

**ROOF REPLACEMENT
AT
WESTORCHARD ELEMENTARY SCHOOL**

SED# 66-10-04-06-0-013-013

CHAPPAQUA CENTRAL SCHOOL DISTRICT
66 Roaring Brook Road / P.O. Box 21, Chappaqua, NY 10514

ISSUE FOR BID:

July 22, 2021

ARCHITECT:

KG+D ARCHITECTS, PC
285 Main Street
Mount Kisco, NY 10549

ROOFING CONSULTANT:

WATSKY ASSOCIATES
20 Madison Avenue
Valhalla, NY 10595

**HAZARDOUS MATERIALS
CONSULTANT:**

WSP USA
96 Morton Street, 8th Floor
New York, NY 10014

THE UNDERSIGNED CERTIFIES THAT TO THE BEST OF HIS KNOWLEDGE, INFORMATION AND BELIEF, THE PLANS AND SPECIFICATIONS ARE IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE, THE STATE ENERGY CONSERVATION CONSTRUCTION CODE, AND BUILDING STANDARDS OF THE EDUCATION DEPARTMENT, AND THAT THE PLANS AND SPECIFICATIONS REQUIRE THAT NO ASBESTOS CONTAINING MATERIAL SHALL BE USED.

Erik A. Kaeyer, AIA, LEED AP

Index to the
Project Manual/Specifications
for
Chappaqua Central School District
Roof Replacement at
Westorchard Elementary School

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NOTICE TO BIDDERS

**CHAPPAQUA CENTRAL SCHOOL DISTRICT
66 ROARING BROOK ROAD
P.O. BOX 21
CHAPPAQUA, NY 10514**

The Board of Education of the Chappaqua Central School District hereby invites submission of bids for:

CCSD BID # B2021-20:

Roof Replacement at Westorcharde Elementary School

Sealed envelope bids or digital bids will be received until **August 5th, 2021, no later than 2:00 PM**, at the **District Administration Office, P.O. Box 21, 66 Roaring Brook Road, Chappaqua, NY, 10514**, and at that time and place any and all such sealed bids that have been received in accordance with the terms hereof will be publicly opened and read aloud.

The District invites bidders to bid on the work described in the Bid Documents that falls within the following bid package:

Contract No. 1 – General Construction

See the Bid Documents for a further description of the scope of work.

Bidders must use the Bid Proposal Forms included with the Bid Documents in order to make their proposals, and each proposal must be made in accordance with those Forms.

Bidders may obtain the Bid Documents/Bid Addendums **after 3:00 PM, on July 22nd, 2021**, from REV, 330 Route 17A, Goshen, New York 10924 Tel: 1-877-272-0216. Complete digital sets of Bidding Documents, drawings and specifications, may be obtained online as a download at the following website: www.usinglesspaper.com under 'public projects.' Complete hard copy sets of Bidding Documents, drawings and specifications, may be obtained upon depositing the sum of \$100 for each combined set of documents. Checks or money orders shall be made payable to Chappaqua Central School District. Plan deposit is refundable in accordance with the terms in the Instructions to Bidders to all submitting bids. Any bidder requiring documents to be shipped shall make arrangements with the printer and pay for all packaging and shipping costs.

Please note Rev (www.usinglesspaper.com) is the designated location and means for distributing and obtaining all bid package information. All bidders are urged to register to ensure receipt of all necessary information, including bid addenda.

Each bid proposal must be accompanied by a certified check payable to Chappaqua CSD

or by a Bid Bond for a sum equal to five percent (5%) of the bid, conditioned as set forth in the Instructions to Bidders. All bid security, except those of the three low bidders will be returned within four days after proposals are submitted. The bid security provided by the three low bidders will be returned after the execution of the Contract.

There will be a pre-bid site meeting on **July 29th, 2021, at 3:00 PM**, commencing at the Main Entrance of Westorchard Elementary School. **Bidders are urged to attend the site meeting. Knowledge of the field conditions is crucial to understanding the Work.**

All Requests for Information (RFI) must be sent in writing to the Architect, Ryan Carper, via email (rcarper@kgdarchitects.com).

The District may require the successful bidder to provide separate Performance and Labor & Materials Payment Bonds in the amount of the contract price and in the form specified in the Bid Documents.

To the fullest extent allowed by law, the District reserves the right to reject bids that contain omissions, exceptions or modifications, or in their sole discretion to waive such irregularities, or to reject any or all bids or to accept any bid which is in the best interest of the District.

