not available, the bidder shall immediately notify CBS in writing of such fact.

IB 11.2 If such notice is not given in a timely manner, it shall be assumed that the bidder has included the estimate of such sole source in the bid. However, if CBS is notified in a timely manner of the sole source of supply or manufacture, CBS may order the product re-bid or take other lawful action. Such action shall be at CBS's sole discretion.

IB 12 Offer of Gratuities

IB 12.1 Bidders are advised that the laws of New Jersey (NJSA 52:34-19) make it a misdemeanor to offer, pay or give any fee, commission, compensation, gift or gratuity to any person employed by the State. Also, Executive Order #189 (1988) requires that all requests for Quotes and contracts issued by the State specify prohibitions on vendor (contractor) activities, the violation of which shall render the vendor liable to ineligibility for State contracts, pursuant to the debarment procedures set forth in N.J.A.C. 17:19-4.1., *et seq.* These prohibited activities include the following:

- a. No vendor shall pay, offer to pay, or agree to pay, either directly or indirectly, any fee, commission, compensation, gift, gratuity, or other thing of value of any kind to any State officer or employee or special State officer or employee, as defined by NJSA 52:34D-13b. and e., in the Department of Treasury or any other agency with which such vendor transacts or offers or proposes to transact business, or to any member of the immediate family, as defined by NJSA 52:13D-13i., of any such officer or employee, or any

- partnership, firm, or corporation with which they are employed or associated, or in which such officer or employee has an interest within the meaning of NJSA 52:13D-13g.
- b. The solicitation of any fee, commission, compensation, gift, gratuity or other thing of value by any State officer or employee or special State officer or employee from any State vendor shall be reported in writing forthwith by the vendor to the Attorney General and the Executive Commission on Ethical Standards.
 - c. No vendor may, directly or indirectly, undertake any private business, commercial or entrepreneurial relationship with, whether or not pursuant to employment, contract or other agreement, express or implied, or sell any interest in such vendor to, any State officer or employee or special State officer or employee having any duties or responsibilities in connection with the purchase, acquisition or sale of any property or services by or to any State agency or any instrumentality thereof, or with any person, firm or entity with which he is employed or associated or in which he has an interest within the meaning of NJSA 52:13D-13g. Any relationships subject to this provision shall be reported in writing forthwith to the Executive Commission on Ethical Standards, which may grant a waiver of this restriction upon application of the State offer or employee or special State officer or employee upon a finding that the present or proposed relationship does not present the potential, actuality or appearance of a conflict of interest.
 - d. No vendor shall influence, or attempt to influence or cause to be influenced, any State officer or employee or special State officer or employee in his official capacity in any manner which might tend to impair the objectivity or independence of judgment of said officer or employee.
 - e. No vendor shall cause or influence, or attempt to cause or influence, any State officer or employee or special State officer or employee to use, or attempt to use, his official position to secure unwarranted privileges or advantages for the vendor or any other person.
 - f. The provisions cited above in paragraphs IB12.1.a. through e. shall not be construed to prohibit a State officer or employee or special State officer or employee from receiving gifts from or contracting with vendors under the same terms and conditions as are offered or made available to members of the general public subject to any guidelines the State Ethics Commission on Ethical Standards may promulgate under paragraph IB12.1.c. above.

APPENDIX - INFORMATIONAL DOCUMENTS

DPMC General Conditions
Bulletin A
Notifications of Protections and Policies on DPMC Construction Projects
COVID Memo

END OF INSTRUCTIONS TO BIDDERS

STATE OF NEW JERSEY
DEPARTMENT OF THE TREASURY
DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION



REVISED
DECEMBER 2015

INSTRUCTIONS TO BIDDERS
AND
GENERAL CONDITIONS

These General Conditions are part of the Agreement Centrica Business Solutions (CBS - the ESCO) has with NJ DPMC and are in Addition to, but do not supersede CBS Master Service Agreement that Contractor needs to agree and follow.

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GENERAL CONDITIONS

ARTICLE 1 - GENERAL PROVISIONS

1.1 DEFINITIONS:

1.1.1 Architect/Engineer: The Architect/Engineer (“A/E”) is the consultant engaged by the DPMC to prepare the design and perform certain contract administration functions in accordance with the provisions of its contract with the DPMC.

1.1.2 Bulletin: A document, issued by DPMC prior to the opening of bids, which supplements, revises or modifies the bid document(s).

1.1.3 Change in the Work: A change in the Project and the Contract Documents, including, but not limited to, an increase or decrease in the Work, an acceleration or extension of time for the performance of the Work.

1.1.4 Change Order: A written order, directing or authorizing a Change in the Work executed by the DPMC and agreed to by the Contractor (except in the case of unilateral change orders executed by DPMC) that includes all adjustments to work, compensation and/or time warranted by the Change in the Work.

1.1.5 Code Official: the individual licensed by the NJ Department of Community Affairs authorized to enforce the NJ Uniform Construction Code (UCC) and approve or reject the Work for NJ UCC compliance.

1.1.6 Construction Management Firm or “CMF”: A person or firm that may be engaged by the DPMC to assist DPMC in the administration of its contracts.

1.1.7 Contract: The entire and integrated agreement between the Contractor and the DPMC encompassing all of the Contract Documents.

1.1.8 Contract Documents: The executed form of Contract, General Conditions, Supplementary Conditions, Supplementary Instructions, Bulletins, plans, specifications, instructions to bidders, addenda, responses to requests for information, Price Proposal, Change Orders, other amendments, including construction change directives, and all exhibits, appendices and documents attached to or referenced in any of the foregoing materials.

1.1.9 Contract Limit Lines: The lines shown on the Contract Drawings that define the boundaries of the Project, and beyond which no construction work or activities may be performed by the Contractor unless otherwise noted on the drawings or specifications.

1.1.10 Contractor: The business entity with whom the DPMC enters a contract for the performance of the construction of a construction Project by the terms set forth in the Contract Documents.

1.1.11 Contract Price: The sum stated in the Contract, as it may be adjusted in accordance with the Contract Documents, that represents the total amount payable by the DPMC to the Contractor for performance of the Work.

1.1.12 Day: A calendar day, unless otherwise designated.

1.1.13 Director: The person authorized by statute to administer the design, engineering and construction of all State buildings and facilities. The Director is the contracting officer representing the State personally or through authorized representatives in all relationships with Contractors, consultants and Architects/Engineers. This includes designees or an authorized administrative contracting officer acting within the limits of his or her authority. The Director or his or her duly authorized representative is the interpreter of the conditions of this contract and the judge of its performance.

1.1.14 Division of Property Management and Construction (DPMC): The State of New Jersey's contracting agency for the design and construction of State facilities.

1.1.15 Final Acceptance and Completion: The date following receipt and acceptance by DPMC of all administrative and close-out documents. Following acceptance, the DPMC will issue a Certificate of Final Acceptance and Completion for the Project.

1.1.16 Generally Accepted Accounting Principles: The common set of accounting principles, standards and procedures that companies use to compile their financial statements. Accounting records must identify all labor and material costs and expenses, whether they are direct or indirect. The identity must include at least the Project number for direct expenses and/or account number for indirect expenses.

1.1.17 NJUCC or Code: The New Jersey Uniform Construction Code which governs the permit and approval process for construction projects.

1.1.18 Notice: A written directive or communication given by DPMC to the Contractor to act or perform work or carry out some other contractual obligation, or a written communication to be served by the Contractor upon the State. A notice served on the Contractor will be deemed to have been duly served if delivered to an individual or member of the firm or entity or to an officer of the corporation for whom it was intended. This includes regular mail, e-mail, delivery by courier, or registered or certified mail, or facsimile to the Contractor's business address cited in the Contract documents. A notice from the Contractor to the State shall be deemed to have been duly served only if delivered to the Director or the Director's duly authorized representative.

1.1.19 Notice to Proceed: The written communication issued by the DPMC to the Contractor directing the Contractor to begin the Work. The contract calendar day duration period will commence on the effective date noted.

1.1.20 Project: The term for the entire public works engagement. It includes the design, construction work and all administrative aspects required to fully complete the engagement.

1.1.21 Punch List: The list of incomplete or defective Work, compiled by DPMC and/or its authorized representative, which remains to be completed after achievement of Substantial Completion.

1.1.22 Schedule: The time tracking mechanism that establishes the Project's allotted time requirements for completion as more specifically described in Article 6 of these General Conditions. When the construction activity items of the schedule have a monetary value associated with them, the schedule is referred to as a "costed" or "cost-loaded" schedule.

1.1.23 Site: The geographical location of the facility or property at which the Work under the Contract is to be performed.

1.1.24 State or Owner: The State of New Jersey, acting through DPMC.

1.1.25 Subcontractor: The business entity that enters into an agreement with the Contractor for the performance of work or materials under this Contract. Also refers to any agreement between a Subcontractor and any of lower tier Subcontractors. Such an agreement creates no relationship, legal or otherwise, between the DPMC and the Subcontractor(s) and/or lower tier Subcontractor(s).

1.1.26 Substantial Completion: The date when all essential requirements of the Contract Documents have been satisfied so that the purpose of the Contract Documents is accomplished, as determined by the DPMC including training of staff by the Contractor on all equipment, and resulting in the issuance of a temporary Certificate of Occupancy, a permanent Certificate of Occupancy or a permanent Certificate of Acceptance and when the Work and the facility can be safely occupied and used in accordance with its intended purpose. DPMC may condition issuance of a Certificate of Substantial Completion upon satisfactory receipt of critical documents.

1.1.27 Unit Schedule Breakdown: A detailed list of the Work activities required for Project construction, other elements associated with fulfilling the requirements of the Contract (bonds, insurance, etc.), major items of material, labor or equipment, and the prices associated with each of them.

1.2.28 Using Agency: The State department or agency for whom the construction project is being completed.

1.1.29 Work: All construction, supervision, labor, material and equipment necessary to complete the obligations under the Contract including Operation and Maintenance Manuals, Punch List completion, and As-Built Documents.

1.2 CONTRACT DOCUMENTS TO BE PROVIDED BY DPMC

Upon Contract award, the DPMC will furnish to the Contractor, free of charge, three copies of the drawings and specifications, and any additional instructions by means of supplemental contract documents as otherwise necessary for the proper execution of the Work, unless otherwise provided in the Contract Documents. Upon request, additional copies of the contract documents will be furnished at the Contractor's expense.

1.3 INTENT OF THE CONTRACT

1.3.1 The drawings, specifications and all of the Contract Documents are intended to require the Contractor to provide for everything necessary to accomplish the proper and complete finishing of all work. For the Project, the Contractor shall perform all of the obligations and work identified in the Contract Documents, regardless of the manner in which it is divided among the trades or the order in which it appears in the Contract Documents. All work and materials included in the specifications and not shown on the drawings, or shown on the drawings and not in the specifications shall be performed and/or furnished by the Contractor. The Contractor shall include any incidental materials

and/or Work not indicated in the drawings and/or the specifications which are nevertheless necessary for the development of the Project and are reasonably inferable from the contract documents and industry practice. The Contractor shall perform all such work and furnish all such materials as if particularly delineated or described in the contract documents as part of the bid proposal.

1.3.2 The Contractor acknowledges that in preparing its bid, the Contractor had the obligation to raise any reasonably observable errors, omissions, ambiguities or discrepancies and request an interpretation of the alleged errors, omissions, ambiguities or discrepancies. If the Contractor failed to do so, it will have waived all rights to a Change Order or claim and the Contractor will be responsible to complete the Work as required, consistent with the intent of the Contract Documents as interpreted by the DPMC, without additional compensation.

1.3.3 No interpretation of the meaning of the plans, specifications or other Contract Documents provided prior to bid submission shall be binding upon the State for any purpose unless issued in a Bulletin.

1.3.4 The Contractor shall abide by and comply with the intent and meaning of the Contract Documents taken as a whole, and shall not take advantage of any error or omission, should any exist. Should the Contractor become aware of the existence of any error, omission or discrepancy, the Contractor shall immediately notify the DPMC and the Architect/Engineer of any such errors, omissions, ambiguities or discrepancies and seek correction or interpretation thereof prior to commencement of the Work at issue. The Architect/Engineer shall issue a written interpretation. The Contractor shall do no work outside of the Contract Documents, unless written authorization to proceed from the DPMC is received by the Contractor.

1.3.5 Each and every provision required by law to be inserted in the Contract Documents is deemed to have been inserted therein. If any such provision has been omitted or has not been correctly inserted, then upon application of either party, the Contract may be modified to provide for such insertion or correction.

1.3.6 The order of precedence pertaining to interpretation of Contract Documents is as follows:

- a. Executed Contract
- b. Bulletins and Instructions
- c. Supplemental General Conditions
- d. Specifications and General Conditions
- e. Drawings, in the following order of precedence:
 - (1) Notes on drawings
 - (2) Large scale details
 - (3) Figured dimensions
 - (4) Scaled dimensions

1.3.7 Where there may be a conflict in the Contract Documents not resolvable by application of the provisions of this Article, then the more expensive labor, materials, or equipment shall be assumed to be required and shall be provided by the Contractor.

1.3.8 On all work, it shall be the responsibility of the Contractor, by personal inspection of the existing building, facility, plant or utility systems, to ascertain the accuracy of any information given. This shall be the case, whether or not such information is indicated on the drawings, included in the specifications, or shown in any other documentation that is available. The Contractor shall have an affirmative duty to make reasonable inquiry for all available information. The Contractor shall include the costs of all material and labor required to complete the Work based on inspection and reasonably observable conditions.

1.4 WORKDAYS

Regular working hours will be defined in the Contract Documents. Changes thereto may be granted with written approval of the DPMC representative. Any work required to be performed after regular working hours or on Saturdays, Sundays, or legal holidays as specially set forth in the Contract documents, as may be reasonably required and consistent with contractual obligations, shall be performed at the amount set forth in the Contractor's bid without additional expense to the State. The Contractor shall obtain written approval of the DPMC representative for performance of work after regular working hours or on non-regular workdays at least forty-eight (48) hours prior to the commencement of overtime, unless such overtime work is caused by an emergency. If the Contractor seeks such approval for the overtime work, same shall be performed at no additional cost to the DPMC except in the event of an emergency, at which time, the DPMC, in its sole discretion, shall determine if the submitted overtime is compensable.

1.5 ASSIGNMENTS

The Contractor shall not assign all or any part of this Contract without the written consent of the Director. Money due (or to become due) the Contractor hereunder shall not be assigned for any purpose whatsoever without the written consent of the Director.

1.6 STATE SALES TAX

1.6.1 Materials, supplies or services for exclusive use in the construction of structures or buildings or otherwise improving, altering or repairing all State-owned property are exempt from the State sales tax.

1.6.2 Purchases or rentals of equipment are not exempt from any tax under the State Sales Tax Act.

ARTICLE 2 - OWNER/DPMC

2.1 DPMC'S REPRESENTATION

The DPMC will be represented on the Project by DPMC's designated representative(s). DPMC's designated representative(s) have only those duties that are required of the Owner under this Contract.

2.2 RIGHT TO PERFORM WORK

The DPMC may, and reserves the right to, enter upon the premises at any and all times during the progress of the Work, or cause others to do so, for the purpose of performing any work or installing any apparatus or carrying on any construction not included in the Contract Documents, or for any other reasonable purpose.

The DPMC shall have the right to defer the beginning of Work or to suspend the whole or any part of the Work whenever, in the sole discretion of the DPMC, it may be necessary or expedient for the State to do so.

2.3 MEANS AND METHODS

The State will not be responsible for, nor have control or charge of construction means, methods, techniques, sequences of procedures, or safety precautions and programs in connection with the Work. The State will not be responsible for, nor have control or charge of, the acts or omissions of the Contractor, Subcontractors, or any of their agents or employees, or any other person performing any of the Work.

ARTICLE 3 - ARCHITECT/ENGINEER

3.1 DUTIES AND RESPONSIBILITIES

3.1.1 The Architect/Engineer (“A/E”) is the consultant engaged by the DPMC to prepare the design and perform certain contract administration functions in accordance with the provisions of its contract with the DPMC.

3.2 PROGRESS MEETINGS

The Architect/Engineer will attend, chair and issue record minutes of bi-weekly job progress meetings.

3.3 SITE OBSERVATIONS

3.3.1 The Architect/Engineer will monitor the execution and progress of the Work. The Architect/Engineer will at all times be provided access to the Work. The Contractor shall provide facilities for such access so as to enable the Architect/Engineer to perform its functions.

3.3.2 The Architect/Engineer will not be responsible for, nor have control or charge of construction means, methods, techniques, sequences of procedures, or safety precautions and programs in connection with the Work. The Architect/Engineer will not be responsible for, nor have control or charge of, the acts or omissions of the Contractor, Subcontractors, or any of their agents or employees, or any other person performing any of the Work.

3.4 SHOP DRAWINGS AND SUBMITTALS AND INVOICES

As more specifically described in Article 4, the Architect/Engineer will review, approve or take other appropriate action relating to Contractor’s submittals, including shop drawings, product data and samples, and as – built drawings, to assure conformance with the requirements of the Contract. Such actions shall be taken with reasonable promptness. Approval of a specific item shall not indicate approval of an assembly of which the item is a component.

3.5 PAYMENT APPROVALS

3.5.1 The Architect/Engineer is responsible for the timely review of all invoices submitted by the Contractor. The Architect/Engineer shall inform the Contractor of any deficiencies therein. When the payment voucher is deemed accurate, the Architect/Engineer shall recommend approval of Contractor invoices.

3.5.2 The Architect/Engineer will review and recommend approval of Contractor closeout documentation in conjunction with the final application for payment.

ARTICLE 4 - THE CONTRACTOR

4.1 REVIEW OF THE CONTRACT DOCUMENTS AND FIELD CONDITIONS

4.1.1 The Contractor has the duty to thoroughly examine and be familiar with all of the Contract Documents and the Project site. The Contractor shall investigate and accurately determine the nature and location of the Work, the current building equipment and systems, labor and material conditions, and all matters which may in any way affect the Work or its performance.

4.1.2 The Contractor shall be deemed to have verified all reasonably observable conditions outside the Contract limit lines to determine whether any conflict exists with the Work that the Contractor is required to perform under the Contract. This includes but is not limited to a check on elevations, utility connections and other site data. If a condition changed from the time of the bid to the time of the issuance of the Notice to Proceed, the Contractor shall notify the Architect/Engineer immediately. The Contractor shall immediately report any conflicts prior to the bid proposal due date or waive any claim for additional compensation arising from such conflict.

4.1.3 During the progress of the Work, the Contractor shall immediately report in writing any alleged error, inconsistency, ambiguity or omission in the Contract Documents to DPMC. The Contractor shall not continue with any work that is affected by such alleged error, inconsistency, ambiguity or omission until the DPMC has had the opportunity to respond. Any error, inconsistency, ambiguity or omission shall be addressed pursuant to appropriate procedures set forth in these General Conditions.

4.1.4 Following notification of an alleged error, inconsistency, ambiguity or omission, the DPMC may issue supplemental instructions for the proper execution of the Work. The Contractor shall do no work without proper supplemental instructions. In giving such supplemental instructions, the DPMC will have the right to direct the Contractor to make minor changes in the Work without payment of additional monies. This provision is not intended to infringe upon or limit the DPMC's authority to otherwise direct changes in the Work, described elsewhere in these general conditions.

4.1.5 Where certain work is shown in complete detail, but not repeated in similar detail in other areas of the drawings, or if there is an indication of continuation with the remainder being shown only in outlines, the Work shown in detail shall be understood to be required in other like portions of the Project.

4.1.6 Unless otherwise directed in writing by the DPMC, the Contractor shall perform no portion of the Work without appropriate approvals as may be applicable and required by the Contract Documents.

4.1.7 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, equipment, materials, tools, construction equipment and machinery, water, heat, utilities, transportation and other facilities and services necessary for the proper execution, protection, and completion of the Work.

4.2 INSURANCE

The Contractor shall secure and maintain in force, for the term of the Contract, insurance coverage provided in Section 13.4. The Contractor shall provide the State of New Jersey with current certificates of insurance for all coverage and renewals thereof which must contain a provision that the insurance provided in the certificate shall not be canceled for any reason except after thirty (30) calendar day's written notice to the State of New Jersey. If cancellation occurs, the Contractor shall immediately procure new coverage, not allowing any lapse of coverage to occur.

4.3 PERMITS, LAWS, AND REGULATIONS

4.3.1 The DPMC shall obtain and pay for the construction permits and inspections (building, plumbing, electrical, elevator and fire), required by the Department of Community Affairs (DCA). When permits are issued by DCA, the appropriate licensed Contractors and/or Subcontractors shall be required to fill out the Contractor section of the Sub-Code Technical Section and sign and affix their raised seal thereto.

4.3.2 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for all other permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the Work, and which are legally required at the time of receipt of bids.

4.3.3 All work must be done in accordance with the NJUCC. No work requiring inspections and approval by construction NJUCC code officials is to be covered or enclosed prior to inspection and approval by the appropriate NJUCC enforcement officials.

4.3.4 The Work performed pursuant to this Contract is exempt from local ordinances, codes and regulations as related to the building and the Site on which it is located, except in certain limited circumstances, where construction could adversely affect adjacent property, public sidewalks and/or streets. In those instances, the Contractor shall coordinate its activities with municipal and/or highway authorities having appropriate jurisdiction.

4.3.5 Immediately upon receipt of the contract award documents from the DPMC, the Contractor shall notify all utility companies involved regarding utility services required for completion of the Work. Such notification shall be in addition to any notification requirements imposed by law, including, without limitation, the Underground Facility Protection Act, N.J.S.A. 48:2-73, et seq.

4.3.6 The Contractor shall perform all soil conservation measures in accordance with County Soil Conservation District requirements.

4.3.7 The Contractor shall perform all sewage disposal work in conformance with the regulations of the State's Department of Environmental Protection.

4.3.8 The Contractor shall be responsible for obtaining timely NJUCC inspections of the Work from the applicable State agency. The Contractor shall request such

inspections through DPMC authorized representatives allowing for sufficient notice to enable NJUCC inspections to be scheduled without delay to the Work.

4.3.9 Consistent with section 4.4 of these General Conditions, the Contractor shall be responsible for its own actions and protect, defend and indemnify the State from all fines, penalties or loss incurred for, or by reason of, the violation of any municipal ordinance or regulation or law of the State while the said work is in progress.

4.3.10 The Contractor shall comply with the Federal Occupational Safety and Health Act of 1970 and all of the rules and regulations promulgated there under.

4.3.11 If the Contractor causes a substantial violation of a State, local or federal statute or regulation on the Project, DPMC may declare the Contractor to be in default, and/or terminate the Contract.

4.3.12 Prior to the start of any crane equipment operations, the Contractor shall make all necessary applications and obtain all required permits from the Federal Aviation Administration (F.A.A.). When the F.A.A. has jurisdiction, the sequence of operations, timing and methods of conducting the Work shall be approved by the F.A.A.

4.3.13 The Contractor will establish an approved Silica Health and Safety Program when tasks generating crystalline silica dust are being performed. This program shall include engineering, work practice, and respiratory protection controls to reduce worker exposure to airborne respirable crystalline dust to levels that are as low as reasonably achievable. When tasks are performed that generate airborne crystalline dust, the Contractor will minimize worker exposure to dust by one, or a combination of the following methods: 1) dust suppression with water, 2) local exhaust ventilation to a high-efficiency dust collector, and/or 3) appropriate respiratory protection devices. The Contractor shall provide a trained, competent person, as defined by OSHA 29 CFR 1926, on site at all times to implement the Silica Health and Safety Program when tasks generating crystalline silica dust are being performed.

4.4 RESPONSIBILITY FOR THE WORK

4.4.1 The Contractor shall be responsible to the State and to any separate Contractors and/or consultants including, without limitation, the Architect/Engineer, for the acts, errors and omissions of its employees, Subcontractors and their agents and employees that injure, damage or delay such other Contractors and/or consultants in the performance of their work.

4.4.2 The Contractor shall be responsible for all damage or destruction caused directly or indirectly by its operations to all parts of the Work, both temporary and permanent, and to all adjoining property.

4.4.3 The Contractor shall, at its own expense, protect all finished work and keep the same protected until the Project (or identifiable portions thereof, that are declared as substantially complete and being used) is completed and accepted.

4.4.4 The Contractor shall be responsible for safety and for any damage or injury which may result from the Contractor's failure or improper construction, maintenance or operation.

4.4.5 In order to protect the lives and health of its employees, the Contractor shall comply with all applicable statutes and regulations and pertinent provisions of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc. and shall maintain accurate records of all cases of death, occupational disease, and injury requiring medical attention or causing loss of time from work arising out of and in the course of employment on work under the Contract. If a conflict should exist with the requirements of the Federal Occupational Safety and Health Act of 1970, then the most stringent statute or pertinent provision shall apply.

4.5 INDEMNIFICATION

4.5.1 The Contractor shall assume all risk of and responsibility for, and agrees to protect, defend and indemnify the State of New Jersey, its agents, and its employees, from and against, any and all claims, demands, suits, actions, recoveries, judgment and costs of expenses in connection therewith on account of the loss of life, property, injury or damage to the person, body or property of any person or persons whatsoever, resulting from the Contractor's performance on the Project or through the use of any improper or defective machinery, implements or appliances, or through any act or omission on the part of the Contractor or its agents, employees or servants, which shall arise from or result directly or indirectly from the Work and/or materials supplied under this Contract. This indemnification obligation is not limited by, but is in addition to, the insurance obligations contained in this Contract.

4.5.2 In any and all claims against the State or any of its agents or employees, any employees of the Contractor or Subcontractor or anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, the indemnification obligation under this section shall not be limited in any way as to the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under worker's compensation acts, disability benefit acts, or other employee benefit acts.

4.6 SUPERVISION

4.6.1 The Contractor shall attentively supervise and direct the Work. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

4.6.2 The Contractor shall employ a full-time competent superintendent and necessary foremen and assistants, who shall be in attendance on the Project Site during the progress of the Work. The superintendent shall represent the Contractor, and all communications given to the superintendent shall be binding upon the Contractor. The State reserves the right to require a change in superintendent if the superintendent's performance, as judged by the DPMC, is deemed to be inadequate. Upon application in writing, and if deemed appropriate and expressly approved by the DPMC, the requirement for a full-time superintendent may be waived. If such a waiver is permitted, the Contractor shall employ a full-time competent foreman who shall be in attendance on the site during the progress of work and shall represent the Contractor, and all communications given to the foreman

shall be binding upon the Contractor. The Contractor shall not employ persons unfit or unskilled in the assigned area of work.

4.6.3 The Contractor shall ensure that its Subcontractors shall likewise have competent superintendents in charge of their respective portions of the Work at all times. Upon application in writing, and if deemed appropriate and expressly approved by the DPMC, the requirement for a full-time superintendent may be waived. If such a waiver is permitted, the Subcontractor shall employ a full-time competent foreman who shall be in attendance on the site during the progress of work and shall represent the subcontractor, and all communications given to the foreman shall be binding upon the subcontractor. The Subcontractor shall not employ persons unfit or unskilled in the assigned area of work. If it becomes apparent that a Subcontractor does not have its portion of the Work under control of a competent foreman, the Contractor shall have the obligation to take appropriate steps to immediately provide proper supervision.

4.6.4 The Contractor shall employ qualified competent craftsmen in their respective lines of work. The State may require evidence that all employees have received sufficient training to execute the Work.

4.6.5 If, due to a trade agreement or project labor agreement, standby personnel are required to supervise equipment installation or for any other purpose during the normal working hours of other trades, the Contractor normally required to provide the standby services shall be deemed to have evaluated and included the costs thereof in its bid price and shall provide said services without additional charge.

4.6.6 The Contractor shall at all times enforce strict discipline and good order among its employees and shall not employ any unfit person or anyone not skilled in the task assigned.

4.7 SHOP DRAWINGS AND OTHER SUBMITTALS

4.7.1 The Contractor shall, within two weeks of the Notice to Proceed, submit to the Architect/Engineer, shop drawings and sample submission schedule for approval, which shall be used as a basis for complying with the overall progress schedule. The Contractor shall obtain, from its Subcontractor(s), all submittals including shop drawings, details, and schedules. The Contractor shall review the submittals for completeness and conformity with the Contract Documents and shall stamp the submittals "approved". The Contractor shall promptly forward two copies of each submittals in reproducible form to the Architect/Engineer, so as to cause no delay in its own work or that of any other contractor. The DPMC Project number and the drawing and specification references shall be written or typed on all submissions. Failure to comply with these instructions will be sufficient reason to return the drawing to the Contractor without approval and any resulting delay in the Project shall be the sole responsibility of the Contractor.

4.7.2. The Architect/Engineer will review shop drawings and other submittals with reasonable promptness. The Contractor shall promptly make any corrections, if required by the Architect/Engineer, and resubmit a reproducible copy for approval. Within five (5) working days of final approval, the Contractor shall send the Architect/Engineer a

minimum of seven (7) prints of the finally approved shop drawings as well as seven (7) copies of all catalog cuts.

4.7.3 The Contractor shall prepare original shop drawings, and not simply copy the Contract Drawings for submission as shop drawings. All shop drawing sizes shall be in multiples of 9" x 12" (e.g., 18" x 24", 24" x 27", 24" x 36", etc.) as approved by the Architect/Engineer.

4.7.4 Any deviations or changes from the requirements of the Contract Documents, must be approved by the Architect/Engineer. A Contractor seeking approval for any deviations or changes must: a) make a written request for the proposed change; b) provide to the Architect/Engineer a detailed narrative description of the proposed change; c) highlight on the applicable drawing the proposed change; and d) furnish a detailed description of all potential impacts on the schedule and project budget.

4.7.5 Substitutions

4.7.5.1 Where any particular brand or manufactured article is specified, it shall be regarded as a standard. Similar products of other manufacturers, capable of equal performance and quality, may be accepted if approved by the Architect/Engineer and accepted by DPMC in writing.

4.7.5.2 In the event that a Contractor proposes a substitution to the specified equipment or materials, it shall be the Contractor's responsibility to submit proof of equality and to provide and pay for any tests which may be required by the DPMC in order to evaluate the proposal. If there is a substantial cost savings between the substitution and the specified equipment or material, the difference will be returned to the State in the form of a credit Change Order.

4.7.5.3 The application for the approval of a substitution must be submitted on the State form within 10 days of Notice to Proceed. Further, the submission shall include the following requirements:

- a. A Full and complete identification information;
- b. The identification of the paragraph and section of the specifications for which the substitution is proposed. The attachment of data indicating in detail whether and how the equipment or material differs, if at all, from the article specified;
- d. A detailed explanation of any effect the proposed substitution will have on the scope of the Work and a certification that the Contractor agrees to be responsible for any and all resulting added costs to its Work and to any additional costs incurred by the Architect/Engineer in time, labor and/or redesign of the Contract Documents;
- e. The submission of documents that demonstrate proof of equality, along with an agreement to have such tests performed at the Contractor's own expense as may be required for approval by the DPMC and/or the Architect/Engineer. The Contractor shall be responsible for the cost of reviews by the Architect/Engineer of subsequent submissions of additional information.

4.7.5.4 No Contractor shall base a bid on a substitution that may have been approved on previous Projects. Bids shall be based solely on plans and specifications of this Project.

4.7.5.5 The Contractor shall not proceed with the purchase or installation of a substitution without the written approval of DPMC. Any such installation may result in the assessment of costs for its removal at the Contractor's expense, and/or other damages and/or termination of the Contract for default.

4.7.6 Additional Submissions

4.7.6.1 Samples: The Contractor shall furnish, for approval, all required samples. Such samples shall be submitted in accordance with the shop drawing and sample submittal schedule. All work must be installed in accordance with approved samples.

4.7.6.2 Utility Service Connections: With respect to plumbing, fire-protection, HVAC, electrical and other machinery and mechanical equipment items requiring utility service connections, the Contractor must submit the respective shop drawings with the manufacturer's certified rough-in drawings, indicating accurate locations and sizes of all service utility connections.

4.7.6.3 Sleeve and Opening Drawings: Prior to installing service utilities or other piping, through structural elements of the building, the Contractor shall prepare and submit, for approval by the Architect/Engineer, accurate dimensional drawings indicating the positions and sizes of all sleeves and openings required to accommodate the Work and installation of the Contractor's piping, equipment, etc. All such drawings must contain reference to the established dimensional grid of the building. Such drawings must be submitted in accordance with the approved shop drawing and sample submission schedule.

4.7.6.4 Control Valve and Circuit Location Charts and Diagrams: For all plumbing, fire-protection, HVAC and electrical work, the Contractor shall prepare a complete set of inked or typewritten control valve and circuit location diagrams, charts and lists identifying and locating all such items, and shall place the charts, diagrams and lists under frame glass in designated equipment rooms. The Contractor shall also furnish one-line diagrams, as well as such color-coding of piping, wiring and other necessary identifications as specified or required. This information is to be framed under glass and displayed where directed.

4.7.6.5 Coordination Drawings: The Contractor shall create and update a complete, composite set of Coordination Drawings. The purpose of these drawings is to identify coordination and interference problems prior to installation. Coordination Drawings are required for all equipment rooms, above ceiling spaces, shared chases, and other areas where the Work of two or more trades is to be installed. The drawings shall be drawn to a scale not smaller than 1/4"=1'-0" (30"x42" sheet size) and shall show clearly in both plan and elevation that all Work can be installed without interference. At a minimum these drawings shall indicate:

- a. The interrelationship of equipment and systems;
- b. Required installation sequences;

- c. Equipment foundations and pads, equipment, piping, conduits, racks, ductwork, insulation, panels, control centers, sprinkler and fire protection systems etc. and required clearances.

The Contractor shall prepare the coordination drawings based on the submitted shop drawings and Contract Documents. The Contractor shall prepare, submit and receive approvals for the Coordination Drawings before any sleeves or inserts are set, any floor openings are core drilled, or any equipment, equipment foundations, or related work is installed. The cost of preparing approved Coordination Drawings shall be included in the Contractor's price. DPMC may require the Contractor to identify Coordination Drawings as an item within the Schedule of Values and incorporate them into the Project schedule.

4.8 AS-BUILT DRAWINGS

4.8.1 The Contractor and each Subcontractor shall maintain on the Project Site at all times one set of drawings to be marked "AS-BUILT." The DPMC has the right to rely on accuracy of the "as-built" drawings provided by the Contractor. During the course of the Project, the Contractor shall mark these drawings with colored pencils to reflect any changes, as well as the dimension and the location of all pipe runs, conduits, traps, sprinkler and fire protection lines, footing depths or any other information not already shown on the drawings or differing therefrom. All buried utilities outside the building shall be located by a survey performed by a licensed surveyor who shall certify as to its accuracy. These marked-up drawings and surveys shall remain current and shall be made available to the DPMC or Architect/Engineer at all times during the progress of the Work.

4.8.2 In instances where shop drawings and/or erection drawings, of a scale larger than the Contract Drawings, are prepared by the Contractor, such drawings may be acceptable "as-built" drawings provided they are updated. A master sheet of the same dimensions as the Contract Drawings shall be prepared by the Contractor that shall indicate, sheet by sheet, a cross-reference to all shop drawings pertaining to that drawing.

4.8.3 The Contractor shall submit the "as-built" documents to the Architect/Engineer with a certification as to the accuracy of the information thereon at the time of Contract completion and before final payment will be made to the Contractor. After acceptance by the Architect/Engineer, the Contractor will furnish two sets of all shop drawings used for "as-built" documentation.

4.8.4 All "as-built" drawings as submitted by Contractors shall be dated and labeled "AS-BUILT" above the title block. This information shall be checked, edited and certified by the Architect/Engineer, who will then transpose such information from the Contractor's "as-built" drawings to the original drawings. Where shop drawings have been used by the Contractor for "as-built" documentation, the master sheet providing cross reference information, as described in section 4.8.2, shall be included in the set of "as-built" drawings furnished to DPMC.

4.9 EXCAVATIONS, CUTTING AND PATCHING

4.9.1 Soil borings, test pits or other subsurface information may be secured by an independent Contractor retained by the State prior to design and construction of the Project and, if obtained, may be included in the Contract Documents for the Contractor's use. The Contractor assumes full responsibility for interpretation of said information.

4.9.2 The Contractor shall be responsible for furnishing and setting of sleeves, built-in items, anchors, inserts, and other necessary materials for its work and for all cutting, fitting, closing in, patching, finishing, or adjusting of its work in new and/or existing construction, as required for the completed installation.

4.9.3 Approval in writing from the DPMC and the Architect/Engineer must first be obtained by the Contractor before cutting or boring through any roof, floor beams, floor construction or structural members.

4.10 TESTING

4.10.1 The Contractor shall notify the DPMC in writing of all work required to be inspected or tested. The notice shall be provided no later than five working days prior to the scheduled inspection or test. The Contractor shall bear all costs of such inspections or tests, except for Code inspections as stated in section 4.3 of this document.

4.10.2 When mechanical, electrical or other equipment is installed, it shall be the responsibility of the installing Contractor to maintain, warrant and operate it for such period of time as required by the Contract Documents or as necessary for the proper inspection and testing of the equipment and for adequately instructing the State's operating personnel. All costs associated with the maintenance, warranty, operations, inspection and testing of equipment, as well as instructing State personnel, shall be borne by the Contractor installing the equipment. All tests shall be conducted in the presence of, and upon timely notice to, the DPMC, prior to acceptance of the equipment.

4.10.3 DPMC shall have the authority to direct in writing that special or additional inspections or tests be performed. The Contractor shall comply and give notice as detailed above.

4.10.4 In the event such special or additional inspections or testing reveal a failure of the Work to comply with the terms and conditions of the Contract, the Contractor shall bear all costs thereof, including all costs incurred by the State made necessary by such failures.

4.10.5 The Contractor shall utilize inspection or testing from those firms/entities pre-qualified by DPMC. Failure to use a firm/entity pre-qualified by DPMC shall be grounds for rejection of the inspection or test as non-conforming.

4.10.6 All submittals of inspections, test reports or requests for approval shall be accompanied by a certification signed by the Contractor, attesting to: the Contractor's knowledge of the submittal; acceptance of its findings; acknowledgment that material testing meets the required standards; and a certification of the report's representation of

the facts. Failure to provide the written certification shall be grounds for rejection of the submittal.

4.10.7 The Contractor shall ensure that a copy of the inspection report is transmitted directly to the Architect/Engineer and the DPMC. The Contractor shall ensure that it includes in all of its subcontracts and purchase orders for inspection and testing, the requirement for the inspection or testing firm/entity to submit a copy of the report directly to the DPMC representative. The Contractor shall ensure that all such reports are submitted within fourteen (14) calendar days of the test or inspection.

4.10.8 In addition to tests performed by the Contractor, the State reserves the right to engage an independent testing agency or firm to perform testing inspections. The Contractor shall provide full access, provide samples, and cooperate fully with this testing agency.

4.10.9 Testing requirements for real property installed equipment (RPIE) to be furnished by the Contractor, when such testing is required by Code, Contract, or the manufacturer, shall be performed by a testing laboratory pre-qualified by DPMC, or in the absence of such, by the manufacturer or its authorized representative. The Contractor shall provide five working days' notice to the DPMC representative, to allow sufficient opportunity to witness the test.

4.10.10 The DPMC may order that any part of the Work be re-examined by the DPMC, and if so ordered, the Contractor shall open or uncover such work for re-inspection by the DPMC. If such work is found to be in accordance with the Contract, the DPMC shall pay the cost of re-inspection; however, if such work is not found to be in accordance with the Contract, the Contractor shall be responsible for the cost of re-inspection and replacement of any defective or non-conforming work.

4.11 EQUIPMENT AND MATERIALS

4.11.1 The Contractor warrants that all materials and equipment furnished under the Contract will be new, unless otherwise specified, and that all work will be of good quality, free from faults, defects, and installed in conformance with the Contract Documents. All work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective and rejected by the DPMC or the Architect/Engineer. If required by the Architect/Engineer or the DPMC, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty shall be in addition to but not in lieu of any other warranty or guarantee provided for in the Contract.

4.11.2 The Contractor shall submit to the Architect/Engineer an original and six copies of the request for approval of materials on the form provided by DPMC for approval. Each item of material listed shall be marked "As Specified", "Substitution" or "Unspecified" as appropriate.

4.11.3 The Contractor shall furnish and deliver the necessary equipment and materials in ample quantities and as frequently as required to avoid delay in the progress of the Work and shall store them so as not to cause interference with the orderly progress of the Project.

4.11.4 The Contractor shall furnish and pay for all necessary transportation, storage, scaffolding, centering, forms, water, labor, tools, light and power and mechanical appliances and all other means, materials and supplies for properly executing the Work under this Contract, unless expressly specified otherwise in the Contract Documents. The Contractor shall have its representatives at the Site to accept delivered materials. State agencies employees and/or representatives will not accept materials, nor will State agency employees and/or representatives be responsible for damage, theft, or disappearance of the Contractor's materials, equipment, tools, or other property.

4.11.5 Products manufactured in the United States shall be used in this work, whenever available. Wherever practicable, preference shall be given at all times to material and equipment manufactured or produced in the State of New Jersey, where such preference is reasonable and will best serve the interest of the State.

4.11.6 No materials, equipment, or supplies for the Work shall be purchased by the Contractor subject to any lien or encumbrance or other agreement by which an interest is retained by the seller. This clause shall be a condition included in all agreements between the Contractor and its Subcontractors. The Contractor warrants, by signing its invoice, that it has good and sufficient title to all such material, equipment and supplies used by it in the Work, free from all liens, claims or encumbrances.

4.12 TEMPORARY FACILITIES

The Contractor shall be responsible for providing for its own storage areas, employee vehicular parking and staging areas, excavation borrow/spoils designated areas, commercial canteen areas, and all other areas necessary for use by the Contractor. The Contractor shall locate these areas to suit Project requirements, subject to DPMC approval.

4.12.1 Field Offices - The Contractor will provide and maintain during the contract duration an on-Site suitable weather-tight insulated field office conveniently located and shall maintain therein a complete set of Contract Documents including plans, specifications, CPM network diagrams, Change Orders, logs and other details and Project correspondence. Subject to the DPMC's written approval and at a date designated by DPMC, the field office may be removed upon enclosure of the building and space may be allocated for field offices within the building. The contents and operations will be transferred to the interior of the Project building by the Contractor and said office(s) shall be maintained by the Contractor until final acceptance or until the DPMC approves its removal. The Contractor will be responsible to obtain and pay for all permits required for the Contractor's field offices.

4.12.2 Telephones - The Contractor shall provide its own telephones. The State will be responsible only for the cost of calls made by State employees. if there is a documented cost for same.

4.12.3 Storage - The Contractor will provide and maintain, for its own use suitable and safe temporary storage, tool shops, and employees' sheds for proper protection, storage work and shelter. The Contractor shall maintain these structures properly and remove the structures at the completion of work. The Contractor shall be responsible to maintain

these facilities and the areas around the facilities in a clear and clean manner. The Contractor shall be responsible for correcting defects and damage caused by such use. Rooms in buildings at the Project Site may be used as shops and storerooms, conditioned upon written approval from DPMC.

4.12.4 Toilet Facilities

- a. The Contractor shall provide and pay for suitable temporary toilets at an approved location on the Site and prior to the start of any field work. The toilet facilities shall comply with federal, State and local laws and regulations. The Contractor will be responsible for maintenance, removal and relocation as described hereinafter.
- b. The Contractor shall provide a temporary toilet and/or indoor toilet connected to water and sewer to accommodate the meeting room and the Architect/Engineer's office, as well as the DPMC office.
- c. Toilets shall be serviced by a qualified and experienced firm authorized to maintain services.
- d. Each portable toilet facility shall be maintained in a neat and clean condition and serviced at least twice a week, including the removal of waste matter, sterilizing, recharging tank, refilling tissue holders, and thoroughly cleaning and scrubbing entire interior.
- e. Toilet facilities in a multiple-story building shall be located on no less than every other floor, unless otherwise directed in writing.
- f. Toilet service shall be relocated inside the building and connected to water and sewer as the progress of the Work will allow.
- g. When temporary toilets are connected to water and sewer lines, precautions shall be taken to prevent freezing.
- h. The Contractor shall remove the temporary toilet units from the Work Site at the completion of the Work, or when so directed by the DPMC or the Architect/Engineer.
- i. Workers are not to use the finished bathroom and toilet facilities in the Project buildings. Reasonable steps must be taken by the Contractor to enforce this rule.

4.12.5 Access, Roads and Walks

- a. The Contractor shall be responsible for providing and maintaining unobstructed traffic lanes on the designated construction access routes shown on the Contract Drawings or as reasonably required so as to perform the Work. The Contractor shall provide and maintain all reasonably required safety devices. The Contractor shall provide any necessary additional materials, grading and compaction, and shall remove snow and debris as necessary to provide and maintain the access roadbed and pedestrian ways in serviceable condition.
- b. The Contractor shall be responsible for constructing and maintaining all roadways, drives and parking areas within or proximate to the Site free and clear

of debris, gravel, mud, snow, ice, or any other Site materials, by ensuring that all reasonably necessary measures are taken to prevent such materials from being deposited on such surfaces. This includes, as may be appropriate, the cleaning of vehicle wheels and/or other necessary maintenance, prior to exit from the Construction Site. Should such surface require cleaning, the Contractor will clean these surfaces without additional cost to the State. The Contractor will be held accountable for any citations, fines, or penalties imposed on the State for failing to comply with local rules and regulations related to Site and off-Site maintenance.

c. The Contractor shall not commence final construction of permanent driveways, parking areas or walks without the written approval of the DPMC. The Contractor shall provide additional materials and labor for maintaining and reworking the sub-grade prior to completion of the Work, to ensure improvements conform fully to the specifications.

d. The Contractor shall obtain written permission from the State for the use of any existing driveways or parking areas not specifically designated for such use in the Contract Documents. If permission is granted, the Contractor shall maintain such driveways and areas in good condition during the construction period, and at the completion of the Project, shall leave them in the same or better condition as at the start of the Work. Conditions before use shall be carefully photographed and documented by the Contractor.

4.12.6 Light and Power

a. The Contractor shall extend electrical service to the building or buildings at locations approved by the DPMC. Temporary electrical service shall be independent of the existing permanent service. Initial temporary service shall be three phase or single phase as indicated in the Contract Documents. The Contractor is responsible to investigate and verify the appropriateness and availability of electrical service with the local utility company prior to the bid date. The Contractor's bid shall be deemed to include all costs associated with providing this power. Temporary light and power installations, wiring, and miscellaneous electrical hardware must meet the electrical Code and will be inspected by NJUCC officials. The Contractor shall provide the necessary distributing facilities and a meter and shall pay the cost of running temporary services from the nearest utility company power pole. All costs shall be included in the Contractor's bid.

b. In the event that a water well is the source of water supply for the Project, the extension of electrical service shall include the necessary wiring of sufficient capacity to the location of the well for the operation of the well pump. Where service of a type other than herein mentioned is required, the Contractor requiring it shall install and pay all costs of such special service. The size and incoming service and main distribution switch and panel shall be sized as any service by NEC requirements.

c. The Contractor shall provide all electrical service for the operation of elevator equipment during construction.

d. The Contractor shall pay for the cost of all electric energy used on distribution lines installed.

e. The Contractor shall provide and pay for all maintenance, servicing, operation and supervision of the service and distribution facilities.

f. If the Contractor fails to carry out its responsibility in the supplying uninterrupted light and power as set forth herein, the Contractor shall be held responsible for such failure, and the DPMC shall have the right to take such action as is deemed proper for the protection and conduct of the Work. Any costs associated with DPMC obtaining or supplying light and power shall be deducted from any payment due to the Contractor.

g. The Contractor shall comply with the requirements of the Federal Occupational Safety and Health Act of 1970 with regard to temporary light and power.

4.12.7 Temporary Enclosures

Whenever necessary in order to maintain proper temperatures for the execution or protection of the Work, the Contractor shall furnish and maintain temporary enclosures for all openings in exterior walls that are not enclosed with finished materials. Temporary wood doors shall be provided at door openings.

4.12.8 Temporary Heating, Ventilation and Air Conditioning

a. Prior to Enclosure - Prior to the building being enclosed by walls and roof, if the outside temperatures falls below 45 degrees Fahrenheit ("F") at any time during the day or night, and heat is required for work in progress or for its protection or curing, the Contractor shall furnish, at its expense, acceptable means to provide sufficient temporary heat to maintain a temperature required by the Work being performed but in no case less than 45 degrees F.

b. Generally Enclosed

(1) For the purposes of establishing the beginning of the Contractor's obligation to provide temporary heat, a building or major unit thereof shall be considered generally enclosed when (a) the exterior walls have been erected, (b) a temporary roof or permanent roof is installed and in a watertight condition, and (c) temporary or permanent doors are hung and window openings are closed with either permanent or temporary weather-tight enclosures. A major unit of buildings as referred to herein shall be: (a) an entire separate structure, or (b) a fully enclosed wing which shall have a floor area equal to at least 50% (fifty percent) of the total floor area of the Project.

(2) As soon as the DPMC determines that the building, or a major unit thereof, is "generally enclosed" by walls and roof, and when the outside temperature falls below 55 degrees F. at any time during the day or night, the Contractor shall furnish sufficient heat by the use and maintenance of LP gas heaters or other acceptable means to maintain a temperature of not less than 55 degrees F. within the enclosed area of the building at all

times, and shall remove such heaters when no longer required. The Contractor will be held responsible for providing temporary heat and for all damages resulting from freeze-ups, for the duration of the Project from the time the building is generally enclosed to final acceptance and occupancy. The Contractor shall remove soot, smudges, and other deposits from walls, ceilings, and all exposed surfaces which are the result of the use of heating equipment, including the permanent heating system, during the period of its use for supplying heat. The Contractor shall not do any finish work until the areas are properly cleaned. The Contractor shall provide or arrange, at its own expense, supervision of the heating equipment at all times prior to providing heat, using the permanent heating

system. This obligation shall commence immediately after the acknowledged permanent enclosure of the building or buildings, as confirmed by the DPMC. The Contractor shall furnish and pay for all fuel for heat required during the period when the building is generally or permanently enclosed.

(3) The Contractor shall not assume that the permanent heating system or any part thereof will be available for furnishing of temporary heat during the period for which temporary heat is required. The Contractor's base bid price shall therefore include the cost of all equipment necessary for providing temporary heat as required by the Contract Documents. The Contractor may use the permanent heating system, with written approval from DPMC. Such use however does not cause to commence the equipment's warranties and guarantees. The equipment's warranties and guarantees shall not commence to run until the State takes beneficial use of the Project and facility for the purposes intended.

(4) All heating equipment shall be NFPA-approved and connected to approved flues to the atmosphere. Heaters shall be approved by a recognized testing laboratory and must be equipped with a positive shutoff safety valve.

(5) Storage of gas cylinders within the building will not be permitted at any time.

(6) The Contractor shall provide fire extinguishers on each floor where heaters are used, and the areas must be adequately ventilated.

c. Permanent Enclosure

(1) When the building enclosure has been confirmed by the Architect/Engineer has been completed in accordance with the Contract Documents, and to the satisfaction of DPMC, it shall be considered permanently enclosed. The Architect/Engineer will also confirm in the job meeting minutes that the building, or a major unit thereof, is permanently enclosed.

(3) The Contractor shall install adequate controls to make such temporary connection as required for the operation of the HVAC system.

Should the heating system be designed for the tie-in to existing steam lines for resource of heat, the State will provide steam for temporary heat through the Project permanent heating system, at no cost to the Contractor, after the tie-in is completed by the Contractor.

(4) When the building enclosure has been confirmed by the A/E as completed, the Contractor may request permission to operate the permanent HVAC system to meet its temporary HVAC obligation. The Contractor shall maintain a minimum temperature of 55 degrees F., or a higher temperature, not to exceed 75 degrees F., as may be directed by the Contract Documents for the proper conduct and protection of the Work. The Contractor shall do so until such time as its work is completed and accepted and the Contractor is relieved of this requirement in writing by the DPMC. The Contractor shall pay for and be responsible for the maintenance in accordance with the manufacturer's recommendations, operation and supervision of the HVAC system, including the cost of all water, electricity, and fuel, until the State assumes beneficial occupancy/use of the Project.

4.12.10 Temporary Water

a. The Contractor shall provide, protect and maintain an adequate valved water supply. If the source of water supply is a well, provisions covering the supply water will include the installation of necessary power-driven pumping facilities. The well shall be protected against contamination. The water supply shall be tested periodically by the Contractor, and if necessary, shall be chlorinated and filtered. All costs of providing water will be paid for by the Contractor.

b. The Contractor is responsible to protect all temporary and permanent water lines from damage or freezing. Should water connections be made to an existing line, the Contractor shall provide a positive shut-off valve at its own cost and expense.

4.12.11 Standby Personnel

If, pursuant to trade agreement to which the Contractor is a party, the Contractor is obligated, to employ standby personnel then the Contractor shall determine and include all such costs thereof in its bid proposal. The Contractor shall not, at any time, make a claim to the State for costs relating to standby maintenance or standby supervision for electric motor-driven or other equipment.

4.12.12 Dust Control

a. The Contractor shall provide and maintain necessary temporary dust-proof partitions around areas of Work in any existing building or in new building areas as directed by the Architect/Engineer or the DPMC.

b. The Contractor shall provide and maintain Site dust control of Projects with on-Site construction as directed by the Architect/Engineer or the DPMC.

4.13 STORAGE AND SITE MAINTENANCE

4.13.1 The Contractor shall confine its apparatus, the storage of its equipment, tools and materials, and its operations and workers to areas permitted by law, ordinances, permits, and Contract as set forth in the Contract Documents, the rules and regulations of the State, or as ordered by the DPMC. The Contractor shall not unreasonably encumber the Site or the premises with materials, tools and equipment.

4.13.2 The Contractor shall, at all times during the progress of the Work keep the premises and the job Site free from the accumulation of all refuse, rubbish, scrap materials and debris caused by its operations and/or the actions of its employees, Subcontractors and/or workers, to ensure that, at all times, the premises and Site shall present a neat, orderly and workmanlike appearance. This is to be accomplished as frequently as is necessary by the removal of such refuse, rubbish, scrap materials and debris from the Site and the State's premises. Loading, cartage, hauling and dumping of same will be at the Contractor's expense.

4.13.3 At the completion of the Work, the Contractor shall remove all of its tools, construction equipment, machinery, temporary staging, false work, mock-ups, form work, shoring, bracing, protective enclosures, scaffolding, stairs, chutes, ramps, runways, hoisting equipment, elevators, derricks, cranes, and any other materials and equipment brought onto the Project Site.

4.13.4 Should the Contractor not promptly and properly discharge its obligation relating to Site maintenance and/or final clean up, the State shall have the right to employ others and to charge the resulting cost to the Contractor after first having given the Contractor a three-working day written notice of such intent.

4.13.5 The Contractor's responsibilities for final clean up shall include:

- a. Removal of all debris and rubbish resulting from or relating to the Contractor's work. Rubbish shall not be thrown from building openings above the ground floor unless contained within chutes.
- b. Removal of stains from glass and mirrors. Glass shall be washed and polished inside and outside.
- c. Removal of marks, stains, fingerprints, soil, dust or dirt from painted, decorated or stained woodwork, plaster or plasterboard, metal acoustic tile and equipment surfaces.
- d. Removal of spots, paint and soil from resilient, glazed and unglazed masonry and ceramic flooring and wall work.
- e. Removal of temporary floor protections; and cleaning, washing or otherwise treating and/or polishing, as directed, all finished floors.
- f. Cleaning of exterior and interior metal surfaces, including doors, window frames and hardware, of oil stains, dust, dirt, paint, etc. Polishing and removal of fingerprints or blemishes from such surfaces shall be completed, as applicable.

- g. Restoration of all landscaping, roadways and walkways to preexisting condition. Damage to trees and plantings shall be repaired in the next planting season, and such shall be guaranteed for one year from the date of repair and/or replanting.

4.13.6 All construction equipment, materials and/or supplies of any kind, character or description, regardless of value, which remain on the job Site for more than 30 (thirty) calendar days from the date of the Certificate of Final Acceptance, shall become the property of the State. Such construction equipment, materials and/or supplies will be disposed of in any manner the State shall deem reasonable and proper. The cost of this disposal will be deducted from any sums due the Contractor. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the State.

4.14 CUT-OVERS AND INTERRUPTIONS

All cut-overs of mechanical and electrical services to existing buildings shall be approved, scheduled and coordinated in advance with the DPMC's representative and performed at a time convenient to the occupants of said buildings so as not to unreasonably interfere with its operations.

4.15 PROTECTION/SAFETY

4.15.1 Safety Precautions and Programs – The Contractor shall be responsible for initiating, maintaining and supervising all required safety precautions and programs in connection with the Work. The Contractor shall designate a responsible member of its organization at the Site whose duty shall be the prevention of accidents. This person shall be competent to review, implement and coordinate the safety programs being performed as required by Occupational Safety and Health Administration (OSHA) or any other agency having authority over safety on a State Construction Site.

4.15.2 Protection of Persons

- a. The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:
 - (1) Every employee on the Site and all other persons who may be affected thereby;
 - (2) All the Work and all materials and equipment to be incorporated therein, whether in storage on or off the Site, under the care, custody or control of the Contractor, or any of its Subcontractor(s) or lower tier sub-Subcontractor(s); and
 - (3) Other property at the Site or adjacent thereto (whether owned by the State or not), including but not limited to trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

b. The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

c. The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including but not limited to rails, night-lights, aircraft warning lights, the posting of danger signs and other warnings against hazards, promulgating safety regulations, notifying Owners and users of adjacent utilities and other means of protection against accidental injury or damage to persons and property.

d. The Contractor shall not load or permit any part of the Work to be loaded so as to endanger the safety of the project, its employees, or any other person on the project Site.

e. The Contractor shall promptly remedy all damage or loss to any property caused in whole or in part by the Contractor, any of its Subcontractors, lower tier Subcontractors, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible. These obligations are in addition to those stated elsewhere herein.

4.15.3 Protection of Property

The Contractor shall have full responsibility to install, protect, and maintain all materials and supplies in proper condition whether in storage or off the site and to immediately repair and/or replace any such damage until Final Acceptance. The Contractor shall maintain an inventory of all materials and supplies for the Work at the Site, that are delivered to the site, or delivered to approved off-site storage facilities. The State shall not be liable for any damage, theft or negligent injury to the Contractor's property.

4.15.4 Hazardous Materials

a. When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

b. The Contractor shall maintain all records, reports and files of the general storage and handling of hazardous materials as required by any and all federal, State and/or local regulatory agencies.

4.16.5 Emergencies

In any emergency affecting the safety of persons or property, the Contractor shall act with diligence to prevent threatening injury, damage or loss. In such case, the Contractor shall immediately, but in no case, not more than 24-hours following the emergency, notify the DPMC and the Architect/Engineer of the action taken.

4.16 UNCOVERING AND CORRECTION OF WORK

4.16.1 Uncovering of Work

- a. The Contractor is obligated to provide reasonable notice to the DPMC and/or the Architect/Engineer of all work scheduled to be covered, to permit DPMC and the Architect/Engineer the opportunity to inspect the Work prior to actual covering. If any portion of the Work is covered prior to inspection by the DPMC or the Architect/Engineer, it shall be uncovered for observation. Uncovering and replacement of the covering shall be at the Contractor's expense.
- b. The DPMC and/or the Architect/Engineer may request any work be uncovered by the Contractor for inspection. If such work is found to be in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be reimbursed to the Contractor. If such work is found not to be in accordance with the Contract Documents, the Contractor shall pay all associated costs.

4.16.2 Correction of Work

- a. The Contractor shall promptly correct all work rejected by the DPMC or the Architect/Engineer as defective or failing to conform to the Contract Documents, whether observed before or after final acceptance and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected work, including the costs of all consultant services including but not limited to the Architect/Engineer's additional services.
- b. The Contractor shall remove from the site, at its own expense, all portions of the Work which are defective or non-conforming and which have not been corrected, unless removal is waived by the DPMC.
- c. If the Contractor fails to correct defective or non-conforming work in a reasonable time fixed by written notice from DPMC, then DPMC may make arrangements for such correction by others and charge the cost of so doing to the Contractor.
- d. If the Contractor does not proceed with the removal and correction of such defective or non-conforming work within a reasonable time, fixed by written notice from the DPMC or the Architect/Engineer, any materials or equipment shall become the property of the State and the DPMC may remove and dispose the non-conforming work in any manner to best meet the interest of the State. If such material is sold and the proceeds of the sale do not cover all costs which the Contractor should have borne and any additional cost incurred by the State in the uncovering, removal, disposal and correction of non-conforming work, the difference shall be charged to the Contractor and an appropriate credit Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the State.
- e. The Contractor shall be responsible for the cost of making good all work destroyed or damaged by such correction or removal.

- f. Notwithstanding other obligations within the Contract Documents, nothing contained herein shall be construed to establish a time or date limitation upon which the DPMC must discover non-conforming work.

4.16.3 Acceptance of Non-Conforming Work

The DPMC may determine that the best interests of the State will be served by accepting defective or non-conforming work instead of requiring its removal and correction. In such instance, the DPMC may, by any means available, exact an appropriate reduction in the Contract sum. Such adjustment shall be effected regardless of final payment having previously been made, and the Contractor and/or its surety shall be responsible for promptly remitting any funds due the State as a result thereof.

4.17 LAYOUT AND DIMENSIONAL CONTROL

4.17.1 The Contractor shall be responsible for locating and laying out the building and all of its parts on the site, in strict accordance with the Contract Documents, and shall accurately establish and maintain dimensional control. The Contractor shall employ and pay for the services of a competent and licensed New Jersey engineer or land surveyor who shall be pre-qualified by DPMC to perform all layout work, and to test the level of excavations, footing base plates, columns, walls and floor and roof lines, and furnish to the Architect/Engineer, as the Work progresses, certifications that each of such levels is as required by the drawings. The plumb lines of walls shall be tested and certified by the surveyor as the Work progresses.

4.17.2 The Contractor's engineer/surveyor, in the course of layout work either on the site or within any building, shall establish all points, lines, elevations, grades and bench marks for proper control and execution of the Work. The Contractor's engineer/surveyor shall establish a single permanent benchmark as set forth in the Contract Documents to which all three coordinates of dimensional control shall be referenced. The Contractor's engineer/surveyor shall verify all Owner-furnished survey data including but not limited to topographical and utility location points, lines, elevations, grades and benchmarks, and buildings. Should any discrepancies be found between information given on the Contract Documents and the actual site or field conditions, the Contractor shall notify DPMC and the Architect/Engineer in writing of such discrepancy and shall not proceed with any work affected until receipt of written instructions from the DPMC.

4.18 PROJECT SIGN

The Contractor shall erect and maintain one sign at the Project Site, as set forth in the Contract Documents and located as directed by the Architect/Engineer. Painting shall be done by a professional sign painter, with two coats of exterior paint, colors, letter face and layout as shown. No other sign will be permitted at the site. Upon completion of the Project, and when directed by the Architect/Engineer or the DPMC, the Contractor shall remove the sign.

4.19 SECURITY

4.19.1 The Contractor shall provide all locks, doors and security construction and personnel as required to secure the Project building throughout the period of construction.

4.19.2 The Contractor shall be responsible for the security of any temporary structures located on the premises outside of the building and/or any stored materials.

4.20 DPMC FIELD OFFICE

4.20.1 The Contractor will provide on-site, suitable, separate, weather-tight, insulated (floor, walls, ceilings) field office facilities for the use of DPMC personnel, as more fully described in the Contract Documents. At a minimum, the Contractor is to supply this field office with toilet facilities, heating and air conditioning, tables and chairs, and phone and data communication lines. At a time determined by the DPMC or the Architect/Engineer, the Contractor shall remove field facilities upon enclosure of the Project building and shall relocate the contents and operations of the field office to the interior of the Project building until completion of the Project.

4.20.2 The Contractor shall be responsible for the maintenance of both offices and the meeting room, including the cost of heating, air conditioning, electric current, and janitorial service.

4.21 PHOTOGRAPHS

4.21.1 The Contractor shall submit monthly progress photographs in duplicate to the DPMC, giving six (6) views of the Work with each application for payment until the Project is completed.

4.21.2 The photographs shall be 8" by 10" shall bear the date and time of the exposure, the DPMC Project number and title, the names of the Contractor and the name of the Architect/Engineer. All photographs shall also be submitted in digital format.

4.22 REPAIR OF FINISHED SURFACES, APPLIED FINISHES, GLASS

4.22.1 The Contractor accepts sole responsibility for repair of uncontrolled dislodging, cracking, delaminating or peeling of finished surfaces such as concrete, pre-cast concrete, cast and natural stone, unit masonry, millwork, plaster, glass and applied finishes such as compound, paint, and special coatings, within the Contract Work and the limits of specified guarantee periods, regardless of the cause.

4.22.2 The Contractor shall be responsible for replacement of all broken glass, regardless of the cause. The Contractor shall replace all broken, scratched or otherwise damaged glass before the completion and acceptance of the Work. If breakage is caused by the Owner, the Contractor will be reimbursed for the replacement costs. The Contractor shall wash all glass on both sides at completion, or when directed, removing all paint spots, stains, plaster, and other materials.

ARTICLE 5 - SUBCONTRACTORS

5.1 SUBCONTRACTORS AND MATERIAL SUPPLIER APPROVALS

5.1.1 Upon their execution, but not less than fourteen (14) calendar days prior to Subcontractor mobilization on the site, and/or Subcontractor billing, the Contractor shall forward to the Architect/Engineer on the form provided by the DPMC the names of all its Subcontractors and suppliers, of such others as the DPMC may direct, proposed to perform the principal parts of the Work. The Contractor shall forward the appropriate DPMC form to the Architect/Engineer for approval. Department of Labor Contractor Registration and New Jersey Business Registration Certificate are required for all Subcontractors.

5.1.2 If the DPMC has objection to any proposed or approved Subcontractor and/or material supplier, the Contractor shall substitute another Subcontractor and/or material supplier acceptable to DPMC. Under no circumstances shall the State be obligated for additional cost due to such substitution.

5.1.3 After the acceptance of bids, the Contractor shall make no substitution of any Subcontractor person or firm previously selected and approved, without prior written approval from the Architect/Engineer and DPMC. A Contractor seeking to substitute a Subcontractor person or firm shall provide written request for substitution no less than fourteen (14) calendar days prior to the execution of Work by the Subcontractor or material supplier.

5.1.4 Approval of a Subcontractor or material supplier by the DPMC and Architect/Engineer shall not relieve the Contractor of the responsibility of complying with all provisions of the Contract Documents. The approval of a Subcontractor or material supplier does not imply approval of any construction, material, equipment or supplies.

5.2 CONTRACTOR-SUBCONTRACTOR RELATIONSHIP

5.2.1 The Contractor acknowledges its full responsibility to the State for the acts and omissions of its Subcontractors and lower tier subcontractors, and of persons and firms either directly or indirectly employed by them, equally to the extent that the Contractor is responsible for the acts and omissions of persons and firms directly or indirectly employed by it. The Contractor acknowledges that it remains fully responsible for the proper performance of its Contract regardless of whether work is performed by the Contractor's own forces or by Subcontractors engaged by the Contractor.

5.2.2 Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and the State. Further, no Subcontractor or material supplier shall be deemed an intended third party beneficiary under this Contract.

5.2.3 The Contractor and all Subcontractors agree that, in the employment of both skilled and unskilled labor, preference shall be given to residents of the State of New Jersey, if such labor force is available.

5.2.4 The Contractor shall require, in its agreements with Subcontractors and as a condition of agreement, that each Subcontractor require in its agreement(s) with lower tier Subcontractors and Suppliers, that the Subcontractor understands that there is no contractual obligation of any kind between the State and Subcontractor and the Subcontractor's sole recourse lies with the Contractor and/or the surety, and not with the State, that each Subcontractor and lower tier Subcontractor, bound by the terms of the Contract Documents for this Contract, and assume toward the Contractor all the obligations and responsibilities which the Contractor assumes, pursuant to the Contract Documents.

ARTICLE 6 - CONSTRUCTION PROGRESS SCHEDULE

6.1 GENERAL

The State may contract for the services of a Critical Path Method (CPM) scheduling consultant for Project planning, scheduling and cost control. If such has been arranged, then section 6.2 shall apply to the Contract between the State and the Contractor. In the absence of a statement in the bid documents that a CPM consultant has been retained by the State, then section 6.3 shall apply.

6.2 CONSTRUCTION PROGRESS SCHEDULE (CRITICAL PATH METHOD -- CPM CONSULTANT RETAINED BY THE STATE)

6.2.1 Critical Path Method

- a. The Project will be monitored by a detailed critical path method scheduling system. This system shall be the basis for the evaluation of the Contractor's performance and for progress payments to the Contractor.
- b. The Contractor shall provide all the information necessary for the CPM consultant employed by DPMC to develop a CPM network plan demonstrating complete fulfillment of all construction Contract requirements and, as necessary, for the CPM consultant to maintain an accurate CPM schedule throughout the Project. The Contractor, in consultation with the CPM consultant, will establish construction logic and activity time duration consistent with Contract documents and Project requirements. The CPM consultant will establish the level of detail to be reflected on the CPM schedule. The Contractor shall utilize the schedule in planning, coordinating and performing the Work, including all activities of Subcontractors, equipment vendors and material suppliers.
- c. The Contractor agrees that the CPM consultant's Project network schedule is the designated plan for completion of all work in the allotted time, and the Contractor will assume full responsibility for the execution of the Work as shown. The Contractor shall indicate formal acceptance of the schedule by signing the final initial (baseline) network diagrams and computer schedule listing.
- d. The Contractor shall furnish sufficient labor and construction equipment to ensure the execution of the Work in accordance with the approved CPM progress schedule. If, in the opinion of the DPMC, a Contractor falls behind the CPM progress schedule, the Contractor shall take any and all such steps as may be necessary to bring its work into compliance with the CPM progress schedule. The DPMC may require the Contractor to increase the number of shifts, days of work and/or the amount of construction labor, plant and equipment, all without additional cost to the State.
- e. The Contractor shall make no claim for, and have no right to, additional payment or extension of time for completion of the Work, or any other concession because of any misinterpretation or misunderstanding on the Contractor's part of the CPM progress schedule, the Contractor's failure to attend the pre-bid

conference, or because of any failure on the Contractor's part to become fully acquainted with all conditions relating to the CPM progress schedule and the manner in which it will be used on the Project, or because of any Subcontractor's failure to properly participate in the development of a CPM progress schedule or to perform the Contract in accordance with the CPM progress schedule.

6.2.2 Initial Submittal

a. To the extent necessary for the CPM consultant to reflect in the network diagrams the plan for completion of this Contract, the Contractor shall meet with and assist the CPM consultant and furnish, within ten (10) calendar days after award of this Contract, all necessary information for the preparation of the CPM progress schedule. This information shall include, but not necessarily be limited to, a logical sequencing of work operations, activity time estimates, intended crew flow, activity costs and estimated manpower requirements for each activity.

(1) The network diagram shall show the sequence and interdependence of activities required for the Project. In preparing the network diagram, the Contractor shall assist the CPM consultant by breaking up the Work into activities of a duration of no longer than ten (10) working days each, except as to non-construction activities (such as procurement of materials, delivery of equipment and concrete curing) and any other activities for which the CPM consultant may approve the showing of longer duration. The diagram shall show not only the activities for actual construction but also such activities as the Contractor's submittal of shop drawings, templates and equipment, material fabrication, delivery of equipment and material, substantial completion, final completion, punch list and closeout, and the delivery of Owner-furnished equipment, if applicable. The Contractor shall provide activity durations to the CPM consultant for each activity on the diagram.

(2) If requested by the CPM consultant, the Contractor shall furnish any information needed to justify the reasonableness of activity time duration. Such information shall include, but not be limited to, estimated activity manpower, unit quantities, and production rates.

(3) Failure by either the Contractor or the CPM consultant to include any element of work required for the performance of the Contract shall not excuse the Contractor from completing all work required within any applicable date, notwithstanding DPMC approval of the network diagrams.

(4) The CPM consultant will establish the level of detail to be reflected in the CPM system.

(5) Seasonal weather conditions shall be considered in the planning and scheduling of all work influenced by high or low ambient temperatures for the completion of all Contract work within the allotted Contract duration. In addition, appropriate allowances shall be made for anticipated time losses due to normal rain and snow conditions based on

the previous five-year average for that geographical area, by statistically expanding the estimated time duration for weather-sensitive activities, to ensure that the required completion date is achieved.

b. The Contractor shall be prepared to meet as many times as necessary with the CPM consultant to develop the information required for the timely development of the progress CPM schedule.

c. The Contractor shall furnish a breakdown of its total Contract price by assigning dollar values to each applicable network activity, coded for the Contractor and each Subcontractor, which cumulatively equals the total Contract amount. Upon acceptance by DPMC, the values will be used as a basis for determining progress payments. Progress payments to the Contractor shall be dependent upon final acceptance by DPMC of the cost-loaded progress CPM schedule.

d. Accompanying the network diagram and computer scheduling listing, the CPM consultant will furnish a computer-generated cost requisition listing, which will provide a separate tabulation of each activity shown on the CPM schedule in order of bid item or trade responsibility code as agreed to by DPMC. This listing will show, for each activity, the Contractor and each Subcontractor, the estimated dollar value of Work in place for totally or partially completed activities, including subtotals by bid items and grand totals for the entire Project. The cost requisition listing will also contain monthly activities reflecting the cost of Project overhead and administrative expenses, and activities reflecting the monthly cost of administering Project General Conditions.

6.2.3 Review and Approval:

a. After receipt of the initial network diagram, computer-produced schedule and cost requisition listing, the DPMC representative shall meet with the Contractor and CPM consultant for joint review, correction, or adjustment of the proposed plan and progress CPM schedule to evaluate the cost values assigned to each activity. Within ten (10) calendar days after the joint review, the CPM consultant will revise the network diagram and/or computer-produced schedule in accordance with agreements reached during the joint review and shall submit two (2) copies each of the revised network diagram, computer-produced schedule and cost requisition listing to DPMC. The revised schedule documents will be reviewed by DPMC and, if found to be as agreed upon, will be approved. A copy of each will be returned to the CPM consultant for distribution and the CPM consultant shall forward same to the Contractor by email and/or overnight mail. The Contractor shall review these documents and shall indicate acceptance by signing the schedule documents. If the Contractor objects to the schedule documents, the Contractor shall forward these objections in writing to DPMC within ten (10) calendar days of the date of receipt of same or be deemed to have accepted the schedule documents. Objections shall include the precise activities of the schedule to which the Contractor objects and identify the basis of the objection. The Contractor will then meet with the DPMC representative and the CPM consultant to review the Contractor's objections. The CPM consultant may

revise the network diagram and the computer-produced schedule in accordance with the agreements reached during this final review and shall submit two (2) copies each of the revised network diagram, computer-produced schedule and cost requisition listing to DPMC. The re-submission will be reviewed by DPMC and, if found to be as agreed upon, will be approved and a copy of each will be returned to the CPM consultant for distribution and the CPM consultant shall forward same to the Contractor by email and/or overnight mail. The Contractor shall review these schedule documents to ensure that the documents reflect all changes agreed upon, accept and sign. The Contractor shall indicate its acceptance by signing the scheduling documents, computer-produced schedule and cost requisition. Approval will be without reservation, and the Contractor will be deemed to have accepted the schedule as adequate, proper and binding in all respects and shall not raise further objections to the schedule.

b. After the network diagrams and computer-produced schedule have been signed by the Contractor, the CPM consultant shall forward to the Contractor and DPMC one set of copies of the network diagrams and computer-produced schedule. The network diagram and the computer-produced schedule with approved signatures shall constitute the Project work schedule until subsequently revised in accordance with the requirements of this section.

6.2.4 Progress Reporting and Changes:

a. Once every month, or more often if required by DPMC, the Contractor shall meet with the CPM consultant and DPMC's representative(s) and provide the information necessary for the CPM consultant to prepare and submit to DPMC a revised (updated) network diagram and computer-generated schedule listing showing:

- (1) Approved changes in activity sequencing;
- (2) Changes in activity duration for activities not started or partially completed where agreed upon;
- (3) The effect on the network of any delays in any activities in progress, and/or the impact of known delays which are expected to affect future work;
- (4) The effect of Contractor modifications (activity duration, logic and cost estimates) to the network;
- (5) Changes to activity logic, where agreed upon, to reflect revision in the Contractor's work plan, i.e., changes in activity duration, cost estimates, and activity sequences for the purposes of regaining lost time or improving progress; and
- (6) Changes to milestones, due dates, and the overall Contract completion date which have been agreed upon by DPMC since the last revision of the CPM schedule.

b. The CPM schedule shall accurately reflect the manner in which the Contractor intends to proceed with the Project and shall incorporate the impact of

all delays, Change Orders and change events as soon as these factors can be defined. All changes made to the schedule shall be subject to approval by DPMC prior to inclusion in the CPM schedule. If the DPMC representative and the Contractor are unable to agree as to the amount of time to be allowed for Change Order work, or the manner in which the Work is to be reflected on the network diagram, the CPM consultant will reflect the logic and time duration furnished by the Contractor for the Change Order work pending final DPMC decision. If non-approved Contractor logic and time durations are used, the Contractor agrees that any time which is projected to be lost on the Project as a result of these schedule changes will be considered the responsibility of the Contractor until a final agreement has been made or a final decision rendered by DPMC regarding the manner in which the Change Order work is to be reflected on the schedule. When this final decision has been made by DPMC, the CPM consultant shall revise the CPM schedule in accordance with such decision and issue a final analysis of the effect of the change on the Project.

c. If the Contractor desires to revise the logic of the approved progress CPM schedule to reflect a sequence of construction that differs from that to which was previously agreed, the Contractor must first obtain the approval of DPMC.

(1) Once each month, at the same time the network is updated, the CPM consultant, the Contractor and the DPMC representative(s) shall jointly make entries on the preceding network diagram schedule to show actual progress, identify those activities started by date and those completed by date during the previous period, show the estimated time required to complete each activity started but not yet completed, show activity percent completed and/or dollars earned, and reflect any changes in the network diagram approved in accordance with the preceding paragraph. After completion of the joint review and DPMC's approval of all entries, the CPM consultant will submit updated network diagrams, an updated computer-produced calendar-dated schedule and cost requisition listing to DPMC.

(2) The resultant monthly CPM computer printout and network diagrams shall be recognized by the Contractor as its sole updated construction schedule to complete all remaining Contract work.

(3) In addition to the foregoing, once each month the Contractor will receive a narrative report prepared by the CPM consultant. The narrative report will include a description of the amount of progress made during the last month in terms of completed activities in the plan currently in effect, a description of problem areas, current and anticipated delaying factors and the estimated impacts the delays have on the performance of other activities and completion dates, and recommendations on corrective action for the Contractor. Within seven (7) calendar days after receipt of this report, the Contractor shall submit to DPMC a written explanation of corrective action taken or proposed. The DPMC, after reviewing the written submission, may take appropriate action.

6.2.5 Payments to Contractor

- a. The monthly submission of the computer-produced calendar-dated schedule shall be an integral part and basic element of the estimate upon which progress payments shall be made pursuant to the provisions of Article 9 of these General Conditions. The Contractor shall be entitled to progress payments only upon receipt by DPMC of an updated computer-produced calendar-dated schedule and cost requisition listing.
- b. Payments to the Contractor shall be based upon the results of the computer-generated cost requisition listing which shall be prepared in conjunction with each updating of the CPM system as described above. The Contractors shall provide sufficient documentation to confirm reported progress for any cost items appearing in the scheduling and requisition system.
- c. Payments to the Contractor shall be dependent upon the Contractor furnishing all of the information which, in the judgment of DPMC, is necessary to ascertain actual progress, and all the information and data necessary to prepare any necessary revisions to the computer-produced calendar-dated schedule, cost requisition listing and/or the network diagram. DPMC's determination that the Contractor has failed or refused to furnish the required information shall constitute a basis for withholding payments until the required information is furnished and the schedule and/or diagram is prepared or revised on the basis of such information.

6.2.6 Biweekly Progress Meetings

- a. Every two (2) weeks or as otherwise directed by DPMC, the Contractor shall attend a coordination and CPM scheduling meeting on the job site. At this meeting, the Contractor shall provide detailed information regarding the Work schedule to be performed during the upcoming two weeks to permit the CPM consultant to prepare schedules for the subsequent two-week period. Biweekly scheduling by the Contractor shall be in accordance with the priorities and degree of concurrent work required by the official CPM schedule for the Project. The Contractor shall be prepared to explain any difference between the Contractor's biweekly schedules and the priorities required by the latest updating of the official CPM schedule.
- b. At the biweekly scheduling meeting, the CPM consultant shall review the schedule for the preceding two (2) weeks, and the Contractor shall report the progress actually achieved for each activity which was scheduled to be performed during the two weeks, including the actual dates on which the Work was performed. The Contractor agrees that this information shall constitute the official historical record of Project progress.
- c. At each biweekly scheduling meeting, the Contractor shall document any current delays to work operations. In addition, the Contractor shall provide any available information regarding any potential delays.
 - (1) Following the biweekly scheduling meeting, the CPM consultant will issue to the Contractor a two-week look-ahead schedule as developed

at the meeting that shall constitute the construction schedule for the coming two weeks. The CPM consultant will also issue a narrative biweekly progress analysis documenting progress achieved during the preceding two weeks and analyze delays reported to constitute current or anticipated impacts to timely construction.

(2) The Contractor shall be represented at the biweekly scheduling meeting by its superintendent, who shall have complete authority to provide the information required for the development of the next two (2) weeks schedule, which includes documentation of past progress and documentation of delays. The Contractor's representatives shall also be authorized to commit to the implementation of corrective action planned to overcome delaying conditions.

6.2.7 Responsibility for Completion

a. The Contractor agrees that, when it becomes apparent from the current project CPM schedule that any Contract completion date will not be met, the Contractor will take any or all of the following actions, as required, at no additional cost to the State:

(1) Increase construction manpower.

(2) Increase the number of working hours per shift, shifts per working days, working days per week, or the amount of construction equipment, or any combination of the above; and/or

(3) Reschedule activities to achieve maximum practical

concurrency. 6.2.8 Adjustment of Contract Completion Date

a. The Contract completion dates will not be adjusted except under the specific and limited conditions set forth in the Contract Documents. In the event that the Contractor requests an extension of any Contract completion date, the Contractor shall furnish a justification of such extension and provide any and all supporting evidence that DPMC requires to evaluate the Contractor's request. The DPMC shall either approve, in whole or in part, or reject the Contractor's request and will advise the Contractor in writing of its decision. If the DPMC finds that the Contractor is entitled to any extension of any Contract completion date under the provisions of this Contract, the determination as to the total number of calendar days extension permitted shall be based upon the currently approved Project CPM schedule and on all data relevant to the extension request. Such data will be included in the next updating of the CPM schedule.

b. The Contractor acknowledges and agrees that the evaluation of Project delays and determinations regarding Project time extension will be based upon the Project CPM schedule and the following criteria:

(1) Float time shown on the Project CPM schedule is not for the exclusive use of either the Contractor or DPMC. It is agreed that float time is available for use by all performing Work on the Project, including the Contractor, other contractors, subcontractor, lower tier subcontractors,

and suppliers to facilitate the effective use of available resources and to minimize the impact of problems of Change Orders which may arise during construction. The Contractor specifically agrees that float time may be used by DPMC or its representatives or consultants in conjunction with the review activities or to resolve Project problems. The Contractor agrees that there will be no basis for a Project time extension as a result of any Project problem, Change Order or delay which only results in the loss of available positive float on the Project CPM schedule. The Contractor further agrees that there will be no basis for a claim for cost escalation for any activity which is completed on or before its initially required late end date as shown on the initial approved Project CPM schedule, regardless of the justifiability or any delaying factors which might have resulted in the elimination of float which was originally available for the activity. If the Contractor refuses to perform work that is available to it, the DPMC may consider, the Contractor to be in breach of the Contract, regardless of the float shown to be available for the Work. In such instances, the DPMC may, without prejudice to any other right or remedy, declare the Contractor to be in default and terminate the employment of the Contractor pursuant to Article 12 of the General Conditions.

(2) The Contractor agrees that no time extension will be granted for time lost due to normal seasonal weather conditions. In order to qualify for consideration for a time extension due to adverse weather conditions, it must be shown by clear and convincing evidence that the weather conditions during a given quarterly period (summer, fall, winter, spring) were more severe than the previous five-year (5) average for the Project geographical area, and that these weather conditions critically impacted the final Project completion date by delaying the performance of work on the main Project critical path. If abnormal weather losses can be shown to have affected the Project critical path, a non-compensable time extension will be considered for that portion of the proven weather-related delays, which exceeded normal weather losses that should have been anticipated for the quarterly period in question.

(3) No time extensions will be considered for any weather conditions that do not affect work on the Project critical path as set forth on the current Project CPM schedule. The Contractor agrees that there will be no basis for a claim for any additional compensation resulting from any time extension issued for weather-related delays.

(4) In order for a given cause (i.e., delay, Change Order, etc.) to be considered as a basis for a total Project time extension, it must meet both of the following criteria:

- (a) It must be totally beyond the control of the Contractor and due to no direct or indirect fault of the Contractor; and
- (b) It must result in a direct delay to work on the main Project critical path.

(5) The Contractor acknowledges and agrees that actual delays to activities that, according to the Project CPM schedule, do not directly affect the main Project critical path and do not have any effect on the Contract completion date or dates, will not be the basis for a change therein.

(6) Concurrent delays are defined as two or more delays or areas of work slippage that are totally independent of one another and which, if considered individually, would each affect the final Project completion date according to the Project CPM schedule. Where the CPM consultant determines that concurrent delays exist, the Contractor acknowledges and agrees that the following criteria will be used to evaluate time extension:

- (a) If the current Project CPM schedule shows two (2) or more concurrent delays, with one analyzed to be the responsibility of DPMC and the other analyzed to be the responsibility of the Contractor, a non-compensable time extension will be considered only if the excusable delay affects the main Project critical path and this delay is shown to be a greater amount than the other concurrent delays when the impacts of the concurrent delays are independently considered. In this event, a compensable time extension will be considered only for that portion of time by which the excusable delay exceeds all concurrent non-DPMC caused delays. For example, if an excusable impact delays the Project by one-hundred (100) calendar days and concurrent contract-caused slippage independently delays the final completion date by ninety (90) calendar days, a time extension will only be considered for a maximum of ten (10) calendar days, provided the excusable delay is on the project critical path.
- (b) If the CPM schedule shows concurrent delays with some excusable delays and some the fault of the Contractor, and if the Contractor-caused delays are analyzed to be the main determining impact to the main Project critical path, then there will be no basis for a total Project time extension regardless of the nature of the concurrent excusable delays. A concurrent time extension may, however, be considered for that portion of the total Project slippage which is shown on the CPM schedule to be totally attributable to excusable delays.
- (c) If a time extension request is being made for concurrent delays which did not affect the Project critical path, this must be clearly stated in the Contractor's time extension request and all CPM activities which are claimed to have been affected by the cited delay must be specifically identified with all applicable impact dates.

6.3 CONSTRUCTION PROGRESS SCHEDULING PROVIDED BY THE CONTRACTOR

6.3.1 The Project shall be completed within the specified number of calendar days from the effective date of the Notice to Proceed.

6.3.2 The Contractor shall be responsible for preparing and furnishing to the DPMC through the Architect/Engineer before the first Contract requisition date, but in no event later than 30 (thirty) days after the effective date of the Notice to Proceed, a coordinated combined progress schedule that incorporates the progress schedules of the Contractors and all Subcontractors engaged on the Project. The schedule shall be in the form of a network diagram or other recognized graphic critical path progress schedule format that indicates, among other things, predecessor and successor activities, and major and intermediate milestones, in sufficient detail to satisfy the DPMC. (See also section 6.3.4 below.) The Contractor's initial invoice will not be processed by the DPMC until and unless such a single coordinated progress schedule has been submitted to and approved by the DPMC. Thereafter, the Contractor shall submit an updated coordinated progress schedule on a monthly basis. Receipt and approval of the updates will be a mandatory condition to payment.

6.3.3 Once each month, or more often if required by the DPMC, the Contractor shall meet with the Architect/Engineer and the DPMC representative to gather the information necessary for the Contractor's preparation of the revised/updated computer-generated scheduling reports.

6.3.4 The progress schedule, based upon the logic and time estimates, shall indicate in suitable detail for display, all significant features of the Work of the Contractor and each Subcontractor, including but not limited to, the placing of orders, manufacturing durations, anticipated delivery dates for critical and long-lead items, submissions and approvals of shop drawings, construction activities, all work activities to be performed by the Contractor and its Subcontractors, the beginning and time duration thereof, and the dates of all milestones, substantial and final completion of the various elements of the Work, including punch list and close-out. Reports shall be in booklets, indexed and separated as categorized below. Each activity listed on the Schedule shall include, as a minimum, the following:

- a. The activity description;
- b. The trade (A/E, Owner, GC, Electrical, Plumbing, HVAC);
- c. The duration in calendar days;
- d. The Early Start date;
- e. The Late Start Date;
- f. The Early Finish date;
- g. The Late Finish date;
- h. The Total Float

6.3.5 The Contractor agrees that no time extension will be granted for time lost due to normal seasonal weather conditions. In order to qualify for consideration for a time extension due to adverse weather conditions, it must be shown by clear and convincing evidence that the weather conditions during a given quarterly period (summer, fall, winter, spring) were more severe than the previous five-year (5) average for the Project geographical area, and that these weather conditions critically impacted the final Project completion date by delaying the performance of work. If abnormal weather losses can be shown to have impacted the Project completion date, a non-compensable time extension will be considered for that portion of the proven weather-related delays, which exceeded normal weather losses that should have been anticipated for the quarterly period in question.

6.3.6 Immediately upon approval by DPMC, the Contractor shall prepare and distribute four copies of the progress schedule to the DPMC plus two copies to the Architect/Engineer. Each monthly updated coordinated schedule shall be signed and dated by the Contractor.

6.3.7 The Contractor shall furnish sufficient labor and construction plant and equipment to ensure the execution of the Work in accordance with the approved progress schedule. If any updated completion time or date for any activity does not conform to the durations or milestones shown in the approved progress schedule, the sequence of activities and/or the time for performance of activities shall be updated on the progress schedule to be approved by the DPMC and cured by the Contractor by any means, including performing concurrent operations, additional manpower, additional shifts, and overtime. No additional charges to the State will be allowed the Contractor for overtime, additional manpower, equipment, additional shifts, etc. (except as may be provided elsewhere in the Contract), if such expediting procedures or measures are necessary to meet the Contract completion date.

6.3.8 The progress schedule shall show:

- a. Recommended Changes in activity sequencing;
- b. Changes in activity duration for activities not started or partially completed, where agreed upon;
- c. The effect on the network of the modifications (activity duration, Predecessors and Successors);
- d. Changes for the purposes of regaining lost time or improving progress, and;
- e. Changes to milestones, due dates, and the overall Contract completion date, which have been agreed upon by the DPMC's project manager since the last revision of the progress schedule.

6.3.9 The progress schedule shall accurately reflect the manner in which the Contractor intends to proceed with the Project and shall immediately incorporate and reflect the impact of all delays and change orders. All changes made to the schedule shall be subject to approval by the DPMC.

6.3.10 The DPMC will not authorize or approve any claims for additional payment or extension of time for completion of the Work, or any other concession because of any alleged misinterpretation or misunderstanding on the Contractor's part of the Project schedule, the Contractor's failure to attend the pre-bid conference, because of any failure on the Contractor's part to become fully acquainted with all conditions relating to the Project schedule and the manner in which it will be used on the Project, or because of any other failure by the Contractor to properly participate in the development of a progress schedule or to perform the Contract in accordance with the progress schedule.