All bids shall be submitted in either a sealed bid envelope or as a digital bid submission. Sealed bid envelopes must distinctly be marked on the outside as follows:

CCSD Bid # B2021-20
Roof Replacement at Westorchard Elementary School
Bid Opening – 2:00 PM on August 5th, 2021
Name of Bidder _____

Digital bids must distinctly be marked on the subject line of the e-mail with the same information listed above.

Bid submissions must be delivered or e-mailed to Mike Trnik, or his designee, no later than 2:00 pm on the bid opening date. Sealed bid envelope submissions must be delivered at the District Administration Office, 66 Roaring Brook Road, Chappaqua, NY 10514. Digital bid submissions must be e-mailed to mitrnik@chappaquaschools.org.

The District will not open or consider any proposal unless it is received at that location or by e-mail no later than 2:00 pm on the bid opening date. Bidders are solely responsible for the arrival of each bid proposal at the place of bid opening by the appointed time, regardless of the means of delivery.

The Board of Education reserves the right to reject any and all bids which do not seem to be in the best interest of the School District.

SECTION 00 21 00

INVITATION AND INSTRUCTIONS TO BIDDERS

1.01 OWNER, PROJECT, ARCHITECT, BID PROCEDURE

- A. The Owner, Chappaqua Central School District; 66 Roaring Brook Road; Chappaqua, NY 10514; invites sealed bids for the **Roof Replacement project located at Westorchar Elementary School, 25 Granite Road; Chappaqua, NY, 10514**, as described in the accompanying contract documents as prepared by KG+D Architects, P.C., located at 285 Main Street, Mt. Kisco, NY 10549.
- B. Bids shall be received in accordance with the New York State Public Bidding Laws, this project will be executed under SINGLE PRIME CONTRACT as noted below and scope of work generally as outlined in Section 01 10 00:

Contract #1

General Construction

- C. The attention of all bidders is directed to the fact that a single set of documents exist for the construction of the Project as a whole. Work on each sheet, or within any technical specification section may or may not have an effect on the work of any single Contractor. Failure on the part of any Contractor to examine all documents will not be cause for additional cost to the Owner.

1.02 DISCREPANCY

- A. Should any bidder find any discrepancies in, or omission from, the Contract Documents, or should the bidder be in doubt as to the meaning of any portion of said documents, they shall at once notify the Architect and obtain an interpretation or clarification prior to submission of their bid.
- B. Any request for interpretation or clarification given in accordance with this provision shall be sent in writing to the architect via email (rcarper@kgdarchitects.com).
- C. The bidder may, during the bidding period, be advised by addendum of additions, deletions, or alterations in any of the documents forming a part of this Contract. All such additions, deletions or alterations shall be included in the work covered by the bid and shall become a part of this Contract.

Upon such mailing or delivery and making available for inspection, such addendum shall become a part of the Contract Documents and shall be binding on all Bidders whether or not the Bidder receives or acknowledges the actual notice of such addendum.

The requirements contained in all Contract Documents shall apply to all addenda.

CUTOFF DATE FOR RECEIPT OF REQUESTS FOR INFORMATION (RFI'S) SHALL BE 5 WORKING DAYS PRIOR TO DESIGNATED DATE FOR RECEIPT OF BIDS.

- D. Only interpretations, corrections or additional Contract provisions made in writing by the Architect as addenda shall be binding. No officer, agent or employee of the Owner or the Architect is authorized to explain or to interpret the Contract Documents by any other method and any such explanation or interpretation, if given,

shall not be relied upon by the Bidder.

- 1.03 REPRESENTATION - Each bidder, by making their bid, represents that -
- A. They have read and understands the Bidding Documents (consisting of the Project Manual, Drawings and Addenda (if any) and their Bid is made in accordance therewith.
 - B. They have visited the site and have familiarized themselves with the conditions under which the work is to be performed.
 - C. All materials to be incorporated in the work shall be "asbestos free" in their manufacture.
- 1.04 DOCUMENTS
- A. Bidders may obtain electronic or hard copies of the Bid Documents **on or after 3:00 PM, July 22, 2021**, by contacting Mike Trnik at the Chappaqua Central School District Administration Office; phone 914-238-7213 or by e-mail at mitrnik@ccsd.ws.
 - B. A deposit of \$100.00 per set will be required. Deposit checks shall be made out to the Chappaqua CSD.
 - C. The full deposit will be refunded to bidders upon return of the Bid Documents in acceptable condition within one week of notification of award by the District.
 - D. Additional copies of the documents will be available from the designated printer and at the non-refundable cost of reproduction.
- 1.05 INFORMATIONAL MEETING - All bidders are advised that an informational meeting will be held as follows:
- A. Date – **July 29, 2021**
 - B. Local Prevailing Time – **3:00 PM**
 - C. Location – **Westorcharde Elementary School - main entrance**
 - D. Any and all questions that may arise as a result of this meeting will be recorded and answered by the Addendum process.

NOTE: ALL BIDDERS WILL BE PRESUMED TO HAVE FULL KNOWLEDGE OF THE SITE, AND ALL INFORMATION AVAILABLE AT THE PRE-BID WALK THROUGH. NO EXTRA COST OR TIME EXTENSIONS WILL BE GRANTED BECAUSE OF LACK OF KNOWLEDGE OF ON SITE CONDITIONS, APPARENT, OR DATA AVAILABLE DURING THE WALK THROUGH.

- 1.06 BIDDING
- A. Sealed bids, with the name and address of the Bidder contained thereon, will be received at the District Administration Office, 66 Roaring Brook Road, Chappaqua, NY, on or before **August 05, 2021 at 2:00 PM**, Local Prevailing Time at which time all bids will be opened publicly and read aloud.
 - B. All bids shall be submitted in duplicate on the Proposal Forms provided within the specifications and shall be submitted in an opaque sealed envelope with the following contained thereon:
 - 1. Project Name
 - 2. Contract Number
 - 3. Type of Construction
 - 4. Name of Bidder
 - 5. Mark "SEALED BID"

- C. All spaces on Proposal Form must be completed. All signatures shall be in ink and in longhand.
- D. No oral or telephonic proposals or modifications of proposals will be considered.
- E. In accordance with Section 135 of the New York State Finance Law, commonly known as the "Wick's Law" and applicable to the jurisdiction of the Project, each Bidder must submit in a sealed envelope within his bid package a list of all subcontractors including their names, addresses, contact information and the value of their contracts. This list may not be changed except at the direction of the Owner.
- F. Any proposals containing exceptions or modifications may, at the Owner's option, be disqualified.

1.07 QUALIFICATIONS OF BIDDER

- A. The Owner may make such investigation as the Owner deems necessary to determine the responsibility of any Bidder or to determine the ability of any Bidder to perform the Work.
- B. Bidders shall furnish to the Owner all information and data required by the Owner, including complete financial data, within the time and in the form and manner required by the Owner.
- C. The Owner reserves the right to reject any bid if the evidence required by the Owner is not submitted as required or if the evidence submitted by or the investigation of any Bidder fails to satisfy the Owner that the Bidder is responsible, or is able or qualified to carry out the obligations of the Contract or to complete the Work as contemplated.

1.08 POST BID PROCEDURES

- A. The responsibility of bidders and of their proposed subcontractors will be considered in making the award. The Owner through the Architect may make such investigation as the Owner deems necessary to determine the responsibility of any bidder or to determine the ability of any bidder to perform the Work.
- B. When requested by the Architect, bidders shall furnish all information and data required by the Owner, including financial data, within the time and in the form and manner required by the Owner. Upon notification from the Architect, the three apparent low bidders shall furnish within three (3) working days after the bid opening four (4) copies of the following information in writing:
 - 1. a signed and notarized bidder qualification statement (see Section 00 45 13);
 - 2. the names, addresses and phone numbers of the subcontractors and suppliers that the bidder proposes to use on the project;
 - 3. the bidder's proposed site safety plan;
 - 4. a bar chart (see paragraph 1.03, Section 01 32 00 of the General Requirements) showing the bidders' proposed plan and schedule to complete the bidder's work in accordance with the phasing milestones outlined in Section 01 10 00;
 - 5. the insurance certificates required by the Bid Documents;
 - 6. a proposed schedule of values for the bidder's work;
 - 7. a proposed list of submittals and a proposed schedule for making them, all keyed to the bar chart.
- C. After receipt of the above information, the Architect will designate a time and place for a meeting between the Owner, the Architect and the apparent low bidder. The apparent low bidder's principal, project manager and site superintendent will attend that meeting, at which time the parties will discuss the bidder's responsiveness,

- responsibility and qualifications.
- D. The Owner reserves the right to disapprove the use of any proposed Subcontractor and in such event the bidder shall submit the name of another Subcontractor in like manner within the time specified by the Architect.
 - E. To the fullest extent allowed by law, the Owner reserves the right to reject any bid if the evidence required by the Owner is not submitted or fails to satisfy the Owner that the bidder is responsible, able and qualified to carry out the obligations of the Contract or to complete the Work as contemplated. The Owner will consider the information received under paragraphs A through D above in determining whether or not to accept a proposal.
 - F. Acceptance of a proposal will be a notice in writing signed by a duly authorized representative of the Owner.
 - G. Any bidder whose proposal is accepted will be required to sign the Trade Contract within ten (10) days after receiving notice of acceptance.
 - H. In the event that the Owner should reject the proposal of a bidder as provided above or otherwise, at the Owner's option, the Owner may elect to meet with the next lowest bidder and to consider the information as provided in paragraphs A through D above. In the event that the proposal of the next lowest bidder is rejected as provided above or otherwise, at the Owner's option, the Owner may elect to meet with the third lowest bidder and repeat the above process. At all times the Owner retains the right to reject all bids.