ARTICLE 7 - TIME OF COMPLETION

7.1 CONTRACT DURATION/NOTICE TO PROCEED

7.1.1 Contract duration shall commence on the effective date set forth on the written Notice to Proceed. The Notice to Proceed will be issued by the DPMC after the DPMC's receipt and acceptance of properly executed Contract Documents, including performance and payment bonds, proof of insurance and permit technical information submitted by the Contractor and/or Subcontractors. The Contractor shall not be entitled to delay, disruption, acceleration or any other claims arising from a deferred issuance of the Notice to Proceed.

7.1.2 The Contractor shall perform no work at the Contract Site prior to the issuance of the Notice to Proceed.

7.2 SUBSTANTIAL COMPLETION

7.2.1 At the request of the Contractor, the Architect/Engineer or the DPMC, the Contractor and the DPMC representative may make a joint inspection of the Work for the purpose of determining if the Work is substantially completed in accordance with the definition provided in Article 1. If DPMC, in its sole discretion, finds that the Work is substantially complete, then the DPMC will issue a written Notice of Substantial Completion for Beneficial Use. Such Notice shall in no way relieve the Contractor of any contractual obligation(s) or relieve the Contractor from responsibility to promptly complete all remaining Contract Work including, but not limited to, punch list items.

7.2.2 The standard guarantee period for equipment, workmanship and materials shall commence on the date DPMC issues the Notification of Substantial Completion for Beneficial Use, or from the time of completion and acceptance of equipment, work or materials in question, whichever is later.

7.2.3 In the event that the Project is completed in phases or stages, and/or in the event that the DPMC takes possession of any part of the Work pursuant to Section 7.4 of these General Conditions, no part of the Project shall be deemed substantially complete for purposes of the New Jersey Statute of Repose, N.J.S.A. 2A:14-1.1, prior to the issuance of a formal Notice of Substantial Completion for Beneficial Use for the all of the Work.

7.3 FINAL COMPLETION

7.3.1 Final completion of the Contract shall occur when:

- a. The DPMC and the Architect/Engineer have determined that the punch list has been completed;
- b. The Contractor has complied with the Contract Document's closeout requirements;
- c. The Contractor has submitted all Contract deliverables as required by the Contract Documents including but not limited to the following: "as-built"

documents, operating and maintenance manuals, attic stock, parts lists, repair source lists, training and certificates; and

d. The Contractor has submitted all warranties, guarantees and/or maintenance bonds required under the Contract.

7.4 PARTIAL OCCUPANCY FOR USE

7.4.1 Use and possession prior to completion: The DPMC shall have the right to take possession or use of any completed or partially completed part of the Project. Said possession or use shall not be deemed acceptance of the Work performed on the Project.

7.4.2 Prior to such possession or use, the DPMC shall furnish the Contractor with an itemized list of Work remaining to be performed or corrected on such portions of the Project that are to be possessed or used by the State. Failure by the DPMC to list any item of work shall not be deemed an acceptance of any Work under the Contract.

7.4.3 The Contractor shall not be entitled to recovery of money damages for any delays, disruptions or inefficiencies caused by such partial occupancy.

7.5 DELAY, DISRUPTION AND INTERFERENCE

7.5.1 Delay - Time Extension. If the Contractor's work is delayed, disrupted or interfered with by act, neglect or default of any party, including the State, the Architect/Engineer, or by strikes, lockouts, fire, unusual delay by common carriers, natural disasters, or by any cause for which the Contractor is not responsible; then for all such delays and suspensions, the Contractor shall be allowed one (1) calendar day addition to the time herein stated for each and every calendar day of such delay so caused in the completion of the Work as specified above, the same to be determined by the DPMC. No such extension shall be granted for any delay unless, within ten (10) calendar days after the beginning of such delay, a written request for additional time shall be filed with the DPMC.

7.5.2 Contractor's Damages for Delay, Disruption or Interference

The Contractor shall not be entitled to recovery of money damages from the DPMC caused by delay, disruption or interference with the Contractor's Work except as expressly provided under section 7.5.2 of these General Conditions paragraph. The Contractor expressly agrees that the Contractor's remedy for delay, disruption or interference shall be limited to an extension of time only and that there shall be no recovery of money damages by the Contractor for any delay, disruption or interference with the Contractor's work attributable to any cause whatsoever (other than the State's negligence, bad faith, active interference or other tortuous conduct). The Contractor expressly agrees that it shall not be entitled to recover damages due to delay, disruption or interference caused by any of the following:

- a. Delayed execution of the contract or any of the causes referenced in paragraph 7.5.2;
- b. Any act or omission by any party other than the State, including, but not limited to, the Architect-Engineer, any other Contractor or Subcontractor, any

CPM or other consultant retained by the State, any construction manager retained by the State, any agency or instrumentality of the federal government or of any local governmental entity or any utility (e.g., gas, electric, telephone, cable);

c. Any act or omission of any agency or instrumentality of the State, other than the DPMC, including, without limitation, the Department of Environmental Protection and the Department of Community Affairs;

d. Weather;

e. Subsurface conditions of any type including, without limitation rock and underground utilities, whether or not such conditions were reasonably ascertainable to the Contractor at the time of bidding;

f. Use of all or any portion the Project premises prior to completion of the Work to the extent that such use is permitted under the terms of the Contract;

g. Delay in obtaining any permit or approval;

h. Delay caused by the issuance of any court order, injunction or restraining order;

i. Any delay which does not entitle the Contractor to an extension of the Contract Completion Time under Section 6.2.8 of these General Conditions; or

j. Delay attributable to any other cause, other than a cause for which the State is legally restricted from enforcing a contractual "no damage for delay" clause under N.J.S.A. 2A:58B-3 or any other provision of law restricting or barring the enforcement of such clauses.

In interpreting this provision, the negligence or other wrongful conduct of others, including, without limitation, the Architect/Engineer, the CPM consultant, any construction management firm and any other firm or person retained by the State shall not be imputed to the State. Further, to the extent that the Contractor is entitled to recover monetary damages for delay under this Contract, such recovery shall be limited to actual direct costs incurred on account of the delay, and shall not include profit or other markup on such costs, home office overhead calculated under the Eichleay formula or any other kind of consequential or indirect cost or damage, including but not limited to any alleged cost or damage under the total cost method, the modified total cost method, or productivity factors (costs for inefficiency based on industry productivity factors such as those provided by the Mechanical Contractors Association of America (MCAA) Factors Affecting Labor Productivity).

7.5.3 In the event of the failure of the Contractor to complete its work within the time stated in its Contract, the Contractor shall be liable to the State in the sum as set forth as liquidated damages in the Contract, for each and every calendar day that the Contractor fails to attain contract completion of the work. This sum shall be treated as liquidated damages to compensate for the loss to the State of the use of premises in a completed state of construction, alteration or repair, and for added administrative and inspection costs to the State on account of the delay; provided, however, that the said liquidated damages shall be in addition to other compensatory or consequential losses or damages

that the State may incur by reason of such delay, such as, but not limited to, added costs of the Project and the cost of furnishing temporary services, if any. Any such sums for which the Contractor is liable may be deducted by the State from any moneys due or to become due to the Contractor.

7.5.4 It is hereby understood and mutually agreed by and between the Contractor and the State that the start date in the Notice to Proceed, the dates of all required intermediate milestones, and the times for substantial and final completion, as specified in the Contract Documents, are essential conditions of this Contract.

7.5.5 The Contractor agrees that said work shall be executed diligently, at such rate of progress as will ensure full completion of the Work within the time specified. It is expressly understood and agreed, by and between the Contractor and the State, that the time for the completion of the Work herein is a reasonable time, taking into consideration the average climactic range and usual industry conditions prevailing in this locality. If the said Contractor shall neglect, fail or refuse to complete the Work within the time herein specified, or any proper extension thereof granted by the DPMC, then the Contractor does hereby agree, as a part of the consideration for the awarding of its Contract, to pay the State the amount specified in section 7.5.3 above, as liquidated damages for loss of use of the Project as hereinafter set forth, for each and every calendar day that the Contractor may have exceeded the stipulated date in the Contract for substantially completing the Work.

7.5.6 It is further agreed that time is of the essence of each and every portion of this Contract and of the specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Contract an additional time is allowed for the completion of any Work, the new time limit fixed by such extension shall similarly be of the essence.

ARTICLE 8 - CLOSE-OUT

8.1 CLOSE-OUT PROCEDURES/FINAL PAYMENT

As part of the final completion procedures described in Article 7 and the requirements for payment as described in Article 9, the Contractor must complete all of the Close-out procedures as follows:

- a. Submit the “as-built” record documents as described in Article 4;
- b. Submit all operating and maintenance manuals, parts lists, repair source parts, and certificates as defined in 8.2 below;
- c. Provide the necessary training for operating systems and equipment as defined in 8.3 below; and
- d. Submit all guarantees as defined in 8.4 below.

8.2 OPERATIONS, EQUIPMENT AND MAINTENANCE MANUALS

8.2.1 The Contractor shall provide six (6) copies of all operating, equipment and maintenance manuals, and applicable warranties, as identified and described in the Contract Documents. The operating, equipment and maintenance manuals and warranties, including contact personnel, addresses and telephone numbers, must include a complete description of all systems and equipment and the method of operating and maintaining the equipment. These manuals must be submitted to the Architect/Engineer for review and approval at the earliest date possible following substantial completion, but in all cases prior to final acceptance. Included within the manuals shall be a list of names, addresses and telephone numbers of all the Subcontractors involved in the installations and of firms capable of performing services for each mechanical item.

8.2.2 As a pre-condition to the Final acceptance of a facility for beneficial use, the Contractor shall provide a "throw-away" copy of operations and maintenance manuals to allow the Using Agency's staff to operate the equipment prior to receiving the hard-bound copies required by this Contract.

8.3 TRAINING

The Contractor shall provide formal instruction for DPMC-designated personnel, addressing the operation and maintenance of the facilities and all installed equipment for each operating system or major item of equipment or as otherwise specified. The operations and maintenance manuals shall be used as training materials. Unless otherwise accepted by the DPMC, training course format shall be split equally between classroom instruction and field exercise. All classroom instruction may be videotaped by the DPMC. Classroom instruction may be supported by professionally made videotapes. If used, a copy of each professional video that was utilized shall be provided to the DPMC at no cost for future training and reference.

8.4 GUARANTEE

8.4.1 The issuance of a final certificate for payment and/or partial or complete occupancy of the premises shall not be deemed an acceptance of Work not completed in accordance with the Contract Documents. The issuance of a final certificate for payment and/or partial or complete occupancy of the premises shall not relieve the Contractor or its surety of liability with respect to any express or implied warranties or responsibility for faulty materials or workmanship.

8.4.2 The Contractor shall guarantee and warrant, in writing, the Work performed, and all materials furnished under this Contract against defects in materials and/or workmanship. The Contractor shall be responsible for the value or repair of any damage to other Work or to the building premises resulting from the performance of the Contract.

8.4.3 The Contractor is responsible for the above-stated obligations for a period of one (1) year from the date established in 7.2.2 above. All guarantees, including bonds and registrations, required by the Contract Documents shall be in writing and delivered to the DPMC with submission of the invoice for final payment.

8.4.4 The Contractor shall, at its own expense and without cost to the State, promptly after receipt of written notice thereof, make good any defects in materials or workmanship which may develop during stipulated guarantee periods, as well as any damage to other Work caused by such defects or by repairs. Any other defects in materials or workmanship not discovered during the guarantee period shall be repaired and/or replaced at the Contractor's expense, and such shall be completed within a reasonable time after written notice is given to the Contractor.

8.4.5 Pursuant to the Contract Documents, certain permanent equipment, including elevators and HVAC systems, will have to be activated during construction of the Project to support construction operations. Despite any early activation during the construction of the Project, any and all equipment warranties must extend for the time periods required in the Contract Documents, starting at the date set forth in paragraph 7.2.2.

8.4.5 It is expressly acknowledged and agreed that the express and implied warranties and guarantees to which the State is entitled as well as all warranty and guarantee bonds issued by any surety, shall be in addition to and not in lieu of the State's right to seek recourse against the Contractor and the Contractor's surety for defective work.

ARTICLE 9 - PAYMENTS

9.1 INVOICES

9.1.1 Requests for payment under the Contract for materials delivered or services rendered require the proper completion and submittal of specific forms including, but not limited to, the following:

- a. DPMC Form 11/AR50-1 - DPMC Invoice;
- b. DPMC Form 11-2 - Monthly Estimate for Payment to Contractor;
- c. DPMC Form 11-2a - Certification of Prime Contractor;
- d. DPMC Form 11-2b – Certification of Subcontractor;
- e. Copies of Subcontractor(s) invoices;
- d. DPMC Form 11-3 - Prime Contractors Summary of Stored Materials;
- e. DPMC Form 11-3A - Agreement and Bill of Sale Certification for Stored Materials;
- f. Consent of Surety forms;
- g. Certified Payroll Records;
- h. Updated project schedule
- i. Any other information or documentation required by other provisions of the Contract documents.

9.1.3 The Contractor shall submit the completed request for payment on a monthly basis for all properly completed billable work to the DPMC Project representative and at the address identified at the pre-construction conference.

9.1.4 One (1) original and one (1) copy of the request for payment packets shall be prepared and submitted unless otherwise specified.

9.1.2 No request for payment shall be deemed to be formally submitted and received for payment until all dollar amounts and completion percentages for each line item in the invoice has been determined and agreed upon by the State and the Contractor.

9.1.5 For the purpose of the State's Prompt Payment Act (N.J.S.A. 2A:30A-1 et seq.):

- a. A proper invoice will be deemed to have been received by the owner when it is received by the person or entity designated by the State to review and sign the invoice on the State's behalf at the address designated in the pre-construction conference for receipt of invoices. Receipt of an invoice by such person or entity shall commence the running of the 20-day period for formal approval and certification as provided under N.J.S.A. 2A:30A-2(a);
- b. The "billing date", as the term is used in N.J.S.A. 2A:30A-2, shall be the earlier of the date upon which an invoice for payment is approved for payment or twenty (20) days after the invoice is received, unless within such 20-day period

the invoice is found to be incomplete or otherwise unacceptable and returned to the contractor, with a written explanation of deficiencies;

c. In the event that an invoice is found to be deficient and returned to the contractor, the "billing date" shall be calculated from the date that a corrected invoice is received.

d. Payment shall be considered to have been made on the date on which a check for such payment is dated;

e. Payment terms (e.g., "net 20") offered by the contractor shall not govern the State's obligation to make payment;

f. The following periods of time will not be included in the calculation of the due date of any contractor invoice:

(1) Any time elapsed between receipt of an improper invoice and its return to the contractor, not to exceed twenty (20) calendar days; or

(2) Any time elapsed between the State's return of an improper invoice to the contractor and the State's receipt of a corrected invoice.

9.1.6 The provisions of this Article 9 shall not govern the State's payment obligations, nor shall they supersede or modify any other contractual provision allowing the withholding of monies from the contractor to the extent that the contractor has not performed in accordance with the provisions of the contract. Nor shall this Article 9 govern the State's payment obligations nor supersede or modify any other contractual provision governing contractor claims for additional compensation beyond the base contract price and approved change orders.

9.2 INTEREST

9.2.1 Interest shall be payable on amounts due the contractor if not paid within thirty (30) calendar days after the billing date specified in the above subparagraph 9.1.5(b), as provided under the State's Prompt Payment of Contractors and Subcontractors Act (N.J.S.A. 2A:30A-01, et seq.) Interest on amounts due shall be payable to the contractor for the period beginning on the day after the required payment date and ending on the date on which the check for payment is drawn.

9.2.2 Interest may be paid by separate payment to the contractor but shall be paid within thirty (30) calendar days of payment of the principal amount of the approved invoice.

9.2.3 Nothing in this Article 9 shall be construed as entitling the Contractor to payment of interest on any sum withheld by the State for any reason permitted under the contract or applicable law, or on any claim for additional compensation, over and above sums due under the base contract or approved change orders.

9.3 SCHEDULE OF VALUES AND FINAL PAYMENT

9.3.1 Unless otherwise directed, the Contractor shall furnish a schedule of amounts for Contract payments (Unit Schedule Breakdown,) of the total Contract price, showing the amount included therein for each principal category of the Work and for each Contractor

and Subcontractor, in such detail as requested, to provide a basis for determining progress payments. The schedule, as approved, shall be used only as a basis for the Contractor's estimates for progress payments, and approval by the DPMC does not constitute acceptance of the allocability and allowability of costs to a specific element of Work. The Contractor is cautioned that no payment requests shall be approved until the Unit Schedule Breakdown has been approved in writing by the DPMC.

9.3.2 The State will make progress payments monthly as the Work proceeds based upon the Unit Schedule Breakdown.

9.3.2 All material and Work paid pursuant to progress payments shall thereupon become the sole property of the State. This provision shall not be construed as relieving the Contractor from the sole responsibility for the protection of all material and Work upon which payments have been made for the restoration of any damaged work, or as waiving the right of the State to require the fulfillment of all of the terms and conditions of the Contract.

9.3.3 Following completion and acceptance of all work, the amount due the Contractor under this Contract shall be paid only upon satisfactory completion, by the Contractor, of all Contract close-out requirements, completion of a State audit on all Contract values and payments, and after the Contractor has furnished the State with a release of claims against the State, arising by virtue of this Contract, other than claims in stated amounts as may be specifically excepted by the Contractor from the release.

9.3.4 If for any reason the Contractor refuses final payment, the Project may be closed out by the State by the processing of a Final Contract Acceptance certification. The lack of such certificate shall not toll the limitations period applicable to Contractor claims against the State.

9.3.5 In addition to other warranties required by provisions of the Contract and specifications, the Contractor warrants that title to all Work, materials and equipment covered by an application for payment will pass to the State free and clear of all liens, claims, security interests or encumbrances, either upon incorporation into the construction or upon receipt of payment to the Contractor, whichever occurs first. This provision shall not be construed as relieving the Contractor from sole responsibility for the care and protection of materials and work upon which payments have been made, or for the restoration of any damaged work, or as a waiver by the State of its rights to require fulfillment of all terms of the Contract.

9.3.6 By recommending approval of any invoice, the Architect/Engineer shall not be deemed to represent that it has made exhaustive or continuous on-Site inspections to check the quality or quantity of the Work, or that it has reviewed the construction means, methods, techniques, sequences or procedures, or that it has made any examination to ascertain how and for what purpose the Contractor has used the moneys previously paid. The payment of an invoice does not constitute an acceptance of the Work. The State reserves the right to further inspect the Work and to withhold retainage and any additional funds required to pay for any corrective action for non-conforming work.

9.3.7 If any corporation licensed to do business in New Jersey shall be or become delinquent in the payment of taxes, assessments or fees due the State, unless under an

active appeal process or any final judgment in the State's favor against the Contractor, the DPMC may, in accordance with N.J.S.A. 54:49-19 or other applicable law withhold moneys due the said corporation for the purpose of assuring the payment to the State of such taxes, assessments, fees or judgment.

9.4 CERTIFICATION OF PAYMENTS TO SUBCONTRACTOR

Pursuant to N.J.S.A. 52:32-40, 41 and N.J.S.A. 2A:44-148; the Contractor shall submit a Certification of Prime Contractors form and a Certification of Subcontractor form for each Subcontractor identified in the Unit Schedule Breakdown, as part of the submission for each invoiced progress payment.

9.5 STORED MATERIALS

9.5.1 Unless specifically allowed in the Contract Documents, all materials and equipment must be delivered and installed or stored on the Site prior to payment for such material or equipment.

9.5.2 The DPMC may at its discretion allow payment for equipment stored off Site provided that the following has occurred:

- a. The DPMC has approved the Contractor's written request;
- b. The equipment has been properly stored in an approved location;
- c. The Contractor has established the Owner's title to the specific equipment;
- d. The Contractor has provided sufficient proof of insurance for the materials, equipment and the storage facility;
- e. The Contractor has submitted a release of liens on said stored equipment;
- f. The Contractor has submitted a statement agreeing to assume all costs for storage of material and equipment off Site, including, if required by the DPMC, the cost of storing such material and equipment in a bonded warehouse; and
- g. The Contractor furnishes the "Prime Contractor's Summary of Stored Materials" and "Agreement and Bill of Sale Certification for Stored Materials," forms respectively.

9.6 ALLOWANCES

9.6.1 The Contractor shall include in its bid all allowances as may be set forth in the Contract Documents. The Contractor shall purchase the "allowed materials" as directed by the DPMC on the basis of the lowest acceptable quote from at least three competitive offers or as a negotiated cost subject to DPMC approval. If the actual cost of the "allowed materials" is more or less than the stipulated allowance, the Contract price may be adjusted accordingly. The adjustment in Contract price shall be made on the basis of the actual purchase cost without additional charges for overhead, profit, bond premium or any other incidental expenses. The cost of installation of the "allowed materials," unless

otherwise specified, is to be included as the responsibility of the Contractor in whose Contract the allowance is included, and the Contractor installing such "allowed materials" shall not be entitled to additional payment for such installation.

9.6.2 Unless otherwise provided in the Contract Documents:

- a. These allowances shall cover the Contractor's true costs, including credit for any trade discount, of the materials and equipment required by the allowance, delivered at the Site, including all applicable taxes;
- b. The Contractor's costs for unloading and handling, labor, installation costs, overhead, profit and other expenses reasonably required in connection with such allowance items shall be included in the Contract sum and not as part of the allowances.

9.7 RETAINAGE

9.7.1 In making progress payments for Contract work completed, the State will retain ten percent (10%) of the approved invoice amount until final acceptance and completion of all work covered by the Contract.

9.7.2 The Contractor may, after 50% (fifty percent) of the Contract work is in place, and if the Work is proceeding on schedule, apply for a reduction in the amount retained by the State for the duration of the Contract. Such application must be in writing and accompanied by documentation granting formal consent of surety to the reduction in retainage request. If the DPMC determines that the Contractor's performance has been satisfactory and that the reduction is warranted and appropriate, the State may, with the next progress payment, release any portion of the accumulated retainage in excess of five percent (5%) of the Work in place and retain an amount equal to five percent (5%) of the Work in place for the duration of the Contract. If progress of the Work is not maintained in accordance with the approved schedule, the DPMC may elect to re-institute retainage of ten percent (10%) of the Work in place for the duration of the Contract.

9.7.3 Withholding Payment for Non-Delivery of Data:

- a. If technical data such as "as-built" drawings, reports, spare parts lists, repair parts lists, or instruction books (including additional and maintenance manuals), or any part thereof, are not delivered within the time specified by this Contract or are deficient upon delivery, the DPMC has the discretion to withhold from each invoice a percentage (in addition to any other retainage required by the Contract) of the Contract price in accordance with the following table:

When total contract price is: Percentage to be withheld is:

Less than \$250,000.	10%
\$250,000.01 through \$1,000,000	5.0%
Over \$1,000,000	2.0%

- b. The withholding of any sums pursuant to this article shall not be construed as, or constitute in any manner, a waiver by the State of the Contractor's obligation to furnish the data required under this Contract. In the event the

Contractor fails to furnish these items, the State shall have those rights and remedies provided by law and pursuant to this Contract, in addition to, and not in lieu of, the sums withheld in accordance with this article.

9.8 MISCELLANEOUS

9.8.1 Disputes regarding nonpayment of a Contractor's invoice under this Article 9 may be submitted to non-binding Alternative Dispute Resolution (ADR) upon mutual agreement of the State and the Contractor. In such event, the State and the Contractor shall share equally the fees and expenses of the selected mediator, arbitrator, umpire or other ADR neutral. Provided, however, that nothing herein shall be construed, in whole or in part, as a waiver, release or modification of the provisions of the New Jersey Contractual Act, N.J.S.A. 59:13-1, et seq., which governs claims against the DPMC.

9.8.2 A Contractor not paid sums due under an approved invoice within thirty (30) days of the billing date may suspend performance without penalty for breach of contract, but only after providing the State with seven (7) days written notice of non-payment, and only in the event that the State fails to furnish the Contractor, within that seven-day period, a written statement of the amount withheld and the reasons for the withholding. Nothing herein shall be construed to excuse the Contractor's nonperformance, or to limit the State's rights and remedies relating to such non-performance, with regard to any monies withheld from the Contractor upon the proper notice provided under this Article 9, or with regard to any Contractor claim disputed by the DPMC.

ARTICLE 10 - CHANGES IN THE WORK

10.1 CHANGES IN THE WORK

10.1.1 The DPMC may at any time, issue a written Change Order which shall direct a change in the Work within the general scope of the Contract, including, but not limited to, changes:

- a. In the plans and/or specifications;
- b. In the method or manner of performance of the Work;
- c. In the State-furnished facilities, equipment, materials, services, or site; or directing acceleration in the performance of the Work; and/or
- d. In the time for the completion of the Work.

10.1.2 Change Orders

10.1.2.1 The Contractor agrees to prepare and submit, within ten (10) calendar days of encountering any conditions, it considers a change, or upon receiving official notice of a proposed change or written direction to proceed with a change, a current DPMC form entitled "Contractor Change Order Request," to the DPMC. The Contractor shall submit an original of the form. Failure to submit a timely form may be grounds for rejection of the request for Change Order, at the DPMC's discretion.

10.1.2.2 All requests for Contract time extensions must be submitted in accordance with the requirements set forth in Articles 6 and 7, accompanied by copies of the current approved progress schedule and copies of a proposed progress schedule detailing the incorporation of the changed work and the effects of such incorporation on progress. Failure to provide all required information shall be grounds for rejection of the request.

10.1.2.3 DPMC will only consider a contract duration extension Change Order request arising from changes in the Work, if that change is proven by the Contractor to have caused a delay in the completion of the Project. When the Contract duration is increased as a result of a change, the resulting change in Contract amount will include the costs of extended performance, computed in accordance with the terms of this Section, and no further consideration of such costs arising from the specific modification will be given.

10.1.2.4 Every Change Order request submitted by the Contractor shall furnish a price breakdown, which shall cover all work involved in the change whether such work was deleted, added or changed and shall be in sufficient detail to permit an analysis of all material, labor, equipment, subcontract, overhead costs and profit. Any amount proposed for subcontracts shall be supported by an equally detailed breakdown. In addition, if the request includes a time extension, a justification (see section 10.1.4.) shall also be furnished. The request, together with the price breakdown and time extension justification, shall be furnished by the date specified by the DPMC.

10.1.2.5 The following rates shall apply in computing overhead (indirect costs) and profit for Change Orders that do not exceed \$25,000. The percentages shall be applicable for deleted work as well as additional work. When a change consists of both added and

deleted work, the applicable percentages shall be applied to the net cost or credit. In any event, the percentages shall not exceed the following:

- a. Overhead will be the sum of:
 - (1) fifteen percent (15%) of direct labor costs. NOTE: For the purpose of this article, the term "direct labor" shall include all foremen (identified by name and not included in the Project as the full-time superintendent or full time foreman as required elsewhere in the contract documents), equipment operators and skilled, semi-skilled and common laborers directly assigned to the specified operation. The term "direct labor costs" shall consist of the Contract or actual payroll rate of wage per hour and fringe benefits paid for each and every hour that such employees are actually engaged in the performance of the Work.
 - (2) fifteen percent (15%) of direct material costs. NOTE: For the purpose of this article, the term "direct material costs" shall consist of the actual costs of the materials including applicable tax and transportation charges.
- b. For rented equipment, an hourly rental rate will be used which will be determined based upon the monthly rental rates in the current edition of the Rental Rate Blue Book for Construction Equipment (Rental Book) and dividing it by 176. An allowance will be made for operating costs for each and every hour the equipment is actually operating in accordance with the rates listed in the Rental Book. The Contractor will be allowed only 65% (sixty-five percent) of the rental rate on Contractor-owned equipment.
- c. Bond premiums and payroll taxes, if applicable, will be allowed at actual cost. The Contractor shall submit from the surety to DPMC a letter for the bond premiums.
- d. The Contractor's profit on Subcontractor's work will be six percent (6%) of the Subcontractor's costs. Subcontractor indirect costs will be computed in the same manner as for the Contractor. The Contractor agrees to incorporate this article in each of its subcontracts. NOTE: When more than one tier of Subcontractor exists, for the purpose of markups, they shall be treated as one Subcontractor.
- e. A profit of six percent (6%), where profit is allowable by the terms of the applicable Contract provision shall be added to the Contractor's total cost. Indirect costs shall not be duplicated in direct costs.

10.1.2.6 For Change Orders in excess of \$25,000 the maximum allowable percentages of 15% overhead and 6% profit applies unless negotiated lower based upon the nature, extent and complexity of the Work involved.

10.1.2.7 The DPMC, in order to avoid delays in the progress of work or when in the best interests of the State has the discretion to direct the Contractor, in writing, to proceed with work claimed by the Contractor to be extra work, and/or to accelerate its work without a prior agreement on entitlement or costs. Such direction shall be in the form of a Letter of Direction. The Contractor may submit a claim for evaluation by

DPMC, for costs or for time on account of such work and/or acceleration on the form entitled "Contractor Change Order Request," completed in sufficient detail and in accordance with this article within ten (10) calendar days after receipt of the Letter of Direction. Nothing in this article shall excuse the Contractor from proceeding with the Work identified in the Letter of Direction and all other Contract Work. Issuance of a Letter of Direction under this article shall not be intended nor construed as an admission or acknowledgment by the State that the Contractor is entitled to additional compensation and/or time on account of such Work and/or acceleration.

10.2 ACCELERATION

The DPMC may order and direct the Contractor to accelerate its Work at any location(s) by increasing its forces, working overtime and/or working on Saturdays, Sundays, and holidays. If acceleration is required by the DPMC, and not due to any delays on the part of the Contractor, the Contractor will be reimbursed for additional costs.

ARTICLE 11 - CLAIMS AND DISPUTES

11.1 CONTRACTOR CLAIMS

11.1.1 Any claims made by a Contractor against the DPMC for damages, extra costs or any other claim made pursuant to the contract are governed by and subject to the New Jersey Contractual Liability Act, N.J.S.A. 59:13-1 et seq., as well as all the provisions in this Contract.

11.1.2 Upon presentation by the Contractor of a request in writing, the DPMC may review any decision or determination of the State or the Architect/Engineer as to any claim, dispute or any other matter in question relating to the execution or progress of the Work or the interpretation of the Contract Documents. Consistent with the intent of this Contract, the DPMC may schedule a conference for the purpose of settling or resolving such claims, disputes or other matters. Where such a conference is conducted, the Contractor and/or the Architect/Engineer shall be afforded the opportunity to be heard on the matter in question. Following review of the Contractor's request, the DPMC and the Contractor may settle or resolve the disputed matter, provided however that any such negotiations, conferences, settlement or resolution shall be subject to all requirements imposed by law, including where applicable, the New Jersey Contractual Liability Act (N.J.S.A. 59:13-1 et seq.). The DPMC's participation in any effort to negotiate, settle or resolve any such claim or dispute with the Contractor shall not operate to toll or extend the time limitations for notice or suit under the New Jersey Contractual Liability Act.

11.2 MUTUAL RIGHTS AND RESPONSIBILITIES OF ALL CONTRACTORS AND THE ARCHITECT/ENGINEER

11.2.1 Any Contractor or the Architect/Engineer which by its own acts, errors or omissions, damages or unnecessarily delays the Work or otherwise causes damage to the State, any other Contractor or the Architect/Engineer, shall be directly responsible to the aggrieved party or parties, for all costs and expenses incurred due to any such delays and/or damages whether by settlement, compromise or arbitration or judgment.

11.2.2 Any Contractor damaged by the actions of another Contractor or Architect/Engineer shall have a direct right to recovery against the party causing such damages but shall not have a right to recover such damages against the State.

11.2.3 In addition, the party responsible for causing such damages agrees to defend, indemnify and save harmless the State from all such claims and damages. Nothing contained in this paragraph shall be construed to relieve the responsible party from any liability or damage sustained on account of such acts, errors or omissions.

11.2.4 The State shall not be held vicariously liable to any Contractor for any damages or extra costs caused by any acts or omissions by another party including but not limited to actions of the Architect/Engineer as specified in the above paragraph. The Contractor's exclusive remedy shall be against the party directly responsible for causing such damages or extra costs.

ARTICLE 12 - TERMINATION/SUSPENSION

12.1 SUSPENSION OF THE WORK / STOP WORK

12.1.1 If the Contractor fails to correct defective work or persistently fails to carry out the Work in accordance with the Contract Documents, or if the DPMC determines that it is in the best interest of the Project to do so, the DPMC may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated and the DPMC provides written notice to the Contractor that the stopped Work may resume.

12.1.2 The DPMC shall have the right to defer the beginning or to suspend the whole or any part of the Work herein contracted to be done whenever, in the opinion of the DPMC, it may be necessary or expedient for the State to do so.

12.2 TERMINATION FOR CAUSE

12.2.1 If the Contractor persistently or repeatedly refuses or fails to supply enough properly skilled workers or proper materials so as to avoid or eliminate delays in the orderly progress of the Work in accordance with the approved schedule; or if the Contractor fails to make prompt payment to any Subcontractor or for materials or labor; or persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction; or if the Contractor is guilty of a material breach of a provision of the Contract Documents or otherwise fails to carry out the Work in accordance with the Contract Documents, then the DPMC may, without prejudice to any other right or remedy, and after giving the Contractor and its surety three (3) working days written Notice to forthwith address such breach and default with diligence and promptness, terminate the employment of the Contractor by the issuance of a written Notice to that effect to the Contractor and its surety, should the Contractor fail to comply with the demands of the original above mentioned Three Day Notice.

12.2.2 Upon such termination, the DPMC may take possession of the Site and of all the materials, equipment, and tools on the Site and of any materials stored off Site paid for by DPMC and may finish the Work by whatever method the DPMC may deem expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

12.2.3 In the event of termination for default, the surety shall either complete the principal's work or finance the completion of the Work. The surety shall not have the right to do nothing. In the event of the surety's breach of its obligations to the State, the surety shall be subject to all available damages under the law, including but not limited to debarment and the penalties imposed by New Jersey's Consumer Fraud Act.

12.2.4 Within seven (7) calendar days following receipt of Notice of Termination by the surety, the surety shall submit in writing its intention to satisfy its bond obligation to the State as obligee, and to explain its plan to complete the Work, tender a completing Contractor or finance the completion of the Work.

12.2.5 If the surety elects to take over the Work and complete same or to tender a completing Contractor, it must furnish notice of its intent to do so in writing over the

signature of an authorized representative and such notice shall be served upon the DPMC within seven (7) calendar days after service upon the surety of the Notice of Termination. This document shall identify the Contractor to perform this work.

12.2.6 If the surety elects to satisfy its bond obligation by financing the completion of the Work, in lieu of taking over same, the surety and State shall enter into an agreement, within thirty (30) days of the termination Notice, setting forth the details of the payments to be made by the surety. All current obligations for labor and materials incurred and outstanding by the defaulting Contractor on this Project shall be paid by the surety without delay, subject to allowance of reasonable time to verify such claims by the surety.

12.2.7 If the surety fails to satisfy its bond obligations within the time frames established above, the DPMC may undertake the completion of the Project in any manner deemed appropriate. In that circumstance, the surety shall not be relieved of any of its payment and performance bond obligations.

12.2.8 If the unpaid balance of the Contract sum exceeds the cost of finishing the Work (including but not limited to liquidated damages for delays and all other remaining damages sustained by the State originating from such breach of Contract), such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor and its surety shall be obligated to pay the difference to the DPMC promptly upon receipt of billing from the State, and this obligation shall survive the termination of the Contract.

12.3 OWNER'S RIGHT TO COMPLETE THE WORK

12.3.1 Alternatively, should the Contractor fail or refuse to correct its breach and default after receiving the required notice as provided under Section 12.2 hereof, the DPMC, in lieu of terminating the Contractor's employment, may provide for the correction and completion of all remaining Work by other means, and deduct all costs associated with such correction and completion from any undisbursed balance of funds (including earned retainage) remaining under the Contract. Such deduction may be documented by issuance of one or more deductive change orders. DPMC's correction or completion of Work under this paragraph shall not operate to waive, release or diminish the liability of the Contractor and its surety to the State for any breach or default by the Contractor.

12.4 TERMINATION FOR CONVENIENCE

12.4.1 The DPMC may, at any time, terminate the Contract in whole or in any part for the DPMC's convenience and without cause when the DPMC in its sole discretion views termination to be in the public interest.

12.4.2 Upon receipt of an order of Termination for Convenience, the Contractor shall not proceed with any item of work which is not specified in the Order of Termination. The Contractor shall complete all items of work specified in the termination order. Such work shall include punch list items and all work necessary to ensure the safety of the public, to properly secure existing work already constructed or partially constructed and to secure the Project Site. This work so ordered shall be performed in accordance with the Contract Documents and may include items of work not in the original Contract. The Work performed shall be considered substantially complete upon completion and

acceptance of all items of work specified in the Order, except punch list items. After completion of the punch list items and all documents required by the Contract, the Contract shall terminate upon issuance of a Final Certificate and payment. The DPMC reserves the right to declare in default a Contractor who fails to carry out the conditions set forth in an Order of Termination for Convenience.

12.4.3 When the DPMC orders termination of the Contract for Convenience, all completed items of work as of that date will be paid for at the Contract prices.

12.4.3.1 Payment for partially completed work will be paid for at agreed prices.

12.4.3.2 Payment for new items, if any, will be made either at agreed prices or in accordance with Article 10.

12.4.3.3 Materials obtained by the Contractor for the Work but which have not been incorporated therein may, at the option of the State, be purchased from the Contractor at actual cost delivered to a prescribed location, or otherwise disposed of as mutually agreed.

12.4.4 Within sixty (60) days of the effective termination date, the Contractor shall submit claims for additional costs actually incurred, not covered above or elsewhere in the Contract. Such claims may include reasonable mobilization costs, overhead expenses attributable to the Work performed, Subcontractor costs not otherwise paid for, actual idle labor costs if Work is stopped in advance of the termination date. The DPMC will not compensate the Contractor for costs prohibited under provisions of the Contract and/or anticipated profits on work not performed.

12.4.5 If the DPMC terminates the Contractor for cause as provided under Article 12.2 of the General Conditions, and if a court of law subsequently determines such termination for cause to have been undertaken without lawful justification, then such termination shall be deemed a termination for convenience governed by this Article 12.4. In that event, recovery by the Contractor and/or the Contractor's surety shall be limited to those costs which are recoverable following a termination for convenience under this Article 12.4.

ARTICLE 13 - OTHER REQUIREMENTS

13.1 PREVAILING WAGE

13.1.1 The Contractor shall comply with the New Jersey Prevailing Wage Act Laws of 1963, Chapter 150, (N.J.S.A. 34:11-56.25 et seq.) and all amendments thereto, and this act is hereby made a part of every Contract entered into on behalf of the State of New Jersey through the DPMC, except those Contracts which are not within the contemplation of the Act. Provisions of the Act include the following stipulations and requirements:

a. All workers employed in the performance of every Contract in which the Contract sum is in excess of \$2,000 and to which the DPMC is a party shall be paid not less than the prevailing wage rate as designated by the Commissioner, Division of Labor or his or her duly authorized representative.

(1) The Contractor performing public work for the DPMC and which is subject to the provisions of the Prevailing Wage Act, shall post the prevailing wage rates for each craft and classification involved as determined by the Commissioner, Division of Labor. This posting shall include the effective date of any changes thereof, and shall be displayed in prominent and easily accessible places at the Site of the Work or at such place or places as are used by the Contractor/Subcontractor to pay workers' wages.

(2) At the time of the bid due date, the Bidder and any Subcontractors identified by the Bidder must be registered in accordance with "The Public Works Contractor Registration Act" (N.J.S.A. 34:11-56.48 et seq.) All questions regarding registration shall be addressed to:

Contractor Registration Unit
New Jersey Department of Labor
Division of Wage & Hour Compliance
P O Box 389
Trenton NJ 08625-0389
Telephone: 609-292-9464
FAX: 609-633-8591

b. In the event it is found that any worker, employed by any Contractor covered by any Contract in excess of \$2,000 for any public work to which the DPMC is a party, has been paid a rate of wages less than the prevailing wage required by such Contract, DPMC may terminate the Contractor's right to proceed with the Work, or such part of the Work as to which there has been failure to pay required wages, and may otherwise execute the Work to completion.

c. In the event that any Subcontractor retained by a Contractor on any Contract in excess of \$2,000 for any public work to which the DPMC is a party, has been paid a rate of wages less than the prevailing wage required by such Contract, DPMC may terminate the Contractor's right to proceed with the Work, or such part of the Work as to which there has been failure to pay required wages, and may

otherwise execute the Work to completion or may require that the Contractor immediately substitute a new Subcontractor at the costs set forth in the Contract.

d. Nothing contained in the Prevailing Wage Act shall prohibit the payment of more than the prevailing wage rate to any worker employed on a Project.

e. The Contractor shall, as a condition of subcontract with any tier Subcontractor, require compliance with this section as a condition of Subcontract.

f. The State may audit the Contractor's conformance with the Prevailing Wage Act. If the result of such audit determines that the Contractor has not complied with the Prevailing Wage Act then such Contractor shall be responsible for the cost of this audit.

13.2 PATENTS

13.2.1 The Contractor shall hold and save the State 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 non-patented design, devise, invention, process, article or appliance manufactured or used in the performance of the Contract, including its use by the State, unless otherwise specifically stipulated in the Contract Documents.

13.2.2 License and/or royalty fees for the use design, devise, invention, process, article or appliance which is authorized by the State must be reasonable and paid to the holder of the patent or his or her authorized licensee directly by the State and not by or through the Contractor.

13.2.3 If the Contractor uses any design, devise, invention, process, article or appliance covered by letters, patent or copyright, it shall provide for such use by suitable agreement with the State of such patented or copyrighted 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, devise, invention, process, article or appliance in any way involved in the Work.

13.2.4 The Contractor and/or its surety shall indemnify and save harmless the State from any and all claims for infringement by reason of the use of such patented or copyrighted devise, invention, process, article or appliance, or any trademark or copyright in connection with Work performed under this Contract, and shall defend and indemnify the State for any cost, expense or damage which it may be obliged to pay by reason of such infringement at any time during the execution of the Work or after the completion of the Work. This section shall survive the termination of the Contract.

13.3 RIGHT TO AUDIT

13.3.1 The State reserves the right to audit the records of the Contractor in connection with all matters related to its Contract. The Contractor agrees to maintain its records in accordance with "Generally Accepted Accounting Principles," for a period of not less than five (5) years after receipt of final payment. All charges must be supported by appropriate documentation, including, but not limited to canceled checks. All records

shall be made available to the New Jersey Office of the State Comptroller or other State audit agency upon request and at no cost to the State.

13.3.2 The Contractor shall maintain all documentation related to products, transactions or services under this contract for a period of five years from the date of final payment. Such records shall be made available to the New Jersey Office of the State Comptroller or other State audit agency upon request and at no cost to the State.

13.3.2 The Contractor shall develop, maintain and make available to the DPMC on request such schedule of quantities and costs, progress schedules, payrolls, reports, estimates, Change Orders, all original estimates, takeoffs and other bidding documents, all Subcontractor and supplier Contracts and changes, all records showing all costs and liabilities incurred or to be incurred in connection with the Project (including all Subcontractor and supplier costs), all payment records and all records showing all costs incurred in labor and personnel of any kind, records and other data as the State may request concerning work performed or to be performed under this Contract.

13.3.3 The Contractor acknowledges and agrees that no claim for payment which is premised to any degree upon actual costs of the Contractor shall be recognized or payable by the State except and to the extent that such actual costs are substantiated by records required to be maintained under these provisions.

13.3.4 The Contractor acknowledges and agrees that its obligation to establish, maintain and make available records and the State's right to audit as delineated herein shall extend to actual costs incurred by Subcontractors in performing work required under the Contract Documents. The Contractor shall require in each subcontract that the Subcontractor establish, maintain and make available to the State all records as defined and delineated herein, relating to all work performed under the Subcontractor including work performed by a sub-Subcontractor.

13.4 INSURANCE

13.4.1 Insurance to Be Carried By The Contractor:

The Contractor shall obtain and maintain, at its expense and for the duration of the contract, minimum insurance coverage set forth below. By requiring such minimum insurance, the State of New Jersey shall not be deemed or construed to have assessed the risk that may be applicable to the Contractor under this contract. The Contractor shall assess its own risks and if it deems appropriate and/or prudent, maintain higher limits and/or broader coverage. The Contractor is not relieved of any liability or other obligations assumed or pursuant to the Contract by reason of its failure to obtain or maintain insurance in sufficient amounts, duration or types.

a Commercial General Liability:

- (1) Commercial General Liability (CGL)-ISO occurrence form CG001 or a substitute form providing a minimum coverage of \$2,000,000 per occurrence for bodily injury liability and \$2,000,000 per occurrence for property damage liability and shall cover liability arising from:

☐ Premises/Operations

- ☐ Independent Contractors
 - ☐ Products/Completed Operations
 - ☐ Personal and Advertising Injury
 - ☐ Liability assumed under an insured contract (including defense cost assumed)
- (2) The State of New Jersey shall be included as an additional insured under the CGL using ISO additional insured endorsement CG 20 10 and CG 20 37 or a substitute providing equivalent coverage, which endorsement shall include coverage for the State of New Jersey arising out of the completed operations of the contractor, and which coverage shall be maintained in effect for the benefit of the State of New Jersey for a period of three (3) years following the completion of the work specified in section 7.3 of this contract. Additional Insured coverage as required in this subparagraph shall apply as primary insurance with respect to any other insurance or self-insurance programs afforded to the State of New Jersey.
 - (3) The CGL general aggregate shall apply separately to this project using ISO CG 2503 form – designated construction projects(s) General Aggregate Limit.
 - (4) There shall be no endorsement or modification of the CGL limiting the scope of coverage for liability arising from explosion, collapse or underground property damage.
 - (5) If not included in the policy form the CGL policy must be endorsed with a separation of insureds (severability of interests) endorsement.
 - (6) CGL policy must provide or be endorsed (ISO form CG 24 04) to provide for waiver of subrogation.
- b Business Automobile Liability:
- (1) Contractor and subcontractors shall maintain business auto liability insurance and such insurance shall cover liability arising out of any auto (including owned, hired and non-owned autos).
 - (2) The limits of liability shall be not less than \$1,000,000 per occurrence for both bodily injury and property damage liability.
 - (3) Business Automobile coverage shall be written on ISO form CA 00 01 or a substitute form providing equivalent liability coverage. If necessary, the policy shall be endorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later additions of CA 00 01.
 - (4) If required by law, the business auto policy shall be endorsed to provide pollution liability coverage equivalent to that provided under the ISO pollution liability broadened coverage for covered autos form

CA 99 48 and the Motor Carrier Act endorsement (MCS 90) shall be attached.

(5) Waiver of Subrogation -- Contractor waives all rights against the State of New Jersey for recovery of damages to the extent these damages are covered by the business auto liability insurance obtained by Contractor pursuant to Paragraph 2.0 of this Agreement.

c Workers Compensation: Workers Compensation Insurance applicable to the laws of the State of New Jersey and other State or Federal jurisdiction is required to protect the employees of the Contractor or any Subcontractor who will be engaged in the performance of this Contract. This insurance shall include employers' liability protection with a limit of liability not less than \$500,000.

d Umbrella Liability: Contractor must maintain an Umbrella Liability Policy excess of the Commercial General Liability, Automobile Liability and Employer Liability coverage.

(1) The coverages of the umbrella policy must be as broad as the primary policies covered by this policy and include a "drop-down" provision if the primary coverage becomes impaired or exhausted.

13.4.2 Insurance to Be Carried By The State of New Jersey:

a Builders Risk Insurance: Unless otherwise provided in this agreement the State of New Jersey shall provide and maintain, in a company or companies lawfully authorized to do business in the jurisdiction which this project is located, Builders Risk Insurance in the amount of the initial contract amount as well as subsequent modifications for the entire project at the site on a replacement cost basis.

(1) The Builders Risk coverage shall be on an "All Risk of direct physical loss or damage" or equivalent policy form and include theft, earthquake, flood, temporary structures, demolition and increased cost of construction, architects' fees and expenses.

Also, the insurance must include coverage for Equipment Breakdown Coverage (a.k.a. Boiler & Machinery) which shall cover insured Equipment during installation and testing. The Builders Risk insurance shall include the interest of the State of New Jersey, the general Contractor, subcontractors and sub-tier contractors in the project.

(2) The Builders Risk Policy shall cover all materials equipment and supplies, assemblies and furnishings intended for specific installation in the project while located at the site. The policy will cover portions of the work off site and portions of the work in transit subject to the policy sub-limits for these coverages.

(3) Waivers of Subrogation -- The State of New Jersey and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees and (2) the

Architect/Engineer, Architect/Engineer's Consultants, and any of their subcontractors, Sub-subcontractors, agents and employees for damages caused by fire or other causes of loss to the extent covered by the Builders Risk insurance or any other property insurance applicable to the work.

- (4) The Builders Risk policy will provide for a waiver of subrogation against all interested parties covered by the policy but only to the extent the loss is covered by the policy.
- (5) The above insurance shall apply only to the work described in this contract, and shall not apply to alterations, repairs, maintenance and installations of systems, equipment and other items of work which do not result in creating additional habitable space. This insurance shall not protect against damage or loss to any of the Contractor's or Subcontractor's tools, equipment, scaffolding, staging towers or forms and Contractor's materials stored on Site which are not part of the construction Project. It is understood that the Contractor will, at its own expense, carry all insurance which may be required to provide the necessary protection against such loss or damage herein described which shall contain a waiver of any right of subrogation against the State of New Jersey.
- (6) Deductible Provisions -- The insurance protection described herein may contain a deductible clause. The State of New Jersey agrees to bear the cost of all deductibles of the Builders Risk Policy.
- (7) Loss Reporting and Loss Adjustment – The Contractor will receive a Loss Reporting Form whenever Builders' Risk Insurance is written. This form includes appropriate loss reporting instructions. In the event of loss, the Contractor shall immediately notify the State of New Jersey, DPMC, in writing, and take any other appropriate steps as may be required under the standard builders' risk insurance policy in effect. Upon the occurrence of any loss or damage prior to the acceptance of the building by the State, the Contractor shall, at the State's option, replace and repair the damaged work as originally provided in the drawings and specifications at no additional compensation to that provided in the original Contract.
- (8) Status Trustee for Loss Adjustment -- All losses will be adjusted with, and payable to, the State of New Jersey, as trustee for the insured as their interests may appear. The Contractor shall be named jointly with the State in all policies of insurance, all of which shall be open to inspection by the State.
- (9) This provision shall not relieve the Contractor from its obligation to complete, according to plans and specifications, the Project covered by the Contract, and the Contractor and its surety shall be obligated to full performance of the Contractor's undertaking.

13.5 ASSIGNMENT OF ANTITRUST CLAIMS

13.5.1 The Contractor recognizes that in actual economic practice, overcharges resulting from antitrust violations are in fact usually borne by the ultimate purchaser. Therefore, and as consideration for executing this Contract, the Contractor, acting herein by and through its duly authorized agent, hereby conveys, sells, assigns, and transfers to the State of New Jersey, for itself and on behalf of its political subdivisions, instrumentalities, and public agencies, all right, title and interest to all claims and causes of action it may now or hereafter acquire under the antitrust laws of the United States or the State of New Jersey, relating to the particular goods or services purchased or acquired by the State of New Jersey or any of its political subdivisions or public agencies pursuant to this Contract.

13.5.2 In connection with this assignment, the following are the express obligations of the Contractor:

- a. The Contractor will take no action which will in any way diminish the value of the rights conveyed or assigned hereunder.
- b. The Contractor will advise the Attorney General of New Jersey and DPMC:
 - (1) in advance of its intention to commence any action on its own behalf regarding any such claim or cause(s) of action; and/or
 - (2) immediately upon becoming aware of the fact that an action has been commenced on its behalf by some other person(s) of the tendency of such action.
- c. The Contractor will notify the defendants in any antitrust suit of the fact of the within assignment at the earliest practicable opportunity after the Contractor has initiated an action on its own behalf or becomes aware that such an action has been filed on its behalf by another person. A copy of such Notice will be sent to the Attorney General of New Jersey and the DPMC.

13.5.3 It is understood and agreed that in the event any payment under any such claim or cause of action is made to the Contractor, it shall promptly pay over to the State of New Jersey the allotted share thereof, if any, assigned to the State hereunder.

END, GENERAL CONDITIONS

STATE OF NEW JERSEY DEPARTMENT OF TREASURY
DIVISION OF PROPERTY MANAGEMENT AND
CONSTRUCTION PO BOX 034, TRENTON, NJ 08625-0034

PROJECT#: Vineland Veterans Memorial Home – Warehouse Renovation

A/E: JW Pedersen

DATE: 01/05/2023

BULLETIN A

Bidder must acknowledge receipt of this Bulletin on bid form in the space provided therefor.

This Bulletin is issued for the purpose of amending certain requirements of the original Contract Documents, as noted hereinafter, and is hereby made part of and incorporated in full force as part of the Contract Documents. Unless specifically noted or specified hereinafter, all work shall comply with the applicable provisions of the Contract Documents.

A) EXECUTIVE ORDERS 283 AND 290 (MURPHY 2022);

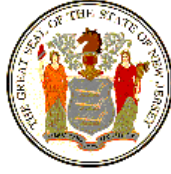
Pursuant to Executive Order No. 283 (“EO283”), Contractors and Consultants working in “health care settings” such as in-patient, rehabilitative and psychiatric hospitals and long-term care residential facilities, and in “high-risk congregate settings” including State and County Adult and Juvenile correctional facilities, secure care facilities, and residential facilities for individuals with disabilities (see EO283 Paragraph 6, page 8-9 for additional examples of each type of facility), are **required to become fully vaccinated, including booster shots.**

For covered workers entering certain Health Care facility settings (subject to the CMS Rule) in accordance with EO 283 paragraph 1, page 6-7, the first dose of the vaccine shall be obtained by January 27, 2022 and per EO 290 paragraph 1, page 6) workers must provide proof they are up-to-date with their COVID-19 vaccinations (including booster shots) by April 11, 2022, or within 3 weeks of eligibility for a booster shot, whichever is later.

For covered workers entering certain Health Care facility settings (not subject to the CMS Rule) and those workers in high-risk congregate settings (EO 283 paragraph 2, page 7), the first dose of the vaccine shall be obtained by February 16, 2022 and per EO 290 workers must provide proof they are up-to-date with their COVID-19 vaccinations (including booster shots) by May 11, 2022, or within 3 weeks of eligibility for a booster shot, whichever is later.

All covered workers must remain up to date with their COVID-19 vaccinations and provide proof of same.

Further details are found at pages 6-11 of EO283 and pages 6-8 of EO290 and it is recommended that all affected consultants and contractors review them carefully.



State of New Jersey

PHILIP D. MURPHY
Governor

DEPARTMENT OF TREASURY
DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION
P O Box 034
TRENTON NJ 08625-0034

ELIZABETH MAHER MUOIO
State Treasurer

SHEILA Y. OLIVER
Lt. Governor

CHRISTOPHER CHIANESE
Director

January 26, 2022

To All Contractors and Project Personnel on DPMC Construction Projects:

All businesses engaged in construction projects in the State must adopt policies that include, at minimum, the following requirements as per all active Executive Orders, NJDOH and CDC recommendations regarding COVID. **With Executive Order 283 issued 1/19/22, certain project facilities will now require full vaccination (including booster shots) prior to entrance into a covered Health Care facility or high-risk congregate facility. These new requirements for workers at covered facilities are outlined below.**

For Design and Construction Contracts involving certain DOH, DHS, DOC and JJC facilities:

Pursuant to Executive Order No. 283 (Murphy 1/19/2022) ("EO283"), Contractors and Consultants working in "health care settings" such as in-patient, rehabilitative and psychiatric hospitals and long-term care residential facilities, and in "high-risk congregate settings" including State and County Adult and Juvenile correctional facilities, secure care facilities, and residential facilities for individuals with disabilities (see EO283 Paragraph 6, page 8-9 for additional examples of each type of facility), are **required to become fully vaccinated, including booster shots.**

For covered workers entering certain Health Care facility settings (subject to the CMS Rule) in accordance with paragraph 1, page 6-7, the first dose of the vaccine shall be obtained by January 27, 2022 and workers must provide proof they are up-to-date with their COVID-19 vaccinations (including booster shots) by February 28, 2022, or within three weeks of eligibility for a booster shot, whichever is later.

For covered workers entering certain Health Care facility settings (not subject to the CMS Rule) and those workers in high-risk congregate settings (paragraph 2, page 7), the first dose of the vaccine shall be obtained by February 16 and workers must provide proof they are up-to-date with their COVID-19 vaccinations (including booster shots) by March 30, 2022, or within three weeks of eligibility for a booster shot, whichever is later.

All covered workers must remain up to date with their COVID-19 vaccinations and provide proof of same.

Further details are found at pages 6-11 of EO283 and it is recommended that all affected consultants and contractors review it carefully.

COVID Policies on DPMC Construction Projects

Page 2

For all projects at facilities covered by EO283 and also those not covered by EO 283, the following policies and procedures continue to apply for businesses engaged in construction projects in the State:

- a. Prohibit non-essential visitors from entering the worksite;
- b. Engage in appropriate social distancing measures when picking up or delivering equipment or materials;
- c. For indoor gatherings require individuals to maintain six feet or more distance between them to the maximum extent possible with all individuals wearing cloth face coverings;
- d. Stagger work start and stop times where practicable to limit the number of individuals entering and leaving the worksite concurrently;
- e. Identify congested and “high-traffic areas,” including but not limited to lunchrooms, breakrooms, portable rest rooms, and elevators, and limit the number of individuals at those areas concurrently where practicable and require individuals to wear cloth face coverings;
- f. Stagger lunch breaks and work times where practicable to enable operations to safely continue while utilizing the least number of individuals possible at the site;
- g. Require workers and visitors to the worksite to wear cloth face coverings while on the premises, in accordance with CDC recommendations, except where it is impracticable for an individual to wear a face mask, such as when the individual is eating or drinking or where a service being provided by the employer cannot be performed by an individual wearing a mask, and require workers to wear gloves while on the premises. Businesses must provide, at their expense, such face coverings. If a visitor refuses to wear a cloth face covering for non-medical reasons and if such covering cannot be provided to the individual by the business at the point of entry, then the business must decline entry to the individual. Nothing in the stated policy should prevent workers or visitors from wearing a surgical-grade mask or other more protective face covering if the individual is already in possession of such equipment, or if the businesses is otherwise required to provide such worker with more protective equipment due to the nature of the work involved. Where an individual declines to wear a face covering on the premises due to a medical condition that inhibits such usage, neither the business nor its staff shall require the individual to produce medical documentation verifying the stated condition;
- h. Require infection control practices, such as regular hand washing, coughing and sneezing etiquette, and proper tissue usage and disposal;
- i. Limit sharing of tools, equipment, and machinery and any shared equipment should be cleaned between uses;
- j. Where running water is not available, provide portable washing stations with soap and/or alcohol-based hand sanitizers that contain at least 60% alcohol and sanitizing wipes that are approved by the United States EPA for SARS0CoV-2 virus to employees and visitors at no cost to the individuals. Employers may also adopt policies that require employees to wear gloves while at the worksite;
- k. Routinely clean and disinfect all high-touch areas particularly in spaces that are accessible to employees or other individuals, including but not limited to restrooms, hand rails, door knobs, breakrooms, machinery, safety equipment and other frequently touched surfaces including employee used equipment, and ensure cleaning procedures following a known or potential exposure are in compliance with CDC recommendations;

COVID Policies on DPMC Construction Projects

Page 3

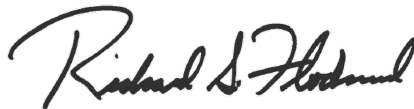
- l. When the worksite is an occupied residence, require workers to sanitize work areas and keep a distance of at least six feet from the occupants; and
- m. Place conspicuous signage at entrances and throughout the worksite detailing the above mandates.

Additionally, Contractors and Project Personnel on DPMC construction projects must continue to:

- a. Prior to each shift, conduct daily health checks of employees, such as temperature screenings, visual symptom checking, self-assessment checklists, and/or health questionnaires, consistent with CDC guidance including latest CDC guidance regarding COVID-19 symptoms, consistent with the confidentiality requirements of the ADA, NJLAD and any other applicable laws, and consistent with any guidance from the Equal Employment Opportunity Commission (“EEOC”) and the New Jersey Division on Civil Rights;
- b. Immediately separate and send home workers who appear to have symptoms, as defined by the CDC, consistent with COVID-19 illness upon arrival at work or who become sick during the day;
- c. Promptly notify workers of any known exposure to COVID-19 at the worksite, consistent with the confidentiality requirements of the Americans with Disabilities Act and any other applicable laws and consistent with the guidance from the EEOC;
- d. Clean and disinfect the worksite in accordance with current CDC guidelines when a worker at the site has been diagnosed with COVID-19 illness; and
- e. Continue to follow guidelines and directives issued by the New Jersey Department of Health, the CDC and the Occupational Health and Safety Administration, as applicable, for maintaining a clean, safe and healthy work environment.

These COVID-related protections, policies and directives issued in accordance with all current Executive Orders and CDC recommendations shall remain in effect until revoked or modified by the Governor or as amended or clarified by the State Director of Emergency Management.

Respectfully,



Richard Flodmand
Deputy Director, Contract Administration
Division of Property Management
and Construction

B) DIANE B. ALLEN EQUAL PAY ACT

Pursuant to N.J.S.A. 34:11-56.14(b), any employer, regardless of the location of the employer, who enters into a contract with a public body to perform any public work for the public body shall provide to the Commissioner of the New Jersey Department of Labor and Workforce Development, through certified payroll records required pursuant to P.L.1963, c.150 (N.J.S.A. 34:11-56.25 et seq.), information regarding the gender, race, job title, occupational category, and rate of total compensation of every employee of the employer employed in the State in connection with the contract. The employer shall provide the commissioner, throughout the duration of the contract or contracts, with an update to the information whenever payroll records are required to be submitted pursuant to P.L.1963, c.150 (N.J.S.A. 34:11-56.25 et seq.).

Information regarding the Diane B. Allen Equal Pay Act and its requirements may be obtained from the New Jersey Department of Labor and Workforce Development (LWD) web site at:
<https://nj.gov/labor/equalpay/equalpay.html>

LWD forms may be obtained from the online web site at: https://nj.gov/labor/forms_pdfs/equalpayact/MW-562withoutfein.pdf

C) IMPORTANT CONTRACTOR INFORMATION – FEDERAL SYSTEM FOR AWARD MANAGEMENT (SAM REGISTRATION):

In accordance with N.J.S.A. 52:32-44.1, any firm seeking to be awarded a contract shall provide a written certification to DPMC that neither the firm nor the firm's affiliates are debarred at the federal level from contracting with a federal government agency. Please see the attached Certification of Non-Debarment Form to be issued prior to Contract Award.

In addition, any firm seeking to be awarded a contract must register with the Federal System for Award Management (SAM) prior to contract award. In order to comply with this requirement, firms must register in SAM at <http://www.sam.gov> and DPMC will verify the firm's registration in SAM prior to contract award.

D) EMPLOYEE MISCLASSIFICATION

In accordance with Governor Murphy's Executive Order #25 and the Task Force's July 2019 Report, employers are required to properly classify their employees. Workers are presumed to be employees and not independent contractors, unless the employer can demonstrate all three factors of the "ABC Test" below:

- A. Such individual has been and will continue to be free from control or direction of the performance of such service, but under his or her contract of service and in fact; and
- B. Such service is either outside the usual course of business for which such service is performed, or that such service is performed outside of all places of business of the enterprise for which such service is performed; and
- C. Such individual is customarily engaged in an independently established trade, occupation, profession or business.

These factors have been adopted by New Jersey under its Wage & Hour, Wage Payment and Unemployment Insurance Laws to determine whether a worker is properly classified. Under N.J.S.A. 34:1A-1.17 to 1.19, the Department of Labor and Workforce Development has the authority to investigate potential violations of these laws and issue penalties and stop work orders to employers found to be in violation of the laws.

E) NOTICE OF POST-BID MEETING:

- a. After the bids are received and opened, the Apparent Low Bidder is required to attend a Post- Bid meeting at the State's offices at the date, time and location listed herein.
- b. The Apparent Low Bidder must bring the following to the Post-Bid meeting concerning the work they are performing by their own forces:
 - i. The itemized estimate used in preparation of the bid submission; and
 - ii. The estimator, or other authorized person who can discuss the itemized estimate; and
 - iii. An employee of the company who is authorized to sign the Post-Bid Review meeting minutes.
- c. Each of the Apparent Low Bidder's "Named Sub-Contractors" must attend the meeting and bring the following concerning the work they are performing by their forces:
 - i. The itemized estimate used in preparation of the bid submission; and
 - ii. The estimator, or other authorized person who can discuss the itemized estimate;
- d. A Post-Bid meeting will be held (tentative and to be confirmed after bids are reviewed):

DATE: TBD

TIME: 10:00 AM

LOCATION: DPMC, 20 W State St, Trenton, NJ or Teleconference

F) AMENDMENTS TO THE INSTRUCTIONS TO BIDDERS & GENERAL CONDITIONS OF THE CONTRACT

Amend the Instructions to Bidders of the Contract as follows:

IB 1 BID PROPOSALS

Replace IB 1.5 in its entirety with the following:

IB 1.5 Bid proposals based upon the plans, specifications, general, special and supplementary conditions and bulletins shall be deemed as having been made by the bidder with full knowledge of the conditions therein. Bidders are required to visit the site prior to submitting proposals for the work herein described, and to have thoroughly examined the conditions under which the contract is to be executed, including those reasonably observable conditions of the premises which would hinder, delay, or otherwise affect the performance of the contractor required under the terms of the contract. The State will not allow claims for additional costs as a result of the contractor's failure to become aware of the reasonably observable conditions affecting its required performance. The bidder is required to make appropriate allowances in the preparation of the

bid for the accommodation of such conditions. Bidders must warrant in the bid documents that the bidder is familiar with conditions existing at the site at the time the bid is submitted.

Replace IB 1.8 in its entirety with the following:

The bidder must include in the bid envelope: (1) the proposal signed by the bidder, (2) the executed affidavit of non-collusion and (3) bid security as further described in Section IB6.

Replace IB 1.11 Procurement Reform in its entirety with the following:

a. RESTRICTIONS ON POLITICAL CONTRIBUTIONS – In accordance with N.J.S.A. 19:44A-20.13, *et seq.*, bidders submitting a bid on or after October 15, 2004, shall be required to submit a Certification and Disclosure Form. This form must be submitted by the bidder and approved prior to contract award.

N.J.S.A. 19:44A-20.13, *et seq.* prohibits State departments, agencies and authorities from entering into a contract that exceeds \$17,500 with an individual or entity that has made a contribution to that political party committee. N.J.S.A. 19:44A-20.13, *et seq.* further requires the disclosure of all contributions to any political organization organized under section 527 of the Internal Revenue Code that also meets the definition of “continuing political committee” within the meaning of N.J.S.A. 19:44A-3(n) and N.J.A.C. 19:25-1.7. The successful bidder will be required to provide a Chapter 51 Certification and Disclosure of Political Contributions form. The successful bidder shall also be required to adhere to all continuing obligations contained in N.J.S.A. 19:44A-20.13, *et seq.* regarding contributions and disclosures as required in N.J.S.A. 19:44A-20.13, *et seq.*

b. MacBride Principles - Pursuant to N.J.S.A. 52:34-12.2, a bidder must certify prior to contract award to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates pursuant to N.J.S.A. 52:34-12.2, that the bidder has no ongoing business activities in Northern Ireland and does not maintain a physical presence therein through the operation of offices, plants, factories, or similar facilities, either directly or indirectly, through intermediaries, subsidiaries or affiliated companies over which it maintains effective control; or will take lawful steps in good faith to conduct any business operations it has in Northern Ireland in accordance with the MacBride principles of nondiscrimination in employment as set forth in N.J.S.A. 52:18A-89.8 and in conformance with the United Kingdom’s Fair Employment (Northern Ireland) Act of 1989, and permit independent monitoring of their compliance with those principles. If a contractor who would otherwise be awarded a contract or agreement does not certify, then the Director may determine, in accordance with applicable law and rules, it is in the best interest of the State to award the contract or agreement to the next responsible bidder who has completed the certification. If the Director finds the contractor to be in violation of the principles which are the subject of this law, s/he shall take such action as may be appropriate and provided for by law, rule or contract, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the contractor in default and seeking debarment or suspension of the contractor. Upon signing the contract, the bidder certifies that it abides by the MacBride Principles.

c. Investment Activities in Iran - Pursuant to N.J.S.A. 52:32-55, *et seq.*, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must provide, prior to the time a contract is awarded or renewed, a certification on the DPMC form provided to attest, under penalty

of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates, is identified on the Department of Treasury's Chapter 25 list as a person or entity engaging in investment activities in Iran. The Chapter 25 list is found on the Division of Purchase and Property's website at www.state.nj.us/treasury/purchase/pdf/Chapter25List.pdf. Bidders must review this list prior to completing the certification. If the Director finds a person or entity to be in violation of law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party. This form must be submitted by the bidder prior to contract award.

IB 3 CONSIDERATION OF BIDS

Replace IB 3.1, Item c in its entirety with the following:

c. The Director reserves the right to waive any bid requirements where such waiver is permitted by law. Such waiver shall be at the sole discretion of the Director.

IB 4 AWARDS

Replace IB 4.5, in its entirety with the following:

IB 4.5 The successful bidder and all of its subcontractors are required to comply with the requirements of N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27 et seq., regarding Equal Employment Opportunity in Public Works Contracts.

IB 5 QUALIFICATION OF BIDDERS

Replace IB 5.1 in its entirety with the following:

IB 5.1 If the successful bidder is a corporation not organized under the laws of the State of New Jersey or is not authorized to do business in this State (foreign corporation), the award of the contract shall be conditioned upon the prompt filing by the said corporation of a certificate to do business in this State and complying with the laws of this State in that regard. This filing must be made with the Division of Revenue and Enterprise Services. No award of contract will be made until the Division of Revenue and Enterprise Services confirms this authorization.

Replace IB 5.2 in its entirety with the following:

IB 5.2 The DPMC requires that each contractor, except in the case of a single contractor, shall perform a minimum of 35 percent of the contract work by the contractor's own forces. However, the Director has the sole discretion to reduce this percentage depending upon the nature and circumstances in any particular case, if the Director determines that to do so would be in the best interests of the State, and provided that the bidder submits a written request with the original bid proposal.

Replace IB 5.5 in its entirety with the following:

IB 5.5 At the time of the bid due date, the bidder and the subcontractors must be registered in accordance with “The Public Works Contractor Registration Act”, N.J.S.A. 34:11-56.48, *et seq.* All questions regarding registration shall be addressed to:

Contractor Registration Unit
New Jersey Department of Labor &
Workforce Development
Division of Wage & Hour Compliance
P O Box 389
Trenton NJ 08625-0389
Telephone: 609-292-9464
FAX: 609-633-8591

Replace IB 5.6 in its entirety with the following:

IB 5.6 In accordance with N.J.S.A. 52:32-44 all contractors and subcontractors providing goods/services to State agencies and authorities are required to provide the contracting agency or authority with proof of registration with the Department of the Treasury, Division of Revenue and Enterprise Services. The basic registration process involves the filing of Form NJ-Reg., which can be filed online at www.state.nj.us/njbgs/services.html or by calling (609) 292-7077 or (609) 292-1730. The bidder and subcontractors must submit a valid Business Registration Certificate prior to contract award.

Pursuant to N.J.S.A. 54:49-4.1, firms who fail to provide a copy of a Business Registration or who provide false information of business registration under the requirements of N.J.S.A. 52:32-44, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000 for each business registration copy not properly provided under a contract with DPMC.

IB 12 OFFER OF GRATUITIES

Replace IB 12.1, Items a, b and f in their entirety with the following:

a. No vendor shall pay, offer to pay, or agree to pay, either directly or indirectly, any fee, commission, compensation, gift, gratuity, or other thing of value of any kind to any State officer or employee or special State officer or employee, as defined by N.J.S.A. 52:13D-13b. and e., in the Department of the Treasury or any other agency with which such vendor transacts or offers or proposes to transact business, or to any member of the immediate family, as defined by NJSA 52:13D-13i., of any such officer or employee, or any partnership, firm, or corporation with which they are employed or associated, or in which such officer or employee has an interest within the meaning of NJSA 52:13D-13g.

b. The solicitation of any fee, commission, compensation, gift, gratuity or other thing of value by any State officer or employee or special State officer or employee from any State vendor shall be reported in writing forthwith by the vendor to the Attorney General and the State Ethics Commission.

f. The provisions cited above in paragraphs IB12.1.a. through e. shall not be construed to prohibit a State officer or employee or special State officer or employee from receiving gifts from or contracting with vendors under the same terms and conditions as are offered or made available to members of the general public subject to any guidelines the State Ethics Commission may promulgate under paragraph IB12.1.c. above.

Amend the General Conditions of the Contract as follows:

ARTICLE 4 – THE CONTRACTOR

4.1 REVIEW OF THE CONTRACT DOCUMENTS AND FIELD CONDITIONS

Delete 4.1.1 in its entirety and replace with the following:

The Contractor shall thoroughly examine and be familiar with all of the Contract Documents and the Site. The Contractor shall investigate and accurately determine the nature and location of the Work, the current building equipment and systems, labor and material conditions, and all matters which may in any way affect the Work or its performance.

4.3 PERMITS, LAWS, AND REGULATIONS

Delete 4.3.1 in its entirety and replace with the following:

The DPMC will obtain and pay for the construction permits and inspections (building, plumbing, electrical, elevator and fire), required by the Department of Community Affairs (DCA). When permits are issued by DCA, the appropriate licensed Contractors and/or Subcontractors shall be required to fill out the Contractor section of the Sub-Code Technical Section and sign and affix their raised seal thereto.

Delete 4.3.7 in its entirety and replace with the following:

The Contractor shall perform all sewerage disposal work in conformance with the regulations of the State's Department of Environmental Protection.

Delete 4.3.13 in its entirety and replace with the following:

The Contractor shall establish an approved Silica Health and Safety Program when tasks generating crystalline silica dust are being performed. This program shall include engineering, work practice, and respiratory protection controls to reduce worker exposure to airborne respirable crystalline dust to levels that are as low as reasonably achievable. When tasks are performed that generate airborne crystalline dust, the Contractor will minimize worker exposure to dust by one, or a combination of the following methods: 1) dust suppression with water, 2) local exhaust ventilation to a high-efficiency dust collector, and/or 3) appropriate respiratory protection devices. The Contractor shall provide a trained, competent person, as defined by OSHA 29 CFR 1926, on site at all times to implement the Silica Health and Safety Program when tasks generating crystalline silica dust are being performed.

4.4 RESPONSIBILITY FOR THE WORK

Delete 4.4.2 in its entirety and replace with the following:

The Contractor shall be responsible for all damage or destruction caused directly or indirectly by its operations to all parts of the Work, both temporary and permanent, and to all adjoining property at no cost to the State.

4.9 EXCAVATIONS, CUTTING AND PATCHING

Delete 4.9.1 in its entirety and replace with the following:

Soil borings, test pits or other subsurface information may be secured by an independent contractor retained by the State prior to design and construction of the Project and, if obtained, may be included in the Contract Documents for the Contractor's use. The Contractor assumes full responsibility for interpretation of said information.

4.11 EQUIPMENT AND MATERIALS

4.11.5 Delete the second sentence - *Wherever practicable, preference shall be given at all times to material and equipment manufactured or produced in the State of New Jersey, where such preference is reasonable and will best serve the interest of the State.*

4.12 TEMPORARY FACILITIES

Delete 4.12.5, Item a in its entirety and replace with the following:

a. The Contractor shall be responsible for providing and maintaining unobstructed traffic lanes on the designated construction access routes shown on the Contract Drawings or as reasonably required so as to perform the Work. The Contractor shall provide and maintain all reasonably required safety devices. The Contractor shall provide any necessary additional materials, grading and compaction, and shall remove snow and debris as necessary to provide and maintain the access roadway and pedestrian ways in serviceable condition.

4.15 PROTECTION/SAFETY

Delete 4.15.2, Item c in its entirety and replace with the following:

The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including but not limited to rails, night-lights, aircraft warning lights, the posting of danger signs and other warnings against hazards, promulgating safety regulations, notifying owners and users of adjacent utilities and other means of protection against accidental injury or damage to persons and property.

4.18 PROJECT SIGN

Delete 4.18 in its entirety

Add the following paragraphs and sub-paragraphs:

4.18.1 SIGNS AT THE PROJECT SITE

4.18.1.1 The Contractor is not required to provide a project sign.

4.18.1.2 Signs provided by others will not be permitted at the site.

4.20 DPMC FIELD OFFICE

Delete 4.20.1 in its entirety and replace with the following language:

A separate on-site field office for the use of DPMC personnel is not required for this project.

Delete 4.20.2 in its entirety and replace with the following language:

If required, a separate on-site field office for the use by the Contractor is specified elsewhere in the construction documents.

4.21 PHOTOGRAPHS

Delete 4.21.1 in its entirety and replace with the following language:

The Contractor shall submit pre-construction photographs and videos and monthly progress photographs in duplicate to the DPMC, giving six (6) views of the Work with each application for payment until the Project is completed.

ARTICLE 5 - SUBCONTRACTORS

5.1 SUBCONTRACTORS AND MATERIAL SUPPLIER APPROVALS

Delete 5.1.1 in its entirety and replace with the following:

Upon their execution, but not less than fourteen (14) calendar days prior to Subcontractor mobilization on the site, and/or Subcontractor billing, the Contractor shall forward to the Architect/Engineer on the form provided by the DPMC the names of all its Subcontractors and suppliers, of such others as the DPMC may direct, proposed to perform the principal parts of the Work. The Contractor shall forward the appropriate DPMC form to the Architect/Engineer for approval. Department of Labor and Workforce Development Public Works Contractor Registration and New Jersey Business Registration Certificate are required for all Subcontractors.

5.2 CONTRACTOR-SUBCONTRACTOR RELATIONSHIP

Delete 5.2.3 in its entirety

ARTICLE 6 - CONSTRUCTION PROGRESS SCHEDULE

Revise Article 6 as follows:

6.1 GENERAL

Delete 6.1 in its entirety and replace with the following:

The Contractor shall be required to provide Graphic Format progress schedules, as defined in section 6.4 below.

6.2 CONSTRUCTION PROGRESS SCHEDULE (CRITICAL PATH METHOD - CPM CONSULTANT RETAINED BY THE STATE).

Delete 6.2 in its entirety:

6.3 CONSTRUCTION PROGRESS SCHEDULING PROVIDED BY THE CONTRACTOR. Delete

6.3.1 in its entirety and replace with the following language:

6.3.1 *Schedule Format: The contractor shall be responsible for preparing, updating and distributing a Gantt chart progress schedule constructed using either Microsoft Project or a Microsoft Project compatible software [“Schedule”] for the project work in accordance with this Sub- paragraph.*

6.3.1.1 The Schedule must be furnished as a Microsoft Project file and in paper format if required.

6.3.2 *Requirements for what is included in the Schedule: The Schedule shall fully describe the project work in sufficient detail to satisfy the architect/ engineer and the Director.*

6.3.2.1 The Schedule must be accurate in its depiction of all project activities.

6.3.2.2 The Schedule shall, at a minimum, indicate in suitable detail, all significant features of the work or work activities to be performed, including the placing of orders and anticipated delivery dates for critical items, dates for submissions and approvals of submittals and shop drawings, all change order work, all necessary inspections, the beginning and time duration for all tasks, predecessors and successors for each task, contract milestones, the NTP, the dates of substantial and final completion of the work and significant Agency or State milestones, when applicable.

6.3.2.3 The Schedule must show the project's critical path.

6.3.2.4 The contractor may be required to add other information to the Schedule including, but not limited to, costs and resources.

- 6.3.2.5 *The Schedule must show the durations in calendar day and acknowledge weekends and State holidays as non-working days, unless otherwise required by the contract.*
- 6.3.2.6 *The Schedule must show the date of Substantial Completion occurring on or before the contract duration end date unless otherwise approved by the architect / engineer and the Director.*
- 6.3.3 *The Schedule as the project record: The contractor agrees that the Schedule shall constitute the official historical record of project's progress.*
- 6.3.4 *Approved Schedule: All references herein to the Schedule shall mean a Schedule that is approved by the Project Team including, but not limited to the architect/engineer and the Director.*
- 6.3.4.1 *The architect/engineer or Director can request the addition of information to the schedule when it is, in their opinion, necessary to better describe the contractor's work effort prior to granting their approval.*
- 6.3.5 *Complying with the Schedule: The contractor shall furnish sufficient labor, materials and equipment to ensure the prosecution of the work in accordance with the Schedule.*
- 6.3.6 *Recovery Schedule: The contractor is required to provide a recovery schedule if the completion time for any task deemed necessary for Substantial Completion is not scheduled to be complete prior to the contract duration allotted in the contract.*
- 6.3.6.1 *To create the recovery schedule the contractor shall, among other things, revise the sequence of tasks and/or the time for performance of tasks through concurrent operations, additional manpower or, when allowable, overtime or additional shifts etc. until it is assured that Substantial Completion will occur on or before the contract completion date.*
- 6.3.6.2 *The State will not allow any additional charges for work performed or made necessary in order for the contractor to comply with the dates shown in the recovery schedule i.e. no additional charges will be allowed the contractor for overtime, additional manpower, equipment, additional shifts, etc., except as provided for elsewhere in the contract.*
- 6.3.6.3 *The contractor is required to perform in accordance with the tasks and durations as shown in the recovery schedule including meeting the dates shown for Substantial and Final Completion.*
- 6.3.3.4 *The recovery schedule must comply with all requirements of this section and all references to and requirements for the Schedule shall also apply to the recovery schedule.*
- 6.3.7 *Submission and review requirements for the project schedule:*
- 6.3.7.1 *The contractor must submit and obtain approval of the initial schedule within 30 days after the Notice to Proceed, but in no case later than the first application for payment.*
- 6.3.7.2 *Subsequently the contractor must update and submit the project schedule immediately upon the occurrence of a change in an activity or event that may, in the architect's/engineers/s opinion, significantly change the current approved schedule, but at a minimum the schedule must be*

updated every two weeks and submitted at the bi-weekly progress meeting.

6.3.7.3 The updated schedule must include any activities that were added for any reason including, but not limited to change order work approved to date.

6.3.7.4 The updated progress schedule shall include the progress achieved for each activity that was scheduled including the actual dates the work was started and completed.

6.4.7.5 The project schedule shall be reviewed in detail at every bi-weekly progress meeting.

6.3.7.6 The absence of bi-weekly meetings does not relieve the contractor of his obligation to provide a schedule every two weeks.

6.3.7.7 The architect/engineer or Director reserves the right to cancel or reschedule the bi-weekly meeting or otherwise take preemptive action if the contractor does not have an approved progress schedule ready for submission as described herein.

6.3.8 Schedules and payments or extensions of time:

6.3.8.1 The contractor will make no claim for, and have no right to, additional payment or extension of time for completion of the work in accordance with the schedule, or any other concession because of any misinterpretation or misunderstanding on the contractor's part of the project schedule, or because of any failure on the contractor's part to become fully acquainted with all conditions relating to the project schedule and the manner in which it will be used on the project, or because of any other contractor's failure to properly participate in the development of a schedule or to perform the contract in accordance with the schedule.

6.3.8.2 A copy of the current, updated and approved schedule is a required attachment to each application for payment.

6.3.8.3 Failure to include a copy of the current, updated and approved schedule with the payment request shall be cause for rejection of the progress payment request.

6.3.9 Two week look ahead/look behind work plan: In addition to the project schedule requirements, the contractor is required to submit a two week look ahead/look behind work plan at every bi-weekly project meeting.

6.3.9.1 The work plan shall focus on the activities that have been completed in the last two weeks and those planned for the next two weeks.

6.3.9.2 The work plan shall be in greater depth than the overall project schedule.

6.3.9.3 The work plan shall identify the contractor's activities that impact the operations and occupants of the State building or facility of the subject project.

6.3.9.4 The work plan shall be a subset of the current schedule and all activities shall coordinate between them.

6.3.9.5 The absence of a bi-weekly meeting shall not relieve the contractor of his responsibility to provide this work plan.

6.3.9.6 This work plan is in addition to and not in lieu of the schedule requirements described in Sub-paragraph 6.4 et al.

- 6.3.10 The Contractor agrees that no time extension will be granted for time lost due to normal seasonal weather conditions. In order to qualify for consideration for a time extension due to adverse weather conditions, it must be shown by clear and convincing evidence that the weather conditions during a given quarterly period (summer, fall, winter, spring) were more severe than the previous five-year (5) average for the Project geographical area, and that these weather conditions critically impacted the final Project completion date by delaying the performance of work. If abnormal weather losses can be shown to have impacted the Project completion date, a non-compensable time extension will be considered for that portion of the proven weather-related delays, which exceeded normal weather losses that should have been anticipated for the quarterly period in question.*
- 6.3.11 The "Construction Duration" identified on the Bid Proposal Form shall be from the Notice to Proceed to Substantial Completion.*

ARTICLE 7 – TIME OF COMPLETION

7.5 DELAY, DISRUPTION AND INTERFERENCE

Delete 7.5.2, Contractor's Damage for Delay, Disruption or Interference in its entirety and replace with the following:

The Contractor shall not be entitled to recovery of money damages from the DPMC caused by delay, disruption or interference with the Contractor's Work except as expressly provided under section 7.5.2 of these General Conditions paragraph. The Contractor expressly agrees that the Contractor's remedy for delay, disruption or interference shall be limited to an extension of time only and that there shall be no recovery of money damages by the Contractor for any delay, disruption or interference with the Contractor's work attributable to any cause whatsoever (other than the State's negligence, bad faith, active interference or other tortious conduct). The Contractor expressly agrees that it shall not be entitled to recover damages due to delay, disruption or interference caused by any of the following:

- a. Delayed execution of the contract or any of the causes referenced in paragraph 7.5.2;
- b. Any act or omission by any party other than the State, including, but not limited to, the Architect-Engineer, any other Contractor or Subcontractor, any CPM or other consultant retained by the State, any construction manager retained by the State, any agency or instrumentality of the federal government or of any local governmental entity or any utility (e.g., gas, electric, telephone, cable);
- c. Any act or omission of any agency or instrumentality of the State, other than the DPMC, including, without limitation, the Department of Environmental Protection and the Department of Community Affairs;
- d. Weather;
- e. Subsurface conditions of any type including, without limitation rock and underground utilities, whether or not such conditions were reasonably ascertainable to the Contractor at the time of bidding;
- f. Use of all or any portion the Project premises prior to completion of the Work to the extent that such use is permitted under the terms of the Contract;

- g. Delay in obtaining any permit or approval;
- h. Delay caused by the issuance of any court order, injunction or restraining order;
- i. Any delay which does not entitle the Contractor to an extension of the Contract Completion Time under Section 6.2.8 of these General Conditions; or
- j. Delay attributable to any other cause, other than a cause for which the State is legally restricted from enforcing a contractual “no damage for delay” clause under N.J.S.A. 2A:58B-3 or any other provision of law restricting or barring the enforcement of such clauses.

In interpreting this provision, the negligence or other wrongful conduct of others, including, without limitation, the Architect/Engineer, the CPM consultant, any construction management firm and any other firm or person retained by the State shall not be imputed to the State. Further, to the extent that the Contractor is entitled to recover monetary damages for delay under this Contract, such recovery shall be limited to actual direct costs incurred on account of the delay, and shall not include profit or other markup on such costs, home office overhead calculated under the Eichleay formula or any other kind of consequential or indirect cost or damage, including but not limited to any alleged cost or damage under the total cost method, the modified total cost method, or productivity factors (costs for inefficiency based on industry productivity factors such as those provided by the Mechanical Contractors Association of America (MCAA) Factors Affecting Labor Productivity).

ARTICLE 9 – PAYMENTS

9.1 INVOICES

Delete 9.1.5, Item a in its entirety and replace with the following:

- a. A proper invoice will be deemed to have been received by the Owner when it is received by the person or entity designated by the State to review and sign the invoice on the State’s behalf at the address designated in the pre-construction conference for receipt of invoices. Receipt of an invoice by such person or entity shall commence the running of the 20-day period for formal approval and certification as provided under N.J.S.A. 2A:30A-2(a);

Delete 9.1.6 in its entirety and replace with the following:

The provisions of this Article 9 shall not govern the State’s payment obligations nor shall they supersede or modify any other contractual provision allowing the withholding of monies from the contractor to the extent that the contractor has not performed in accordance with the provisions of the contract. Nor shall this Article 9 govern the State’s payment obligations nor supersede or modify any other contractual provision governing Contractor claims for additional compensation beyond the base contract price and approved change orders.

9.2 INTEREST

Delete 9.2.2 in its entirety and replace with the following:

Interest may be paid by separate payment to the Contractor, but shall be paid within thirty (30) calendar days of payment of the principal amount of the approved invoice.

Delete 9.2.3 in its entirety and replace with the following:

Nothing in this Article 9 shall be construed as entitling the Contractor to payment of interest on any sum withheld by the State for any reason permitted under the Contract or applicable law, or on any claim for additional compensation, over and above sums due under the base Contract or approved change orders.

ARTICLE 13 – OTHER REQUIREMENTS

13.1 PREVAILING WAGE

Delete 13.1.1, Item a, 2 in its entirety and replace with the following:

(2) At the time of the bid due date, the Bidder and any Subcontractors identified by the Bidder must be registered in accordance with “The Public Works Contractor Registration Act” (N.J.S.A. 34:11-56.48 et seq.) All questions regarding registration shall be addressed to:

Contractor Registration Unit
New Jersey Department of Labor and Workforce Development
Division of Wage & Hour Compliance
P O Box 389
Trenton NJ 08625-0389
Telephone: 609-292-9464
FAX: 609-633-8591

13.4 INSURANCE

Rename 13.4.1, Item b: “Business/Commercial Automobile Liability”:

G) REVISIONS AND/OR CLARIFICATIONS TO THE DRAWINGS, SPECIFICATIONS AND/OR PROJECT REQUIREMENTS;

1. UCC Permits have been paid by the State.
2. All Technical Sections that reference manufacturers and products are hereby revised to include "Or Approved Equal." Technical Sections of the Specifications have not been reissued as part of this Bulletin A.
3. "Approved Equal" requests must be presented in writing during the Question and Answer period of the Bid Phase, after which they will not be considered. The Question and Answer period will be provided by the DPMC during the bid phase or announced at the Pre-Bid Meeting. A response will be provided

by the Consultant via Bulletin.