1.09 APPROVAL OF SUBCONTRACTORS

- A. When requested by the Owner, Bidders shall, within the time specified by the Owner, submit to the Owner the names of the Subcontractors which the Bidder proposes to use on the project.
- B. The Owner reserves the right to disapprove the use of any proposed Subcontractor and in such event the Bidder shall submit the name of another Subcontractor in like manner within the time specified by the Owner.
- C. The Owner reserves the right to reject any bid if the names of proposed Subcontractors are not submitted as required.

1.10 SECURITY AND BONDS (Coordinate with Section 00 61 00)

- A. Every bid shall be accompanied by a Bid Bond in the amount of 5 percent of the Contract Sum drawn by a recognized surety authorized to conduct business in the State of New York and made payable to the Owner.
 - 1. Bid Security shall be submitted in a separate sealed envelope clearly identifying the company and project as well as the name and address of the Surety Company.
 - 2. Each Bond must be accompanied by a Power of Attorney, giving names of Attorneys-in-fact, and the extent of their bonding authority. All bonds shall be countersigned by a resident Agent and with a Surety Company or Corporation meeting the following qualifications:
 - a. Surety must be licensed to do business in the State of New York.
 - b. Surety shall be listed on the current U.S. Treasury Department Circular 570 entitled "Companies Holding Certificates of Authority" from the Secretary of the Treasury under the Act of Congress approved July, 30, 1974 (6 U.S.C., Sec. 6-13), as Acceptable Sureties on Federal Bonds.

- c. Surety must meet minimum rating requirements as published in current "Best's Key Rating Guide" as listed in the attachment to Section 00 61 00.
 - d. Limitations:
 - Bonding limits or bonding capacity refers to the limit or amount of bond acceptable on any one project.
 - The bonding limit for each contractor shall not exceed the amount listed on the above referenced U.S. Treasury Department List for the Surety issuing the bond.
 - e. All Surety companies are subject to approval and may be rejected by the Owner without cause.
 - f. Compliance: In the event any of the requirements outlined herein are not complied with, the Owner shall have the right to reject the bid or annul the Award of the Contract.
- B. Bid security will be returned to all except the three lowest bidders, after formal analysis and evaluation of bids. No bid will be withheld beyond the forty-five (45) day period stipulated above.
 - C. Remaining bid security will be returned to bidders after Owner and successful bidder have executed the Agreement and the Owner has received and approved performance and payment bonds.
 - D. If the required agreement has not been executed within the specified period of time after bid opening, bid security of any bidder will be returned upon request, provided he has not been notified of acceptance of his bid prior to the date of request.
 - E. Separate Performance and Payment Bonds will be required for the work. Each shall be in the amount of 100% of the Contract price.
 - F. The Contractors shall include in their proposal amounts the total premiums for the performance and labor and material payment bonds as set forth in Section 006100.
- 1.11 TAX STATUS (Coordinate with Article 3.6 of Section 00 70 00 (AIA A201))
- A. The Owner, Chappaqua Central School District, is an educational non-profit institution and is therefore "tax-exempt" in accordance with the applicable laws of the State of New York and with Chapter 32 of the Internal Revenue Code, as most recently amended, for collection of all sales and excise taxes.
 - B. Exemption Certificates will be furnished to each Respective Prime Contractor.
- 1.12 INSURANCE
- A. Insurance as required by Article 11 of the General Conditions and as set forth in the Insurance Rider (Section 00 70 02) shall be required of each Respective Prime Contractor and shall be of forms and limits required therein.
- 1.13 EQUIVALENCY CLAUSE (Coordinate with Section 01 25 00)
- A. When in the project manual/specifications, two or more kinds, types, brands, or manufacturers of materials are named they are regarded as establishing the required standard of quality and not for the purpose of limiting competition.
 - B. The contractor may select one of these items or, if the contractor desires to use any kind, type, brand, manufacturer or material other than those named in the specification, he shall, in accordance with the instructions set forth in "Post-Bid Requirements" herein, identify within three (3) days after bid submission, but in any event prior to award of contract, what kind, type, brand, or manufacturer is included in the base bid for the specified item following procedures set forth in Section 01 25

00.