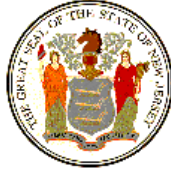
4. As it relates to testing and inspections, all testing and inspections indicated in the specifications shall be performed by a DPMC prequalified firm and arranged and paid for by the Contractor and in no situation by the Owner.
5. **INSTALLER, MANUFACTURER & FABRICATOR QUALITY ASSURANCE & QUALIFICATIONS:** Eliminate any and all references to “Installer” and/or “Fabricator” quality assurance requirements which specifically pertain to stated minimum required experience in years and number of previous projects. All other requirements for QA/QC, including but not limited to compliance with relevant codes, standards, and manufacturer installation instructions remain applicable.
6. Delete any and all references to “Supplemental General Conditions” and “Special Conditions”.
7. All businesses engaged in construction projects in the State must adopt policies that include, at a minimum, the requirements as per all Executive Orders, NJDOH and CDC recommendations regarding COVID. Please see the attached DPMC Notice dated March 9, 2022 to All Contractors and Project Personnel on DPMC Construction Projects.
8. Pursuant to E.O. 291 (Murphy 2022), the Contractor must certify prior to contract award that neither the Contractor nor any subcontractors used by the Contractor to provide construction related materials or services to the State of New Jersey, is owned or controlled by the government of Russia, Belarus or their instrumentalities; provides materials which originated in Russia or Belarus; and, that neither the Contractor nor any subcontractors invest directly in any company that is owned or controlled by the government of Russia, Belarus, or their instrumentalities.

***Contractors are advised that the firm to be awarded the project will be required to submit a signed certification that the firm complies with all requirements of E.O. 291 prior to contract award. Please see the attached copy of E.O. 291 and E.O. 291 Pre-Award Certification to be issued prior to Contract Award.**
9. The Investment Activities in Iran Form is attached to this Bulletin. The apparent low bidder will be required to submit this form prior to Contract Award.

ATTACHMENTS:

1. DPMC Notice dated March 9, 2022 to All Contractors and Project Personnel on DPMC Construction Projects.
2. Executive Order 291 Certification
3. Certification of Non-Debarment Form
4. Investment Activities in Iran Form
5. Executive Order 290 (Murphy 2022)
6. Executive Order 291 (Murphy 2022)

END OF BULLETIN A



State of New Jersey

PHILIP D. MURPHY
Governor

DEPARTMENT OF TREASURY
DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION
P O Box 034
TRENTON NJ 08625-0034

ELIZABETH MAHER MUOIO
State Treasurer

SHEILA Y. OLIVER
Lt. Governor

CHRISTOPHER CHIANESE
Director

March 9, 2022

To All Contractors and Project Personnel on DPMC Construction Projects:

All businesses engaged in construction projects in the State must adopt policies that include, at minimum, the following requirements as per all active Executive Orders, NJDOH and CDC recommendations regarding COVID. **With EO 283 and revised by EO 290, certain project facilities require full vaccination (including booster shots) prior to entrance into a covered Health Care facility or high-risk congregate facility. These requirements and the associated revised effective dates for workers at covered facilities per EO 290 are outlined below.**

For Design and Construction Contracts involving certain DOH, DHS, DOC and JJC facilities:

Pursuant to Executive Order No. 283 ("EO283"), Contractors and Consultants working in "health care settings" such as in-patient, rehabilitative and psychiatric hospitals and long-term care residential facilities, and in "high-risk congregate settings" including State and County Adult and Juvenile correctional facilities, secure care facilities, and residential facilities for individuals with disabilities (see EO283 Paragraph 6, page 8-9 for additional examples of each type of facility), are **required to become fully vaccinated, including booster shots.**

For covered workers entering certain Health Care facility settings (subject to the CMS Rule) in accordance with EO 283 paragraph 1, page 6-7, the first dose of the vaccine shall be obtained by January 27, 2022 and per EO 290 paragraph 1, page 6) workers must provide proof they are up-to-date with their COVID-19 vaccinations (including booster shots) by April 11, 2022, or within 3 weeks of eligibility for a booster shot, whichever is later.

For covered workers entering certain Health Care facility settings (not subject to the CMS Rule) and those workers in high-risk congregate settings (EO 283 paragraph 2, page 7), the first dose of the vaccine shall be obtained by February 16, 2022 and per EO 290 workers must provide proof they are up-to-date with their COVID-19 vaccinations (including booster shots) by May 11, 2022, or within 3 weeks of eligibility for a booster shot, whichever is later.

All covered workers must remain up to date with their COVID-19 vaccinations and provide proof of same.

Further details are found at pages 6-11 of EO283 and pages 6-8 of EO290 and it is recommended that all affected consultants and contractors review them carefully.

COVID Policies on DPMC Construction Projects

Page 2

For all projects at facilities covered by EO's 283 and 290 and also those not covered by them, the following policies and procedures continue to apply for businesses engaged in construction projects in the State:

- a. Prohibit non-essential visitors from entering the worksite;
- b. Engage in appropriate social distancing measures when picking up or delivering equipment or materials;
- c. For indoor gatherings require individuals to maintain six feet or more distance between them to the maximum extent possible with all individuals wearing cloth face coverings;
- d. Stagger work start and stop times where practicable to limit the number of individuals entering and leaving the worksite concurrently;
- e. Identify congested and "high-traffic areas," including but not limited to lunchrooms, breakrooms, portable rest rooms, and elevators, and limit the number of individuals at those areas concurrently where practicable and require individuals to wear cloth face coverings;
- f. Stagger lunch breaks and work times where practicable to enable operations to safely continue while utilizing the least number of individuals possible at the site;
- g. Require workers and visitors to the worksite to wear cloth face coverings while on the premises, in accordance with CDC recommendations, except where it is impracticable for an individual to wear a face mask, such as when the individual is eating or drinking or where a service being provided by the employer cannot be performed by an individual wearing a mask, and require workers to wear gloves while on the premises. Businesses must provide, at their expense, such face coverings. If a visitor refuses to wear a cloth face covering for non-medical reasons and if such covering cannot be provided to the individual by the business at the point of entry, then the business must decline entry to the individual. Nothing in the stated policy should prevent workers or visitors from wearing a surgical-grade mask or other more protective face covering if the individual is already in possession of such equipment, or if the businesses is otherwise required to provide such worker with more protective equipment due to the nature of the work involved. Where an individual declines to wear a face covering on the premises due to a medical condition that inhibits such usage, neither the business nor its staff shall require the individual to produce medical documentation verifying the stated condition;
- h. Require infection control practices, such as regular hand washing, coughing and sneezing etiquette, and proper tissue usage and disposal;
- i. Limit sharing of tools, equipment, and machinery and any shared equipment should be cleaned between uses;
- j. Where running water is not available, provide portable washing stations with soap and/or alcohol-based hand sanitizers that contain at least 60% alcohol and sanitizing wipes that are approved by the United States EPA for SARS0CoV-2 virus to employees and visitors at no cost to the individuals. Employers may also adopt policies that require employees to wear gloves while at the worksite;
- k. Routinely clean and disinfect all high-touch areas particularly in spaces that are accessible to employees or other individuals, including but not limited to restrooms, hand rails, door knobs, breakrooms, machinery, safety equipment and other frequently touched surfaces including employee used equipment, and ensure cleaning procedures following a known or potential exposure are in compliance with CDC recommendations;

COVID Policies on DPMC Construction Projects

Page 3

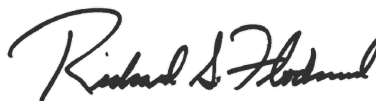
- l. When the worksite is an occupied residence, require workers to sanitize work areas and keep a distance of at least six feet from the occupants; and
- m. Place conspicuous signage at entrances and throughout the worksite detailing the above mandates.

Additionally, Contractors and Project Personnel on DPMC construction projects must continue to:

- a. Prior to each shift, conduct daily health checks of employees, such as temperature screenings, visual symptom checking, self-assessment checklists, and/or health questionnaires, consistent with CDC guidance including latest CDC guidance regarding COVID-19 symptoms, consistent with the confidentiality requirements of the ADA, NJLAD and any other applicable laws, and consistent with any guidance from the Equal Employment Opportunity Commission (“EEOC”) and the New Jersey Division on Civil Rights;
- b. Immediately separate and send home workers who appear to have symptoms, as defined by the CDC, consistent with COVID-19 illness upon arrival at work or who become sick during the day;
- c. Promptly notify workers of any known exposure to COVID-19 at the worksite, consistent with the confidentiality requirements of the Americans with Disabilities Act and any other applicable laws and consistent with the guidance from the EEOC;
- d. Clean and disinfect the worksite in accordance with current CDC guidelines when a worker at the site has been diagnosed with COVID-19 illness; and
- e. Continue to follow guidelines and directives issued by the New Jersey Department of Health, the CDC and the Occupational Health and Safety Administration, as applicable, for maintaining a clean, safe and healthy work environment.

These COVID-related protections, policies and directives issued in accordance with all current Executive Orders and CDC recommendations shall remain in effect until revoked or modified by the Governor or as amended or clarified by the State Director of Emergency Management.

Respectfully,



Richard Flodmand
Deputy Director, Contract Administration
Division of Property Management
and Construction

STORAGE BUILDING RENOVATION PACKAGE

PROJECT # A1257-07

**Department of Military and Veteran Affairs
Vineland Veterans Memorial Home
Vineland, NJ 08809**

ESCO: CENTRICA BUSINESS SOLUTIONS (“CBS”)

BIDDER’S QUOTE

BID DOCUMENT SUBMISSION CHECKLIST

A. Failure to submit any of the following may be a cause for CBS to reject the bid.

THE CONTRACTOR WILL PROVIDE THE FOLLOWING CHECKLIST WHICH SHALL BE PROPERLY COMPLETED WITH THE QUOTATION AND SUBMITTED AS PART OF THE QUOTATION.

<i>Required with Submission of Firm Bid</i>	Bidder’s Initials	Page #
Firm Bid		3-6
Certification - Firm classified by DPMC		7
Non-Collusion Affidavit		8
Source Disclosure Certification Form		10
Disclosure of Investment Activities in Iran		11-12
Certification of Non-Involvement in Prohibited Activities in Russia or Belarus to P.L. 2022		13
Subcontractors - Required Apprenticeship Program		14-15
Affidavit of Non Disbarment		16
Acknowledge reading and understanding Bulletin A		NA
Bid Bond / Guarantee		N/A
<i>ATTENDED MANDATORY PRE-BID MEETING AND SITE VISIT</i>		N/A
<i>REVIEWED ALL RFQ DOCUMENTS, LAWS, AND REGULATIONS THAT IN ANY MATTER MAY AFFECT COST, PROGRESS OR PERFORMANCE</i>		N/A

<i>Required Prior to Contract Award</i>	Bidder’s Initials	Page #
Bid Document Submission Checklist		
Performance - Payment Bond Forms		20-21
E.O. 290 Certification of COVID-19 Vaccination Requirements		22
State of New Jersey Business Registration Certificate		23
Affirmative Action Regulations Acknowledgement		24
Prevailing Wage Compliance Declaration		25
Acknowledgement of Review of Agreements between ESCO and Owner (General and Supplementary General Conditions between ESCO and Owner)		26
HSES Contractor Pre-Qualification Questionnaire		27-30
VVMH Rules and Regulations Regarding Outside Contractors		31-32

Revision X Item	What Changed?
a	
b	
c	
d	
e	
f	
g	

NOTE: FAILURE TO COMPLY WITH RFQ PROCESS, COMPLETION AND SUBMITTAL OF ALL THE ABOVE DOCUMENTS ON THE FORMS PROVIDED HEREIN, WILL RESULT IN A REJECTION OF YOUR QUOTATION.

By placing my initials in the boxes provided above, I acknowledge having read and fully understand all the requirements of each of the documents referenced herein.

B. SIGNATURE: The undersigned hereby acknowledges and has submitted the above listed requirements.

SIGNED BY: _____

PRINT NAME: _____

TITLE: _____

FIRM NAME: _____

DATE: _____

Firm Bid

The bid proposal is to be returned in the pre-addressed envelope and will be accepted no later than 2:00 p.m.,

February 1, 2023 after which time the bid proposals will be publicly opened and read.

FIRM NAME:

(Please Type or Print)
(Business Street Address ONLY -
No P O Box)

PROJECT NO:

PROJECT # A1257-07

PROJECT:

Vineland Veterans Memorial Home – Storage Building Renovation Package

LOCATION:

524 NW Blvd, Vineland, NJ 08360

COUNTY:

Cumberland

The undersigned Single Prime Contractor proposes to be responsible for all work shown in the contract plans and specifications.

☐

Single Bid

\$

lump sum all trades

(Numerical Figures Only)

In accordance with N.J.S.A. 52:35-1 et seq., the Contractor will be classified with the Division of Property Management and Construction (DPMC) in one of the following trades: GENERAL CONSTRUCTION (C008 or C009)

The proposal is based upon the bid documents listed below.

PROJECT # A1257-07 Storage Building Renovation

1. Instructions to Bidders and General Conditions dated **Thursday January 5, 2023.**
2. Specifications, Documents and Drawings:

CS100	Cover Sheet
CS101	Code Plan
CS102	Area Plan
D100	Demolition Plan
D101	Demolition – Ceiling Items
D102	Demolition Plan – Flooring
D103	Demolition – Asbestos
D104	Existing Conditions – Electrical
D105	Existing Conditions – Mechanical
D106	Existing Conditions – Plumbing
A100	Overall Floor Plan
A101	Overall Basement Plan Details
A102	Ceiling Plan
A200	Roof Plan
A300	Exterior Elevations
A400	Building Sections Details
A401	Details
E100	Electrical Cover Sheet
E101	Specifications
E102	Specifications
E300	Electrical Power Plan
E400	Electrical Details
ED200	Electrical Demolition
M100	HVAC Cover Sheet
M101	HVAC Specification
M200	First Floor and Basement HVAC
M300	HVAC Schedules and Details
MD100	HVAC Demolition Plan
P100	Plumbing Cover Sheet
P300	Plumbing New Work
PD200	Plumbing Demolition Plan
SP001	Sprinkler Specifications
SP002	Sprinkler Details
SP100	Sprinkler Floor Plan
	A1257-07 Specifications
	A1257-07 Bulletin A
	A1257 – Storage Renovation Instruction RFQ
	DPMC General Conditions Revised
	Notification of Protection and Policies on DPMC Projects

This project will be fully completed and ready for occupancy within 110 calendar days.

PROJECT # A1257-07 Storage Building Renovation

Liquidated damages will be assessed at 1/20 of one percent (0.05%) of the value of this contract (min. of \$250.00).

The above price is good through sixty (60) business days after the bid opening date.

Submit only one bid proposal and bid bond form.

A bid bond in the amount of fifty percent (50%) of the TOTAL bid, including alternates if applicable, must accompany this proposal form.

The Contractor must include prices for the base bid and all alternates and unit prices when requested, otherwise the bid may be considered non-responsive.

Having examined the bid documents and the site of the proposed work and being familiar with all the conditions surrounding the construction of the proposed project including the availability of materials and labor, the Contractor hereby proposes to furnish all labor, materials and supplies, and to construct the project as submitted, within the time set forth therein, and at the price stated. This price is to cover all expenses incurred in performing the work required, of which this proposal is a part.

The Contractor acknowledges and affirms that it has personal knowledge of or has obtained and reviewed a copy of the valid prevailing wage rates for all trades involved in the project for the geographical location of the project as issued by the Commissioner of the Department of Labor, P O Box 389, Trenton, New Jersey, 08625; (609) 292-2259.

The Contractor acknowledges receipt of the following Bulletins:

<u>BULLETIN/ADDENDUM NUMBER</u>	<u>DATE OF</u>
<u>BULLETIN/ADDENDUM</u>	

The names and addresses of each Subcontractor included in this Single Bid proposal are listed below and are classified with DPMC in accordance with N.J.S.A. 52:35-1 et seq. at the time of the bid due date. If the Single Prime contractor intends to perform the work described under any of the listed trades sections of this bid proposal form, that Single Prime Contractor must be classified in that trade and listed in the appropriate Subcontractor section of this bid proposal. The Contractor acknowledges the failure to list

PROJECT # A1257-07 Storage Building Renovation

classified Subcontractors as part of Single Bid proposals shall constitute a non-waivable material deviation resulting in a rejection of the bid.

Fire Sprinkler	
Name:	
Address:	
HVACR	
Name:	
Address:	
PLUMBING	
Name:	
Address:	
ARCHITECTURAL	
Name:	
Address:	
ELECTRICAL	
Name:	
Address:	

ALTERNATE PRICING SCHEDULE (None)

UNIT PRICES

- a) Unit Prices govern addition to or deduction from quantity included in the bid proposal and amounts installed on job.
- b) Unit prices shall include all labor, materials, equipment, bailing, shoring, removal, landscaping, testing, as-built drawings, warranties, supervision, overhead, profit, insurance, bond, etc.
- c) Centrica Business Solutions' (CBS) representative shall verify all quantities.
- d) Changes shall be processed in accordance with the ESIP General Conditions, "CHANGES IN THE WORK".
- e) There shall be no more than a five percent (5%) differential between add and deduct unit prices.

UNIT PRICES ITEM #	DESCRIPTION OF ITEM	TRADE AFFECTED	UNIT PRICES (\$)		
			PAY UNIT	ADD	DEDUCT
1	Painting (Material & Labor)		Sq. Ft		
2					
3					

NOTE:

If the unit prices are left blank, the bid may be deemed non-responsive if the omission is determined by the State to be material to the bid. The bidders should enter a dollar amount, "0" or "No Change".

EXECUTION OF CONTRACT

Upon receipt of written notice of the acceptance of this bid, the Contractor shall execute the formal contract within 10 calendar days and deliver a Performance and Payment Bond as well as other information as required in the bid solicitation.

COMMENCEMENT OF WORK

Contractor acknowledges that the work is to commence upon receipt of the Notice to Proceed except for permit activities.

BID SECURITY

Bid Bond is fifty percent (50%) of the TOTAL bid, including alternates if applicable, and is to become the property of the State in the event the contract and bond are not executed within the time set forth as liquidated damages for the delay and additional expense incurred by the Owner.

CERTIFICATION

I certify that the below named firm is classified by the Division of Property Management and Construction in the approved amount of \$ _____ for (trade) _____ until _____ (Expiration date).

I further certify that this firm's bid for this project does not cause the firm to exceed its aggregate rating limit, including consideration of uncompleted construction work (please refer to N.J.A.C. 17:19-2.13, which describes how certain major trade subcontract work is discounted 85% for purposes of calculating whether a contractor is within its rating).

Respectfully submitted,

(Seal-if Bid proposal is by a corporation)

By: _____
(Name of Firm)

(Signature)

(Title)

(Business Street Address ONLY – No P O Box)

(City State County Zip)

Phone No. _____

Fax No. _____

Federal Identification No. _____

Any change in ownership information since filing your Request for Classification (Form DPMC 27)

☐ Yes

☐ No

**STATE OF NEW JERSEY
DEPARTMENT OF TREASURY
DIVISION OF PROPERTY MANAGEMENT & CONSTRUCTION
NON-COLLUSION AFFIDAVIT**

PROJECT: A1257-07 Storage Building Renovation
at Vineland Veterans Memorial Home

Bid Due Date _____ 02:00 PM

STATE OF NEW JERSEY [_____]
[SS. _____]
COUNTY OF [_____]

I, _____ of the City
_____ of _____
in the County _____ and the State
of _____ of _____

of full age, being duly sworn according to law on my oath depose and say that:

I am _____

of the firm of _____

the Contractor making the Bid Proposal for the above named project, and that I execute the said Bid Proposal with full authority so to do; that said Contractor 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 bid proposal and in this affidavit are true and correct, and made with full knowledge that the State of New Jersey relies upon the truth of the statements contained in said Bid Proposal and in the statements contained in this affidavit in awarding the contract for the said project.

SIGNATURE OF PRINCIPAL

Subscribed and sworn to before me this _____ day
of _____ 20 _____ ,

Notary Public

My Commission expires _____ , _____.

Public Law 2005, Chapter 92

Formerly: Executive Order 129

In accordance with Public Law 2005, Chapter 92 (N.J.S.A. 52:34-13.2 et seq., superseding Executive Order 129 (2004)) all bidders submitting a proposal shall be required to submit a Source Disclosure Certification that all services will be performed in the United States. The bidder shall disclose the location by country where services under the contract will be performed and any subcontracting of services under the contract and the location by country where any subcontracted services will be performed.

SOURCE DISCLOSURE CERTIFICATION FORM

Bidder: _____

I hereby certify and say:

I have personal knowledge of the facts set forth herein and am authorized to make this Certification on behalf of the Bidder.

The Bidder submits this Certification as part of a bid proposal in response to the referenced solicitation issued by the **ESCO - Centrica Business Solutions**, with offices located at 3 Rosell Dr, Ballston Lake, NY 12019 in accordance with the requirements of Public Law 2005, Chapter 92, (N.J.S.A. 52:34-13.2 et seq., superseding Executive Order 129 (2004)).

The following is a list of every location where services will be performed by the bidder and all subcontractors.

<u>Bidder or Subcontractor</u>	<u>Description of Services</u>	<u>Performance Location(s) by Country</u>
--------------------------------	--------------------------------	---

Any changes to the information set forth in this Certification during the term of any contract awarded under the referenced Project Number will be immediately reported by the Bidder to **Centrica Business Solutions**, with offices located at 3 Rosell Dr, Ballston Lake, NY 12019.

I understand that, after award of a contract to the Bidder, it is determined that the Bidder has shifted services declared above to be provided within the United States to sources outside the United States, prior to a written determination by the ESCO, that extraordinary circumstances require the shift of services or that the failure to shift the services would result in economic hardship to the State of New Jersey, the Bidder shall be deemed in breach of contract, which contract will be subject to termination for cause under its contract with the ESCO.

I further understand that this Certification is submitted on behalf of the Bidder in order to induce the ESCO to accept a bid proposal, with knowledge that the State of New Jersey and the ESCO are relying upon the truth of the statements contained herein.

I certify that, to the best of my knowledge and belief, the foregoing statements by me are true. I am aware that if any of the statements are willfully false, I am subject to punishment.

Bidder: _____
[Name of Organization or Entity]

By: _____

Title: _____

PROJECT # A1257-07 Storage Building Renovation

Print Name: _____

Date: _____

STATE OF NEW JERSEY
DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION
DISCLOSURE OF INVESTMENT ACTIVITIES IN IRAN

BIDDER _____

*Pursuant to Public Law 2012, c. 25, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must complete the certification below to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates, is identified on the Department of Treasury's Chapter 25 list as a person or entity engaging in investment activities in Iran. The Chapter 25 list is found on the Division of Purchase and Property's website at <http://www.state.nj.us/treasury/purchase/pdf/Chapter25List.pdf>. Bidders **must** review this list prior to completing the below certification. **Failure to complete the certification may render a bidder's proposal non-responsive.** If the Director finds a person or entity to be in violation of law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party.*

PLEASE CHECK THE APPROPRIATE BOX:

☐ I certify, pursuant to Public Law 2012, c. 25, that neither the bidder listed above nor any of the bidder's parents, subsidiaries, or affiliates is listed on the N.J. Department of the Treasury's list of entities determined to be engaged in prohibited activities in Iran pursuant to P.L. 2012, C. 25 ("Chapter 25 List"). I further certify that I am the person listed above, or I am an officer or representative of the entity listed above and am authorized to make this certification on its behalf. I will skip Part 2 and sign and complete the Certification below.

OR

☐ I am unable to certify as above because the bidder and/or one or more of its parents, subsidiaries, or affiliates is listed on the Department's Chapter 25 list. I will provide a detailed, accurate and precise description of the activities in Part 2 below and sign and complete the Certification below. Failure to provide such will result in the proposal being rendered as non-responsive and appropriate penalties, fines and/or sanctions will be assessed as provided by law.

Part 2: PLEASE PROVIDE FURTHER INFORMATION RELATED TO INVESTMENT ACTIVITIES IN IRAN

You must provide a detailed, accurate and precise description of the activities of the bidding person/entity, or one of its parents, subsidiaries or affiliates, engaging in the investment activities in Iran outlined above by completing the box(es) below.

Name _____ Relationship to Bidder/Offeror _____
Description of Activities _____
Duration of Engagement _____ Anticipated Cessation Date _____
Bidder/Offeror Contract Name _____ Contact Phone Number _____

List Additional Activities on Separate Sheet

P.L. 2012 c. 25

CERTIFICATION: I, being duly sworn upon my oath, hereby represent and state that the foregoing information and any attachments thereto to the best of my knowledge are true and complete. I attest that I am authorized to execute this certification on behalf of the above-referenced person or entity. I acknowledge that the State of New Jersey is relying on the information contained herein and thereby acknowledge that I am under a continuing obligation from the date of this certification through the completion of any contracts with the State to notify the State in writing of any changes to the answers of information contained herein. I acknowledge that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I recognize that I am subject to criminal prosecution under the law and that it will also constitute a material breach of my agreement(s) with the State of New Jersey and that the State at its option may declare any contract(s) resulting from this certification void and unenforceable.

Full Name (Print): _____ Signature: _____

Title: _____ Date: _____

PROJECT # A1257-07 Storage Building Renovation

***STATE OF NEW JERSEY
CERTIFICATION OF NON-INVOLVEMENT IN PROHIBITED ACTIVITIES
IN RUSSIA OR BELARUS PURSUANT TO PL 2022c.3***

See attached

Subcontractors - Required Apprenticeship Program

In accordance with N.J.S.A. 52:34-25 b(3)(b), each subcontractor chosen by the successful ESCO firm for the furnishing of plumbing and gas fitting and all kindred work, and of steam and hot water heating and ventilating apparatus, steam power plants and kindred work, and electrical work, structural steel and ornamental iron work shall be required to submit a Registered Apprenticeship Program Certification to establish that all employees hired have completed a registered apprenticeship program that provided each trainee with combined classroom and on-the-job training under the direct and close supervision of a highly skilled worker, in an occupation recognized as an apprentice-able trade, registered by the Office of Apprenticeship of the United States Department of Labor (the "Office") and meeting the standards established by the Office, or registered by a State apprenticeship agency recognized by the Office. The form of the required Certification is set forth below.

REGISTERED APPRENTICESHIP PROGRAM COMPLIANCE CERTIFICATION FORM

Project: _____ ("Project")

Name of ESCO: Centrica Business Solutions ("ESCO")

Name of Subcontractor: _____ ("Subcontractor")

I hereby certify that:

I am legally authorized to make this Certification on behalf of the Bidder.

All employees, in the trades specified above, who shall perform work under the Subcontractor's subcontract agreement with the ESCO have completed a registered apprenticeship program that provided each trainee with combined classroom and on-the-job training under the direct and close supervision of a highly skilled worker, in an occupation recognized as an apprentice-able trade, registered by the Office of Apprenticeship of the United States Department of Labor (the "Office") and meeting the standards established by the Office, or registered by a State apprenticeship agency recognized by the Office.

Any changes to the information set forth in this Certification during the term of any contract awarded under the referenced Project Number will be immediately reported in writing by the Subcontractor to the ESCO.

I further understand that this Certification is submitted on behalf of the Bidder in order to induce *ESCO - Centrica Business Solutions* to accept a bid proposal, with knowledge that the State of New Jersey and DPMC are relying upon the truth of the statements contained herein.

I certify that, to the best of my knowledge and belief, the foregoing statements by me are true. I am aware that if any of the statements are willfully false, I am subject to punishment.

By: _____

Title: _____

Print Name: _____

Date: _____

Certification of Non-Debarment

Project: A1257-07 VVMH -Storage Building Renovation

STATE OF NEW JERSEY

COUNTY OF

The Bidder (or Subcontractor) hereby certifies to the best of its knowledge and belief and under penalty of perjury under the laws of the United States and the State of New Jersey:

I am _____ of the firm of _____, (the "Contractor"), which has been awarded the referenced contract (the "Contract") and that I execute said Contract with full authority to do so;

A. That neither the Bidder nor its principals:

1) are currently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from bidding or contracting by any agency of government including but not limited to federal, state, regional, county or local government agency, in this or any other state including any department, division, commission, authority, office, branch, section and political subdivision or other governmental or quasi-governmental entity;

2) have, within a three-year period preceding this bid, been convicted or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public federal, state or local contract; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

3) are currently indicted for or otherwise criminally or civilly charged by a governmental entity (federal, state or local) with commission of any of the offenses enumerated in paragraph (B) of this certification; and

4) have, within a three-year period preceding this bid, had one or more public contracts (federal, state or local) terminated for cause or default.

B. The Contractor certifies that it shall immediately notify the State Contract Manager if any director, partner, officer, employee of the Contractor or any shareholder owning 5% or more of the Contractor's stock:

1) Is the subject of investigation involving any violation of criminal law or other federal, state, or local law or regulation by any governmental agency; or

ATTACHMENT 2

2) Is arrested, indicted, or named as an unindicted co-conspirator in any indictment or other accusatory instrument; or

3) Is convicted of any crime under state or federal law, or of any disorderly persons' offense or misdemeanor involving a business-related offense.

Sworn and subscribed to before me

This_____ day of_____,20___.

Signature of Principal:

Print or Type Name:

Title:

Notary Public of _____

My commission expires: _____,20___.

Signature of Notary Public

END OF BID REQUIREMENTS

PERFORMANCE BOND

BOND NUMBER:

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned as _____

as Principal, and _____, as Surety, duly authorized to do
business in the State of New Jersey, having an office at _____,

are hereby held and firmly bound unto **Centrica Business Solutions, 3 Rosell Dr, Ballston Lake, NY 12019**, in the penal sum of _____

_____ DOLLARS for
the payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our
heirs, executors, administrators, successors and assigns.

Signed this _____ day of _____, 20_____.

The condition of the above obligation is such that, whereas, the above-named principal did on the
_____ day of _____, 20_____ enter into a contract with **Centrica Business
Solutions, 3 Rosell Dr, Ballston Lake, NY 12019**, for PROJECT

_____ which said contract is made a part of this bond the same as though set forth herein.

Now, if the said _____ shall well and faithfully do
and perform the things agreed by it to be done and performed according to the terms of said contract,
then this obligation shall be void; otherwise the same shall remain in full force and effect, it being
expressly understood and agreed that the liability of the surety for any and all claims hereunder shall
in no event exceed the penal amount of this obligation as herein stated.

“The said surety hereby stipulates and agrees that no modifications, omission or additions in or to
the terms of the said contract or in or to the plans or specifications therefor shall in anywise affect
the obligation of said surety on its bond.”

_____ By: _____
Witness

_____ By: _____
Witness to Surety Attorney-in-Fact

NOTE: GENERAL POWER OF ATTORNEY AND THE CURRENT FINANCIAL
STATEMENT OF THE BONDING COMPANY MUST BE ATTACHED TO EACH COPY OF
THE PERFORMANCE BOND.

ESIP 592

PAYMENT BOND

BOND NUMBER:

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned as _____

as Principal, and _____, as Surety, are hereby held and firmly bound unto ***Centrica Business Solutions, 3 Rosell Dr, Ballston Lake, NY 12019***, in the penal sum of _____ DOLLARS for the payment of which well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors, and assigns.

Signed this _____ day of _____, 20_____.

The condition of the above obligation is such that, whereas, the above-named principal did on the _____ day of _____, 20_____ enter into a contract with ***Centrica Business Solutions, 3 Rosell Dr, Ballston Lake, NY 12019***, for PROJECT # _____

which said contract is made a part of this bond the same as though set forth herein.

Now, if the said _____ shall pay all lawful claims of beneficiaries for labor performed or materials, provisions, provender or other supplies or teams, fuel, oils, implements or machinery furnished, used or consumed in the carrying forward, performing or completing of said contract, we agreeing and assenting that this undertaking shall be for the benefit of any beneficiary having a just claim, as well as for the Obligee herein, then this obligation shall be void; otherwise the same shall remain in full force and effect; it being expressly understood and agreed that the liability of the surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

“The said surety hereby stipulates and agrees that no modifications, omission or additions in or to the terms of the said contract or in or to the plans or specifications therefor shall in anywise affect the obligation of said surety on its bond.”

Witness By: _____

Witness to Surety By: _____
Attorney-in-Fact

ESIP 593

E.O. 290 Certification

DPMC Project # A1257-07

Project Title: Vineland Veterans Memorial Home ESIP – Storage Building Renovation

The undersigned hereby certifies on behalf of the Contractor/Consultant, pursuant to E.O. 290 (Murphy 2022) as follows:

1. All Contractor/Consultant site personnel shall be fully vaccinated (including booster shots) against COVID-19 and those personnel are to provide adequate proof of same (as defined in E.O. 290) while on site;

Contractor/Consultant further certifies that it shall comply with all other requirements of EO 290.

Firm Name

Representative Name & Title

Date

BUSINESS REGISTRATION CERTIFICATE

Contractors and Subcontractors shall be registered with the New Jersey Department of Treasury, Division of Revenue as applicable pursuant to the provisions of P.L. 2004, c.57 (N.J.S.A. 52:32-44) known as "Business Registration of Public Contractors" effective September 1, 2004 including all amendments thereto. A copy of the Contractor's Business Registration Certificate shall be submitted accompanying the bid. Whenever a bid requires the listing of (named) Subcontractors, the Business Registration Certificate of the named Subcontractors must also be provided accompanying the bid, along with the Business Registration Certificate of the Contractor.

In submitting this bid, the undersigned hereby acknowledges the requirements of Public Laws governing "Business Registration of Public Contractors", and hereby certifies that the Contractor and all listed Subcontractors are registered with the New Jersey Department of Treasury, Division of Revenue, and that proof of Business Registration is provided herewith.

Name of Bidder

By Authorized Representative (Name & Title)

Signature

Date

AFFIRMATIVE ACTION REQUIREMENTS

Bidder is required to comply with the requirements of N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27

All successful contractor(s) must submit, to the agencies named below, after notification of award but prior to the signing of the contract an Initial Project Workforce Report (Form AA201) for any contract award that meets or exceeds the Public Agency bidding threshold.

The successful contractor(s) must submit the appropriate copies of the Initial Project Workforce Report (Form AA201) to the Division of Contract Compliance and the appropriate copy to the Public Agency.

The successful contractor(s) must submit a copy of the Monthly Workforce Report (Form AA 202) once a month thereafter for the duration of this contract to the Division and to the public agency compliance officer.

The undersigned certifies that he/she is aware of the commitment to comply with the requirements of N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27. and agrees to furnish the required forms of evidence.

The undersigned further understands that his/her bid may be rejected as non-responsive if the requirements of N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27 are not complied with.

Signature _____

Name and Title: _____

Subscribed and sworn before me _____ day of _____, 20__

Signature of Notary Public

State of

My Commission expires: _____

**CONTRACTORS & SUBCONTRACTORS
PREVAILING WAGE INFORMATION**

As required by law, you must pay prevailing wages. Contractors - it is your responsibility to make sure your subcontractors are paying prevailing wages.

In addition, immediately upon beginning the project, you must provide a certified copy of your weekly/bi-weekly payroll records, and those of your subcontractors. Also, certified payroll records must show hourly benefits and gross benefits that are paid each employee as set forth by New Jersey Prevailing Rates.

Hourly Rate
Total Hours Benefits
Gross
Benefits
Gross Pay

Effective June 11, 1997, the State of New Jersey will no longer recognize apprentices registered outside of the State. Should any apprentice from another state presently be working in the State of New Jersey, they must now be paid the full journeyman's rate, unless they are a member of a collective bargaining unit whose jurisdiction, according to the agreement, covers territory within New Jersey. Therefore, pursuant to Title 29 CFR Section 29.12 (b)(8), we do not recognize apprentice programs from other states.

Certified payrolls must be sent to the office of the Cumberland County Improvement Authority (CCIA), 745 Lebanon Road, Millville, NJ 08332 within 10 days of payment of wages (state law February 1992). Should this be a non-union contractual firm, your employees are to receive the New Jersey prevailing rates plus all benefits in their weekly/bi-weekly wages. If contractors or subcontractors are from another state, the New Jersey prevailing wage determination and benefits must be paid.

You are to forward to the CCIA, the Initial Manning Report and the Monthly Project Manning Report. Copies to be sent as designated. Failure to comply and submit certified payrolls and manning reports could result in a stop payment order on any monies due. Additionally, any forms to be completed by the primary or subcontractors must be returned to the CCIA prior to the start of any project.

Please sign and complete information below and return a copy to:

Centrica Business Solutions

NOTE: Payrolls must be sent to the office within ten (10) days of payment of wages. This is a state statute. Failure to comply and submit certified payrolls and manning reports could result in a stop payment of any monies due.

Signed:

Contractor's Signature

Name: _____

Print Name and Title

Business Name:

Address:

Phone/Fax:

Project Name:

Location:

**ESCO - OWNER (CENTRICA BUSINESS SOLUTIONS - NJDPMC)
CONTRACT ACKNOWLEDGEMENT**

The undersigned bidder hereby acknowledges receipt of the ESCO - Owner Contract General Conditions and ESCO - Owner Supplementary General Conditions. By signing and submitting this document, Bidders agrees to have read, understand, and agree with the requirements set forth that pertain to the ESCO subcontractors. Undersigned Bidder understands and agrees that by entering into an agreement with the ESCO, they will be under subcontract to the ESCO, and therefore contractually bound to abide by all of the requirements as set forth in the ESCO - Owner Contract General Conditions and ESCO - Owner Supplementary General Conditions.

Bidder Signature: _____

Title: _____

Bidder Name: _____

Date: _____

CONTRACTOR PREQUALIFICATION QUESTIONNAIRE

EXHIBIT I

This form must be completed by the Contractor and reviewed by the Centrica Business Solutions Supervisor to evaluate the Contractor's HSES Performance.

Date:						
Company Name:						
Address:						
Contact Person:				Title:		
Email:				Telephone:		
Company Information						
# of years in business:						
Type of Business: Sole Owner: Partnership: Corporation:						
Parent Company Name:						
Services your organization typically performs:						
# of Employees:	Full Time:		Part Time:		Seasonal:	
Do you have a dedicated full time HSES professional within the company? Yes No						
<i>If Yes, please provide:</i>						
Name:		Title:		Telephone:		
<i>If No, please indicate who is responsible for HSES within your company:</i>						
Name:		Title:		Telephone:		
Safety Performance						
Provide information on your OSHA recordables for your current year , <u>plus</u> the past THREE years. This is obtained from the OSHA 300 Logs. Refer to OSHA's Record Keeping Guidelines for more details. If less than 10 employees and you are not required to maintain an OSHA 300 log, you may use your internal recordkeeping method.						
	Current Year:	Year:	Year:	Year:		
Number of Fatalities						
Total Number of Recordable Cases						
Total Number of Restricted Cases						
Total Number of Lost Time Cases						

PROJECT # A1257-07 Storage Building Renovation

Total Number of Days Away				
Total Number of Hours Worked				
Total Recordable Incident Rate *				
Total Lost Time Incident Rate **				
<p>* TRIR = (total # of recordable cases x 200,000) / total hours worked ** LRIR = (total # of lost time cases x 200,000) / total hours worked</p> <p>! Please provide a copy of the OSHA 300A logs for the past three years but ensure names of injured employees are <u>not</u> included.</p>				
Regulatory Performance				
Has the company received any citation from a regulatory agency (OSHA, EPA, etc.) within the past 3 years?				Yes No
<p>! If yes, please provide information on the issue, provide an explanation of the outcome, and if possible a copy of the citation/violation. Please do not include names.</p>				
HSES Program & Procedures				
Does the company have a written HSES program?				Yes No N/A
<p>!If no written program exists, a task/job hazard analysis must be developed prior to conducting work on behalf of Centrica Business Solutions</p>				
If yes, does your Program contain:				
Management Commitment /Expectations	Y	N	N/A	Fire Safety
Accountabilities / Responsibilities	Y	N	N/A	Electrical Safety
Hazard Recognition & Control	Y	N	N/A	Chemicals (HazCom)
Training	Y	N	N/A	Material Handling
-New Hire Orientation	Y	N	N/A	Working at Heights
Personal Protective Equipment	Y	N	N/A	-Scaffolding
Incident Reporting & Investigation	Y	N	N/A	-Ladders
Equipment Safety	Y	N	N/A	-Fall Protection
Contractor Management	Y	N	N/A	Ground Disturbance (Excavation)
Communications	Y	N	N/A	Hand & Power Tools
Drug & Alcohol	Y	N	N/A	Emergency Response
Discipline	Y	N	N/A	Driving Safety
Confined Space	Y	N	N/A	Waste Management
Control of Hazardous Energy / LOTO	Y	N	N/A	Industrial Hygiene
Hot Work	Y	N	N/A	Environmental Due Diligence

PROJECT # A1257-07 Storage Building Renovation

Do you hold site safety meetings?				Yes	No	N/A	
How often?							
Are jobsite inspections / audits conducted and documented?				Yes	No	N/A	
By whom?							
Frequency?							
Will you use sub-contractors to perform work awarded to you by Centrica Business Solutions?				Yes	No		
Contractors who subcontract Centrica Business Solutions work are required to manage the subcontractor in accordance with Centrica Business Solutions requirements.							
If 'Yes' is selected above, for what work will you sub-contract? What is your subcontractor vetting process? Please explain in detail.							
Does the company have trained and competent (and certified where regulatory required) personnel to perform work in the following areas (specify additional training not listed in 'Other'):							
First Aid / AED / CPR	Y	N	N/A	Asbestos	Y	N	N/A
Scaffolding	Y	N	N/A	Lead Based Paint	Y	N	N/A
Ground Disturbance (Excavation)	Y	N	N/A	Mold	Y	N	N/A
Cranes	Y	N	N/A	Hazardous Materials	Y	N	N/A
Forklifts	Y	N	N/A	Confined Space	Y	N	N/A
Heavy Equipment (Track hoe, Dozer)	Y	N	N/A	Control of Hazardous Energy/LOTO	Y	N	N/A
Commercial vehicles/drivers (DOT)	Y	N	N/A	Chemicals (HazCom)	Y	N	N/A
Fall Protection/Work at Height	Y	N	N/A	Other:	Y	N	N/A
Electrical Safety	Y	N	N/A	Other:	Y	N	N/A

I have read and understand the expectations above and completed the information to the best of my knowledge.		
Name: (Print)	Title:	Signature

OFFICE USE ONLY		
Reviewed by:		
Name:	Title:	Phone:
Approved for Use		
Approved for use, under the following conditions:		
Disqualified for the following reasons:		

VVMH Rules and Regulations Regarding Outside Contractors

Each person working in the facility must sign this form confirming that they have read it. There will be additional clarification Safety handouts.

The facility Chief Executive Officer is charged with the responsibility of the Long-Term care of residents residing at the NJ Veterans Memorial Home at Vineland. All non-state employees must comply with the below listed Rules and Regulations as a condition of their service and access to state property:

1. Driver's license or other approved photo ID is to be used as identification for work crews. All contracting employees must sign in and out at the receptionist desk each day working at the facility. Temporary ID badges will be issued to each worker daily which must be turned in at the end of the working day to the receptionist at the main desk. No ID badges are to leave the facility.
2. Facility parking area will be pre-arranged by the EICM or designee for the contracting employees prior to the start of the job.
3. Contracted employees will enter through the **Main Facility Entrance** to sign in/out and receive ID badges. Maintenance staff will provide proper escort to the work locations. Contracted employees are not wander around the facility without proper escort.
4. ID badges must always be visible and worn on the outer most garment.
5. Prior to starting of work at the facility, the EICM or designee will provide Fire & Safety Training to all contracted employees working in the facility, so they are aware of fire and emergency procedures to be followed. The code alert system throughout the facility will also be reviewed by the EICM or designee to the contracted employees.
6. Contracted employees will also receive information relating to Elder Abuse, Neglect, and Theft pertaining to the residents of the facility by the EICM or designee.
7. Contracted employees who drive on State Property are subject to searches by authorities and/or security, should probable cause exist.
8. All contracted employees are to read, sign, and receive a copy of these regulations.
9. No workers are to fraternize with the residents. Any difficulties with residents and/or employees must be reported to the Security Office immediately. The Security Guard will then inform the CEO Office of any problems.
10. Residents at the Veterans Home are to be treated with courtesy, consideration, and respect for their dignity and individuality. Contracted employees are not to receive gifts or make any financial arrangements with any resident.
11. All personal and construction vehicles and equipment/supplies are not to be left unattended on the premises but locked up when no one is present. Ladders will be firmly secured to the roof or side of construction vehicles when not in use. This is the responsibility of the contractor to ensure compliance.
12. Under no circumstances may veteran home residents be photographed. Any other photographing requests must be authorized by the CEO Office.
13. During working/ non-working hours all tools, equipment, supplies, carts, chemicals, etc. must be secured by the contracting staff for the safety of the residents, visitors, and staff. When no one is present, all of the above are to be locked up to prevent access. This is the responsibility of the contractor to ensure compliance.
14. All tools and equipment will be locked in the contractor's trailer or onsite toolbox overnight. Equipment such as ladders and scaffolding, will be chained and locked (contractors must supply) before leaving.
15. Warning lights must be displayed at all dangerous areas at night.
16. No firearms, ammunition, hunting knives, personal knives of any size or type, or other articles of this nature are permitted on State Property or stored in vehicles.

PROJECT # A1257-07 Storage Building Renovation

17. No alcoholic beverages, controlled substances, or prescription medication (drugs) are permitted on the grounds with the exception of rescue medications as listed below:
 - Nitroglycerin tablets and paste
 - Asthma inhalers
 - Injectable glucagon's (must be sealed in a pre-filled syringe)
 - Oral instant glucose
 - Injectable epinephrine (must be sealed in pre-filled syringe)
 - Any other "rescue" medication properly authorized and deemed necessary.
18. Smoking is prohibited inside All State Buildings. Smoking is only permitted in the smoking gazebo located in the employee parking lot near the employee entrance or under the green pavilion located in the front of the Administration Building.
19. Institutional Fire Regulations shall be strictly adhered to; you may contact the Engineer in Charge of Maintenance or the State Fire Marshall for inquiries.
20. Obey speed limits on the property and observe all No Parking and designated parking areas.
21. All excavations on the property must be approved by the Engineer in Charge of Maintenance or designee prior to any work being done to conform to the Confined Space Program in accordance with OSHA regulations.
22. All power tools must be inspected by EICM or designee for safe operation. Tools will not be left unattended unless area is completely locked down to access.
23. Each contractor is responsible for any damage done as a result of their work.
24. All acetylene and oxygen tanks will be secured and capped on a daily basis. All tanks will be secured in locked trailers or containers.
25. All blades, regardless of nature, will be properly discarded.
26. Unacceptable clothing - The following clothing should not be worn when entering any part of the facility:
 - a) Tank Tops, Mesh Tops, or Tube Tops, b) Low Cut, Shoulder less, Halter Tops, or Sheer Clothing, c) Shorts, d) Sweatpants, e) Leggings or Tights (Unless covered by a long top, skirt. Etc.), f) Bike Pants, Ragged Jeans (No patches or holes) g) Skirts with high slits, mini styled skirts, mini dresses, or mini culottes, h) Thong sandals or beach footwear, i) Clothing with inappropriate or offensive inscriptions.
27. In the event of an emergency, you will be directed to a secured area of the facility. You are to follow the direction of the Facility Incident Commander.

NEW JERSEY VETERANS MEMORIAL HOME OF VINELAND
524 NORTHWEST BLVD., VINELAND, NJ 08360
PHONE # 856-405-4200

I have reviewed the above rules and regulations pertaining to outside contractors working in the NJ Veterans Memorial Home. I understand that any violation of these rules and regulations could result in me no longer being permitted to work within this facility and its grounds.

Worker Name

Company Name

Signature

Date

Facility Official Name

Facility Official Signature

PROJECT # A1257-07 Storage Building Renovation

SAMPLE CONTRACT

CENTRICA BUSINESS SOLUTIONS

**SUBCONTRACTOR ENGINEERING, PROCUREMENT,
& CONSTRUCTION AGREEMENT**

This Subcontractor Engineering, Procurement, & Construction Agreement ("Agreement") is made effective the ____ day of _____ 20[] ("Effective Date") by and between:

CENTRICA BUSINESS SOLUTIONS SERVICES, INC.

("Contractor")
with its principal address at
3 Rosell Drive
Ballston Lake, New York 12019

and

("Subcontractor")
with its principal address at:

1. The Project.

Subcontractor will furnish and perform the services, necessary or incidental to fully complete the work as described in **Exhibit A (Scope of Work)** ("Work") in connection with the following engineering procurement and installation/construction project (the "Project"): [Describe the Project]

2. Owner.

The name and address of the owner of the Project (the "Owner") is as follows:

3. Prime Contract.

On _____, Owner and Contractor entered into an engineering, procurement and installation/construction agreement (the "Prime Agreement"). The Prime Agreement expressly provides that some or all of the installation services to be provided by Contractor on the Project may be performed by subcontractors.

Subcontractor expressly agrees to be bound by and shall adhere to all of the terms and conditions of the Prime Agreement applicable and in the performance to the Work, including the furnishing of warranties, guarantees and other obligations assumed by Contractor therein unless expressly identified and excluded by this Agreement. For certainty, in the event of a conflict with the terms of this Agreement and the Prime Agreement, the Prime Agreement shall prevail unless otherwise directed in writing by Contractor. Upon request, Subcontractor will be provided a copy of the Prime Agreement. In no event

shall this requirement or the Agreement be interpreted so as to give Subcontractor privity of contract rights with Owner.

4. Subcontract Documents.

This Agreement includes the subcontract documents ("Subcontract Documents"), attached hereto and expressly incorporated by reference as though fully set forth herein, as follows:

- Exhibit A – General Terms and Conditions
- Schedule A – Scope of Work
- Schedule B – Schedule of Values
- Schedule C – Project Schedule
- Schedule D – Contract Drawings and Specifications
- Schedule E – Insurance Requirements
- Schedule F – Subcontractor Safety Agreement
- Schedule G – Invoicing Instructions
- All approved Change Orders

5. Contract Price.

As full compensation for the performance of Work in accordance with this Agreement, Contractor agrees to pay Subcontractor:

- a) the sum of \$_____, subject to Change Order or duly executed amendment; and/or
- b) unit prices and estimated quantities in accordance with the attached **Schedule B -Schedule of Values**.

6, Notices shall be sent to the Contractor and Subcontractor at the above stated addresses. Provided however, in the event of a claim of breach notice of claim shall be sent certified mail to the attention of the Centrica Legal Department / General Counsel.

IN WITNESS WHEREOF, the parties execute and agree to this Agreement.

CONTRACTOR

CENTRICA BUSINESS SOLUTIONS SERVICES, INC.

SUBCONTRACTOR

Entity Name

Name: _____

Title: _____

Email: _____

Name: _____

Title: _____

Email: _____

Exhibit A

GENERAL TERMS AND CONDITIONS

ARTICLE I PURPOSE; INTENT; DEFINITIONS

1.1 Purpose; Intent; Definitions.

- 1.1.1.** These General Terms and Conditions are part of and incorporated in the Subcontractor Engineering Procurement & Construction Agreement between Contractor and Subcontractor and define, specify and govern the rights and obligations of Contractor and Subcontractor under the Agreement. Terms used may be defined herein or elsewhere in the Agreement and apply hereto.

ARTICLE II RESPONSIBILITIES OF SUBCONTRACTOR

2.1 General.

- 2.1.1.** Subcontractor hereby agrees to provide the Work in a professional and timely manner. Subcontractor agrees to furnish its best skill and judgment in the performance of the Work and to fully cooperate with Contractor so that Contractor may fulfill its obligations to Owner. Subcontractor shall furnish all of the design services, labor, materials, equipment, and services, using duly-licensed and qualified Design Professionals, competent supervision and skilled workers, and providing submittals, plans, specifications, shop drawings, samples, and tools, as are necessary for the proper performance of the Work.
- 2.1.2.** Subcontractor acknowledges that the Scope of Work is complete, and that no changes based on coordination or missing scope are necessary or required for its performance of the Work.
- 2.1.3.** Unless expressly authorized or directed, in writing, by Contractor, Subcontractor shall not communicate or have direct contact with Owner, or its representatives, consultants, or agents, with respect to the Project or the Work.

2.2. Preliminary.

- 2.2.1.** Subcontractor shall make a careful analysis and comparison of the Subcontract Documents, and information provided by Contractor and Owner, relative to the Work, and it shall be the duty of Subcontractor to notify Contractor in writing within three (3) business days of discovery by Subcontractor of any inconsistency or omission. Upon receipt of such written notice, Contractor shall instruct Subcontractor as to measures to be taken with respect to such inconsistencies and/or omissions, and Subcontractor shall comply with Contractor's instructions.
- 2.2.2.** Subcontractor shall be responsible for procuring or furnishing both the design and the construction of the Work.

2.2.3. Design Services.

2.2.3.1. Subcontractor shall submit for Contractor's written approval, as applicable, the design development documents ("Design Development Documents") or construction documents ("Construction Documents") in accordance with the schedule.

2.2.3.2. If required, the Design Development Documents shall further define the Project including drawings and outline specifications fixing and describing the Project size and character as to site utilization, and other appropriate elements incorporating the structural, architectural, mechanical and/or electrical systems as required by the Work. When Subcontractor submits the Design Development Documents, Subcontractor shall identify in writing any material changes and deviations from the Agreement.

2.2.3.3. The Construction Documents shall set forth in detail the requirements for construction of the Work. When Subcontractor submits the Construction Documents, Subcontractor shall identify in writing any material changes and deviations that have taken place from the Agreement. Two sets of the approved Construction Documents shall be furnished to Contractor prior to commencement of construction.

2.2.3.4. Subcontractor agrees that all architectural and engineering services required or necessitated by the Work shall be procured from duly-licensed, independent design professionals retained by Subcontractor, or by duly-licensed employees of Subcontractor, as required by the law of the state where the Project is located. The person or entity providing architectural and engineering services shall be referred to as the "Design Professional."

2.2.3.5. All such architectural and engineering services shall be procured by Subcontractor at its sole expense, and, with respect to an independent Design Professional, pursuant to separate agreements between Subcontractor and such Design Professional. Subcontractor shall furnish Contractor with a copy of all such agreements as soon as they are executed. It is expressly acknowledged and agreed that all architectural and engineering services furnished by or through Subcontractor are being rendered for the benefit of Owner, who shall be a third-party beneficiary to this Agreement. The separate agreements between Subcontractor and the Design Professional shall contain this third-party beneficiary acknowledgement in favor of Owner. Contractor approval shall not relieve Subcontractor of its performance obligations hereunder.

2.2.4. Schedule of the Work. Subcontractor shall prepare and submit a schedule of Work ("Schedule of Work") for Contractor's acceptance and written approval as to milestone dates and the date of Substantial Completion that conforms to the Contractor's schedule agreed with the Owner as set forth in **Schedule C (Project Schedule)**. The Schedule of Work shall indicate the dates for the start and completion of the various stages of the Work, including the dates when information and approvals are required from Contractor.

2.2.5. Proprietary Rights.

2.2.5.1. Notwithstanding any proprietary legend or copyright notices to the contrary, Contractor, Owner and the end user of the Work, may copy and reproduce documents and information furnished by Subcontractor for the purpose of completing the Project,

operating, maintaining, permitting, licensing, remodeling, expanding or decommissioning of the Project.

2.2.5.2. All data, inventions, improvements, information, drawings and specifications which is developed or produced by Subcontractor as a result of the Agreement, shall be deemed "work for hire" and the property of Contractor, unless otherwise stated by Subcontractor, and transferred at the completion or termination of the Agreement. Subcontractor shall fully cooperate with Contractor with respect to any application or other filings necessary to perfect Contractor's intellectual property interests. Notwithstanding, Subcontractor hereby grants to Contractor, Owner and the end user of the Work, and their respective affiliates, a nonexclusive, irrevocable, royalty free, worldwide, perpetual right and license to use, make, sell, offer for sale, any product or process incorporated into the Work.

2.2.5.3. Subcontractor hereby represents and warrants that it has not infringed or misappropriated and that it shall not infringe on (i) any patent or any method embodied in the Work, or (ii) any copyright, trademark, trade secret or, without limitation, other proprietary right with respect to the Work. SUBCONTRACTOR AGREES TO INDEMNIFY, DEFEND AND HOLD HARMLESS CONTRACTOR, OWNER AND THE END USER OF THE WORK, FROM AND AGAINST ALL CLAIMS, LIABILITIES, LOSSES, DAMAGES, PENALTIES OR OTHER EXPENSES ARISING FROM ANY ACTUAL OR ALLEGED CLAIM THE WORK INFRINGES OR MISAPPROPRIATES ANY PATENT, COPYRIGHT, TRADEMARK, TRADE SECRET OR OTHER PROPRIETARY RIGHT. THE OBLIGATIONS HEREUNDER SHALL SURVIVE THE EXPIRATION OR TERMINATION OF THE AGREEMENT.

2.2.6. Construction will commence upon the issuance by Contractor of a written notice to proceed. By commencing construction, Subcontractor accepts all existing conditions that affect the Work.

2.3. Execution and Progress of the Work.

2.3.1. Subcontractor shall pay for all materials, equipment, and labor used in connection with the performance of the Work through the periods covered by each of the previous payments received from Contractor, and shall furnish satisfactory evidence, when requested by Contractor, to verify compliance with this requirement.

2.3.2. Subcontractor shall take all necessary precautions to properly protect the Work, and the work of others, from damage caused by its performance. Should Subcontractor cause damage to the Work, property or equipment (either owned or leased) of Owner, Contractor or others, Subcontractor shall promptly remedy such damage to the satisfaction of Contractor, or Contractor may remedy the damage and deduct its cost from any amounts due or to become due to Subcontractor.

2.3.3. Subcontractor acknowledges that TIME IS OF THE ESSENCE with respect to performance and delivery of the Work. Accordingly, Subcontractor will commence performance of the Work upon notice from Contractor that the Project Site will, within five (5) days of the date of such notice, be available for the performance of the Work; perform the Work in a timely manner in conformance with the Schedule of Work. If requested by Contractor, Subcontractor shall furnish a progress and/or recovery schedule to Contractor in such detail as Contractor requires to meet

Subcontractor's obligations and to allow Contractor to fully assess Subcontractor's schedule impact on the overall Project Schedule.

- 2.3.4.** Subcontractor shall cooperate fully with the other subcontractors employed on the Project and shall so plan and conduct the Work, in accordance with the Schedule of Work, to be performed hereunder so as not to interfere with their operations or with those other subcontractors of Contractor.
- 2.3.5.** Contractor expressly reserves the right to determine the order and sequence of all Work provided under the Agreement. Subcontractor agrees that its sole remedy for order and sequence changes directed by Contractor shall be to recover additional compensation and a time extension, to the extent Contractor is able to obtain the same from Owner in a change order under the Prime.
- 2.3.6.** Subcontractor shall at all times keep its work site clean and shall clean up its own debris on a daily basis.
- 2.3.7.** Subcontractor is wholly responsible for the performance of all subcontractors or consultants it hires in connection with the Work. Subcontractor shall provide Contractor with a written list of its proposed subcontractors or consultants prior to commencement of the Work.
- 2.3.8.** Subcontractor shall be responsible for taking field dimensions, providing tests, ordering of materials and all other actions required to meet the Schedule of Work.

2.4. Permits, Fees, and Notices.

- 2.4.1.** Subcontractor shall give timely notices to authorities pertaining to the Work and, unless otherwise expressly so provided, shall be responsible for all permits, licenses, assessments, inspections, testing and any fees or taxes necessary to complete the Work. Subcontractor shall deliver required certificates of inspection to Contractor.

2.5. Compliance.

- 2.5.1. Compliance with Laws.** Subcontractor, in the performance of this Agreement, shall comply with all applicable laws and governmental rules, regulations and orders.
- 2.5.2. Policies and Standards.** Subcontractor shall comply with and shall ensure that it does not place Contractor in violation of: (i) the policies and standards (including but not limited to "Our Code") listed at <https://www.centrica.com/who-we-are/governance/policies-and-standards> (as such web page may be updated from time to time) or, if such web page is not accessible at any time, such replacement web page as Contractor may nominate; and (ii) any additional similar policies and standards provided by Contractor to Subcontractor. Subcontractor hereby confirms that: (i) it has read and understood the policies and standards listed at <https://www.centrica.com/who-we-are/governance/policies-and-standards> in full; and (ii) it will read any other policies and standards provided to it by Contractor under this Section 2.5 (Compliance) in full immediately upon receipt.
- 2.5.3. Monitoring.** Subcontractor shall keep accurate books, accounts and records in connection with its obligations under Section 2.5.2 (Compliance with Laws) and Section 2.5.3 (Policies and

Standards) and Contractor shall have the right to review such books, accounts and records. On request, Subcontractor shall provide a certificate to Contractor confirming that Subcontractor has complied with its obligations under Section 2.5.2 (Compliance with Laws) and Section 2.5.3 (Policies and Standards).

2.5.4. Training. Subcontractor shall ensure that Subcontractor and any person associated with Subcontractor who is performing services or providing goods in connection with the Agreement receives adequate training on its obligations under Section 2.5.2 (Compliance with Laws) and Section 2.5.3 (Policies and Standards). Subcontractor shall be responsible for the observance and performance by such persons performing services or providing goods and shall be directly liable to Contractor for any breach by such persons.

2.5.6. Termination. Without prejudice to any other rights that Contractor may have, Contractor may terminate this Agreement immediately upon notice in writing should Subcontractor violate the provisions of this section 2.5 (Compliance). Subcontractor agrees to be bound by, and at its own cost to comply with, all federal, state and local laws, ordinances and regulations (collectively, the "Laws") that are applicable to the Agreement, including but not limited to equal employment opportunity, minority business enterprise, women's business enterprise, disadvantaged business enterprise, safety, environment, and all other Laws with which Contractor must comply. Subcontractor shall be liable to Contractor and Owner for all losses, costs and expenses attributable to any actions of commission or omission by Subcontractor, its employees and agents, resulting from the failure to comply with any Laws, including but not limited to any fines, penalties or corrective measures.

2.6. Safety.

2.6.1. As a condition of beginning work under this Subcontract the Subcontractor shall read and sign the Subcontractor Safety Agreement as forth in **Schedule F (Subcontractor Safety Agreement)**. The requirements of the Subcontractor Safety Agreement shall apply to any subcontractors of the Subcontractor.

2.6.2. The Subcontractor shall work in accordance with the Site Specific Safety Plan ("SSSP") for the Work outlined in this Agreement. The Subcontractor is responsible to obtain the SSSP from Contractor and adhere to all requirements therein.

2.6.3. Subcontractor is required to perform the Work in a safe and reasonable manner in accordance with Owner site safety requirements and regulations. Subcontractor shall take all reasonable and necessary steps to protect all persons and property at or adjacent to the Project site from injury, loss, or damage.

2.6.4. Subcontractor shall comply with all applicable laws, ordinances, rules, regulations, and orders of public authorities for the safety of persons or property, including OSHA Standards for the Construction Industry (29 CFR Part 1926, including 29 CFR Part 1910 for General Industry Applicable to Construction). Subcontractor is responsible for training its employees in the safe use of materials and compliance with safety standards applicable to the Work.

2.6.5. As directed by Contractor, Subcontractor shall submit an additional safety program to Contractor that implements safety measures, policies, and standards conforming to those required by Contractor, Owner, or governmental or quasi-governmental authorities. In

addition, Subcontractor shall implement appropriate safety measures pertaining to the Work and the Project, including the posting of appropriate warnings and notices, erecting safety barriers, and establishing proper notice and procedures to protect persons and property from injury, loss, or damage.

- 2.6.6.** Subcontractor shall report, in writing, any non-life threatening (first aid) injury to an employee or agent of Subcontractor or other person that occurs in the performance of the Work to Contractor within eight (8) hours of such occurrence. Any injury that is life threatening shall be reported immediately to the chain of command as listed in the SSSP. When an injury or event has occurred, immediate response actions are required to mitigate and contain the injury or event from further harm or damage. This can include, notifying emergency response authorities, initiating spill clean-up/containment measures and/or render first aid.
- 2.6.7.** Subcontractor shall promptly remove from the Project any employee or agent who creates an unsafe condition, or who performs work in an unsafe manner on the Project, or who fails any drug and/or alcohol test given in connection with this Project, or who violates the SSSP or any Contractor's safety program or safety rules.
- 2.6.8.** Subcontractor will designate an individual in the employ of Subcontractor at the Project site as Subcontractor's safety representative with the duty to prevent accidents and serve as the site Competent Person. This designated individual shall maintain an OSHA 10 or OSHA 30 certificate as required by federal, state, or local regulations. At no time shall work be in effect if the required OSHA 10 or 30 certificate holder is not on site if required by federal, state, or local regulations.
- 2.6.9.** Subcontractor shall comply with reasonable recommendations of insurance companies having an interest in the Project and shall stop any part of the Work that Contractor deems unsafe until corrective measures satisfactory to Contractor have been taken.
- 2.6.10.** Subcontractor shall defend, indemnify, and hold harmless Contractor and Owner from and against any proceedings or actions, and any resulting damages, fines, or penalties as a result of safety violations on the part of Subcontractor, or any other persons subject to Subcontractor's control. The obligations hereunder shall survive the expiration or termination of the Agreement.
- 2.6.11.** If Subcontractor encounters, on the site, material reasonably believed to be asbestos, mold, lead, or polychlorinated biphenyl, or any other hazardous substance, that has not been rendered harmless, Subcontractor shall immediately cease work in the affected area and report the condition to Contractor. Before bringing any hazardous material on site, Subcontractor shall notify Contractor and furnish Contractor with a Safety Data Sheet (SDS).
- 2.6.12.** If Subcontractor violates, or is threatening to violate, any Law or standard pertaining to safety or the environment, or, if in the opinion of Contractor, Subcontractor is carrying out its operations in an unsafe or improper manner, or is threatening to do the same, Subcontractor shall, after notice thereof from Contractor, immediately correct, repair, or alleviate such conditions or conduct, and in the event Subcontractor fails to do so, Contractor shall have the right to correct, repair, or alleviate the same and deduct the cost thereof from any amounts due or to become due Subcontractor.

2.6.13. The Subcontractor shall provide, at its own cost, all safety gear, including, but not limited to, fall-protection devices, and personal protection equipment (PPE), as may be required to adhere to all OSHA requirements, as well as the Job Site Safety Plan, thereby ensuring a safe jobsite. Additionally, all such gear shall be maintained in proper functioning condition throughout the course of the Work.

2.6.14. The Subcontractor shall perform daily safety pre-job brief at the Site.

2.7. Subcontracting/Assignment.

2.7.1. Assignment. Subcontractor shall not assign this Agreement without the prior written consent of Contractor; which Contractor may withhold in its absolute sole discretion.

2.7.2. Flow Down Provisions. Subcontractor shall incorporate the Agreement in any further Subcontractor lower-tier subcontractors. Subcontractor shall make the Agreement available to its lower-tier subcontractors, and such Contract Documents shall be made binding on the lower tier subcontractors. To the extent that any provision in this Agreement conflicts with any provision in any other subcontract document, the most stringent conditions shall apply.

2.7.3 No Third Party Beneficiary. Except as expressly provided in this Agreement, nothing shall be deemed to create a third-party beneficiary or contractual relationship between persons or entities other than Contractor and Subcontractor.

2.8. Warranties.

2.8.1. Subcontractor warrants and guarantees that all materials and equipment furnished under this Agreement shall be new, unless otherwise specified, and of good quality, and in conformance with the Subcontract Documents, and free from defective workmanship and/or materials for a period of two (2) year from the date of final acceptance of the Work by Owner, or for such duration as is called for in the Subcontract Documents, whichever period of time is longer (the "Warranty Period").

2.8.2. Upon receipt of such written warranty notice, Subcontractor shall promptly replace, repair or correct, without cost to Contractor, such Work as required by Contractor for the Work to conform to the warranties. Subcontractor shall be responsible for the removal and reinstallation of the defective Work and the costs associated with any other work required for making of access to perform the warranty.

2.8.3. In the event that Subcontractor fails to replace, repair or correct such Work, within ten (10) days to Contractor's satisfaction, Contractor may correct the work or cause it to be replaced, repaired or corrected by third parties in such manner as Contractor may consider appropriate. Contractor shall be entitled to recover all costs and expenses incurred thereby from Subcontractor or deduct the same from any amounts due or to become due Subcontractor. Subcontractor shall assist Contractor in every way in enforcing its warranties. Nothing herein is intended, or shall be construed, to relieve the obligation, warranty or legal liability of the manufacturer or Subcontractor of such materials or manufactured items to Subcontractor, Contractor, Owner or third parties.

- 2.8.4.** The Warranty Period for the part of the Work which is repaired, replaced or corrected, as set forth above, shall be extended for a period of one (1) year from the date of completion of such replacement, repair or correction or the Warranty Period, whichever is longer.
- 2.8.5.** Neither the final acceptance of the Work, the payment therefor, nor any provision of the Contract Documents shall relieve the Subcontractor of its responsibility for warranty workmanship.

2.9. Indemnification.

- 2.9.1.** TO THE FULLEST EXTENT PERMITTED BY LAW, SUBCONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD HARMLESS CONTRACTOR AND OWNER, AND THEIR AFFILIATED ENTITIES, AGENTS, SUBCONTRACTORS, EMPLOYEES AND INVITEES (COLLECTIVELY THE "INDEMNITEES"), FROM AND AGAINST ALL CLAIMS, DAMAGES, LOSSES, LIABILITIES, OR EXPENSES OF ANY KIND ARISING OUT OF OR ANY WAY INCIDENT DUE TO (A) BODILY INJURY, SICKNESS, DISEASE, DEATH, AND/OR PROPERTY DAMAGE THAT ARISE OUT OF OR RESULT FROM THE PERFORMANCE OF THE WORK ATTRIBUTABLE TO THE ACTS OR OMISSIONS OF SUBCONTRACTOR, SUBCONTRACTOR'S SUBCONTRACTORS, OR ANYONE EMPLOYED DIRECTLY OR INDIRECTLY BY ANY OF THEM, OR ANYONE SUBJECT TO SUBCONTRACTOR'S CONTROL, OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE RESPONSIBLE AND/OR (B) ANY BREACH OF THE AGREEMENT. EXCEPT HOWEVER, SUBCONTRACTOR SHALL NOT BE LIABLE UNDER THIS SECTION FOR CLAIMS OR LIABILITIES RESULTING FROM THE SOLE NEGLIGENCE OF INDEMNITEES. IF ANY ASPECT OF THE FOREGOING INDEMNITY IS MADE VOID OR OTHERWISE IMPAIRED BY ANY LAW CONTROLLING THE CONSTRUCTION THEREOF, SUCH INDEMNITY SHALL BE DEEMED TO CONFORM TO THE FULLEST EXTENT PERMITTED BY SUCH CONTROLLING LAW.
- 2.9.2.** If a claim is made or threatened against an Indemnitee for which Subcontractor owes an indemnity obligation, and if an Indemnitee intends to seek indemnity, written notification of such claim shall be provided to Subcontractor. Subcontractor shall have the obligation to promptly assume at its sole expense the defense of the particular claim(s), provided however, the Indemnitee(s) shall have the right in their sole discretion to approve any attorney(s) selected by Subcontractor and to participate in such defense at Subcontractor's expense, and Subcontractor shall not be permitted to settle any such claim(s) without the written approval of the respective Indemnitee(s). To the extent that an infringement claim is made or threatened, or if Contractor determines, acting reasonably, that the Work or any part thereof is likely to become the subject of an infringement claim, Subcontractor shall, in addition to honoring its indemnity obligations, either (i) modify the infringing part or parts so that it is non-infringing without affecting its quality, performance and functionality, (ii) replace same with a substitute of comparable quality, performance, specification and functionality approved by Contractor in writing, or (iii) obtain from the third party claiming infringement the right to use the infringing material.
- 2.9.3** IF ANY ASPECT OF THE FOREGOING INDEMNITY OBLIGATIONS IS MADE VOID OR OTHERWISE IMPAIRED BY ANY LAW CONTROLLING THE CONSTRUCTION THEREOF, SUCH INDEMNITY SHALL BE DEEMED TO CONFORM TO THE FULLEST EXTENT PERMITTED BY SUCH CONTROLLING LAW. THE OBLIGATIONS HEREUNDER SHALL SURVIVE THE EXPIRATION OR TERMINATION OF THIS AGREEMENT.

2.10. Insurance.

2.10.1. Insurance Requirements. Before commencing the Work, Subcontractor shall purchase and maintain insurance that will protect it from the claims arising out of its operations under this Agreement, whether the operations are by Subcontractor, or any of its consultants, subcontractors, or anyone directly or indirectly employed by them, or by anyone for whose acts any of them may be liable with minimum limits of coverage as set forth in **Schedule E (Insurance Requirements)**.

2.10.2. Waiver of Subrogation. Subcontractor's insurers under all policies, including Workers Compensation to the extent allowed by law, shall waive all rights of recovery or subrogation against Contractor, Owner, and their respective affiliates, officers, directors, employees and agents, from recovery of damages and Subcontractor's carriers' coverages shall be primary insurance on a non-contributory basis before any other insurance or self-insurance.

2.10.3. Evidence of Insurance. Prior to the commencement of the Work, Subcontractor shall furnish to Contractor certificates of insurance acceptable to Contractor, and such certificates shall contain a provision that coverage afforded under the policies will not be canceled or allowed to expire until at least thirty (30) days prior written notice has been given to Contractor. If any of the insurance coverage is required to remain in force after final payment, an additional certificate evidencing continuation of such coverage shall be submitted with the final application for payment by Subcontractor. Subcontractor shall furnish Contractor with any other information regarding coverage that Contractor may reasonably request, including the declarations sheets from the policies, the policies themselves, and confirmation from the insurance carriers of the representations and information contained in the certificates. All insurance carriers must be licensed and authorized to do business in the State of New York or the state in which the Project is located, and such carriers must have an A.M. Best rating of no less than "A-". In the event Subcontractor fails to obtain or maintain any insurance coverage required hereunder, Contractor may purchase such coverage for Contractor's benefit and charge the cost thereof to Subcontractor. For certainty, Subcontractor shall be responsible for all insurance deductibles.

2.11. Liquidated Damages. If the Prime Agreement or other Subcontract Documents provide for liquidated or other damages for delay beyond the completion date set forth therein, and such damages are assessed, Contractor may assess a share of such damages against Subcontractor, as solely determined by Contractor, in proportion to Subcontractor's share of responsibility for the delay. Liquidated damages shall not be deemed a penalty rather, are a genuine pre-estimate of loss. This provision shall not limit Subcontractor's liability to Contractor for Contractor's additional delay damages caused by Subcontractor's delay.

2.12. Work for Owner. Until after final completion of the Project, Subcontractor will not perform any work directly for Owner, or any tentative owner, or deal directly with Owner's representatives, in connection with the Project, except as expressly provided in this Agreement, without the express prior written consent of Contractor.

2.13. Audit and Record Retention.

2.13.1 Record Retention. Subcontractor must keep proper records relating to the performance of its obligations under this Agreement for a period of not less than seven (7) years after the completion or termination of Agreement.

2.13.2 Cooperation. Subcontractor shall, at no cost to Company, reasonably cooperate in any audits, allowing the Company and any auditors or other advisers to the Company to access any of the Subcontractor's premises, personnel, and copy records that Company deems relevant.

2.13.3 Audit Notice. The Company shall provide at least five (5) days written notice of its intention to conduct an audit, unless a specific incident has been notified to the Company, which shall be identified to the Subcontractor, in which case the Company shall have the right to audit upon immediate written notice.

2.14 Force Majeure. If because of Force Majeure, either Contractor or Subcontractor is unable to carry out any of its obligations hereunder the, the obligations of the party claiming Force Majeure shall be suspended to the extent made necessary by and during such Force Majeure's continuance. "Force Majeure" as used herein, means any cause not reasonably with the control of the claiming party, and shall include such as the following: (a) physical events such as acts of Gods, disease, plague, landslide, earthquakes, fires, hurricanes, which result in evacuation of the affected area; (b) acts of others such as terrorism, war or other insurrection; or (c) compliance with any law, statute, ordinance, regulation (provided not to the extent caused by a party's failure to comply with applicable law. Subcontractor shall provide immediate oral notice and within no less than five (5) days written notice, outlining the event(s) giving rise to Force Majeure, or Subcontractor unconditionally waives any rights thereto. Subcontractor has the duty to mitigate damages and protect the Work. Contractor may terminate the Agreement if the event of Force Majeure lasts for more than thirty consecutive days.

ARTICLE III CONTRACTOR'S OBLIGATIONS

3.1. Contractor's Representative. Contractor will designate a person who shall be Contractor's authorized representative. Contractor's representative shall be the only person to whom Subcontractor shall look for instructions, orders, or directions, except in an emergency.

3.2. Storage Areas. Contractor shall provide suitable areas for storage of Subcontractor's materials and equipment during the performance of the Work, subject to the limitations of the Project site.

3.3. Transmission of Information. Contractor shall transmit to Subcontractor, with reasonable promptness, all submittals, transmittals, and written approvals relative to the Work. Unless otherwise specified in the Subcontract Documents, communications by and with Subcontractor's subcontractors shall be through Subcontractor. Subcontractor is entitled to request through Contractor any information or services relative to the performance of the Work that is under Owner's control. To the extent Contractor receives such information and services, Contractor shall provide it to Subcontractor. Contractor does not warrant the accuracy or completeness of the information provided by Owner.

3.4. Payment. Contractor shall make payment to Subcontractor for the satisfactory performance of the Work in accordance with the Agreement.

ARTICLE IV CHANGES IN THE WORK

4.1. Changes. Contractor or Owner may request, changes in the Work or the timing or sequencing of the Work. Such changes shall be formalized in a written change order ("Change Order"). Subcontractor shall not thereafter order materials or perform Work that would be inconsistent with the changes made

to the Work. In the event it becomes necessary to change, delete or add to the Work required for Subcontractor to perform the Work, such change, deletion or addition shall be evidenced by a written Change Order signed by both parties wherein, an equitable adjustment, either upward or downward, will be made in the time for performance or compensation, or both, as applicable. Subcontractor shall not proceed with any such change or additional work until execution of a Change Order by Contractor and Subcontractor.

- 4.2. Change Directives.** Notwithstanding the foregoing, Contractor reserves the right, in its discretion, to change, delete or add to the Work, including corresponding immaterial additions to or reductions in Subcontractor's time for performance or compensation, or both, and to issue a written directive ("Change Directive") which directs Subcontractor to perform such additional and/or modified Work prior to agreement by Subcontractor on an adjustment, if any, in compensation or schedule, or both. To the extent that a Change Directive modifies the Work, Subcontractor may be entitled to an equitable adjustment in the contract time for performance or the Subcontract Price, or both.
- 4.3. Adjustments.** In either event where Subcontractor is given a Change Order or a Change Directive, Subcontractor shall promptly give written notice to Contractor of its intent to seek such an equitable adjustment for performance or compensation, or both, as applicable within five (5) business days after receipt of the Change Order or Change Directive. Failure to timely give this notice shall constitute an irrevocable waiver by Subcontractor of all rights to seek such an adjustment. Subcontractor shall promptly proceed to perform the change(s) in the Work, notwithstanding its disagreement with the Change Order or Change Directive.
- 4.4. Representations.** Any representation(s) made by Contractor, but not expressly included in the Agreement, shall be deemed only for the information of Subcontractor and shall not render Contractor responsible or liable therefrom.
- 4.5. Substitutions.** No substitutions shall be made in the Work unless approved in writing by Contractor. Subcontractor shall defend, indemnify and hold harmless Contractor as a result of any and all substitutions, whether or not Subcontractor has obtained approval for the substitution.

ARTICLE V DEFAULT AND REMEDIES

- 5.1. Failure of Performance.** If Subcontractor refuses or fails to supply enough properly skilled workers, proper materials, or maintain the Project Schedule, or fails to make prompt payment to its employees, subcontractors, or Subcontractors, or disregards laws, rules, regulations, or ordinances of any public authority having jurisdiction, or loses control of its economic operations in a manner that affects the Project, or otherwise breaches a material provision of this Agreement, or if Subcontractor becomes insolvent, Subcontractor shall be deemed in default of this Agreement. If Subcontractor fails within forty-eight (48) hours after notice to commence and diligently continue satisfactory correction of the default, then Contractor, without prejudice to and reserving any other rights or remedies under this Subcontract, or in law or in equity, shall have the right to any or all of the following remedies: a) supply workers, materials, equipment, and facilities necessary for the completion of the Work, or any part thereof, and/or contract with one or more additional contractors to do the same, and charge the cost, including overhead, profit, attorney's fees, costs, and expenses to Subcontractor; b) withhold any payments due or to become due to Subcontractor, pending corrective action; or c) after two (2) days additional written notice, terminate this Agreement, and finish the Work by whatever method Contractor deems expedient. In charging costs to Subcontractor, Contractor may deduct the amount

thereof from any payment due to Subcontractor. To the extent that the costs exceed any payment due to Subcontractor, Subcontractor shall reimburse Contractor within ten (10) days from date of invoice from Contractor. Any unpaid costs shall be subject fifteen percent (15%) interest per annum or to the maximum amount of interest allowed by law.

- 5.2. Termination of the Prime Agreement.** In the event of termination of the Prime Agreement by Owner, or any part thereof that includes the Work, Contractor may elect to terminate this Agreement. Upon written notice thereof from Contractor, Subcontractor shall immediately stop the Work, follow all of Contractor's instructions, and mitigate all costs. Subcontractor shall be entitled to reasonable demobilization costs and any unavoidable third-party costs, as approved by Contractor and Owner.
- 5.3. Suspension of Subcontract.** Contractor may, without cause, order Subcontractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as Contractor may determine. In such event, Subcontractor shall be entitled to an appropriate extension of time and/or an equitable adjustment to the Subcontract Price, as approved by Contractor and Owner.
- 5.4. Waiver of Consequential Damages.** Other than monies owed under this Agreement, in no event shall Contractor be liable for lost profits, special or consequential damages.

ARTICLE VI PAYMENT

- 6.1. Progress Payments.** Subject to Contractor's receipt from Subcontractor of any requested documentation pertaining to the progress or status of the Work and/or conditional and unconditional from prior month payment received lien waivers and/or affidavits or other proof of payment to subcontractors and Subcontractors, payments based upon the progress of the Work shall be made to Subcontractor every month. This billing cycle shall end no later than the 20th of the month and promptly be presented to Contractor. Notwithstanding the foregoing, Contractor may withhold payment to Subcontractor for a reasonable time period pending receipt of payment from Owner. The rate of retainage on each progress payment shall be _____ (%) percent. If the Work is satisfactory, and the Prime Agreement provides for reduction of retainage at a specified percentage of completion, Subcontractor's retainage shall also be reduced when the Work has attained the same percentage of completion and Contractor's retainage for the Work has been so reduced by Owner.
- 6.2. Final Payment.**
- 6.2.1.** Upon acceptance of the Work by Owner and Contractor, and receipt from Subcontractor all requested evidence of fulfillment of Subcontractor's obligations and/or final lien waivers, Contractor shall make final payment to Subcontractor. Contractor may withhold final payment to Subcontractor for a reasonable time period pending receipt of final payment from Owner.
- 6.2.2.** Final payment shall constitute a waiver of all claims by Subcontractor relating to the Work but shall not relieve Subcontractor of liability for the obligations under the Agreement.
- 6.3. Conditions of Payment.**
- 6.3.1.** Contractor, in its sole discretion, shall have the right to make payment to Subcontractor: a) directly; b) by issuance of dual-party checks to Subcontractor and Subcontractor's subcontractors or vendors, at any tier; or c) directly to Subcontractor's subcontractors or

vendors, at any tier. No such payment shall be construed or implied to create any privity or contractual obligation between Contractor and any payee other than Subcontractor.

6.3.2. Subcontractor acknowledges and agrees that all payments received by it are trust funds to be applied in strict accordance with the applicable law, including but not limited to any applicable mechanic's lien statutes.

6.4. Continuing Obligations. Subcontractor shall reimburse Contractor, within ten (10) days date of demand, for all costs and expenses, including attorney fees, for any claim, obligation or lien asserted before or after final payment in satisfying, discharging or defending against any such claims, obligation or lien, including any action brought or judgment recovered. Obligations hereunder shall be subject to the interest requirements set forth in Article V (Default and Remedies).

6.5. Payment not Acceptance. Payment to Subcontractor does not constitute or imply acceptance of all or any portion of the Work by Contractor or Owner.

6.6. Set-off. Contractor reserves the right, at any time, to set-off ("Set-off") against any amount that Contractor (or any of its affiliates) owe to Subcontractor under the Agreement or any other agreements between or among the parties. "Set-off" means set-off, offset, combination of accounts, right of retention or withholding or similar right to which Contractor is entitled under the Agreement or any other agreement between Contractor or its affiliates.

ARTICLE VII DISPUTE RESOLUTION

7.1. Initial Dispute Resolution. Prior to final completion of the Project, either party may submit any claim, controversy, or dispute in writing, to the other. Within ten (10) days after one party gives written notice of dispute, the parties shall endeavor resolve the dispute. In the event the parties are unable to agree within said ten -day period, the parties shall escalate the dispute to senior management for dispute resolution. If unable to agree within an additional ten (10) days, the parties may, but are not required to propose mediation. In such instance, the cost of such mediation shall be borne equally by the parties.

7.2. Dispute Resolution. Any and all disputes, claims, or controversies between the parties, arising out of or related to this Agreement shall be governed by the laws of the State of New York. Any action of proceeding shall be resolved only by litigation in a court of competent jurisdiction in Albany County, New York. TO THE FULLEST EXTENT ALLOWED BY LAW, EACH PARTY HEREBY IRREVOCABLY WAIVES THE RIGHT THAT IT MAY HAVE TO A TRIAL BY JURY ON ANY CLAIM, COUNTERCLAIM, SUIT, DEMAND, ACTION, AND CAUSE OF ACTION OR OTHER PROCEEDING ARISING OUT OF OR IN ANY WAY RELATED TO THIS AGREEMENT.

7.3. Joinder. Notwithstanding the foregoing, Contractor shall have the right to join or consolidate any action or proceeding involving Subcontractor or to implead or join Subcontractor into any action or proceeding between or among Contractor and Owner and/or any other party related to the Work or the Project.

Article VIII CONFIDENTIALITY

- 8.1. Confidentiality Information.** In the course of providing Work under this Agreement, Subcontractor recognizes and acknowledges that Contractor may directly or indirectly furnish certain information related to Contractor, Owner, its financing partners, the end user of the Work, their respective affiliates, its subcontractors or otherwise pertaining to the Work including but not limited to technical, financial, marketing or business information, personally identifiable information and the terms of this Agreement, regardless of whether such information is marked as confidential and irrespective of the form in which it is disclosed (collectively, "Confidential Information"). Confidential Information does not include (i) information that is in the public domain at the time of disclosure or thereafter is generally available to the public (other than as a result of an unauthorized disclosure by the Subcontractor, Subcontractor's subcontractors, and any of their respective employees or anyone whose acts any of them may be responsible for ("Representatives"), (ii) was available to the Subcontractor or its Representatives on a non-confidential basis from a source other than the Contractor, provided that such source is not and was not known by the Subcontractor or its Representatives to be bound by a confidentiality agreement or other duty of confidentiality that protected the Confidential Information, or (iii) was in the lawful possession of the Subcontractor or its Representatives prior to disclosure.
- 8.2. Controlled Disclosure.** Subcontractor shall keep the Confidential Information confidential and shall not disclose such Confidential Information to any person or entity other than its Representatives who have a need to know such information for the purposes of providing Work hereunder and who shall be under a substantially similar obligation of confidentiality. Subcontractor shall be responsible for any unauthorized use or disclosure of Confidential Information by any of its Representatives.
- 8.3. Compelled Disclosure.** In the event that Subcontractor is legally required to disclose any Confidential Information, to the extent allowed by law, Subcontractor shall promptly notify Contractor prior to disclosure so that Contractor may seek an appropriate protective order.
- 8.4. Injunctive Relief.** Subcontractor agrees that for any breach of these confidentiality provisions Contractor shall be entitled, without posting any bond or other security, to seek injunctive or other equitable relief or remedy. Such remedy shall be in addition to all other rights and remedies available to Contractor.

ARTICLE IX MISCELLANEOUS PROVISIONS

- 9.1. Notice.** All notices, communications, or the like, to be given by either party shall be in writing and shall be delivered: a) either personally hand delivered or sent by facsimile or electronic transmission (with written confirmation of the completed transmittal); b) mailed by certified or registered mail, return receipt requested, addressed to the other party at the address and so certified; or c) by overnight delivery by a nationally recognized carrier with written receipt delivery. Any change of address may be made by a party by giving written notice to the other party with exact conformance to this notice provision.
- 9.2. Entire Agreement.** This Agreement represents the entire and complete agreement between the parties hereto, and supersedes all prior written or oral negotiations, representations, or agreements. In the event, however, of a conflict between any terms in the Agreement, Subcontractor shall promptly notify Contractor in writing; provided however, the more stringent term shall govern unless Contractor agrees otherwise, in writing.

- 9.3. **Independent Contractor.** Subcontractor shall be deemed an independent contractor. Nothing shall be construed to create any association, partnership, joint venture, or relationship of principal and agent, or employer and employee, between Contractor and Subcontractor (or any permitted subcontractor). Subcontractor shall indemnify and hold harmless Contractor against any claims arising out of or relating to any claims by Subcontractor's employees or Subcontractor's subcontractors, or any government or administrative body, that such individual is an employee of Contractor. The obligations hereunder shall survive termination or completion of the Agreement.
- 9.4. **Severability.** The partial or complete invalidity of any one or more provisions of this Agreement shall not affect the validity or continuing force and effect of any other provision.
- 9.5. **Modification.** Any modification of this Agreement or any additional obligation assumed by either party in connection with this Agreement shall be binding only if in writing and signed by authorized representatives of Subcontractor and Contractor.
- 9.6. **Successors and Assigns.** This Agreement shall bind and inure to the benefit of the parties hereto, and their respective successors and assigns.
- 9.7. **No Waiver of Performance.** The failure of either party to insist in any one or more instances upon the performance of any of the terms, covenants, or conditions of this Agreement, or to exercise any of its rights, shall not be construed as a waiver or relinquishment of any term, covenant, condition, or right with respect to further performance.
- 9.8. **Interpretation.** The captions and heading set forth in this Agreement are used for convenience only and shall not be used in defining or construing any of the terms and conditions in this Agreement. The term "days" means actual days. The term "business days" shall mean days other than Saturdays, Sundays or a federally recognized bank holidays. The term "including" or any variation thereof means "including but not limited" and shall not be construed to limit any general statement for following specific items.
- 9.9. **Survival.** THE PROVISIONS ADDRESSING INDEMNITY, AUDIT, CONFIDENTIALITY, WAIVER OF CONSEQUENTIAL DAMAGES AND ALL OTHER PROVISIONS WHICH BY THEIR NATURE ARE INTENDED TO SURVIVE SHALL SURVIVE COMPLETION OR TERMINATION OF THIS AGREEMENT.

Schedule A
SCOPE OF WORK

Schedule B
Schedule of Values

Schedule C
Project Schedule

Schedule D
CONTRACT DRAWINGS AND SPECIFICATIONS

Schedule E
Insurance Requirements

Commercial General Liability (CGL) with limits of insurance not less than \$2,000,000 each occurrence. If the CGL coverage contains a General Aggregate Limit, such General Aggregate Limit shall apply separately to each project and location. CGL coverage shall be written on ISO Occurrence Form CG00 01 10/93 and shall cover liability arising from premise and operations, independent contractors, products-completed operations and personal and advertising injury and liability assumed under an insured contract (including the tort liability of another assumed in a business contract). Contractor, Owner and all other parties required by Contractor shall be included as additional insureds on the CGL, using ISO Additional Insured Endorsement CG 20 10 11/85 or both CG 20 10 10/01 and CG 20 37 10/01. This insurance for the additional insured shall be as broad as the coverage provided for Subcontractor. There shall be no endorsement or modification of Subcontractor's CGL policy arising from pollution, explosion, collapse, underground property damage or work performed by subcontractors. Subcontractor shall maintain CGL coverage for itself and all additional insureds for the duration of the Project and maintain completed operations coverage for itself and each additional insured for at least 3 years after completion of the Work.

Automobile Liability with limits not less than \$2,000,000 per accident. Such coverage must include coverage for the liability arising out of the use of all owned, leased, hired and non-owned motor vehicles.

Umbrella Excess Liability with limits of not less than \$3,000,000.

Workers Compensation insurance coverage with statutory limits and **Employers Liability** coverage in the amount of not less than \$1,000,000.

Professional Liability Insurance with limits not less than \$2,000,000 per claim with a deductible not to exceed \$25,000. Such Professional Liability Insurance shall include prior acts coverage sufficient to cover all services rendered by Subcontractor and the Design Professional. This coverage shall be continued in effect for three (3) years after the Date of Substantial Completion.

Schedule F
Subcontractor Safety Agreement

SAFETY STATEMENT: Centrica Business Solutions Services, Inc. (CENTRICA) maintains and enforces a strong company Safety Program based on a “team approach” for all employees and subcontractors procured for projects. The Subcontractor shall cooperate fully with Centrica, its customers and all other subcontractors in meeting the requirements of the Safety Program. The Subcontractor shall be responsible for the safety and security of its employees, agents, subcontractors and suppliers, and for areas of work under its control, including any exposures that its operations create to other parties on the site. The Subcontractor is required to report to CENTRICA any unsafe acts or conditions observed which may or may not be directly under the subcontractor’s control. In addition to all applicable laws and regulations, CENTRICA prohibits the bringing of firearms, fireworks, and any explosives not directly related to the Subcontractor work scope on site.

SAFETY COMPLIANCE: The Subcontractor agrees to comply fully with the Occupational Safety and Health Act of 1970 (OSHA) and OSHA 29CFR 1910/1926 regulations, as amended, any associated federal, state and local compliance laws, codes and regulations in effect where the project is being carried out, along with all safety and work regulations instituted by CENTRICA for the particular project. Subcontractor shall be held financially responsible for any fines and citations incurred by CENTRICA stemming from compliance violations for hazardous conditions created by Subcontractor, or Subcontractor’s failure to control and/or correct said conditions if responsible and/or authorized by contract.

SAFETY TRAINING: The Subcontractor shall ensure that all construction employees have successfully completed a minimum of 10 hours of OSHA accredited safety training regarding topics such as Fall Protection, Electrical Safety, Ladder/Scaffold Safety, Fire Protection, PPE and HAZCOM. Subcontractor shall furnish proof of training upon request, and failure to do so could result in employee or company suspension from CENTRICA projects and future opportunities. Other specialized/certified training in Fall Protection and Electrical safety may be required.

COMPETENT PERSON: The Subcontractor shall assign at least one individual to act as their Competent Person who will be present and on the site at all times during project operations. The Competent Person shall maintain an OSHA 10 or OSHA 30 certificate as required by federal, state, or local regulations have the credential available upon request on the job site. At no time shall work be in effect if legally required OSHA 10 or 30 certificate holder is not on site. The Competent Person will have a current first aid and CPR training and will be responsible to manage the Blood Born Pathogen response kit in the event of a minor occupational exposure. The Competent Person shall have the ability and authorization to identify and correct safety hazards. The Competent Person shall act as liaison to CENTRICA’s Safety and Project personnel and may be required to attend regularly scheduled project safety meetings.

PROJECT SAFETY MEETINGS: The Subcontractor shall conduct an initial site orientation review of the Site Specific Safety Plan, and if applicable, daily jobsite safety meeting with its employees to familiarize them with all necessary safety precautions and regulations pertinent to the project, including emergency names, contact numbers and accident reporting procedures. Upon request, Subcontractor shall provide documentation or other supporting evidence that such meetings were held, along with date, topic and attendee signatures noted.

WRITTEN SAFETY PLANS: Subcontractor is required to perform project work under the direction of the project safety plan provided by CENTRICA's Project Manager. A Site Specific Safety Plan (SSSP) will be available on site at all times. The Subcontractor agrees to review the plan and provide any required changes in order to complete the work (as required) prior to the start. The Subcontractor is responsible for the identification of project personnel names, contact information, training/licensing issues, and work site analysis for applicable project operations with respect to PPE, fall protection, electrical work, struck by and caught in between hazards and requirements or any other specialized tasks requiring competency or certification.

ACCIDENT REPORTING: Subcontractor shall report all significant project related accidents and injuries to CENTRICA's Project Manager no more than eight (8) hours after occurrence. Subcontractor shall include a First Report of Injury, accident investigation and all supporting documents in their report to CENTRICA. **Note:** If accident results in at least one (1) fatality or hospital-admitted medical attention, Subcontractor shall report incident to CENTRICA's Project Manager within two (2) hours after occurrence.

PPE (Personal Protective Equipment): All employees of the subcontractor shall wear and/or utilize ANSI or OSHA approved hard hats, safety glasses, appropriate clothing, high visibility vests, proper construction grade foot ware, fall protection as needed, and all other applicable PPE in accordance with OSHA regulations and/or as directed by the CENTRICA for a particular project. Anyone found in violation of these provisions may be subject to disciplinary actions up to and including removal from the project by the CENTRICA Project Manager or Safety Representative.

USE OF COMPANY EQUIPMENT: The Subcontractor shall not use any CENTRICA owned or leased equipment without prior written approval. If permission is granted, the Subcontractor's employees, agents and other sub-subcontractors agree that they are solely responsible for instructing their employees, agents, and subcontractors in the proper use of such equipment according to all applicable safety standards. Furthermore, the Subcontractor agrees to indemnify and hold harmless CENTRICA from all claims, damages, and losses arising from the use of said equipment.

HAZARDOUS MATERIALS: Subcontractor shall maintain and supply Safety Data Sheets, (SDS), for any hazardous materials Subcontractor brings on the project, and shall further notify CENTRICA in advance for approval to introduce any significant hazardous material, substance or waste on the project. Subcontractor shall be solely responsible for the handling, removal and transport of any hazardous materials brought onto the project by Subcontractor. Subcontractor will maintain a hazardous materials response kit on site at all times if applicable to work and materials on site.

FAILURE TO COMPLY: Failure by the Subcontractor or their sub-contractors to comply with these safety requirements will be considered a contractual violation and may result in withholding payments of any sums due the Subcontractor or stoppage of work. CENTRICA may verbally, or through issuing a Safety Violation Notice, require that Subcontractor correct certain deficiencies within a stated time period, or stop the work when in CENTRICA's opinion the actions of the Subcontractor are unsafe or insufficient. However, this shall not impose on CENTRICA any duty to do so. Subcontractor waives all rights to remedy for delay subsequent to such Stop Work Notice.

I certify that I have reviewed the above requirements, and as agent for the Subcontractor, do hereby agree to the above terms.

SUBCONTRACTOR COMPANY NAME/ADDRESS: _____

SUBCONTRACTOR'S SIGNATURE/TITLE: _____

DATE: _____

NOTE 1: Executed original must be returned to Centrica PRIOR to starting any work.

NOTE 2: Subcontractor signature must be authorized Principal or Manager

Schedule G
Invoicing Instructions

Email all invoices to CONTRACTOR's Project Manager and/or designated project point of contact by no later than the 15th of each month. DO NOT mail hard copies of invoices.

TO BE PAID INVOICES MUST INCLUDE:

1. Subcontractor Name
2. An invoice Number
3. An invoice Date
4. Contractor's Purchase Order Number

RETENTION

If your subcontract designates a withholding of retention, please ensure that you include that retention withholding on every invoice submitted. When you have completed all work, you must submit a separate retention invoice for retention to be released.

ALL INVOICES MUST BE ACCOMPANIED BY:

1. Interim Lien / Claim Waiver
2. Certified Payrolls (If applicable) Verification of employee payroll has been paid (CA only)

Failure to send all required documents may result in a delay of payment.

WE MUST HAVE THE FOLLOWING DOCUMENTS ON FILE PRIOR TO PAYMENT:

1. A signed subcontract
2. Proof of proper insurance
3. W9

Invoices submitted 120 days or more after completion of work will not be processed for payment.

END OF BIDDER'S QUOTE DOCUMENT



Department of Community Affairs
Construction Project Review
Project No: 9190-22
Part. Rel Int/Ext Bldg.
building review
Raffaele Persico
Released: 01/03/23
N.J.S.A. 52:27D-119 ET SEQ., AS AMENDED

THE VINELAND VETERANS MEMORIAL HOME: STORAGE BUILDING RENOVATION DPMC A1257-07

Honorable Philip D. Murphy, Governor
Honorable Sheila Y. Oliver, Lieutenant Governor
Elizabeth Naher Muoio, State Treasurer
DPMC-Christopher Chianese, Director

centrica
Business Solutions

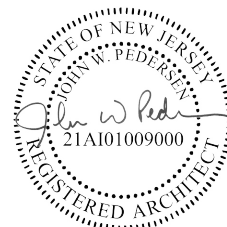
3 Rosell Dr, Ballston Lake, NY 12019

J.W. Pedersen, Architect P.C.
1199 E. Park Ave.
Vineland, New Jersey 08360
(856) 692 – 5622

John W. Pedersen, R.A.
NJ License No. 21AI01009000

ISSUE FOR CONSTRUCTION
October 20, 2022

J.W.
PEDERSEN
ARCHITECT



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**SECTION 01010
SUMMARY OF WORK**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General Conditions and other Division-1 Specification Sections, apply to this Section.

1. Refer to 01500 Temporary Facilities for additional divisions of contract responsibility.

1.2 PROJECT DESCRIPTION

- A. The work consists of interior renovations to an existing Veterans Memorial Home in Vineland New Jersey.

- B. The Scope of Work is indicated on the drawings and in the specification and includes:

1. General Conditions, Temporary Facilities, Demolition, Carpentry, Doors, Finishes, Metal Framing, Thermal and Moisture Protection, Electrical, Mechanical, and other Work as required.

- C. It is a critical project requirement that the building be maintained in a watertight condition throughout the course of the project. At the conclusions of each days work, the work shall be properly terminated and protected as required. Any damage internal and external caused by a failure to keep the building watertight during the work shall be corrected by the contractor at no cost to the owner.**

- D. The Contract is for a complete project. Include all incidental and necessary work whether specifically indicated or not as required to complete the work. During the bid stage, it is the bidders' legal obligation to notify the architect of any potential conflicts or lapses in the documents they feel have been missed or are unclear.**

1.3 CONTRACTOR USE OF PREMISES

- A. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.

- B. Disposal of Waste Materials: Dispose of construction debris daily. Do not allow materials to accumulate. Coordinate an onsite location for trash dumpster with Township officials so as to minimize impact on adjacent neighbors. Do not dispose of waste material on site, either by burial or by burning.

1.4 OWNER OCCUPANCY – USE

- A. The owner WILL NOT occupy the building throughout the project.

1.5 SITE OCCUPANCY – USE

- A. All of the work, work areas, construction equipment, materials, etc must be protected and kept in a safe manner to prevent unauthorized entry to the work area(s) and to prevent injury to persons. This is a critical project requirement.

1.6 PROJECT COMPLETION AND START DATE

- A. See dates noted in Instructions to Bidders in this project manual.

1.7 SITE AND BUILDING MAINTENANCE AND RESTORATION

- A. The contractor shall be required to maintain the premises in good condition and to restore the areas where they have completed work and/or utilized the property to its pre-construction condition or better. Work staging areas for each contract to be coordinated with owner prior to mobilization. Vehicular traffic is to be kept on paved roads as much as possible.

PART 2 - PRODUCTS (Not applicable).

PART 3 - EXECUTION (Not used)

END OF SECTION 01010

SECTION 01019
OWNER-FURNISHED ITEMS

PART 1 - GENERAL

1.1 GENERAL

- A. Owner retains the right to place and install, in coordination with Contractor's construction schedule, as many items and/or as much equipment as it may require during the progress of the Work, before completion of the various parts of the Work. This shall not in any way evidence completion of the Work or any portion thereof, nor shall it signify Owner's acceptance of the Work or any portion thereof.

It should be assumed that all work and items shown on the drawings and called for in the specifications shall be part of the work of the Construction Contract except where noted otherwise.

1.2 CATEGORIES OF ITEMS (see the following matrix)

- A. Provided By Owner Contractor to Install: Items shown or noted "By Owner" on the drawings and/or in the specifications shall be furnished by Owner to Contractor/subcontractor for installation by Contractor/subcontractor as part of the construction contract. Contractor/subcontractor shall receive, unload as required, store and be responsible to the extent of carrying necessary insurance to cover items in the event of theft, fire, loss, malicious damage and other miscellaneous damage.
- B. Owner to Provide and Install: Items shown or noted ("NIC") on the drawings and/or in the specifications shall be furnished and installed by Owner under separate contract, except as described hereinafter. The Owner shall receive, unload as required, store, and be responsible to the extent of carrying necessary insurance to cover items in the event of theft, fire, loss, malicious damage and other miscellaneous damage.
- C. Contractor to Provide and Install: Items **not** shown or noted as "*By the Owner*" or "*By Others*" or "*NIC*" on the drawings and/or in the specifications shall be furnished and installed by Contractor as part of the construction contract. The Contractor shall receive, unload as required, store, and be responsible to the extent of carrying necessary insurance to cover items in the event of theft, fire, loss, malicious damage and other miscellaneous damage.
- This category is provided only for those items where the scope may not be entirely clear. See notes above and below for further clarification.

1.3 COORDINATION

- A. The contractor is required to coordinate the installation of all items. He is to provide blocking, openings, raceways, etc. to accommodate the installation of items provided by others. The contractor shall make all final electrical, plumbing and HVAC connections to items requiring the same that are provided by others. For material items, the contractor is to include in his price all accessories, fasteners, backings, etc as required for a complete installation.

PART 2 – PRODUCTS-NOT USED

PART 3 - EXECUTION

3.1 RECEIPT OF ITEMS

- A. During the course of construction, some deliveries of equipment and miscellaneous items will be made to the job site by common carrier. Contractor shall receive and inspect items for conformance to delivery ticket(s) and for damage. If during receipt any missing or damaged items are observed, Contractor shall:

SECTION 01040
PROJECT COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division -1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
 - 1. Coordination.
 - 2. Administrative and supervisory personnel.
 - 3. General installation provisions.
 - 4. Cleaning and protection.
- B. Progress meetings, coordination meetings and pre-installation conferences are included in Section "Project Meetings".
- C. Requirements for the Contractor's Construction Schedule are included in Section "Submittals".
- D. The Contractor for General Construction shall be responsible for overall project coordination, preparing schedules and issuing memorandum of meetings.

1.3 COORDINATION

- A. Coordination: Coordinate construction activities included under various Sections of these Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.
 - 1. Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
 - 2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
 - 1. Prepare similar memoranda for the Owner and separate Contractors where coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Project Close-out activities.

1.4 COORDINATION OF TRADES

- A. Trades shall coordinate Equipment Size and supports, Work access and Clearances, Pipe Routing, Penetration of materials, etc.

- B. Schedule and develop work so as not to delay other trades. Work improperly scheduled that requires cutting and patching shall be at the Contractors expense and not an additional cost to the owner.
- C. Coordinate work in determining the exact location of outlets, pipes, and equipment to avoid interferences with properly installed work and existing structural elements.
- D. The following work hierarchy shall be followed (high to low priority)
 - 1. Structural
 - 2. Roof drain piping
 - 3. Sanitary Drain Piping
 - 4. Electrical
 - 5. Lighting
 - 6. Ductwork and diffusers
 - 7. Plumbing water piping
 - 8. Fire Protection piping
 - 9. Traffic marking & Site work

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in Contract Documents.
- C. Measurements and Existing Conditions: Before ordering, fabricating or performing work verify all measurements and existing conditions to confirm dimensions and that the proposed work can proceed as indicated.
- D. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- E. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.
- F. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the Architect for final decision.
- G. Recheck measurements and dimensions, before starting each installation.
- H. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- I. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering completed construction for that purpose.
- J. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the Architect for final decision.
- K. Route items parallel to building lines.

3.2 CLEANING AND PROTECTION

- A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- C. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

END OF SECTION 01040

SECTION 01045 CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.
- B. Refer to the Section 01010 Summary of Work for a partial description of the responsibilities of the Contractors, Architect and Engineer. For the purposes of this section, Contractor shall mean each contractor and Architect shall mean either the architect or engineer as appropriate.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for cutting and patching.
- B. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
- C. Demolition of selected portions of the building for alterations is included in Section "Selective Demolition."

1.3 SUBMITTALS (Not Used)

1.4 QUALITY ASSURANCE

- A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would reduce their load-carrying capacity or load-deflection ratio.
- B. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Use materials that are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed.
- B. After uncovering work, inspect the conditions affecting the installation of products, or performance of the work.
- C. Report unsatisfactory or questionable conditions to the Architect in writing: do not proceed with the work until directed to do so, or until resolution of questions concerning such conditions.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
- C. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Take all precautions necessary to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them.

3.3 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review proposed procedures with the original installer; comply with the original installer's recommendations.
- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.

3.4 CLEANING

- A. Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

END OF SECTION 01045

SECTION 01070

ABBREVIATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 1 Specifications sections, apply to work of this Section.

1.2 GLOSSARY OF ABBREVIATIONS - Specification

- A. Abbreviations for names of technical societies, organizations and agencies referenced by Contract Documents shall be interpreted as follows:

AA	The Aluminum Association
AABC	Associated Air Balance Council
AAMA	Architectural Aluminum Manufacturers Association
AAN	American Association of Nurserymen, Inc.
AASHTO	American Association of State Highway Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AGA	American Gas Association
AGC	American General Contractors of America
AI	The Asphalt Institute
AIA	American Institute of Architects
AIMA	Acoustical and Insulating Materials Association
AISC	American Institute of Steel Construction, Inc.
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ANSI	American National Standards Institute (formerly ASA-USASI)
APA	American Polywood Association (formerly DFPA)
API	American Petroleum Institute
ARI	Air Conditioning and Refrigeration Institute
ASACC	American Society of Architectural Hardware Consultants
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AVATI	Asphalt & Vinyl Asbestos Tile Institute
AWI	Architectural Woodwork Institute
AWMA	American Walnut Manufacturers Association
AWPA	American Wood Preservers Association
AWPB	American Wood Preservers Bureau
AWPI	American Wood Preservers Institute
AWS	American Welding Society, Inc.
AWWA	American Water Works Association
BIA	Brick Institute of America
CBM	Certified Ballast Manufacturer
CISPI	Cast Iron Soil Pipe Institute
CPI	Clay Pipe Institute
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standards
CSI	Construction Specification Institute
EEI	Edison Electrical Institute
EIA	Electronic Industry Association

ETL	Electrical Testing Laboratory
FGMA	Flat Glass Marketing Association
FIA	Factory Insurance Association
FM	Factory Mutual Insurance
FS	Federal Specifications
FTI	Facing Tile Institute
GA	Gypsum Association
HPACNA	Heating, Piping, and Air Conditioning Contractors National Association
IBI	Insulation Board Institute
ICEA	Insulated Cable Engineers Association
IEEE	Institute of Electrical and Electronic Engineers
IES	Illuminating Engineering Society
ILIA	Indiana Limestone Institute of America, Inc.
IPCEA	Insulated Power Cable Engineers Association
LIA	Lead Industries Association, Inc.
MEMA	Maple Flooring Manufacturers Association
MIA	Marble Institute of America
MIL	Military Specifications
MLA	Metal Lath Association
MSS	Manufacturers Standardization Society
NAAMM	National Association of Architectural Metals Manufacturers
NAFM	National Association of Fan Manufacturers
NAMLM	National Association of Metal Lath Manufacturers
NBHA	National Builder's Hardware Association
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards
NCMA	National Concrete Masonry Association
NEC	National Electrical Code
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers Association
NESC	National Electrical Safety Code
NFiPA	National Fire Protection Association
NFoPA	National Forest Products Association
NLA	National Lime Association
NOFMA	National Oak Flooring Manufacturers Association
NPA	National Particle Board Association
NRMCA	National Ready Mixed Concrete Association
NSA	National Slag Association
NTMA	The National Terrazzo & Mozaic Association, Inc.
NWMA	National Woodwork Manufacturing Association
OSHA	Occupational Safety & Health Act.
PCA	Portland Cement Association
PCI	Prestressed Concrete Association
PDCA	Painting and Decorating Contractors of America
PEI	Porcelain Enamel Institute
PI	Perlite Institute
SBI	Steel Boilers Institute
SBTMA	Southern Brick and Tile Manufacturers Association
SCPI	Structural Clay Products Institute
SDI	Steel Deck Institute (formerly DRDTI)
SDI	Steel Door Institute
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association

SPIB	Southern Pine Inspection Bureau
SJI	Steel Joint Institute
SSPC	Steel Structures Painting Council
SWI	Steel Window Institute
TCA	Tile Council of America, Inc.
UL	Underwriter's Laboratories, Inc.
USC	United States Code
USSI	USA Standards Institute
WWPA	Western Wood Products Association (WPA & WCLA)

1.3 GLOSSARY OF ABBREVIATIONS – Drawings

A. Partial List of Abbreviations utilized on the drawings:

ABV	Above	HC	Handicap
ACT	Acoustical Ceiling	HR	Handrail
	Tile	IN	Inch
AFF	Above Finished Floor	INTERV.	Interview
BM	Beam	JAN	Janitor
BOT	Bottom	MICRO	Microphone
BSMT	Basement	M.O.	Masonry Opening
CLG	Ceiling	MTL	Metal
COL	Column	NA	Not Applicable
CONC	Concrete	NIC	Not in Contract
CONF	Conference	OPNG	Opening
CPT	Carpet	PLAM	Plastic Laminate
C.T.	Ceramic Tile	PL	Plastic Laminate
DEMO	Demolition	PTD	Painted
DIA	Diameter	RESIL	Resilient
DN	Down	RF	Roof
ELEC	Electric	RM	Room
EX	Existing	SLP	Slope
EXIST	Existing	STL	Steel
FDN	Foundation	TYP	Typical
FIN.FLR	Finished Floor	TELE	Telephone
FT	Feet	VCT	Vinyl Composition
FTG	Footing		Tile
GWB	Gypsum Wall Board	VIF	Verify in Field

PARTS 2 & 3 - PRODUCTS AND EXECUTION – (Not applicable)

END OF SECTION 01070

SECTION 01090
DEFINITIONS AND STANDARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division - 1 Specification Sections, apply to this Section.

1.2 DEFINITIONS

- A. General: Basic Contract definitions are included in the General Conditions.
- B. "Indicated" refers to graphic representations, notes or schedules on the Drawings, or other Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.
- C. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Architect", "requested by the Architect", and similar phrases. However, no implied meaning shall be interpreted to extend the Architect's responsibility into the Contractor's area of construction supervision.
- D. Approve: The term "approved," where used in conjunction with the Architect's action on the Contractor's submittals, applications, and requests, is limited to the duties and responsibilities of the Architect as stated in General and Supplementary Conditions. Such approval shall not release the Contractor from responsibility to fulfill Contract requirements unless otherwise provided in the Contract Documents.
- E. Regulation: The term "Regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work, whether lawfully imposed by authorities having jurisdiction or not.
- F. Furnish: The term "furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations."
- G. Install: The term "install" is used to describe operations at project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations."
- H. Provide: The term "provide" means "to furnish and install, complete and ready for the intended use."
- I. Installer: An "Installer" is the Contractor or an entity engaged by the Contractor, either as an employee, subcontractor, or sub-subcontractor for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
- J. Project Site is the space available to the Contractor for performance of construction activities, either exclusively or in conjunction with others performing other construction activities as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land upon which the Project is to be built.

1.3 DRAWING SYMBOLS

- A. Graphic symbols: Where not otherwise noted, symbols are defined by "Architectural Graphic Standards," published by John Wiley & Sons, Inc., eighth edition.

1.4 INDUSTRY STANDARDS

- A. Applicability of Standards: Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents. Such standards are made a part of the Contract Documents by reference. Individual Sections indicate which codes and standards the Contractor must keep available at the Project Site for reference.
- B. Publication Dates: Where the date of issue of a referenced standard is not specified, comply with the standard in effect as of date of Contract Documents.
- C. Conflicting Requirements: Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the Contract Documents indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Architect for a decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are not bound with the Contract Documents.
- E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where such acronyms or abbreviations are used in the Specifications or other Contract Documents, they mean the recognized name of the trade association, standards generating organization, authority having jurisdiction, or other entity applicable to the context of the text provision. Refer to the "Encyclopedia of Associations," published by Gale Research Co., available in most libraries.

1.5 GOVERNING REGULATIONS/AUTHORITIES

- A. Contact governing authorities directly for necessary information and decisions having a bearing on of the work.
- B. Copies of Regulations: Obtain copies of the following regulations and retain at the Project Site, available for reference by parties who have a reasonable need for such reference. Codes governing construction, safety, hiring practices, and other related aspects of the work as required by authorities having jurisdiction.

1.6 SUBMITTALS

- A. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence, and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work.

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION (Not applicable)

END OF SECTION 01090

SECTION 01300 SUBMITTALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division -1 Specification Sections, apply to this Section.
- B. The owner's General and Supplementary Conditions takes precedence over the following when they are in conflict.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including;
 - 1. Contractor's construction schedule.
 - 2. Shop Drawings.
 - 3. Product Data.
 - 4. Samples.
- B. Administrative Submittals: Refer to other Division -1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
 - 1. Permits.
 - 2. Applications for payment.
 - 3. Performance and payment bonds.
 - 4. Insurance certificates.
 - 5. List of Subcontractors.
- C. The Schedule of Values submittal is included in Section "Applications for Payment."

1.3 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - a. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
 - 3. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for re-submittals.
- B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
 - 1. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
 - 2. Include the following information on the label for processing and recording action taken.
 - a. Project name.

- b. Date.
 - c. Name and address of Architect.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Number and title of appropriate Specification Section.
 - i. Drawing number and detail references as appropriate.
- C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to Architect using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.
- 1. On the transmittal Record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.
 - 2. Transmittal Form: Use AIA Document G 810.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar- chart type Contractor's construction schedule. Submit within 10 days of the date established for "Commencement of the Work".
- 1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values".
 - 2. Within each time bar indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.
 - 3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
 - 4. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.
- B. Work Stages: Indicate important stages of construction for each major portion of the Work, including testing and installation.
- C. Distribution: Following response to the initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project meeting room.
- D. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.5 SHOP DRAWINGS

- A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings.
- B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Initial Submittal: Submit 3 blue- or black-line and 1 reproducible sepia prints for the Architect's review; one will be returned.

1.6 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves.

1.7 SAMPLES

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.

1.8 ARCHITECT'S ACTION

- A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal, mark to indicate action taken, and return promptly. Contractor is to allow 3 weeks for items requiring only architects review and 4 weeks for items requiring review by the engineers.
 - 1. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action Stamp: The Architect will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:
 - 1. Final Release: Where submittals are marked "Reviewed," that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
 - 2. Final-But-Restricted Release: When submittals are marked "Reviewed as Noted," that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
 - 3. Returned for Re-submittal: When submittal is marked "Not Approved, Revise and Resubmit," do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.
 - a. Do not permit submittals marked "Not Approved, Revise and Resubmit" to be used at the Project site, or elsewhere where Work is in progress.
 - 4. Other Action: Where a submittal is primarily for information or record purposes, special processing or other activity, the submittal will be returned, marked "Action Not Required".

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION (Not applicable)

END OF SECTION 01300

SECTION 01400

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

1.2 SECTION INCLUDES

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.

1.3 RELATED SECTIONS

- A. Coordination — Section 01040.
- B. Divisions 2 through 16 Sections for specific test and inspection requirements.

1.4 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

1.5 DELEGATED DESIGN

- A. Delegated design is limited to those components or systems specifically authorized by the Architect.
- B. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

1.6 SUBMITTALS

- A. Qualification Data: For testing agencies specified in “Quality Assurance” Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

- C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
1. Specification Section number and title.
 2. Description of test and inspection.
 3. Identification of applicable standards.
 4. Identification of test and inspection methods.
 5. Number of tests and inspections required.
 6. Time schedule or time span for tests and inspections.
 7. Entity responsible for performing tests and inspections.
 8. Requirements for obtaining samples.
 9. Unique characteristics of each quality-control service.
- D. Reports: Prepare and submit certified written reports that include the following:
1. Date of issue.
 2. Project title and number.
 3. Name, address, and telephone number of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making tests and inspections.
 6. Description of the Work and test and inspection method.
 7. Identification of product and Specification Section.
 8. Complete test or inspection data.
 9. Test and inspection results and an interpretation of test results.
 10. Ambient conditions at time of sample taking and testing and inspecting.
 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting and re-inspecting.
- E. Permits, Licenses, and Certificates: For Owners records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the work.

1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufactures products that are similar in material, design, and extent to those indicated for this Project.
- C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the State of New Jersey and who is experienced in providing engineering services of the kind indicated. Engineering services are

defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.

- F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirement for specialists shall not supersede building codes and similar regulations governing the Work, nor interfere with local trade-union jurisdictional settlements and similar conventions.
- G. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.
- H. Inspection Testing and Quality Assurance Services: Unless otherwise specified in other sections of the specifications, Contractor shall pay for all fees and costs associated with Testing Agency Inspection and Quality Assurance Services required by governing authorities or specified in other sections of these specifications. Testing and Inspection agencies shall be approved by the Owner within 30 days of contract award. Contractor shall submit qualifications statement for at least five (5) agencies for approval and final selection by the owner. All costs associated with testing, inspection and quality services shall be included in the Contract Sum.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Sections of these Specifications. Restore patched areas and extend restoration into adjoining areas in a manner that eliminates evidence of patching.
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01400

SECTION 01500 TEMPORARY FACILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.
- B. Refer to the Section 01010 Summary of Work for a partial description of the responsibilities of the Contractors, Architect and Engineer. For the purposes of this section, Contractor's shall mean each contractor and Architect shall mean either the architect or engineer as appropriate.

1.2 DESCRIPTION OF REQUIREMENTS

- A. This section specifies requirements for temporary services and facilities required for the project, including temporary utility services, temporary construction and support facilities, and project security and protection.
 - 1. Temporary utility services include but are not limited to:
 - a. Water service and distribution.
 - b. Temporary electric power and light.
 - c. Telephone service.
 - d. Storm and sanitary sewer
 - 2. Temporary construction and support facilities include but are not limited to:
 - a. Temporary heat and ventilation.
 - b. Field offices and storage sheds – need is to be as determined.
 - c. Sanitary facilities, including drinking water.
 - d. Dewatering facilities and drains.
 - e. Temporary enclosures.
 - f. Hoists
 - g. Project identification signs and temporary signs.
 - h. Waste disposal services.
 - i. Rodent and pest control.
 - j. Construction aids and miscellaneous services and facilities.
 - 3. Security and protection facilities and services include but are not limited to:
 - a. Temporary fire protection.
 - b. Safety and protection facilities and services.
 - c. Warning signs, lights.
 - d. Sidewalk bridges, enclosure fencing for the site.
 - e. Environmental protection.
 - f. Watchman services.
 - g. Traffic control.
 - 4. Building Access and Egress Protection
 - 5. Project Identification Signage
- B. Division of Responsibilities
 - 1. Definitions: Terms "Prime Contractors", "Each Contractor", "Contractors" – shall mean the General Contractor or his sub- contractors.
 - 2. Contractor identified in this section as responsible for certain temporary facilities shall provide, maintain, operate and remove such facilities, and shall pay related costs except those specified as the responsibility of the Owner or of another entity. Each Contractor shall comply with requirements of this section not specified as responsibilities of other specific contractors
 - 3. Contractor shall be responsible for:
 - a. Plug-in electric power cords and supplementary plug-in lighting necessary exclusively for its own activities.
 - b. Its own field office, complete with necessary furniture, utilities and telephone service.
 - c. Its own storage and fabrication sheds.
 - d. Temporary heat, ventilation, humidity control and enclosure of its own work areas where necessary for its activity
 - e. Cleanliness of its own work areas, including:
 - 1. Collection and disposal of its own hazardous, dangerous unsanitary or other harmful waste material.
 - 2. Removal of its own rubbish to a collection point designated by the General Contractor.

- f. Secure lockup of its own tools, materials and equipment.
- g. Hoists, ladders, warning signs and temporary facilities required only for its own short-term use.
- h. Temporary telephone service. Cell phones are adequate.
- i. Temporary field offices for his own use.
- j. Temporary toilets, including disposable supplies.
- k. Temporary wash facilities, including disposable supplies.
- l. Temporary enclosure of buildings. – Each contractor shall be responsible to secure their portion of the work.
- m. General hoisting facilities.
- n. Project identification and temporary signs.
- o. Removal and disposal of wastes from designated collection point, except harmful wastes of other contractors.
- p. Rodent and Pest control.
- q. Warning signs and lights.
- r. Enclosure Fence.
- It is a project requirement to protect and prevent unauthorized access to worksite. Provide construction fence or barrier if required secure the area or material storage. Other fencing as may be required or deemed necessary is to be provided by the contractor whose work requires protection.
- s. Environmental protection.
- t. Dewatering facilities and storm drainage.
- u. Development and enforcement of fire protection procedures, and provision of temporary fire hoses and fire extinguishers.
- v. Enforcement of overall cleanliness and order at the site.
- w. Temporary facilities required for the Project and not identified in this section as the responsibility of another entity.
- x. Internet Access – Contractor shall have on site the ability to receive and print emails and pdf files.
- y. Temporary lighting. – see below.
- 4. HVAC
 - a. Contractor is required to provide temporary heat and ventilation as required by the work.
- C. Costs:
 - 1. Contractor shall pay costs related to the installation, maintenance, operation, expansion, relocation and repair of temporary facilities for which he is responsible except where note otherwise.
 - 2. Contractor shall pay costs for special electric power, fuel, telephone, water usage and other usage costs from the start of the Project until the date of Substantial Completion, whether delivered by way of temporary or permanent service and distribution systems.
- D. Availability: Temporary facilities shall be available for the use of Contractors, the Owner, the Architect and other entities, at no additional cost.
- E. Relocate, revise and expand temporary facilities as required by the progress of the work.
- F. Remove temporary facilities when no longer required.

1.3 SUBMITTALS

- A. Reports and Permits: The contractor shall submit, as a matter of record, copies of reports and permits required by governing authorities, for installation and operation of temporary services and facilities.
 - 1. Submit copies of reports of tests, inspections, meter readings and other procedures performed on temporary utilities.
 - 2. Submit copies of permits, easements and other documentation necessary for the installation, use and operation of temporary utility services.
- B. Arrangement Drawing: If requested, General Contractor shall submit sketch plan showing proposed arrangement of field offices, storage areas, parking and other significant temporary facilities.

1.4 QUALITY ASSURANCE

- A. General: Contractor and all sub-contractors shall comply with the provisions of this Article.
- B. Regulations: Comply with requirements of laws and regulations governing construction, and local industry standards in the installation and maintenance of temporary services and facilities.
- C. Inspect and test each service before placing temporary utilities in use. Arrange for required inspections and tests by governing authorities and obtain required certifications and permits for use.

1.5 REFERENCED STANDARDS:

- A. Contractor shall comply, as applicable to each temporary facility, with the requirements of NFPA Code 241, "Building Construction and Demolition Operations", the ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and the NECA National Joint Guideline NJG-6 "Temporary Job Utilities and Services".

1.6 JOB CONDITIONS

- A. General: Provide each temporary service and facility when first needed. Maintain, expand and modify as needed throughout the work. Do not remove services or facilities until no longer needed, or until replaced by the authorized use of permanent facilities.
- B. Conditions of Use: Operate temporary services and facilities in a safe and efficient manner. Do not overload temporary services or facilities. Do not allow unsanitary conditions, public nuisances or hazardous conditions to develop or persist.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT, GENERAL

- A. Materials and equipment may be new or used but must be adequate in capacity for the required usage, must not create unsafe conditions, and must not violate requirements of applicable codes and standards.
- B. Additional requirements for each temporary facilities category are specified in Part 3 - Execution.

PART 3 – EXECUTION

3.1 TEMPORARY UTILITIES

- A. General:
 - 1. Provide adequate utility capacity at each stage of construction. Prior to installation of temporary utilities at the site, provide trucked-in services for start-up of construction operations, at cost of Contractor required to provide each service.
 - 2. Each Contractor shall obtain and pay for temporary easements required to bring temporary utilities for which he is responsible to the project site, where the Owner's permanent easement cannot be utilized for that purpose.
 - 3. Where source is utility company, Contractor responsible for each utility service shall engage utility company to install temporary service to the project, or to make connections to existing service. Include meters and changes to existing meters and services required by utility companies. If source is other than utility company, Contractor responsible for each utility service shall make connections. If service must be interrupted, arrange with the companies and existing users for an acceptable time.
- B. Temporary Water Service:
 - 1. Install and maintain water service and distribution piping of sizes and pressures adequate for the following uses, as applicable to the Project.
 - a. Construction processes.
 - b. Fire protection.
 - c. Drinking water.
 - d. Sanitary facilities.
 - e. Cleaning.
 - f. Testing of heating/cooling and other building equipment, if permanent water service not available at time scheduled for testing.
 - 2. **Source: Owner's existing water system.** The owner will not be responsible to provide any modification to the existing system required by the contractors.
NOTE that some cleaning processes recommend the use of warm water. This may be available from the owner's system however the contractor shall provide and connections required to this system and shall be required to remove any added items. Hoses and pipes if used must not be placed in a way that will create a tripping or other hazard.
 - 3. Potability: Provide warning signs at outlet of non-potable water.
 - 4. Distribution: Provide distribution piping to each construction area. Provide on 3/4 inch valved hose-threaded outlet for each floor level of each area, spaced so that work requiring water can be reached with a 100-foot length of hose. Provide one 3/4-inch flexible hose 100 feet long with an adjustable nozzle, at each outlet where work requiring water is in progress. Provide back flow and/or air break protection.
 - 5. Protection: Wherever water could damage work in progress or completed work, maintain distribution system, hose connections and outlet valves in leak proof condition. Provide a drip pan of suitable size at each outlet. Drain water promptly from pans as it accumulates.

6. Sterilize temporary piping for potable water prior to use. Refer to Division 15 for procedures.
- C. Temporary Electric Power and Lighting:
 1. General:
 - a. Provide a weatherproof, grounded temporary electric power service and distribution system, 120/240 volts, single phase, 3 wire, and of sufficient capacity to accommodate power to field offices, temporary lighting, and hand tools and equipment rated one horsepower or less.
 - 1.) Provide additional temporary power service required to operate:
 - a.) Dewatering pumps, if such pumps are required.
 - 2.) Electric power for tools or other equipment with larger power requirements shall be provided as work of Contractor whose work requires such power.
 - b. Comply with the National Electric Code (NFPA 70).
 - c. Provide necessary poles and other temporary supports, connections for utility wiring, service and revenue metering, wiring, panel boards, transformers, outlets, switches, lamps, lamp holders, circuit protection devices, controls, and accessories.
 2. **Source: For Power Connections - Owner's Existing System.** The owner will not be responsible to provide any modification to the existing system required by the contractors. The contractors shall not be wasteful of the owner's power.
 - a. For remote portions of the site, at the Contractor's option may utilize portable generator as source in lieu of extending temporary power cables.
 3. Distribution: If required -
 - a. Provide circuits of adequate size and proper characteristics for each use. Run wiring to minimize exposure to damage. Provide rigid steel conduit or equivalent raceways for wiring which must be located where exposed to possible damage or abuse.
 - b. Provide metal enclosures or boxes for wiring devices.
 - c. Provide overload-protected disconnect switch for each temporary circuit.
 - d. For power hand tools and task lighting, provide temporary 4-gang outlets, with 110-120-volt, 20 amps. grounded receptacles, at each floor level, spaced so that a 50-foot extension cord can reach each area of work.
 - e. Provide 220-240-volt temporary outlets as required.
 4. Temporary Lighting:
 - a. Provide switching of temporary lighting, to conserve energy and to reduce load on temporary system to only that required for work in progress, safety and security.
 - b. Provide sufficient illumination for safe work and traffic conditions in every area of work.
 - c. Lighting within buildings: Provide not less than one 200-watt incandescent lamp per 1000 square feet of floor area, uniformly distributed, for general construction lighting. In corridors and similar traffic areas provide one 100-watt incandescent lamp every 50 feet. In stairways and at ladder runs, provide one lamp minimum per story, located to illuminate each landing and flight. For small enclosed areas, provide not less than one 100-watt incandescent lamp for every 100 sq. ft. or fraction thereof, when work is in progress in each such space.
 - 1.) At the Contractor's option, provide fluorescent or other luminary types providing equivalent illumination to lamps specified.
 - d. Site and sign lighting: Where adequate permanent illumination is not present, provide temporary lighting for:
 - 1.) Security of work and temporary facilities.
 - 2.) Illumination of signs, as specified in paragraph: Project Identification and Temporary Signs, of this section.
 - e. OWNER will provide illumination at entry and exit areas. Other lighting is to be provided and/or maintained if required by work and site conditions.
- D. Sanitary Sewers and Drainage:
 1. Dispose of effluents in a lawful manner. Comply with accepted erosion control plan and other applicable regulations of authorities having jurisdiction.

3.2 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES

- A. General:
 1. Locate field offices, storage and fabrication sheds and other support facilities for easy access to the Work. There is no requirement that the contractor provide on site offices, however provisions for communication and meetings at the site must be made.
 2. Maintain a reasonably neat and uniform appearance, acceptable to the Owner's Representative.

3. Except as otherwise specified, change from use of temporary services and facilities to use of permanent facilities at the earliest date acceptable to Owner's Representative, at each portion of the work, to minimize hazards and interferences with performance of the work.
 4. Maintain field offices, storage and fabrication sheds, temporary sanitary facilities, waste collection and disposal systems, and project identification and temporary signs until near Substantial Completion. Remove immediately prior to Substantial Completion. Personnel remaining at the site beyond Substantial Completion will be permitted to use certain permanent facilities, under restricted use conditions acceptable to the Owner.
- B. Temporary Heat and Ventilation:
1. Provide temporary heat and ventilation where needed for performance of the work, curing or drying, or protection of work in place from adverse effects of low temperatures or high humidity. Use methods known to be safe and not harmful to the work in place or being installed.
 - 1.) Requirements for temporary enclosure are specified in paragraph: Temporary Enclosures in this section.
 - 2.) If temporary heating is required in areas which are not enclosed and which cannot be temporarily enclosed, Contractor requiring such temporary heat shall provide same.
 2. Open burning or salamander type heating units may NOT be used. Permanent building systems may be utilized at the owner's discretion but only if systems are properly protected against dirt intrusion, all filters are replaced when work is completed, ducts and coils are cleaned if required, if units are reduced in use when dusty activities are scheduled and when separate outside exhaust is provided to direct dust and dirt away from the system. Use of units shall not cause any reduction in the owner's warranty's. If these standards cannot be met, the contractor is to provide separate heat and ventilation systems as required.
 3. When painting or other activities that may cause odors, smoke or other contaminants to impact the building occupants, supplemental negative pressure exhaust system directed to the exterior is to be provided.
- C. Field Offices-None Required.
- D. Storage and Fabrication Facilities: Contractor shall provide, as required to accommodate his own work, and to provide storage conditions specified for materials and equipment. Facilities may be open shelters, trailers, or fully enclosed spaces.
- E. Sanitary Facilities:
1. General: Provide sanitary facilities including temporary toilets, wash facilities and drinking water fixtures. Comply with safety and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Locate toilets and drinking water fixtures that no one within the building construction area will need to walk more than 2 stories vertically or 200 feet horizontally to each of these facilities.
 - a. Supply and maintain toilet tissue, paper towels, paper cups and similar disposable materials. Provide covered waste containers.
 2. **Toilets:** Facilities must be kept clean.
 3. Wash Facilities: Each contractor shall provide potable-water-supplied wash facilities at locations convenient to construction personnel. Drain and dispose of drainage properly. Supply soap and other cleaning materials appropriate for each condition.
 4. Drinking Water Fixtures: Each contractor shall provide drinking water fountains where and when piped potable water is reasonably accessible. Otherwise, provide tap-dispenser bottled-water type drinking water units, including paper cup supply.
- F. Dewatering Facilities and Drains:
1. Provide, maintain and operate temporary drainage and dewatering facilities not specified as work of individual work sections Maintain the site, excavations and construction free of water.
 2. Dispose of rainwater in a lawful manner which will not flood the project or adjoining property, nor endanger either permanent work or temporary facilities.
 3. Provide temporary drainage where roofing or other waterproof deck construction is completed before the permanent drainage system is operational.
 4. Clear snow and ice which creates safety problems, which interferes with progress of the work, or which could overload or damage work in place or stored materials.
- G. Temporary Enclosures:
1. **Building is to remain watertight during the duration of the work.** Provide as soon as required to protect work in place or work in progress, or when temporary heat is needed and the permanent

- building enclosure is not yet completed. Construct with provisions for ventilating as required. Provide access to front and rear of the building.
2. Interior Temporary Partitions – Construct walls and barriers to limit access to work areas and to prevent dirt and dust from moving going from work areas to occupied and finished areas.
 3. Install substantial and durable general temporary enclosure of partially completed areas of construction. Provide locking entrances adequate to prevent unauthorized entrance, vandalism, theft and other violations of project security.
 4. Except where heavier construction is required for security, provide temporary enclosures using tarpaulins or equivalent materials installed securely, using a minimum of wood framing and other combustible materials. Individual openings of 25 square feet or less may be closed with plywood or other rigid panels.
 - a. Close openings through the floor decks, roof decks and other horizontal surfaces with construction which will support anticipated loads.
 - b. Where temporary wood or plywood enclosure exceeds 100 square feet in area, use fire-retardant treated material (UL labeled Class “A”) for the main sheathing, and use a minimum of non-treated wood framing and trim.
 - c. Provide temporary exterior doors with self-closing hardware and padlocks.
 - d. Construct enclosures to be removable as necessary for work and for the handling of materials.
- H. Hoists Use:
1. Provide adequate facilities for hoisting materials and employees. Do not permit employees to ride hoists which comply only with requirements for hoisting materials. The Contractor responsible for each hoist shall be responsible for selection of type, size and number of facilities. Truck cranes and similar devices used for hoisting are considered as being “tools and equipment” and not temporary facilities.
- I. Project Signs:
1. Temporary Signs:
 - a. Provide, within the site and as required by site and project status, signs for the following purposes:
 - 1.) Entry, exit and other traffic movements.
 - 2.) Identification of field offices, first aid and sanitary facilities.
 - 3.) Identification of dangerous areas and conditions.
 - 4.) Security and emergency information.
 - b. Delivery instruction signs will be permitted if approved by the Owner’s Representative before installation as informational and not advertising.
 2. Visibility: Locate signs so that they are clearly visible during time periods listed, including illumination by permanent or temporary lighting:
 - a. Signs warning of danger: 24 hours a day.
 - b. Other signs: When work is being performed.
 3. Bulletin Boards: Provide and maintain, at or near the General Contractor’s field office, a bulletin board for display of labor regulations, safety procedures, and such other documents as are required to be so displayed.
- J. Collection and Disposal of Wastes:
1. Collect and dispose of waste materials daily. Separate, handle and dispose of different types of waste materials as required by governing regulations.
 2. Burying or burning of waste materials on the site will not be permitted.
 3. Washing waste materials down sewers or into waterways will not be permitted.
 4. Provide rodent proof containers for garbage and similar wastes.
 5. If the Contractors fail to remove rubbish or to correct conditions deemed by Owner to be unsafe or unsanitary, Owner may remove such rubbish or otherwise correct such conditions and charge costs to the Contractor’s account. Should such conditions develop, Owner will give Contractor seven days notice, except shorter notice if he considers that immediate hazards exist.
- K. Rodent and Pest Control:
1. Early in the construction process before deep foundation work has been completed, retain a recognized local exterminator or insect-and-pest control company to recommend practices that will minimize attraction and harboring of rodents, roaches and other pests. Employ this service to perform extermination and control procedures at regular intervals to keep the Project free of pests and their residues. Perform control operations in a lawful manner using environmentally safe materials.
- L. Construction Aids:

1. Design, construct, and maintain construction aids and miscellaneous general services and facilities as needed for safe and effective performance of the work including but not limited to temporary stairs and ladders, guardrails, walkways, ramps, platforms, scaffolding and chutes.

3.3 SECURITY AND PROTECTION FACILITIES

A. **General: The contractors shall maintain security and protection at a sufficient level to protect the work, including temporary facilities, against losses or damage which would adversely affect either the schedule or the quality of the finished work.**

B. Watchman: From the start of work at the site, including installation of temporary facilities, until the work has reached its final state of enclosure and vulnerable temporary facilities have been remove, The Contractors shall provide watchman service such that vulnerable building and site areas are inspected at periodic intervals from each end of work day in afternoon until beginning of work day the next morning.
To be provided if warranted, Owner and architect shall not be liable for any theft, damage or other impacts to or on the contractor's equipment, materials, tools, etc and materials stored for installation in the work. The contractor shall be solely responsible for site security of these items.

C. Temporary Fire Protection:

1. General: Contractor shall develop and maintain a fire prevention and first-aid fire protection program for personnel at the project site. Review needs with the local fire department officials and establish procedures to be followed. Post warnings and information. Instruct other Sub-Contractors.
 - a. Each Sub-Contractor shall instruct his personnel in methods and procedures to be followed and enforce strict discipline.
2. Fire Prevention: Contractor shall conduct his operations in a manner to prevent the creation of fire hazards. Take precautionary measures required by the National Fire Protection Association, National Board of Fire Underwriters, and applicable laws to prevent fire from starting.
 - a. Do not overload or overfuse electrical circuits.
 - b. Tarpaulins used shall be flame proofed and securely installed.
 - c. Avoid use of straw or hay for curing if a temporary enclosure or temporary heat can be feasibly used. Where use of straw or hay cannot be avoided, remove as soon as possible. Perform no cutting and welding until the area is cleared of such material.
 - d. Supervise cutting and welding operations, combustion type temporary heating units, and similar sources of ignition, to assure that safe practices are observed.
 - e. Place flammable debris and rubbish in metal containers with covers and remove from the premises daily.
 - f. Remove highly combustible packing materials from shipping packages which must be stored within buildings.
 - g. Do not store flammable products such as gasoline, fuel oil, and paint, in the building, except that more than one day's supply may be handled inside the building, but only in proper safety containers.
 - h. Prohibit smoking in hazardous areas. Owner requirements may limit smoking in general.
 - i. Welding, soldering, etc work where required shall be avoided where adjacent to or in close proximity to wood or other combustible items. Great care and precautions must be taken to prevent any fire hazard to the building.

3. First-Aid Fire Fighting:

- a. The Contractor shall provide and maintain portable fire extinguishers of types suited for types of fires likely to occur. Comply with the applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers". Locate fire extinguishers where they are most convenient and effective for their intended purpose but provide not less than one extinguisher on each floor at or near each usable stairwell.
 - 1.) Each Sub-Contractor performing work which requires additional fire extinguishers, or fire extinguishers of a type different from those generally distributed, shall provide such extinguishers during periods needed.
 - 2.) Temporary fire extinguishers shall remain the property of the Sub-Contractor providing same.
- b. The Contractor shall establish and enforce fire access routes, to:
 - 1.) Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires.
 - 2.) Maintain clear accesses for fire company vehicles.

- c. Where temporary water outlets are available, Contractors shall provide hoses of sufficient length to reach construction areas. Identify hoses with signs, to the effect that hoses are for fire protection purposes only and are not to be removed.
 - 4. Permanent Fire Protection: At the earliest feasible date in each area of the project, each Contractor providing permanent fire protection systems, including connected services, shall complete such systems and services and place into operation and use. Instruct key personnel at the site on use of facilities which may not be self-explanatory.
 - a. For activating sprinkler, halon, or other automatic fire suppression systems, comply with requirements specified in Division 15.
 - b. Where fire protection standpipes are included in the Work, Plumbing Trade Contractor shall provide those standpipes, ready for use, the earliest possible date.
- D. Safety: Contractor shall comply with the following, relative to work of his contract. The contractor is solely responsible for the safety of their workpersons and the workplace.
 - 1. Federal Law: Comply with the regulations established under the Federal Occupational Safety and Health Act of 1970 (OSHA), including agreements with the U.S. Department of Labor and the State in which the work is performed, under the State Plan Section of the Act, and applicable amendments or revisions thereof, whether associated with the furnishing and installation of equipment and systems, the construction of facilities, the performance of services of other contractual relationship.
 - 2. Statutory Law: Comply with applicable safety requirements of labor laws and regulations of the State in which work is performed, and to the requirements of the authorities having jurisdiction over same.
 - 3. Contractor shall be responsible for violations of the regulations, including payment of costs for correction of violations, hearing or appeal procedures, and claims and fines associated with said violations.
 - 4. Comply with the "American Safety Code for Building Construction, American National Standards Association Code A10.2, and the National Safety Council's Accident Prevention Manual".
 - 5. Maintain adequate protection against damage to persons and property and provide necessary protective devices until completion and final acceptance of the building by the Owner.
 - 6. In an emergency threatening persons or property, Contractors may act at their own discretion without authorization by the Owner's Representative.
 - 7. Should a storm or high wind warning be issued or broadcast, Contractors shall take every practical precaution to minimize danger to persons and to the work. Precautions shall include the closing of openings, additional guying and bracing, tying down sheet stock and other materials subject to becoming airborne, and removing or securing scaffolding and other temporary work.
- E. Enclosure Fence: (NOT REQUIRED EXCEPT AS BIDDER MAY DETERMINE)
 - 1. When substantial elements of the Work begin, to prevent unauthorized, incidental or unintended access to an area undergoing work provide a general enclosure fence with lockable entrance gates. Locate as required. Install in a manner that will prevent persons and small animals from easily entering the work area, except by way of the entrance gates when open.
 - a. Provide 7' - 0" high galvanized chain-link fencing and gates. Keep gates locked during non-working hours. Set in a compacted mixture of gravel and earth.
 - 2. Provide a barrier at the driveway to keep unauthorized vehicles from entering the work area.
- F. Protection: The Contractor, during construction and until final acceptance of the work, shall protect and be responsible for all their work. Protect products in storage and installed work immediately after installation.
 - 1. Provide constant protection against rain, wind, storms, frost, and heat so as to keep work, materials, apparatus, and fixtures free from damage. At the end of each day's work, cover work likely to be damaged. During cold weather, protect work from damage by freezing.
 - 2. Shore, brace, underpin, secure and protect foundations and other parts of structures on the site, adjacent to or in the vicinity of the site, which may be in a way affected by excavations or other operations.
 - 3. Provide temporary protection for finished work until the building receives its final cleaning. Cover stair threads and risers immediately after installation, with heavy building paper, on top of which place boards, securely fastened in place; maintain until completion of the project.
 - 4. Where materials and equipment must be temporarily stored, prior to and during construction, and are of substantial value or are attractive for possible theft, provide a secure lockup and enforce strict discipline in release of materials, to minimize the opportunity for theft and vandalism.
 - 5. Do not load a part of the structure in a way that might endanger its safety.

6. Protect existing trees and work on the site, indicated as remaining, from damage of such type which might result from contract operations.
 - G. Environmental Protection: Contractor, for work of its contract, shall conduct activities to comply with environmental regulations, and to minimize the possibility that air, waterways and soils might be contaminated or polluted. Restrict the use of noise making tools and equipment to hours that will minimize disturbance to persons or other activities near the project site. Contain airborne dust to the immediate area of work.
- 3.4 BUILDING ACCESS AND EGRESS PROTECTION
- A. The building will be occupied by the owner and the public through out the duration of the work. There are multiple access-egress points to the building. Provide temporary, structurally sound overhead protection at the Handicap Accessible entrance while any overhead work is ongoing. Provide temporary protection, signage and/or fencing at the other points while work is ongoing in that area. Work at the main entry may impede this entry during work hours but it must be safe to use at the end of each work day. Prevent overhead materials from falling on persons or property below. Provide signage to direct users to entrances away from primary work areas each day.
 - B. Maintain walks to building free of debris, hoses, wires, etc. during anytime the public is occupying the building.
- 3.6 TERMINATION AND REMOVAL
- A. General: Unless the Owner's Representative requests that it be maintained for a longer period of time, The Contractor shall remove each temporary service and facility for which he is responsible, promptly when the need for it has ended, or when it has been replaced by the authorized use of a permanent facility, but no later than Substantial Completion. Complete or restore permanent work delayed or affected by temporary facilities.
 - B. Repair or replace street paving, curbs, sidewalks, and any other off-site construction, site features or utilities damaged by the work, as required by the governing authority or Owner thereof.
 - C. Materials and equipment that constitute temporary services and facilities are and remain the property of the Contractor providing same, except that the Owner reserves the right to take possession of the project identification signs.
 - D. At substantial completion, each Contractor shall clean and renovate permanent services and facilities provided by him, that have been used to provide temporary services and facilities during the construction period.

END OF SECTION 01500

SECTION 01630
PRODUCTS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division -1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling requests for substitutions made after award of the Contract.
- B. This Section specifies administrative and procedural requirements governing the Contractor's selection of products for use in the Project.

1.3 SUBMITTALS

- A. Substitution Request Submittal: Requests for substitution will be considered if received within 10 days after commencement of the Work. Requests received more than 10 days after commencement of the Work may be considered or rejected at the discretion of the Architect.
 - 1. Submit 3 copies of each request for substitution for consideration. Submit requests in the form and in accordance with procedures required for Change Order proposals.
 - 2. Identify the product, or the fabrication or installation method to be replaced in each request. Include related Specification Section and Drawing numbers. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
 - a. Product Data, including Drawings and descriptions of products, fabrication and installation procedures.
 - b. Samples, where applicable or requested.
 - c. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as size, weight, durability, performance and visual effect.
 - d. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors that will become necessary to accommodate the proposed substitution.
 - e. A statement indicating the substitution's effect on the Contractor's Construction Schedule compared to the schedule without approval of the substitution. Indicate the effect of the proposed substitution on overall Contract Time.
 - f. Cost information, including a proposal of the net change, if any in the Contract Sum.
 - g. Certification by the Contractor that the substitution proposed is equal-to or better in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of the failure of the substitution to perform adequately.
 - 3. Architect's Action: Within one week of receipt of the request for substitution, the Architect will request additional information or documentation necessary for evaluation of the request. Within 2 weeks of receipt of the request, or one week of receipt of the additional information or documentation, which ever is later, the Architect will notify the Contractor of acceptance or rejection of the proposed

substitution. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified by name. Acceptance will be in the form of a Change Order.

1.4 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source.
 - 1. When specified products are available only from sources that do not or cannot produce a quantity adequate to complete project requirements in a timely manner, consult with the Architect for a determination of the most important product qualities before proceeding. Qualities may include attributes relating to visual appearance, strength, durability, or compatibility. When a determination has been made, select products from sources that produce products that possess these qualities, to the fullest extent possible.
- B. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.
- C. Nameplates: Except for required labels and operating data, do not attach or imprint manufacturer's or producer's nameplates or trademarks on exposed surfaces of products which will be exposed to view in occupied spaces or on the exterior.
 - 1. Labels: Locate required product labels and stamps on a concealed surface or, where required for observation after installation, on an accessible surface that is not conspicuous.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle products in accordance with the manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.
 - 1. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.
 - 3. Deliver products to the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
 - 4. Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.
 - 5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
 - 6. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
 - 7. Store products subject to damage by the elements above ground, under cover in a weather-tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 - PRODUCTS

2.1 SUBSTITUTIONS

- A. Conditions: The Contractor's substitution request will be received and considered by the Architect when one or more of the following conditions are satisfied, as determined by

the Architect; otherwise requests will be returned without action except to record noncompliance with these requirements.

1. Extensive revisions to Contract Documents are not required.
2. Proposed changes are in keeping with the general intent of Contract Documents.
3. The request is timely, fully documented and properly submitted.
4. The request is directly related to an "or equal" clause or similar language in the Contract Documents.
5. The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
6. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
7. A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.
8. The specified product or method of construction cannot be provided in a manner that is compatible with other materials, and where the Contractor certifies that the substitution will overcome the incompatibility.
9. The specified product or method of construction cannot be coordinated with other materials, and where the Contractor certifies that the proposed substitution can be coordinated.
10. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provide the required warranty.

- B. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

2.2 PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.
1. Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
 2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selection Procedures: Product selection is governed by the Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include the following:
1. Proprietary Specification Requirements: Where only a single product or manufacturer is named, provide the product indicated. No substitutions will be permitted.
 2. Semi proprietary Specification Requirements: Where two or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted.

- a. Where products or manufacturers are specified by name, accompanied by the term "or equal," or "or approved equal" comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
3. Non-Proprietary Specifications: When the Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
4. Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
5. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.
6. Compliance with Standards, Codes and Regulations: Where the Specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.
7. Visual Matching: Where Specifications require matching an established Sample, the Architect's decision will be final on whether a proposed product matches satisfactorily.
8. Visual Selection: Where specified product requirements include the phrase "...as selected from manufacturer's standard colors, patterns, textures..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern and texture from the product line selected.
9. Allowances: Refer to individual Specification Sections and "Allowance" provisions in Division-1 for allowances that control product selection, and for procedures required for processing such selections.

PART 3 - EXECUTION

3.1 INSTALLATION OF PRODUCTS:

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
 1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 01630

SECTION 02070
SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

- A. Extent of selective demolition work includes removal and proper disposal of various items as shown on the drawings and required for a complete project.
- B. Contractor shall be responsible for the removal and proper lawful disposal of all items related to their work unless specifically indicated otherwise.
- C. Related Documents
 - 1. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 JOB CONDITIONS

- A. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished or removed.
 - 1. Conditions existing at time of commencement of contract will be maintained by Owner insofar as practicable. However, variations within structure may occur by Owner's removal and salvage operations prior to start of selective demolition work.
- B. Protections: Provide temporary barricades and other forms of protection as required to protect the general public from injury due to selective demolition work. Protect existing items to remain for damage as required.
 - 1. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished, and adjacent facilities or work to remain.
 - 2. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.
 - 3. Construct temporary insulated solid dustproof partitions where required to separate areas where noisy or extensive dirt or dust operations are performed. Equip partitions with dustproof doors and security locks if required.
 - 4. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces, and installation of new construction to insure that no water leakage or damage occurs to structure or interior areas of existing building.
 - 5. Remove protections at completion of work.
- C. Damages: Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner.
- D. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
 - 1. Do not close, block or otherwise obstruct streets, walks or other occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- E. Utility Services: Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations.

1. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION

3.1 INSPECTION

- A. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Photograph existing conditions to structure surfaces, equipment or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Owner's Representative prior to starting work.

3.2 PREPARATION

- A. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.
 1. Cease operations and notify the Owner's Representative immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.
- B. Cover and protect furniture, equipment and fixtures to remain from soiling or damage when demolition work is performed in rooms or areas from which such items have not been removed.
- C. Erect and maintain dust-proof partitions and closures as required to prevent spread of dust or fumes to occupied portions of the building.
 1. Where selective demolition occurs immediately adjacent to occupied portions of the building, construct dust-proof partitions of minimum 4" studs, 5/8" drywall (joints taped) on occupied side, 1/2" fire-retardant plywood on demolition side, and fill partition cavity with sound-deadening insulation.
 2. Provide weatherproof closures for exterior openings resulting from demolition work.
- D. Locate, identify, stub off and disconnect utility services that are not indicated to remain.
 1. Provide by-pass connections as necessary to maintain continuity of service to occupied areas of building. Provide minimum of 72 hours advance notice to Owner if shut-down of service is necessary during change-over.

3.3 DEMOLITION

- A. Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
 1. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain using power-driven masonry saw or hand tools; do not use power-driven impact tools.
 2. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
- B. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Architect in written, accurate detail. Pending receipt of directive from Architect rearrange selective demolition schedule as necessary to continue overall job progress without delay.

3.4 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove debris, rubbish and other materials resulting from demolition operations from building site. Transport and legally dispose of materials off site.
 - 1. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.
 - 2. Burning of removed materials is not permitted on project site.

3.5 CLEAN-UP AND REPAIR

- A. Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protections and leave interior areas broom clean.
- B. Repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

END OF SECTION 02070

SECTION 02071

HAZARDOUS MATERIAL ABATEMENT

PART 1 - GENERAL

1.0 RELATED DOCUMENTS

- A. The attached TTI Environmental, Inc. abatement inspection reports and management plans have been prepared by:
TTI Environmental, Inc.
1253 N. Church St.
Moorestown, NJ 08057
Refer to reports for known hazardous-containing materials and approximate amounts, rooms or locations at each of the school facilities. If other materials are found which are suspect of containing asbestos or mold, notify the Project Manager immediately. See unit prices.
- B. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to work of this section.
- C. Closely-related work specified in other sections (note work of other sections may apply):
 - 1. Division 6 – Carpentry
 - 2. Division 7 – Flashing and Sheet Metal -
 - 3. Division 9 Finishes – Flooring, base, painting (touch up)
- D. The TTI Environmental Asbestos Floor Tile and Mastic Abatement Specification and Mold Remediation Work Plan take precedence over any information contained within this specification section 02071.

1.1 SUMMARY

- A. As part of building upgrades, various identified asbestos and mold containing materials (HAZMATS) at the building are to be removed. This work shall support and compliment other work that will occur at the building. Scope and removal shall be done in conjunction with the drawings, specifications, reports and **ALL** relevant codes and governing authorities. Remove and properly dispose of HAZMATS from the buildings using approved removal methods including but not limited to critical barriers and negative air.
- B. See project schedule contained in the Summary of the Work section 01010 for removal schedule. This schedule is critical to permit the completion dates for this and other renovation projects.
- C. Please note: The bidders are responsible to field verify all quantities and conditions prior to submitting a bid. The building owner or consultant is not responsible for extra compensation if the contractor does not verify the quantities and work conditions.
- D. All work shall be done in strict accordance with all applicable codes including the NJ UCC Section 5:23-8 Asbestos Hazard Abatement Subcode. Requirements of this code shall take precedence over specific requirements in this section.
- E. Proper notice shall be given to the New Jersey Department of Labor prior to initiating remediation work, pursuant to New Jersey Administrative Code N.J.A.C. 7:26-2.12. All asbestos work shall be performed by a New Jersey Department of Labor Licensed Asbestos Abatement Contractor. All workers shall hold a valid permit issued by the New Jersey Department of Labor.
- F. All work shall be completed and buildings accessible to the owner and other contractors within the time limits specified. 48 hour advance notice is required if work is to occur on the weekends or holidays.
- G. The contractor shall construct a remote decontamination chamber in the building at a central location that will not disturb the operation of the facility.

1.2 QUALITY ASSURANCE

- A. **The owner will engage the services of an Authorized Asbestos Safety Control Monitor. (the Monitor).** This firm will man the project with a certified Asbestos Safety Technician. This firm will provide all the duties required by them by law and as specifically enumerated in NJAC 5:23-8.
- B. All asbestos removal and decontamination shall be performed in accordance with the guidelines and regulations of the responsible state agencies: Occupational Safety and Health Administration (OSHA), New Jersey Department of Health (DOH), New Jersey Department of Labor (DOL) and the New Jersey Department of Environmental Protection (DEP).
- C. Contractor is to assume full responsibility and liability for the compliance with all applicable Federal, State, and Local regulations pertaining to work practices, hauling, and disposal. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and Local regulations. The Contractor shall hold the Owner and the Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself/herself, his/her employees, or his/her subcontractors.
- D. Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (as if copied directly into the contract documents, or as if published copies are bound herewith).
- E. Strictly adhere to all precautions necessary for the safety and health of the work person in accordance with provisions of OSHA Standards, 26 Code of Federal Registers C.F.R., Part 1926.1101 Constructions Standards, and Section 1910.1001, Industry Standards.
- F. Insurance – See General Conditions.

1.3 PERMITS

- A. The contractor shall apply for and obtain the required permits. The owner's Monitor shall support the efforts of the contractor, but the contractor shall be the lead responsible party and authorized representative of the owner. The Monitor shall submit their own reports and documents with the governing authority as necessary.
- B. If necessary to expedite the work, separate permits for each building may be applied for.
- C. The owner shall pay any official agency fees required for permits. The owner will not be responsible for any fines that may be imposed on the contractor in connection with their failure to abide by the project requirements as might be imposed by governing authorities.
- D. The contractor shall apply for permits and certificates of occupancy and an expeditious manner so that the other planned renovation projects can proceed.

1.4 DOCUMENTATION

- A. The Contractor shall provide the required pre-abatement documentation shall include **all** of the following. Furnish documentation that the firm and its employees are familiar with the following regulations of the United States Department of Labor (D.O.L.), Occupational Safety and Health Administration (OSHA) and the United States Environmental Protection Agency (E.P.A.) relating to the application, removal, disposal and treatment of asbestos:
 - 1. United States Environmental Protection Agency Regulations for Asbestos (C.F.R., Title 40, Part 61, Subparts A and M. National Emissions Standards for Hazardous Air Pollutants (N.E.S.H.A.P.S.).
 - 2. United States Department of Labor (D.O.L.), Occupational Safety and Health Administration (OSHA) Asbestos Regulations (C.F.R., Title 29, Part Section 1910 and 1926).
 - 3. American National Standard Practices for Respiratory Protection (A.N.S.I.) Z88.2-1980.
 - 4. New Jersey Administrative Code
 - 5. Any other applicable Federal, State, County or Local rules or regulations.
- B. Furnish proof that all workers on the job (supervisors and asbestos workers) have been given medical examinations within the past year as required by OSHA regulations, 29 C.F.R.

1926.1101. **As a minimum**, the examination should include a chest X-ray interpreted by a B-reader, a medical history with specific reference to respiratory disease and pulmonary function tests.

- C. The Contractor shall submit a report to the Owner upon completion of the removal project. The report shall contain:
1. All Daily Logs
 2. Operational Data
 3. Summary of all daily OSHA compliance test results
 4. Any updated medical reports
 5. Proof those employees were notified if exposure levels exceeded current standards.
 6. Documented proof (receipts) that all asbestos materials have been properly disposed of in a legal, regulated landfill.

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION – REFER TO TTI ENVIRONMENTAL ASBESTOS FLOOR TILE AND MASTIC ABATEMENT AND MOLD REMEDIATION WORK PLAN.

END OF SECTION 02071



TTI ENVIRONMENTAL, INC
Consulting & Contracting

1253 North Church Street, Moorestown, NJ 08057
www.ttienv.com o 856-840-8800 f 856-840-8815

Project:

Technical Specification
Non Subchapter 8
Wet, Wrap & Cut and Non-Friable
Abatement Procedures

Within the

**Vineland Veterans Memorial Home
Storage Building**

524 Northwest Boulevard
Vineland, New Jersey 08360

TTI Project Number:

20-1451

Owner:

New Jersey Department of Military Affairs
101 Eggerts Crossing Road
Lawrenceville, New Jersey 08648

Environmental
Project
Consultant:

TTI Environmental, Inc.
1253 North Church Street
Moorestown, New Jersey 08057

Date of
Issuance of
Document:

November 18, 2021

Asbestos Abatement Section

1.0 **ASBESTOS ABATEMENT SCOPE OF WORK – (Vineland Veterans Memorial Home - Storage Building)**

The following asbestos-containing materials are known to be present in the building. If other materials are found which are suspected of containing asbestos, notify the Project Manager immediately.

<u>Item</u>	<u>Asbestos Content</u>	<u>Other Component</u>
Pipe/ Fitting Insulation Associated with Fiberglass	40% Chrysotile 6% Amosite	Binders Binders
Ceiling Tile 2'X2' (Cementitious)	12% Chrysotile	Binders
AHU Gasket Material (Caulk/Puddy)	8% Chrysotile	Binders

1.1 **The Contractor Shall:**

- a. Prior to commencement of any work, perform a complete inspection of the work area and issue in writing, a complete report of the existence of any damages to the "Project Managers" upon the date of the contract origin. The Asbestos Abatement Contractor shall be responsible for all damages not identified in his/her initial report.
- b. Prior to any work, disable the ventilating systems or any other system bringing air into or out of the work area by a lockable switch, or other positive means, that shall prevent accidental premature restarting of equipment.
- c. As part of the abatement work, remove and dispose of the asbestos-containing materials from the following areas:

Wet, Wrap & Cut Asbestos Abatement Work Area		
Location	Asbestos Containing Materials	Estimated Quantities
First Floor Main Kitchen/Storage Area and	Pipe Fitting Insulation associated with Fiberglass Pipe Insulation	450 Each
First Floor Air Handler Room		20 Each
Basement Boiler Room		30 Each

Non-Friable Ceiling Tile (Cementitious) Abatement Work Area		
Location	Asbestos Containing Materials	Estimated Quantities
First Floor Room 206B	Ceiling Tile 2'X2' (Cementitious)	275 Square Feet

Asbestos Abatement Section

Non-Friable AHU Gasket and Wall Vent Caulking Abatement Work Areas		
Location	Asbestos Containing Materials	Estimated Quantities
First Floor Air Handler Room	AHU Gasket Material' (Caulk/Puddy)	250 Linear Feet
Room 205/Kitchen	Caulking Associated with Wall Vents	150 Linear Feet

- d. Prior to the commencement of work, the contractor shall review the existing hazardous materials survey report to familiarize themselves with the various asbestos containing materials located throughout the building. If a suspect material is identified that was not previously assessed and sampled, then that material shall be assumed to be asbestos containing until further testing confirms otherwise. The appropriate number of bulk samples shall be collected of the previously unidentified materials and analyzed at a certified laboratory. Once the suspicious materials contents have been confirmed, a decision can be determined of how to proceed. If the material is determined to be Non-Asbestos, then the renovation/demolition activities may resume as planned. If the material is determined to be asbestos containing, then a certified and licensed asbestos abatement contractor must be retained to properly handle and dispose of the material according to all applicable local, state and federal regulations.
- e. The Contractor shall, before submitting his/her proposal, be held responsible to have examined the premises to have satisfied himself/herself as to the existing conditions of the premises and limitations under which the work shall have to be executed. No allowances shall subsequently be made on behalf of the Contractor by reason of any error or neglect on his/her part for having failed to follow the instruction here given.
- f. Any plans, reports, written instructions, or verbal instructions are for reference purposes only. The Contractor shall verify for himself/herself the total extent of the project. It is the Contractor's responsibility to review the written specification in conjunction with the Contract Drawings. No subsequent extras or compensation shall be provided due to failure of the Contractor to evaluate the total extent of the project or for errors or omissions in this specification.
- g. When submitting the proposal, the Contractor shall give written notice to the Owner of any item(s) in violation of laws, ordinances, rules or the regulations of all authorities having jurisdiction, and notice of any necessary items omitted. If no such notice is received, it shall be assumed that the Contractor has included cost of all items in his/her proposal, and shall be responsible for satisfactory operation and approval of the work without extra compensation.
- h. Should the Contractor find any discrepancies in, or omissions from any of the documents, or be in any doubt as to their meaning, he/she shall notify

Asbestos Abatement Section

the Project Managers who shall issue all necessary clarifications by means of written correspondence and/or revised drawings. The Project Managers shall not be responsible for any oral instructions.

- i. The contractor shall submit a detailed description of work methods to be utilized while performing the wet, wrap & cut removal of the pipe fitting insulation and non-friable abatement procedures of the cementitious ceiling tile and caulk/puddy without causing asbestos contamination within the building.
- j. All asbestos work shall be performed by a New Jersey Department of Labor Licensed Asbestos Abatement Contractor. All workers shall hold a valid permit issued by the New Jersey Department of Labor. All work shall be completed within ten (10) working days to be determined.
- k. The contractor shall completely isolate each asbestos abatement work area from other parts of the building to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the work area become contaminated with asbestos-containing dust or debris as a consequence of the work, clean those areas in accordance with all applicable regulations. The contractor shall perform all such required cleaning or decontamination at no additional cost to the owner.
- l.

Wet, Wrap & Cut Abatement Procedures

- m. All specified pipe fitting insulation located within each work area shall be properly removed and disposed of as asbestos containing waste utilizing wet, wrap & cut methods. All affected pipe fitting insulation shall be wetted with amended water, carefully double wrapped with two (2) independent layers of six mil. polyethylene sheeting, and then cut free from the existing plumbing system. The building component (piping), with ACM (pipe and pipe fitting insulation), shall be properly packaged and disposed of as asbestos containing waste. The drawing included within the specification does not depict the exact locations and distribution of the pipe fitting insulation. It shall be the asbestos abatement contractor's responsibility to locate and identify all asbestos containing pipe fittings to be removed throughout the building.
- n. The maximum quantity of pipe and pipe fitting insulation to be removed via glove bag (if necessary) to expose bare pipe cut locations must not exceed 10 linear feet total. Glove bag removal quantities under 10 linear feet are not subject to NJAC 5:23-8 regulations. The regulation states that projects containing less than twenty five (25) square feet and/or ten (10) linear feet may be abated per year per project exempt of subchapter 8 regulation protocols.
- o. Prior to performing the wet, wrap & cut procedure, a local permit shall be obtained for the demolition of the existing plumbing. All affected piping must be shut down, tagged out and drained by a certified licensed plumbing professional. This method of asbestos abatement is considered non-friable and therefore is not subject to NJAC 5:23-8 regulations.

Asbestos Abatement Section

Non-Friable 2'X2' Ceiling Tile (Cementitious) Abatement Procedures

- p. The contractor shall be responsible for the removal and disposal of all specified 2'X2' Ceiling Tile (Cementitious) located within room 206B on the first floor utilizing non-friable and non-mechanical abatement methods.
- q. Non friable abatement procedures shall be administered by carefully lifting and removing each tile from the exiting suspended ceiling tile grid. Work shall proceed removing each ceiling tile whole, in one piece, without breakage utilizing hand pressure. Each panel shall be continuously wetted with an airless sprayer with precautions taken to avoid over wetting of the materials. The contractor shall carefully lower each individual ceiling tile to the floor, encapsulate, then wrap with ceiling tiles with two (2) layers of six (6) mil. poly sheeting. A generation label shall be attached to each double wrapped ceiling tile prior to insertion into the waste dumpster for disposal.

Non-Friable AHU Gasket (Caulk/Puddy) and Wall Vent Caulk Abatement Procedures

- r. The contractor shall be responsible for the removal and disposal of all specified interior AHU Gasket caulking/puddy material that is associated with existing air handling unit located within the first floor AHU room. The removal methods shall be accomplished utilizing non-friable and non-mechanical abatement methods.
- s. The entire air handling unit and associated ductwork shall be completely dismantled and disconnected from the ductwork supplying the adjacent areas of the building. Critical barriers shall be installed on the remaining exposed ductwork openings at each AHU/duct separation location. This is required to eliminate the possibility of asbestos fibers from migrating to areas outside of the air handler room. Once the AHU structure and associated ductwork has been completely demolished, each dismantled section including the attached gasket material, shall be carefully placed on poly sheeting located on the floor below. Each dismantled section shall be encapsulated, double wrapped in six (6) mil. poly sheeting and properly labeled for disposal.
- t. All wall vents located on each wall scheduled for demolition shall be completely extracted. The extracted wall vent and associated caulking material shall be encapsulated and wrapped with two layers of six (6) mil. Poly sheeting for proper disposal. Any residual caulking material remaining on the wall opening shall be completely removed utilizing non-mechanical and non-friable methods. The exact wall vent locations are not depicted on the attached drawings and shall be confirmed by the abatement contractor once the final renovation plans are available.

General Wet, Wrap & Cut/ Non-Friable Abatement Procedures

- u. The contractor shall utilize only new or individually inspected visually clean equipment and necessary project supplies throughout this asbestos abatement project. Examples of such equipment include, but are not limited to, HEPA vacuums, air filtration devices and filters, etc. The on-site Environmental Technician shall be responsible to visually inspect all materials and equipment utilized throughout the asbestos abatement procedures.

Asbestos Abatement Section

- v. Remove all movable items within each work area.
- w. All movable items located within each work area shall be cleaned utilizing HEPA vacuum and wet-wipe methods prior to being transferred from the work area, or shall be pre cleaned and protected with two (2) layers of six (6) mil. polyethylene sheeting. Remove and dispose of as asbestos contaminated waste, all items that cannot properly or safely be decontaminated. All items requiring disposal shall be properly double bagged and/or containerized for disposal in an asbestos landfill. If there is uncertainty that an item can be completely decontaminated, than that item in question, shall be removed and disposed of as asbestos contaminated waste.
- x. Shut down and disable all ventilating systems and/or any other system bringing air into or out of the work area by lockable switch, or other positive means that shall prevent accidental premature restarting of equipment. If any of the air handling systems located within the work area cannot be shut down, then close the fire dampers and vents associated with that unit and seal them with two (2) layers of six (6) mil. polyethylene sheeting. Critical barriers consisting of two (2) layers of six (6) mil. poly sheeting shall be installed on all exposed HVAC ductwork, vents, covers, and grilles.
- y. Lock out all electrical sources running through the work area.
- z. Provide an attached personal decontamination unit consisting of a serial arrangement of connected rooms or spaces, clean room, shower room, and equipment room which shall be constructed and located in an accessible location adjacent to all work areas.
- aa. Asbestos handlers involved in the removal and constructing of the work area containment shall wear two (2) disposable suits, including gloves, hood and footwear, and necessary respiratory equipment. All street clothes shall be removed and stored in a clean room at the work site. The double layer of personal protective suits shall be used for construction of the containment and throughout the abatement procedure.
- bb. The Contractor shall install a sufficient number of HEPA filter equipped air filtration devices (AFDs) in the work area to create a negative pressure differential of at least 0.02 inches w.c. between the work area and surrounding areas, and to cause at least four (4) complete air exchanges per hour in the work area. The negative air system shall include a digital recording manometer, extra recording chart paper and a complete operation instruction booklet. The onsite supervisor shall be familiar with the complete operation of the manometer.
- cc. The Contractor shall install the AFDs as far from the decontamination chamber as possible.
- dd. The Contractor shall direct all exhaust from the AFDs to the outdoors.
- ee. Upon completion of the wet, wrap & cut and non-friable asbestos abatement procedures, all surfaces and building component within the work area containment is to be completely cleaned utilizing both HEPA

Asbestos Abatement Section

- vacuum and wet wipe methods. The fine cleaning activities shall proceed with the cleaning of the highest surface and end with the lowest surface within the work area. For example, begin the cleaning of the ceiling surfaces then proceed to the walls and finish with the floor surfaces of the work area containment.
- ff. Visual inspections of all surfaces shall be conducted by the Environmental Technician to ensure that the work area has been thoroughly cleaned. Should the Contractor fail the visible inspections, the area shall be re-cleaned.
 - gg. All existing fire alarm systems, other protective signaling system, sprinkler systems, standpipe systems, and other extinguishing systems shall remain operative during abatement procedures.
 - hh. All emergency doors shall not be obstructed, locked, bolted, or otherwise fastened by any means which could prevent the door from being opened from the inside by the use of an ordinary latch or knob or by pressure of the door or panic release button.
- 1.2** All asbestos wet, wrap & cut and non-friable asbestos abatement activities within the building shall be performed in accordance with the guidelines and regulations of the responsible state agencies: Occupational Safety and Health Administration (OSHA), New Jersey Department of Health (DOH), New Jersey Department of Labor (DOL) and the New Jersey Department of Environmental Protection (DEP).
- 1.3** Assume full responsibility and liability for the compliance with all applicable Federal, State, and Local regulations pertaining to work practices, hauling, and disposal. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and Local regulations. The Contractor shall hold the Owner and the Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself/herself, his/her employees, or his/her subcontractors.
- 1.4** Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (as if copied directly into the contract documents, or as if published copies are bound herewith).
- 1.5** Strictly adhere to all precautions necessary for the safety and health of the work person in accordance with provisions of OSHA Standards, 26 Code of Federal Registers C.F.R., Part 1926.1101 Construction Standards, and Section 1910.1001, Industry Standards.
- 1.6** Properly contain, transport, and dispose of all contaminated wastes and materials at a site approved for asbestos disposal. The dumpster may be stored on-site as per the Building Owner/Owner's Representative. If one is utilized, the dumpster shall be completely enclosed and locked.
- 1.7** Affidavit of insurance in force to include complete operative and products liability for asbestos removal. The amount of coverage shall be \$1,000,000.00.
- 1.8** Clean, dismantle, remove, and replace all items and equipment which should be

Asbestos Abatement Section

moved prior to asbestos cleanup.

- 1.9** Dismount all fire, electrical, and mechanical fixtures and appurtenances required for proper execution of this contract. A licensed electrician is required and shall be trained on use of a respirator and handling asbestos materials.
- 1.10** Required pre-decontamination documentation shall include **all** of the following:
- a.** Furnish documentation that the firm and its employees are familiar with the following regulations of the United States Department of Labor (D.O.L.), Occupational Safety and Health Administration (OSHA) and the United States Environmental Protection Agency (E.P.A.) relating to the application, removal, disposal and treatment of asbestos:
 - 1. United States Environmental Protection Agency Regulations for Asbestos (C.F.R., Title 40, Part 61, Subparts A and M. National Emissions Standards for Hazardous Air Pollutants (N.E.S.H.A.P.S.).
 - 2. United States Department of Labor (D.O.L.), Occupational Safety and Health Administration (OSHA) Asbestos Regulations (C.F.R., Title 29, Part Section 1910 and 1926).
 - 3. American National Standard Practices for Respiratory Protection (A.N.S.I.) Z88.2-1980.
 - 4. Any other applicable Federal, State, County or Local rules or regulations.
 - b.** Furnish proof that all workers on the job (supervisors and asbestos workers) have been given medical examinations within the past year as required by OSHA regulations, 29 C.F.R. 1926.1101. **As a minimum**, the examination should include a chest X-ray interpreted by a B-reader, a medical history with specific reference to respiratory disease and pulmonary function tests.
- 1.11** The Contractor shall notify the proper agencies in writing prior to the start of an asbestos removal project.
- 1.12** Documentation to be available at the job site shall include:
- a.** A sign in black letters greater than four inches (4") in height stating the following:

"LICENSED BY THE STATE OF NEW JERSEY FOR ASBESTOS WORK"

The sign shall be readily visible to the outdoors at the work site.

- b.** An official copy of the Contractor's license obtained from the New Jersey Department of Labor.
- c.** List of emergency telephone numbers to include: the monitoring firm employed by the Building Owner, E.P.A., O.S.H.A., D.O.H., D.C.A., fire, police, local hospital, and emergency squad.
- d.** The Contractor shall establish work area emergency procedures and shall have such a plan posted in view. In case of an emergency, decontamination procedures shall not impede emergency procedures.

Asbestos Abatement Section

- e. List of personnel including all new employees.
- 1.13 The Owner, Owner's Representatives, Project Manager, and the representatives of agencies having lawful jurisdiction shall at all times have access to the work area whether work is in preparation or progress.
- 1.14 Throughout the removal and cleaning operations, monitoring for airborne asbestos fibers shall be conducted to ensure that the Contractor is complying with all codes, regulations, ordinances, and requirements of this specification.
- 1.15 Listed below are materials, equipment, and tools generally used in asbestos removal operations. It is not inferred, however, that all materials listed are necessarily required in every asbestos removal project and, in some instances, materials required to complete the work may not be listed.
- a. **Protective clothing:** Shall be fire retardant manufactured of "Tyvek" by DuPont (or approved equal) consist of disposable full body coveralls, head-covers, and boots as required by the most stringent OSHA standards applicable to the work.
 - b. **Plastic Film:** All plastic film used on this project shall be fire retardant. Provide a minimum, clear six (6) mil. in thickness polyethylene. The plastic sheeting shall be taped securely in place or stapled or fastened by spray-on adhesives, glue beads, horizontal wood battens, or the equivalent. Where work procedures are in view to the public, black or opaque six (6) mil. polyethylene shall be utilized.
 - c. **Adhesives:** Tape shall be high quality tape (Asbestostape, duct tape, or approved equal) in 2" or 3" widths with an adhesive formulated to aggressively stick.
 - d. **Disposal bags** shall be six (6) mil. polyethylene bags of a sufficient size for the application. The bags shall be printed with letters of sufficient size and contrast to be readily visible and legible. Each bag shall contain the U.S. DOT Class 9 (miscellaneous) hazardous material label. The label shall state as a minimum:

DANGER
Contains Asbestos Fibers
Avoid Creating Dust
Cancer and Lung Disease Hazard
Avoid Breathing Airborne Asbestos Fibers
and
Asbestos NA 2212, RQ

- e. **Signs:** Provide caution signs (14" x 20") red background, lettered in black. It shall be displayed at all routes of access and all visual and physical barriers as follows as a minimum:

Asbestos Abatement Section

LEGEND

Danger

Asbestos

Cancer and Lung
Disease Hazard

Authorized Personnel Only

Respirators and Protective
Clothing are Required in
this Area

The sign shall meet OSHA Standards 29 C.F.R. 1926.1101.

NOTATION

1" Sans Serif
Gothic or Block

1" Sans Serif
Gothic or Block

3/4" Sans Serif
Gothic or Block

1/2" Gothic

1/4" Gothic

It is the Contractor's responsibility to verify the detailed requirements of all codes, standards, and regulations to verify that the items procured for use in this work meet or exceed the specified requirements.