- C. Failure to so identify the perceived "equivalencies", will not relieve contractor from providing the specified items.

1.14 AWARD OF CONTRACT

- A. This notice is an offer to receive proposals for a contract and not an offer of a contract.
- B. The award of the Contract shall be made to the Bidder submitting the lowest bid if, in the opinion of the Owner, such Bidder is qualified to perform the Work involved, is responsible and reliable.
- C. Alternates, if stated in the Proposal Form, shall be chosen at the discretion of the Owner when awarding the Contract. The lowest bid will then be determined by adding to, or subtracting from, the bidder's total base bid, all Alternates chosen by the Owner.
- D. The Bidder agrees to commence work within ten (10) days of receipt of a Notice to Proceed, Letter of Intent, and/or Execution of Contract whichever is earlier.
- E. The Owner reserves the right to reject any bid or all bids, to waive any informalities, irregularities or omissions in any bid received or to afford any Bidder an opportunity to remedy any informality or irregularity if it is in the Owner's interest to do so.
- F. The award of the Contract shall not be construed as a guarantee by the Owner that the plant, equipment and the general scheme of operations of a Bidder is either adequate or suitable for the satisfactory performance of the Work or that other data supplied by a Bidder is accurate.

1.15 LAWS AND REGULATIONS

- A. All applicable Federal, State, County, Municipal or other laws, orders, ordinances, rules and regulations of all Authorities having jurisdiction over construction work in the locality of the project shall apply to the Contract and shall be deemed to be included in the Contract as if fully set forth therein at length.
- B. This project is subject to wage determination as issued by the Department of Labor. Reference Section 00 46 43.
- C. In accordance with the requirements of General Municipal Law §103-g, the bidder is required to include with its bid either (1) the "Certification of Compliance with the Iran Divestment Act" or, in the case where the bidder is unable to make such certification, (2) the form titled "Declaration of Bidder's Inability to Provide Certification of Compliance with the Iran Divestment Act".

1.16 ARREARS

- A. No bids will be accepted from, or contracts awarded to, any person, persons, firms or vendors who are in arrears to the Municipality upon debt, or contract, or who is a defaulter as surety or otherwise upon obligations to the Municipality.

1.17 NONDISCRIMINATION

- A. Notwithstanding implementation of the Owner's Affirmative Action Plan, if any, all Contractors and Subcontractors of all tiers and vendors will be required to comply with all provisions of the Civil Rights Act of 1964, Executive Order 11246 of 24 September 1965 and the relevant "Laws", "Acts" rules, regulations and orders of the Labor Department of the State of New York as amended.

End of Section

SECTION 00 41 00

PROPOSAL FORM

PROJECT: Chappaqua Central School District
Roof Replacement Project
Westorchar Elementary School
25 Granite Road
Chappaqua, NY 10514

DATED: _____

To: Joseph Gramando, Facilities Director
Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514

Greetings:

The Undersigned, in compliance with the Invitation and Instructions to Bidders, agrees that if this bid is accepted as hereinafter provided he/she will provide all labor, materials, supplies, tools, plant and equipment necessary to perform all work required for the construction of the aforementioned project in accordance with documents as prepared by KG+D Architects, P.C., 285 Main Street, Mount Kisco, NY, 914.666.5900, for the class of work at the aforementioned project as listed below:

Contract #1	General Construction

for the following LUMP SUM COST as applicable to the contract:

Dollars (\$ _____)

Further, as part of the proposal, the undersigned:

- agrees to execute alternates selected for the sums (additive or deductive) set forth in the attached Schedule of Alternate Proposals.
- agrees to the stated percentages for extra work if ordered on a Time and Material basis in accordance with Article 7 of the Conditions to cover all overhead and profit allowance.
- Takes notice of the time constraints set forth in Section 01 10 00 and agrees to the terms of the Contract and to the Actual Damages that will be enforced should the time constraints not be kept.

It is understood that the Owner reserves the right to accept or reject any and all bids that the Owner deems to be in his best interest.

Upon notification of acceptance of this proposal, the undersigned agrees to execute a contract in the form as stated within these contract documents for the amount stated.

Prices quoted shall be guaranteed for forty-five (45) days after date of proposal.