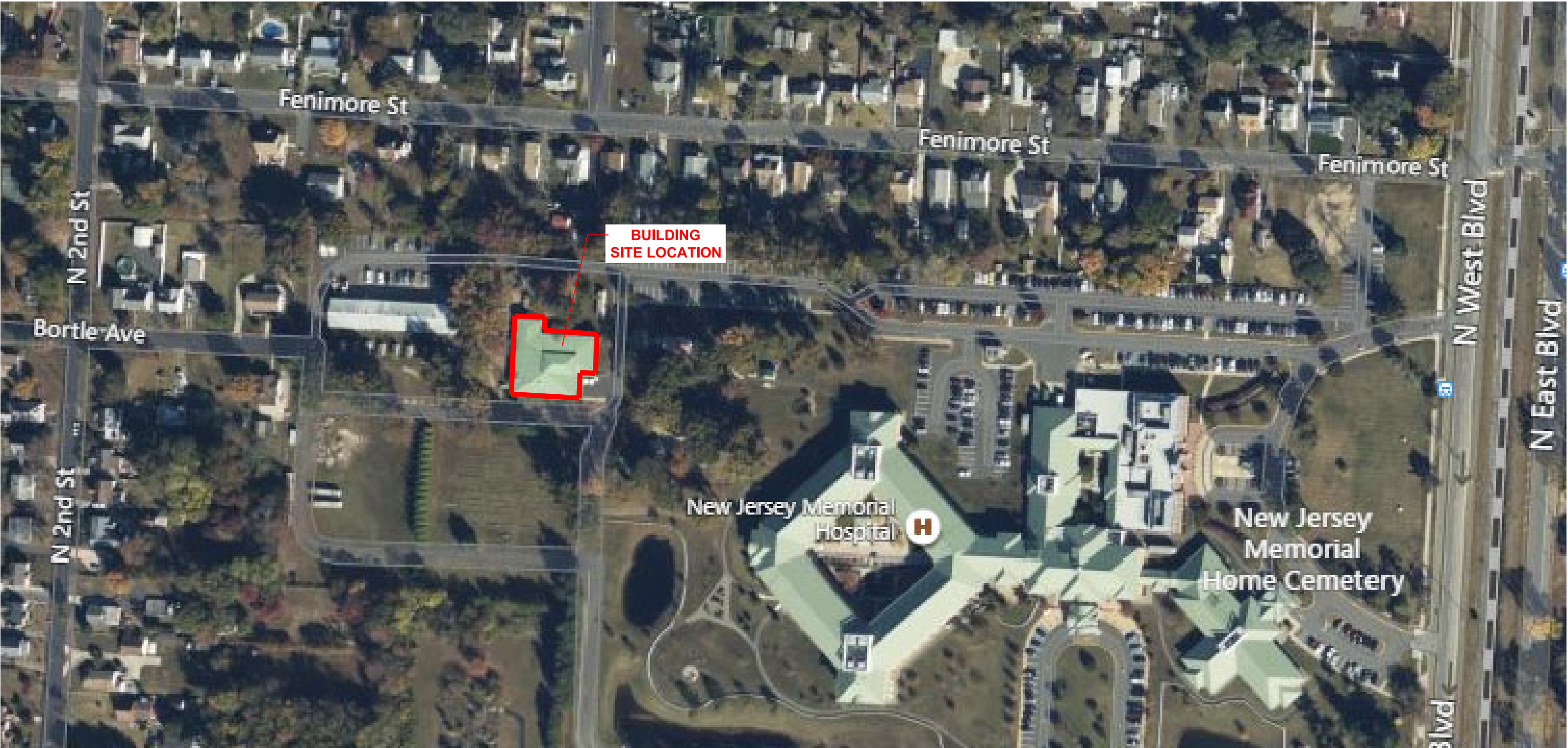
- 1.16** Supply the required number of asbestos air filtration units in each work area to provide a fully operational negative air system which maintains a negative pressure of 0.02 inches of water column (WC).
- 1.17** **New Jersey Post-Removal Sampling (Wet, Wrap & Cut/ Non-Friable Work Areas).** The release criteria shall be ≤ 70 s/mm² by the average concentration of asbestos of five (5) air samples collected within each affected work area and analyzed by the Transmission Electron Microscopy (TEM) Method.
- a. Five clearance samples shall be collected within each work area of this project.
- 1.18** If the post-removal air tests or final inspections fail to meet the evaluation criteria, the Contractor shall be liable for the cost of additional air tests and inspections conducted by the asbestos safety technician to verify compliance.
- 1.19** Asbestos abatement work is complete upon meeting the work area clearance criteria and fulfilling the following:
- a. Remove all equipment, materials, and debris from the work site.
- b. Dispose of all asbestos-containing waste material.
- c. Repair or replace all interior finishes damaged during the course of the asbestos abatement.
- d. Fulfill project closeout requirements.
- 1.20** The Contractor shall submit a report to the Owner upon completion of the removal project. The report shall contain:
- a. All Daily Logs
- b. Operational Data
- c. Summary of all daily OSHA compliance test results
- d. Any updated medical reports
- e. Proof that all employees were notified if exposure levels exceeded current

Asbestos Abatement Section

- standards.
- f. Documented proof (receipts) that all asbestos materials have been properly disposed of in a legal, regulated landfill.

1.21 Request for payment shall be withheld if all reports are not complete.

1.22 The report shall be signed by an authorized representative of the Contractor.



SITE OVERVIEW



1253 North Church Street
Moorestown, NJ 08057
(856) 840-8800
(856) 840-8815 Fax
www.ttienv.com

DRAWING TITLE:

ASB 1.0: SITE OVERVIEW

PROJECT LOCATION:


VVMH - STORAGE A1257-07
524 Northwest Boulevard, Vineland, NJ

DATE: 11/18/21
TTI PROJECT NO: 20-1451
DRAWN BY: DC
INSPECTION DATES:
FILE:


SCALE: NTS
INSPECTOR:
REVIEWED BY: MS

NOTES:


LEGEND




WORK AREA LOCATION



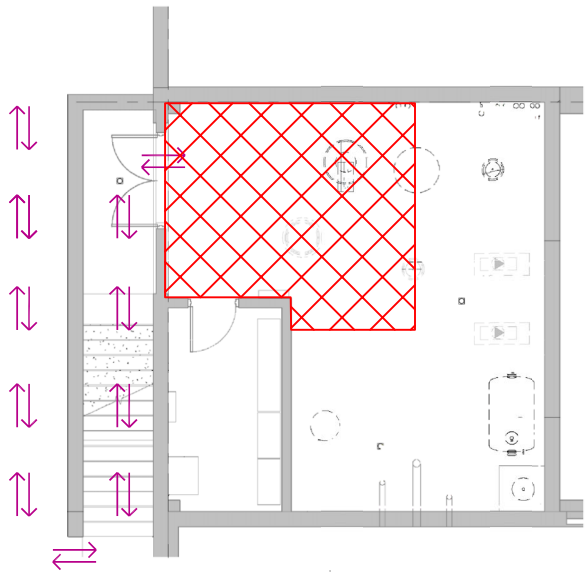
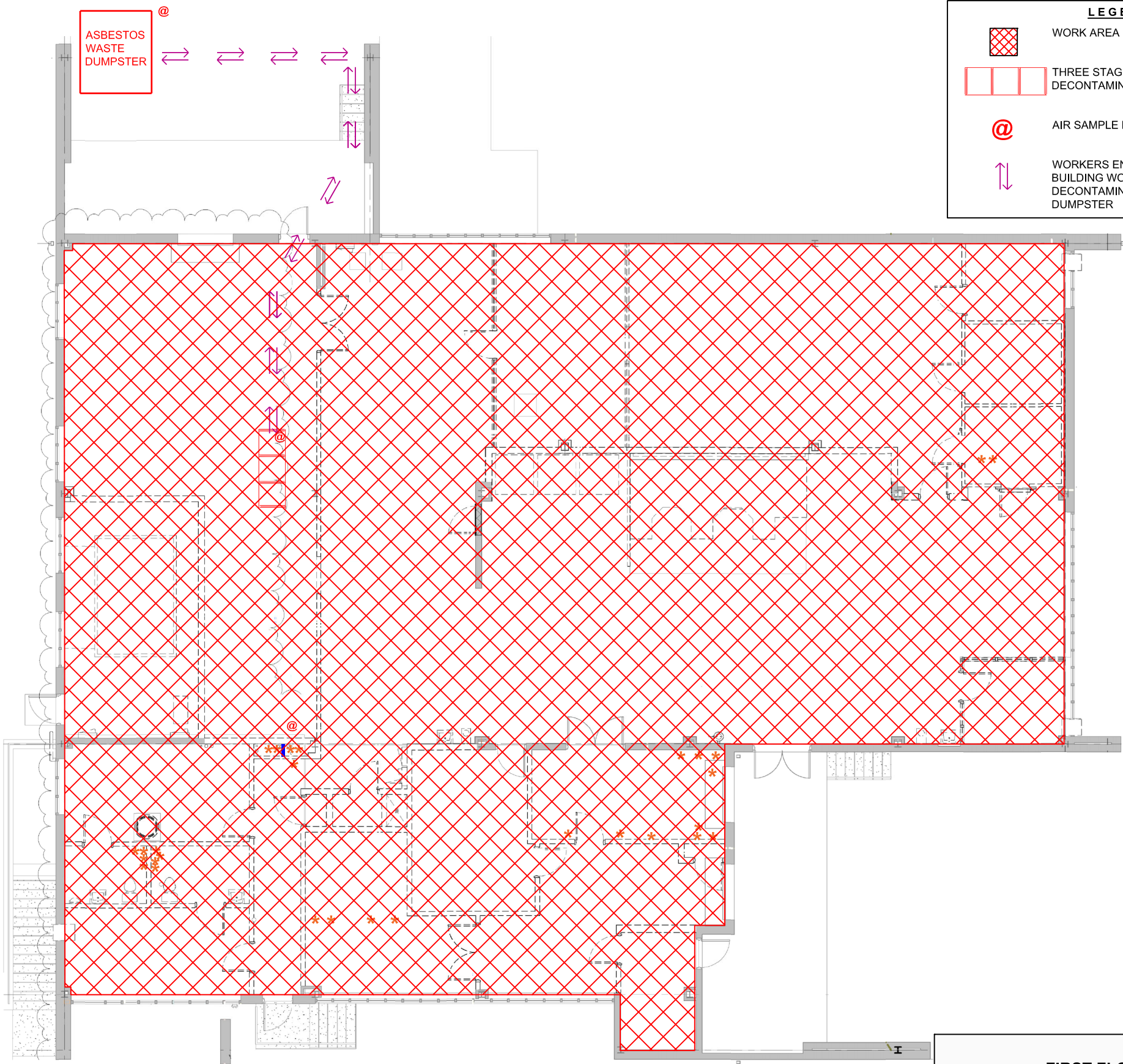
THREE STAGE DECONTAMINATION UNIT



AIR SAMPLE LOCATION



WORKERS ENTRANCE & EXIT TO BUILDING WORK AREA, THREE STAGE DECONTAMINATION UNIT AND WASTE DUMPSTER



**BASEMENT
WORK AREA OVERVIEW**

**FIRST FLOOR
WORK AREA OVERVIEW**



1253 North Church Street
Moorestown, NJ 08057
(856) 840-8800
(856) 840-8815 Fax
www.ttienv.com

DRAWING TITLE:
ASB 2.0: WORK AREA OVERVIEW

PROJECT LOCATION:
VVMH - STORAGE A1257-07
524 Northwest Boulevard, Vineland, NJ

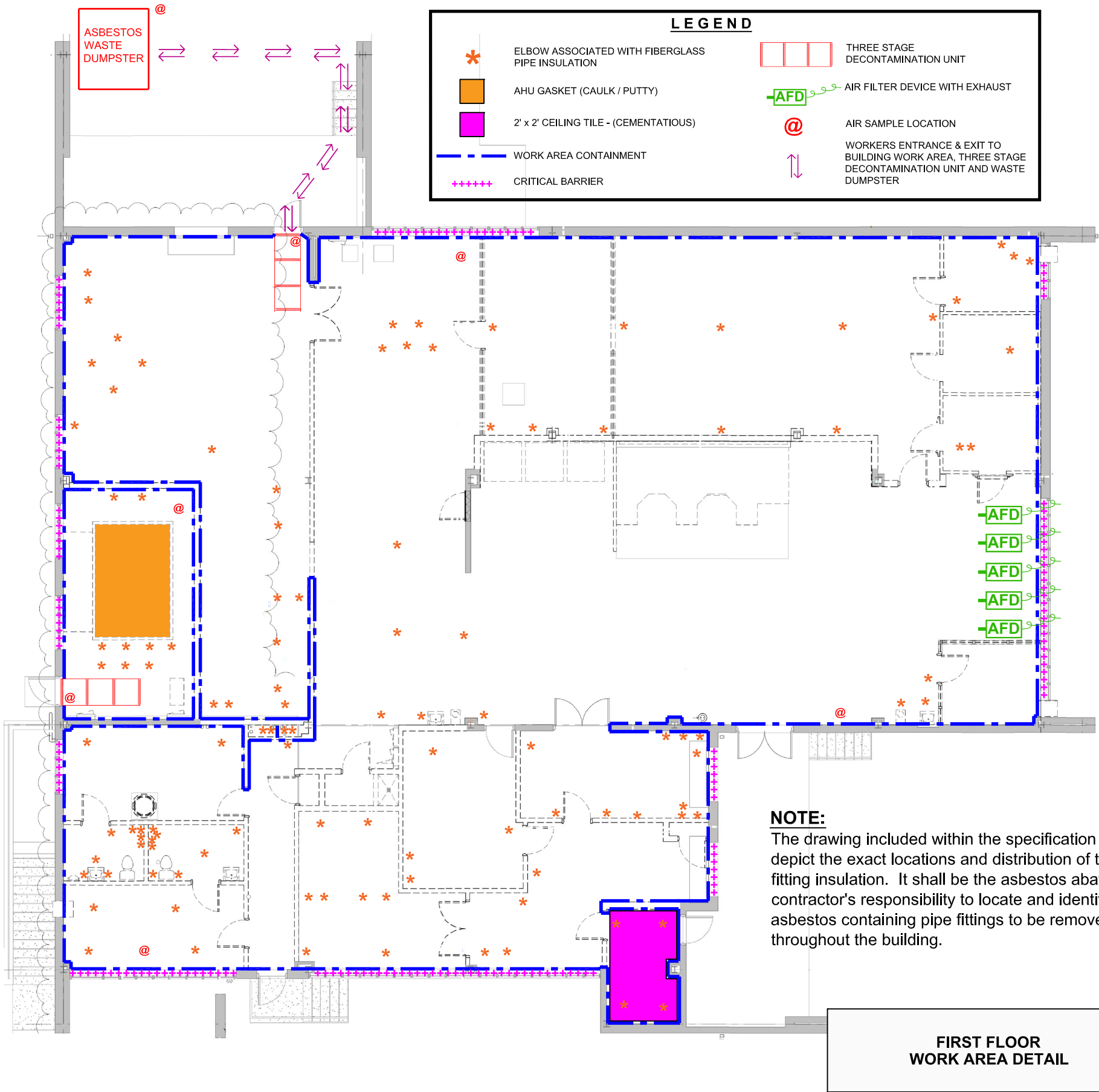
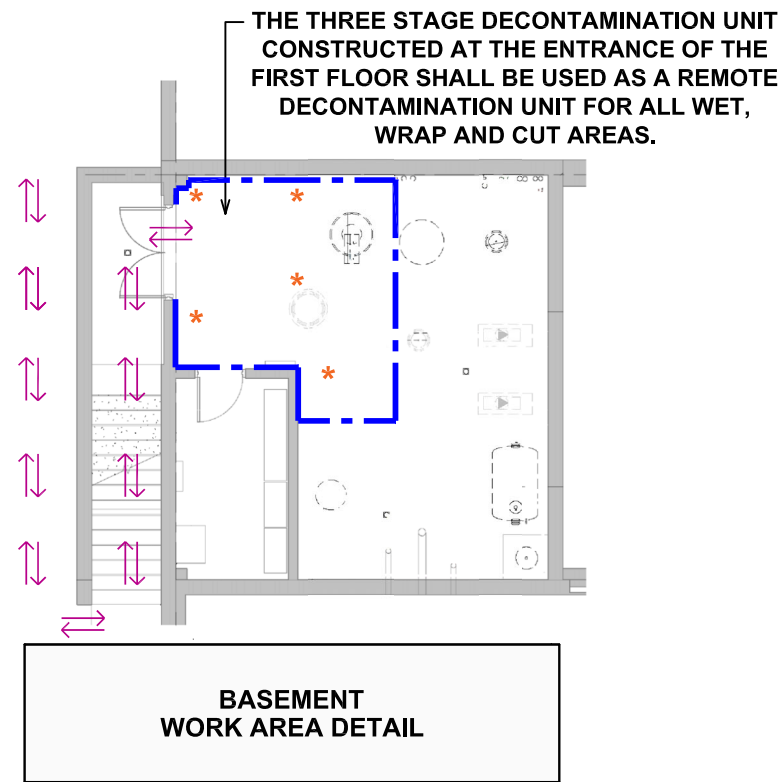
DATE:	11/18/21	SCALE:	NTS
TTI PROJECT NO:	20-1451	INSPECTOR:	
DRAWN BY:	DC	REVIEWED BY:	MS
INSPECTION DATES:			
FILE:			

NOTES:

Wet, Wrap & Cut Asbestos Abatement Work Area		
Location	Asbestos Containing Materials	Estimated Quantities
First Floor Main Kitchen/Storage Area and First Floor Air Handler Room	Pipe Fitting Insulation associated with Fiberglass	450 Each
Basement Boiler Room	Pipe Insulation	20 Each
		30 Each

Non-Friable Ceiling Tile (Cementitious) Abatement Work Area		
Location	Asbestos Containing Materials	Estimated Quantities
First Floor Room 206B	Ceiling Tile 2'X2' (Cementitious)	275 Square Feet

Non-Friable AHU Gasket and Wall Vent Caulking Abatement Work Areas		
Location	Asbestos Containing Materials	Estimated Quantities
First Floor Air Handler Room	AHU Gasket Material' (Caulk/Puddy)	250 Linear Feet
Room 205/Kitchen	Caulking Associated with Wall Vents	150 Linear Feet



NOTE:
The drawing included within the specification does not depict the exact locations and distribution of the pipe fitting insulation. It shall be the asbestos abatement contractor's responsibility to locate and identify **all** asbestos containing pipe fittings to be removed throughout the building.



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DRAWING TITLE:
ASB 2.0: WORK AREA DETAIL

PROJECT LOCATION:
VVMH - STORAGE A1257-07
524 Northwest Boulevard, Vineland, NJ

DATE: 11/18/21
TTI PROJECT NO: 20-1451
DRAWN BY: RG
INSPECTION DATES:
FILE:
SCALE: NTS
INSPECTOR:
REVIEWED BY: MS

NOTES:



TTI ENVIRONMENTAL, INC
Consulting & Contracting

1253 North Church Street, Moorestown, NJ 08057
www.ttienv.com o 856-840-8800 f 856-840-8815

Project:

Technical Specification
Unoccupied New Jersey Subchapter 8
Tented Glove Bag
Abatement Procedures

Within the

**Vineland Veterans Memorial Home
Storage Building**

524 Northwest Boulevard
Vineland, New Jersey 08360

TTI Project Number:

20-1451

Owner:

New Jersey Department of Military Affairs
101 Eggerts Crossing Road
Lawrenceville, New Jersey 08648

Environmental
Project
Consultant:

TTI Environmental, Inc.
1253 North Church Street
Moorestown, New Jersey 08057

Date of
Issuance of
Document:

November 18, 2021

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1.0 **GENERAL REQUIREMENTS**

- 1.1 The specification contained herein forms but a part of all sections and of the entire project specification. The Contractor shall become thoroughly familiar with all requirements and is **bound** by all terms and conditions contained in this specification.
- 1.2 This section specifies the requirements for the removal and disposal of all specified asbestos containing pipe insulation within the Vineland Veterans Memorial Home Storage Building. Failure to execute the work in an effective manner can greatly increase the health hazard to building occupants, citizens of the community, and the Contractor's staff. In fact, it is generally accepted that an improper removal job can create a worse hazard than taking no action at all. As such, the Contractor **shall meet** all prequalification's prior to being allowed to bid this project and all precontract requirements prior to contract award. In addition, the Contractor shall be able to exhibit the complete satisfaction of all previous Building Owners on projects completed by the Contractor in the past three (3) years.
- 1.3 The Contractor shall, before submitting his/her proposal, be held responsible to have examined the premises so as to have satisfied himself/herself as to the existing conditions of the premises and limitations under which the work shall have to be executed. No allowances shall subsequently be made on behalf of the Contractor by reason of any error or neglect on his/her part for having failed to follow the instruction here given.
- 1.4 Any plans, reports, written instructions, or verbal instructions are for reference purposes only. The Contractor shall verify for himself/herself the total extent of the project. It is the Contractor's responsibility to review the written specification in conjunction with the Contract Drawings. No subsequent extras or compensation shall be provided due to failure of the Contractor to evaluate the total extent of the project or for errors or omissions in this specification.
- 1.5 When submitting the proposal, the Contractor shall give written notice to the Owner of any item in violation of laws, ordinances, rules or the regulations of all authorities having jurisdiction, and notice of any necessary items omitted. If no such notice is received, it shall be assumed that the Contractor has included cost of all items in his/her proposal, and shall be responsible for satisfactory operation and approval of the work without extra compensation.
- 1.6 Should the Contractor find any discrepancies in, or omissions from any of the documents, or be in any doubt as to their meaning, he/she shall notify the Project Managers who shall then issue all necessary clarifications by means of written correspondence or revised drawings. The Project Managers shall not be responsible for any oral instructions.
- 1.7 It is a procedural requirement that the Contractor maintains and requires prime subcontractors to complete current information on jurisdictional matters, regulation actions and pending actions as applicable to the work. Discuss new developments at appropriate project meetings at the earliest feasible dates, and record information of relevance along with the action agreed upon. The manner in which contract documents have been organized and subdivided is not intended to be an indication of jurisdictional or trade union agreements. Assign and subcontract the work and employ tradesmen and laborers in a manner which shall not unduly risk jurisdictional

disputes of a kind which could result in conflicts, delays, claims, and losses in the performance of work.

- 1.8 Work of this contract can be summarized by references to the contract. General conditions, supplementary conditions, specification sections, addenda, and modifications to the contract documents issued subsequent to the initial printing of this project manual and including but not necessarily limited to printed material referenced by any of these. It is recognized that the work of the contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions and other forces outside the contract documents.

2.0 **SCOPE OF WORK**

2.1 **Vineland Veterans Memorial Home Storage Building**

Work procedures conducted within the Vineland Veterans Memorial Home Storage Building Work Areas shall commence ten (10) days after Notice to proceed is issued and shall be completed in seven (7) working days. Workdays and hours for this project are to be determined. The contractor may have access to the facility 24 hours a day, if necessary, to complete the project on schedule. **TIME IS OF THE ESSENCE.**

The following friable asbestos-containing material is known to be present within the Vineland Veterans Memorial Home Storage Building Work Areas of the facility. If other materials are found which are suspected of containing asbestos, notify the Project Manager immediately.

<u>Item</u>	<u>Asbestos Content</u>	<u>Other Component</u>
Pipe Insulation (Mag)	8% Amosite	Binders
Tank Insulation	10% Amosite	Binders
Pipe Fitting Insulation Associated with Fiberglass	40% Chrysotile 6% Amosite	Binders Binders

The Contractor Shall:

- a. Prior to commencement of any work, make a complete inspection of the work area and issue in writing, a complete report of the existence of any damages to the "Project Manager" upon the date of the contract origin. The Contractor shall be responsible for all damages not identified in his/her initial report.
- b. Prior to any work, disable the ventilating systems or any other system bringing air into or out of the work area by lockable switch, or other positive means that shall prevent accidental premature restarting of equipment.
- c. As part of the abatement work, remove and dispose of all asbestos and non-asbestos containing materials.

Tented glove bag asbestos abatement procedures		
Location	Asbestos-containing Materials	Approximate Amounts
Basement Boiler Room	Pipe Insulation and associated Pipe Fitting Insulation	150 Linear Feet
	Tank Insulation	35 Square Feet
	Pipe Fitting Insulation Associated with Fiberglass Pipe Insulation	45 Each
First Floor Wall Cavity Adjacent to Roof Access and Storage Rooms	Pipe Insulation and associated Pipe Fitting Insulation	140 Linear Feet

- d. Schedule: The complete asbestos removal will be completed in seven (7) working days.

**Vineland Veterans Memorial Home Storage Building Work Areas-
 Unoccupied NJ Sub 8 Asbestos Abatement**

- e. The contractor shall remove and dispose of all specified asbestos containing pipe insulation and associated pipe fitting insulation as asbestos containing waste. All applicable NJAC 5:23-8 (subchapter 8) regulations shall apply for this unoccupied project. Tented glove bag removal procedures shall be utilized in conjunction with negative air maintained at -0.02 inches of W.C. At the completion of the abatement activities within the tented containment, one set of five (5) aggressive TEM final clearance samples shall be collected within each work area and be analyzed by a licensed and certified laboratory. The work areas shall be prepped as outline in NJAC 5:23-8.17 and Section 16.0 of this specification. Minimal demolition activities are to be performed by the Abatement Contractor to expose the concealed pipe insulation within the wall cavity adjacent to the roof access hatch. Extreme precautions shall be taken to not negatively impact the pipe insulation during the demolition process. The demolition of the wall shall not commence until the tented containment has been constructed and negative air has been established.
- f. The contractor shall provide a fully operational negative air system which maintains a negative pressure of **-0.02 inches of water column (WC) at the decontamination unit and interior make-up air locations** as required for unoccupied abatement tented glove bag projects. The negative air system shall include a **digital recording manometer with a continuous printout**, extra recording chart paper and a complete operation instruction booklet. The onsite supervisor shall be familiar with the complete operation of the manometer.
- g. An attached three stage decontamination unit shall be constructed as outlined in Section 15.0 of the specification and is to be located within the Vineland

Veterans Memorial Home Storage Building and attached directly to the tented glove bag work area containment. All means of egress into and out of the work area shall be through the attached decontamination unit. All materials utilized in the construction of the decontamination unit and associated containment shall be fire rated in accordance with NJAC 5:23-8.

- h. The contractor shall request that the Facility Manager **deactivate the HVAC system, fire or heat detection system and electrical system** in the work area and receive confirmation of such before commencement of the scheduled work activities. All HVAC systems located in the work area shall be shut down. If HVAC equipment is located in the work area and must be operated to service other areas of the building, then the HVAC equipment shall be isolated from the remainder of the work area by an enclosure constructed in a manner similar to the separation barriers and the space between the equipment and the seal shall be **positively pressurized** with HEPA filtered air to at least .05 inches w.c. greater than the work area.
 - i. **All electrical systems in the work area shall be de-energized.** Prior to the issuance of the notice to proceed with the abatement, all electrical components within the work area containment shall be switched to the off position and/or de energized. The contractor shall creatively construct the work area containment to exclude any equipment and conduit that cannot be de energized. If an item cannot be de energized or excluded from the work area, then an application for a variation shall be submitted and approved by NJDCA. The asbestos abatement contractor shall be responsible for the \$571.00 application fee and TTI shall be responsible for the preparation, submittal and obtaining the approved variation if required.
 - j. The New Jersey Department of Military Affairs shall be responsible to provide all electric and water necessary to complete the asbestos abatement activities. The asbestos abatement contractor shall be responsible to hire a licensed electrician for the GFCI panel box connection and shall be responsible to hire a licensed plumber for any necessary plumbing connections.
- 2.2 Keep public areas such as hallways, stairs, lobbies, and toilet rooms free from accumulation of waste material, rubbish, or construction debris.
 - 2.3 Except for toilet rooms designated by the Building Owner for use by the Contractor's personnel, use of existing toilets within the building by the Contractor and his/her personnel shall not be permitted.
 - 2.4 During the entire duration of the project, maintain one (1) fire exit from the work area.
 - 2.5 Furnish all labor, supervision, materials, services, insurance, equipment, and tools necessary for the complete and proper execution of all work of this section.
 - 2.6 All asbestos removal and decontamination shall be performed in accordance with the guidelines and regulations of the responsible state agencies: New Jersey Department of Labor (NJDOLE), Occupational Safety and Health Administration (OSHA), New Jersey Department of Health (NJDOH), and the New Jersey

Department of Environmental Protection (NJDEP).

- 2.7 Applicable standards listed in these specifications include but are not limited to standards promulgated by the following agencies and organizations. In all cases, this specification shall take precedence where it meets or exceeds any Federal, State, or Local regulations.
1. A.N.S.I. American National Standards Institute
1430 Broadway
New York, New York 10018
 2. A.S.T.M. American Society for Testing & Materials
100 Barr Harbor Drive
West Conshohocken, Pennsylvania 428
 3. B.O.C.A. Building Officials and Code Administrator International
4051 West Flossmoor Road
Country Club Hills, Illinois 60477
 4. E.P.A. Environmental Protection Agency Region 2
290 Broadway
New York, NY 10007
 5. N.B.S. National Bureau of Standards
Quince Orchard Boulevard
Gaithersburg, Maryland 20878
 6. N.F.P.A. National Fire Protection Association
Batterymarch Park
Quincy, Massachusetts 02269
 7. N.I.O.S.H. National Institute for Occupational
Region 2, 26 Federal Plaza
New York, New York 10007
 8. O.S.H.A. Occupational Safety and Health Administration
New York Regional Office
1515 Broadway (Astor Plaza)
New York, New York 10036
 9. U.L. Underwriters Laboratories
333 Pfingsten Road
Northbrook, Illinois 60062
 10. N.J.D.O.L. Department of Labor
1 John finch Plaza 3rd fl
PO Box 949
Trenton, New Jersey, 08625
 11. N.J.D.O.H. New Jersey Department of Health
Asbestos Control Project
CN 360
Trenton, New Jersey 08625-0360
- 2.8 Assume full responsibility and liability for the compliance with all applicable Federal, State, and Local regulations pertaining to work practices, hauling, and disposal. The

Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and Local regulations. The Contractor shall hold the Owner and the Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of himself/herself, his/her employees, or his/her subcontractors.

- 2.9 Except to the extent that more explicit or more stringent requirements are written directly into the contract documents, all applicable codes, regulations, and standards have the same force and effect (as if copied directly into the contract documents, or as if published copies are bound herewith).
- 2.10 Strictly adhere to all precautions necessary for the safety and health of the work person in accordance with provisions of OSHA Standards, 26 Code of Federal Registers C.F.R., Part 1926.1101 Constructions Standards, and Section 1910.1001, Industry Standards.
- 2.11 Limit use of the premises to the work indicated.
- 2.12 Keep existing driveways and entrances serving the premises clear and available to the Owner and employees at all times. Do not use these for parking or storage of materials.
- 2.13 Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to approve (by the Building Owner/Owner's Representative) areas.
- 2.14 Lock automotive-type vehicles, such as passenger cars, trucks, and other mechanized or motorized construction equipment, when parked and unattended so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or the ignition key in place.
- 2.15 Maintain the existing building in a safe and weather-tight condition throughout the construction period. Repair all damage caused by abatement/demolition operations. Take all necessary precautions to protect the building.
- 2.16 Properly contain, transport, and dispose of all contaminated wastes and materials at a site approved for asbestos disposal. The dumpster may be stored on-site as per the Building Owner/Owner's Representative. The dumpster shall be completely enclosed and locked.
- 2.17 Affidavit of insurance in force to include complete operative and products liability for asbestos removal. The amount of coverage shall be \$1,000,000.00.
- 2.18 Furnish, install, and maintain for the duration of the project all precautions necessary for the safety, health, and welfare of the work person and building occupants.
- 2.19 Furnish, install, and maintain for the duration of the project all methods and systems necessary to prevent the escape of airborne asbestos fibers to adjacent areas of the

building.

- 2.20 Clean, dismantle, remove, and replace all items and equipment which should be moved prior to asbestos cleanup.
- 2.21 Dismount all fire, electrical, and mechanical fixtures and appurtenances required for proper execution of this contract. A licensed electrician is required and shall be trained on use of a respirator and handling asbestos materials.
- 2.22 Complete all aspects of the removal as rapidly as progress of the work shall permit. There shall be no exceptions **"TIME IS OF THE ESSENCE."**
- 2.23 In the event of the failure of the Contractor to complete the said work within the time stated (7 working days), the Contractor shall be liable to the Owner for the sum of one thousand dollars (\$1,000.00) per day, for each and every day that the said work shall be and remain incomplete, which said sum shall be treated as liquidated damages, and not a penalty, for the loss to the Owner of the use of premises, in a completed state of construction, alteration, or repair as the case may be, and for added administrative and inspection costs to the Owner on account of the delay; provided however, that the said liquidated damages provided for herein shall be in addition to other consequential losses or damages that the Owner may incur by reason of such delay, such as, but not limited to, added costs of the project, if any. Any sums for which the Contractor is liable may be deducted by the Owner from any monies due to the Contractor.
- 2.24 If the said Contractor shall neglect, fail, or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree as a part consideration for the awarding of this contract, to pay to the Owner the amount specified in (Paragraph 2.23) above, not as a penalty but as liquidated damages for such breach of contract as hereinafter set forth for each and every calendar day that the Contractor shall be in default after the time stipulated in the contract for completing the work. Provided that if the Contractor is delayed in completion of the work by an act, omission or neglect of the owner, Architect/Engineer or of any other Contractor employed by the Owner, or by any other cause beyond the control and without the fault or negligence of the Contractor, including but not limited to, changes ordered in the work, strikes, fires, floods, lockouts, unusual delays by common carriers, quarantine restrictions, severe weather or any other cause which the Owner shall decide justifies the delay, then the Contractor shall not be charged with liquidated damages for the period of time limitations stated in the contract documents for each and every day of such delay so caused in the completion of the work, the same to be reasonably ascertained solely by the Owner.
- 2.25 No such extensions of time shall be made for any delays unless within five (5) days after the beginning of such delays a written request for additional time shall be filed with the Owner. In case of a continuing cause of delay, only one (1) request is necessary.

3.0 **PRE-ABATEMENT DOCUMENTATION**

3.1 Required pre-abatement documentation shall include **all** of the following:

- a. Furnish documentation that the firm and its employees are familiar with the following regulations of the United States Department of Labor (D.O.L.), Occupational Safety and Health Administration (OSHA) and the United States Environmental Protection Agency (E.P.A.) relating to the application, removal, disposal and treatment of asbestos:
 1. United States Environmental Protection Agency Regulations for Asbestos (C.F.R., Title 40, Part 61, Subparts A and M. National Emissions Standards for Hazardous Air Pollutants (N.E.S.H.A.P.S.).
 2. United States Department of Labor (D.O.L.), Occupational Safety and Health Administration (OSHA) Asbestos Regulations (C.F.R., Title 29, Part Section 1910 and 1926).
 3. American National Standard Practices for Respiratory Protection (A.N.S.I.) Z88.2-1980.
 4. Any other applicable Federal, State, County or Local rules or regulations.
- b. Furnish proof that employees have had instruction on the dangers of asbestos, respirator use, proper fit and testing of approved respirators and decontamination. This shall be in the form of certificates or letters from the firm, agency or association which conducted the training course and a syllabus of the session. The training courses are to include instruction in the following: applicable regulations, work area isolation, worker protection, the selection, use and maintenance of respirators, proper asbestos abatement techniques for proper decontamination procedures, proper personal decontamination, emergency procedures, etc.
- c. Documentation (New Jersey Department of Labor (N.J.D.O.L.) issued Asbestos Work Permits) that all workers on the job (supervisors and asbestos workers) have completed a training program for asbestos removal endorsed or conducted by the D.C.A.
- d. Furnish proof that all workers on the job (supervisors and asbestos workers) have been given medical examinations within the past year as required by OSHA regulations, 29 C.F.R. 1926.1101. **As a minimum**, the examination should include a chest X-ray interpreted by a B-reader, a medical history with specific reference to respiratory disease and pulmonary function tests.
- e. One copy each of the regulations cited in **Section 3.3a** shall be available in the Contractor's business office and one copy of each shall be maintained in view at the job site.
- f. A detailed work schedule including project phasing, progress charts, scheduled dates for each function or phase, and completion dates for each phase. A Critical Path Method (C.P.M.) or detailed progress charts (GANT Charts) are acceptable formats. These also include contingency plans for putting the project back on schedule if problems occur.

- g.** A description of the plans for construction of the decontamination enclosure system and for isolation of the work areas in compliance with the specification and applicable regulations.
- h.** A detailed description of the proposed work including, but not limited to:

 - 1. A plan for the preparation of the work site.
 - 2. Description of the protective clothing and approved respirators to be used.
 - 3. Delineation of the responsibility of work site isolation.

4.0 NOTIFICATIONS

- 4.1** The Contractor shall notify the following agencies in writing prior to the start of an asbestos removal project. The written notice shall include the following: a copy of the completed application for a construction permit for asbestos abatement, a copy of the permit if the administrative authority is a municipal enforcing agency and not the department.

- | | |
|--|---------------------------------------|
| <p>a. United States Environmental
Protection Agency
Air and Hazardous Materials
Division
26 Federal Plaza
New York, New York 10007
(212) 264-7307</p> | <p>Ten (10) Days
Notification</p> |
|--|---------------------------------------|

- 4.2 This notification shall include the following information:**

- a.** Name and address of Contractor.
- b.** Address and description of the building, including size, age, and prior use of the building or area, the amount of friable asbestos material present (square feet). Designated room numbers or other location information unless entire building is involved.
- c.** Scheduled starting and completion dates for removal.
- d.** Procedures and equipment (including ventilation systems) that shall be employed to comply with the C.F.R., Title 40, Part 61 of the United States Environmental Protection Agency.
- e.** The name and address of the carting company and of the waste disposal site where the asbestos waste shall be deposited.
- f.** The name and address of the testing laboratory that shall perform air monitoring on behalf of the Owner, and the name and address of the testing lab that shall perform OSHA compliance air monitoring on behalf of the Contractor.

- 4.3 The Contractor shall notify the following agency in writing prior to the **removal** of asbestos from the job site and the **disposal** of asbestos waste. All asbestos waste materials destined for disposal shall be in accordance with 40 C.F.R. 61.20 -25 before it can be legally transported and disposed of.

New Jersey Department of Environmental Protection
Division of Hazardous Waste Management
Twin River Professional Building
East Windsor, New Jersey 08520

Ten (10) Days
Notification

4.4 **The notification shall include the following:**

- a. Name, address, and telephone number of the removal project.
- b. Quantity in cubic yards and type of the waste to be disposed (I.D. #27 for Asbestos).
- c. Name, address, and New Jersey Department of Environmental Protection registration number of the collector-handler.
- d. Name and address of the landfill at which disposal shall occur.
- e. Date and time of disposal.
- f. A copy of any written notification required by 40 C.F.R. 61.22 to 61.25.

5.0 PRE-ABATEMENT STATE REQUIREMENTS

- 5.1 It is unlawful to undertake a large asbestos hazard abatement job unless the **Contractor** first files an application in writing with the Administrative Authority having jurisdiction and obtains the required permit. This permit shall serve as notice for public record in the office of the administrative authority having jurisdiction. All work shall be monitored and controlled by the Asbestos Safety Control Monitor, who shall advise the administrative authority having jurisdiction of its findings (N.J.A.C. 5:23-8).
- 5.2 The application for a construction permit for asbestos abatement projects shall include the following [N.J.A.C. 5:23-8].
- a. The name, address and license number of the asbestos Contractor pursuant to N.J.A.C. 12:120 Asbestos Licenses and Permits under the jurisdiction of the New Jersey Department of Labor.
 - b. The asbestos hazard assessment prepared by the New Jersey Department of Health, County or local Health Department, or a private business entity, authorized by the New Jersey Department of Health unless the requirement for an assessment has been waived by any of the above.
 - c. The name and address of the private air monitoring firm hired by the Building Owner, who shall act as the Asbestos Safety Control Monitor. They shall be authorized by the New Jersey Department of Community Affairs and shall be

responsible for the continuous monitoring during the asbestos abatement project.

- d. The name and address of the analytical testing Lab approved by the New Jersey Department of Health.
- e. Documentation that all buildings, except as approved by the New Jersey Departments of Health, Education or Community Affairs, as appropriate, will be unoccupied at the time an asbestos abatement job takes place.
- f. The scheduled starting and completion dates for the asbestos abatement project.
- g. Plans and specifications (not less than four (4) sets) indicating the scope of the proposed work and the provisions proposed to contain the asbestos-containing material during abatement work showing, but not limited to, separation barriers, primary seal/critical barriers, route of travel of removing asbestos waste from the work site, a copy of the site plan and a floor plan indicating exits.
- h. The name and address of the New Jersey Department of Environmental Protection registered waste hauler, including the New Jersey Department of Environmental Protection Number and the New Jersey Department of Environmental Protection registered landfill, where the asbestos waste shall be deposited.

6.0 DOCUMENTATION REQUIRED AT WORK SITE

6.1 Additional documentation to be available at the job site shall include:

- a. A sign in black letters greater than four inches (4") in height stating the following:

**"LICENSED BY THE STATE OF NEW JERSEY
FOR ASBESTOS WORK"**

The sign shall be readily visible to the outdoors at the work site.

- b. An official copy of the Contractor's license obtained from the New Jersey Department of Labor.
- c. List of emergency telephone numbers to include: the monitoring firm employed by the Building Owner, E.P.A., O.S.H.A., D.O.H., D.C.A., fire, police, local hospital, and emergency squad.
- d. The Contractor shall establish work area emergency procedures and shall have such a plan posted in view. In case of an emergency, decontamination procedures shall not impede emergency procedures.
- e. List of personnel including all new employees.
- f. A daily log of all persons entering the work area, including all visitors. Non-employees of the Asbestos Contractor shall be required to sign an acceptable waiver form. The waiver form shall be approved by the Environmental Project Manager.

- g. The daily log shall include a record of start and stop times, any work area problems encountered, any corrective action, and estimated amount of asbestos waste generated.
- h. The Contractor shall be responsible for obtaining a copy of the daily monitoring logs from their air testing firms and maintaining this with the daily log at the job site.
- i. Copies of daily log forms shall be given to the Owner/Owner's Representative at the end of each week's work.

7.0 PROJECT REVIEW AND INSPECTION

- 7.1 The Owner, Owner's Representatives, Project Manager, and the representatives of agencies having lawful jurisdiction shall at all times have access to the work area whether work is in preparation or progress.
- 7.2 Throughout the removal and cleaning operations, monitoring for airborne asbestos fibers shall be conducted **(on behalf of the Owner)** to ensure that the Contractor is complying with all codes, regulations, ordinances, and requirements of this specification.
- 7.3 The AST (Owner-selected) shall take Quality Assurance (Q.A.) Samples at the job site and provide Quality Assurance Inspections at no cost to the Contractor. The Contractor, however, shall be responsible for the added costs of the Asbestos Safety Control Monitor if (cost of both the technician and additional samples) the re-occupancy testing fails the 70 structures/mm² Transmission Electron Microscopy Level, and/or if the agreed timetable for job completion is exceeded due to the Contractor's negligence (e.g. insufficient crew size, inadequate equipment/supplies, etc.). Also, the Contractor shall provide air monitoring, independent of the AST, in order to determine OSHA regulations with regard to employee exposure to airborne asbestos fibers.
- 7.4 The AST shall have the full authority to direct the procedures of the Contractor and to stop the project until work practices are corrected in order to reduce the fiber concentrations to acceptable levels as prescribed by this contract or meet the requirements of this specification.
- 7.5 The Owner reserves the right to stop all removal operations and cancel this contract if proper environmental, health, and safety precautions are not being implemented and adhered to by the Contractor and his/her personnel. If work procedures are not in compliance with this specification a "Stop Work Order" shall be issued to the Contractor by the Owner or Project Manager. No work shall recommence until authorized by the Owner/Owner's Representative. Further noncompliance of these specifications or safety regulations shall be cause for cancellation of the contract.

8.0 PROTECTIVE CLOTHING AND EQUIPMENT FOR ASBESTOS REMOVAL

- 8.1 Listed below are materials, equipment, and tools generally used in asbestos removal

operations. It is not inferred, however, that all materials listed are necessarily required in every asbestos removal project and, in some instances, materials required to complete the work may not be listed.

- a. **Protective clothing:** Shall be fire retardant manufactured of "Tyvek" by DuPont (or approved equal) consist of disposable full body coveralls, headcovers, and boots as required by the most stringent OSHA standards applicable to the work.
- b. **Plastic Film:** All plastic film used on this project shall be fire retardant. Provide a minimum, clear six (6) mil. in thickness fire rated polyethylene. The plastic sheeting shall be taped securely in place or stapled or fastened by spray-on adhesives, glue beads, horizontal wood battens, or the equivalent.
 - 1. Walls - one (1) layer of six (6) mil. polyethylene.
 - 2. Floors and Ceiling - two (2) layers of six (6) mil. polyethylene.
- c. Where work procedures are in view to the public, black or opaque six (6) mil. polyethylene shall be utilized.
- d. **Adhesives:** Tape shall be high quality tape (Asbestostape, duct tape, or approved equal) in 2" or 3" widths with an adhesive formulated to aggressively stick.
- e. **Glove Bags** of six (6) mil. thickness fitted with long sleeve gloves, a tool pouch and a two (2") inch opening used for water application.
- f. **Support Structures** constructed of Polyvinyl Chloride Pipes (P.V.C.) and/or aluminum or fire rated wood studs.
- g. **Disposal bags** shall be six (6) mil. polyethylene bags of a sufficient size for the application. The bags shall be printed with letters of sufficient size and contrast to be readily visible and legible. Each bag shall contain the U.S. DOT Class 9 (miscellaneous) hazardous material label. The label shall state as a minimum:

DANGER
Contains Asbestos Fibers
Avoid Creating Dust
Cancer and Lung Disease Hazard
Avoid Breathing Airborne Asbestos Fibers
And
Asbestos NA 2212,RQ

- h. **Signs:** Provide caution signs (14" x 20") red background, lettered in black. It shall be displayed at all entrances to work areas, all routes of access and all visual and physical barriers as follows as a minimum:

LEGEND

NOTATION

Danger	1" Sans Serif Gothic or Block
Asbestos	1" Sans Serif Gothic or Block
Cancer and Lung Disease Hazard	3/4" Sans Serif Gothic or Block
Authorized Personnel Only	1/2" Gothic
Respirators and Protective Clothing are Required in this Area	1/4" Gothic

The sign shall meet OSHA Standards 29 C.F.R. 1926.1101.

- i. At all areas of direct access to the work area (decontamination unit, etc), display signs (10" x 14") yellow background, lettered in black as follows:

LEGEND

NOTATION

No Food, Beverages or Tobacco Permitted	3/4" Block
All Persons Shall Don Protective Clothing (Coverings) Before Entering the Work Area	3/4" Block
All Persons Shall Shower Immediately After Leaving Work Area and Before Entering the Changing Area	3/4" Block

- j. Amended water or removal encapsulant shall be approved for the particular type and concentration of asbestos dealt with in each circumstance by the Project Manager.

1. **Amended Water:** Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the material which equals or surpasses the wetting resulting from the use of one (1) ounce of a surfactant consisting of fifty percent (50%) polyoxyethylene ester and fifty percent (50%) polyoxyethylene ether mixed with five (5) gallons of water.
2. **Removal Encapsulant:** Provide a penetrating- type encapsulant designed specifically for removal of asbestos-containing material. Use a material which results in wetting of the asbestos-containing

material and retardation of fiber release during disturbance of the material equal to or greater than that provided by amended water as described above.

- k. **Encapsulant:** Tinted which meets all fire and building codes (**See Section 18.0**).
- l. **Filters** of sufficient quantity and type (HEPA, etc.) for use in respirators and other equipment requiring filters.
- m. **Cleaning materials** needed to maintain the specified standard of cleanliness. Use only the cleaning materials and equipment that are compatible with the surface being cleaned.
- n. **Respirator:** Respirator protection shall be in accordance with OSHA Regulation 1926.1101 and ANSI Z88.2-1980. There shall be **NO EXCEPTIONS** to these requirements (**See Section 9.0**).
- o. **Air Filtering Equipment** capable of filtering asbestos fibers.
- p. **HEPA Vacuum:** High efficiency vacuum cleaners with special HEPA filtration to retain asbestos fibers, type "Nilfisk" #GA73 or "Pullman/Holt" #75 ASA (or approved equal). Also include a capillary tube if utilizing the Glove Bag technique.
- q. **Decontamination system** shall consist of lockers, showers with pump support, respirator storage, equipment storage, etc.
- r. **Shower Head and Controls:** Provide a factory made shower head producing a spray of water which can be adjusted for spray size and intensity. Feed shower with water mixed from hot and cold supply lines. Arrange so that control of water temperature, flow rate and shut off is from inside shower without outside aid.

- s. **Filters:** Provide cascaded filter units on drain lines from showers or any other water source carrying asbestos-contaminated elements as indicated below. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter.

Primary Filter - Pass particles 20 microns and smaller.

Secondary Filter - Pass particles 5 microns and smaller.

- t. **Shower Stall:** For Wash Down Station provide leak tight shower enclosure with integrated drain pan fabricated from fiberglass or other durable waterproof material, approximately 3' x 3' square with minimum 6' high sides and back. Structurally support as necessary for stability. Equip with hose bib, as specified in this section, mounted at approximately 4' - 0" above drain pan. Connect drain to a reservoir, pump water from reservoir through filters to a drain or store and use for amended water. Mount filters inside shower stall on back wall beneath hose bib.
- u. **Sump Pump:** Provide totally submersible, waterproof sump pump with integral float switch. Provide unit sized to pump 2 times the flow capacity of all showers or hoses supplying water to the sump, through the filters specified herein when they are loaded to the extent that replacement is required. Provide unit capable of pumping debris, sand, plaster or other materials washed off during decontamination procedures without damage to mechanism of pump..
- v. **Lumber:** Provide fire rated kiln-dried lumber of any grade or species.
- w. **Scaffold:** Provide all scaffolding and/or staging as necessary to accomplish the work of this contract (**See Section 10.0**).
- x. **Hand Tools:** Hand tools of sufficient quantity to implement the work at hand and the work schedule submitted including ancillary materials (e.g. staples, nails, wire, etc.).
- y. **Spray Equipment:** Spray equipment capable of mixing wetting agent with water and capable of generating sufficient pressure, volume, and having ample hose length to reach all areas of asbestos.

- 8.2 The Contractor shall have available sufficient inventory of these materials and equipment to accomplish the job, protect the workers, and protect all authorized visitors to each facility.
- 8.3 It is the Contractor's responsibility to verify the detailed requirements of this guideline and all codes, standards, and regulations to verify that the items procured for use in this work meet or exceed the specified requirements.

- 8.4 The Owner reserves the right to reject items incorporated into the work that fail to meet the requirements of this guideline or any applicable codes, standard or regulation.
- 8.5 The mention of any produce or manufacturer's name or equipment name does not imply endorsement by the Owner/ Owner's Representative or Project Manager.
- 8.6 "Approved equal" or "equal" shall mean as approved by the Owner/Owner's Representative or Project Manager only. They shall be the sole judge as to whether or not a substitute item is equal, and any item specified shall be submitted for approval.

9.0 **RESPIRATORY PROTECTION**

9.1 **Powered Air-Purifying Respirators**

- a. Powered air-purifying, positive pressure, full or half-face respirators shall be worn during all phases of the project. At the discretion of the AST, full or half-face, negative pressure respirators may be worn during preparation and final cleaning. If air monitoring results show that fiber counts meet or exceed an action level defined as half (1/2) the respirator use limit concentration (20 f/cc), then Type "C" respirators shall be used.
- b. Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the face piece decreases to the level at which the manufacturer recommends filter replacement. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cord to be washed each time a worker leaves the work area. Caution should be used to avoid shorting battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while one is in use.
- c. **Respirator Bodies:** Provide half-face or full-face type respirators. Equip full-face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit.
- d. **Filter Cartridges:** Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with ANSI Z228.2 (1980). In addition, a chemical cartridge section may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.

10.0 CONSTRUCTION AIDS

10.1 General

- a. Provide all scaffolding, ladders, or staging equipment, etc. as necessary to accomplish the work of this contract. Scaffolding may be of suspension type; or standing type such as metal tube and coupler, tubular welded frame, pole or outrigger type or cantilever type. The type, erection and use of all scaffolding shall comply with all applicable OSHA provisions.
- b. During the erection and/or moving of scaffolding, care shall be exercised so that the polyethylene floor covering is not damaged.
- c. The rungs of all metal ladders, etc, shall be equipped with an abrasive nonslip surface.
- d. All surfaces subject to foot traffic shall have a nonskid surface. Surfaces shall be cleaned as required to remove slippery materials.
- e. At the completion of the removal work, all construction aids shall be cleaned within the work area and wrapped in one (1) layer of six (6) mil. polyethylene sheet and sealed before removal from the work area.

11.0 NEGATIVE PRESSURE SYSTEM

11.1 General

Supply the required number of asbestos air filtration units to the site in accordance with this specification. Each unit shall include the following:

11.2 Cabinet

Constructed of steel or other durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than thirty (30) inches to fit through standardized doorways. The cabinet shall be factory sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance. Access to and replacement of all air filters shall be from the intake end. Unit shall be mounted on casters or wheels.

11.3 Fans

The fan(s) shall be rated according to usable air moving capacity under actual operating conditions. Use centrifugal-type fan(s).

11.4 HEPA Filters

The final filter shall be the HEPA type. The filter media (folded into closely pleated panels) shall be completely sealed on all edges with a structurally rigid frame.

- a. A continuous rubber gasket shall be located between the filter and the filter housing to form a tight seal.
- b. Each filter shall be individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 micron dicytphthalate (D.O.P.) particles. Testing shall be in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A. Each filter shall bear a UL586 label to indicate ability to perform under specified condition.
- c. Each filter shall be marked with the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.

11.5 Instrumentation

Each unit shall be equipped with a Magnehelic gauge or manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed. A table indicating the usable air handling capacity for various static pressure readings on the Magnehelic gauge shall be affixed near the gauge for reference, or the Magnehelic reading indicating at what point the filters should be changed, noting cubic feet per minute (C.F.M.) air delivery at that point. Provide units equipped with an elapsed-time meter to show the total accumulated hours of operation.

11.6 Safety and Warning Devices

The unit shall have an electrical (or mechanical) lockout to prevent the fan from operating without a HEPA filter. Units shall be equipped with automatic-shutdown system to stop the fan in the event of a major rupture in the HEPA filter or blocked air discharge. Warning lights are required to indicate normal operation, a high pressure drop across the filters (e.g. filter overloading) and a low pressure drop (e.g. major rupture in HEPA filter or obstructed discharge).

11.7 Electrical Components

Electrical components shall be approved by the National Electrical Manufacturers Association (N.E.M.A.) and Underwriter's Community Affairsatories (UL). Each unit shall be equipped with overload protection, sized specially for the equipment. The motor, fan, fan housing, and cabinet shall be grounded.

11.8 Determining the Ventilation Requirements

Fully operational negative-pressure systems shall provide a minimum of one (1) air change every fifteen (15) minutes. Determine the volume in cubic feet of the work area by multiplying floor area by ceiling height. Determine total ventilation requirement in cubic feet per minute (C.F.M.) for the work area by dividing this volume by the air change rate.

Ventilation requirement (C.F.M.)=volume of work area in cubic feet/fifteen minutes.

- 11.9 Determine the number of units needed to achieve fifteen (15) minute-change rate by dividing the ventilation requirement (C.F.M.) above by the capacity of exhaust unit(s) used.

Number of units needed = $\frac{\text{ventilation requirement C.F.M.}}{\text{Capacity of unit with loaded filters (C.F.M.)}}$

11.10 Location of Exhaust Units

Locate exhaust unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses work area as much as possible. This may be accomplished by positioning the exhaust unit(s) at a maximum distance from the worker access opening or other makeup air sources.

- a. Place end of unit or its exhaust duct through an opening in the plastic barrier or wall covering. The plastic around the unit or duct shall then be sealed with tape. The exhaust port shall be protected with a constructed "cage" to prevent vandalism.
- b. Always vent to the outside of the building, unless authorized in writing by the Owner's Representative or Environmental Project Manager. Do not vent into the non work area sections of the building.

11.11 Supplemental Makeup Air Inlet

Provide makeup air inlets where required for proper air flow through the work area in locations approved by the Owner's Representative and the Environmental Project Manager. Make openings in the plastic sheeting that allows air from outside the building into the work area if applicable. Locate auxiliary makeup air inlets as far as possible from the exhaust unit(s) (e.g. on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the work area from outside the work area. Cover with flaps to reseal automatically if the negative pressure system should shut down for any reason. Spray flap and around opening with spray adhesive so that flap seals if it closes.

- 11.12 Each unit shall be serviced by a dedicated minimum 115V-20A circuit with overload device tied into an existing building electrical panel which has sufficient spare capacity to accommodate the load of all negative pressure units connected.

11.13 Testing the System

Test the negative pressure system before any asbestos-containing material is wetted or removed. After the work area has been prepared, the decontamination facility set up, and the exhaust unit(s) installed, start the unit(s) (one at a time). Demonstrate operation and testing of negative pressure system to the Asbestos Field Technician or Environmental Project Manager.

- 11.14 Demonstrate the operation of the negative pressure system to the AST. This shall include, but not be limited to, the following:

- a. Plastic barriers and sheeting move slightly in towards the work area.
- b. Curtain of decontamination units move slightly in towards the work area.
- c. There is a noticeable movement of air through the decontamination unit. The AST shall use smoke tubes to verify air movement from clean to shower room, from shower room to equipment room, and from equipment room to work area.
- d. The use of smoke tubes shall demonstrate a positive motion of air across all areas in which work is to be performed.

11.15 Use of System During Removal Operations

- a. Start exhaust units before beginning work (before any demolition). After removal has begun, run units continuously to maintain a constant negative pressure until decontamination of the work area is complete. The units shall **not** be turned off at the end of the work shift or when removal operations temporarily stop.
- b. The negative air system shall not be shut down during encapsulating procedures.
- c. Removal work shall start at a location farthest from the exhaust units and proceed toward them. If an electric power failure occurs, removal shall stop immediately and shall not resume until power is restored and exhaust units are operating again.
- d. At completion of removal work, the exhaust units shall be allowed to run in order to remove airborne fibers that may have been generated during wet removal and cleanup and to purge the work area with clean makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially wetted asbestos material was encountered during removal.

11.16 Dismantling the System

- a. When a final inspection and the results of final air tests indicate that the area has been decontaminated, the exhaust units may be removed from the work area. Before removal from the work area, the unit shall have the prefilter removed and disposed of properly, and the intake to the machine shall be sealed with six (6) mil. polyethylene to prevent environmental contamination from the filters.

11.17 Pressure differential

- a. Contractor shall provide a fully operational negative air system that maintains a negative pressure of -0.03 inches of water column (WC) for an unoccupied building asbestos abatement. Contractor shall provide a digital read-out manometers with continuous strip recording capabilities as required by N.J.A.C. 5:23-8.19

12.0 PROTECTION OF WORKERS AND SITE VISITORS

- 12.1 Respirators, disposable coveralls, head covers and footwear covers shall be provided by the Contractor for the Owner/Owner's Representative, Project Manager and other authorized representatives who may inspect the job site. Provide two (2) respirators and six (6) complete coveralls and, where applicable, six (6) respirator filter changes per day. Sufficient HEPA cartridges for both half-face air-purifying and powered air-purifying respirators, shall be provided for the workers to change during the work shift. No HEPA cartridges shall be used longer than three (3) work shifts (work shifts denote eight (8) hours). The respirators shall be worn at all times when in the contaminated area. **THERE SHALL BE NO EXCEPTIONS.**
- 12.2 In accordance with NIOSH, OSHA, and ANSI regulations, the Contractor shall have a formal respirator-use program that shall, at a minimum, consist of the following:
 - a. Establish written standard operating procedures governing the selection and use of respirators.
 - b. Select respirators on the basis of the hazards to which the worker is exposed.
 - c. Instruct and train the user in the proper use of respirators and their limitations.
 - d. Where practical, assign respirators to individual workers for their individual use. These shall be specifically fit tested.
 - e. Regularly clean and disinfect respirators.
 - f. Store respirators and filters in a convenient, clean and sanitary location.
 - g. Routinely inspect respirators during cleaning.
 - h. Maintain appropriate surveillance (monitoring) of work area and degree of employee exposure of stress.
 - i. There shall be a regular inspection and evaluation procedure to determine the continued effectiveness of the program.
 - j. Do not assign workers to tasks requiring use of respirators unless it has been

determined that they are physically able to perform the work and use the equipment.

k. Shall be approved, accepted and recommended respirators.

- 12.3 The Contractor shall guarantee that all employees have participated and are currently participating in this respirator use program.
- 12.4 The Contractor shall provide full body protective clothing (**See Section 8.0**) to workers and visitors, which shall be worn at all times when in the contaminated area.
- 12.5 Protective clothing shall be disposed of when leaving the contaminated area and a new set used upon return.

13.0 EMERGENCY PRECAUTION

- 13.1 The Contractor shall prepare a contingency plan for emergencies including fire, accident, power failure, negative air system failure, supplied air system failure, or any other event that may require modification or abridgment of decontamination or work area isolation. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency.
- 13.2 The Contractor shall provide barricades and adequate protection to safely prevent passage of persons to the area of removal. Must prevent accidental entrance to the abatement area by any building occupants.
- 13.3 Before the Contractor starts actual abatement of asbestos material, the local fire department and ambulance crews shall be notified as to the dangers of entering the work area. The Contractor shall make every effort to help these agencies and form plans of action should their personnel need to enter the contaminated area.
- 13.4 Local medical emergency personnel, both ambulance crews and hospital emergency room staff, shall be notified as to the possibility of having to handle injured work persons who are contaminated with asbestos dust. They shall be advised on safe decontamination procedures.
 - 13.5 First aid shall comply with the governing regulations and all recognized recommendations within the industry.
- 13.6 General: Except as otherwise indicated, submit special reports directly to Owner within one (1) day of occurrence requiring special report, with copy to Owner's Representative, Project Manager and others affected by occurrence.
 - a. **Reporting unusual Events:** When an event of unusual and significant nature occurs at site (examples: failure of negative pressure system, rupture of temporary enclosures), prepare and submit a special report listing chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise the Owner in advance at earliest possible date.

- b. **Reporting Accidents:** Prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and action; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury.

14.0 TEMPORARY SERVICES

14.1 Description of Requirement

Provide temporary connection to existing building utilities or provide temporary facilities as required herein or as necessary to carry out the work.

14.2 Water Service

- a. **Temporary Water Service Connection**

All connections to the Owner's water system shall include back flow protection. Valves shall be temperature and pressure rated for operation of the temperatures and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping equipment. Leaking or dripping valves shall be piped to the nearest drain or located over an existing sink or grade where water shall not damage existing finishes or equipment.

- b. **Water Hoses**

Employ heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water to each work area and to each decontamination unit.

- c. **Hot Water**

May be secured from the building's hot water system provided back flow protection is installed at point of connection as described in this section under Temporary Water Service connection and if authorized in writing by the Owner/Owner's Representative.

14.3 Electrical Service

Comply with applicable NEMA, NECA, and UL standards and governing regulations for materials and layout of temporary electric service.

- a. **Temporary Power**

Provide service to the decontamination unit subpoena with a minimum sixty (60) amp, two (2) pole circuit breaker or fused disconnect connected to the building's main distribution panel. Sub panel and disconnect shall be sized and equipped to accommodate all equipment required for completion of the work.

- b. **Voltage Differences**

Provide identification warning signs at power outlets which are other than

110-120 volt power. Provide polarized outlets for plug-in type outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets. Dry type transformers shall be provided, where required, to provide voltages necessary for work operations.

c. Ground-Fault Protection

Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button, and pilot light for plug in connection of power tools and equipment.

d. Electrical Power Cords

Use only grounded extension cords. Use "hard service" cords where exposed to abrasion and traffic. Use single length or use waterproof connectors to connect separate lengths of electric cords, if single lengths shall not reach areas of work.

e. Lamps and Light Fixtures

Provide incandescent lamps of wattage required for adequate illumination. Protect lamps with guard cages or tempered-glass enclosures where fixtures are exposed to breakage by construction operations. Provide exterior fixtures where fixtures are exposed to moisture.

14.4 Fire Extinguishers

Provide type "A" fire extinguishers for temporary offices and similar spaces where there is minimal danger of electrical or grease-oil-flammable liquid fires. In other locations, provide type "ABC" extinguisher or a combination of several extinguishers of NFPA recommended types for the exposure in each case. The fire extinguishers shall comply with the applicable recommendations of NFPA Standard 10 "Standard for Portable Fire Extinguishers." Locate their intended purpose, but provide not less than one (1) extinguisher in each work area in the equipment room of the decontamination unit and one (1) outside the work area in the clean room, not to exceed a seventy-five (75) foot distance.

15.0 DECONTAMINATION

- 15.1 The Contractor shall provide an adequate decontamination unit consisting of a serial arrangement of rooms or spaces adjoining the work area or a decontamination trailer. Each airlock shall be clearly identified and separated from the other by plastic crossover sheet doors designed to minimize fiber and air transfer as people pass between areas. A minimum of two layers of 6 mil. plastic sheeting shall be required for floors, walls, and the ceiling for on-site constructed decontamination units. Plastic crossover sheet doors shall have at least three layers of 6 mil. plastic sheetings and be weighted so as to fall into place when people pass through the area. Decontamination chamber doors shall be of sufficient height and width to enable replacement of equipment that may fail and to safely stretch or carry an injured worker from the site without destruction of the chamber or unnecessary risk to the integrity of the work area. Such doors must be at least 4 feet wide, and the distance between sets of flaps must be at least 4 feet.

- 15.2 Provide an equipment decontamination unit consisting of a serial arrangement of rooms (clean room, holding room, wash room for removal of equipment and material from work area). Personnel shall not enter or exit work area through equipment decontamination unit.

15.3 Personnel Decontamination Unit

a. Changing Room (Clean Room)

This room shall be provided for the purpose of changing into protective clothing. It shall be constructed using polyethylene sheeting, a minimum of six (6) mil. in thickness, and located so that access to the work area shall be from the changing room through the shower room. Should both females and males utilize the decontamination unit, a privacy screen of black or opaque polyethylene shall be utilized. This room shall be separated from the building by a triple airlock of six (6) mil. polyethylene flap entranceway.

1. In this room the worker shall leave all street clothes and dress in clean disposable coveralls. Respiratory protection equipment shall be donned in this area.
2. A suitable existing room may be used as the changing room if it is suitably located and of a configuration whereby workpersons may enter the changing room directly from the shower room. Authorization for this shall be obtained from the Owner's Representative in writing prior to the start of construction.
3. Floor room shall be dry and clean at all times. Overflow water from shower shall not be allowed to wet floor in changing room.
4. Damp wipe all surfaces twice after each shift change with a disinfectant solution.
5. Provide a continuously adequate supply of disposable bath towels.
6. Provide posted information for all emergency phone numbers and procedures.
7. Provide storage lockers for employees.

b. Shower Room

This shall be a separate room used for transit by cleanly dressed workers entering the job from the outside room or by workers headed for the showers after undressing in the equipment room. This room shall be separated from the clean room and equipment room by flaps fabricated from three (3) layers of six (6) mil. polyethylene. A portable fully operational shower shall be provided.

Provide temporary extensions of existing hot and cold water and drainage,

as necessary, for a complete and operable shower.

1. Provide a continuously adequate supply of soap in sanitary condition.
2. Shower shall be arranged so that water from showering does not splash into the clean room.
3. Water shut off and drain pump operation controls shall be arranged so a single individual can shower without assistance from either inside or outside of the work area.
4. Provide flexible hose shower head.
5. Provide a minimum eighteen (18) gallon stainless steel one (1) piece shower pan and fiberglass wall panels.
6. Provide twenty (20) micron and five (5) micron waste water filters in line to wastewater storage. Filters to be changed daily or more often if necessary.

c. Equipment Room (Contaminated Area)

Work equipment, footwear, and additional contaminated work clothing shall be left here. This is a change and transit area for workers. This room shall be separated from the work area and shower by a triple layer of six (6) mil. polyethylene flap exit barrier doorway.

d. Work Area

The work area should be separated by polyethylene barriers from the equipment room. If the airborne asbestos level in the work area is expected to be high, an additional intermediate cleaning space shall be added between the equipment room and the work area. Damp wipe clean all surfaces after each shift change. Provide one (1) additional floor layer of six (6) mil. polyethylene per shift change and remove contaminated layer after each shift.

e. Construction

1. Decontamination unit shall be constructed using polyethylene sheeting at least six (6) mil. in thickness, attached to existing building components or a temporary framework.
2. Two (2) layers (minimum) of six (6) mil. polyethylene sheeting shall be used to cover floors and walls in the equipment, shower (underneath shower pan), and changing rooms. An additional layer in the equipment room shall be added for every shift change expected. One (1) layer of plastic shall be rolled from the equipment room into the work area after each shift change. A minimum of two (2) layers of plastic shall remain at all times. All plastic used on floors

shall be clear. Should both the females and the males utilize the same decontamination unit, an additional layer (privacy screen) of black or opaque polyethylene shall be utilized.

3. Rooms shall be separated by doors fabricated from overlapping sheets. Doors shall be a minimum of four (4) feet wide and sheeting shall overlap adjacent surfaces. Sheets shall be weighed at bottoms as required so that they quickly close after being released. Arrows shall be put on sheets to indicate direction of overlap and/or travel. There shall be a minimum of six (6) feet between entrance and exit of any room.
4. Alternate methods of providing decontamination facilities may be submitted to the Project Manager for approval. Do not proceed with any such methods(s) without written authorization by the Environmental Project Manager.

f. Electrical

Provide subpanel at changing room or a location approved by the Environmental Project Manager to accommodate all removal equipment. Power source for panel shall come directly from a building electrical panel. All electrical branch circuits in a decontamination unit, and particularly any pumps in shower room, shall be connected to ground-fault circuit protection device.

15.4 Decontamination Sequence

a. Entering the Work Area

1. Worker enters changing rooms and removes clothing, puts on clean disposable overalls and respirator, and passes through the shower room into the equipment room.
2. Any additional clothing and equipment left in equipment room required by the worker is put on. These shall be treated as asbestos contaminated. Worker proceeds to work area.

b. Exiting Work Area

1. Before leaving the work area the worker shall remove all gross decontamination and debris from overalls and feet.
2. The worker then proceeds to the equipment room and removes all clothing except respiratory protection equipment. Extra work clothing may be stored in contaminated end of the equipment room. Disposable coveralls are placed in a bag for disposal with other material. Decontamination procedures found in **Section 15.5** shall be followed by all individuals leaving the work area.

3. After showering, the worker moves to the changing room and dresses in either new coveralls for another entry or street clothes.

15.5 Decontamination Procedures

All workers shall adhere to following personal decontamination procedures whenever they leave the work area:

- a. When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear in the equipment room.
- b. Still wearing respirators, proceed to showers. Showering is **mandatory**. The following procedure is required as a minimum:
 1. Thoroughly wet body including hair and face. If using a powered air-purifying respirator (P.A.P.R.), hold dry.
 2. With respirator still in place, thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack of P.A.P.R. Pay particular attention to seal between face and respirator and straps.
 3. Take a deep breath; hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breathe.
 4. Carefully wash face piece of respirator inside and out.
 5. Shut off the P.A.P.R., cap inlets to cartridges, and thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag.
 6. Shower completely with soap and water.
 7. Rinse shower room walls and floor prior to exit.

15.6 Equipment Decontamination Units

a. Wash Down Station

Provide an enclosed shower unit located in work area just outside wash room as an equipment, and container cleaning station.

b. Wash Room

A room shall be provided for cleaning of bagged or contained asbestos-containing waste materials passed from the work area. It shall be constructed of two-by-four (2 x 4) framing and polyethylene sheeting at least six (6) mil. in thickness and located so that packaged materials, after being wiped clean, can be passed to the holding room. This room shall be separated from the work area by a single flap six (6) mil. polyethylene sheeting.

c. Holding Room

A room shall be provided at a drop location for bagged asbestos-containing materials to be passed from the wash room. It shall be constructed of two-by-four framing and polyethylene sheeting and located so that bagged materials cannot be passed from the wash room through the holding room to the clean room. This room shall be separated from the adjacent rooms by a double flap fabricated.

d. Clean Room

A room shall be provided to isolate the holding room from the building exterior. It shall be constructed of two-by-four framing and polyethylene sheeting at least six (6) mil. in thickness and located to provide access to the holding room from the building exterior. This room shall be separated from the exterior by a double layered six (6) mil. polyethylene flapped entranceway.

Equipment or material shall be taken from the work area through the equipment decontamination unit as follows:

1. At a wash-down station, thoroughly wet clean contaminated equipment or sealed polyethylene bags and pass into the wash room.
2. When passing equipment or containers into the wash room, all doorways of the equipment decontamination unit, other than the doorway between the wash-down station and the wash room shall be closed and all outside personnel clear of the equipment decontamination unit.
3. Once inside the wash room, the bags and/or equipment shall be wet cleaned.
4. When cleaning is complete, pass items into the holding room. All doorways shall be closed except the doorway between the holding room and the clean room.
5. Workers from the building exterior enter the holding area and remove decontaminated equipment and/or containers for disposal.
6. At no time is a worker from an uncontaminated area to enter the enclosure when a contaminated removal worker is inside.

15.7 Cleaning of Decontamination Units

- a. Debris and residue shall be cleaned from inside of decontamination units on a daily basis. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans on a daily basis.
- b. If the changing room of the personnel decontamination unit becomes contaminated with asbestos-containing debris, the entire decontamination unit shall be abandoned, and a new decontamination unit shall be erected with the former changing room used as the new equipment room.

16.0 WORK AREA PREPARATION

- 16.1 The work area is the location where asbestos abatement work occurs. It is a variable of the extent of work of the contract. It may be a portion of a room, a single room, or a complex of rooms. A "work area" is considered contaminated during the work and shall be isolated from the balance of the building and decontaminated at the completion of the asbestos control work.
- 16.2 Completely isolate the work area from other parts of the building to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the work area(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, clean those areas in accordance with the procedures indicated in **Section 19.0**. Perform all such required cleaning or decontamination at no additional cost to the Owner.
- 16.3 Place all tools, scaffolding, staging, etc. necessary for the work in the area to be isolated prior to erection of the plastic sheeting and temporary enclosure.
- 16.4 Employees of the Contractor permitted pursuant to N.J.A.C. 8:60 and N.J.A.C. 12:120 or persons employed by the building owner, who have successfully completed a maintenance/custodial/worker training course approved by the New Jersey Department of Health, unless the room and objects within it are shown to be uncontaminated by asbestos in which case other employees of the building owner or Contractor may be used, shall clean with wet cloths and/or with HEPA vacuums as appropriate all items that can be removed from the work area without disrupting the asbestos material. This shall include furniture, equipment, drapes, and curtains. The cloths used for cleaning shall be disposed of as asbestos contaminated waste.
- 16.5 Clean and remove all uncontaminated removable merchandise, equipment, and/or supplies from the work area before commencing work or completely cover with two (2) layers of polyethylene sheeting at least six (6) mil. in thickness securely adhered to in place with tape. Such merchandise and equipment shall be considered outside the work area unless the covering plastic or the seal is breached.
- 16.6 Permit access to the work area only through the decontamination unit. All other means of access shall be closed off and sealed and warning signs displayed on the clean side of the sealed access. (See **Section 8.0**).
- 16.7 Provide warning signs at each visual and physical barriers (see **Section 8.0**).
- 16.8 Alternate methods of containing the work area may be submitted to the Owner's Representative and Environmental Project Manager for approval. Do not proceed with any such method(s) without prior written approval of the Owner's Representative and Project Managers.
- 16.9 Before proceeding beyond this point in providing temporary enclosures:
 - a. Provide worker and respiratory protection per **Section 8.0 and 9.0**.

16.10 Primary Seal/Critical Barriers

- a. Completely separate the work area from other portions of the building and the outside by sheet plastic barriers at least six (6) mil. in thickness.
- b. Individually seal all ventilation openings (supply and exhaust), lighting fixtures, doorways, windows, skylights, convectors and floor drains, and other openings into the work area with tape alone or with polyethylene sheeting at least six (6) mil. in thickness taped securely in place. Maintain the seal until all work, including project decontamination, is completed. Take care in sealing off lighting fixtures to avoid melting or burning of sheeting.
- c. Provide sheet plastic barriers at least two (2) layers of six (6) mil. in thickness as required to completely seal openings from the work area into adjacent areas. Seal the perimeter of all sheet plastic barriers with tape or spray cement.
- d. Mechanically support sheet plastic independently of tape or spray cement seals so that seals do not support the weight of the plastic. Following are acceptable methods of supporting sheet plastic barriers. Alternative support methods may be used if approved in writing by the Owner's Representative or Environmental Project Manager.
 1. Fire rated plywood squares 6" x 6" x 3/8" held in place with one 6d smooth masonry nail or electra galvanized common nail driven through the center of the plywood and tape on plastic so that plywood clamps plastic to the wall. Locate plywood squares at each end corner at maximum four (4) feet on centers.
 2. Nylon or polypropylene rope minimum one-quarter (1/4) inch in diameter suspended between supports securely fastened on either side of opening at maximum one (1) foot below the ceiling. Tighten rope so that it has two (2) inches maximum dip. Drape plastic over rope from outside work area so that a two (2) foot flap of plastic extends over rope into work area. Staple or wire plastic to itself one (1) inch below rope at maximum six (6) inches on centers to form a sheath over rope. Lift flap and seal to ceiling with duct tape or spray cement. Seal loop at bottom of flap with duct tape. Erect entire assembly so that it hangs vertically without "shelf" upon which debris could collect.

16.11 Provide Decontamination Unit (see Section 15.0).

16.12 Provide Negative Pressure System (see Section 11.0).

16.13 Clean housings and ducts of all dust/dirt materials prior to erection of the primary seal/critical barrier polyethylene sheeting.

16.14 Enclose work areas with two (2) layers of fire rated 6 mil plastic sheeting on floor and one (1) layer on walls.

- 16.15 Cover floor and ceilings of work area with two (2) individual layers of fire rated polyethylene sheeting, each at least six (6) mil. in thickness, turned up walls at least twelve (12) inches. Form a sharp right angle bend at the junction of the floor and the wall so that there is no radius which could be stepped on causing the wall attachment to be pulled loose. Both spray glue and tape all seams in floor covering. Locate seams in top layer six (6) feet from, or at right angles to, seams in bottom layer. The second layer shall extend up the side walls at least twenty-four (24) inches. Install sheeting so that top layer can be removed independently of the bottom layer.
- 16.16 Remove or properly seal with two (2) layers of six (6) mil. fire-rated polyethylene all electrical and mechanical items such as lighting fixtures, clocks, diffusers, registers, electric panels, escutcheon plates, etc. which cover any part of the surface to be worked on with the work.
- 16.17 Cover all walls in work area including "primary seal/critical barrier" sheet plastic barriers with one (1) layer of polyethylene sheeting at least six (6) mil. in thickness, mechanically supported and sealed with tape or spray glue in the same manner as "critical barrier" sheet plastic barriers. Tape all joints including the joining with the floor covering with tape or as otherwise indicated in writing by the Owner's Representative or Environmental Project Managers.

17.0 WET REMOVAL OF ASBESTOS-CONTAINING AND ASBESTOS-CONTAMINATED MATERIALS

- a. This section outlines the procedures which are to be used in the wet removal of all asbestos-containing and asbestos-contaminated materials as indicated on the Contract Drawings.
- b. Any changes to this procedure shall be in writing from the Environmental Project Manager.
- c. All asbestos-containing and asbestos-contaminated materials shall be removed. The contractor shall take care that all asbestos has been removed
- d. Prior to and during actual abatement work, mist with amended water all asbestos-containing and asbestos-contaminated materials. This shall aid in minimizing fiber release during work activities {**see Section 17.0 (f)**}.
- e. The asbestos-containing and asbestos-contaminated materials should be sufficiently saturated to prevent emission of airborne fibers. The amended water or removal encapsulant shall be sprayed for as long and as often (before, during, and after removal) as necessary in order to ensure that the asbestos material is adequately wetted throughout.
- f. A fine, low-pressure spray of amended water or removal encapsulant shall be applied to prevent fiber disturbances preceding removal. The use of high revolutions per minute (R.P.M.) power equipment, pressure washers, or hydro-blasters is not acceptable. The additive shall be the manufacturers.

- g.** As a method of organizing the asbestos removal work, workers shall begin working on the areas nearest to the decontamination unit and work towards the negative air filtration units.
- h.** Asbestos-containing material shall be manually removed by scraping or cutting the saturated material from the base material
- i.** Removal of the asbestos material shall be done in small sections by two-person (2) teams, on staging platforms if needed. The wet material from each section shall be packed and sealed into labeled six (6) mil. plastic bags. When possible, one (1) worker will remove and hand sections of asbestos material to the other worker who will then place the material into labeled six (6) mil. plastic bags.
- j.** In all cases, the asbestos-containing materials shall be handled carefully and deliberately. No asbestos is permitted to drop directly to the floor. Any unnecessary agitation of the material is strictly prohibited.
- k.** Asbestos-containing and asbestos-contaminated materials located more than fifteen feet above the floor shall be dropped into inclined chutes, dropped onto scaffolding, or containerized at that height for disposal. Asbestos-containing materials shall not be dropped or thrown to the floor from fifteen feet or greater.
- l.** In all cases, the asbestos-containing materials shall be handled carefully and deliberately. No asbestos is permitted to drop directly to the floor. Any unnecessary agitation of the material is strictly prohibited.
- m.** Operations shall be continuous so that once an area is started it will be worked on to the first wet wipe. The wet material from each section shall be packed and sealed into labeled six (6) mil. plastic bags and double bagged with visible labels prior to starting the next section. Water-soaked fallen material shall be picked up while wet to prevent water loss due to evaporation.

 - 1. Maintain good housekeeping so as not to accumulate loose asbestos.
 - 2. Reach the clean wipe state as quickly as possible.
 - 3. Remove the residues as quickly as possible so as not to walk or track through it, thus grinding it to smaller, more potentially dangerous sizes.
 - 4. Trap the asbestos in six (6) mil. plastic bags as quickly as possible so as not to allow asbestos to dry out and become airborne. Bags shall be handed or chuted down carefully from one worker to another.
- n.** Contaminated material containing sharp edged items shall be cut to size while adequately wet, placed in small cardboard boxes and double bagged, or singly bagged and then placed in temporary fiber drums. 40 C.F.R. (j) prescribes a leak-tight container, the integrity of which is the Contractor's responsibility.
- o.** Bags and drums shall be marked with the label prescribed by Section 61.22(c) of

the E.P.A. regulations. The outside of all containers shall be wet cleaned or HEPA vacuumed before leaving the work area (**see Section 19.0**).

- p. After removal, the underlying material shall be brushed with a stiff, nylon bristle brush. Wire brushes **are not permitted**; asbestos fibers break up into smaller more hazardous sizes when a wire brush is utilized.
- q. If at any time the airborne fiber level outside the isolated work area or the clean room of the decontamination unit rises above 0.01 f/cc (action level), the work shall stop immediately and air cleaning equipment and clean up procedures will be used to reduce fiber level to less than 0.01 f/cc.
- r. If at any time the airborne fiber level inside the isolated work area exceeds 0.2 f/cc, the work shall stop immediately and air cleaning, wetting, and surface cleaning procedures will be necessary.
- s. The first worker to enter the removal area at the beginning of each work day shall carefully wet the walls and floors with a fine mist of amended water. Such misting will wet any asbestos residues, which may have dried since the end of the previous work day.

18.0 **ENCAPSULATION**

18.1 The encapsulant shall be an asbestos-binding compound or approved equal.

18.2 Encapsulation shall proceed as follows:

- a. After completion of cleaning of all surfaces in the work area and upon receiving a satisfactory pre-sealant inspection, the Contractor shall spray coat all dried exposed surfaces with a sealant. The color of this coat shall be separate and distinct from the underlying substrate. The surfaces to be coated shall include surfaces from which asbestos-containing materials have been removed (such as ceilings) and polyethylene which has been used to cover walls, floors and non-removable fixtures and equipment.
- b. Two (2) coats of sealer shall be applied to the substrate after all asbestos-containing material has been removed. Application shall be with an airless spray gun and shall be in strict accordance with the manufacturer's instructions.
- c. With the encapsulation procedures completed, a visual inspection shall be made of the area by the Contractor and the AST checking for uniformity of coverage.

19.0 **CLEANUP PROCEDURES**

19.1 **Previous Work**

At the completion of the asbestos abatement work, specified in other sections, any gross debris generated by the asbestos abatement work will have been removed and disposed.

19.2 **Start of Work**

Work of this section begins with the cleaning of the primary barriers. At the start of the work the following will be in place:

a. Primary Protection:

Two (2) layers of polyethylene sheeting on the floor and one (1) layer on the walls.

b. Separation Barrier:

Which forms the sole barrier between the work area and other portions of the building or the outside.

c. Primary Seal/Barrier:

Over lighted fixtures and clocks, ventilation openings, doorways, bathroom fixtures, water fountains, convectors, speakers, and other openings.

d. Decontamination Units:

For personnel and equipment in operating conditions.

e. Air Filtration System:

Shall remain in operation.

19.3 First Cleaning:

A first cleaning of all surfaces of the work area including items of remaining sheeting, tools, scaffolding and/or staging shall be carried out by use of damp cleaning and mopping, and/or a high efficiency particulate absolute (HEPA) filtered vacuum. (NOTE: a HEPA vacuum will fail if used with wet material.) Dry dusting or dry sweeping shall not be permitted.

19.4 Wait twenty-four (24) hours to allow air filtration machines to clean air of airborne asbestos fibers. Oscillating fans shall be used as necessary to assure circulation of air in all parts of work areas during this period. The air filtration system shall be maintained in operation for the entire twenty-four (24) hour period.

19.5 After completion of the first cleaning operation, the Contractor shall notify the AST that a pre-sealant inspection is needed. This shall be in writing from the Contractor.

19.6 The AST shall perform a visual inspection of the work area to ensure that it is dust free.

19.7 After approval by the AST, the Contractor shall spray coat all dried exposed surfaces with a sealant (**refer to Section 18.0**). The surfaces to be coated shall include the polyethylene which has been used to cover walls, floors and non-removable fixtures and equipment.

19.8 After the encapsulation of the polyethylene, it shall be carefully removed and rolled up with the contaminated portion inside. All equipment, machinery, scaffolding, tools, etc., within the isolated work area shall be cleaned with amended water, moved to the equipment room and properly removed from the work area.

19.9 Final Cleaning

- a. Wet clean with amended water all floors, windows, etc. Allow for all surfaces to dry and repeat the procedures. Used cloths and sponges shall be disposed of as contaminated.
- b. Do not shut down the air filtration units. Wait twenty-four (24) hours. No cleaning shall take place and the air filtration system shall be maintained for the entire twenty-four (24) hour period.

19.10 Re-occupancy Sampling

1. After the work area is found to be visually clean by the Asbestos Technician he/she shall perform re-occupancy sampling.
2. If the standard (≤ 70 s/mm²) is not met, repeat final cleaning and continue decontamination procedures from that point.

3. If the release criteria is met, the Contractor shall remove the critical barriers separating the work area from the rest of the building, clean with amended water all areas where the barrier was attached and covering and shut down and remove the air filtration system.

19.11 New Jersey Post-Removal Sampling

a. Transmission Electron Microscopy (TEM), Asbestos Hazard Emergency Response Act 40 CFR Part 763.90.

1. After the tented glove bag containment abatement procedures have been properly completed, and the entire Vineland Veterans Memorial Home Storage Building Work Areas have been found to be visually clean by the AST, he/she shall perform post-removal aggressive TEM clearance sampling. This test is required to establish safe re occupancy conditions prior to the dismantlement of the tented containment and other associated engineering controls. Sufficient time following clean-up activities shall be allowed so that all surfaces are dry during monitoring. Negative air filtration units shall be in use during monitoring.
2. Normal occupancy use conditions shall be simulated using propeller type fans, or leaf blowers. The fans shall be placed in each room to be sampled so as to cause settled fibers to rise and enter the air. The fans shall be fan blades with a radius of at least one foot and shall be capable of creating a minimum air velocity of 500 feet per minute. These fans may be of the oscillating type. The sampling pump and sampling media shall be placed 20-40 feet at a right angle from the line(s) of air flow created in front of the fan. The leaf blower and its use must meet the criteria set forth in EPA document 560/5-85-024, Guidance for Controlling Asbestos-Containing Materials in Buildings, appendix section M.1.5., or any replacement criteria set forth by the United States Environmental Protection Agency. Their use should be restricted to general occupancy areas, and they should not be used in any space with an open dirt, sand, or gravel floor.
3. If the standard (≤ 70 structures per square millimeter, Transmission Electron Microscopy) is not met, repeat final cleaning and continue decontamination procedures.
4. If the release criteria is met, the Contractor shall remove the tented containment and associated engineering controls separating the work area from the rest of the building. Clean with amended water all areas where the barrier was attached and covering and shut down and remove the air filtration system.

5. Air filtration machines shall be sealed with six (6) mil. polyethylene sheeting and tape to form a tight seal at intake and before being moved from the work area.

20.0 DISPOSAL OF ASBESTOS-CONTAINING WASTE

20.1 All wastes generated within the isolated work area, including but not limited to, asbestos materials, plastic sheeting, tape, cleaning materials, protective clothing, all filers, brushes, pails, brooms and all other disposable material or items used in the work area shall be packed, sealed and disposed of according to this section.

20.2 The Contractor shall **not** allow asbestos materials to dry out or collect on the floors. Removed material shall be immediately placed in approved bags (**see Section 8.0**) and sealed.

20.3 The material collected in each bag is to be sealed by twisting the open end and then tying an overhand knot in the twisted material (or other approved method, which will form a leak-tight seal). The bag is then placed in another bag, which is also sealed for transport to the disposal site. Broken bags will be re-bagged a third time.

20.4 Warning labels, having waterproof print and permanent, waterproof adhesive, shall be affixed to all bags, dumpsters, trucks and other containers used for asbestos. Labels shall be conspicuous and legible and shall contain the following warning (as a minimum):

DANGER
Contains Asbestos Fibers
Avoid Creating Dust
Cancer and Lung Disease Hazard
Avoid Breathing Airborne Asbestos Fibers
And
Asbestos NA 2212,RQ

- 20.5 Materials and equipment decontamination shall be as designated in **Section 15.0**.

20.6 The dumpster shall be completely enclosed and locked. It is to be opened only for materials from the removal area. Warning signs shall be posted on the dumpster (**see Section 8.0**).

20.7 The Contractor shall maintain a bag disposal log numbering each bag of waste with an indelible black ink pen. Copies of this log shall be submitted to the Owner for the final payment.

20.8 The Contractor shall transport all sealed bags to an approved sanitary landfill disposal site. Disposal shall be in accordance with the Environmental Protection Agency and New Jersey Department of Environmental Protection.

21.0 QUALITY ASSURANCE AIR MONITORING

- 21.1 Air monitoring on this project (except OSHA compliance monitoring) will be conducted by the Asbestos Safety Monitor to furnish testing and reports of test results.
- 21.2 The Abatement Contractor is responsible for providing daily OSHA compliance monitoring as per 29 C.F.R. 1926.1101 at no cost to the Building Owner.
- 21.3 The Abatement Contractor shall fully cooperate with the Asbestos Safety Monitor, and all others responsible for testing and inspecting the worksite.
- 21.4 Air monitoring shall be conducted prior to the abatement procedures, daily throughout the asbestos abatement project and during the initial phases of clean up by the Asbestos Safety Control Monitor in order to verify the quality of the job being done.
- 21.5 These tests are **not** being conducted for the purpose of meeting the Contractor's responsibilities under OSHA regulations, nor are they being conducted for the purposes of assessing the respiratory protection for the asbestos worker. The purpose of these tests is to assess and determine the airborne concentration of asbestos within the work area, outside the work area and outside the building in order to detect any potential contamination that may result.
- 21.6 It is the responsibility of the Abatement Contractor and the Contractor's personnel to cooperate fully with the efforts of the Asbestos Safety Monitor at all times and ensure the ease of access to and from the work area for the effective completion of the monitoring program.
- 21.7 **Please be advised** that tampering with any equipment involved with these tests or inspections shall be considered an attempt at falsifying reports and records to Federal and State agencies, and each offense shall be prosecuted under applicable State and Federal laws to the fullest extent possible.
- 21.8 It is the responsibility of the Contractor to notify the Asbestos Safety Monitor seventy-two (48) hours prior to all schedule changes.
- 21.9 **No** abatement work shall be initiated unless the Asbestos Safety Monitor has been notified. Failure to comply with this requirement shall be considered an attempt to falsify reports to government agencies and treated as outlined in **Section 21.7**.
- 21.10 **No** abatement work shall be conducted without the AST on-site. Any work procedures conducted without supervision of an AST shall be considered an attempt at falsifying reports and records to Federal and State agencies and each offense shall be prosecuted under applicable State and Federal laws to the fullest extent possible.