If written Notice to Proceed, Letter of Intent or Contract is received within forty-five (45) calendar days after the opening of bids, the undersigned agrees to execute said contract and furnish to the Owner within ten (10) days after receipt of said notice of award, the executed Contract, together with the Performance Bond, Labor and Material Payment Bonds and Insurance Certificates required herein.

The Undersigned agrees that the Bid Security payable to Owner accompanying this proposal is left in escrow with the Owner; that its' amount is the measure of liquidated damages which the Owner will sustain by the failure of the Undersigned to execute and deliver the above named Bonds and Contract; and that if the undersigned defaults in furnishing said bonds or in executing and delivering said Contract within ten (10) days of written notification of award of the Contract to him/her, then said Security shall be payable to the Owner for its' own account; but if this proposal is not accepted within said forty five (45) days of the time set for submission of Bids, or if the Undersigned executes and delivers said bonds and Contract, the Bid Security shall be returned to the Undersigned.

The following Addenda have been received. The noted modifications to the Bid Documents have been considered and all costs are included in the Bid Sum.

Addendum	Date	Acknowledgment

By submission of this Proposal, the undersigned acknowledges that they have read the milestone and schedule requirements, Section 01 10 00, and agrees to provide sufficient staff and organization as well as to select subcontractors, suppliers and vendors to comply with the requirements for submittals, delivery dates, work periods and completion dates as specified.

The Undersigned hereby certifies that they are able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.

The Undersigned has included with this Bid attachments noted:

1. Attachment #1: Schedule of Unit Prices
2. Attachment #2: Schedule of Alternates
3. Attachment #3: Non-Collusive Affidavit
4. Attachment #4: Iran Divestment Act Compliance Forms
5. Attachment #5: List of Subcontractors

By submission of this Proposal, the undersigned acknowledges that they have read the milestone and schedule requirements, Section 01 10 00, and agrees to provide sufficient staff and organization as well as to select subcontractors, suppliers and vendors to comply with the requirements for submittals, delivery dates, work periods and completion dates as specified.

MILESTONE SCHEDULE:

Based on Award and Notice to Proceed and shall adjust accordingly if Notice is moved

- Notice to Proceed: **August 12, 2021**
- Site Mobilization and Submittals - 2 weeks from Notice to Proceed
- Substantial Completion: **October 07, 2021**
- Final Completion: **October 21, 2021**

The Undersigned hereby certifies that they are able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.

By submission of this Proposal

- each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the state finance law.
- the Undersigned acknowledges that they have visited the site, informed themselves of the existing conditions, and have included in the Proposal a sum to cover the costs of all items in the contracts.

Respectfully submitted,

(Contractor – Authorized Signature)

PLEASE PRINT LEGIBLY OR TYPE:

Signatory Name: _____ Title _____

Business Name: _____

Business Address: _____

Business Phone: _____ Email: _____

Project Contact Name: _____ Email: _____

Cell Phone: _____

Attest Signature: _____

Attest Name: _____ Title _____

SEAL IF CORPORATION

ATTACHMENT #1 - SCHEDULE OF UNIT PRICES

In accordance with the terms and conditions of the Contract and as part of the base proposal, the undersigned agrees to the following unit prices for designated work as described in Section 01 22 00 which shall be considered as payment forms and not for purpose of determining contract award. It shall be noted that work deducted from the basic contract covered by these stated unit prices will be DEDUCTED at the stated value LESS 15 percent.

	Description	Price/Unit
Unit No. 1	Cost to prepare and repoint brick façade at change-in-elevation walls, above lower sections of roof, and where designated by the Architect, on a square foot basis. Include 2,000 sf in base bid	\$_____ / SF
Unit No. 2	Cost to remove and replace existing deteriorated sections of 1-1/2 inch deep metal deck, on a square foot basis.	\$_____ / SF

****End of Schedule of Unit Prices****

ATTACHMENT #2 – SCHEDULE OF ALTERNATE PROPOSALS

In accordance with the terms and conditions of the Contract and the Proposal Form, the undersigned agrees to execute alternates selected for the sums set forth in the following schedule of Alternate Proposals in accordance with the general description as below.

Add Alternate No. 1 – Contract No. 1: Additional Abatement & Roof Replacement – State the amount TO BE ADDED to the Base Bid for additional abatement, roof replacement, and related work in areas as shown in the Drawings.