- 21.11 The Environmental Architectural Project Managers shall stop all abatement procedures if proper environmental, health and safety precautions are not being strictly implemented and adhered to by the Contractor and his/her personnel.
- 21.12 The Owner or Owner's Representative and Asbestos Safety Monitor shall stop abatement operations and cancel the contract if proper environmental, health and safety precautions are not being strictly implemented and adhered to by the Contractor and his/her personnel.
- 21.13 The following is a description of the test program to be conducted by the AST.
- a. Pre-test sampling shall be conducted prior to the commencement of any work. The purpose of this test is to determine a background baseline level. The analytical method shall be Phase Contrast Microscopy (NIOSH 7400). One (1) sample of each type per thirty thousand cubic feet.
 - b. Pre-removal area samples shall be collected during the preparation phase of the project. This sampling shall be conducted to detect any fiber release as a result of preparation of the work area. (High volume samplers drawing a minimum sample volume of 1,800 liters shall be used. One (1) sample per thirty thousand (30,000) cubic feet, twice per work shift as a minimum.
 - c. The initial determination of employee exposure to airborne asbestos fibers shall be conducted during the first full day of **actual** asbestos removal. This initial determination of employee exposure shall include a combination of personal and air (environmental) samples collected during the **entire** work shift, to include ceiling concentration determination.

2. Outside the work area, but inside the building.

For the purpose of determining if fibers are escaping into adjacent areas of the building. The sampling device will be placed in two (2) locations where potential contamination could occur (e.g. outside entrances and exits to the work area) and will be moved periodically to assess the contamination potential of adjacent areas at all critical points in the containment system. If fiber levels exceed .010 f/cc, the Asbestos Safety Monitor has the authority to stop work and have the problem corrected.

3. In the Clean Room of Decontamination Unit.

Samples shall be taken within the clean area of the decontamination chamber in order to determine if fibers are escaping through the airlock systems. If fiber levels exceed 0.02 f/cc by the Asbestos Safety Monitor has the authority to stop work and have the problem corrected. (High volume sampler drawing a minimum sample volume of 1800 liters, one (1) sample taken twice per work shift for a total of two (2) samples per work shift. The analytical method shall be Phase Contrast Microscopy.

d. New Jersey Post-Removal Sampling (Vineland Veterans Memorial



Home Storage Building Tented glove bag Work Areas). The purpose of this test is to establish the release criteria. The release criteria shall be ≤ 70 s/mm² by the average concentration of asbestos of five (5) air samples collected within each work area containment and analyzed by the Transmission Electron Microscopy (TEM) Method in Appendix A of Subpart E of 40 CFR, Part 763 - "Asbestos-Containing Materials in Schools" is not statistically significantly different as determined by the Z-Test calculation.

1. Filter cassettes and sampling train shall be assembled as specified in NIOSH #7400. The flow rate shall be between 1 and 10 liters per minute. The total volume shall be a volume sufficient to achieve a detection limit of ≤ 70 structures per square millimeter.
 2. Five clearance samples shall be collected within each containment area used to isolate the removal area from the remainder of the building.
-
- e. **Blanks.** A minimum of two (2) blanks or 10%, whichever is greater, shall be taken. Blanks will be divided by the work shift. One (1) or more blanks shall be taken with the first round of samples and one (1) or more blanks shall be taken with the second round of samples.
 - f. Summary test data
 - g. Log of air samples
 - h. Pump calibration records
 - i. All test results

22.0 QUALITY ASSURANCE INSPECTIONS

22.1 Notification to the Asbestos Safety Control Monitor shall be made by the Contractor to request a pre-commencement inspection at a minimum of forty-eight (48) hours in advance of the desired date of inspection. This inspection shall be requested each time another worksite is started in multiphase projects.

- a. The AST shall ensure:
 1. The job site is properly prepared and that all containment measures are in place pursuant to this specification.
 2. All workers shall present to the AST a valid work permit issued by the New Jersey Department of Labor - **NO PERMIT; NO WORK.**
 3. Measures for the disposal of removed asbestos material are in place and shall conform to the adopted standards.

4. The Contractor has a list of emergency telephone numbers at the job site which shall include the Asbestos Safety Control Monitoring Firm employed by the Building Owner and telephone numbers for fire, police, emergency squad, local hospital and health officer, New Jersey Department of Labor and New Jersey Department of Health.
5. If all is in order, the AST shall issue a written notice to proceed with the asbestos removal in the field. If the job site is not in order, then any needed corrective action shall be taken before any work is to commence. Conditional approvals shall not be granted.

22.2 Progress Inspections Shall Be Conducted as Follows:

1. Primary responsibility for ensuring that the asbestos abatement work progresses in accordance with this specification rests with the AST. This AST shall continuously be present to observe the progress of work and perform required inspections and tests.
2. If the AST observes irregularities at any time, the AST shall direct such corrective action as may be necessary. If the Contractor fails to take the corrective action required, or if the Contractor or any of their employees habitually and/or excessively violate the requirements of any regulation, then the AST shall order the work stopped in writing. If the Contractor fails to comply with the order, then the AST shall notify the Administrative Authority having jurisdiction that shall issue a Stop Work Order to the Contractor, have the work site secured until all violations are abated and assess a penalty of \$500.00 which shall not be waived or settled for any reason.

22.3 Clean Up Inspections Shall be Conducted as Follows:

- a. Notice for clean-up inspection shall be requested by the Contractor at least forty-eight (48) hours in advance of the desired date of inspection.
- b. The clean-up inspection shall be conducted prior to the removal of the critical barriers.
- c. The AST shall ensure that:
 1. The worksite has been properly cleaned and is free of visible asbestos and asbestos-containing materials.
 2. All removed asbestos has been properly placed in a locked, secure container outside of the work area.
 3. If all is in order, the AST shall issue a written notice of authorization to remove barriers from the job site.

22.4 Final Inspection Shall be Conducted as Follows:

Upon notice by the Contractor and at least forty-eight (48) hours after the removal of the critical barriers, a final inspection shall be made to ensure the absence of any visible signs of asbestos or asbestos-containing materials and that all removed asbestos and asbestos contaminated materials have been properly disposed of off-site in accordance with the regulations of the New Jersey Department of Environmental Protection, N.J.A.C. 7:26-1 et seq. and this specification. (**NOTE:** A vehicle registered by the New Jersey Department of Environmental Protection shall be used).

22.5 Department Inspections Shall be Conducted as Follows:

The Department shall make unannounced periodic inspections of any job site involving asbestos abatement work.

22.6 Violations

The AST shall ensure that the work conforms to this specification. If it is found that the asbestos abatement work is being conducted in violation, the AST shall, in writing, order the work stopped. If the Contractor fails to comply with the order, then the AST shall notify the project manager and all work will be suspended until the contractor, consultant and the building owner hold a meeting to discuss the situation and the contractor agrees to conform to the regulations. If the contractor refuses or does not comply to the regulations then the contractor shall be considered in breach of contract and subject to termination of all work with New Jersey Department of Military Affairs.

23.0 COMPLETION OF ABATEMENT WORK

Asbestos abatement work is complete upon meeting the work area clearance criteria and fulfilling the following:

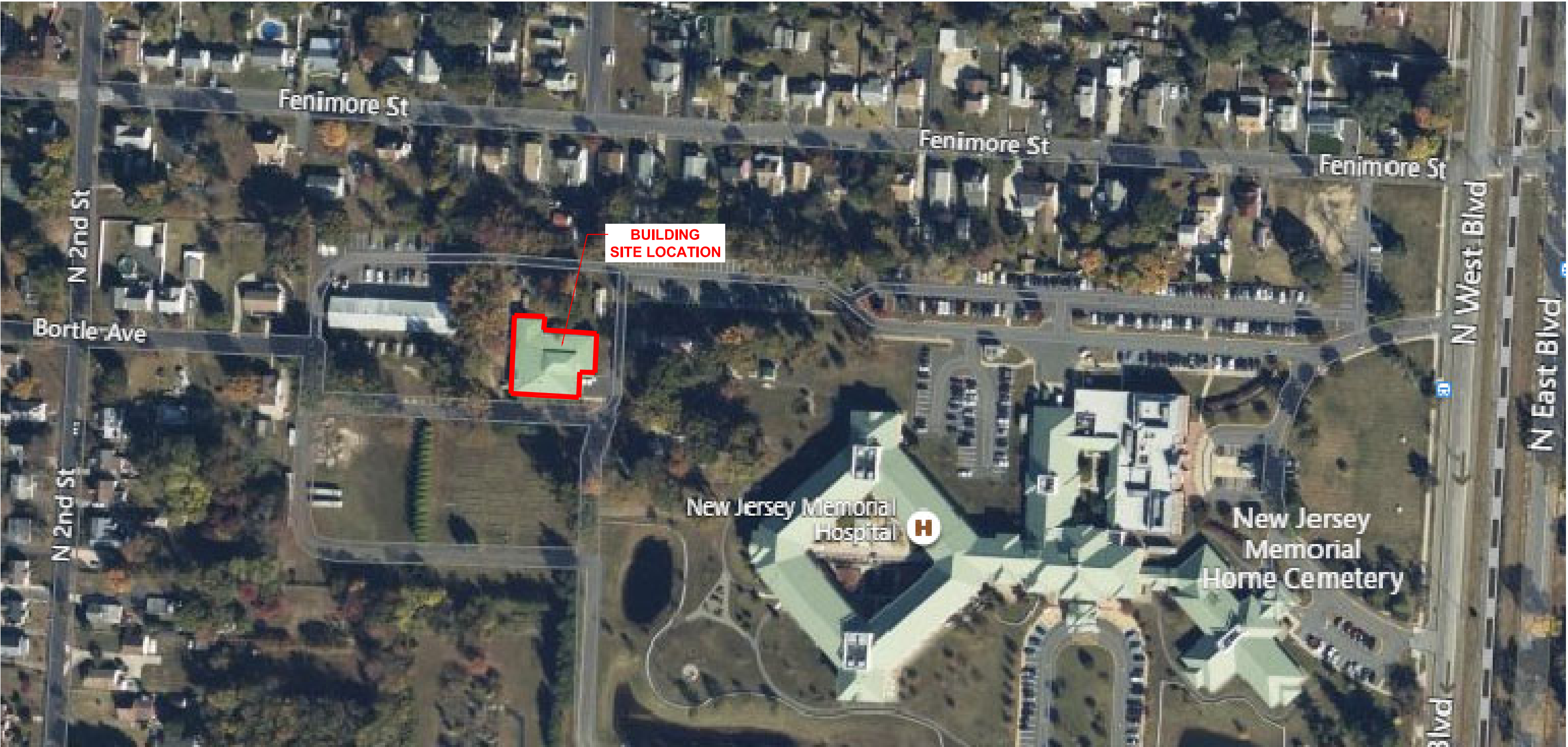
- a. Remove all equipment, materials, and debris from the work site.
- b. Dispose of all asbestos-containing waste material as specified in **Section 20.0**.
- c. Repair or replace all interior finishes damaged during the course of the asbestos abatement.
- d. Fulfill project closeout requirements of **Section 24.0**.

23.1 CORRECTION OF WORK

If the post-removal air tests or final inspections fail to meet the evaluation criteria, the Contractor shall be liable for the cost of additional air tests and inspections conducted by the AST to verify compliance.

24.0 CONTRACTOR'S FINAL REPORT

- 24.1 The Contractor shall submit a report to the Owner upon completion of the removal project. The report shall contain:
- a. All Daily Logs
 - b. Operational Data
 - c. Summary of all daily OSHA compliance test results
 - d. Any updated medical reports
 - e. Proof that the employees were notified if exposure levels exceeded current standards.
 - f. Documented proof (receipts) that all asbestos materials have been properly disposed of in a legal, regulated landfill.
- 24.2 Request for payment shall be withheld if all reports are not complete.
- 24.3 The report shall be signed by an authorized representative of the Contractor.



SITE OVERVIEW



1253 North Church Street
Moorestown, NJ 08057
(856) 840-8800
(856) 840-8815 Fax
www.ttienv.com


DRAWING TITLE:
ASB 1.0: SITE OVERVIEW

PROJECT LOCATION:
VVMH - STORAGE A1257-07
524 Northwest Boulevard, Vineland, NJ


DATE:	11/18/21	SCALE:	NTS
TTI PROJECT NO:	20-1451	INSPECTOR:	
DRAWN BY:	DC	REVIEWED BY:	MS
INSPECTION DATES:			
FILE:			

NOTES:


LEGEND




WORK AREA LOCATION



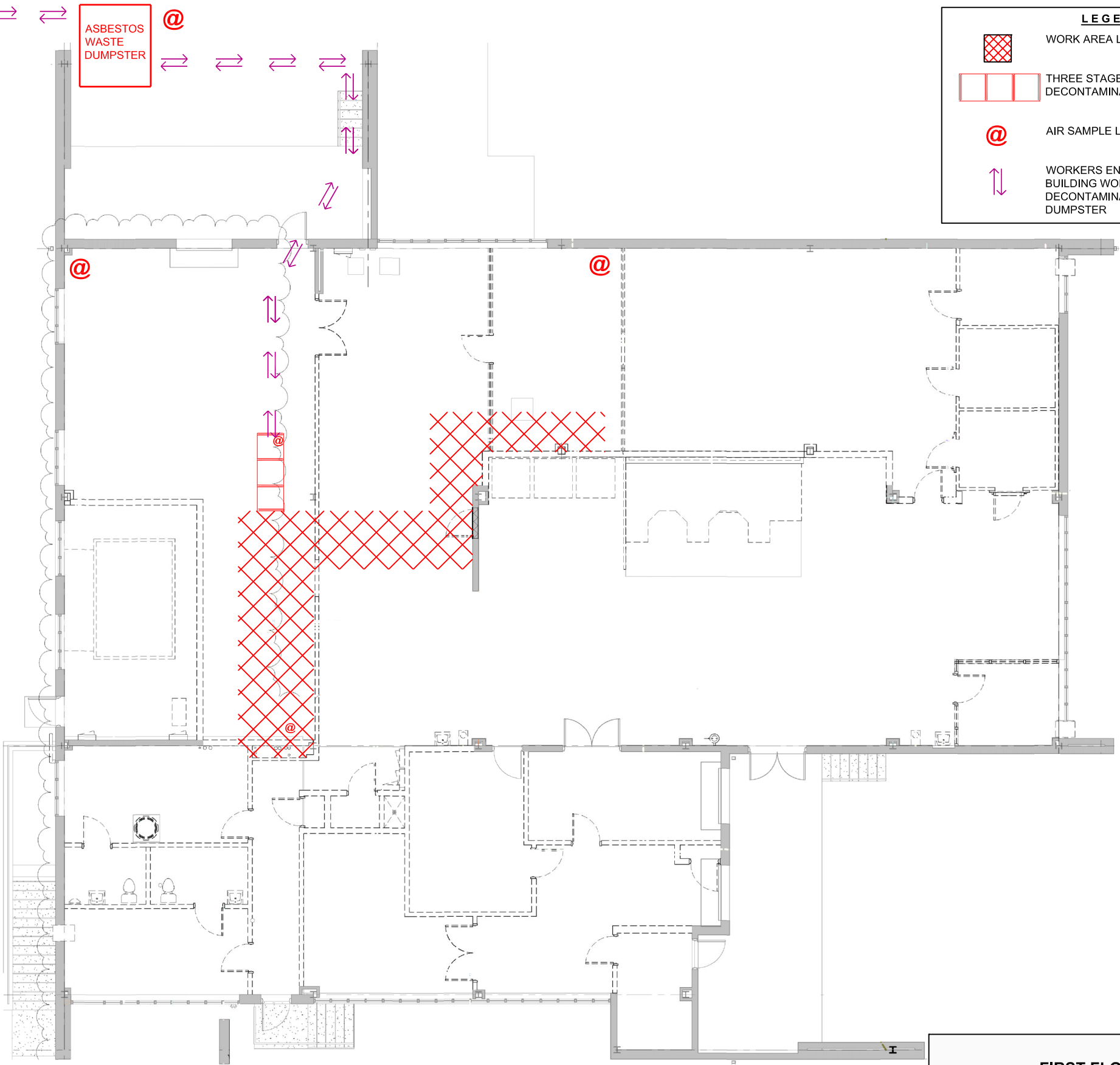
THREE STAGE DECONTAMINATION UNIT



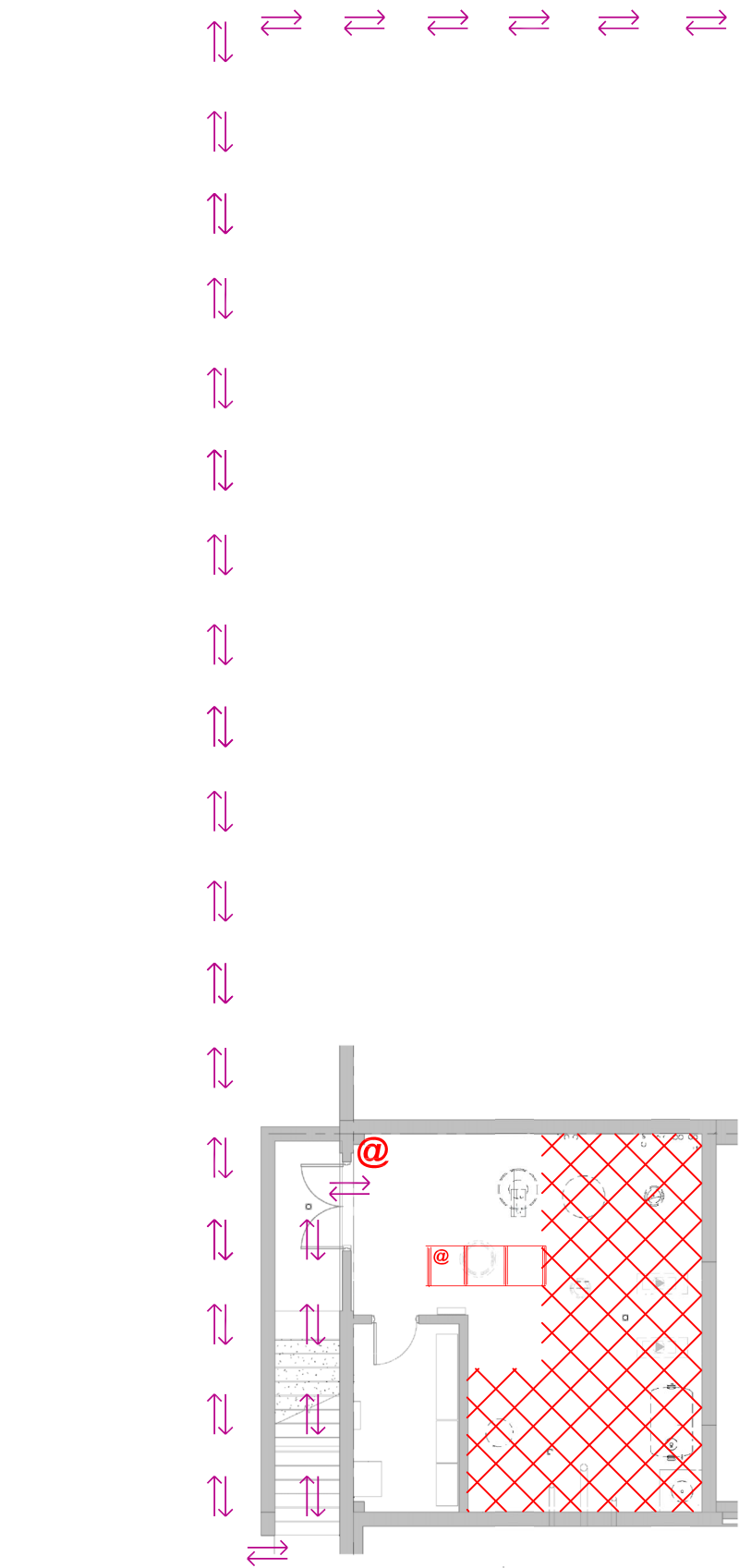
AIR SAMPLE LOCATION



WORKERS ENTRANCE & EXIT TO BUILDING WORK AREA, THREE STAGE DECONTAMINATION UNIT AND WASTE DUMPSTER



FIRST FLOOR
WORK AREA OVERVIEW



BASEMENT BOILER ROOM
WORK AREA OVERVIEW



1253 North Church Street
Moorestown, NJ 08057
(856) 840-8800
(856) 840-8815 Fax
www.ttienv.com

DRAWING TITLE:
ASB 2.0: WORK AREA OVERVIEW

PROJECT LOCATION:
VVMH - STORAGE A1257-07
524 Northwest Boulevard, Vineland, NJ

DATE:	11/18/21	SCALE:	NTS
TTI PROJECT NO:	20-1451	INSPECTOR:	
DRAWN BY:	DC	REVIEWED BY:	MS
INSPECTION DATES:			
FILE:			

NOTES:



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Moorestown, NJ 08057
(856) 840-8800
(856) 840-8815 Fax
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DRAWING TITLE:

ASB 3.0: BOILER ROOM
WORK AREA DETAIL

PROJECT LOCATION:

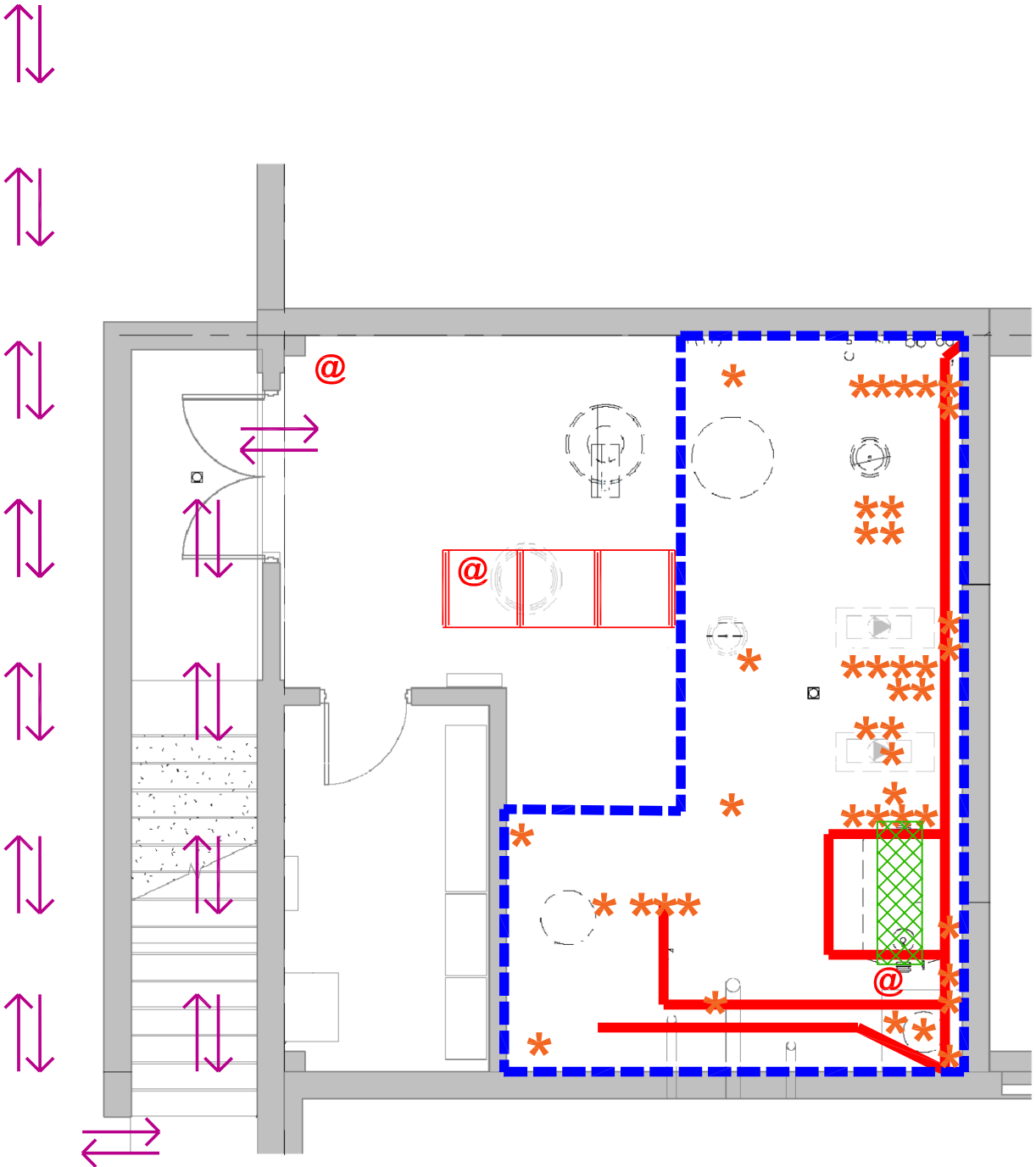
VVMH - STORAGE A1257-07
524 Northwest Boulevard, Vineland, NJ

DATE: 11/18/21
TTI PROJECT NO: 20-1451
DRAWN BY: DC
INSPECTION DATES:
FILE:

SCALE: NTS
INSPECTOR:
REVIEWED BY: MS

NOTES:

BASEMENT BOILER ROOM
WORK AREA DETAIL



LEGEND

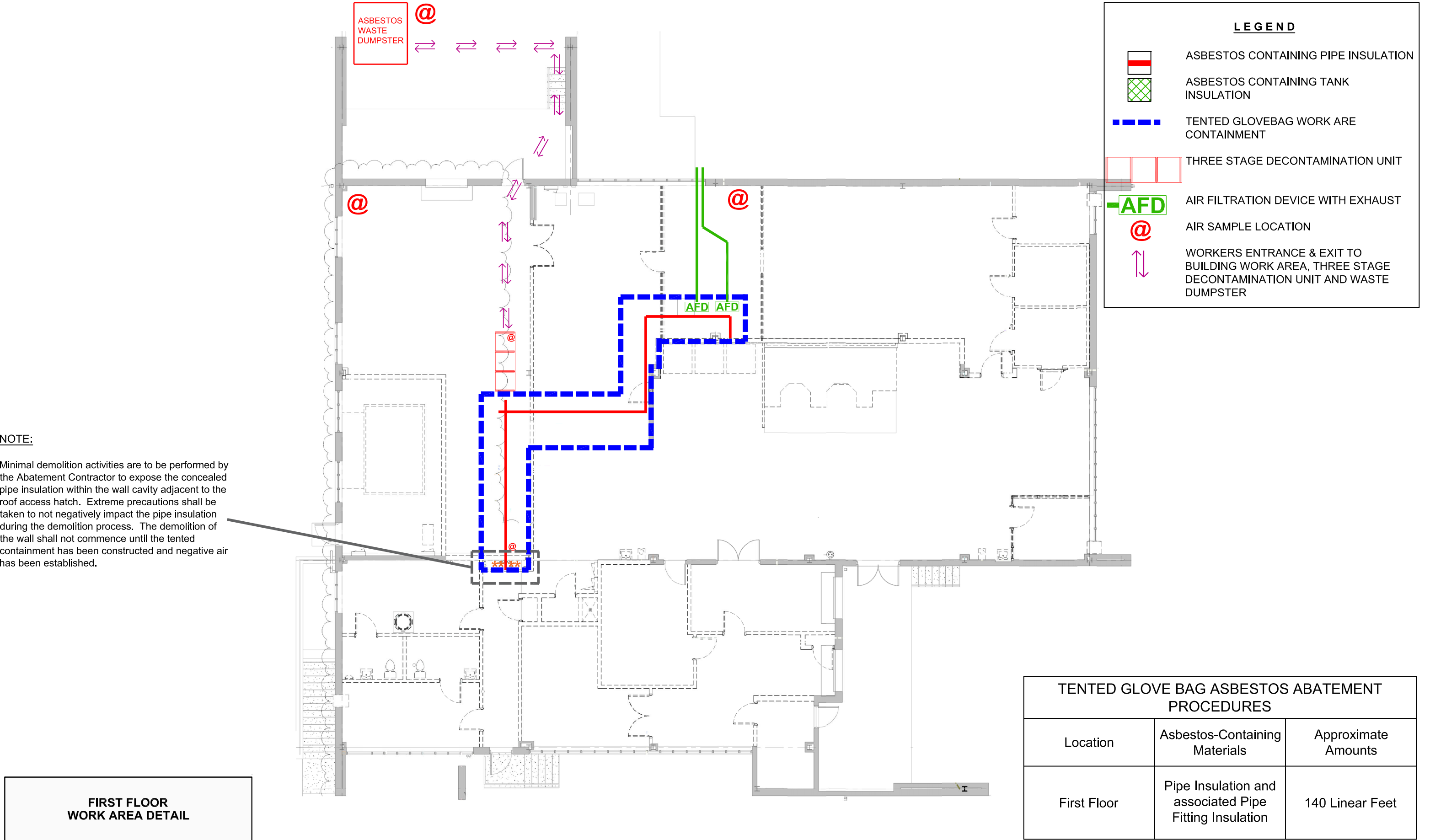
ASBESTOS CONTAINING PIPE INSULATION

ASBESTOS CONTAINING TANK INSULATION

AFD

@

TENTED GLOVE BAG ASBESTOS ABATEMENT PROCEDURES		
Location	Asbestos-Containing Materials	Approximate Amounts
Basement Boiler Room	Pipe Insulation and associated Pipe Fitting Insulation	150 Linear Feet
	Tank Insulation	35 Square Feet
	Pipe Fitting Insulation associated with Fiberglass Pipe Insulation	45 Each



FIRST FLOOR
WORK AREA DETAIL



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Moorestown, NJ 08057
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(856) 840-8815 Fax
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DRAWING TITLE:

ASB 4.0: FIRST FLOOR
WORK AREA DETAIL

PROJECT LOCATION:

VVMH - STORAGE A1257-07
524 Northwest Boulevard, Vineland, NJ

DATE: 11/18/21

TTI PROJECT NO: 20-1451

DRAWN BY: DC

INSPECTION DATES:

FILE:

SCALE:

NTS

INSPECTOR:

REVIEWED BY: MS

NOTES:



TTI ENVIRONMENTAL, INC
Consulting & Contracting

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October 29, 2021

Ms. Ellen Pedersen
J.W. Pedersen Architect
1199 E, Park Avenue
Vineland, New Jersey 08360

Reference: Asbestos Bulk Sampling
Vineland Veterans Memorial Home - Storage Building
TTI Project No. 20-1451

Dear Ms. Pedersen:

On January 29, 2020 and October 15, 2021, TTI Environmental, Inc.'s (TTI) United States Environmental Protection Agency (USEPA) Accredited Building Inspector, Joshua Ambrose (#ACC-0120-6-001) performed an asbestos building inspection and collected bulk samples of all suspect building materials identified throughout the property located at 524 NW Boulevard., Vineland NJ. The inspection was required prior to initiating the proposed renovations scheduled within the building. All accessible suspect materials were assessed and bulk sampled at the time of the inspection and are included within this report.

Laboratory analysis of the suspect asbestos containing building materials (ACBM) revealed that the following materials sampled (Table 1.0) to have an asbestos content of greater than one percent (1%). A complete summary of the Non-Asbestos materials identified and sampled can be found in table 2.0.

Table 1.0: Asbestos Testing Results Summary			
Location	Material	Amount	Results
Room 101/Boiler Room (Basement)	Elbows associated with Fiberglass Pipe Insulation	75 EA	6% Amosite 40% Chrysotile
	Mag Pipe Insulation & Associated Fitting	150 LF	8% Amosite
	Tank Insulation (Expansion Tank)	35 SF	10% Amosite
Main Kitchen/Storage Area/Office Area (Throughout First Floor)	Caulk associated with Wall Vents	150 LF	4% Chrysotile
	Pipe Fitting Insulation associated with Fiberglass Pipe Insulation	450 EA	6% Amosite 40% Chrysotile
Exterior	Caulk (Brown) Various Locations on Brick Walls**	1,600 LF	1.5% Chrysotile
Room 201/First Floor Air Handler Room	Gasket associated with AHU	250 LF	8% Chrysotile
	Pipe Fitting Insulation associated with Fiberglass Pipe Insulation	20 EA	6% Amosite 40% Chrysotile
Room 206B (First Floor)	2'x2' Transite Ceiling Tile	275 SF	12% Chrysotile
Wall Cavity Adjacent to Roof Access/Storage Rooms and Halls	Mag Pipe Insulation & Associated Fitting	140 LF	8% Amosite

****Will not be impacted by proposed renovations**



TTI recommends that all identified ACBM that will be directly impacted, or has a high potential of being impacted during the course of building renovation activities be properly removed and disposed of as asbestos containing waste. All required abatement activities shall be conducted according to all applicable local, state and federal regulations and be performed by a New Jersey certified and licensed asbestos abatement contractor.

All ACBM identified that will not be impacted during daily activities or during future renovation activities may remain intact and undisturbed within the building. It is recommended that the all remaining materials be included in an operations and maintenance (O&M) program. As part of the O&M program, the condition of the remaining materials shall be periodically checked. If any of the materials become damaged, then the appropriate corrective actions must be performed to ensure the safety of the building occupants and contractors.

Table 2.0: Confirmed Non-Asbestos Materials Identified and Bulk Sampled	
Vineland Veterans Memorial Home - Storage Building	
CMU Block Mortar	Small Diameter Elbows associated with Fiberglass Pipe Insulation not in the Boiler Room
Expansion Joint associated with CMU Block Walls	Wet Bed associated with 4" Brown Ceramic Floor Tile
2'x4' Dotted Ceiling Tile	Thinset associated with 4" Yellow Ceramic Wall Tile
Gray Caulk associated with Metal Kitchen Walls	2'x4' Large Fissure Ceiling Tile
Wall Packing Material	White Caulk associated with Mounted Wall Fixtures
2'x4' Small Fissure Ceiling Tile	Caulk associated with Doors
Wet bed associated with 1" Blue Ceramic Wall Tile	Thinset associated with 4" Blue Ceramic Wall Tile
Wet bed associated with 1" Tan Ceramic Wall Tile	Thinset associated with 4" Tan Ceramic Wall Tile
Gray Caulk associated with Windows	Vibration Cloth associated with AHU
White Caulk associated with Brick Wall	Brick Mortar
Batt Insulation above Drop Ceiling	White Mastic associated with Fiberglass Pipe Insulation
Gasket associated with AHU	Caulk associated with Windows
Gasket associated with Cooler Walls Inside	Gasket associated with Cooler Walls Outside
Fiberglass Pipe Insulation Packing Material	Drywall/Joint Compound
2'x4' Dot Ceiling Tile	Fire Door Insulation
Insulation associated with Cooler Doors	Exterior Caulk



Asbestos Bulk Sampling

Vineland Veterans Memorial Home – Storage Building

TTI Project No. 20-1451

October 29, 2021

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TTI recommends bulk sampling any previously concealed suspect materials inaccessible at the time of inspection that are exposed during future surveys and/or renovations. The associated bulk sample laboratory results of newly discovered materials must be available prior to the commencement of any activities that would impact them. If the sampled materials are confirmed to contain greater than one (1%) percent asbestos, then the scheduled activities should conform to all applicable local, state and federal regulations.

If you should have any questions or require additional information, please feel free to contact me directly.

Sincerely,
TTI ENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read "Michael R. Stocku", is written over a faint, light blue circular stamp or watermark.

Michael R. Stocku
Senior Project Manager



ATTACHMENT 1.0

SAMPLING DATA AND ANALYTICAL RESULTS



EMSL Analytical, Inc.

200 Route 130 North Cinnaminson, NJ 08077
 Phone/Fax: (800) 220-3675 / (856) 786-5974
<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order ID: 042002738
 Customer ID: TTIE54
 Customer PO: 030196
 Project ID:

Attn: Michael Stocku
 TTI Environmental Inc.
 1253 North Church Street
 Moorestown, NJ 08057

Phone: (856) 840-8800
Fax: (856) 840-8815
Collected: 1/30/2020
Received: 1/31/2020
Analyzed: 2/29/2020

Proj: 20-096 / NJDMA / Storage Building

Summary Test Report for Asbestos Analysis in Accordance with N.J.A.C. 8:60 and 12:120 via EPA 600/R-93/116

Client Sample ID: 01-01 **Lab Sample ID:** 042002738-0001

Sample Description: Room 101 / Boiler Room/Elbows associated with Fiberglass Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	Gray/White	12.0%	88.0%	None Detected	

Client Sample ID: 01-02 **Lab Sample ID:** 042002738-0002

Sample Description: Room 101 / Boiler Room/Elbows associated with Fiberglass Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	Gray/White	30.0%	24.0%	6% Amosite 40% Chrysotile	

Client Sample ID: 01-03 **Lab Sample ID:** 042002738-0003

Sample Description: Room 101 / Boiler Room/Elbows associated with Fiberglass Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020				Positive Stop (Not Analyzed)	

Client Sample ID: 01A-04 **Lab Sample ID:** 042002738-0004

Sample Description: Room 203/Elbows associated with Fiberglass Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/13/2020	Gray	40.0%	60.0%	None Detected	

Client Sample ID: 01A-05 **Lab Sample ID:** 042002738-0005

Sample Description: Room 206/Elbows associated with Fiberglass Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/13/2020	Gray	50.0%	50.0%	None Detected	

Client Sample ID: 01A-06 **Lab Sample ID:** 042002738-0006

Sample Description: Room 201/Elbows associated with Fiberglass Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/13/2020	Gray	70.0%	30.0%	None Detected	

Client Sample ID: 02-07 **Lab Sample ID:** 042002738-0007

Sample Description: Room 202/CMU Block Mortar

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	White	0.0%	100.0%	None Detected	



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Summary Test Report for Asbestos Analysis in Accordance with N.J.A.C. 8:60 and 12:120 via EPA 600/R-93/116

Client Sample ID: 02-08 **Lab Sample ID:** 042002738-0008

Sample Description: Room 205/CMU Block Mortar

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 03-09 **Lab Sample ID:** 042002738-0009

Sample Description: Room 208/Wet Bed associated with 4" Brown Ceramic Floor Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 03-10 **Lab Sample ID:** 042002738-0010

Sample Description: Room 205/Wet Bed associated with 4" Brown Ceramic Floor Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 04-11 **Lab Sample ID:** 042002738-0011

Sample Description: Room 203A/Expansion Joint associated with CMU Block Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 04-12 **Lab Sample ID:** 042002738-0012

Sample Description: Room 203A/Expansion Joint associated with CMU Block Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 05-13 **Lab Sample ID:** 042002738-0013

Sample Description: Room 205/Caulk associated with Vents in the Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	Tan/White	0.0%	96.0%	4% Chrysotile	

Client Sample ID: 05-14 **Lab Sample ID:** 042002738-0014

Sample Description: Room 205/Caulk associated with Vents in the Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020				Positive Stop (Not Analyzed)	

Client Sample ID: 06-15-Thinset **Lab Sample ID:** 042002738-0015

Sample Description: Room 205/Thinset associated with Yellow 4" Ceramic Wall Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	White	0.0%	100.0%	<1% Chrysotile	



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Summary Test Report for Asbestos Analysis in Accordance with N.J.A.C. 8:60 and 12:120 via EPA 600/R-93/116

Client Sample ID: 06-15-Grout **Lab Sample ID:** 042002738-0015A

Sample Description: Room 205/Grout associated with Yellow 4" Ceramic Wall Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 06-16-Thinset **Lab Sample ID:** 042002738-0016

Sample Description: Room 206/Thinset associated with Yellow 4" Ceramic Wall Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	100.0%	<1% Chrysotile	

Client Sample ID: 06-16-Grout **Lab Sample ID:** 042002738-0016A

Sample Description: Room 206/Grout associated with Yellow 4" Ceramic Wall Tile,

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 07-17 **Lab Sample ID:** 042002738-0017

Sample Description: Room 206/2x4 Dotted Ceiling Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	Gray	80.0%	20.0%	None Detected	

Client Sample ID: 07-18 **Lab Sample ID:** 042002738-0018

Sample Description: Room 207/2x4 Dotted Ceiling Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	80.0%	20.0%	None Detected	

Client Sample ID: 08-19 **Lab Sample ID:** 042002738-0019

Sample Description: Room 205/2x4 Large Fissure Ceiling Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	Gray/White	65.0%	35.0%	None Detected	

Client Sample ID: 08-20 **Lab Sample ID:** 042002738-0020

Sample Description: Room 205/2x4 Large Fissure Ceiling Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray/White	70.0%	30.0%	None Detected	

Client Sample ID: 09-21 **Lab Sample ID:** 042002738-0021

Sample Description: Room 205/Gray Caulk associated with Metal Kitchen Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	Gray	0.0%	100.0%	None Detected	
TEM Grav. Reduction	2/05/2020	Gray	0.0%	100.0%	None Detected	



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Client Sample ID: 09-22 **Lab Sample ID:** 042002738-0022

Sample Description: Room 205/Gray Caulk associated with Metal Kitchen Walls

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 10-23 **Lab Sample ID:** 042002738-0023

Sample Description: Room 205/White Caulk associated with Mounted Wall Fixtured

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	White	0.0%	100.0%	None Detected	
TEM Grav. Reduction	2/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 10-24 **Lab Sample ID:** 042002738-0024

Sample Description: Room 205/White Caulk associated with Mounted Wall Fixtured

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 11-25 **Lab Sample ID:** 042002738-0025

Sample Description: Room 205/Wall Packing Material

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	Gray/White	0.0%	100.0%	None Detected	

Client Sample ID: 11-26 **Lab Sample ID:** 042002738-0026

Sample Description: Room 206/Wall Packing Material

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray/White	0.0%	100.0%	None Detected	

Client Sample ID: 12-27 **Lab Sample ID:** 042002738-0027

Sample Description: Room 206B/Caulk associated with Doors

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	Brown/White/Blue	0.0%	100.0%	None Detected	
TEM Grav. Reduction	2/05/2020	Brown/White/Blue	0.00%	99.35%	0.65% Chrysotile	

Client Sample ID: 12-28 **Lab Sample ID:** 042002738-0028

Sample Description: Room 101 / Boiler Room/Caulk associated with Doors

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Brown/White/Blue	0.0%	100.0%	None Detected	

Client Sample ID: 13-29 **Lab Sample ID:** 042002738-0029

Sample Description: Room 209/2x4 Small Fissure Ceiling Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	1/31/2020	Gray/White	75.0%	25.0%	None Detected	



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Client Sample ID: 13-30 **Lab Sample ID:** 042002738-0030
Sample Description: Room 209/2x4 Small Fissure Ceiling Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray/White	70.0%	30.0%	None Detected	

Client Sample ID: 14-31 **Lab Sample ID:** 042002738-0031
Sample Description: Room 210R/Thinset associated with Blue Ceramic Wall Tile 4"

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 14-32 **Lab Sample ID:** 042002738-0032
Sample Description: Room 210R/Thinset associated with Blue Ceramic Wall Tile 4"

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 15-33 **Lab Sample ID:** 042002738-0033
Sample Description: Room 210R/Wet Bed associated with 1" Blue Ceramic Floor Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 15-34 **Lab Sample ID:** 042002738-0034
Sample Description: Room 210R/Wet Bed associated with 1" Blue Ceramic Floor Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 16-35 **Lab Sample ID:** 042002738-0035
Sample Description: Room 212R/Thinset associated with 4" Tan Ceramic Wall Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 16-36 **Lab Sample ID:** 042002738-0036
Sample Description: Room 212R/Thinset associated with 4" Tan Ceramic Wall Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 17-37 **Lab Sample ID:** 042002738-0037
Sample Description: Room 212R/Wet Bed associated with 1" Tan Ceramic Floor Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Beige	0.0%	100.0%	None Detected	



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Client Sample ID: 17-38 **Lab Sample ID:** 042002738-0038

Sample Description: Room 212R/Wet Bed associated with 1" Tan Ceramic Floor Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 18-39 **Lab Sample ID:** 042002738-0039

Sample Description: Room 201/Vibration Cloth associated with AHU

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray/White	90.0%	10.0%	None Detected	

Client Sample ID: 18-40 **Lab Sample ID:** 042002738-0040

Sample Description: Room 201/Vibration Cloth associated with AHU

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray/White	90.0%	10.0%	None Detected	

Client Sample ID: 19-41 **Lab Sample ID:** 042002738-0041

Sample Description: Outside/Gray Caulk associated with Windows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	0.0%	100.0%	None Detected	
TEM Grav. Reduction	2/05/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 19-42 **Lab Sample ID:** 042002738-0042

Sample Description: Outside/Gray Caulk associated with Windows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 20-43 **Lab Sample ID:** 042002738-0043

Sample Description: Outside/Brown Caulk associated with Brick Wall

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Brown	0.0%	100.0%	None Detected	
TEM Grav. Reduction	2/05/2020	Brown	0.0%	98.5%	1.5% Chrysotile	

Client Sample ID: 20-44 **Lab Sample ID:** 042002738-0044

Sample Description: Outside/Brown Caulk associated with Brick Wall

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Brown	0.0%	100.0%	None Detected	

Client Sample ID: 21-45 **Lab Sample ID:** 042002738-0045

Sample Description: Outside/Brick Mortar

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Beige	0.0%	100.0%	None Detected	



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Client Sample ID: 21-46 **Lab Sample ID:** 042002738-0046

Sample Description: Outside/Brick Mortar

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Beige	0.0%	100.0%	None Detected	

Client Sample ID: 22-47 **Lab Sample ID:** 042002738-0047

Sample Description: Outside/White Caulk associated with Brick Wall

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	100.0%	None Detected	
TEM Grav. Reduction	2/05/2020	White/Red	0.0%	100.0%	None Detected	

Client Sample ID: 22-48 **Lab Sample ID:** 042002738-0048

Sample Description: Outside/White Caulk associated with Brick Wall

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 23-49 **Lab Sample ID:** 042002738-0049

Sample Description: Room 203/White Mastic associated with Fiberglass Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	60.0%	40.0%	None Detected	
TEM Grav. Reduction	2/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 23-50 **Lab Sample ID:** 042002738-0050

Sample Description: Room 208/White Mastic associated with Fiberglass Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	15.0%	85.0%	None Detected	

Client Sample ID: 23-51 **Lab Sample ID:** 042002738-0051

Sample Description: Room 206/White Mastic associated with Fiberglass Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	70.0%	30.0%	None Detected	

Client Sample ID: 24-52 **Lab Sample ID:** 042002738-0052

Sample Description: Room 206B/Batt Insulation above Drop Ceiling

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Brown/Pink	95.0%	5.0%	None Detected	

Client Sample ID: 24-53 **Lab Sample ID:** 042002738-0053

Sample Description: Room 206B/Batt Insulation above Drop Ceiling

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Brown/Black/Pink	90.0%	10.0%	None Detected	



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Client Sample ID: 25-54 **Lab Sample ID:** 042002738-0054
Sample Description: Room 101/Caulk associated with Windows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	100.0%	None Detected	
TEM Grav. Reduction	2/05/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 25-55 **Lab Sample ID:** 042002738-0055
Sample Description: Room 101/Caulk associated with Windows

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 26-56 **Lab Sample ID:** 042002738-0056
Sample Description: Room 201/Gasket associated with AHU

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	0.0%	92.0%	8% Chrysotile	

Client Sample ID: 26-57 **Lab Sample ID:** 042002738-0057
Sample Description: Room 201/Gasket associated with AHU

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020				Positive Stop (Not Analyzed)	

Client Sample ID: 27-58 **Lab Sample ID:** 042002738-0058
Sample Description: Room 204A/Gasket associated with Cooler Walls Outside

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 27-59 **Lab Sample ID:** 042002738-0059
Sample Description: Room 204B/Gasket associated with Cooler Walls Outside

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 28-60 **Lab Sample ID:** 042002738-0060
Sample Description: Room 204A/Gasket associated with Cooler Walls Inside

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	0.0%	100.0%	None Detected	

Client Sample ID: 28-61 **Lab Sample ID:** 042002738-0061
Sample Description: Room 204B/Gasket associated with Cooler Walls Inside

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	0.0%	100.0%	None Detected	



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Client Sample ID: 29-62 **Lab Sample ID:** 042002738-0062

Sample Description: Room 206B/2x2 Transite Ceiling Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	0.0%	88.0%	12% Chrysotile	

Client Sample ID: 29-63 **Lab Sample ID:** 042002738-0063

Sample Description: Room 206B/2x2 Transite Ceiling Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020				Positive Stop (Not Analyzed)	

Client Sample ID: 30-64-Drywall **Lab Sample ID:** 042002738-0064

Sample Description: Room 204/Drywall

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray/Tan	10.0%	90.0%	None Detected	

Client Sample ID: 30-64-Joint Compound **Lab Sample ID:** 042002738-0064A

Sample Description: Room 204/Joint Compound

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020				Layer Not Present	

Client Sample ID: 30-65-Drywall **Lab Sample ID:** 042002738-0065

Sample Description: Room 204/Drywall

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Brown/White	15.0%	85.0%	None Detected	

Client Sample ID: 30-65-Joint Compound **Lab Sample ID:** 042002738-0065A

Sample Description: Room 204/Joint Compound

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020				Layer Not Present	

Client Sample ID: 31-66 **Lab Sample ID:** 042002738-0066

Sample Description: Room 101 Low Pressure/Mag Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	White	0.0%	92.0%	8% Amosite	

Client Sample ID: 31-67 **Lab Sample ID:** 042002738-0067

Sample Description: Room 101 Low Pressure/Mag Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020				Positive Stop (Not Analyzed)	



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EMSL Order ID: 042002738
Customer ID: TTIE54
Customer PO: 030196
Project ID:

Summary Test Report for Asbestos Analysis in Accordance with N.J.A.C. 8:60 and 12:120 via EPA 600/R-93/116

Client Sample ID: 31-68 **Lab Sample ID:** 042002738-0068

Sample Description: Room 101 Low Pressure/Mag Pipe Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020					Positive Stop (Not Analyzed)

Client Sample ID: 32-69 **Lab Sample ID:** 042002738-0069

Sample Description: Room 201/Fiberglass Pipe Insulation Packing Material

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	50.0%	50.0%	None Detected	

Client Sample ID: 32-70 **Lab Sample ID:** 042002738-0070

Sample Description: Room 201/Fiberglass Pipe Insulation Packing Material

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/03/2020	Gray	45.0%	55.0%	None Detected	

Client Sample ID: 30-71 **Lab Sample ID:** 042002738-0071

Sample Description: Room 204/Joint Compound

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/29/2020	White	0.0%	100.0%	None Detected	

Client Sample ID: 30-72 **Lab Sample ID:** 042002738-0072

Sample Description: Room 204/Joint Compound

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	2/29/2020	White	0.0%	100.0%	None Detected	



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EMSL Order ID: 042002738
Customer ID: TTIE54
Customer PO: 030196
Project ID:

Summary Test Report for Asbestos Analysis in Accordance with N.J.A.C. 8:60 and 12:120 via EPA 600/R-93/116

Analyst(s):

Chelsey Donnelly	PLM (2)
Diane Turcios	TEM Grav. Reduction (8)
Ebony Miller	PLM (1)
Keishla Vazquez Caraballo	PLM (1)
Kelly Thomas	PLM (19)
Kyle DeKarski	PLM (1)
Marvalyn Sandling	PLM (15)
Spencer Taylor	PLM (29)

Reviewed and approved by:

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, LA #04127

Report amended: 02/13/2020 12:37:00 Replaces initial report from: 02/03/2020 22:27:07 Reason Code: Client-Additional Analysis

2017


 1253 North Church Street, Moorestown, NJ 08057
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042002738

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PLM Sampling Data and Chain of Custody Record

PO: 030196

TTI PM: ☐ Jim Gullardi ☒ Michael Stocku

PROJ #: 20-096

CLIENT: NTDMA

FACILITY: Storage Building

SAMPLER(S): Josh

DATE: 1-30-2020

Sample #	Sample Location	Material Description	Sample Container
01-01	Room 101/Boiler Room	Elbow: Asclu fiber-glass pipe insulation	
01-02	↓		
01-03	↓		
01-04	Room 203		
01-05	Room 206		
01-06	Room 201		
02-07	Room 202	CMU Block Mortar	
02-08	Room 205	CMU Block Mortar	
03-09	Room 208	Wet Bed Asclu 4" Brown ceramic F/T	
03-10	Room 205	Wet Bed Asclu 4" Brown ceramic F/T	
04-11	Room 203A	Expansion Joint Asclu CMU Block walls	
04-12	Room 203A	Expansion Joint Asclu CMU Block walls	
05-13	Room 205	Caulk Asclu Vents in the walls	
05-14	Room 205	Caulk Asclu Vents in the walls	
06-15	Room 205	Thrust Asclu Yellow 4" ceramic wall tile	

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
<i>[Signature]</i>			CB (M)	1-31-20	4:00 PM

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

NOB MATERIALS:

☒ Perform TEM analysis of 1" sample in each homogeneous group (Initials *[Signature]*)

☒ For NOB samples with insufficient material for TEM analysis, please perform composite analysis using material from other samples in the same homogeneous group. (Initials *[Signature]*)

☐ For NOB samples, please stop analysis when the following number of samples have been analyzed: *[Signature]* (Initials *[Signature]*)

☒ Perform Composite Analysis on positive sheetrock/joint compound samples. (Initials *[Signature]*)

Rev'd Revised 2.13.20



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Asbestos Bulk Sample Data and Chain of Custody Record

PO: 030196

PROJ #: 20-096

CLIENT: NJ DMA

CONTACT: Bill McBride

TTI PM:

☐ Jim Guilardi
☐ Michael Keen

☒ Michael Stocku

FACILITY: Storage Building

SAMPLER(S): Josh

DATE: 1-30-2020

Hom ID	Sample #	Room / Location	Material Description	Friable		Analysis Method
				Y	N	
06	16	Room 206	Thinset Asclu Yellow 4" ceramic wall tile			
07	17	Room 206	2x4 Dotted C/T			
07	18	Room 207	2x4 Dotted C/T			
08	19	Room 205	2x4 Large Fissure C/T			
08	20	Room 205	2x4 Large Fissure C/T			
09	21	Room 205	Gray caulk Asclu Metal Kitchen walls			
09	22	Room 205	Gray caulk Asclu Metal Kitchen walls			
10	23	Room 205	White caulk Asclu mounted wall fixtures			
10	24	Room 205	White caulk Asclu mounted wall fixtures			
11	25	Room 205	Wall Packing Material			
11	26	Room 206	Wall Packing Material			
12	27	Room 206B	Caulk Asclu Doors			
12	28	Room 101/Boiler room	Caulk Asclu Doors			
13	29	Room 209	2x4 small Fissure C/T			
13	30	Room 209	2x4 small Fissure C/T			
Relinquished by: (Signature)		Date	Time	Received by: (Signature)	Date	Time
[Signature]						
Relinquished by: (Signature)		Date	Time	Received by: (Signature)	Date	Time
[Signature]						
NOB MATERIALS:		Turnaround Time	Stop First Positive			
<input checked="" type="checkbox"/> Perform TEM analysis of 1" sample in each homogeneous group.						
<input checked="" type="checkbox"/> For NOB samples with insufficient material for TEM analysis, please perform composite analysis using material from other samples in the same homogeneous group. (Initials _____)						
<input type="checkbox"/> For NOB samples, please stop analysis when the following number of samples have been analyzed. (Initials _____)						
<input checked="" type="checkbox"/> Perform Composite Analysis on positive sheetrock/joint compound samples. (Initials _____)						



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Asbestos Bulk Sample Data and Chain of Custody Record

PO: 030196

PROJ # 20-096 Client: NJ DMA

CONTACT: Bill McBride


TTI PM: ☐ Jim Guilardi ☒ Michael Stocku

FACILITY: Storage Building

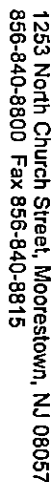
SAMPLER(S): Josh

DATE: 1-30-2020

erID: 042002738

Hom ID	Sample #	Room / Location	Material Description	Friable		Analysis Method
				Y	N	
14	31	Room 210R Room 210R	Thinset Asclu w/ceramic wall tile 4"			RECEIVED ENSL CINNAMINSON, NJ JAN 31 P 4:03
14	32	Room 210R	Thinset Asclu 4" Blue ceramic wall tile			
15	33	Room 210R	Wet Bed Asclu 2" Blue ceramic Floor tile			
15	34	Room 210R	Wet Bed Asclu 2" Blue ceramic Floor tile			
16	35	Room 212R	Thinset Asclu 4" Tan ceramic wall tile			
16	36	Room 212R	Thinset Asclu 4" Tan ceramic wall tile			
17	37	Room 212R	Wet Bed Asclu 2" Tan ceramic Floor tile			
17	38	Room 212R	Wet Bed Asclu 2" Tan ceramic Floor tile			
18	39	Room 201	Vibration cloth Asclu AHC			
18	40	Room 201	Vibration cloth Asclu AHC			
19	41	outside	Gray caulk Asclu windows			
19	42	outside	Gray caulk Asclu windows			
20	43	outside	Brown caulk Asclu Brick wall			
20	44	outside	Brown caulk Asclu Brick wall			
21	45	outside	Brick Mortar			
Relinquished by: (Signature)		Date	Time	Received by: (Signature)	Date	Time
						
Relinquished by: (Signature)		Date	Time	Received by: (Signature)	Date	Time
24		Turnaround Time	<input checked="" type="checkbox"/> Stop First Positive			
NOB MATERIALS:						
<input checked="" type="checkbox"/> Perform TEM analysis of 1st sample in each homogeneous group. (Initials <u>JS</u>)						
<input checked="" type="checkbox"/> For NOB samples with insufficient material for TEM analysis, please perform composite analysis using material from other samples in the same homogeneous group. (Initials <u>JS</u>)						
<input type="checkbox"/> For NOB samples, please stop analysis when the following number of samples have been analyzed. _____ (Initials _____)						
<input checked="" type="checkbox"/> Perform Composite Analysis on positive sheetrock/joint compound samples. (Initials _____)						


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Asbestos Bulk Sample Data and Chain of Custody Record

PO: 030196

PROJ #: 20-096		CLIENT: NJ DM A		CONTACT: Bill McBride		TTI PM: <input type="checkbox"/> Jim Gullard <input checked="" type="checkbox"/> Michael Keen		DATE: 1-30-2020	
FACILITY: Storage Building				SAMPLER(S): Josh					
Hom ID	Sample #	Room / Location	Material Description			Friable		Analysis Method	
						Y	N		
21	46	outside	Brick Mortar						
22	47	outside	White caulk Asc/w Brick wall						
22	48	outside	White caulk Asc/w Brick wall						
23	49	Room 203	White Mastic Asc/w Fiberglass Pipe Insulation						
23	50	Room 208	White Mastic Asc/w Fiberglass Pipe Insulation						
23	51	Room 206	White Mastic Asc/w Fiberglass Pipe Insulation						
24	52	Room 206B	Batt Insulation above drop ceiling						
24	53	Room 206B	Batt Insulation above drop ceiling						
25	54	Room 101	Caulk Asc/w windows						
25	55	Room 101	Caulk Asc/w windows						
26	56	Room 201	Gasket Asc/w A.H.U.						
26	57	Room 201	Gasket Asc/w A.H.U.						
27	58	Room 204 A	Gasket Asc/w Cooler walls outside						
27	59	Room 204 B	Gasket Asc/w Cooler walls outside						
28	60	Room 204 A	Gasket Asc/w Cooler walls inside						
Relinquished by: (Signature)		Date	Time	Received by: (Signature)	Date	Time	<input checked="" type="checkbox"/> Turnaround Time <input type="checkbox"/> Stop First Positive		
							NOB MATERIALS: <input checked="" type="checkbox"/> Perform TEM analysis of 1 st sample in each homogeneous group. (Initials _____) <input checked="" type="checkbox"/> For NOB samples with insufficient material for TEM analysis, please perform composite analysis using material from other samples in the same homogeneous group. (Initials _____) <input type="checkbox"/> For NOB samples, please stop analysis when the following number of samples have been analyzed. (Initials _____) <input checked="" type="checkbox"/> Perform Composite Analysis on positive sheetrock/joint compound samples. (Initials _____)		



PO: 034196

Michael Stocku

DATE: 1-30-2020

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Asbestos Bulk Sample Data and Chain of Custody Record

PO: 030196

PROJ #: 20-096		CLIENT: NJDMA		CONTACT: Bill McBrade		TTIPM: <input type="checkbox"/> Jim Guillard <input type="checkbox"/> Michael Keehn		Michael Stocku	
FACILITY: Storage Building				SAMPLER(S): Josh		DATE: 1-30-2020			
Hom ID	Sample #	Room / Location	Material Description			Friable Y N		Analysis Method	
28	61	Room 204B	Gasket Asc/W Cooler Wall Inside						
29	62	Room 206B	2x2 transite c/t						
29	63	Room 206B	2x2 Transite c/t						
30	64	Room 204	Drywall / Joint compound						
30	65	Room 204	Drywall / Joint compound						
31	66	Room 101 "Low Pressure"	Mag Pipe Insulation						
31	67	Room 101 "Low Pressure"	Mag Pipe Insulation						
31	68	Room 101 "Low Pressure"	Mag Pipe Insulation						
32	69	Room 201	Pipe Fiberglass Pipe Insulation Packing Material						
32	70	Room 201	Fiberglass Pipe Insulation Packing Material						
30	71	Room 204	Joint compound						
30	72	Room 204	Joint compound						
Relinquished by: (Signature)		Date	Time	Received by: (Signature)	Date	Time	Turnaround Time	<input type="checkbox"/> Stop First Positive	
[Signature]							24		
NOB MATERIALS: <input checked="" type="checkbox"/> Perform TEM analysis of 1 st sample in each homogeneous group. (Initials) <input checked="" type="checkbox"/> For NOB samples with insufficient material for TEM analysis, please perform composite analysis using material from other samples in the same homogeneous group. (Initials) <input type="checkbox"/> For NOB samples, please stop analysis when the following number of samples have been analyzed. (Initials) <input checked="" type="checkbox"/> Perform Composite Analysis on positive sheetrock/joint compound samples. (Initials)									

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EMSL Order: 042005138

Customer ID: TTIE54

Customer PO: 030466

Project ID:

Attention: Michael Stocku

TTI Environmental Inc.

1253 North Church Street

Moorestown, NJ 08057

Phone: (609) 304-3969

Fax: (856) 840-8815

Received Date: 02/26/2020 11:50 AM

Analysis Date: 02/27/2020

Collected Date: 02/26/2020

Project: 20-096 / NJDMA / 524 North West Blvd, Vineland, NJ

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
01	Hat Cart Room - 2x4 Dot CT	Gray/White Fibrous Homogeneous	5% Cellulose 90% Min. Wool	5% Non-fibrous (Other)	None Detected
042005138-0001			HA: B01		
02	Hat Cart Room - 2x4 Dot CT	Gray Fibrous Homogeneous	40% Min. Wool	60% Non-fibrous (Other)	None Detected
042005138-0002			HA: B01		

Analyst(s)

Shelby Baker (1)

Tyler Hurwitt (1)

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NYS ELAP 10872, NJ DEP 03036, PA ID# 68-00367, LA #04127

Initial report from: 02/27/2020 09:37:55



Asbestos Bulk Sample Data and Chain of Custody Record

PO: 030466

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<http://www.EMSL.com> / cinnasblab@EMSL.com

EMSL Order ID: 042125949
 Customer ID: TTIE54
 Customer PO:
 Project ID:

Attn: Michael Stocku
 TTI Environmental Inc.
 1253 North Church Street
 Moorestown, NJ 08057

Phone: (856) 840-8800
Fax: (856) 840-8815
Collected: 10/15/2021
Received: 10/15/2021
Analyzed: 10/21/2021

Proj: 20-096 / NJ Military Affairs / Vineland Armory

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: 01-01 **Lab Sample ID:** 042125949-0001

Sample Description: Kitchen/2x4 Dotted Ceiling Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/16/2021	Gray	80.0%	20.0%	None Detected	

Client Sample ID: 01-02 **Lab Sample ID:** 042125949-0002

Sample Description: Kitchen/2x4 Dotted Ceiling Tile

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/18/2021	Gray	70.0%	30.0%	None Detected	

Client Sample ID: 02-03 **Lab Sample ID:** 042125949-0003

Sample Description: Mens Bathroom/Fire Door Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/16/2021	White	90.0%	10.0%	None Detected	

Client Sample ID: 02-04 **Lab Sample ID:** 042125949-0004

Sample Description: Womens Bathroom/Fire Door Insulation

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/18/2021	White	90.0%	10.0%	None Detected	

Client Sample ID: 03-05 **Lab Sample ID:** 042125949-0005

Sample Description: Walk in Cooler/Insulation a/w Cooler Doors

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/16/2021	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 03-06 **Lab Sample ID:** 042125949-0006

Sample Description: Walk in Cooler/Insulation a/w Cooler Doors

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/18/2021	Yellow	0.0%	100.0%	None Detected	

Client Sample ID: 04-07 **Lab Sample ID:** 042125949-0007

Sample Description: Flu on Roof/Exterior Caulk

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/16/2021	Gray	0.0%	100.0%	None Detected	
TEM Grav. Reduction	10/21/2021	Gray	0.0%	100.0%	None Detected	



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EMSL Order ID: 042125949
Customer ID: TTIE54
Customer PO:
Project ID:

Summary Test Report for Asbestos Analysis of Bulk Material via EPA 600/R-93/116

Client Sample ID: 04-08

Lab Sample ID: 042125949-0008

Sample Description: Flu on Roof/Exterior Caulk

TEST	Analyzed Date	Color	Non-Asbestos		Asbestos	Comment
			Fibrous	Non-Fibrous		
PLM	10/18/2021	Gray	0.0%	100.0%	None Detected	

Analyst(s):

Brian Kibelstis PLM (4)
Gregory Barry PLM (4)
Seri Smith TEM Grav. Reduction (1)

Reviewed and approved by:

Samantha Rundstrom, Laboratory Manager
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Cinnaminson, NJ NVLAP Lab Code 101048-0, AIHA-LAP, LLC-IHLAP Lab 100194, NJ DEP 03036, PA ID# 68-00367, LA #04127

Report amended: 10/21/2021 13:37:39 Replaces initial report from: 10/18/2021 11:21:57 Reason Code: Client-Additional Analysis

[illegible]

SECTION 03300
CONCRETE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Related Sections
 - 1. SECTION 01400 – Quality Requirements
 - 2. SECTION 02300 - Earthwork
 - 3. SECTION 03395 – Concrete Sealing
 - 4. SECTION 04200 – Unit Masonry
 - 5. SECTION 05500 – Miscellaneous Metals
 - 6. SECTION 07230 – Building Insulation
 - 7. SECTION 07900 – Joint Sealants
 - 8. SECTION 13000 – Pre-Engineered Metal Building

1.02 SUMMARY

- A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mix design, placement procedures, and finishes.

1.03 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and silica fume.

1.04 SUBMITTALS

- A. Refer to Structural Drawings for requirements

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed concrete Work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment. Manufacturer must be certified according to the National Ready Mixed Concrete Association's Certification of Ready Mixed Concrete Production Facilities.
- C. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 to conduct the testing indicated, as documented according to ASTM E 548. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1. Personnel conducting field inspection of steel reinforcement, member layout, member sizing, etc. shall be qualified as ACI Concrete Special Inspector.
 - 1. Testing Agency to provide list of proposed inspectors and field testing personnel with copy of ACI Certifications to Architect for review upon request.
- C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, each aggregate from one source, and each admixture from the same manufacturer.
- D. Codes and Standards: Comply with provisions of the following codes; specifications and standards, except where more stringent requirements as shown or specified:
 - 1. ACI 117, "Standard Specifications for Tolerances for Concrete Construction and Materials."
 - 2. ACI 301, "Specification for Structural Concrete."
 - 3. ACI 302, "Guide for Concrete Floor and Slab Construction."
 - 4. ACI 304, "Guide for Measuring, Mixing, Transporting and Placing Concrete."

5. ACI 305, "Hot Weather Concreting."
 6. ACI 306, "Cold Weather Concreting."
 7. ACI 308, "Standard Specification for Curing Concrete."
 8. ACI 315, "Details and Detailing of Concrete Reinforcement."
 9. ACI 318, "Building Code Requirements for Structural Concrete."
 10. ACI 347, "Guide to Formwork for Concrete."
 11. ACI 504, "Guide to Sealing Joints in Concrete Structures."
 12. CRSI, Concrete Reinforcing Steel Institute, "Manual of Standard Practice."
 13. ASTM C 1116, "Standard Specification for Fiber-Reinforced Concrete and Shotcrete."
 14. ASTM E 1155, "Standard Test Method for Determining Floor Flatness and Levelness Using the "F" Number System."
- E. Professional Engineer Qualifications: A New Jersey licensed professional engineer who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for formwork and shoring that are similar to those indicated for this Project in material, design, and extent.
 - F. Contract Closeout submittals: Comply with requirements of SECTION 01700, including submission of maintenance instructions as item in "General Construction Instructions" manual described in that section.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle steel reinforcement to prevent bending and damage.
- B. Store to avoid contact with the ground and in a location protected from vehicular traffic.
- C. Cover reinforcement to protect from bad weather.

PART 2 – PRODUCTS

2.01 FORM-FACING MATERIALS

- A. Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
- B. Plywood, metal, or other approved panel materials.
- C. Rough-Formed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.
- D. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum and as noted on the drawings.
- E. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces. Formulate form-release agent with rust inhibitor for steel form-facing materials.
- F. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.
 1. Furnish units that will leave no corrodible metal closer than 1 1/2 inch (25 mm) to the plane of the exposed concrete surface.
 2. Furnish ties that, when removed, will leave holes not larger than 1 inch (25 mm) in diameter in concrete surface.
 3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.02 CONCRETE REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615, Grade 60, deformed. Each reinforcing bar shall have an embossed identifying symbol indicating grade. Steel without such symbols may be rejected.
 - B. Plain-Steel Wire: ASTM A 82, as drawn.
- Plain-Steel Welded Wire Fabric: ASTM A185, fabricated from as-drawn steel wire into flat sheets. Wire fabric rolls are not permitted. Provide 6x6 – W2.1xW2.1 at interior 5-inch thick slab-on-grade and 6x6 – W1.4xW1.4 at interior 4-inch slab-on-grade.

2.03 REINFORCEMENT ACCESSORIES

- A. Bar and Welded Wire Fabric Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Manufacture supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete.
 - 1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected or CRSI Class 2 stainless-steel bar supports.

2.04 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I only. Blast-furnace slag cement, ASTM C 989 will not be accepted for use in this project.
- B. Normal-Weight Aggregate: ASTM C 33, uniformly graded, and as follows:
 - 1. Course Aggregate Size: ASTM C33
 - 2. Fine Aggregate: Natural washed sand of hard and durable particles varying from fine to particles passing a 3/8" screen, of which at least 12% shall pass a #50 mesh screen.
- C. Abrasive Aggregate for Non-Slip Finish: Crushed ceramically bonded aluminum oxide with rate of application 50 lb. Per 100 sq. Ft. Acceptable products include or approved equal:
 - 1. "Non-Slip Aggregate" by The Euclid Chemical Company, Cleveland, OH.
 - 2. "Frictex" by Sonneborn, Shakopee, MN.
 - 3. "Grip-It" by L&M Construction Chemicals, Omaha, NE.
 - 4. Or Approved Equal.
- D. Water: Clean, potable, free from injurious amounts of oils, acids, alkalis, salts, organic materials or other substances that are deleterious to concrete or reinforcement and complying with ASTM C 94.
- E. Pozzolanic mineral admixture, ASTM C 618, Class C or F (Fly ash) shall be permitted only in mixes for foundations and piers, and shall not exceed 15% of a design mixes' cementitious material.
- F. Calcium Chloride, Thiocyanates, or Admixtures containing more than 0.05% Chloride ions are not permitted in the concrete.

2.05 ADMIXTURES

- A. General: Admixtures certified by manufacturer to contain not more than 0.15 percent for exterior concrete and 0.30 percent for other concrete, water-soluble chloride ions by mass of cementitious material and to be compatible with other admixtures and cementitious materials. All concrete to contain water reducing admixture or high range water reducing admixture. Do not use admixtures containing calcium chloride.
- B. Air-Entraining Admixture: ASTM C 260. Air entrainment is not permitted for interior slabs on grade and elevated slabs. Provide air entrainment for all other concrete applications where concrete is exposed to the elements. Acceptable products include, but are not limited to:
 - 1. "Air Mix" by The Euclid Chemical Co., Cleveland, OH.
 - 2. Or Approved Equal
- C. Water-Reducing Admixture: ASTM C 494, Type A. Acceptable products include, but are not limited to:
 - 1. "Eucon WR-75" by The Euclid Chemical Co., Cleveland, OH.
 - 2. Or Approved Equal.
- D. High-Range, Water-Reducing Admixture (Superplasticizer): ASTM C 494, Type F. Acceptable products include, but are not limited to:
 - 1. "Eucon 37" by The Euclid Chemical Co., Cleveland, OH.
 - 2. Or Approved Equal.
- E. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E. Acceptable products include, but are not limited to:
 - 1. "Accelguard 80" by The Euclid Chemical Co., Cleveland, OH.
 - 2. Or Approved Equal.

- F. Water-Reducing and Retarding Admixture: ASTM C 494, Type D. Acceptable products include, but are not limited to:
 - 1. “Eucon Retarder” by The Euclid Chemical Co., Cleveland, OH.
 - 2. Or Approved Equal.
- G. The slump of the concrete from the truck shall be checked by the field inspector for the independent testing agency prior to the field addition of any admixtures. The required slump shall be in accordance with the specified measurements prior to the addition of the admixture.

2.06 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete, equal to:
 - 1. Cimfilm; Axim Concrete Technologies.
 - 2. Or Approved Equal
- B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry.
- C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- D. Water: Clean, potable, free from injurious amounts of oils, acids, alkalis, salts, organic materials or other substances that are deleterious to concrete or reinforcement.
- E. Clear, water-based, solvent free ASTM C 309 Type 1. Acceptable products include but are not limited to:
 - 1. “Kurex VOX” by The Euclid Chemical Co., Cleveland, OH.
 - 2. Or Approved Equal.

2.07 RELATED MATERIALS

- A. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or flexible, closed cell foam in accordance with ASTM D 5249, Type 1 and Type 3.
- B. Epoxy Joint Filler: Two-component, semi-rigid, 100 percent solids, epoxy resin with a Shore A hardness of 80 per ASTM D 2240.
- C. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy-Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class and grade to suit requirements, and as follows:
 - 1. Type II, non-load bearing, for bonding freshly mixed concrete to hardened concrete.
- E. Non-shrink Grout: ASTM C 1107, Grade A, non-metallic, non-shrink, high strength grout, suitable for interior and exterior, above and below grade applications. Minimum compressive strength of 6,000 psi in 28 days. Acceptable products include or equal to:
 - 1. “Set Grout” by Master Builders, Cleveland, OH.
 - 2. “Dry Pack Grout” or “NS Grout” by The Euclid Chemical Co., Cleveland, OH.
 - 3. “SikaGrout 212” by Sika, Lyndhurst, NJ.
 - 4. Or Approved Equal.
- F. Water stops: Water Stops, if identified on the drawings, shall be extruded from new stock polyvinyl chloride, ribbed, and expandable center bulb. The minimum width shall be 4 inches and minimum thickness shall be ¼ inch.
- G. Non-corrosive Accessory Requirements: Where concrete is exposed in finished structure, provide non-corrosive accessories or accessories protected against corrosion when located within ½” of concrete surface.
- H. Hardeners-Water-soluble, inorganic, silicate-base, colorless compound designed to harden concrete surface and improve abrasion resistance. Acceptable products include or equal to:
 - 1. “Eucosil” by The Euclid Chemical Company, Cleveland, OH.
 - 2. “Kure-N-Harden” by Sonneborn, Shakopee, MN.
 - 3. “Horncrete WB-309” by Tamms Industries, Mentor, OH.
 - 4. Or Approved Equal.

- I. Bond breakers – Waterborne, VOC compliant form release agent. Acceptable products include, or equal to:
 - 1. “Eucoslip VOX” by The Euclid Chemical Company, Cleveland, OH.
 - 2. “Cast-Off WB” by Sonneborn, Shakopee, MN.
 - 3. “Aquaform” by Tamms Industries, Mentor, OH.
 - 4. Or Approved Equal.
- J. Crack repair adhesive – High-modulus, low viscosity high strength epoxy adhesive. Acceptable products include or equal to:
 - 1. “Sikadur35” by Sika, Lyndhurst, NJ.
 - 2. “Duracrete LV” by Tamms Industries.
 - 3. “Rezi-Weld LV” by WR Meadows Corporation.
 - 4. Or Approved Equal.
- K. Proprietary patching materials – Polymer modified, Portland cement, thin coat patching mortar suitable for interior and exterior applications. Acceptable products include or equal to:
 - 1. “Euco SR-VO” by The Euclid Chemical Company, Cleveland, OH.
 - 2. “SikaTop 121 Plus” by Sika, Lyndhurst, NJ.
 - 3. “Sonocrete Patch” by Sonneborn, Shakopee, MN.
 - 4. Or Approved Equal.
- L. Bonding Grout – In lieu of cement/sand bonding grout describes in ACI 301, 5.3.7.4, provide ASTM C 881, high modulus, high strength, moisture insensitive, epoxy bonding/grouting adhesive specifically designed for bonding fresh, plastic mortar or concrete to hardened concrete and steel. Acceptable products include or equal to:
 - 1. “Euco #620 Epoxy System” by The Euclid Chemical Company, Cleveland, OH.
 - 2. “Concresive Standard LVI” by Master Builders, Cleveland, OH.
 - 3. “Sikadur 32, Hi-Mod” by Sika, Lyndhurst, NJ.
 - 4. Or Approved Equal.
- M. Epoxy adhesives – Heavy duty, two-component injectable epoxy adhesive designed to be dispensed using double chamber gun with mixing nozzle. Adhesives in capsule form will not be accepted. Acceptable products include or equal to:
 - 1. “Hit HY 150 Adhesive Anchor System” by Hilti Corporation
 - 2. “Power Fast Epoxy Injection Gel” by Power Fasteners Inc.
 - 3. “C6” by Red Head Anchoring Systems
 - 4. Or Approved Equal.
- N. Vapor Barrier – 10 mils thick polyethylene sheet in accordance with ASTM E1745, Class C.

2.08 CONCRETE MIXES

- A. Mixture proportion data – Submit for acceptance for each type and strength of concrete, either field test data or trial mix data used to establish required average compressive strength of the mixture in accordance with ACI 301 section 4.2.3.4 – Documentation of average compressive strength. Proportion normal-weight concrete according to ACI 211.1 and ACI 301.
- B. Use a qualified independent testing agency for preparing and reporting proposed mix designs for the laboratory trial mix basis.
- C. Foundations & Piers:
 - 1. Compressive Strength (28 Days): 3,000 psi.
 - 2. Maximum Slump: 4 inches.
 - 3. Maximum Slump for Concrete Containing Mid-Range Water-Reducing Admixture: 6 inches after admixture is added to concrete with 2- to 4-inch slump.
 - 4. Air-entrainment required.
- D. Sidewalks, Aprons, Exterior Slabs: Proportion normal-weight concrete mix as follows:
 - 1. Compressive Strength (28 Days): 4,000 psi. (Air-entrained)
 - 2. Maximum Slump: 4 inches.
 - 3. Maximum Water-Cementitious Materials Ratio: 0.40.
 - 4. Air entrainment required.
 - 5. Also, see Division 2 for additional exterior concrete requirements.

- E. Interior Slabs-on-Grade:
 - (1) Compressive Strength (28 days): 3,000 psi (Non-Air-entrained)
 - (2) Maximum Slump: 4 inches
 - (3) Maximum Water-cementitious Materials Ratio: 0.45
- F. All Other Concrete not noted:
 - 1. Compressive Strength (28 days): 4,000 psi (Non-Air-entrained for interior and Air-entrained required for exterior).
 - 2. Maximum Slump: 4 inches
 - 3. Maximum Water-Cementitious Materials Ratio = 0.45
- G. Air Content: Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content of 5% to 7% with a tolerance of plus 1 or minus 1.5 percent, unless otherwise indicated.
- H. Do not air entrain concrete for trowel-finished interior floors. Do not allow entrapped air content to exceed 3 percent (naturally occurring).
- I. Admixtures: Use admixtures according to manufacturer's written instructions.
 - 1. Use water-reducing admixture or water-reducing admixture in concrete, as required, for placement and workability.
 - 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

2.09 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."
- B. Heat bending and/or straightening of reinforcement is not permitted.

2.10 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94 and ASTM C 1116, and furnish batch ticket information to Owner's on-site representative.
 - 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes. Time limits begin at the point of initial addition of water to the mix at the plant.
 - 2. Concrete will be rejected if more than 1-1/2 hours has elapsed from the time water was first added to mix at the Concrete Batch Plant, or as noted above.
 - 3. Discharge all wash water at the Batch Plant or other prearranged discharge point, not at jobsite. Concrete discharge shall be done in strict compliance with all local, state, and national environmental laws.
 - 4. All concrete containing the mid-range water-reducing admixture shall have a maximum final slump of 6" unless otherwise noted. The admixture shall be added to the concrete at the batch plant. Dosage and introduction will be the responsibility of the Concrete Producer. The admixture shall be capable of maintaining final slump of 6" in excess of 60 minutes of continuous mixing at 4 to 6 RPM in a truck mixer.
 - 5. After introduction of the high-range water-reducing admixture, concrete temperature shall be maintained within 3°F for 90 minutes when concrete temperatures are in excess of 90°F. No other ASTM C494 Type A, B, or D Admixtures may be used in conjunction with the mid-range water-reducing admixture.
 - 6. If the location of the site in relation to the batching plant is beyond the time restraints of the admixture, the concrete shall arrive at the job site at a slump of 2" to 3", then the mid-range water-reducing admixture added by a representative of the concrete producer using a calibrated dispenser to increase the slump to the approved level. The manufacturer shall be consulted for mix proportions and dosage rates. All other concrete shall have a maximum slump of 4" unless noted otherwise.

PART 3 - EXECUTION

3.01 FORMWORK

CONCRETE

03300-6

- A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until concrete structure can support such loads.
- B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.
- C. Construct forms tight enough to prevent loss of concrete mortar.
- D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical. Kerf wood inserts for forming keyways, reglets, recesses, and the like, for easy removal. Do not use rust-stained steel form-facing material.
- E. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.
- F. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.
- G. Chamfer exterior corners and edges of permanently exposed concrete. Provide $\frac{3}{4}$ " bevel on all re-entrant corners of formed concrete surfaces exposed to public view.
- H. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items. Provide additional bracing at openings and discontinuities in formwork.
- I. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- J. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- K. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.02 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use Setting Drawings, templates, diagrams, instructions, and directions furnished with items to be embedded. Install anchor bolts, accurately located, to elevations required.
- B. Column anchor rods shall be set using the approved anchor bolt layout drawing provided by the steel fabricator or Pre-Engineered Building Manufacturer.
- C. Embedded anchors for equipment securement shall be set into the forms and located using anchor layout drawings supplied by the equipment manufacturer, contractor to coordinate with trade installing equipment for such information.
- D. Anchors rods, leveling plates, railing sleeves and brackets and all other embedded steel items shown on Contract Drawings. Install at location and elevations shown on the Contract Drawings within allowable tolerances.
- E. Sleeves for pipe, conduit, and other items passing through cast-in-place (CIP) structural concrete. Coordinate with other trades for sleeve details, invert elevations and sizes, and refer to specification section where item is described. Sleeves for piping shall be for piping, conduit, or other items passing through the concrete construction even if such sleeves are not indicated on the contract drawings. Provided sleeves shall have integral devices to limit water infiltration through wall.
- F. Post concrete placement threaded rod and reinforcing bar dowels: Install as shown on Contract Drawings using adhesive in compliance with manufacturer's instructions.

3.03 REMOVING AND REUSING FORMS

- A. General: Formwork, for sides of beams, walls, columns, and similar parts of the Work, that does not support weight of concrete may be removed after concrete is hard enough to not be damaged by form-removal operations and provided curing and protection operations are maintained.
- B. No loads are to be placed on concrete elements (beams, columns, footings, etc.) until concrete has attained 80% of the specified compressive strength based on compressive strength testing of field cast cylinders.
- C. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.
- D. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces.

3.04 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars. Field bending or straightening of bars partially embedded in concrete is permitted only where shown on the Contract Drawings. Do not field cut reinforcement unless specifically pre-approved by Architect and Engineer.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire fabric in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least 1'-0" in each direction. Offset laps of adjoining sheet widths to prevent continuous laps in either direction.
 - 1. Lace overlap and secure sheets to one another with steel bailing wire at 12-inch spacing.
 - 2. Extend wire fabric sheets to within 1½" from edge of pour unless noted otherwise on Contract Documents.
- F. Do not use reinforcement having any of the following defects:
 - 1. Bar lengths, depths, and bends which exceed fabrication tolerances.
 - 2. Reinforcing bars with reduced cross sectional area due to rust or other cause.
 - 3. Field damaged reinforcement exceeding ACI tolerances.
- G. Install reinforcing in the forms before concrete is placed. No reinforcing bars shall be driven or forced into concrete after the concrete has attained its initial set.
- H. Scheduling – Place reinforcement sufficiently in advance of placing concrete to permit inspection, and correction, if required.
- I. Use bars of single length, except where the length required is greater than stock length. Lap necessary splices as shown on the drawings sufficiently to develop the strength of the bars by bond. Lap splices in accordance with ACI 318. No splices shall be made unless shown on the contract documents and contractor's shop drawings. Where continuous bars are called for, lap splices shall meet requirements of ACI 318 but not be less than 48 diameters.
- J. Exercise care in placing reinforcing so as not to displace sleeves, boxing, or other embedded items.
- K. Minimum concrete cover for reinforcement, except for extremely corrosive atmospheres, other severe exposures, or fire protection, shall be as follows:
 - 1. Footings and other principal structural members in which concrete is deposited against the ground
 - a. 3-inches between steel and ground.
 - 2. Where concrete surfaces, after removal for forms, are exposed to weather or ground:
 - a. For bar more than 5/8 inches in diameter 2 inches
 - b. For bars 5/8 inches or less in diameter 2 inches

- L. All openings in concrete walls with a dimension of 1'-0" or greater are to have two #5 bars on all sides of opening, unless noted otherwise.
- M. All corners and intersections of concrete walls are to be reinforced with corner bars per Contract Documents.
- N. Field bending or straightening of bars partially embedded in concrete is permitted only where shown on the Contract Drawings. Do not field cut reinforcement unless specifically pre-approved by Engineer.
- O. No conduits or piping are to be run within concrete for slab-on-grade or elevated decks. Run and support such conduit/piping below concrete structure and penetrate concrete deck at 90°. Coordinate with the Trade requiring the conduits or piping for the size, location, and extent of such openings. Neither the Architect nor the Engineer will provide such information.
- P. No holes or openings are to be cored through the concrete construction unless approved in writing by the Architect or Engineer.

3.05 FIBROUS REINFORCEMENT

- A. Only for locations as shown on the drawings. Add fibrous reinforcement to concrete mix at concrete batch facility. Mix in accordance with manufacturer's instructions.
- B. Only for locations as shown on the drawings. Add fibrous reinforcement to concrete mix at the following rates.
 - 1. Polypropylene Fibrillated Fibers: 1.5 lb/cy dosage.

3.06 JOINTS

- A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.
- B. Construction Joints:
 - 1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints, unless otherwise indicated.
 - 2. Form from preformed galvanized steel, plastic keyway-section forms, or bulkhead forms with keys, unless otherwise indicated. Embed keys at least 1-1/2 inches into concrete.
 - 3. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
 - 4. Construction joints – Submit drawings showing proposed locations and details of construction joints in elevated concrete slabs and slab-on grades for acceptance by Architect.
- C. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of concrete thickness, as follows:
 - 1. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints at spacing averaging 12'-0" spacing and not exceeding 15'-0" spacing (unless otherwise indicated in Contract Drawings) into concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks. Contraction Joints are to install as soon as practical after concrete finishing work is complete, but on longer than 12 hours after placement of the concrete.
- D. Isolation Joints in Slabs-on-Grade (Sidewalks, Aprons, etc.): After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
 - 1. Terminate full-width joint-filler strips not less than 1/2 inch or more than 1 inch below finished concrete surface where joint sealants, specified in Division 7 Section "Joint Sealants," are indicated.
 - 2. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.
- E. Floor Joints are NOT to be filled with sealant..

3.07 CONCRETE PLACEMENT

- A. Verification of Conditions (By Installer): Examine conditions under with structural concrete is to be placed and notify prime contractor in writing of any conditions detrimental to proper and

timely concrete placement. Do not proceed with placement until unsatisfactory conditions have been corrected in manner acceptable to Installer.

- B. Notify other Prime Contractors, Subcontractors, and other parties involved in the Project in ample time to allow installation of their work prior to concrete placement.
- C. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed. Refer to Geotechnical Report for required in-place density of slab subgrade.
- D. Do not add water to concrete during delivery, at Project site, or during placement, unless approved by Engineer. Do not add water to concrete after adding high-range water-reducing admixtures to mix.
- E. Do not use concrete that has stood for over 30 minutes after leaving the mixer or concrete that has contained its water content for more than 1 ½ hours in work. Independent Testing Agency will reject such concrete.
- F. Deposit concrete continuously or in layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as specified. Deposit concrete to avoid segregation.
- G. Deposit concrete in forms in horizontal layers no deeper than 12 inches and in a manner to avoid inclined construction joints. Place each layer while preceding layer is still plastic, to avoid cold joints.
 - 1. Consolidate placed concrete with mechanical vibrating equipment. Use equipment and procedures for consolidating concrete recommended by ACI 309R.
 - 2. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations no farther than the visible effectiveness of the vibrator. Place vibrators to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mix constituents to segregate.
- H. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 - 1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
 - 2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
 - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- I. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows, when hot-weather conditions exist:
 - 1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 - 2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 - 3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.
- J. General: Concrete shall not be placed until forms, reinforcing, piping, pipe sleeves, conduits, inserts, anchors, and all embedments have been inspected and approved. Water and foreign matter shall be removed from forms and excavations.
 - 1. No concrete for foundations shall be placed on earth that has been backfilled without inspection or verification of compaction levels or otherwise disturbed.

2. All soil bottoms for footings shall be approved by a Licensed Professional Geotechnical Engineer before placing concrete. The Geotechnical Engineer shall be hired and paid by the General Contractor and be incorporated as part of the Contract Bid Price.
 3. No reinforcement or concrete shall be placed until the review of the subgrade has been verified by a Licensed Professional Geotechnical Engineer. The Geotechnical Engineer shall be hired and paid by the General Contractor and be incorporated as part of the Contract Bid Price.
- K. Prior to the placing of concrete at grade level, the subgrade shall be inspected and approved by a professional soils engineer, and said approval shall be sent in writing to the Architect.

3.08 FINISHING FORMED SURFACES

- A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defective areas repaired and patched. Remove fins and other projections exceeding ACI 347R limits for class of surface specified.
- B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Remove fins and other projections exceeding 1/8 inch in height.
 1. Apply to concrete surfaces exposed to public view or to be covered with a coating or covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, or painting.
- C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.09 FINISHING FLOORS AND SLABS

- A. General: Comply with recommendations in ACI 302.1R for screeding, restraighening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
 1. Trowel Finish: Float and provide troweled finish in accordance with the procedures outlined in ACI 301 and 302, and as recommended by ACI to achieve the floor flatness and levelness specified.
 2. Measuring tolerances for slabs
 - a. Measure floor slabs for suspended floors and slabs-on-grade to verify compliance with the tolerance requirements specified below. Measure floor finish tolerances within 72 hr after slab finishing and before removal of supporting formwork or shoring. For "Very Flat" floor finish classification, also measure floor finish tolerances after slab has cured and dried out, within 2 weeks before installation of floor finish materials to establish compliance with flooring manufacturer's tolerance requirements and to determine if corrective leveling is required. Measure floor finish tolerances using ASTM E 1155 F-Number System.
 3. Tolerances for concrete slabs are to be accordance with ACI 117 and as follows:
 - a. Concrete Slabs-on-grade:
 1. Flatness (Ff) = 50 avg., Ff = 35 min.
 2. Levelness (Fl) = 30 avg., Fl = 20 min.
 - b. Elevated concrete decks: measurement not required.

3.10 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete Work.
- B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and by steel-troweling surfaces to a hard, dense finish with corners, intersections, and terminations slightly rounded.

- C. All below grade exterior wall pipe penetrations shall be made with a special cast iron flange to mechanical joint wall casting of matching length with integral intermediate flange. Contractor to submit proposed below grade sleeves for review.
- D. For pile supported structural floor slabs at grade level: All underslab utilities
- E. Equipment Bases and Housekeeping Pads: Provide machine and equipment bases and foundations as shown on Drawings. Set anchor bolts for machines and equipment at correct elevations, complying with diagrams or templates of manufacturer furnishing machines and equipment. Coordinate location, dimensions, and exact location of equipment bases and/or housekeeping pads with trade installing the equipment.
- F. Steel Pan Stairs: Provide concrete fill for steel pan stair treads, landings, and associated items. Cast-in inserts and accessories as shown on Drawings. Screed, tamp, and trowel-finish concrete surfaces.

3.11 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and with recommendations in ACI 305R for hot-weather protection during curing.
- B. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces, by the following methods:
 - 1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
 - a. Water.
 - b. Continuous water-fog spray.
 - 2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
 - 3. Curing and Sealing Compound: Cure concrete surfaces to receive floor coverings with a curing compound that the manufacturer recommends for use with floor coverings. Apply uniformly to floors and slabs indicated in a continuous operation by power spray or roller according to manufacturer's written instructions. Recoat area subjected to heavy rainfall within three hours after initial application. Repeat process 24 hours later and apply a second coat. Maintain continuity of coating and repair damage during curing period.
- C. Protect concrete surfaces from damage from construction equipment, materials, and methods, from application of curing procedure, and from rain or running water.
 - 1. Keep foot traffic off for 1 day.
 - 2. Keep light, rubber-tired lifts off for 7 days, unless tests from concrete cylinders cured adjacent to the slab show at least 3,000-psi compressive strength.
 - 3. Leave plastic or waterproof-paper curing sheets in place as long as possible.
 - 4. Protect the surface with sheets of plywood or hardboard where heavy traffic is expected.
 - 5. Provide manufacturer's certification indicating compliance of curing/sealing compound with specification required, including test data from independent laboratory indicating moisture loss.
 - 6. Provide from manufacturer of the floor finish material, a certificate of compatibility of the floor tile (etc.) and the adhesives used in application, with the curing compound to be used.
 - 7. Contractor to ensure compatibility of curing compounds with finish flooring and adhesives prior to use, otherwise provide curing method such as continuous sprinkling, or remove curing compound through blast-tracking or similar method prior to installation of flooring.

3.12 JOINT FILLING

- A. Prepare, clean, and install joint filler according to manufacturer's written instructions. Defer joint filling until concrete has aged at least six months. Do not fill joints until construction traffic has permanently ceased.

- B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.
- C. Install semi-rigid epoxy joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints for concrete floors. Overfill joint and trim joint filler flush with top of joint after hardening.
- D. Install 2-part polyurethane sealants for vertical control and expansion joints in accordance with the Division 7 specifications.

3.13 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval. All costs associated with repair of defective concrete surfaces is to be borne by contractor.
- B. Perform structural repairs of concrete, subject to Architect's and Engineer's approval, using epoxy adhesive and patching mortar.
- C. Crack repair – After concrete slabs have cured and dried out, fill cracks in slabs over 1/8" in width with crack repair adhesive.
- D. Repair materials and installation not specified above may be used, subject to Architect's prior approval.
- E. Corrective leveling of slabs – Interior slabs on grade that do not meet tolerances for levelness specified are to be corrected by the contractor through the use of slab grinding, flash patching, proprietary leveling compounds or a combination of these methods as approved by the Architect.
 - 1. No corrective work shall be performed without the written approval of the Architect and the Engineer. The Architect reserves the right to reject corrective work based on the aesthetics of finished surfaces and can direct contractor to remove and replace rejected materials.
 - 2. All costs associated with such work will be borne by the contractor.

3.14 FIELD QUALITY CONTROL

- A. Testing Agency: The Owner shall engage a qualified Independent Testing and Inspecting Agency to sample materials, perform tests, and submit test reports during concrete placement according to requirements specified in this Article. Contractor shall provide free access to all work and cooperate with Owner's Testing Agency.
 - 1. Testing Frequency: Obtain one composite sample (6 cylinders) for each day's pour of each concrete mix exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
 - 2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change.
 - 3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; ASTM C 173, volumetric method; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.
 - 4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
 - 5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of six standard 6"x12" cylinder specimens for each composite sample.
 - 6. Compressive-Strength Tests: ASTM C 39; test two laboratory-cured specimens at 7 days for information and three at 28 days for acceptance. Compressive strength test results for acceptance shall be the average of the compressive strengths from the three (3) specimens tested at 28 days. If one specimen in the test shows evidence of improper sampling, molding or testing. Discard the specimen and consider the strength of the remaining cylinder to be the test result. If more than one specimen in a test show any defects, discard the entire test. Retain one (1) specimen for testing at 56 days as deemed necessary by Architect. Accelerated testing of concrete as an alternate to standard testing is not allowed.

7. Strength of each concrete mix will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.
8. Testing Agency will report all test and inspection results to the Architect, Prime Contractor and Owner's Representative within seven (7) days after tests and inspections are performed except that test results that do not meet project requirements shall be reported in writing to Architect, concrete manufacturer, and Prime Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-and 28-day tests.
9. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete by the Architect or the Engineer.
10. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed by Architect. Costs associated with all additional testing shall be borne by the Contractor. Refer to SECTION 01410.
11. Reinforcement: Testing and inspection agency shall visually inspect all reinforcement and welded wire mesh for proper size, spacing, concrete cover and lap splice lengths as shown on Contract Documents prior to placement of concrete. Testing agency to provide signed & sealed Letter of Certification that all reinforcement was placed in accordance with the Contract Documents.
12. Subgrade Inspection – (Owner's) Testing Agency shall inspect slab and footing subgrade prior to placing concrete.
13. Contractor's Duties Relative to Testing:
 - a. Contractor shall designate one individual in his organization to be responsible for conducting Contractor's duties relative to testing. Individual will be instructed in his duties by testing agency. Individual shall not be changed without notice to Architect.
 - b. Delivering of materials to testing agency's laboratory for use in verifying design mixes.
 - c. Furnishing labor to obtain and handle samples for compression testing, performing slump tests, and air content tests.
 - d. The Contractor shall notify the inspection and testing agency at least 36 hours prior to each anticipated pour in order to allow the agency adequate time for inspection of concrete form work, reinforcing, steel and concrete placement.
 - e. Storing cylinders at project site in storage box for 24 hours after molding.
 - f. Maintaining field test data sheet for each set of concrete specimens.
 - g. Contractor shall provide in accordance with ASTM C-31, a stable, lockable insulated storage box thermostatically controlled to maintain temperature between 60 degrees and 80 degrees F. with recording thermometer Max./Min. for storing cylinders for first 24 hours after molding. Box shall have minimum capacity of 40 cu. ft. Locate box in a permanent lockable area of approximately 100 sq. ft. Limit access to testing agency personnel and Contractor's designated agent.

3.15 **CERTIFIED SURVEY OF ANCHOR BOLTS, LEVELING PLATES AND BEARING PLATES
TO BE PROVIDED ONLY IF CALLED FOR ON THE STRUCTURAL DRAWINGS
OR SPECIFICATION**

- A. Upon completion of the setting of anchor bolts the Contractor will obtain a certified survey, prepared by a registered surveyor, of the following:
 1. Location and elevation of anchor bolts.
 2. Location, levelness and elevation of concrete piers.

- B. As-built survey shall show proposed design location of item and as-built location. As-built location shall be given in two orthogonal directions. (North-South & East-West). As-built survey shall be reviewed and approved by the Pre-Engineered Building Erector prior to erecting building. The approved as-built survey shall be submitted to the Architect for review. Contractor shall allow for ten (10) standard working days for review of as-built survey prior to proceeding with any corrective repairs.
- C. Contractor shall correct any deficiencies in location, levelness and elevation at his own cost and at the direction of the Architect. The corrected work will be resurveyed at the Contractor's cost. All proposed corrective repairs are to be submitted to the Architect & Engineer for review prior to the start of any corrective work. All corrective work must have full-time inspection by Owner's Testing Agency. All costs associated with the review, approval, and inspection of corrective repairs will be borne by the Contractor.

END OF SECTION 03300

SECTION 03800 CEMENTITIOUS FLOOR AND WALL REPAIR

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes Cementitious floor and wall repair.
 - 1. Two component, polymer modified cementitious repair mortar and flowable underlayment for placement from featheredge to 1" (2.5 cm) neat per lift.

PART 2.0 PRODUCTS

A. CEMENTITIOUS REPAIR MORTAR

- A. **Trowelable or Flowable Horizontal or Vertical Repair and Topping Mortar for Application Thicknesses up to 1" (2.5 cm) neat and lifts up to 2.5" (6.3 cm) extended:** Cement-based, two-component, polymer modified repair mortar, suitable for interior or exterior use. Material shall have the following properties neat:
 - 1. Compressive Strength minimum 3,000 psi (20.7 MPa) at 7 days and minimum 5,000 psi (34.5 MPa) at 28 days per ASTM C 109
 - 2. Flexural Strength minimum 900 psi (6.2 MPa) at 28 days per ASTM C 348
 - 3. Shrinkage of -0.023% at 28 days per ASTM C157
 - 4. Freeze Thaw Resistance of 300 Cycles...91% dynamic modulus per ASTM C 666
 - 5. Basis of Design Product:
 - a) **Euclid Chemical Company (The); TAMMSPATCH II, www.euclidchemical.com or approved equal**
- B. Manufacturer shall have ISO 9001 Quality Certification.
- C. To ensure compatibility bonding agent and curing compound where used shall be from same manufacturer as repair mortar.

2. CURING

- A. Cure in accordance with manufacturer's requirements with wet bulap or water based curing compound. Do not use solvent based curing compounds. Take precautions to prevent rapid surface drying.

PART 3.0 EXECUTION

A. SURFACE PREPARATION

- 1. Masonry and Concrete Removal: Remove all loose and unsound concrete per recommendations of ICRI Guideline 310.2R "Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays and Concrete Repair"
 - a.. Areas to be repaired shall have perimeter boundaries saw cut to minimum depth of ½" inch or less if such depth will cause saw to come in contact with embedded reinforcing steel. Saw cuts shall be made perpendicular to the concrete surface and all concrete removal boundaries shall be straight and aligned parallel to opposite boundary edges resulting in repair areas that are rectangular in shape. The aspect ratio of the repair area shall be as square as possible, not exceeding 1.5:1. Odd shapes shall be avoided. If they cannot be avoided, re-entrant corners shall be mitered or reinforced to limit cracking at these locations.
 - 1). Extend repair boundaries to beyond corrosion on reinforcing bars.
 - 2). Do not allow saw to come into contact with reinforcing steel.
 - b. All concrete and masonry shall be removed from within repair boundary to a uniform depth. Depth of removal shall be as required to accommodate manufacturer's

recommended minimum and maximum placement depth range for specified repair mortar and as required to remove all delaminating, cracking or unsound materials. Provide a sound surface with suitable profile for bond, as defined in repair mortar manufacturer's written recommendations.

2. Preparing Reinforcing Steel: Clean and prepare any exposed embedded reinforcing steel per recommendations of ICRI Guideline 310.1R. "Guideline for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion"
 - a. Where $\frac{1}{2}$ or more of diameter of reinforcement steel is exposed either by existing conditions or concrete removal, bond between the concrete and reinforcing steel is broken, or corrosion is present, the concrete shall be removed to provide a minimum $\frac{3}{4}$ " clearance around entire perimeter of steel and along entire exposed length.
 - b. Remove concrete fragments, corrosion product, mill scale, and other contaminants from reinforcing bars in accordance with SSPC-SP 6 until a bare metal finish has been achieved on the reinforcing bars.
 - 1). Where section loss on a reinforcing bar is more than <<insert number>>%, or <<insert number>>% in two or more adjacent bars contact Engineer.
 - 2). Any damage to epoxy-coated reinforcement shall be repaired by coating with an approved epoxy-coating repair material.
3. Remove bruised concrete substrate weakened by microcracking by abrasive blasting or high-pressure water blasting with or without abrasive.
4. Concrete and Masonry Preparation and Cleaning: Areas to receive repair shall be structurally sound and free from deteriorated concrete, masonry, dust, dirt, debris, loosened concrete and aggregates, bruised concrete substrate weakened by microcracking, paint, oil, efflorescence, laitance, and other contaminants, and shall have a minimum Concrete Surface Profile CSP equal to that recommended by the repair mortar manufacturer per ICRI Guideline 310.2.

B. ___ BONDING AGENT APPLICATION

1. Product to incorporate integral bonding agent.

C. ___ REPAIR MORTAR APPLICATION:

- A. At areas where a bonding agent has not been specified, the saturated-surface dry (SSD) concrete shall be primed with a scrub coat of the specified repair mortar.
 1. Soak the repair area with potable water to achieve a saturated-surface dry (SSD) condition.
 2. The repair mortar must be made before the scrub coat dries out.
- B. Repair Mortar: Mix and place Repair Mortar per manufacturer's recommendations within the open time of the product scrub coat or any bonding agents.-Finish to level of surrounding concrete surface utilizing techniques recommended by manufacturer..

D. ___ CURING

- A. Cure exposed repair mortar surfaces utilizing wet cure methods per ASTM C308.1 for a minimum 3 days.

END

END OF SECTION 03800

**SECTION 04200
UNIT MASONRY**

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes unit masonry assemblies consisting of the following:
 - 1. Concrete unit masonry (CMU), including concrete block
 - 2. Brick Masonry
 - 3. Mortar and grout.
 - 4. Miscellaneous masonry accessories.
- B. Related Sections
 - 1. SECTION 03300 - Concrete

1.02 REFERENCES

- A. American Concrete Institute (ACI): ACI 530.1-95, Specifications for Masonry Structures (ACI 530.1-95/ASCE 6-95/TMS 602-95)
- B. Brick Institute of America (BIA): Technical Notes on Brick Construction.
- C. National Concrete Masonry Assoc. (NCMA), Technical Notes on CMU Construction.

1.03 SYSTEM DESCRIPTION

- A. Design Requirements: Conform to requirements of ACI 530.1 for masonry construction, except as otherwise specified in this section or on Drawings. Concrete Masonry System Assemblage Compressive Strength (f'm):
 - a. Concrete Masonry with Type S Mortar: 1,500 psi.

1.04 SUBMITTALS

- A. Comply with requirements of SECTION 01300 - Submittals and as modified below.
- B. Product Data - Submit manufacturer's product literature and other product data to establish compliance of following items with specified requirements:
 - 1. Concrete masonry units, including prefaced concrete block.
 - 2. Reinforcement and metal accessories, including joint reinforcement and anchors and ties.
 - 3. Masonry accessories, including concealed flashing, masonry cleaners, expansion joint strips and control joint strips, and mortar net.

1.05 QUALITY ASSURANCE

- A. Qualifications
 - 1. Manufacturer - Provide single source responsibility for following materials:
 - a. Masonry Units: Obtain exposed masonry units of uniform texture and color, or a uniform blend within ranges accepted for these characteristics, from one manufacturer for each different product required for each continuous surface or visually related surfaces.
 - b. Mortar Materials: Obtain mortar ingredients of uniform quality, including color for exposed masonry, from one manufacturer for each cementitious component and from one source and producer for each aggregate.
 - 2. Installer: Minimum 5 years experience in installation of masonry with at least 5 completed projects involving masonry construction similar to masonry construction included in this Project.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping: Deliver masonry materials to project in undamaged condition.

1. Pre-Blended Mortar: Deliver pre-blended mortar in reusable packages, marked with manufacturer's name and mortar type.
 - B. Storage and Protection
 1. Store masonry construction materials off ground, under cover, and in dry location to prevent deterioration or damage due to moisture, temperature changes, contaminants, corrosion, and other causes. If units become wet, do not place until units are in air-dried condition.
 - a. Store cementitious materials off ground, under cover, and in dry location.
 - b. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
 - c. Store pre-blended mortar in reusable packages in which delivered and in protected locations to prevent deterioration or intrusion of foreign materials.
 - d. Protect concrete masonry units from moisture absorption so that, at the time of installation, the moisture content is not more than the maximum allowed at the time of delivery.
 2. Cover materials, including reinforcement, when necessary to protect from elements.
 3. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.
- 1.07 PROJECT/SITE CONDITIONS
- A. Environmental Requirements
 1. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
 - a. Cold-Weather Cleaning: use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.
 2. Hot Weather Requirements: Protect unit masonry work when temperature and humidity conditions produce excessive evaporation of water from mortar and grout. Provide artificial shade and wind breaks and use cooled materials as required.
 - a. When ambient temperature exceeds 100 deg F, or 90 deg F with a wind velocity greater than 8 mph, do not spread mortar beds more than 48 inches ahead of masonry. Set masonry units within one minute of spreading mortar.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. For convenience, details and specifications have been based on specified products by following manufacturers:
 1. Masonry Accessories
 - a. Continuous Wall Tie/Joint Reinforcement and Veneer Ties and Anchors (or equal):
 - (1) DUR-O-WAL, Inc., Arlington Heights, Illinois.
 - (2) AA Wire Products Co., Chicago, Illinois.
 - (3) Masonry Reinforcing Corp. of America, Charlotte, North Carolina.
 - (4) Or Approved Equal.

2.02 CONCRETE UNIT MASONRY

- A. Provide special shapes where indicated and as follows:
 1. For corners, jambs, sash, control joints, headers, bonding, and other special conditions.
 2. Square-edged units for outside corners, except where bull nose units indicated.
 3. Open end bond beam units for use in walls of reinforced unit masonry.
- B. Hollow Units: Two-cell concrete masonry units consisting of Portland cement, water, and mineral aggregate, complying with requirements of ASTM C90 for type specified and providing minimum average net area compressive strength of 1900 psi for 3 individual units.

- C. Solid Units: Concrete masonry units greater than 75% solid consisting of Portland cement, water, and mineral aggregate, complying with requirements of ASTM C90 for grade and type specified and providing minimum average net area compressive strength of 1900 psi for 3 individual units.
 - 1. Normal Weight Solid Units: 2 hour fire rated partitions: Type I-Moisture Controlled Units; weighing 125 lbs/cu.ft. or more.
 - a. Size: Nominal 8"x 16" face dimension (7-5/8"x 15-5/8" actual) x nominal thickness shown on Drawings, unless otherwise specified.
 - b. Unit Types:
 - (1) Fine texture face suitable for painting.

2.03 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II, except Type III maybe used for cold-weather construction.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Aggregate for Mortar: ASTM C 144; except for joints less than ¼ inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
 - 1. White-Mortar Aggregates: Natural white sand or ground white stone.
- D. Aggregate for Grout: ASTM C 404.
- E. Water: Clean and free of deleterious amounts of acids, alkalis or organic materials.
- F. Admixtures: In accordance with ACI 530.1, do not use admixtures containing chlorides in mortar or grout.
 - 1. Cold-Weather Admixture: Non-chloride, noncorrosive, accelerating admixture complying with ASTM C 494, Type C, and recommended by the manufacturer for use in masonry mortar of composition indicated.
- G. Products: Subject to compliance with requirements, provide one for each of the following:
 - 1. Cold-Weather Admixture:
 - a. Accelguard 80; Euclid Chemical Co.
 - b. Morseled; W. R. Grace & Co., Construction Products Division.
 - c. Trimix-NCA; Sonneborn, Div. of ChemRex, Inc.
 - d. Or Approved Equal.
- H. Mixes
 - 1. Mortar - Type "S": Comply with requirements of ASTM C270, and this article.
 - a. Use Type "S" mortar in construction of concrete unit masonry in all exterior building walls (Above and Below Grade).
 - b. Limit cementitious materials in mortar to Portland cement-lime; mixes containing masonry cement not acceptable. Do not add admixtures including coloring pigments, air-entraining agents, accelerators, retarders, water repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated. Do not use calcium chloride in mortar.
 - c. Pre-Blending: Weigh, dry, and blend all cementitious materials, aggregate, mortar colorant, and dry admixtures (if required) in factory at location off Site and under controlled conditions.
 - 2. Grout: Comply with requirements of ASTM C476 for coarse aggregate grout used in Project. Submit proposed grout mix to Architect for review and approval (15) days prior to use. Mortar shall NOT be used as grout under any circumstance. Any demolition and removal of masonry walls constructed using masonry mortar as grout, as well as all costs associated with reconstruction, will be borne by the contractor.
 - 3. Masonry cement is **NOT** permitted or use on this Project. Submitted mixes containing masonry cement will be rejected. Construction in the field done using Masonry Cement will be rejected and replaced at the Contractor's cost.

2.04 REINFORCEMENT AND METAL JOINT REINFORCEMENT

- A. Truss Type: ASTM A 951, Two-wire 9 gauge corrosion-resistant steel; 2-wire units with 1 wire embedded in joint on each shell of CMU spaced at 16 inches o.c. maximum; similar to:
 - 1. "DUR-O-WAL Truss" by DUR-O-WAL, Inc.
 - 2. "AA600 Blok-Trus" by AA Wire Products Co.
 - 3. "WB302 Single Wythe Truss Type Masonry Wall Reinforcing" by Masonry Reinforcing Corp. of America.
 - 4. Or approved Equal.

2.05 CORROSION RESISTANCE COATING REQUIREMENTS

- A. Exterior Walls and Interior Walls Exposed to Moist Environments: Provide all joint reinforcement, ties, and anchors with hot-dip galvanized coating with 1.5 oz. per square foot, as per ASTM A153, Class B2.
- B. Interior Wall Joint Reinforcement: Mill galvanized with 0.4 oz. per square foot, as per ASTM A641, Class 1.

2.06 MASONRY ACCESSORIES

- A. Masonry Cleaners
 - 1. Job-Mixed Detergent Solution: Solution of trisodium phosphate and laundry detergent dissolved in water; proportions as recommended by BIA.
 - 2. No High Pressure Washers.
- B. Non-metallic Expansion Joint Strips: Pre-molded, flexible cellular neoprene rubber filler strips complying with ASTM D1056, Grade RE41E1, capable of compression up to 35 percent, of width and thickness indicated in details; similar to:
 - 1. "Rapid Soft-Joint/Expansion Joint" by DUR-O-WAL, Inc.
 - 2. "AA3405 Joint-Tite" by AA Wire Products Co.
 - 3. "NS Closed-Cell Neoprene Sponge" by Hohmann & Barnard, Inc.
 - 4. Or Approved Equal.
- C. Pre-Molded Control Joint Strips: Extruded rubber complying with ASTM D2000, Designation 2AA-805 and providing Durometer hardness of 80 when tested in accordance with ASTM D2240; similar to:
 - 1. "Rapid Control Joint - Rubber Compound" by DUR-O-WAL, Inc.
 - 2. "Control Joint 2900/2901/2902/2903/2905" by Masonry Reinforcing Corp. of America
 - 3. "AA1000/AA1100 Titewall" by AA Wire Products Co.
 - 4. Or Approved Equal.
- D. Bond Breaker Strips – At Contractor's option, provide one of following types of bond breaker strips:
 - 1. Asphalt-saturated organic roofing felt complying with ASTM D226, Type I (No. 15 asphalt felt).
 - 2. VOC-compliant form release agent suitable for brush or roller application; similar to "eucoslip VOX" by Euclid Chemical Co.
 - 3. Or Approved Equal.
- E. Miscellaneous Anchors
 - 1. Anchor Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers; hot-dip galvanized to comply with ASTM A 153, Class C; of diameter and length indicated and in the following configurations:
 - 1. Headed bolts.
 - a. A307 Non-headed bolts, bent in manner indicated.

- J. Post-installed Anchors: Anchors as described below, with capability to sustain, without failure, load

imposed within factors of safety indicated, as determined by testing per ASTM E 488, conducted by a qualified independent testing agency.

1. Type: Chemical anchors.
2. Corrosion Protection: Carbon-steel components zinc plated to comply with ASTM B 633, Class Fe/Zn 5 (5 microns) for Class SC 1 service condition (mild).
3. For Post-installed Anchors in Concrete: Capability to sustain, without failure, a load equal to four times the loads imposed.
4. For Post-installed Anchors in Grouted Masonry Units: Capability to sustain, without failure, a load equal to six times the loads imposed.

2.07 SOURCE QUALITY CONTROL

- A. Pre-Mixed Mortar Testing - Prime Contractor: Employ independent testing laboratory to test proposed aggregate and design mortar mixes for each type of pre-mixed mortar to be used in this Project.
- B. Tests
 1. Aggregate: Test for conformance to ASTM C144 and specified requirements.
 2. Mortar: Test for water retentivity and 28-day compressive strength in accordance with ASTM C270.
- C. Reporting: Submit aggregate test reports and mix designs to Architect at least 14 days prior to Pre-Installation Conference specified in Quality Assurance in Part 1 above. Do not begin masonry construction until Architect has reviewed test reports.
- D. Additional Testing: Conduct additional tests and submit new reports in event of changes in mortar mix design.
- E. Retesting of materials failing to meet specified requirements shall be done at Contractor's expense.

2.08 CONCRETE MASONRY UNIT TESTS

- A. For each type of concrete masonry unit indicated, units will be tested according to ASTM C 140.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions (by Installer): Examine conditions under which masonry is to be installed and notify Prime Contractor in writing of any conditions detrimental to proper and timely installation. Do not proceed with installation until unsatisfactory conditions have been corrected in manner acceptable to Installer.

3.02 PREPARATION

- A. Protection: During construction it is the contractor's responsibility to protect the erected masonry walls against weather or man-made damage. Damaged masonry walls shall be repaired or reconstructed, as directed by the Owner, at the contractor's expense.
- B. Wall Covering: During erection, cover top of walls, projections, and sills with strong waterproof membrane at end of each day or shutdown. Cover partially completed walls when masonry construction is not in progress.
 1. Extend cover minimum of 24 in. down both sides, and hold securely in place.
 2. Where one wythe of multi-wythe walls is completed in advance of other wythes, secure cover minimum 24" down face next to unconstructed wythe and hold cover in place.
- C. Staining: Prevent grout or mortar from staining face of masonry to be left exposed or painted. Remove immediately grout or mortar in contact with face of masonry.
 1. Protect all sill, ledges, and projections from droppings of mortar.
 2. Protect base of walls from rain-splashed mud and mortar splatter by means of coverings spread on ground and over wall surface.

4. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes from mortar droppings.

3.03 INSTALLATION

- A. Comply with requirements of ACI 530.1 and these specifications.
- B. Construct multi-wythe walls (including cavity walls) to full thickness shown on Drawings.
- C. Construct chases and recesses shown on Drawings. Provide not less than 8" of masonry between chase or recess and jamb of openings and between adjacent chases and recesses.
- D. Leave openings for equipment to be installed before completion of masonry. After installation of equipment, complete masonry to match construction immediately adjacent to opening.
- E. Cut masonry units with motor-drive saws to provide clean, sharp, unchipped edges. Cut units as required to provide continuous pattern and to fit adjoining construction. Use full-size units without cutting where possible. Allow units cut with water-cooled saws to dry before placing, unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
 - a. Wall reinforcing shall be installed in a manner that complies with the requirements as noted on the drawings.
 - i. Lap all reinforcing bars 48 bar diameters unless otherwise indicated or specified.
 - ii. Comply with applicable requirements of AWS D1.4 for installation of all reinforcing welded to structural steel framing.
 - iii. Provide bar positioners at all vertical bar locations, at top of first course and at first course below top of CMU at each grout pour height, to position reinforcing bars in CMU cores as indicated on Drawings.

3.04 CONSTRUCTION TOLERANCES

- A. Comply with construction tolerances specified in ACI 530.1, as follows:
- B. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than ¼ inch in 20 feet, nor ½ inch maximum.
- C. For vertical alignment of exposed head joints, do not vary from plumb by more than ¼ inch in 10 feet, nor ½ inch maximum.
- D. For conspicuous horizontal lines, such as exposed lintels, sills, parapets, and reveals, do not vary from level by more than ¼ inch in 20 feet, nor ½ inch maximum.
- E. For exposed bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to ½ inch. Do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
- F. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thickness by more than 1/8 inch.

3.04 LAYING UP MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thickness and for accurate locating of openings, movement-type joints, returns, and offsets. Avoid use of "less-than-half" size units, particularly at corners, jambs, and where possible at other locations.
- B. Lay up walls in accordance with construction tolerances specified in ACI 530.1 and with courses accurately spaced and coordinated with other construction.
- C. Bond Pattern for Masonry: Unless otherwise specified or shown on Drawings, lay exposed masonry in the following pattern; do not use units with less than nominal 4" horizontal face dimensions at corners and jambs.
 1. One-Half Running Bond: Where indicated on Drawings, lay exposed masonry in one-half running bond with vertical joint in each course centered on units in courses above and below, unless otherwise noted on Contract Documents.

- D. Stopping and Resuming Work: In each course, rack back 1/2-unit length for one-half running bond do not "tooth". Clean exposed surfaces of set masonry, wet clay masonry units lightly (if required), and remove loose masonry units and mortar prior to laying fresh masonry.
- E. Built-In Work: Comply with requirements of ACI 530.1 and following requirements.
 - 1. As construction progresses, install items shown on Drawings and specified in this and other Project Manual sections. Fill in solidly with masonry around built-in items.
 - 2. Fill space between hollow metal frames and masonry solidly with mortar, unless otherwise indicated.
 - 3. Where built-in items are to be embedded in cores of hollow masonry units, place layer of metal lath in joint below and rod mortar or grout into core.
 - iv. Fill cores in hollow concrete masonry units with grout 3 courses (24") under bearing plates, beams, posts, and similar items, unless otherwise indicated.

3.05 MORTAR BEDDING AND JOINTING

- A. Comply with requirements of ACI 530.1 and following requirements.
- B. Pre-Blended Mortar: Add water to bring mortar to proper consistency for use. Mix for at least 4 minutes after water is added, unless otherwise recommended by mortar manufacturer. Thoroughly clean mixer after discharging each batch.
 - 1. Use mortar within 2-1/2 hours after initial mixing, and discard mortar not used within this time. Mortar may be retempered by adding water and remixing at any time within 2 hours after initial mixing.
- C. Lay hollow masonry units as follows:
 - 1. With full mortar coverage on horizontal and vertical face shells.
 - 2. Bed webs in mortar in starting course on footings and in all courses of piers, columns, and pilasters, and where adjacent to cells or cavities to be filled with grout.
 - 3. For starting course on footings where cells are not grouted, spread out full mortar bed, including areas under cells.
- D. Lay solid brick-size masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- E. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than the joint thickness, unless otherwise indicated.
- F. Cut joints flush for masonry walls to receive plaster or other direct-applied finished (other than paint), unless otherwise indicated.

3.06 GROUT PLACEMENT

- A. All grout shall be placed in the "low-lift" method with a maximum grout pour height of 5 feet. Hold top of grout pour down 2" to form "key" for subsequent grout pours.

3.07 STRUCTURAL BONDING OF MASONRY

- A. Comply with requirements of ACI 530.1 and following requirements:
- B. Corners:
 - 1. Provide interlocking masonry unit bond in each course at corners for both load-bearing and non-load-bearing walls, unless vertical expansion or control joints are shown.
 - 2. Provide continuity with horizontal joint reinforcement at corners using prefabricated "L" and "T" units, in addition to interlocking masonry.
- C. Intersecting and Abutting Walls: Unless vertical expansion or control joints are shown at juncture, provide the following:
 - 1. Non-Loadbearing Walls: Intersection wall may be built interlocking or abutting.
 - 1. Interlocking Wall: Provide continuity with horizontal joint reinforcement using prefabricated "T" units.
 - 2. Abutting Walls: Provide individual wire mesh ties at 16" o.c. vertically.

3.08 HORIZONTAL JOINT REINFORCEMENT

- A. Provide continuous horizontal joint reinforcement as indicated in Drawings.
- B. Cut or interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.
- C. Reinforce joints in all concrete masonry walls with continuous horizontal joint reinforcing, unless specifically noted to be omitted.
- D. Provide continuity at corners and wall intersections by use of prefabricated "L" and "T" sections. Cut and bend reinforcement units as directed by manufacturer for continuity at returns, offsets, column fireproofing, pipe enclosures and other special conditions.
- E. Space continuous horizontal reinforcement as follows:
 - 1. Single-wythe Walls: Space at 16" o.c. vertically, unless otherwise indicated.
- F. Reinforce masonry openings greater than 1 ft. wide, with horizontal joint reinforcement placed in 2 horizontal joints approximately 8" apart, immediately above lintel and immediately below sill. Extend reinforcement at minimum 2 ft. beyond jambs of opening except at control joints.
 - 1. In addition to wall reinforcement, provide additional reinforcement at openings as required to comply with above.

3.09 JOINTS IN MASONRY CONSTRUCTION

- A. Provide vertical and horizontal expansion, control, and isolation joints in masonry where shown and as specified below; install related items such as metal expansion joint covers as masonry construction progresses.
 - 1. Space joints as shown on Drawings; however, not more than 20'-0" o.c. for control joints in exterior concrete block walls.
 - 2. Do not form continuous span through movement joints.
- B. Control Joints in Concrete Masonry:
 - 1. Unless otherwise specified, install preformed control joint gaskets designed to fit standard sash blocks.
 - 2. Where indicated on Drawings, fit bond breaker strips into hollow contour in ends of block units on one side of control joint. Fill resultant core with grout and rake joints in exposed faces.
 - 3. Install interlocking units designed for control joints. Install bond-breaker strips at joint. Keep head joints free and clear of mortar or rake joint.
 - 4. Install temporary foam-plastic filler in head joints and remove filler when unit masonry is complete.

3.10 PARGING

- A. Parge pre-dampened masonry walls where indicated with Type S or Type N mortar applied in 2 uniform coats to total thickness of 3/4". Scarify first parging coat to ensure full bond to subsequent coat.
- B. Use steel-trowel finish to provide smooth, flat, dense surface with maximum surface variation of 1/8" per foot. Form wash at top of parging and cove at bottom.
- C. Damp cure parging for at least 24 hours and protect until cured.

3.12 REINFORCED UNIT MASONRY INSTALLATION

- A. Placing Reinforcement: Comply with requirements of ACI 530.1/ASCE 6/TMS 602.
- B. Grouting: Do not place grout until entire height of masonry to be grouted has attained sufficient strength to resist grout pressure.
 - 1. Comply with requirements of ACI 530.1/ASCE 6/TMS 602 for cleanouts and grout placement, including minimum grout space and maximum pour height.
 - 2. "Low lift grouting" is the only accepted method for grouting of masonry walls on this project. Grout pour height shall not exceed 48" in height unless approved by the Engineer in writing prior to any grouting operations.
 - 3. Hold top of grout pour 2" below top of masonry construction in order to form "Key" with subsequent grout pours.

4. Grout all foundation walls solid. Hold top of grout in foundation walls 2" below top of masonry elevation to form "key" with concrete floor slab or subsequent grout pours.

3.13 FIELD QUALITY TESTS

A. Contractor Requirements:

1. Provide access to site for designated representatives of Owner to conduct testing during construction, and provide unit samples, mortar cubes, and prisms required for testing upon Owner's request.
2. Notify Owner's Representative at least 5 days in advance of commencement of laying to allow notification of Owner's Testing Agency. Do not grout or otherwise conceal reinforcing bars prior to inspection by the testing agency.

B. Masonry Testing During Construction (By Owner's Testing Agency)

1. Concrete Masonry Units: Sample units and their compressive strength in accordance with ASTM C140.
2. Grout will be sampled and tested for compressive strength per ASTM C 1019. Cast (3) test specimens for each grout pour. Test (1) specimen @ 7 days, and (2) @ 28 days. Compressive strength results shall be provided to the Architect with (5) working days from 28 day testing.
3. Mortar properties will be tested per ASTM C 780. Independent testing agency shall cast one set of (3) mortar test cubes for every 500 S.F. of wall area. One cube to be tested at (7) days, and remaining cubes to be tested at (28) days. Compressive strength results shall be provided to the Architect within (5) working days from 28 day testing.
4. Prism Test: Construct and conduct prism tests to determine strength of masonry unit and mortar system in accordance with ASTM E447, Method B. Provide representative prism for each 5,000 SF of wall constructed. Prism testing is only required if specifically requested by the Engineer on the contract documents.

3.14 INSPECTION

A. Owner's Testing Agency shall:

1. Inspect masonry construction and compare with pre-approved sample panel which establishes standard of quality and workmanship.
2. Inspect reinforcing for size and placement prior to grout placement.
3. Inspect accessories for size, type, spacing, galvanizing coating, and proper installation.
4. Inspect grout operations to ensure mix proportions and procedures comply with specified requirements.
5. Inspect mortar proportioning, mixing, and placement.
6. Inspect all aspects of masonry construction operations for compliance with specified cold weather and/or hot weather procedures. This may include, but is not limited to:
 - a. Monitoring the temperature of masonry units, mortar, and grout.
 - b. Inspection of protection, including windbreaks and enclosures, during construction.

3.15 REPAIRING/POINTING/CLEANING

- A. Remove and replace masonry units which are loose, chipped, broken, stained, or otherwise damaged, or if units do not match adjoining units as intended. Provide new units to match adjoining units and install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During tooling of joints, enlarge any voids or holes, except weep holes, and completely fill with mortar. Point-up all joints including corners, openings, and adjacent work to provide neat, uniform appearance, prepared for application of sealants.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning of New Masonry - After mortar is thoroughly set and cured, clean masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and non-metallic scrape hoes or chisels.
2. Test cleaning methods on 8 sq. ft. sample wall panel where directed by Architect; leave adjacent 8 sq. ft. panel uncleaned for comparison. Clean "uncleaned" comparison panel after completion of all other new masonry cleaning.
3. Protect adjacent stone and non-masonry surfaces from contact with cleaner by covering with polyethylene film or other covering acceptable to Architect.
4. Wet wall surfaces with water prior to application of cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
5. CMU Masonry: Comply with masonry manufacturer's directions and applicable NCMA "Tek" bulletins.

3.16 MASONRY WASTE DISPOSAL

- A. Recycling: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
- B. Disposal as Fill Material: Dispose of clean masonry waste, including broken masonry units, waste mortar, and excess or soil-contaminated sand, by crushing and mixing with fill material as fill is placed.
 1. Crush masonry waste to less than 4 inches in each dimension.
 2. Mix masonry waste with at least two parts of specified fill material for each part of masonry waste. Fill material is specified in Division 2 Section "Earthwork."
 3. Do not dispose of masonry waste as fill within 18 inches of finished grade.
- C. Excess Masonry Waste: Remove excess, clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 04200

**SECTION 04210
BRICK MASONRY**

PART I - GENERAL

1.01 SECTION INCLUDES:

- A. Brick veneer over masonry units
- B. Brick veneer over wood stud construction.

1.02 REFERENCE STANDARDS

- A. American Society for Testing Materials (ASTM)
- B. Brick Institute of America (BIA): "Technical notes on brick construction"

1.03 SUBMITTALS:

- A. Submit two of each type of reinforcing and brick proposed for Owner's acceptance.

PART II - PRODUCTS

2.01 BRICK MASONRY UNITS

- A. Provide units in standard size and shape. 4" deep X 8" long X 2-3/8" tall nominal modular unit.
- B. Match existing brick and mortar color

2.02 ACCESSORIES

- A. Joint Reinforcing: Hohmann & Barnard, Fort Worth, TX, #CWT "Corrugated Wall Ties" galvanized 7/8 inch wide x 22 ga., lengths as required for 2-1/2" minimum embedded tie. Space @ 16" oc vertical and horizontal.
- B. Miscellaneous: As shown on the drawings or as required to provide masonry installations which are well tied.
- C. Thru Wall Flashing – Asphalt coated copper.

2.03 MORTAR

- A. Type:
Minimum compressive strength of 1800 psi; ASTM C476, Type M or S. Masonry cement will not be allowed.
- C. Materials:
 - 1. Portland Cement:
ASTM C150, Type 1, one brand only.
 - 2. Hydrated Lime: - ASTM C207, Type S
 - 3. Sand: Well screened, clean, hard, siliceous particles free from loam, alkali, salt, organic matter and other impurities; composed of grains of varying size which pass an 8-mesh screen, uniformly graded from coarse to fine. (for repointing ASTM C144)
 - 4. Water: - City tap water.
 - 5. Color: Mortar is to be colored. Submit samples for Owner's approval.

2.05 GROUT:

- A. Type: Minimum compressive strength of 2500 psi; ASTM C476, Type M or S. (refer also to notes on the drawings)

PART III - EXECUTION

3.01 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Store mortar materials on dunnage in a dry place. Masonry units stores above ground on

level platforms. Cover and protect units and accessories as necessary from elements.

3.02 CONDITIONS

A. Hot-Weather Installation:

Protect masonry, erected when ambient air temperature is more than 90° F, in shade, and relative humidity is less than 50%, from direct exposure to wind and sun for 48 hr after installation.

B. Cold-Weather Installation:

Do not build upon frozen work. Before erecting masonry during temperatures below 40° F., submit a written statement and receive acceptance of methods proposed to heat masonry materials and protect masonry from freezing. Do not lay masonry at temperatures below 35° F. unless authorized in writing.

3.03 PREPARATION (MORTAR)

- A. Accurately measure and mix mortar materials with water to produce wettest workable consistency possible. Place mortar in final position within 2-1/2 hr after mixing; discard mortar not used or that has started to set within this time.

3.04 SCAFFOLDING

- A. Provide as required for masonry work; make available to other trades required to execute work in conjunction with masonry.

3.05 NEW BRICK CONSTRUCTION

A. General:

Do not lay units having water or frost film on surfaces. Lay plumb, true to line, with level courses accurately spaced. Keep bond pattern plumb throughout. Corners and reveals plumb and true. Shove vertical joints tight. Adjust each unit to final position while mortar is soft and plastic. Remove any unit disturbed after mortar has stiffened and relay with fresh mortar.

B. Laying Units:

Wet in such manner that each unit is nearly saturated, surface dry when laid. Do not use brick that is cored, recessed, or has other deformations where deformations will be exposed to view. Fill joints completely with mortar. Lay with better face of brick exposed. Lay in 1/2" Old English bond and special relief and patterns shown on the drawings. Joints not to exceed 3/8 inches. Form weep holes with sash cord in head joints; but not more than 2'-0" o.c.

C. Cutting and Fitting:

Use, wherever possible, full units of proper size in lieu of cut units. Cut edges clean, true, and sharp. Carefully cut, form, or otherwise neatly make openings for recessed items and for electrical, plumbing, or other mechanical installations so that wall plates, cover plates, or escutcheons will completely conceal openings and will have bottoms in alignment with lower edge of masonry joints.

D. Embedded Items:

Point openings around flush-mounted electrical outlet boxes in wet locations flush with mortar including flush joint above box. Build in anchors, ties, wall plugs, accessories, flashings, pipe sleeves, and other items as the masonry work progresses. Anchors and ties fully embedded in mortar.

E. Unfinished Work:

Step back for joining with continuing new work. Resort to toothing only when specifically accepted. Before laying new work, remove loose mortar, and clean exposed joints; dampen surfaces of brick after cleaning.

F. Jointing:

1. Type:

Tool Grapevine; mortar thoroughly compacted and pressed against edges of units. Tool

when mortar is thumbprint hard. Finish tooled joints to uniformly straight and true lines and surfaces, smooth, and free of tool marks.

2. Width:

Equal to difference between actual and nominal dimensions of units in either height or length; average width of any three adjacent joints not less than 1/4 inch nor more than 1/2 inch. Vertical joints; same width except for inconspicuous variations required to maintain bond.

3.06 POINTING AND CLEANING

- A. Completely remove mortar daubs or splashings from exposed masonry surfaces before setting. Clean masonry surfaces, other than removing excess surface mortar, only after mortar has hardened. Leave surfaces free of mortar daubs, dirt, stains and discoloration, including scum from cleaning operations. Do not use metal tools and metal brushes for cleaning. Before cleaning permanent construction, clean sample panel and examine for discoloration or stain. If the sample panel is discolored or stained, change method of cleaning to assure permanent masonry surfaces will not be adversely affected. Water-soak exposed surfaces and clean with "DEOX" or "SHURCLEAN," (proprietary masonry cleaning agents). Use cleaning agents in accord with manufacturer's instructions. Remove green in accord with brick manufacturer's instructions.

3.07 POINTING AND CLEANING

- A. Wash masonry work with clean water.

3.08 PROTECTION OF WORK

- A. Protect surfaces of masonry not being worked. When rain or snow is imminent, cover tops of exposed masonry with strong non-staining waterproof membrane, well secured in place, in a manner to prevent moisture from accumulating within unfinished wall. Make provisions to prevent damage by wind.

3.09 CLEAN-UP

- A. Upon completion of work of this section, remove related debris from premises.

END OF SECTION 04120

SECTION 05400
LIGHT GAUGE STEEL FRAMING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this section.

1.2 SCOPE

- A. Furnish and install light gauge steel framing members, their connections, and all appurtenances including bridging, slide clips, deflection tracks, and brackets.

1.3 QUALITY ASSURANCE

- A. The material supplier shall have five years experience in the manufacture and fabrication of light gauge metal framing.
- B. The erector shall have five years experience in the erection and connection of light gauge metal framing.
- C. Sections shall be standard sections as shown in the manufacturer's literature or listed AISI standard tables.
- D. Access to the construction shall be provided to the Engineer for the purpose of inspection.
- E. Inspect the structure or foundation to which the framing is to be attached and notify the Engineer of any discrepancies. Absence of such notification or starting the erection shall be construed as acceptance of the supporting structure or foundation.

1.4 SUBMITTALS

- A. Furnish manufacturer's literature and catalog cuts, shop drawings, connection details, and, when requested, material certifications and samples prior to fabrication
- B. Shop Drawings
 - 1. Show materials, shop coatings, steel thicknesses, and section properties.
 - 2. Show details of fabrication and details of attachment to adjoining work including size, location and spacing fasteners for attaching framing to itself and to the structural steel if applicable.
 - 3. Show accessories and their installation and critical installation procedures.
- C. Light gauge metal stud designations shown on the drawings assume Marino Ware as a design basis. Manufacturer must submit literature indicating that the members supplied provide equivalent strength and stiffness. Manufacturer and/or supplier to prepare information indicating capacity of members, framing details, connections, bracing, bridging and all other appurtenances of members to conform to load criteria as directed by contractor/construction manager.

PART 2 – PRODUCTS

2.1 MATERIALS

- A. All studs and/or joists and accessories shall be of the type, size, gauge and spacing shown on the plans. Studs, runners (track), bracing and bridging shall be manufactured per ASTM Specifications C955. Load bearing studs and joists shall have stiffened flanges.
- B. All sections shall be G60 galvanized and shall be in accordance with ASTM C955 and Section 1.2 of the AISI "Specification for the Design of Cold-Formed Steel Structural Members", latest edition.
- C. Sections 16 Ga. and heavier shall be ASTM A653 structural quality grade 50.
- D. Sections 18 Ga. and lighter shall be ASTM A653 structural quality grade 33.
- E. Substitutions must furnish equivalent load carrying capacities and stiffness.

- F. Physical properties and allowable load capabilities of members shall be developed in accordance with AISI “Specification for the Design of Cold-Formed Steel Structural Members”, latest edition.

PART 3 – EXECUTION

3.1 STORAGE OF MATERIALS

- A. Protect materials from conditions that may cause any physical damage.
- B. Store materials on a flat plane.
- C. Remove from the site all rusted, dented, bent, twisted, or otherwise damaged material.

3.2 INSTALLATION: GENERAL

- A. Methods of construction may be either piece by piece (stickbuilt), or by fabrication into panels either on or off site.
- B. Connections shall be accomplished with self-drilling screws or welding so that the connections meet or exceeds the design loads required at that connection.
- C. Cutting of steel framing members shall be accomplished with a saw or shear. Torch cutting is not permitted.
- D. Provide temporary bracing leave in place until work is permanently stabilized.
- E. Diaphragm rated materials may be installed in place of bridging, however, it shall be installed prior to loading the wall. If such a material is installed on one side of the wall, the other stud flange must still be supported with suitable bridging.
- F. Coordinate installation of insulation so that it can be placed in areas that will be made inaccessible by the framing.
- G. Attach jack studs, for support of headers, securely to the headers and to the adjacent studs and bottom track.
- H. **Provide horizontal Header framing at all openings**
- I. Wall track shall not be used to support any load unless specifically designed for that purpose.
- J. Provide reinforcement where holes are cut through load bearing members in accordance with manufacturer’s recommendations and as approved by the Engineer.
- K. Touch up all steel after welding using zinc-rich paint or cold galvanizing compound.
- L. **Studs**
 - 1. Transversely loaded studs of interior partitions need not sit squarely in tracks but must be attached to them. Cut and install all other studs for bearing.
 - 2. Seat axially loaded studs squarely (within 1/16”) against the web portion of the top and bottom tracks. Tracks shall rest on a continuous uniform bearing surface.
 - 3. Maintain full bearing under tracks to provide for load transfer in axially loaded assemblies.
 - 4. Install bridging of size and type recommended by the manufacturer.
 - 5. Install miscellaneous connections, accessories, and supplementary framing.
 - 6. Isolate curtainwall framing from building structure using slide clips or deflection track to prevent transfer of vertical loads while providing lateral support.
 - 7. Maintain vertical alignment of studs at floor/wall intersections or design tracks for load transfer.
 - 8. Space studs as shown on the drawings or to suit the design requirements and limitations of collateral facing materials.
 - 9. Attach sheathing to steel studs in accordance with ASTM C840 except that the steel drill screws shall be spaced not more than 12” o.c.

10. Provide additional studs as required at wall intersections, doors, windows, control joints, expansion joints, and other locations to ensure that sheathing can be attached along all edges.
11. Splicing of axially loaded members is not permitted.
12. Where splicing of track is necessary between stud spacings, place a piece of stud in the track and fasten with two screws or welds per flange to each piece of track.
13. Install headers in all openings in axially loaded walls that are larger than the stud spacing in that wall. Form headers as shown on the drawings or in accordance with the manufacturer's standard detail.

3.3 INSTALLATION: NON-PANELIZED (STICKBUILT) CONSTRUCTION

- A. Align track accurately at the supporting structure and fasten to the structure as shown on drawings.
- B. Track intersections shall butt evenly.
- C. Studs shall be plumbed, aligned and securely attached to the flange or web of the upper and lower tracks. Axially loaded studs shall be seated squarely in both top and bottom tracks.

3.4 FASTENINGS AND ATTACHMENTS

- A. Anchorage of the tracks to the structure shall be as shown on the drawings or as recommended by the manufacturer.
- B. Welds shall conform to the requirements of AWS D.1.1, AWS D1.3 and AISI Manual Section 4.2. All welds shall be touched-up using zinc-rich paint.
- C. Steel drill screws shall be of the minimum diameter indicated on the drawings or as recommended by the manufacturer. Penetration through joined materials shall not be less than 3 exposed threads.
- D. Screws shall be cadmium plated and suitable for use in exterior assemblies.

3.5 TOLERANCES

- A. Studs and walls shall be plumb within $1/960^{\text{th}}$ of the span ($1/8''$ in $10''-0''$).
- B. Walls shall be level within $1/960^{\text{th}}$ of their length ($1/8^{\text{th}}$ in $10''-0''$).
- C. Spacing of studs shall not be more than $\pm 1/8''$ from the designed spacing providing that the cumulative error does not exceed the requirements of the finishing materials.
- D. Prefabricated panels shall not be more than $1/8''$ out of square within the length or height of the panel.

3.6 INSPECTIONS

- A. The erector is responsible to assure strict conformance to the drawings and tolerances at all phases of construction.
 1. Check all members for proper alignment, bearing, completeness of attachments, proper alignment, reinforcement, etc.
 2. Check all attachments for conformance with the drawings, and specifications.

END OF SECTION 05400

SECTION 05500

METAL FABRICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to work of this section.
- B. Closely-related work specified in other sections:
 - 1. Ferrous metal attachment devices for work specified in other sections are specified in those sections.
 - 2. Non-ferrous metal fabrications not specified in this section are specified in other sections of Division 05.
 - 3. Installation of work built into concrete and masonry is specified in Divisions 03 and 04, respectively.
 - 4. Section 04200 Structural Steel

1.2 DESCRIPTION

- A. Provide all metal fabrications, defined as items made from iron, steel, and other metal shapes, plates, bars, strips, tubes, pipes and castings which are not a part of structural steel or other metal systems specified elsewhere, and including:
 - 1. Railings
 - 2. Miscellaneous framing and supports.
 - 3. Miscellaneous steel trim.
 - 4. All other metal fabrications as defined above and on the drawings which are indicated, scheduled, or specified in this section.
- B. Furnish and locate inserts and anchoring devices which must be set in concrete or build into masonry for the installation of metal fabrications work.
- C. Furnish custom metals work related to carpentry work.
- D. Perform design and engineering for fabrication in conformance with the design criteria, code requirements and design arrangement shown on drawings and specified herein.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications, anchor details and installation instructions.
- B. Compliance: Where materials or fabrications are indicated or specified to comply with certain requirements for design loadings, shop drawings shall indicate compliance with required design loadings, and shall be sealed by a Professional Engineer registered in the state in which the Project is constructed. For information only, include structural computations, material properties and other information justifying statement of compliance.
- C. Shop Drawings: Submit shop drawings for fabrication and erection. Include plans, elevations and details of sections and connections. Show anchorage and accessory items. Provide templates or location dimensions for anchor bolts and other devices to be installed under other sections.

1.4 QUALITY ASSURANCE

- A. Welding process and welding operators: Qualified in accordance with AWS "Standard Qualifications Procedures".
- B. Fabricator: Must be able to demonstrate successful completion of comparable work within the past 3 years.

1.5 REFERENCED STANDARDS

- A. Comply with the applicable provisions of all codes, standards, and specifications referenced in this section, including but not limited to the following:
1. AISC: "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings," including the "Commentary on the AISC Specification".
 2. AISI: "Specification for the Design, of Cold-formed Steel Structural Members".
 3. AWS: "Code for Welding in Building Construction".
 4. NAAMM Publications:
 - a. Metal Product Outline for Division-5 Metals.
 - b. Metal Bar Grating Manual.
 - c. Pipe Railing Manual.
 - d. Metal Stairs Manual.
 - e. Metal Finishes Manual.
 5. SSPC: Steel Structures Painting Manual, Volumes 1 and 2.
 6. Part 1910 - Occupational Safety and Health Standards.
 7. ANSI A14.3 - Safety Code for Fixed Ladders.
 8. As referenced in Parts 2 and 3: ASTM Standards: Military Specifications and Federal Specifications.
 9. Aluminum Association (AA)
 - a. ABH-21 Aluminum Brazing Handbook
 - b. ASD-1 Aluminum Standards and Data
 - c. DAF-45 Designation System for Aluminum Finishes
 - d. SAA-46 Standards for Anodized Architectural Aluminum
 10. American Architectural Manufacturers Association (AAMA)
 - a. AAMA 605.1 Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.
 - b. AAMA 606.1 Voluntary Guide Specifications and Inspection Methods of Integral Color Anodic Finishes for Architectural Aluminum.
 - c. AAMA 607.1 Voluntary Guide Specifications and Inspection Methods for Clear Anodic Finishes for Architectural Aluminum.
 - d. AAMA 608.1 Voluntary Guide Specifications and Inspection Methods for Electrolytically Deposited Color Anodic Finishes for Architectural Aluminum.
 11. American Concrete Institute (ACI)
 - a. ACI 347-78 Recommended Practice for Concrete Formwork
 - b. American Iron and Steel Institute (AISI)
 - c. Steel Products Manual; Stainless and Heat Resisting Steel.
 12. American National Standards Institute (ANSI)
 - a. A21.1 Safety Requirements for Floor and Wall Openings, Railings and Toe Boards.
 - b. A58.1 Minimum Design Loads in Buildings and Other Structures.
 - c. A117.1 Accessible and Usable Buildings and Facilities.
 13. American Society for Testing and Materials (ASTM)
 - a. B 483 Specification for Aluminum and Aluminum-Alloy Drawn Tubes for General Purpose Applications.
 - b. E 894 Standard Test Methods for Anchorage of Permanent Metal Railing Systems and Rails for Buildings.
 - c. E 935 Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings.

- d. E 985 Specification for Permanent Metal Railing Systems and Rails for Buildings.
- 14. National Association of Architectural Metal Manufacturers (NAAMM)
 - a. Metal Finishes Manual
 - b. Pipe Railing Manual
- 15. National Ornamental and Miscellaneous Metals Association (NOMMA) Metal Rail Manual

1.6 PRODUCT HANDLING

- A. Deliver, store and protect finished metal work so that, upon completion of the work, metal work shows no evidence of rust or physical damage.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS: Not used.

2.2 MATERIALS

- A. Ferrous Metals:
 - 1. Metal Surfaces, General: For work which will be exposed to view use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness.
 - 2. Steel Plates, Shapes and Bars: ASTM A36/A36M.
 - 3. Steel Bar Grating: ASTM A569 or ASTM A36.
 - 4. Steel Tubing: Cold-formed, ASTM A500; hot-rolled, ASTM A501.
 - 5. Structural Steel Sheet: Hot-rolled, ASTM A570; cold-rolled ASTM A611, Class 1; of grade required for design loading.
 - 6. Galvanized Structural Steel Sheet: ASTM A446, of grade required for design loading. Coating designation as indicated, or if not indicated, G90.
 - 7. Steel Pipe: ASTM A53; Type and grade as required for design loading; schedule 40, unless otherwise indicated or specified.
 - a. Black Finish, unless otherwise indicated.
 - b. **Galvanized finish**
 - All exterior items, railings and where indicated.
 - Certain other items as indicated
 - 8. Gray Iron Castings: ASTM A48, Class 30.
 - 9. Malleable Iron Castings: ASTM A47, grade as selected by fabricator.
 - 10. Brackets, Flanges and Anchors: Cast or formed metal of the same type material and finish as supported rails unless otherwise indicated or specified.
 - 11. Concrete Inserts: Threaded or wedge type; galvanized ferrous castings, either malleable iron, ASTM A47, or cast steel, ASTM A27. Provide bolts, washers and shims as required, hot-dip galvanized, ASTM A153.
- B. Aluminum:
 - 1. Extruded Pipe: Alloy 6063-T6 meeting ASTM B 221
 - 2. Extruded Bars, Shapes and Mouldings: [Alloy 6063-T52] [Alloy 6063-T6]meeting ASTM B 221
 - 3. Castings: Almag 35 meeting ASTM B 26
 - 4. Finish (refer to NAAMM Metal Finishes Manual):
 - 5. Anodized finish shall be AA-M10-C22-A31 (204R1)
- C. Grout: Non-shrink non-metallic, pre-mixed, factory-packaged, non-staining, non-corrosive, and non-gaseous, complying with CD CRD-C621. Provide grout specifically recommended by manufacturer for each application.
- D. Fasteners: Select fasteners for the type, grade and class required for each application. Provide hot-dipped galvanized fasteners for exterior use, where noted, where scheduled and where built into exterior walls.

1. Bolts and Nuts: Hexagon head, ASTM A307, Grade A
 2. Lag Bolts: Square or hexagon head, FS FF-B-561.
 3. Machine Screws: Cadmium plated steel, FS FF-S-92.
 4. Wood Screws: Flat head carbon steel, FS FF-S-111.
 5. Plain Washers: Round, carbon steel, FS FF-W-92.
 6. Expansion Shields: FS FF-S-325.
 7. Toggle Bolts: Tumble-wing type, FS FF-B-588.
 8. Lock Washers: Helical spring type, carbon steel, FS FF-W-84.
- E. Paint:
1. Shop Primer for Ferrous Metal: Manufacturer's or Fabricator's standard, fast-curing, lead-free, "universal" primer; selected for good resistance to normal atmospheric corrosion, for compatibility with finish paint systems to be applied and for capability to provide a sound foundation for field-applied topcoats despite prolonged exposure; complying with performance requirements of FS TT-P-645.
 2. Galvanizing Repair Paint: High zinc dust content paint for regalvanizing welds in galvanized steel, complying with the Military Specifications MIL-P-21035 (Ships) or SSPC-Paint-20.

2.3 FABRICATION, GENERAL

- A. Take field measurements prior to preparation of shop drawings and fabrication, where possible. Allow for trimming and fitting where taking field measurements before fabrication would delay work.
- B. Shop Assembly: Preassemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling. Clearly mark units for reassembly and installation.
- C. Workmanship: Use materials of size and thickness indicated, or if not indicated, as required to produce strength and durability in finished product for use intended. Use proven details of fabrications and support.
- D. Form exposed work true to line and level with accurate angles and surfaces and straight edges. Ease exposed edges to a radius of approximately 1/32 inch unless larger radius indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- E. Welded connections: Weld continuously, except as otherwise specified. Comply with AWS recommendations. At exposed connections, grind exposed weld smooth and flush to match and blend with adjoining surfaces.
 1. Where not exposed to view or weather in the finished work, weld to provide required strength of connection; such welds need not be continuous.
- F. Mechanically fastened connections: Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. All nuts; hexagonal head.
- G. Provide for anchorage of type indicated, or if not indicated, of type needed to develop proper strength and rigidity. Coordinate anchorages with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use.
- H. Cut, reinforce, drill and tap metal work as required to receive finish hardware and other items to be attached.
- I. Galvanizing: Provide a zinc coating for those items indicated or specified to be galvanized, as follows:
 1. ASTM A153 for galvanizing iron and steel hardware.
 2. ASTM A123 for galvanized rolled, pressed and forged steel shapes, plates, bars and strip 1/8 inch thick and heavier.
 3. ASTM A386 for galvanizing assembled steel products.

- J. Fabricate joints which will be exposed to weather to exclude water or provide weep holes to drain areas where water may accumulate.
- K. Shop Painting:
 - 1. Apply shop primer to all surfaces of metal fabrications except as listed below. Comply with SSPC-PA1 "Paint Application Specification No. 1" for shop painting. Thoroughly coat all edges, corners, crevices, bolts, welds and sharp edges.
 - a. Omit shop priming on the following:
 - Aluminum surfaces
 - Galvanized surfaces
 - Surfaces to be embedded in concrete or masonry
 - 2. Surface Preparation: Comply with SSPC surface preparation specifications for each exposure condition of work when installed.
 - a. Exteriors (SSPC Zone 1B): SSPC-SP6 "Commercial Blast Cleaning".
- L. Interiors (SSPC Zone 1A): SSPC-SP3 "Power Tool Cleaning".

2.4 ROUGH HARDWARE

- A. Furnish bent or otherwise custom fabricated bolts, plates, anchors, hangers, dowels and other miscellaneous steel and iron shapes as required for framing and supporting woodwork, and for anchoring or securing woodwork to concrete or other structures. Straight bolts and other stock rough hardware items are specified in Division 06 Sections.
- B. Fabricate items to sizes, shapes and dimensions required. Furnish malleable-iron washers for heads and nuts which bear on wood structural connections; elsewhere, furnish steel washers.

2.5 MISCELLANEOUS FRAMING AND SUPPORTS

- A. Provide miscellaneous steel framing and supports which are not a part of structural steel framework, as required to complete work.
- B. Design and engineer, as part of this work, framing and supports not so detailed in the contract documents. Design to support loads indicated or set forth on finally reviewed shop drawings for work to be supported.
- C. Fabricate to sizes, shapes and profiles indicated or, if not indicated, as designed by fabricator's engineer and of required dimensions to receive adjacent work to be retained by framing. Except as otherwise indicated, fabricate from structural steel shapes, plates and bars of welded construction, for field connection by welding or bolting. Cut, drill and tap units to receive hardware and other items to be attached.
- D. Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish inserts if units must be installed after concrete is placed. Except as otherwise required by conditions, space anchors not more than 24 inches o.c., and provide minimum anchor units of 1-1/2" by 1/4 " by 8" steel straps.
- E. Hot Dip Galvanize all exterior miscellaneous frames and supports, and interior miscellaneous frames and supports where indicated.

2.6 MISCELLANEOUS STEEL TRIM

- A. Fabricate to indicated profiles, from structural steel shapes, plates and steel bars, with continuously welded joints and smooth exposed edges. Use concealed field splices wherever possible. Provide cutouts, fittings and anchorages as required for coordination of assembly and installation with other work.
- B. Galvanize miscellaneous steel trim, for all exterior installations, and for interior installations where indicated.

2.7 STEEL PIPE RAILINGS AND HANDRAILS

- A. Form members of pipe of sizes and wall thickness indicated or specified, but not less than required to support design loading and comply with governing codes.
 - 1. Handrails and Toprails: Capable of withstanding the following loads applied as indicated when tested per ASTM E 935. (VERIFY WITH CURRENT CODE STANDARDS, provide higher values if required by new code.)
 - 2. Top Rail of Guardrail Systems: Capable of withstanding the following loads applied as indicated:
 - a. Concentrated load of 200 pounds applied at any point and in any direction along the top railing member.
 - b. Uniform load of 50 pounds per foot applied horizontally at the required guardrail height and a simultaneous uniform load of 100 pounds per foot applied vertically downward at the top of the guardrail.
 - c. Concentrated and uniform loads above need not be assumed to act concurrently.
 - 3. Handrails Not Serving as Top Rails: Capable of withstanding the following loads applied as indicated:
 - a. Concentrated load of 200 pounds applied at any point and in any direction.
 - b. Uniform load of 50 pounds per foot applied in any direction.
 - c. Concentrated and uniform loads above need not be assumed to act concurrently.
 - 4. Infill Area of Guardrail Systems: Capable of withstanding a horizontal concentrated load of 200 lbf applied to one sq. ft. at any point in the system, including panels, intermediate rails balusters, or other elements composing the infill area.
 - a. Above load need not be assumed to act concurrently with uniform horizontal loads on top rail of railing systems in determining stress on guard.
 - 5. Openings between rail members shall be less than 4".
- B. Interconnect railing and handrail members by butt-welding or welding with internal connectors, at fabricator's option, except non-welded connections where indicated or where specifically accepted.
 - 1. At tee and cross intersections provide coped joints.
 - 2. At bends interconnect pipe by means of prefabricated elbow fittings and flush radius bends, or by bending pipe, at fabricator' option.
- C. Bend pipe in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross-section of pipe throughout entire bend without buckling, twisting or otherwise deforming exposed surfaces of pipe.
- D. Provide wall returns at all ends of wall-mounted handrails.
- E. Close exposed ends of pipe by welding 3/16 inch thick steel plate in place or by use of prefabricated fittings.
- F. Brackets, Flanges, Fittings and Anchors: Provide wall brackets, end closures, flanges, miscellaneous fittings and anchors for interconnections of pipe and attachment of railings and handrails to other work. Furnish inserts and other anchorage devices for connecting railings and handrails to concrete or masonry work.
 - 1. For railing posts set in concrete provide sleeves of galvanized steel pipe not less than 6 inches long and with an inside diameter not less than 1/2 inch greater than the outside diameter of pipe. Provide steel plate closure welded to bottom of sleeve and of width and length not less than 1 inch greater than outside diameter of sleeve.

2. Provide friction fit, removable covers designed to keep sleeves clean and hold top edge of sleeve 1/2 inch below finished-surface of concrete.
3. Where indicated on the drawings provide cast bronze handrail brackets.
Reference Product and Manufacturer: Bracket No. 388 by Julius Blum.
- G. Hot Dip Galvanize all exterior steel railings, and interior steel railings where so indicated, including pipe, fittings, brackets, fasteners and other ferrous components. Provide black steel pipe for interior railings not indicated otherwise.

2.8 PIPE BOLLARDS

- A. Fabricate bollards from galvanized, schedule 80 steel pipe, diameter and length as shown.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installation of anchorages, such as concrete inserts, sleeves, anchor bolts and integral anchors, which are to be embedded in concrete or masonry construction, or attached to other construction. Coordinate delivery of such items with affected work.

3.2 INSTALLATION

- A. General:
 1. Securely fasten metal fabrications to in-place construction, using devices and fasteners which will develop fully rigid and strong connections, including treaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, wood screws and other connectors as required. Fastenings shall develop design loadings specified for items fastened.
 2. Perform cutting, drilling and fitting required for installation of metal fabrications. Set work accurately in location, alignment and elevation; level, true and free of rack. Provide temporary supports as required.
 3. Fit exposed connections to form tight hairline joints. Weld connections which cannot be shop welded because of shipping size limitations. Grind exposed joints smooth and touch-up shop paint coat. Do not weld, cut or abrade the surfaces of units which have been hot-dip galvanized after fabrication, and are intended for bolted or screwed field connections.
 4. Field Welding: Comply with AWS Code for procedures of manual shielded metal-arc welding, appearance and quality of welds made, and methods used in correcting welding work.
- B. Pipe Bollards:
 1. Set and plumb bollards in reinforced concrete footings as shown, fill solid with concrete and finish top to a convex profile to shed water.

3.3 CLEANING, TOUCH-UP PAINTING, AND PROTECTING

- A. Cleaning: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint.
 1. Prime painted surfaces: Paint exposed areas with same material as used for shop painting. Apply by brush or spray to provide a minimum dry film thickness of 2.0 mils.
 2. Galvanized surfaces: Touch up with galvanizing repair paint to comply with ASTM A 780. If shop prime paint coat is specified, touch up same after galvanizing repair paint has cured.
- B. Protecting:
 1. Provide protective covers, fenders, and other work as necessary to maintain metal work in same condition as installed.

2. Periodically inspect installed work. If prime coating becomes damaged, or if rusting develops, promptly remove any rust, and touch up damaged coating.

END OF SECTION 05500

SECTION 06100
ROUGH CARPENTRY

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. Rough carpentry includes carpentry work not specified as part of other sections and which is generally not exposed, except as otherwise indicated.
- B. Types of work in this section include rough carpentry for:
 - 1. Wood grounds, nailers, and blocking.

1.2 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.3 SUBMITTALS:

- A. Product Data: Submit manufacturer's specifications and installation instructions for materials listed below:
- B. Material Certificates: Where dimensional lumber is provided to comply with minimum allowable unit stresses, submit listing of species and grade selected for each use, and submit evidence of compliance with specified requirements. Compliance may be in form of a signed copy of applicable portion of lumber producer's grading rules showing design values for selected species and grade.
- C. Wood Treatment Data: Submit chemical treatment manufacturer's instructions for handling, storing, installation and finishing of treated material.
 - 1. Preservative Treatment: For each type specified, include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained and conformance with applicable standards.

1.4 PRODUCT HANDLING:

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.

1.5 PROJECT CONDITIONS:

- A. Coordination: Fit carpentry work to other work; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking, grounds and similar supports to allow attachment of other work.

PART 2 – PRODUCTS

2.1. LUMBER, GENERAL:

- A. Lumber Standards: Manufacture lumber to comply with PS 20 "American Softwood Lumber Standard" and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee's (ALSC) Board of Review.
- B. Inspection Agencies: Inspection agencies and the abbreviations used to reference with lumber grades and species include the following:
 - 1. SPIB - Southern Pine Inspection Bureau.
 - 2. WWPA - Western Wood Products Association.
- C. Grade Stamps: Factory-mark each piece of lumber with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
 - 1. For exposed lumber apply grade stamps to ends or back of each piece, or omit grade stamps entirely and issue certificate of grade compliance from inspection agency in

lieu of grade stamp.

- D. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
 - 1. Provide dressed lumber, S4S, unless otherwise indicated.
 - 2. Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2" or less in nominal thickness, unless otherwise indicated.

2.2. DIMENSION LUMBER:

- A. For blocking (2" to 4" thick, 2" to 4" and wider, provide the following grade and species:
 - 1. Southern Pine No. 2, Dense Any species and grade which meets or exceeds the following values:
 - a. Fb (minimum extreme fiber stress in bending); 1150 psi.
 - b. E (minimum modulus of elasticity); 1,500,000 psi.

2.3. MISCELLANEOUS MATERIALS:

- A. Fasteners and Anchorages: Provide size, type, material and finish as indicated and as recommended by applicable standards, complying with applicable Federal Specifications for nails, staples, screws, bolts, nuts, washers and anchoring devices. Provide metal hangers and framing anchors of the size and type recommended by the manufacturer for each use including recommended nails.
- A. Building Paper: ASTM D 226, Type I; asphalt saturated felt, non-perforated, 30-lb. type (or 2 layers of #15).
- C. Construction Adhesives – Liquid Nails, heavy duty construction adhesive LN-901.

2.4. WOOD TREATMENT BY PRESSURE PROCESS:

- A. Preservative Treatment: Where lumber or plywood is indicated as "Trt-Wd", "Pr.Tr.", "PT" or "Treated", or is specified herein to be treated, comply with applicable requirements of AWPB Standards. Treatment system is to be "ACQ". Mark each treated item with the AWPB Quality Mark Requirements. All lumber must be inspected, marked according to grade and certified by the appropriate bureau governing that product.
 - 1. Pressure-treat above-ground items with water-borne preservatives to comply with AWPB LP.
 - 2. After treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19 percent and 15 percent. Treat indicated items and the following:
 - a. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers and waterproofing.
 - b. Wood sills, sleepers, blocking, furring, stripping and similar concealed members in contact with masonry or concrete.
 - c. Wood framing members less than 18" above grade.

2.5. FIRE RETARDANT TREATED WOOD

- A. All rough carpentry not in the exterior wall is to be Fire Retardant Treated. Dricon products are preferred, however alternate products providing adequate protection and warranty are acceptable.
- B. The fireproofing treatment shall be accomplished by means or pressurization.
- C. Product Treatment: Dricon fire retardant treatment for wood is produced by licensed treatment plant. Fire retardant chemical shall provide protection against termites and fungal decay, shall be registered for use as a wood preservative by the U.S. Environmental Protection Agency (EPA), shall comply with formulation FR-1 of the current edition of AWPB Standard P17, and shall be free of halogens, sulfates and ammonium phosphate. Treated wood shall have a flamespread of less than 25 when tested in an extended 30 minute tunnel test in accordance with ASTM E 84, NFPA

255 or UL 723.

- D. Corrosion Properties: Fire retardant treated wood in contact with carbon steel, galvanized steel, aluminum, copper and red brass shall exhibit corrosion rates less than 1 mil (0.025 mm) per year when tested in accordance with Fed. Spec. MIL-L-19140, Paragraph 4.6.5.2.
- E. Testing: Testing on fire performance, strength and corrosion properties of fireretardant treated wood shall be recognized by issuance of a National Evaluation Services Report.
- F. Fire Retardant Treatment: Manufacturer's solution for fire retardant treatment of wood.
 - a. Lumber Treatment Standard: Comply with AWP A Standard C20, current edition, and Appendix H of AWP A Use Category System.
 - 1. Plywood Treatment Standard: Comply with AWP A Standard C27, current edition, and Appendix H of AWP A Use Category System.
 - b. Moisture Content:
 - 1. Provide fire retardant treated wood with moisture content as follows:
 - a. Lumber: Dried to a maximum moisture content of 19% after treatment.
 - b. Plywood: Dried to a maximum moisture content of 15% after treatment.
 - c. Lumber: Dressed lumber, S4S, unless otherwise indicated.
- G. **Per Dricon approval, use corrosion fasteners with treated wood. Specified Simpson screw connectors are preferred, however alternate typces may be used if these are not acceptable to the FTW manufacturer.**
- H. Warranty – provide a year warranty with the same coverage as Dricon's warranty:
 - 1. **Warranty.** Arch Wood Protection warrants to Builder that if the roof into which Dricon FRTW is incorporated is built in accordance with the standards and design criteria described in Section 3, the Dricon Lumber and Plywood will not structurally fail due to a reduction in strength of the Dricon FRTW below Arch Wood Protection's published strength properties due to humidity or heat encountered in the roof system for a period of forty (40) years from the date of installati onof the Dricon FRTW by Builder or its subcontractors

PART 3 – EXECUTION

3.1 INSTALLATION, GENERAL:

- A. Discard units of material with defects which might impair quality of work, and units which are too small to use in fabricating work with minimum joints or optimum joint arrangement.
- B. Protect wood products from adverse weather conditions as soon as possible. Follow manufacturers recommendations for protection of wood products.
- C. Isolate all new wood from direct contact with masonry or concrete with asphalt felt, plastic or other approved methods.
- D. Wood members fastened to masonry or concrete may be pressure treated or if of manufactured lumber, borate treated.
- E. Wood members in use on the roof are to be pressure treated.

3.2 WOOD GROUNDS, NAILERS, BLOCKING AND SLEEPERS:

- A. Provide wherever shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.
- B. Securely fasten and install. Utilize proper corrosion resistant fasteners. Isolate all pressured treated wood from other metals.

3.3 WOOD FRAMING, GENERAL:

- A. Provide framing members of sizes and on spacings shown, and frame openings as shown, or if not shown, comply with recommendations of National Forest Products Association (N.F.P.A). Do not splice structural members between supports.
- B. Anchor and fasten as indicated and:to comply with
 - 1. "Recommended Nailing Schedule" of "National Design Specifications for Wood Construction" published by N.F.P.A.,

END OF SECTION 06100

SECTION 07211
BATT AND BLANKET INSULATION

PART I - GENERAL

1.01 SECTION INCLUDES

- A. Thermal insulation for exterior walls and ceilings

1.02 REFERENCE STANDARDS

- A. Federal Specifications (FS)
- B. American Society for Testing Materials (ASTM)

PART II - PRODUCTS

2.01 MANUFACTURER

- A. The drawings were prepared and this specification written on the basis of using the products and the specifications of Schuller International, Inc., Building Insulation Division, Plano, Texas. It is not the intent to limit competitive bidding. Products with equal characteristics by other manufacturers are acceptable under the conditions of these specifications.

2.02 BATT INSULATION

- A. "Thermal-Shield" FSK-faced, ASTM-136, ASTM C-665, Type II, Class C, 6 inch thick (R-19) for 6" walls and 3-1/2 inches thick (R-13) for 3" to 4" walls, fiberglass with stapling flanges, Perm Rating of 1.0; HH-I-521F. R-Value designations in accord with ASTM C518. At areas above ceiling where insulation facing is exposed provide FSK facing approved for use to exposed.

PART III - EXECUTION

3.01 GENERAL

- A. Insulate in framing spaces, including areas behind electrical outlets, around structural obstructions, jambs, sills, etc. Cover plates and headers with vapor barrier paper. Provide complete insulation envelope for entire building whether specifically shown or not.

3.02 DELIVERY AND STORAGE

- A. Deliver in original unopened packages and store in enclosed shelter; protect from damage and exposure to elements. Remove damaged or deteriorated materials from premises.

3.03 INSTALLATION

- A. Exterior Walls and At Roof
Install between framing members, FSK-facing placed inward and recessed from face of framing, flanges attached to sides of framing members at each end of blanket and along length of flanges. All edges are to overlapped and neat. At exposed areas above ceiling provide joining method.
- B. Provide supports and fasteners as required to keep insulation in position and to prevent sagging or displacement.

3.04 CLEAN-UP

- A. Upon completion of work of this section remove related debris from premises.

END OF SECTION 07211

SECTION 07600

FLASHING AND SHEET METAL

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to work of this section.

1.2 SECTION INCLUDES

- A. Provide flashing and sheet metal work including:
 - 1. Interior exposed metal trims
 - 2. Sealing of existing roof deck at demolished items
 - 3. Behind louver closure panel
 - 4. Interior exposed trim
 - 5. Roof curb flashing covers and trims.
 - 6. Other Miscellaneous sheet metal accessories and fabrications.
 - 7. Sealant work internal to sheet metal work.
 - 8. Existing gutter repair

1.3 RELATED DOCUMENTS/ SECTIONS

- A. Closely-related work specified in other sections:
 - 1. Section 07920 - Joint Sealers - applies to elastomeric sealant work of this section.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and general recommendations for each sheet material and fabricated product.
- B. Color Selections: Submit color charts for factory-finished products requiring color selection.
- C. Shop Drawings: Submit shop drawings showing layout, joining, profiles, and anchorages of fabricated work, including profiles, and field assembled/fabricated conditions.
- D. Samples:
 - 1. Submit 8 inches square samples of sheet materials to be exposed as finish surfaces.
 - 2. Submit 12 inches long, completely finished units of gutters, downspouts, and other factory-fabricated products exposed as finished work.

1.6 REGULATORY REQUIREMENTS

- A. Comply with the applicable provisions of codes and standards meet local, State and Federal jurisdiction.

1.7 REFERENCED STANDARDS

- A. (SMACNA): Sheet Metal and Air Conditioning Contractor's National Association.
 - 1. Architectural Sheet Metal Manual.
- B. (NAAMM): National Association of Architectural Metal Manufacturers.
 - 1. Metal Finishes Manual.

- C. (NRCA): National Roofing Contractor's Association
 - 1. Roofing and Waterproofing Manual.
- D. ASTM Standards:
 - 1. As referenced in Part 2 Products.
- E. Federal Specifications:
 - 1. As referenced in Part 2 Products.

PART 2 - PRODUCTS

2.1 SHEET METAL MATERIALS

- A. Stainless Steel: -
 - 1. AISI Type 302/304, ASTM A167, 2D annealed finish, except where other finish specified; soft except where harder temper required for forming or performance; 24 gauge except if different gauge is indicated.
- B. Galvanized Steel Sheet:
 - 1. ASTM A 526, commercial quality, G90 hot-dip galvanized. Minimum thickness: 24 gage (0.0239 inch), unless indicated otherwise. Kynar finish where exposed to view.
- C. Aluminum:
 - 1. ASTM B 209, alloy 3003, temper H14, AA-C22A41 ; 0.040 inch thick standard flashing materials. Minimum thickness unless specified thicker on drawings.
- D. MATERIAL SCHEDULE
 - 1. Aluminum with Kynar Finish
 - a. All work associated with roof (caps, curb extensions, gutters, etc)
 - b. Smaller exterior wall metal covers/caps
 - 2. GALVANIZED Interior and Exterior –
 - a. Typical Sheet Metal and Flashing Material except at roof, and exterior side of exterior walls.

2.2 MISCELLANEOUS MATERIALS AND ACCESSORIES

- A. Solder:
 - 1. For use with steel or copper: 50 - 50 tin/lead solder (ASTM B32), with rosin flux.
 - 2. For use with stainless steel: 60 - 40 tin/lead solder (ASTM B32), with acid-chloride type flux, except use rosin flux over tinned surfaces.
- B. Fasteners: Same metal as flashing/sheet metal or, other non- corrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.
- C. Bituminous Coating: SSPC - Paint 12, solvent type bituminous mastic, nominally free of sulfur, compounded for 15-mil dry film thickness per coat.
- D. Mastic Sealant: Polyisobutylene; nonhardening, nonskinning, non-drying, nonmigrating sealant.

- E. Elastomeric Sealant: Generic type recommended by manufacturer of metal and fabricator of components being sealed and complying with requirements for joint sealants as specified in Division 7 Section "Joint Sealers."
- F. Paper Slip Sheet: 5-lb. rosin-sized building paper.
- G. Polyethylene Underlayment: Minimum 6-mil carbonated polyethylene film; resistant to decay when tested in accordance with ASTM E 154.
- I. Metal Accessories: Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gage required for performance.

2.3 FABRICATION

A. General:

- 1. Shop-fabricate work to greatest extent possible. Fabricate for waterproof and weather-resistant performance; with expansion provisions for running work, sufficient to permanently prevent leakage, damage or deterioration of the work. Form work to fit substrates. Comply with material manufacturer instructions and recommendations for forming material. Form exposed sheet metal work without excessive oil-canning, buckling and tool marks, true to line and levels indicated, with exposed edges folded back to form hems.
- 2. The Drawings show typical conditions. For conditions and intersections not detailed, fabricate work for continuity of appearance and weather-resistant performance.
- 3. Nonmoving seams: Fabricate with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- 4. Expansion Provisions: Where lapped or bayonet-type connections cannot be used, or would not be sufficiently water-weatherproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant concealed within joints.
- 5. Sealant Joints: Where movable, non-expansion type joints are indicated or required for proper performance, form metal to provide for installation of elastomeric sealant, in compliance with Section 07900: Joint Sealers.
- 6. Separate metals from noncompatible metals and corrosive substrates by coating concealed surfaces at locations of contact, with bituminous coating or other permanent separation as recommended by manufacturer/fabricator.

2.4 METAL FLASHINGS FABRICATION

- A. Fabricate of specified metal, to profiles indicated or required.
- B. Surfaces which shall be exposed to view in the finish work: Smooth surface.
- C. Flashing elements partially exposed and partially embedded: Fabricate as two-part flashings, each part as specified above for application, joined by a weathertight lock joint.
- D. Fabricate to minimize joints. Provide flush joints with blind splice plates.

2.5 METAL FINISHES

- A. General: Comply with NAAMM "Metal Finishes Manual" for finish designations and application recommendations, except as otherwise indicated. For components which are assemble or welded in factory, apply finish after fabrication is completed. Provide colors from manufacturer's standard colors

- B. Finish (standard) – Fluoropolymer Finish - Kynar 500 PVDF coating. Color is to be selected from the manufacturer’s standard – White. All metal work exposed to view is to be factory pre painted.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. General: Except where more stringent requirements indicated, comply with manufacturer’s installation instructions and recommendations, and with SMACNA “Architectural Sheet Metal Manual”. Anchor work securely in place, providing for thermal expansion; conceal fasteners where possible. Set units true to lines, levels, and indicated gradients. Install work with laps, joints and seams which shall be permanently watertight and weatherproof.
- B. Joint Sealers: Install gaskets and sealants where required for weatherproof performance of this work. Comply with Section 07920 of these specifications for product and installation requirements applicable to joint sealers.
- C. Underlayment: Where aluminum is to be installed directly on cementitious or wood substrates, install a slip sheet of red rosin paper and a course of polyethylene underlayment.
- D.

3.2 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces, removing substances which might cause corrosion of metal or deterioration of finishes.
- B. Protection: Installer shall advise Contractor of required procedures for surveillance and protection of flashings and sheet metal work during construction, to ensure that work shall be without damage or deterioration, other than natural weathering, at time of Substantial Completion.

END OF SECTION 07600

SECTION 07920
ELASTOMERIC JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes: Provide elastomeric joint sealants, joint backer materials and accessories needed to ensure a complete and durable weather tight seal at all locations indicated.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. Refrigerated Panels: Provide sealants for panel work consistent with installer and manufacturer requirements.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300.
- B. Product data:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
 - 3. Written documentation of applicator's qualifications, including reference projects of similar scope and complexity, with current phone contacts of architects and owners for verification.
 - 4. Certification from sealant manufacturers that their products are suitable for the use indicated and comply with specification requirements.
 - 5. Report from sealant applicator summarizing results of pre-construction field adhesion testing.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.
- B. Applicator qualifications:
 - 1. Applicator shall have at least three years experience in installing materials of types specified and shall have successfully completed at least three projects of similar scope and complexity.
 - 2. Applicator shall designate a single individual as project foreman who shall be on site at all times during installation.
- C. Single source responsibility for joint sealants:
 - 1. Obtain joint sealants from single manufacturer for each different product required to ensure compatibility.
 - 2. Manufacturer shall instruct applicator in procedures for intersecting sealants.
- D. Perform work in accord with ASTM C-1193 guidelines except where more stringent requirements are indicated or specified.
- E. Pre-construction compatibility and adhesion testing:
 - 1. Submit to joint sealant manufacturer samples of actual materials that will contact or affect their joint sealants in the Work for compatibility and adhesion testing.
 - 2. This testing will not be required where sealant manufacturer is able to furnish data acceptable to Architect based on previous testing for adhesion and compatibility to materials matching those of the Work.
- F. Pre-construction field adhesion testing:

1. In jobsite field samples prior to general installation, conduct field-tests for adhesion of joint sealants to actual joint substrates using proposed joint preparation methods recommended by manufacturer.
 2. Do not use joint preparation methods or sealants that produce less than satisfactory adhesion to joint substrates during testing.
- G. Standard of acceptance:
1. Joints installed during pre-construction field adhesion testing that are accepted by Architect shall be retained as standard of acceptability and incorporated into Work of that area during general installation.
 2. At least one such standard of minimum 5 feet in length shall be established for each type of sealant and substrate.
 3. The use of 2-part polysulfide, 2-part polyurethane or silicone-synthetic rubber type sealant is preferable. The Architect shall determine which particular sealant type is best applicable to each individual design. Specify pourable urethane base sealants for construction joints in traffic bearing locations such as concrete walks, patios, steps, and similar locations.
- H. Schedule applications of waterproofing, water repellents and preservative finishes after sealant installation unless sealant manufacturer approves otherwise in writing. Ensure that installed sealant is allowed to cure sufficiently prior to subsequent applications.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver the materials to the job site in the manufacturer's unopened containers with all labels intact and legible at time of use.
- B. Store materials in accord with manufacturer's recommendations with proper precautions to ensure fitness of material when installed.
- C. Comply with pertinent provisions of Section 01630.

1.5 SUBSTRATE CONDITIONS

- A. General:
1. Provide joints properly dimensioned to receive the approved sealant system.
 2. Provide joint surfaces that are clean, dry, sound and free of voids, deformations, protrusions and contaminants which may inhibit application or performance of the joint sealant.
 3. Where expansion joints having preformed joint fillers are scheduled to be sealed, provide a reservoir to accept the sealant such as by a molded breakaway joint cap or a removable block out.

1.6 WARRANTY

- A. Deliver to the Architect signed copies of the following written warranties against adhesive and cohesive failure of the sealant and against infiltration of water and air through the sealed joint for a period of 3 years from date of completion.
1. Manufacturer's standard warranty covering sealant materials;
 2. Applicator's standard warranty covering workmanship.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Acceptable manufacturer: Tremco Incorporated or approved equal.
- B. Compatibility:
 1. Provide joint sealants, joint fillers and accessory joint materials that are compatible with one another and with joint substrates under project conditions.
 2. Install joint sealants, joint fillers and related joint materials that are non-staining to visible joint surfaces and surrounding substrate surfaces.
- C. Provide colors selected by Architect from manufacturer's standard color range.