ADD: _____
_____ Dollars (\$ _____)

****End of Schedule of Unit Prices****

Contractor Attestment To Bid Attachments

Contractor Signature: _____

Signed By (printed name/title): _____

Date: _____

ATTACHMENT #3 – NON-COLLUSIVE AFFIDAVIT

NON-COLLUSIVE AFFIDAVIT

Every bid or proposal made to a political subdivision of the State or any public department, agency or official thereof or to a fire district or any agency or official thereof, for work or services performed or to be performed or goods sold to or to be sold, shall contain the following statement subscribed by the bidder and affirmed by such bidder as true under the penalties of perjury and is made pursuant to Section 103d of the General Municipal Law of the State of New York as amended by Laws of 1966.

NON-COLLUSIVE BIDDING CERTIFICATION

- a. By submission of this bid each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its' own organization, under penalty of perjury, that to the best of his knowledge and belief:
 1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;
 2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to the opening, directly or indirectly, to any other bidder or to any competitor; and
 3. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.
- b. A bid shall not be considered for award nor shall any award be made if (a)1, 2 and 3 above, have not been complied with; provided, however, that if any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore.
Where (a)1, 2 and 3 above have not been complied with, the bid shall not be considered for award nor shall any award be made unless the head of purchasing unit of the political subdivision, public department, agency or official thereof to which bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

Further, by submission of this Proposal

- each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the state finance law."
- the Undersigned acknowledges that they have visited the site, informed themselves of the existing conditions, and have included in the Proposal a sum to cover the costs of all items in the contracts.

Respectfully submitted,

(Contractor Signature)

July 22, 2021
Construction Documents
SED #66-10-04-06-0-013-013

Chappaqua Central School District
Westorcharde Elementary School
Roof Replacement

Please PRINT Legibly

Name: _____ Title: _____

Business Name: _____

Business Address: _____

Business Phone : _____ Email: _____

Attest Signature: _____

Attest Name: _____ Title: _____

SEAL IF CORPORATION

ATTACHMENT #4 – IRAN DIVESTMENT ACT COMPLIANCE

CERTIFICATION OF COMPLIANCE WITH THE IRAN DIVESTMENT ACT

As a result of the Iran Divestment Act of 2012 (the "Act"), Chapter 1 of the 2012 Laws of New York, a new provision has been added to State Finance Law (SFL) § 165-a and New York General Municipal Law § 103-g, both effective April 12, 2012. Under the Act, the Commissioner of the Office of General Services (OGS) will be developing a list of "persons" who are engaged in "investment activities in Iran" (both are defined terms in the law) (the "Prohibited Entities List"). Pursuant to SFL § 165-a(3)(b), the initial list is expected to be issued no later than 120 days after the Act's effective date at which time it will be posted on the OGS website.

By submitting a bid in response to this solicitation or by assuming the responsibility of a Contract awarded hereunder, each Bidder/Contractor, any person signing on behalf of any Bidder/Contractor and any assignee or subcontractor and, in the case of a joint bid, each party thereto, certifies, under penalty of perjury, that once the Prohibited Entities List is posted on the OGS website, that to the best of its knowledge and belief, that each Bidder/Contractor and any subcontractor or assignee is not identified on the Prohibited Entities List created pursuant to SFL § 165-a(3)(b).

Additionally, Bidder/Contractor is advised that once the Prohibited Entities List is posted on the OGS Website, any Bidder/Contractor seeking to renew or extend a Contract or assume the responsibility of a Contract awarded in response to this solicitation must certify at the time the Contract is renewed, extended or assigned that it is not included on the Prohibited Entities List.

During the term of the Contract, should the School District receive information that a Bidder/Contractor is in violation of the above-referenced certification, the School District will offer the person or entity an opportunity to respond. If the person or entity fails to demonstrate that he/she/it has ceased engagement in the investment which is in violation of the Act within 90 days after the determination of such violation, then the School District shall take such action as may be appropriate including, but not limited to, imposing sanctions, seeking compliance, recovering damages or declaring the Bidder/Contractor in default. The School District reserves the right to reject any bid or request for assignment for a Bidder/Contractor that appears on the Prohibited Entities List prior to the award of a contract and to pursue a responsibility review with respect to any Bidder/Contractor that is awarded a contract and subsequently appears on the Prohibited Entities List.

I, _____, being duly sworn, deposes and says that he/she is the _____ of the _____ Corporation and that neither the Bidder/ Contractor nor any proposed subcontractor is identified on the Prohibited Entities List.

SIGNED
SWORN to before me this _____ day of _____ 20____

Notary Public: _____

OR

**DECLARATION OF BIDDER'S INABILITY TO PROVIDE CERTIFICATION OF COMPLIANCE
WITH THE IRAN DIVESTMENT ACT**

Bidders shall complete this form if they cannot certify that the bidder /contractor or any proposed subcontractor is not identified on the Prohibited Entities List. The District reserves the right to undertake any investigation into the information provided herein or to request additional information from the bidder.