2.2 ELASTOMERIC SEALANTS

A. Sealant Type A:

1. For **exterior** joints in vertical surfaces and non-traffic horizontal surfaces such as, but not limited to:
 - a. Perimeter joints between materials listed above and frames of doors, windows, storefronts, louvers and similar openings.
2. Provide single-component or multi-component, low-modulus, non-sag sealant; comply with ASTM C920, Type S or M, Grade NS, Class 25, (Class 50 ~~2~~), Class 100/50
3. Acceptable sealants:
 1. Urethanes
 1. Multi Component
 - i. Dymeric 240/240FC
 - ii. Vulkem 227
 2. Silicones
 1. Single Component
 - i. Spectrem 1
 - ii. Spectrem 2
 - III. Spectrem 3
 3. Multi Component
 - i. Spectrem 4-TS

B. Sealant Type B:

1. For interior joints in vertical surfaces and non-traffic horizontal surfaces such as, but not limited to:
 - a. Control and expansion joints on exposed interior surfaces of exterior walls.
 - b. Perimeter joints on exposed interior surfaces of exterior openings.
 - c. Perimeter joints between interior wall surfaces and frames of interior doors, windows, storefronts, louvers, elevator entrances and similar openings.
 - e. Trim or finish joints subject to movement.
2. Acceptable sealants:
 - a. Multi Component Urethane
 - iii. Vulkem 227
 - iv. Dymeric 240/240FC
 - b. Single Component Silicone
 - i. Spectrem 1
 - ii. Spectrem 2
 - iii. Spectrem 3
 - iv. Proglaze
 - v. Tremsil 600
 - c. Other
 - i. Tremflex 834

C. Sealant Type I:

1. For interior or exterior joints in vertical surfaces between laps in fabrications of sheet metal.
2. Acceptable products:
 - a. Tremco Butyl Sealant
 - b. Tremco Acoustical Sealant

D. Sealant Type J:

1. For exterior vertical joints under metal thresholds and saddles or as bedding sealant for sheet metal flashing and frames of metal or wood.
2. Acceptable products:
 - a. Urethanes
 1. Vulkem 116
 2. Dymonic

- 3. Dymonic FC
- b. Silicones
 - 1. Spectrem 2
 - 2. Proglaze
 - 3. Spectrem 3
- c. Other
 - 1. Tremco Butyl Sealant
 - 2. Tremco Acoustical

2.3 ACCESSORIES

- A. Joint cleaner: Cleaner as recommended by sealant manufacturer for substrates indicated.
- B. Joint primer: As recommended by sealant manufacturer for substrates, conditions and exposures indicated.
- C. Bond breaker: Polyethylene tape or other adhesive faced tape as recommended by sealant manufacturer to prevent sealant contact where it would be detrimental to sealant performance.
- D. Joint backer: Closed cell or soft rod Polyethylene foam rod or other compatible non-waxing, non-extruding, non-staining resilient material in dimension 25 percent to 50 percent wider than joint width as recommended by sealant manufacturer for conditions and exposures indicated.
- E. Masking tape: Non-staining, non-absorbent tape product compatible with joint sealants and adjacent joint surfaces that is suitable for masking.

2.4 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor and approved by the sealant manufacturer as compatible, subject to review of the Architect.

PART 3-EXECUTION

3.1 SURFACE CONDITIONS

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- B. Applicator shall examine the areas and conditions under which work of this Section will be performed.
 - 1. Verify conformance with manufacturer's requirements;
 - 2. Report unsatisfactory conditions in writing to the Architect;
 - 3. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Prepare surfaces to receive sealants in accord with sealant manufacturer's instructions and recommendations except where more stringent requirements are indicated.
- B. Thoroughly clean joint surfaces using cleaners approved by sealant manufacturer whether primers are required or not.
 - 1. Remove all traces of previous sealant and joint backer by mechanical methods, such as by cutting, grinding and wire brushing, in manner not damaging to surrounding surfaces.
 - 2. Remove paints from joint surfaces except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer.
 - 3. Remove wax, oil, grease, dirt film residues, temporary protective coatings and other residues by wiping with cleaner recommended for that purpose. Use clean, white, lint-free cloths and change cloths frequently.
 - 4. Remove dust by blowing clean with oil-free, compressed air.
- C. Provide joint backer material uniformly to depth required by sealant manufacturer for proper joint design using a blunt instrument.
 - 1. Fit securely by compressing backer material 25 percent to 50 percent so no displacement occurs during tooling.
 - 2. Avoid stretching or twisting joint backer.

- D. Provide bond-breaker where indicated or recommended by sealant manufacturer, adhering strictly to the manufacturers installation requirements.
- E. Prime joint substrates where required.
 - 1. Use and apply primer according to sealant manufacturers recommendations.
 - 2. Confine primers to sealant bond surfaces; do not allow spillage or migration onto adjoining surfaces.
- F. Taping:
 - 1. Use masking tape where required to prevent sealant or primer contact with adjoining surfaces that would be permanently stained or otherwise damaged by such contact or the cleaning methods required for removal.
 - 2. Apply tape so as not to shift readily and remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION

- A. Provide the approved sealant system where shown on the Drawings, and in strict accord with the manufacturer's recommendations as approved by the Architect.
- B. Install sealants immediately after joint preparation.
- C. Mix and apply multi-component sealants in accord with manufacturer's printed instructions.
- D. Install sealants to fill joints completely from the back, without voids or entrapped air, using proven techniques, proper nozzles and sufficient force that result in sealants directly contacting and fully wetting joint surfaces.
- E. Install sealants to uniform cross-sectional shapes with depths relative to joint widths that allow optimum sealant movement capability as recommended by sealant manufacturer.
- F. Tool sealants in manner that forces sealant against back of joint, ensures firm, full contact at joint interfaces and leaves a finish that is smooth, uniform and free of ridges, wrinkles, sags, air pockets and embedded impurities.
 - 1. Dry tooling is preferred; tooling liquids that are non-staining, non-damaging to adjacent surfaces and approved by sealant manufacturer may be used if necessary when care is taken to ensure that the liquid does not contact joint surfaces before the sealant.
 - 2. Provide concave tooled joints unless otherwise indicated to provide flush tooling or recessed tooling.
 - 3. Provide recessed tooled joints where the outer face of substrate is irregular.
- G. Remove sealant from adjacent surfaces in accord with sealant and substrate manufacturer recommendations as work progresses.
- H. Protect joint sealants from contact with contaminating substances and from damages. Cut out, remove and replace contaminated or damaged sealants, immediately, so that they are without contamination or damage at time of substantial completion.

END OF SECTION 07920

SECTION 08161 FIBERGLASS ENTRY DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fiberglass Entry Doors with frame and hardware.

1.2 RELATED SECTIONS

□

- A. 06100 – Rough Carpentry
- B. 06201 – Finish Carpentry - Exterior
- C. 07275 – Water-resistant barrier
- D. 07920 – Elastomeric Joint Sealants: Sealants and caulking
- E. 08710 – Finish Door Hardware
- F. 09900 - Painting

1.3 REFERENCES

Specifier Notes: Standards listed by reference including revisions by issuing authority. This article does not require compliance with standards, but is merely a listing of those that may be used.

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM E 90 – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions.
 - 2. ASTM E 283 – Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Difference Across the Specimen.
 - 3. ASTM E 330 – Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
 - 4. ASTM E 331 – Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
 - 5. ASTM E 413 – Classification for Rating Sound Insulation (STC).
 - 6. ASTM E 547 – Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference.
 - 7. ASTM E 1300 – Standard Practice for Determining Load Resistance of Glass in Buildings.
 - 8. ASTM E 1332 – Standard Classification for Determination of Outdoor-Indoor Transmission Class.
 - 9. ASTM E 1886 – Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missiles and Exposed to Cyclic Pressure Differentials.
 - 10. ASTM E 1996 – Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
 - 11. ASTM E 2235 – Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods.
- B. Environmental Protection Agency and Department of Energy:
 - 1. Energy Star Program Requirements Product Specification for Residential Windows, Doors, and Skylights.
- C. Code of Federal Regulations:
 - 1. CFR 1201 Part 2 – Safety Standard for Architectural Glazing Materials.

- D. Florida High Velocity Hurricane Zone (HVHZ) Testing Application Standards:
 - 1. TAS 201 – Impact Test Procedures.
 - 2. TAS 202 – Criteria for Testing Impact and Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure.
 - 3. TAS 203 – Criteria for Testing Products Subject to Cyclic Wind Pressure Loading.
- E. National Accreditation & Management Institute (NAMI)
- F. National Fenestration Rating Council
 - 1. NFRC 100 – Procedure for Determining Fenestration Product U-Factors.
 - 2. NFRC 200 – Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance (VT) at Normal Incidence.
 - 3. NFRC 400 – Procedure for Determining Fenestration Product Air Leakage.
- G. National Fire Protection Association
 - 1. NFPA 252 – Standard Methods of Fire Tests of Door Assemblies
- H. Underwriters Laboratory
 - 1. UL 10B – Standard for Fire Testing Door Assemblies.
 - 2. UL 10C – Standard for Positive Pressure Fire Tests of Door Assemblies.

1.4 PERFORMANCE REQUIREMENTS

Doors shall have a structural design pressure rating of DP 167 mph – 50 psi.

- A. Doors shall have an impact design pressure rating of DP 167 mph, 50 psi
- B. Door Unit Air Leakage, NFRC 400, 1.57 psf (25 mph): 0.50 cfm per square foot of frame or less.
- C. Door Unit Water Penetration: No water penetration through door unit when tested in accordance with ASTM E 331 or ASTM E 547 with water applied at rate of 5 gallons per hour per square foot at 0 psf.
- D. Doors shall have a minimum/maximum U-Value of [0.32] and a minimum/maximum SHGC of [0.40]
- E. Doors shall qualify for Energy Star Rating.

1.5 SUBMITTALS

- A. Refer to Division 01 33 00 Submittal Procedures [Insert division number and title].
- B. Product Data: Submit door manufacturer current product literature, including installation instructions.
- C. Shop Drawings: Submit manufacturer's shop drawings, indicating dimensions, construction, component connections, anchorage methods and locations, accessories, hardware locations, and installation details.

1.6 QUALITY ASSURANCE

- A. Quality Assurance Submittals:
 - 1. Provide documentation for specified performance as required.
 - 2. Manufacturers' installation instructions.
- B. Manufacturer Qualifications: Manufacturer shall have successful experience in producing the type of product required for project applications equivalent to the requirements for this project.

Specifier notes: Therma-Tru manufactures fiberglass door slabs and related components and sources them to distributor and dealer fabricators for system assembly. Fabricators will have successful experience in producing the type of product required equivalent to the project requirements.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Refer to Division 01 60 00 Product Requirements.
- B. Delivery: Deliver materials to site undamaged with labels clearly identifying manufacturer, product name, and installation instructions
- C. Storage: Store materials in an upright position, off ground, under cover, and protected from weather, direct sunlight, and construction activities.
- D. Handling: protect materials and finish during handling and installation to prevent damage.

1.8 WARRANTY

- A. Therma-Tru® standard limited warranty for fiberglass Therma-Tru® Door Product and genuine Therma-Tru® components, including rot-resistant frames, mullions, and brickmould sourced from Therma-Tru frames, and non-rot resistant mullions and brickmould) used in commercial and multi-residential projects will be free from material and workmanship defects for a period of three years subject to certain limitations and restrictions. For complete details and current warranty information go to www.thermatru.com.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Basis of design: Therma-Tru Corp.
1750 Indian Wood Circle Maumee, OH 43537
(419) 891-7400
(800) 843-7628
www.thermatru.com
- B. Or Approved equal. Requests for substitutions will be considered in accordance with provisions of Division 0160 00.

2.2 FIBERGLASS ENTRY DOORS

- A. Fiberglass Entry Doors: All fiberglass doors manufactured by Therma-Tru®. Specification is for complete entry systems with components manufactured by Therma-Tru® and assembled by independent fabricators.
 - 1. Smooth-Star
 - 2. Construction
 - c. Smooth Star® 1/16-inch minimum thickness, proprietary fiberglass-reinforced thermoset composite, surface lightly textured. Door edges are machinable kiln-dried pine, primed, lock edge reinforced with engineered lumber core, lockset area reinforced with solid blocking for hardware backup. Door bottom edge is moisture- and decay resistant composite. Core is foamed-in-place polyurethane, density 1.9 pcf minimum.
 - 3. Door Style
 - c. Smooth-Star® 1. Enter Style Number [S2000].
- B. Frames: Provided and assembled by third party fabricators to exacting specifications from ThermaTru to help maximize system performance. Therma-Tru® strongly recommends the use of rotresistant frames, mullions, and brickmould sourced from Therma-Tru, however, the use of a non Therma-Tru® frame system (or a Therma-Tru Primed Pine Frame or Therma-Tru Oak Frame) will not automatically void the entire limited warranty. Refer to 1.8.B for clarification.
 - 1. Milled from 5/4 kiln-dried material with profiled ½" stop and 6 degree sill gain prep.

2. Jamb Width [FIELD MEASURE]

3. Rot Resistant – frames, mullions, and brickmould sourced through Therma-Tru.

C. Sills

1. Inswing: [Composite Adjustable]

3. Other:[Public Access Sill]

4. Finish: Satin nickel

2.3 HARDWARE



A. ACCESSIBILITY COMPLIANCE – All hardware to be accessible compliant with the latest ANSI Standards for New Jersey.

B. Rutgers University – All hardware where possible is to be compliant with Rutgers University Hardware Requirements.

C. Hinges: Steel, Ball bearing 4 x 4 x 0.098 inches finished to match hardware, stainless steel screws to match

1. Finish: US32D stainless steel

Locking Hardware:

2. Multi-point lock system includes stainless steel face plate.

3. Multi-point lock system handle set hardware: Venture

4. Finish: US15, brushed nickel

D. Other hardware per Rutgers Standards and hardware schedule. (closer, weather stripping, stops,

Specifier Notes: Decorative and specialty glass is standard and included with the select model numbers.

etc).

2.4 GLAZING

1. Therma-Tru factory glazed with triple-pane construction., Safety Glass.

2.5 INSTALLATION ACCESSORIES

A. Sill pan

B. Corner seal pad

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas to receive doors. Notify Architect in writing any unacceptable conditions that would adversely affect installation or subsequent performance of the product. Do not proceed with installation until unsatisfactory conditions are corrected.

3.2 INSTALLATION

A. Install fiberglass doors in full compliance with Therma-Tru® written instructions and approved shop drawings.

B. Maintain alignment and compatibility with adjacent work.

3.3 FINISHING

- A. Field Paine finish door and frame, interior and exterior. Finish in compliance with Therma-Tru® written recommendations. Guidance for proper finishing is available at www.thermatru.com – “Recommendations for Proper Finishing and Painting or Staining.”

3.3 Protection

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products prior to Substantial Completion in accordance with Therma-Tru written recommendations. Guidance for proper finishing is available at www.thermatru.com – “Recommendations for Proper Finishing and Painting or Staining.”

END OF SECTION 08161

SECTION 08710 DOOR HARDWARE

PART 1 – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Commercial door hardware for the following:
 - a. New exterior swinging entry door
 - b. Replacement of noted door hardware at existing doors.
 - c. Replacement of weatherstripping at all exterior swinging doors.
- B. Related Sections include the following:
 - 1. SECTION 08161 FIBERGLASS ENTRY DOOR
- C. Intent
 - 1. Provide a complete door hardware package at all doors whether specifically scheduled or not. This includes, lock set, hinges/butts, thresholds and weatherstripping at all exterior doors, sound stripping at certain doors, stops, closers at all exterior and fire rated doors.
 - 2. Hardware standards are established herein. Hardware sets are specified on the drawings.
 - 3. GC to provide keying for all doors.
 - 4.

1.03 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: As requested by the architect. All approved samples shall be forwarded to the Contractor for incorporation into the work.
- C. Other Action Submittals:
 - 1. Door Hardware Sets: Prepared by or under the supervision of Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams.
 - a. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 - b. Content: Include the following information:
 - (1) Identification number, location, hand, fire rating, and material of each door and frame.
 - (2) Type, style, function, size, quantity, and finish of each door hardware item.
 - (3) Complete designations of every item required for each door or opening including name and manufacturer.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Supplier Qualifications: Door hardware supplier with warehousing facilities in Project's vicinity and who is or employs a qualified Architectural Hardware Consultant, available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.
- C. Scheduling Responsibility: Preparation of door hardware schedules.

- D. Architectural Hardware Consultant Qualifications: A person who is currently certified by the Door and Hardware Institute as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project.
- E. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.
- F. Regulatory Requirements: Comply with provisions of the following:
 - 1. Where indicated to comply with accessibility requirements, comply with ANSI A117.1, as follows:
 - a. Handles, Pulls, Latches, Locks, and other Operating Devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
 - b. Door Closers: Comply with the following maximum opening-force requirements indicated:
 - c. Interior Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
 - d. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
 - e. Thresholds: Not more than 1/2 inch (13 mm) high. Bevel raised thresholds with a slope of not more than 1:2.
 - 2. NFPA 101: Comply with the following for means of egress doors:
 - a. Latches, Locks, and Exit Devices: Not more than 15 lbf (67 N) to release the latch. Locks shall not require the use of a key, tool, or special knowledge for operation.
 - b. Door Closers: Not more than 30 lbf (133 N) to set door in motion and not more than 15 lbf (67 N) to open door to minimum required width.
 - c. Thresholds: Not more than 1/2 inch (13 mm) high.
 - 3. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.
 - a. Test Pressure: After 5 minutes into the test, neutral pressure level in furnace shall be established at 40 inches (1016 mm) or less above the sill.
- G. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Meetings."

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

1.06 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- B. Coordinate hardware requirements with door manufacturers prior to door fabrication so door manufacture can provide blocking for all door hardware and avoid need for thru bolting of any hardware.

1.07 WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Special Warranty: Written warranty, executed by manufacturer agreeing to repair or replace components of door hardware that fail in materials or workmanship within-specified warranty period. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of operators and door hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- C. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fails in materials or workmanship within specified warranty period.
- D. Warranty Period: In accordance with Division 1, except as follows:
 - 1. Manual Closers: 10 years from date of Substantial Completion.

PART 2 – PRODUCTS

2.01 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in this Section and door hardware sets indicated in Part 3 "Door Hardware Sets" Article.
 - 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers' products.
 - a. New Exterior Man Door
 - (1) Panic hardware with exterior ADA latch set and locking.
 - (2) Continuous hinge
 - (3) Weatherstripping
 - (4) Closer
 - (5) ADA threshold
 - (6) Drip Cap
 - b. Exterior modified exit door
 - (1) Closer
 - (2) Pair Surface bolts
 - (3) Entry lock set
 - (4) Weatherstripping
 - (5) Floor stop for inactive leaf
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Sets" Article. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required. Approved Manufacturers' names are indicated in this Part.

2.02 HINGES, GENERAL

- A. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- B. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for outswinging exterior doors and out-swinging corridor doors with locks.
- C. Fasteners: Comply with the following:
 - 1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
 - 2. Wood Screws: For wood doors and frames.

3. Threaded-to-the-Head Wood Screws: For fire-rated wood doors.
4. Screws: Phillips flat-head. Finish screw heads to match surface of hinges.

2.03 HINGES

- A. Template Hinge Dimensions: BHMA A156.7.
- B. Manufacturers:
 1. Bommer
 2. Hager.
 3. McKinney.
 4. Stanley.

2.04 CONTINUOUS HINGES

- A. General: Minimum 0.120-inch- (3.0-mm-) thick, hinge leaves with minimum overall width of 4 inches (102 mm); fabricated to full height of door and frame and to template screw locations; with components finished after milling and drilling are complete.
 1. Fire Pins: Steel pins to hold labeled fire doors in place if required by tested listing.
- B. Continuous, Gear-Type Hinges: Extruded-aluminum, pinless, geared hinge leaves; joined by a continuous extruded-aluminum channel cap; with concealed, self-lubricating thrust bearings.
 1. Manufacturers:
 - a. Roton.
 - b. McKinney.
 - c. Pemko.
 - d. Select.

2.05 LOCKS AND LATCHES, GENERAL

- A. Regulatory Requirements: In accordance with those indicated in Part 1.
- B. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors.
- C. Backset: 2-3/4 inches (70 mm), unless otherwise indicated.
- D. Strikes: Manufacturer's standard strike with strike box for each latch-bolt or lock bolt, with lip extended to protect frame and applied trim, finished to match door hardware set.

2.06 MECHANICAL LOCKS AND LATCHES

- A. Manufacturers:
 1. Schlage – to coordinate with the owners wide keying system.
 2. Yale 5400LN Series – to coordinate with the owners keying system.

2.07 AUXILIARY LOCKS AND LATCHES

- A. Manufacturers:
 1. Schlage. - to coordinate with the owners keying system

2.08 DOOR BOLTS

- A. Bolt Throw: Comply with testing requirements for length of bolts required for labeled fire doors.
- B. Manual Flush Bolts: Not allowed under New Jersey amendment to International Building Code
- C. Automatic and Self-Latching Flush Bolts: Designed for mortising into door edge.
 1. Manufacturers:
 - a. IVES.
 - b. McKinney
 - c. Rockwood.

- d. Trimco.

2.09 EXIT DEVICES

- A. Regulatory Requirements: In accordance with those indicated in Part 1.
- B. Panic Exit Devices: Listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.
- C. Fire Exit Devices: Devices complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire and panic protection, based on testing according to UL 305 and NFPA 252.
- D. Removable Mullions: Furnish mullions by the same Manufacturer as exit devices.
 - 1. Fire-Exit Removable Mullions: Provide removable mullions for use with fire exit devices complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire and panic protection, based on testing according to UL 305 and NFPA 252. Mullions shall be used only with exit devices for which they have been tested.
- E. Through Bolts: For exit devices and trim on metal doors, non-fire-rated wood and fire-rated wood doors.
- F. Manufacturers:
 - 1. Yale 7100-7200 Series
 - 2. Corbin Russwin

2.10 LOCK CYLINDERS

- A. Cylinders: Manufacturer's standard tumbler type, constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:
 - 1. Number of Pins: Six or Seven. Coordinate requirements with Owner.
 - a. Provide cylinders zero bitted with two key blanks.
- B. Construction Keying: Comply with the following:
 - 1. Construction Cores: Temporary cylinders and keys for the construction period will be provided by the Contractor
- C. Final Keying – Contractor is to provide final keying of cylinders. Provide 4 extra cylinders.
- D. Manufacturer: Schlage

2.11 KEYING

- A. Keying System:
 - 1. Door hardware supplier is to meet with the owner to consult with the owner to determine the final key arrangement. Provide 1 grand master, 3 sub masters and individual keying for each lock.
 - 2. Provide 1 grandmaster, Submasters (1 for **each** office suite and 2 for common areas) and individual keying.
- B. Keys: Nickel silver. Cutting of all keys by Owner.
- C. Quantity: Provide 2 cut grandmaster keys (mark do not copy), 10 cut keys for each sub master keys and 2 keys for individual locks. In addition to two key blanks for each cylinder, provide ten (10) additional key blanks.

2.12 OPERATING TRIM

- A. Manufacturers:
 - 1. IVES.
 - 2. McKinney.
 - 3. Rockwood.
 - 4. Trimco.

2.13 CLOSERS

- A. Regulatory Requirements: In accordance with those indicated in Part 1.
- B. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.
- C. Surface Closers: Provide type of arm indicated. Provide mounting plates and brackets to comply with manufacturers recommendations to assure proper operation and meet warranty requirements.
 - 1. Manufacturers:
 - a. LCN – #1460 commercial grade series.
 - b. Yale - #3500 Series
- D. Coordinators:
 - 1. Manufacturers:
 - a. McKinney.
 - b. Rockwood.
 - c. Trimco.

2.14 PROTECTIVE TRIM UNITS

- A. Manufacturers:
 - 1. IVES.
 - 2. McKinney.
 - 3. Rockwood.
 - 4. Trimco.

2.15 STOPS AND HOLDERS

- A. Stops and Bumpers: Floor stops shall not be allowed.
- B. Combination Overhead Stops and Holders:
- C. Manufacturers:
 - 1. ABH.
 - 2. Glynn Johnson.
 - 3. Rixson.
- D. Silencers for Door Frames:
 - 1. Manufacturers:
 - a. IVES.
 - b. McKinney.
 - c. Rockwood.
 - d. Trimco

2.16 DOOR GASKETING

- A. General: Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.
 - 1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
 - 2. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
 - 3. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.
- B. Smoke-Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke-control ratings indicated, based on testing according to UL 1784.
 - 1. Provide smoke-labeled gasketing on 20-minute-rated doors and on smoke-labeled doors.
- C. Gasketing Materials: ASTM D 2000 and AAMA 701/702.

- D. Manufacturers:
 - 1. McKinney.
 - 2. National Guard.
 - 3. Pemko.
 - 4. Reese.

2.17 THRESHOLDS

- A. Regulatory Requirements: In accordance with those indicated in Part 1.
- B. Manufacturers:
 - 1. McKinney.
 - 2. National Guard.
 - 3. Pemko.
 - 4. Reese.

2.18 REMOVABLE MULLIONS

- A. Removal Mullions at door pairs – Compatible with Exit Device
 - 1. Von Duprin KR-4954-SP28 extruded aluminum

2.19 ELECTRIC STRIKE

- A. Provide complete system including electrical interface
 - 1. Von Duprin 6000 Series, 24VDC Fail Secure, Model to suite application, No Substitution.

2.20 MISCELLANEOUS DOOR HARDWARE

- A. Auxiliary Hardware:
 - 1. Manufacturers:
 - a. IVES.
 - b. McKinney.
 - c. Rockwood.
 - d. Trimco.

2.21 FABRICATION

- A. Base Metals: Produce door hardware units of base metal, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.
- B. Fasteners: Provide screws according to commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.
 - 1. Comply with NFPA 80 for fasteners of door hardware in fire-rated applications.
- C. Finishes: BHMA A156.18, as indicated in door hardware sets.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Steel Doors and Frames: Comply with DHI A115 Series. Drill and tap doors and frames for surface-applied door hardware according to ANSI A250.6.
- B. Wood Doors: Comply with DHI A115-W Series.
- C. Mounting Heights: Mount door hardware units at heights indicated as follows unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."

2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- D. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 09 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
- E. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- F. Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
1. Spring Hinges: Adjust to achieve positive latching when door is allowed to close freely from an open position of 30 degrees.
 2. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.

3.2 DOOR HARDWARE SETS

All doors are to have hardware sets whether scheduled or not. Provide small format interchangeable core options to match owner system. See drawings for list.

1. Schlage ND Series; Rhodes lever, satin chrome finish #626.

END OF SECTION 08710

SECTION 08800 GLAZING

PART 1 - GENERAL

1.1 SUMMARY

- A. Types of work in this section include glazing work for:
 - 1. Replacement of existing damaged glazing
- B. Related Work
 - 1. Section 08410 Aluminum Storefronts
 - 2. Section 08400 Automatic Sliding Doors

1.2 PERFORMANCE REQUIREMENTS AND STANDARDS

- A. Exterior Glazing: Provide glazing assemblies which will withstand normal conditions without failure, loss of weathertightness, or deterioration. For coated glass: Development of visible defects in coating.
- B. ASTM C 1036 - Standard Specification for Flat Glass
- C. ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass -- Kind HS, Kind FT Coated and Uncoated Glass.
- D. ASTM E 773 - Standard Test Method for Seal Durability of Sealed Insulating Glass Units
- E. GANA (GM) - FGMA Glazing Manual; Glass Association of North America.

1.3 WARRANTIES

- A. Manufacturer's Special Project Warranty on Insulating Glass: Provide written warranty signed by manufacturer of insulating glass agreeing to furnish f.o.b. point of manufacture, freight allowed project site, within specified warranty period indicated below, replacements for those insulating glass units developing manufacturing defects. Manufacturing defects are defined as failure or hermetic seal of air space (beyond that due to glass breakage) as evidenced by intrusion of dirt or moisture, internal condensation or fogging, deterioration of protected internal glass coatings, if any, and other visual indications of seal failure or performance; provided the manufacturer's instructions for handling, installing, protecting and maintaining units have been complied with during the warranty period. Warranty Period: Manufacturer's standard but not less than 10 years after date of substantial completion.

1.4 SUBMITTALS

- A. Product Data.
- B. Insulating Unit Warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer, Flat Glass Materials: Sun Management Glass System, supplied by Pilkington; P.O. Box 799, 811 Madison Ave., Toledo, OH 43697-0799; Telephone 419-247-4721, FAX 419-247-4517, Internet Address: www.pilkington.com.
- B. Substitutions will be considered in accordance with Section 01630 - Products and Substitutions.

2.2 PRIMARY GLASS PRODUCTS:

- A. Solar Control Low-Emmissivity Pyrolytic Float Glass
 - 1. Acceptable Product: Pilkington Solar E™ Solar Control Low-E
 - 2. Description: Solar Control Low-Emmissivity Pyrolytic Float Glass meeting requirements of ASTM C 1036, Type 1, Class 2, Quality q3.
 - 3. Nominal Glass Thickness: 1/4 inch (6 mm).
 - 4. Performance Characteristics:
 - a. Visible Light Transmittance: 53 Percent.
 - b. Visible Light External Reflectance: 10 Percent.
 - c. Visible Light Internal Reflectance: 15 Percent.
 - d. Total Solar Energy Transmittance: 33 Percent.
 - e. Total Solar Energy Reflectance: 9 Percent.
 - f. UV Transmittance: 31 Percent.
- B. Clear Float Glass
 - 1. Acceptable Product: Pilkington Optifloat™ Clear Float
 - 2. Description: Clear Float Glass meeting requirements of ASTM C 1036, Type 1, Class 1, Quality q3.
 - 3. Nominal Glass Thickness: 1/4 inch (6 mm).
 - 4. Performance Characteristics:

- a. Visible Light Transmittance: 88 Percent.
 - b. Visible Light Exterior Reflectance: 8 Percent.
 - c. Visible Light Interior Reflectance: 8 Percent.
 - d. Total Solar Energy Transmittance: 77 Percent.
 - e. Total Solar Energy Reflectance: 7 Percent.
 - f. UV Transmittance: 62 Percent.
- C. Tempered Glass
- 1. Cut float glass materials to indicated sizes and provide cut-outs and holes, if indicated, before heat strengthening.
 - 2. Fully temper float glass materials in accordance with ASTM C 1048, Kind FT.
- 2.3 GLASS TYPES
- A. **Standard Glass** - Float Glass 1/4" thick. *USE - interior hollow metal window (loading dock office) where not otherwise specified or required by code. [Types IC1 and ID1]*
- B. **Tempered Safety Glass (TSG)** 1/4" thick, Glass color: Clear. *USE - Where specified, doors (interior and exterior), interior door sidelights, interior where required by code.*
- C. **Laminated Tempered Safety Glass** 1/4" thick, Glass color: Clear. *USE - Where specified, Clean room windows. [Type IBI]*
- D. **Exterior Insulated Units** - Sealed Insulating Glass, – Exterior - Low E: - *USE – All Exterior aluminum awning windows and aluminum storefront systems.*
- 1. Fabricate units in accordance with ASTM E 774, Class CBA, with components and performance characteristics specified below.
 - 2. Fabricate units in accordance with ASTM E 774, Class CBA:
 - 3. Components:
 - a. Aluminum storefront windows at Office Area
 - (1) Outer Pane:
 - a) Glass Type: Pilkington Solar E™ Solar Control Low-E
 - b) Glass Color: 20% Bronze tint
 - c) Glass Thickness: 1/4 inch (6 mm).
 - d) Heat Treating: Fully tempered
 - (2) Air Space: 1/2 inch wide, hermetically sealed, argon-filled.
 - (3) Inner Pane:
 - a) Glass Type: Pilkington Optifloat™ Clear Float
 - b) Glass Color: Clear.
 - c) Glass Thickness: 1/4 inch (6 mm).
 - d) Heat Treating: Laminated tempered safety
 - 4. Performance Characteristics:
 - a. Visible Light Transmittance: 53 Percent.
 - b. Visible Light External Reflectance: 10 Percent.
 - c. Visible Light Internal Reflectance: 15 Percent.
 - d. Total Solar Energy Transmittance: 33 Percent.
 - e. Total Solar Energy Reflectance: 9 Percent.
 - f. UV Transmittance: 31 Percent.
 - g. Summer U-Value: 0.27
 - h. Winter U-Value: 0.28
 - i. Solar Heat Gain Coefficient: 0.43
 - j. Shading Coefficient: 0.49
 - 5. Provide unit edge seals meeting requirements of ASTM E 773, with aluminum spacers having mitered and corners, and silicone sealant for glass-to-spacer seals.
- 2.4 INSTALLATION MATERIALS
- A. Installation Materials - General: Select products which have appropriate performance characteristics as recommended by glass and glazing materials manufacturers and which are compatible with all materials with which they will come into contact.
- B. Spacer Shims: ASTM C 864, neoprene, 50 to 60 Shore A durometer hardness; length 3 inches (75 mm), one half height of glazing stop, thickness required for application, one face self-adhesive.
- C. Glazing Tape: Butyl compound tape with integral resilient tube spacer, 10 to 15 Shore A durometer hardness, black color, coiled on release paper; widths required for specified installation.
- D. Glazing Tape: Closed cell polyvinyl chloride foam, maximum water absorption by volume 2 percent, designed for 25 percent compression percent for air barrier and vapor retarder seal,

- black color, coiled on release paper over adhesive on two sides; widths required for specified installation.
- E. Glazing Splines: ASTM C 864, resilient polyvinyl chloride, extruded shape to fit glazing channel retaining slot; black color.
- F. Glazing Gaskets: ASTM C 864, resilient polyvinyl chloride, extruded shape to fit glazing channel retaining slot; black color.
- G. Glazing Clips: Manufacturer's standard type.
- H. Sealants: Specified in Section 07920.

PART 3 - EXECUTION

3.1 EXAMINATION:

- A. Require Glazier to inspect work of glass framing erector for compliance with manufacturing and installation tolerances, including those for size, squareness, offsets at corners; for presence and functioning of weep system; for existence of minimum required face or edge clearances; and for effective sealing of joinery. Obtain Glazier's written report listing conditions detrimental to performance of glazing work. Do not allow glazing work to proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION:

- A. Clean glazing channels and other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrates. Remove lacquer from metal surfaces where elastomeric sealants are indicated for use.

3.3 GLAZING, GENERAL:

- A. Comply with combined printed recommendations of glass manufacturers, of manufacturers of sealants, gaskets and other glazing materials, except where more stringent requirements are indicated, including those of referenced glazing standards.
- B. Glazing channel dimensions as indicated in details are intended to provide for necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by job conditions at time of installation.
- C. Protect glass from edge damage during handling and installation; use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raise or drift glass with a pry bar. Rotate glass with flares or bevels along one horizontal edge which would occur in vicinity of setting blocks so that these are located at top of opening.
- D. Apply primers to joint surfaces where required for adhesion of sealants, as determined by proconstruction sealant-substrate testing.

3.4 METHODS

A. Exterior Dry Method (Tape and Gasket Spline):

1. Apply glazing tape or spline to glass; butt-joint tape edges; seal joints with butyl sealant.
2. Place setting blocks with edge blocks maximum 6 inches from glass edges and intermediate blocks at 1/4 points of glass panel length.
3. Set glass unit on setting blocks; apply pressure against fixed stop for full contact.
4. Install removable stops without displacing glazing tape or spline; apply pressure for full continuous contact.
5. Trim sight-exposed tape flush with stop.

B. Interior Dry Method (Tape and Tape):

1. Apply glazing tape to permanent stops, allowing tape edge to project 1/16 inch above stop; butt-joint tape edges; seal joints with butyl sealant.
2. Place setting blocks with edge blocks maximum 6 inches from glass edges and intermediate blocks at 1/4 points of glass panel length.
3. Set glass unit on setting blocks; apply pressure against fixed stop for full contact.
4. Apply glazing tape on free perimeter of glazing as described above.
5. Install removable stops without displacing glazing tape; apply pressure for full continuous contact.
6. Trim sight-exposed tape flush with stop.

C. Interior Wet/Dry Method (Tape and Sealant): Use at cold storage spaces.

1. Apply glazing tape to glass; butt-joint tape edges; seal joints with butyl sealant.
2. Place setting blocks with edge blocks maximum 6 inches from glass edges and intermediate blocks at 1/4 points of glass panel length.
3. Set glass unit on setting blocks; apply pressure against fixed stop for full contact.

4. Install removable stops without displacing glazing tape; insert spacer strips between glazing and applied stops; terminate spacer strips 1/4 inch below sight line; apply pressure for full continuous contact.
 5. Fill gap between glazing and stop with sealant to depth equal to bite of frame on glazing and to uniform line flush with sight line; tool sealant surface smooth.
 6. Trim sight-exposed tape flush with stop.
- 3.5 PROTECTION AND CLEANING:
- A. Protect exterior glass from breakage immediately upon installation by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces.
 - B. Wash glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Wash glass by method recommended by glass manufacturer.

END OF SECTION 08800

SECTION 09250 GYPSUM DRYWALL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY:

- A. This Section includes gypsum board construction where required.

1.3 DEFINITIONS:

- A. Gypsum Board Construction Terminology: Refer to ASTM C 11 and GA 505 for definitions of terms for gypsum board construction not otherwise defined in this section or other referenced standards.

1.4 SUBMITTALS:

- A. Product data from manufacturers for each type of product specified.

1.5 QUALITY ASSURANCE:

- A. Fire-Resistance Ratings: Where indicated, provide materials and construction which are identical to those of assemblies whose fire resistance rating has been determined per ASTM E 119 by a testing and inspecting organization acceptable to authorities having jurisdiction.
 - 1. Provide fire-resistance-rated assemblies identical to those indicated by reference to GA File No's. in GA-600 "Fire Resistance Design Manual" or to design designations in U.L. "Fire Resistance Directory" or in listing of other testing and agencies acceptable to authorities having jurisdiction.
- B. Single Source Responsibility: Obtain each type of gypsum board and related joint treatment materials from a single manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING:

- A. Deliver materials in original packages, containers or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic and other causes. Neatly stack gypsum boards flat to prevent sagging.
- C. Handle gypsum boards to prevent damage to edges, ends, and surfaces. Do not bend or otherwise damage metal corner beads and trim.

1.7 PROJECT CONDITIONS:

- A. Environmental Conditions, General: Establish and maintain environmental conditions for application and finishing gypsum board to comply with ASTM C 840 and with gypsum board manufacturer's recommendations.
- B. Minimum Room Temperatures: For nonadhesive attachment of gypsum board to framing, maintain not less than 40 deg F (4 deg C). For adhesive attachment and finishing of gypsum board maintain not less than 50 deg F (10 deg C) for 48 hours prior to application and continuously thereafter until drying is complete.
- C. Ventilate building spaces to remove water not required for drying joint treatment materials. Avoid drafts during dry, hot weather to prevent materials from drying too rapidly.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the Work include, but are not limited to, the following:
- B. Manufacturer: Subject to compliance with requirements, provide products of one of the following:
 - 1. Gypsum Boards and Related Products:
 - a. Domtar Gypsum Co.
 - b. Georgia-Pacific Corp.
 - c. Gold Bond Building Products Div., National Gypsum Co.
 - d. United States Gypsum Co.

2.2 GYPSUM BOARD:

- A. GWB Impact Resistant: Georgia Pacific "Dens-Armor Plus, Interior Guard", Fiberglass mesh joint treatment, Level 5 finish or USG Tough Hide Primer finish base.
 - a. Areas of Use – Any new Wall areas. .

2.3 TRIM ACCESSORIES:

- B. Cornerbead and Edge Trim for Interior Installation: Provide corner beads, edge trim and control joints which comply with ASTM C 1047 and requirements indicated below:
 - 1. Material: Formed metal, plastic or metal combined with paper, with metal complying with the following requirement:
 - a. Sheet steel zinc-coated by hot-dip process.
 - 2. Edge trim shapes indicated below by reference to designations of Fig. 1 in ASTM C 1047: Provide shapes at jamb conditions with zip strip or spackle screed.
 - a. "LC" Bead, unless otherwise indicated.
 - b. "LK" Bead with square nose for use with kerfed jambs.
 - c. "L" Bead where indicated.
 - d. "U" Bead where indicated.
 - 3. One-Piece Control Joint: Formed with vee-shaped slot per Fig. 1 in ASTM C 1047, with slot opening covered with removable strip.
 - 4. See drawings for selection and location of curved corner beads and reveal joints.

2.4 GYPSUM BOARD JOINT TREATMENT MATERIALS:

- B. General: Provide materials complying with ASTM C 475, ASTM C 840, and recommendations of manufacturer of both gypsum board and joint treatment materials for the application indicated.
- C. Joint Tape: Paper reinforcing tape at standard and mold resistant board, Fiberglass mesh at Mold and moisture resistant.
- D. Joint Compounds: vinyl-type powder or ready-mixed vinyl-type for interior use. 2 separate grades, one specifically for bedding tapes and filling depressions, and one for topping and sanding.
 - 1. Where setting-type joint compounds are indicated for use as taping and topping compounds, use formulation for each which develops greatest bond strength and crack resistance and is compatible with other joint compounds applied over it.
 - 2. For prefilling gypsum board joints, use formulation recommended by gypsum board manufacturer for this purpose.
 - 3. For filling joints and treating fasteners of water-resistant gypsum backing board behind base for ceramic tile, use formulation recommended by gypsum board manufacturer for this purpose.

2.5 MISCELLANEOUS MATERIALS:

- A. General: Provide auxiliary materials for gypsum drywall construction which comply with

- referenced standards and the recommendations of the manufacturer of the gypsum board.
- B. Laminating Adhesive: Special adhesive or joint compound recommended for laminating gypsum boards.
- C. Spot Grout: ASTM C 475, setting-type joint compound of type recommended for spot grouting hollow metal door frames.
- D. Gypsum Board Screws: ASTM C 1002.
- E. Gypsum Board Nails: ASTM C 514.
- F. Asphalt Felt: ASTM D 226, Type I (No. 15).

PART 3 - EXECUTION

3.1 EXAMINATION:

- A. Examine substrates to which drywall construction attaches or abuts, preset hollow metal frames, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of drywall construction. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 APPLICATION AND FINISHING OF GYPSUM BOARD, GENERAL:

- A. Gypsum Board Application and Finishing Standard: Install and finish gypsum board to comply with ASTM C 840.
- B. Install sound attenuation blankets where indicated, prior to gypsum board unless readily installed after board has been installed.
- C. Locate exposed end-butt joints as far from center of walls and ceilings as possible, and stagger not less than 24 inches in alternate courses of board.
- D. Install ceiling boards across framing in the manner which minimizes the number of end-butt joints, and which avoids end joints in the central area of each ceiling. Stagger end joints at least 24 inches.
- E. Install wall/partition boards in manner which minimizes the number of end-butt joints or avoids them entirely where possible. At stairwells and similar high walls, install boards horizontally with end joints staggered over studs.
- F. Install exposed gypsum board with face side out. Do not install imperfect, damaged or damp boards. Butt boards together for a light contact at edges and ends with not more than 1/16 inch open space between boards. Do not force into place.
- G. Locate either edge or end joints over supports, except in horizontal applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that like edges abut, tapered edges against tapered edges and mill-cut or field-cut ends against mill-cut or field-cut ends. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partitions.
- H. Attach gypsum board to steel studs so that leading edge or end of each board is attached to open (unsupported) edge of stud flange first.
- I. Attach gypsum board to supplementary framing and blocking provided for additional support at openings and cutouts.
- J. Spot grout hollow metal door frames for solid core wood doors, hollow metal doors and doors over 32 inches wide. Apply spot grout at each jamb anchor clip just before inserting board into frame.
- K. Form control joints and expansion joints at locations indicated, with space between edges of boards, prepared to receive trim accessories.
- L. Cover both faces of steel stud partition framing with gypsum board in concealed spaces (above ceilings, etc.), except in chase walls which are braced internally.
- M. Isolate perimeter of non-load-bearing drywall partitions at structural abutments. Provide 1/4 inch to 1/2 inch space and trim edge with "U" bead edge trim. Seal joints with acoustical sealant.
- N. Where sound-rated drywall construction is indicated, seal construction at perimeters, control

and expansion joints, openings and penetrations with a continuous bead of acoustical sealant including a bead at both faces of partitions. Comply with ASTM C 919 and manufacturer's recommendations for location of edge trim, and close off sound-flanking paths around or through construction, including sealing of partitions above acoustical ceilings.

- O. Space fasteners in gypsum boards in accordance with referenced gypsum board application and finishing standard and manufacturer's recommendations.
- P. Accessories, General: Where feasible, use the same fasteners to anchor trim accessory flanges as required to fasten gypsum board to the supports. Otherwise, fasten flanges to comply with manufacturer's recommendations.
- Q. Install corner beads at external corners.
- R. Install metal edge trim whenever edge of gypsum board would otherwise be exposed or semi-exposed, and except where plastic trim is indicated. Provide type with face flange to receive joint compound except where "U" bead (semi-finishing type) is indicated.
- S. Install control joints at locations indicated, or if not indicated, at spacings and locations required by referenced gypsum board application and finish standard, and approved by the Architect for visual effect.

3.3 FINISHING OF DRYWALL:

- A. General: Apply joint treatment at gypsum board joints (both directions); flanges of corner bead, edge trim, and control joints; penetrations; fastener heads, surface defects and elsewhere as required to prepare work for decoration.
- B. Prefill open joints and rounded or beveled edges, if any, using setting-type joint compound.
- C. Apply joint tape at joints between gypsum boards, except where trim accessories are indicated.
- D. Finish interior gypsum wallboard by applying the following joint compounds in 3 coats (not including prefill of openings in base), and sand between coats and after last coat:
 - B. Partial Finishing: Omit third coat and sanding on concealed drywall construction which is indicated for drywall finishing or which requires finishing to achieve fire-resistance rating, sound rating or to act as air or smoke barrier.
- C. GWB Finish Schedule
 - i. Walls, etc. – **LEVEL 5 (or USG Tough Hide Primer finish base).**

3.4 PROTECTION:

- A. Provide final protection and maintain conditions, in a manner suitable to Installer, which ensures gypsum drywall construction being without damage or deterioration at time of Substantial Completion.

END OF SECTION 09250

SECTION 09900 PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.

1.2 SUMMARY

- A. This Section includes surface preparation, painting, and finishing of exposed interior and exterior items and surfaces.
- B. Painting scope is limited as follows
 - a. Paint any new Gypsum Drywall
 - b. Prepare and paint interior steel columns previously encased in masonry that is exposed by the work.
 - c. All remaining exterior metal doors and frames are to be repainted.
 - d. Galvanized railings are not required to be painted.

1.3 DEFINITIONS

- A. "Paint" includes coating systems materials, primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate, or finish coats.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's technical information, label analysis, and application instructions for each material proposed for use.
- B. Samples for verification purposes: Provide samples of each color and material to be applied, with texture to simulate actual conditions, on representative samples of the actual substrate.

1.5 REGULATORY REQUIREMENTS

- A. Comply with the applicable provisions of all codes, standards and specifications referenced in this section.
 - 1. All products must be in full compliance with NJAC 7:27 and 23.2 thru 23.9 Limiting Volatile Organic Substance (VOC) in Architectural Coatings.

1.6 QUALITY ASSURANCE

- A. Single-Source Responsibility: Provide primers and undercoat paint produced by the same manufacturer as the finish coats.
- B. Coordination of Work: Review other sections in which primers are provided to ensure compatibility of the total systems for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
 - 1. Notify the Architect of problems anticipated using the materials specified.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain containers used in storage in a clean condition, free of foreign materials and residue.
 - 1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

1.8 JOB CONDITIONS

- A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 deg F (10 deg C) and 90 deg F
- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 deg F (7 deg C) and 95 deg F
- C. Do not apply paint in snow, rain, fog, or mist, when the relative humidity exceeds 85 percent, at temperatures less than 5 deg F (3 deg C) above the dew point, or to damp or wet surfaces.

1.9 ENVIRONMENTAL STANDARDS

- A. Specify environmentally preferable paints for all architecture and anti-corrosive paints. Paints Containing the following ingredients shall be prohibited:
Inorganic compounds: antimony, cadmium, hexavalent chromium, lead, mercury.
Organic compounds: methylene chloride, 1,1,1, - Tri- chloroethane, Benzene, Toluene(Methylbenzene), Ethylbenzene, Vinyl Chloride, Naphthalene, 1,2, - Dichlorobenzene, Di (2 – ethylhexyl) phthalate, Butyl phthalate, Di – n- butyl phthalate, Di – n – octyl 1 phthalate, diethyl 1 phthalate, Dimethyl 1 phthalate, Isophorone, Formaldehyde, MEK (methyl ethyl ketone) Methyl isobutyl ketone, Acrolein, Acrylonitrile
Maximum Permitted VOC (volatile organic compound) levels for architectural and anti-corrosive paints:

Type of Paints	VOCs(g/L)	VOCs(lbs/gal)
Interior		
Flat	50	0.42
Non-flat	150	1.25
Exterior Architect		
Flat	100	0.83
Non-flat	200	1.66
Anti-Corrosive		
Flat	250	2.10
Semi-gloss	250	2.10
Gloss	250	2.10

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Standard Paints - Manufacturer: Subject to compliance with requirements, provide products of one of the following:
 - 1. The Sherwin-Williams Company (S-W).
- B. Reference Manufacturer: The products of S-W have been indicated for reference purposes in the paint schedules.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions under which painting will be performed for compliance with requirements for application of paint. Do not begin paint application until unsatisfactory conditions have been corrected.
 - 1. Start of painting will be construed as the Applicator's acceptance of surfaces and conditions within a particular area.
 - 2. Up to two different paint colors may be selected for each room. Colors may be changed between different elements.

3.2 PREPARATION

- A. General Procedures: Remove hardware and hardware accessories, plates, machined

surfaces, lighting fixtures, and similar items in place that are not to be painted, or provide surface-applied protection prior to surface preparation and painting. Remove these items if necessary for complete painting of the items and adjacent surfaces. Following completion of painting operations in each space or area, have items reinstalled by workers skilled in the trades involved.

1. Clean surfaces before applying paint or surface treatments. Remove oil and grease prior to cleaning. Schedule cleaning and painting so that dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
- B. Surface Preparation: Clean and prepare surfaces to be painted in accordance with the manufacturer's instructions for each particular substrate condition and as specified.
 1. Provide barrier coats over incompatible primers or remove and reprime. Notify Architect in writing of problems anticipated with using the specified finish-coat material with substrates primed by others.
- C. Concrete Floors – Scrub, high pressure detergent wash, steam clean or solvent wipe to remove dirt, oil, grease, pollutants and other contaminants. Allow to dry thoroughly. Allow new concrete to cure 30 days. Remove loose or excess mortar, efflorescence, laitance and concrete form release or curing compounds that impair adhesion. Abrade, scarify, acid etch or sandblast concrete floors to obtain a profile equivalent to medium sandpaper. Test concrete floors for dampness with a rubber mat or by taping a 12" square of polyethylene to surface for two days. If floor is damp under mat or condensation shows under polyethylene, do no paint.

3.3 APPLICATION

- A. Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied. Apply in thicknesses recommended by the manufacturer.
- B. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 1. Paint colors, surface treatments, and finishes are to be determined by the Architect.
 2. Provide finish coats that are compatible with primers used.
 3. The number of coats and film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce an even smooth surface in accordance with the manufacturer's directions.
 4. Apply additional coats when undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color, and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.

3.4 PROTECTION

- A. Protect work of other trades, whether to be painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
- B. Provide "wet paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.
 1. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 INTERIOR AND EXTERIOR PAINT SCHEDULE

A. All work shall be three coat work minimum. ***See finish schedule and finish plans for general painting outline for interior.*** Generally, in finished areas all exposed (interior or exterior), non prefinished items are to be painted whether scheduled or not. The following items do not require painting. If these items are dirty, rusty or damaged – painting may be required:

1. Items above finished ceilings
2. Interior exposed primary and secondary structural steel
3. Galvanized steel work in good condition.
4. Concrete floors –unless noted otherwise.

B. SCHEDULE

1. **Metal – Ferrous and Galvanized**

*Doors, Door Frames, Steel work
Interior and exterior*

Primer – (1) one coat S-W Pro Industrial ProCryl Acrylic Primer

Finish – (2) two coats S-W Pro Industrial DTM Acrylic Coating

2. **Wood & Synthetic Trim**

Interior – painted

Finish Type - Alkyd Acrylic

Primer – (1) one coat S-W Multi Surface Primer

Finish (2) two Coats S-W ProClassic, semi/satin.

4. **GWB – PTD 1**

Interior - Walls- Standard Unless Noted Otherwise,

Finish Type: Latex enamel

First Coat: - S-W Drywall Primer

Two Coats - S-W Super Paint

Sheen – Egg Shell standard

5. **GWB - CEILINGS AND SOFFITS**

Interior - Ceilings and soffits.

Finish Type: Latex

Primer (1) one coat

Finish – (2) two Coats: - S-W Super Paint

Sheen – Flat

6. **WOOD - STAINED**

Minwax stain with 2 coats of polyurethane.

END OF SECTION 09900

STATE OF NEW JERSEY DEPARTMENT OF TREASURY
DIVISION OF PROPERTY MANAGEMENT AND
CONSTRUCTION PO BOX 034, TRENTON, NJ 08625-0034

PROJECT#: Vineland Veterans Memorial Home – Warehouse Renovation

A/E: JW Pedersen

DATE: 01/05/2023

BULLETIN A

Bidder must acknowledge receipt of this Bulletin on bid form in the space provided therefor.

This Bulletin is issued for the purpose of amending certain requirements of the original Contract Documents, as noted hereinafter, and is hereby made part of and incorporated in full force as part of the Contract Documents. Unless specifically noted or specified hereinafter, all work shall comply with the applicable provisions of the Contract Documents.

A) EXECUTIVE ORDERS 283 AND 290 (MURPHY 2022);

Pursuant to Executive Order No. 283 (“EO283”), Contractors and Consultants working in “health care settings” such as in-patient, rehabilitative and psychiatric hospitals and long-term care residential facilities, and in “high-risk congregate settings” including State and County Adult and Juvenile correctional facilities, secure care facilities, and residential facilities for individuals with disabilities (see EO283 Paragraph 6, page 8-9 for additional examples of each type of facility), are **required to become fully vaccinated, including booster shots.**

For covered workers entering certain Health Care facility settings (subject to the CMS Rule) in accordance with EO 283 paragraph 1, page 6-7, the first dose of the vaccine shall be obtained by January 27, 2022 and per EO 290 paragraph 1, page 6) workers must provide proof they are up-to-date with their COVID-19 vaccinations (including booster shots) by April 11, 2022, or within 3 weeks of eligibility for a booster shot, whichever is later.

For covered workers entering certain Health Care facility settings (not subject to the CMS Rule) and those workers in high-risk congregate settings (EO 283 paragraph 2, page 7), the first dose of the vaccine shall be obtained by February 16, 2022 and per EO 290 workers must provide proof they are up-to-date with their COVID-19 vaccinations (including booster shots) by May 11, 2022, or within 3 weeks of eligibility for a booster shot, whichever is later.

All covered workers must remain up to date with their COVID-19 vaccinations and provide proof of same.

Further details are found at pages 6-11 of EO283 and pages 6-8 of EO290 and it is recommended that all affected consultants and contractors review them carefully.

B) DIANE B. ALLEN EQUAL PAY ACT

Pursuant to N.J.S.A. 34:11-56.14(b), any employer, regardless of the location of the employer, who enters into a contract with a public body to perform any public work for the public body shall provide to the Commissioner of the New Jersey Department of Labor and Workforce Development, through certified payroll records required pursuant to P.L.1963, c.150 (N.J.S.A. 34:11-56.25 et seq.), information regarding the gender, race, job title, occupational category, and rate of total compensation of every employee of the employer employed in the State in connection with the contract. The employer shall provide the commissioner, throughout the duration of the contract or contracts, with an update to the information whenever payroll records are required to be submitted pursuant to P.L.1963, c.150 (N.J.S.A. 34:11-56.25 et seq.).

Information regarding the Diane B. Allen Equal Pay Act and its requirements may be obtained from the New Jersey Department of Labor and Workforce Development (LWD) web site at:
<https://nj.gov/labor/equalpay/equalpay.html>

LWD forms may be obtained from the online web site at: https://nj.gov/labor/forms_pdfs/equalpayact/MW-562withoutfein.pdf

C) IMPORTANT CONTRACTOR INFORMATION – FEDERAL SYSTEM FOR AWARD MANAGEMENT (SAM REGISTRATION):

In accordance with N.J.S.A. 52:32-44.1, any firm seeking to be awarded a contract shall provide a written certification to DPMC that neither the firm nor the firm's affiliates are debarred at the federal level from contracting with a federal government agency. Please see the attached Certification of Non-Debarment Form to be issued prior to Contract Award.

In addition, any firm seeking to be awarded a contract must register with the Federal System for Award Management (SAM) prior to contract award. In order to comply with this requirement, firms must register in SAM at <http://www.sam.gov> and DPMC will verify the firm's registration in SAM prior to contract award.

D) EMPLOYEE MISCLASSIFICATION

In accordance with Governor Murphy's Executive Order #25 and the Task Force's July 2019 Report, employers are required to properly classify their employees. Workers are presumed to be employees and not independent contractors, unless the employer can demonstrate all three factors of the "ABC Test" below:

- A. Such individual has been and will continue to be free from control or direction of the performance of such service, but under his or her contract of service and in fact; and
- B. Such service is either outside the usual course of business for which such service is performed, or that such service is performed outside of all places of business of the enterprise for which such service is performed; and
- C. Such individual is customarily engaged in an independently established trade, occupation, profession or business.

These factors have been adopted by New Jersey under its Wage & Hour, Wage Payment and Unemployment Insurance Laws to determine whether a worker is properly classified. Under N.J.S.A. 34:1A-1.17 to 1.19, the Department of Labor and Workforce Development has the authority to investigate potential violations of these laws and issue penalties and stop work orders to employers found to be in violation of the laws.

E) NOTICE OF POST-BID MEETING:

- a. After the bids are received and opened, the Apparent Low Bidder is required to attend a Post- Bid meeting at the State's offices at the date, time and location listed herein.
- b. The Apparent Low Bidder must bring the following to the Post-Bid meeting concerning the work they are performing by their own forces:
 - i. The itemized estimate used in preparation of the bid submission; and
 - ii. The estimator, or other authorized person who can discuss the itemized estimate; and
 - iii. An employee of the company who is authorized to sign the Post-Bid Review meeting minutes.
- c. Each of the Apparent Low Bidder's "Named Sub-Contractors" must attend the meeting and bring the following concerning the work they are performing by their forces:
 - i. The itemized estimate used in preparation of the bid submission; and
 - ii. The estimator, or other authorized person who can discuss the itemized estimate;
- d. A Post-Bid meeting will be held (tentative and to be confirmed after bids are reviewed):

DATE: TBD

TIME: 10:00 AM

LOCATION: DPMC, 20 W State St, Trenton, NJ or Teleconference

F) AMENDMENTS TO THE INSTRUCTIONS TO BIDDERS & GENERAL CONDITIONS OF THE CONTRACT

Amend the Instructions to Bidders of the Contract as follows:

IB 1 BID PROPOSALS

Replace IB 1.5 in its entirety with the following:

IB 1.5 Bid proposals based upon the plans, specifications, general, special and supplementary conditions and bulletins shall be deemed as having been made by the bidder with full knowledge of the conditions therein. Bidders are required to visit the site prior to submitting proposals for the work herein described, and to have thoroughly examined the conditions under which the contract is to be executed, including those reasonably observable conditions of the premises which would hinder, delay, or otherwise affect the performance of the contractor required under the terms of the contract. The State will not allow claims for additional costs as a result of the contractor's failure to become aware of the reasonably observable conditions affecting its required performance. The bidder is required to make appropriate allowances in the preparation of the

bid for the accommodation of such conditions. Bidders must warrant in the bid documents that the bidder is familiar with conditions existing at the site at the time the bid is submitted.

Replace IB 1.8 in its entirety with the following:

The bidder must include in the bid envelope: (1) the proposal signed by the bidder, (2) the executed affidavit of non-collusion and (3) bid security as further described in Section IB6.

Replace IB 1.11 Procurement Reform in its entirety with the following:

a. **RESTRICTIONS ON POLITICAL CONTRIBUTIONS** – In accordance with N.J.S.A. 19:44A-20.13, *et seq.*, bidders submitting a bid on or after October 15, 2004, shall be required to submit a Certification and Disclosure Form. This form must be submitted by the bidder and approved prior to contract award.

N.J.S.A. 19:44A-20.13, *et seq.* prohibits State departments, agencies and authorities from entering into a contract that exceeds \$17,500 with an individual or entity that has made a contribution to that political party committee. N.J.S.A. 19:44A-20.13, *et seq.* further requires the disclosure of all contributions to any political organization organized under section 527 of the Internal Revenue Code that also meets the definition of “continuing political committee” within the meaning of N.J.S.A. 19:44A-3(n) and N.J.A.C. 19:25-1.7. The successful bidder will be required to provide a Chapter 51 Certification and Disclosure of Political Contributions form. The successful bidder shall also be required to adhere to all continuing obligations contained in N.J.S.A. 19:44A-20.13, *et seq.* regarding contributions and disclosures as required in N.J.S.A. 19:44A-20.13, *et seq.*

b. **MacBride Principles** - Pursuant to N.J.S.A. 52:34-12.2, a bidder must certify prior to contract award to attest, under penalty of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates pursuant to N.J.S.A. 52:34-12.2, that the bidder has no ongoing business activities in Northern Ireland and does not maintain a physical presence therein through the operation of offices, plants, factories, or similar facilities, either directly or indirectly, through intermediaries, subsidiaries or affiliated companies over which it maintains effective control; or will take lawful steps in good faith to conduct any business operations it has in Northern Ireland in accordance with the MacBride principles of nondiscrimination in employment as set forth in N.J.S.A. 52:18A-89.8 and in conformance with the United Kingdom’s Fair Employment (Northern Ireland) Act of 1989, and permit independent monitoring of their compliance with those principles. If a contractor who would otherwise be awarded a contract or agreement does not certify, then the Director may determine, in accordance with applicable law and rules, it is in the best interest of the State to award the contract or agreement to the next responsible bidder who has completed the certification. If the Director finds the contractor to be in violation of the principles which are the subject of this law, s/he shall take such action as may be appropriate and provided for by law, rule or contract, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the contractor in default and seeking debarment or suspension of the contractor. Upon signing the contract, the bidder certifies that it abides by the MacBride Principles.

c. **Investment Activities in Iran** - Pursuant to N.J.S.A. 52:32-55, *et seq.*, any person or entity that submits a bid or proposal or otherwise proposes to enter into or renew a contract must provide, prior to the time a contract is awarded or renewed, a certification on the DPMC form provided to attest, under penalty

of perjury, that neither the person or entity, nor any of its parents, subsidiaries, or affiliates, is identified on the Department of Treasury's Chapter 25 list as a person or entity engaging in investment activities in Iran. The Chapter 25 list is found on the Division of Purchase and Property's website at www.state.nj.us/treasury/purchase/pdf/Chapter25List.pdf. Bidders must review this list prior to completing the certification. If the Director finds a person or entity to be in violation of law, s/he shall take action as may be appropriate and provided by law, rule or contract, including but not limited to, imposing sanctions, seeking compliance, recovering damages, declaring the party in default and seeking debarment or suspension of the party. This form must be submitted by the bidder prior to contract award.

IB 3 CONSIDERATION OF BIDS

Replace IB 3.1, Item c in its entirety with the following:

c. The Director reserves the right to waive any bid requirements where such waiver is permitted by law. Such waiver shall be at the sole discretion of the Director.

IB 4 AWARDS

Replace IB 4.5, in its entirety with the following:

IB 4.5 The successful bidder and all of its subcontractors are required to comply with the requirements of N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27 et seq., regarding Equal Employment Opportunity in Public Works Contracts.

IB 5 QUALIFICATION OF BIDDERS

Replace IB 5.1 in its entirety with the following:

IB 5.1 If the successful bidder is a corporation not organized under the laws of the State of New Jersey or is not authorized to do business in this State (foreign corporation), the award of the contract shall be conditioned upon the prompt filing by the said corporation of a certificate to do business in this State and complying with the laws of this State in that regard. This filing must be made with the Division of Revenue and Enterprise Services. No award of contract will be made until the Division of Revenue and Enterprise Services confirms this authorization.

Replace IB 5.2 in its entirety with the following:

IB 5.2 The DPMC requires that each contractor, except in the case of a single contractor, shall perform a minimum of 35 percent of the contract work by the contractor's own forces. However, the Director has the sole discretion to reduce this percentage depending upon the nature and circumstances in any particular case, if the Director determines that to do so would be in the best interests of the State, and provided that the bidder submits a written request with the original bid proposal.

Replace IB 5.5 in its entirety with the following:

IB 5.5 At the time of the bid due date, the bidder and the subcontractors must be registered in accordance with “The Public Works Contractor Registration Act”, N.J.S.A. 34:11-56.48, *et seq.* All questions regarding registration shall be addressed to:

Contractor Registration Unit
New Jersey Department of Labor &
Workforce Development
Division of Wage & Hour Compliance
P O Box 389
Trenton NJ 08625-0389
Telephone: 609-292-9464
FAX: 609-633-8591

Replace IB 5.6 in its entirety with the following:

IB 5.6 In accordance with N.J.S.A. 52:32-44 all contractors and subcontractors providing goods/services to State agencies and authorities are required to provide the contracting agency or authority with proof of registration with the Department of the Treasury, Division of Revenue and Enterprise Services. The basic registration process involves the filing of Form NJ-Reg., which can be filed online at www.state.nj.us/njbgs/services.html or by calling (609) 292-7077 or (609) 292-1730. The bidder and subcontractors must submit a valid Business Registration Certificate prior to contract award.

Pursuant to N.J.S.A. 54:49-4.1, firms who fail to provide a copy of a Business Registration or who provide false information of business registration under the requirements of N.J.S.A. 52:32-44, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000 for each business registration copy not properly provided under a contract with DPMC.

IB 12 OFFER OF GRATUITIES

Replace IB 12.1, Items a, b and f in their entirety with the following:

a. No vendor shall pay, offer to pay, or agree to pay, either directly or indirectly, any fee, commission, compensation, gift, gratuity, or other thing of value of any kind to any State officer or employee or special State officer or employee, as defined by N.J.S.A. 52:13D-13b. and e., in the Department of the Treasury or any other agency with which such vendor transacts or offers or proposes to transact business, or to any member of the immediate family, as defined by NJSA 52:13D-13i., of any such officer or employee, or any partnership, firm, or corporation with which they are employed or associated, or in which such officer or employee has an interest within the meaning of NJSA 52:13D-13g.

b. The solicitation of any fee, commission, compensation, gift, gratuity or other thing of value by any State officer or employee or special State officer or employee from any State vendor shall be reported in writing forthwith by the vendor to the Attorney General and the State Ethics Commission.

- f. The provisions cited above in paragraphs IB12.1.a. through e. shall not be construed to prohibit a State officer or employee or special State officer or employee from receiving gifts from or contracting with vendors under the same terms and conditions as are offered or made available to members of the general public subject to any guidelines the State Ethics Commission may promulgate under paragraph IB12.1.c. above.

Amend the General Conditions of the Contract as follows:

ARTICLE 4 – THE CONTRACTOR

4.1 REVIEW OF THE CONTRACT DOCUMENTS AND FIELD CONDITIONS

Delete 4.1.1 in its entirety and replace with the following:

The Contractor shall thoroughly examine and be familiar with all of the Contract Documents and the Site. The Contractor shall investigate and accurately determine the nature and location of the Work, the current building equipment and systems, labor and material conditions, and all matters which may in any way affect the Work or its performance.

4.3 PERMITS, LAWS, AND REGULATIONS

Delete 4.3.1 in its entirety and replace with the following:

The DPMC will obtain and pay for the construction permits and inspections (building, plumbing, electrical, elevator and fire), required by the Department of Community Affairs (DCA). When permits are issued by DCA, the appropriate licensed Contractors and/or Subcontractors shall be required to fill out the Contractor section of the Sub-Code Technical Section and sign and affix their raised seal thereto.

Delete 4.3.7 in its entirety and replace with the following:

The Contractor shall perform all sewerage disposal work in conformance with the regulations of the State's Department of Environmental Protection.

Delete 4.3.13 in its entirety and replace with the following:

The Contractor shall establish an approved Silica Health and Safety Program when tasks generating crystalline silica dust are being performed. This program shall include engineering, work practice, and respiratory protection controls to reduce worker exposure to airborne respirable crystalline dust to levels that are as low as reasonably achievable. When tasks are performed that generate airborne crystalline dust, the Contractor will minimize worker exposure to dust by one, or a combination of the following methods: 1) dust suppression with water, 2) local exhaust ventilation to a high-efficiency dust collector, and/or 3) appropriate respiratory protection devices. The Contractor shall provide a trained, competent person, as defined by OSHA 29 CFR 1926, on site at all times to implement the Silica Health and Safety Program when tasks generating crystalline silica dust are being performed.

4.4 RESPONSIBILITY FOR THE WORK

Delete 4.4.2 in its entirety and replace with the following:

The Contractor shall be responsible for all damage or destruction caused directly or indirectly by its operations to all parts of the Work, both temporary and permanent, and to all adjoining property at no cost to the State.

4.9 EXCAVATIONS, CUTTING AND PATCHING

Delete 4.9.1 in its entirety and replace with the following:

Soil borings, test pits or other subsurface information may be secured by an independent contractor retained by the State prior to design and construction of the Project and, if obtained, may be included in the Contract Documents for the Contractor's use. The Contractor assumes full responsibility for interpretation of said information.

4.11 EQUIPMENT AND MATERIALS

4.11.5 Delete the second sentence - *Wherever practicable, preference shall be given at all times to material and equipment manufactured or produced in the State of New Jersey, where such preference is reasonable and will best serve the interest of the State.*

4.12 TEMPORARY FACILITIES

Delete 4.12.5, Item a in its entirety and replace with the following:

a. The Contractor shall be responsible for providing and maintaining unobstructed traffic lanes on the designated construction access routes shown on the Contract Drawings or as reasonably required so as to perform the Work. The Contractor shall provide and maintain all reasonably required safety devices. The Contractor shall provide any necessary additional materials, grading and compaction, and shall remove snow and debris as necessary to provide and maintain the access roadway and pedestrian ways in serviceable condition.

4.15 PROTECTION/SAFETY

Delete 4.15.2, Item c in its entirety and replace with the following:

The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including but not limited to rails, night-lights, aircraft warning lights, the posting of danger signs and other warnings against hazards, promulgating safety regulations, notifying owners and users of adjacent utilities and other means of protection against accidental injury or damage to persons and property.

4.18 PROJECT SIGN

Delete 4.18 in its entirety

Add the following paragraphs and sub-paragraphs:

4.18.1 SIGNS AT THE PROJECT SITE

4.18.1.1 The Contractor is not required to provide a project sign.

4.18.1.2 Signs provided by others will not be permitted at the site.

4.20 DPMC FIELD OFFICE

Delete 4.20.1 in its entirety and replace with the following language:

A separate on-site field office for the use of DPMC personnel is not required for this project.

Delete 4.20.2 in its entirety and replace with the following language:

If required, a separate on-site field office for the use by the Contractor is specified elsewhere in the construction documents.

4.21 PHOTOGRAPHS

Delete 4.21.1 in its entirety and replace with the following language:

The Contractor shall submit pre-construction photographs and videos and monthly progress photographs in duplicate to the DPMC, giving six (6) views of the Work with each application for payment until the Project is completed.

ARTICLE 5 - SUBCONTRACTORS

5.1 SUBCONTRACTORS AND MATERIAL SUPPLIER APPROVALS

Delete 5.1.1 in its entirety and replace with the following:

Upon their execution, but not less than fourteen (14) calendar days prior to Subcontractor mobilization on the site, and/or Subcontractor billing, the Contractor shall forward to the Architect/Engineer on the form provided by the DPMC the names of all its Subcontractors and suppliers, of such others as the DPMC may direct, proposed to perform the principal parts of the Work. The Contractor shall forward the appropriate DPMC form to the Architect/Engineer for approval. Department of Labor and Workforce Development Public Works Contractor Registration and New Jersey Business Registration Certificate are required for all Subcontractors.

5.2 CONTRACTOR-SUBCONTRACTOR RELATIONSHIP

Delete 5.2.3 in its entirety

ARTICLE 6 - CONSTRUCTION PROGRESS SCHEDULE

Revise Article 6 as follows:

6.1 GENERAL

Delete 6.1 in its entirety and replace with the following:

The Contractor shall be required to provide Graphic Format progress schedules, as defined in section 6.4 below.

6.2 CONSTRUCTION PROGRESS SCHEDULE (CRITICAL PATH METHOD - CPM CONSULTANT RETAINED BY THE STATE).

Delete 6.2 in its entirety:

6.3 CONSTRUCTION PROGRESS SCHEDULING PROVIDED BY THE CONTRACTOR. Delete

6.3.1 in its entirety and replace with the following language:

6.3.1 *Schedule Format: The contractor shall be responsible for preparing, updating and distributing a Gantt chart progress schedule constructed using either Microsoft Project or a Microsoft Project compatible software [“Schedule”] for the project work in accordance with this Sub- paragraph.*

6.3.1.1 The Schedule must be furnished as a Microsoft Project file and in paper format if required.

6.3.2 *Requirements for what is included in the Schedule: The Schedule shall fully describe the project work in sufficient detail to satisfy the architect/ engineer and the Director.*

6.3.2.1 The Schedule must be accurate in its depiction of all project activities.

6.3.2.2 The Schedule shall, at a minimum, indicate in suitable detail, all significant features of the work or work activities to be performed, including the placing of orders and anticipated delivery dates for critical items, dates for submissions and approvals of submittals and shop drawings, all change order work, all necessary inspections, the beginning and time duration for all tasks, predecessors and successors for each task, contract milestones, the NTP, the dates of substantial and final completion of the work and significant Agency or State milestones, when applicable.

6.3.2.3 The Schedule must show the project's critical path.

6.3.2.4 The contractor may be required to add other information to the Schedule including, but not limited to, costs and resources.

- 6.3.2.5 *The Schedule must show the durations in calendar day and acknowledge weekends and State holidays as non-working days, unless otherwise required by the contract.*
- 6.3.2.6 *The Schedule must show the date of Substantial Completion occurring on or before the contract duration end date unless otherwise approved by the architect / engineer and the Director.*
- 6.3.3 *The Schedule as the project record: The contractor agrees that the Schedule shall constitute the official historical record of project's progress.*
- 6.3.4 *Approved Schedule: All references herein to the Schedule shall mean a Schedule that is approved by the Project Team including, but not limited to the architect/engineer and the Director.*
- 6.3.4.1 *The architect/engineer or Director can request the addition of information to the schedule when it is, in their opinion, necessary to better describe the contractor's work effort prior to granting their approval.*
- 6.3.5 *Complying with the Schedule: The contractor shall furnish sufficient labor, materials and equipment to ensure the prosecution of the work in accordance with the Schedule.*
- 6.3.6 *Recovery Schedule: The contractor is required to provide a recovery schedule if the completion time for any task deemed necessary for Substantial Completion is not scheduled to be complete prior to the contract duration allotted in the contract.*
- 6.3.6.1 *To create the recovery schedule the contractor shall, among other things, revise the sequence of tasks and/or the time for performance of tasks through concurrent operations, additional manpower or, when allowable, overtime or additional shifts etc. until it is assured that Substantial Completion will occur on or before the contract completion date.*
- 6.3.6.2 *The State will not allow any additional charges for work performed or made necessary in order for the contractor to comply with the dates shown in the recovery schedule i.e. no additional charges will be allowed the contractor for overtime, additional manpower, equipment, additional shifts, etc., except as provided for elsewhere in the contract.*
- 6.3.6.3 *The contractor is required to perform in accordance with the tasks and durations as shown in the recovery schedule including meeting the dates shown for Substantial and Final Completion.*
- 6.3.6.4 *The recovery schedule must comply with all requirements of this section and all references to and requirements for the Schedule shall also apply to the recovery schedule.*
- 6.3.7 *Submission and review requirements for the project schedule:*
- 6.3.7.1 *The contractor must submit and obtain approval of the initial schedule within 30 days after the Notice to Proceed, but in no case later than the first application for payment.*
- 6.3.7.2 *Subsequently the contractor must update and submit the project schedule immediately upon the occurrence of a change in an activity or event that may, in the architect's/engineers/s opinion, significantly change the current approved schedule, but at a minimum the schedule must be*

updated every two weeks and submitted at the bi-weekly progress meeting.

6.3.7.3 The updated schedule must include any activities that were added for any reason including, but not limited to change order work approved to date.

6.3.7.4 The updated progress schedule shall include the progress achieved for each activity that was scheduled including the actual dates the work was started and completed.

6.4.7.5 The project schedule shall be reviewed in detail at every bi-weekly progress meeting.

6.3.7.6 The absence of bi-weekly meetings does not relieve the contractor of his obligation to provide a schedule every two weeks.

6.3.7.7 The architect/engineer or Director reserves the right to cancel or reschedule the bi-weekly meeting or otherwise take preemptive action if the contractor does not have an approved progress schedule ready for submission as described herein.

6.3.8 Schedules and payments or extensions of time:

6.3.8.1 The contractor will make no claim for, and have no right to, additional payment or extension of time for completion of the work in accordance with the schedule, or any other concession because of any misinterpretation or misunderstanding on the contractor's part of the project schedule, or because of any failure on the contractor's part to become fully acquainted with all conditions relating to the project schedule and the manner in which it will be used on the project, or because of any other contractor's failure to properly participate in the development of a schedule or to perform the contract in accordance with the schedule.

6.3.8.2 A copy of the current, updated and approved schedule is a required attachment to each application for payment.

6.3.8.3 Failure to include a copy of the current, updated and approved schedule with the payment request shall be cause for rejection of the progress payment request.

6.3.9 Two week look ahead/look behind work plan: In addition to the project schedule requirements, the contractor is required to submit a two week look ahead/look behind work plan at every bi-weekly project meeting.

6.3.9.1 The work plan shall focus on the activities that have been completed in the last two weeks and those planned for the next two weeks.

6.3.9.2 The work plan shall be in greater depth than the overall project schedule.

6.3.9.3 The work plan shall identify the contractor's activities that impact the operations and occupants of the State building or facility of the subject project.

6.3.9.4 The work plan shall be a subset of the current schedule and all activities shall coordinate between them.

6.3.9.5 The absence of a bi-weekly meeting shall not relieve the contractor of his responsibility to provide this work plan.

6.3.9.6 This work plan is in addition to and not in lieu of the schedule requirements described in Sub-paragraph 6.4 et al.

- 6.3.10 The Contractor agrees that no time extension will be granted for time lost due to normal seasonal weather conditions. In order to qualify for consideration for a time extension due to adverse weather conditions, it must be shown by clear and convincing evidence that the weather conditions during a given quarterly period (summer, fall, winter, spring) were more severe than the previous five-year (5) average for the Project geographical area, and that these weather conditions critically impacted the final Project completion date by delaying the performance of work. If abnormal weather losses can be shown to have impacted the Project completion date, a non-compensable time extension will be considered for that portion of the proven weather-related delays, which exceeded normal weather losses that should have been anticipated for the quarterly period in question.*
- 6.3.11 The "Construction Duration" identified on the Bid Proposal Form shall be from the Notice to Proceed to Substantial Completion.*

ARTICLE 7 – TIME OF COMPLETION

7.5 DELAY, DISRUPTION AND INTERFERENCE

Delete 7.5.2, Contractor's Damage for Delay, Disruption or Interference in its entirety and replace with the following:

The Contractor shall not be entitled to recovery of money damages from the DPMC caused by delay, disruption or interference with the Contractor's Work except as expressly provided under section 7.5.2 of these General Conditions paragraph. The Contractor expressly agrees that the Contractor's remedy for delay, disruption or interference shall be limited to an extension of time only and that there shall be no recovery of money damages by the Contractor for any delay, disruption or interference with the Contractor's work attributable to any cause whatsoever (other than the State's negligence, bad faith, active interference or other tortious conduct). The Contractor expressly agrees that it shall not be entitled to recover damages due to delay, disruption or interference caused by any of the following:

- a. Delayed execution of the contract or any of the causes referenced in paragraph 7.5.2;
- b. Any act or omission by any party other than the State, including, but not limited to, the Architect-Engineer, any other Contractor or Subcontractor, any CPM or other consultant retained by the State, any construction manager retained by the State, any agency or instrumentality of the federal government or of any local governmental entity or any utility (e.g., gas, electric, telephone, cable);
- c. Any act or omission of any agency or instrumentality of the State, other than the DPMC, including, without limitation, the Department of Environmental Protection and the Department of Community Affairs;
- d. Weather;
- e. Subsurface conditions of any type including, without limitation rock and underground utilities, whether or not such conditions were reasonably ascertainable to the Contractor at the time of bidding;
- f. Use of all or any portion the Project premises prior to completion of the Work to the extent that such use is permitted under the terms of the Contract;

- g. Delay in obtaining any permit or approval;
- h. Delay caused by the issuance of any court order, injunction or restraining order;
- i. Any delay which does not entitle the Contractor to an extension of the Contract Completion Time under Section 6.2.8 of these General Conditions; or
- j. Delay attributable to any other cause, other than a cause for which the State is legally restricted from enforcing a contractual “no damage for delay” clause under N.J.S.A. 2A:58B-3 or any other provision of law restricting or barring the enforcement of such clauses.

In interpreting this provision, the negligence or other wrongful conduct of others, including, without limitation, the Architect/Engineer, the CPM consultant, any construction management firm and any other firm or person retained by the State shall not be imputed to the State. Further, to the extent that the Contractor is entitled to recover monetary damages for delay under this Contract, such recovery shall be limited to actual direct costs incurred on account of the delay, and shall not include profit or other markup on such costs, home office overhead calculated under the Eichleay formula or any other kind of consequential or indirect cost or damage, including but not limited to any alleged cost or damage under the total cost method, the modified total cost method, or productivity factors (costs for inefficiency based on industry productivity factors such as those provided by the Mechanical Contractors Association of America (MCAA) Factors Affecting Labor Productivity).

ARTICLE 9 – PAYMENTS

9.1 INVOICES

Delete 9.1.5, Item a in its entirety and replace with the following:

- a. A proper invoice will be deemed to have been received by the Owner when it is received by the person or entity designated by the State to review and sign the invoice on the State’s behalf at the address designated in the pre-construction conference for receipt of invoices. Receipt of an invoice by such person or entity shall commence the running of the 20-day period for formal approval and certification as provided under N.J.S.A. 2A:30A-2(a);

Delete 9.1.6 in its entirety and replace with the following:

The provisions of this Article 9 shall not govern the State’s payment obligations nor shall they supersede or modify any other contractual provision allowing the withholding of monies from the contractor to the extent that the contractor has not performed in accordance with the provisions of the contract. Nor shall this Article 9 govern the State’s payment obligations nor supersede or modify any other contractual provision governing Contractor claims for additional compensation beyond the base contract price and approved change orders.

9.2 INTEREST

Delete 9.2.2 in its entirety and replace with the following:

Interest may be paid by separate payment to the Contractor, but shall be paid within thirty (30) calendar days of payment of the principal amount of the approved invoice.

Delete 9.2.3 in its entirety and replace with the following:

Nothing in this Article 9 shall be construed as entitling the Contractor to payment of interest on any sum withheld by the State for any reason permitted under the Contract or applicable law, or on any claim for additional compensation, over and above sums due under the base Contract or approved change orders.

ARTICLE 13 – OTHER REQUIREMENTS

13.1 PREVAILING WAGE

Delete 13.1.1, Item a, 2 in its entirety and replace with the following:

(2) At the time of the bid due date, the Bidder and any Subcontractors identified by the Bidder must be registered in accordance with “The Public Works Contractor Registration Act” (N.J.S.A. 34:11-56.48 et seq.) All questions regarding registration shall be addressed to:

Contractor Registration Unit
New Jersey Department of Labor and Workforce Development
Division of Wage & Hour Compliance
P O Box 389
Trenton NJ 08625-0389
Telephone: 609-292-9464
FAX: 609-633-8591

13.4 INSURANCE

Rename 13.4.1, Item b: “Business/Commercial Automobile Liability”:

G) REVISIONS AND/OR CLARIFICATIONS TO THE DRAWINGS, SPECIFICATIONS AND/OR PROJECT REQUIREMENTS;

1. UCC Permits have been paid by the State.
2. All Technical Sections that reference manufacturers and products are hereby revised to include "Or Approved Equal." Technical Sections of the Specifications have not been reissued as part of this Bulletin A.
3. "Approved Equal" requests must be presented in writing during the Question and Answer period of the Bid Phase, after which they will not be considered. The Question and Answer period will be provided by the DPMC during the bid phase or announced at the Pre-Bid Meeting. A response will be provided

by the Consultant via Bulletin.

4. As it relates to testing and inspections, all testing and inspections indicated in the specifications shall be performed by a DPMC prequalified firm and arranged and paid for by the Contractor and in no situation by the Owner.
5. **INSTALLER, MANUFACTURER & FABRICATOR QUALITY ASSURANCE & QUALIFICATIONS:** Eliminate any and all references to “Installer” and/or “Fabricator” quality assurance requirements which specifically pertain to stated minimum required experience in years and number of previous projects. All other requirements for QA/QC, including but not limited to compliance with relevant codes, standards, and manufacturer installation instructions remain applicable.
6. Delete any and all references to “Supplemental General Conditions” and “Special Conditions”.
7. All businesses engaged in construction projects in the State must adopt policies that include, at a minimum, the requirements as per all Executive Orders, NJDOH and CDC recommendations regarding COVID. Please see the attached DPMC Notice dated March 9, 2022 to All Contractors and Project Personnel on DPMC Construction Projects.
8. Pursuant to E.O. 291 (Murphy 2022), the Contractor must certify prior to contract award that neither the Contractor nor any subcontractors used by the Contractor to provide construction related materials or services to the State of New Jersey, is owned or controlled by the government of Russia, Belarus or their instrumentalities; provides materials which originated in Russia or Belarus; and, that neither the Contractor nor any subcontractors invest directly in any company that is owned or controlled by the government of Russia, Belarus, or their instrumentalities.

***Contractors are advised that the firm to be awarded the project will be required to submit a signed certification that the firm complies with all requirements of E.O. 291 prior to contract award. Please see the attached copy of E.O. 291 and E.O. 291 Pre-Award Certification to be issued prior to Contract Award.**
9. The Investment Activities in Iran Form is attached to this Bulletin. The apparent low bidder will be required to submit this form prior to Contract Award.

ATTACHMENTS:

1. DPMC Notice dated March 9, 2022 to All Contractors and Project Personnel on DPMC Construction Projects.
2. Executive Order 291 Certification
3. Certification of Non-Debarment Form
4. Investment Activities in Iran Form
5. Executive Order 290 (Murphy 2022)
6. Executive Order 291 (Murphy 2022)

END OF BULLETIN A

3 Rosell Drive, Ballston Lake, NY 12019

PROJECT: A1257VVMH Vineland
400759

SUBJECT: Invitation to Bid Vineland
Veterans Memorial Home
Storage Building Renovation

PURPOSE: For Bid

DATE: 1/6/2023

TRANSMITTAL ID: 00969

VIA: Info Exchange

FROM

NAME	COMPANY	EMAIL	PHONE
Geoffrey Frey 3 Rosell Drive Ballston Lake NY 12019 United States	Centrica Business Solutions Services	geoff.frey@centrica.com	518-406-0742

TO

NAME	COMPANY	EMAIL	PHONE
Caroline Auwarter 50 Egg Harbor Road Suite 16 Berlin NJ 08009 United States	Kavi Construction	cauwarter@kaviconstruction.com	856-767-2491
Dave 206 W. Delilah Road Pleasantville NJ 08232 United States	R. Maxwell Construction Company Inc	dave@rmaxwellconstruction.net	609-646-6699
Dave Fabbri 1310 S. West Blvd Vineland NJ 08360 United States	Fabbri Builders Inc	dfabbri@fabbribuilders.com	856-696-2024
Greg 4266 Post Road Vineland NJ 08360 United States	Capri Construction Co Inc	greg@capriconstructionco.com	856-692-4767
Jill Serubo 495 Center Street Sewell NJ 08080 United States	WJ Gross Inc	jill@WJGross.com	856-415-1712
Joe Buttari 50 Egg Harbor Road Suite 16 Berlin NJ 08009 United States	Kavi Construction	jbuttari@KaviConstruction.com	856-767-2491
Mark Williams 513 Pleasant Valley Ave Moorestown NJ 08057 United States	JH Williams Enterprises	mpw@jhwilliamsinc.com	856-793-7114

Transmittal

DATE: 1/6/2023
TRANSMITTAL ID: 00969

REMARKS: You are invited to bid the Vineland Veterans Memorial Home Storage Building Renovation Project.

Attached please find the bid documents.

THERE IS A MANDATORY PRE-BID WALKTHROUGH ON JANUARY 12, 2023 from 1 PM to 3PM.

Please confirm your intention to attend pre-bid walkthrough by calling Geoff Frey at 518-928-2547.

We look forward to hearing from you.

Sincerely,

Geoffrey Frey
Senior Project Manager
Centrica Business Solutions

Transmittal

DATE: 1/6/2023
TRANSMITTAL ID: 00969

DESCRIPTION OF CONTENTS

QTY	DATED	TITLE	NOTES
1	1/5/2023	13-A102 CEILING PLAN - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	10-D106 EXISTING CONDITION - PLUMBING - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	29-P100 PLUMBING COVER SHEET - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	20-E102 SPECIFICATIONS - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	8-D104 EXISTING CONDITION - ELECTRICAL - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	3-CS102 AREA PLAN - VVMH - STORAGE A1257-07.pdf	
1	1/6/2023	S1-A1257-07StorageRenovInstructRFQ20230104.pdf	
1	1/5/2023	23-ED200 ELECTRICAL DEMOLITION PLAN - VVMH - STORAGE A1257-07.pdf	
1	10/24/2022	28-MD100 HVAC DEMOLITION PLAN STORAGE A1257-07.pdf	
1	10/24/2022	27-M300 HVAC SCHEDULES AND DETAILS storage a1257-07.PDF.pdf	
1	10/24/2022	34-SP100 SPRINKLER FLOOR PLAN-VVMH-STORAGE A1257-07.pdf	
1	1/5/2023	6-D102 DEMOLITION PLAN - FLOORING - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	9-D105 EXISTING CONDITION - MECHANICAL - VVMH - STORAGE A1257-07.pdf	
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1	10/24/2022	32-SP001 SPRINKLER SPECIFICATIONS-VVMH-STORAGE A1257-07.pdf	
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1	10/24/2022	33-SP002 SPRINKLER DETAILS-VVMH-STORAGE A1257-07.pdf	
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1	1/5/2023	18-E100 ELECTRICAL COVER SHEET - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	2-CS101 CODE PLAN - VVMH - STORAGE A1257-07.pdf	
1	10/24/2022	31-PD200 PLUMBING DEMOLITION PLAN STORAGE A1257-07.pdf	
1	1/5/2023	15-A300 EXTERIOR ELEVATIONS - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	11-A100 OVERALL FLOOR PLAN - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	5-D101 DEMOLITION - CEILING ITEMS - VVMH - STORAGE A1257-07.pdf	
1	10/24/2022	25-M101 HVAC SPECIFICATIONS STORAGE A1257-07.pdf	

Transmittal

DATE: 1/6/2023
TRANSMITTAL ID: 00969

QTY	DATED	TITLE	NOTES
1	10/24/2022	26-M200 FIRST FLOOR AND BASEMENT HVAC STORAGE A1257-07.pdf	
1	1/5/2023	1-CS100 COVER SHEET - VVMH - STORAGE A1257-07.pdf	
1	1/6/2023	S4-A1257-07 Bulletin A.pdf	
1	1/5/2023	16-A400 BUILDING SECTIONS DETAILS - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	22-E400 ELECTRICAL DETAILS - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	21-E300 ELECTRICAL POWER PLAN - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	19-E101 SPECIFICATIONS - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	12-A101 OVERALL BASEMENT PLAN DETAILS - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	14-A200 ROOF PLAN - VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	7-D103 DEMOLITION - ASBESTOS- VVMH - STORAGE A1257-07.pdf	
1	1/5/2023	30-P300 PLUMBING NEW WORK PLAN - VVMH - STORAGE A1257-07.pdf	
1	1/6/2023	S2-A1257-07StorageRenovBidDocs01042023.pdf	

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