Bidder Name: _____

Bidder Address: _____

Has bidder been involved in investment activities in Iran? _____

Describe the type of activities including but not limited to the amounts and the nature of the investments (e.g. banking, energy, real estate):

If so, when did the first investment activity occur? _____

Have the investment activities ended? _____

If so, what was the date of the last investment activity? _____

If not, have the investment activities increased or expanded since April 12, 2012? _____

Has the bidder adopted, publicized, or implemented a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran? _____

If so, provide the date of the adoption of the plan by the bidder and proof of the adopted resolution, if any and a copy of the formal plan. _____

In detail, state the reasons why the bidder cannot provide the Certification of Compliance with the Iran Divestment Act below (additional pages may be attached):

I, _____, being duly sworn, deposes and says that he/she is the
_____ of the _____
Corporation and the foregoing is true and accurate.

SIGNED

SWORN to before me this _____ day of _____ 20____

Notary Public: _____

ATTACHMENT #5 – LIST OF SUBCONTRACTORS

LIST OF SUBCONTRACTORS

If bidder will be utilizing the services of Subcontractors, General Municipal law requires bidders to provide a list of Subcontractors as part of bid submission.

The bidder understands that failure to submit the required Subcontractor information on this form will result in rejection of bid, and the Company agrees to employ the Subcontractors specified below. (Use additional Sheets as necessary).

Even if the project will be self-performed by the bidder, this form must still be signed by the bidder as well as be included with the bid submission.

Note: This list of Subcontractors shall not be modified after the bid opening without a showing of good cause and the written consent of **Chappaqua Central School District**.

IF PROJECT WILL BE SELF-PERFORMED BY BIDDER, COMPLETE FOLLOWING FORM:

PROJECT TO BE SELF-PERFORMED BY BIDDER

The undersigned hereby certifies that their company/firm will be performing the work for the project exclusively without the utilization of any subcontractors.

By: _____
(Signature of Authorized Representative of Corporation)

PLEASE PRINT LEGIBLY:

Name & Title: _____

Corporation Name: _____

OR, IF PROJECT WILL BE PERFORMED BY BIDDER ALONG WITH UTILIZATION OF
SUBCONTRACTORS, COMPLETE FOLLOWING FORM:

PROJECT TO BE PERFORMED BY BIDDER UTILIZING SUBCONTRACTORS

Bidder will be utilizing the services of the following listed Subcontractors:

Type of Work	Corporate Name of Subcontractor	Subcontractor Primary Contact Name & Telephone	Subcontractor License Number (if applicable)	Work % or Dollar Amount
Masonry				
HVAC				
Electrical				
Plumbing				
Other Trade				
Other Trade				
Other Trade				

The undersigned hereby certifies that their company/firm will be utilizing the above list of Subcontractors to perform the work for the project.

By: _____
(Signature of Authorized Representative of Corporation)

PLEASE PRINT LEGIBLY:

Name & Title: _____

Company Name: _____

**** End of Proposal Form ****

SECTION 00 45 13

BIDDER QUALIFICATION STATEMENT

After receipt of bids and upon notification from the Architect, the bidder shall answer all questions set forth in the form within the time required in Article 1.07 of the Invitation and Instructions to Bidders. Failure to answer these questions in full may be cause for rejection of the bidder's proposal. If more space is required, please attach additional sheets.

1. How many years has your organization been in business under your present business name? _____
2. How many years experience in construction work of a similar type has your organization had? _____
3. List below the construction projects your organization has under way as of this date:

Contract Sum	Class of Work / %Complete	Name/Address of Owner	Name & Phone # of Contact at Owner

4. List below a minimum of three (3) projects which your firm, as a firm, has performed in the past five (5) years which you feel will qualify you for this work.

Contract Sum	Class of Work / %Complete	Name/Address of Owner	Name & Phone # of Contact at Owner

5. Have you ever failed to complete any work awarded to you?
☐ Yes ☐ No; If Yes, where and why?

6. Has any officer or partner of your organization ever been an officer or partner of some

other organization that failed to complete a construction contract?

☐ Yes ☐ No; If Yes, state:

Name of Individual(s)	Name of Owner(s)	Reason(s)

7. Has any officer or partner of your organization ever failed to complete a construction contract handled in his own name?

☐ Yes ☐ No; If yes, state:

Name of Individual(s)	Name of Owner(s)	Reason(s)

8. Has your firm or organization ever received a Notice of Default or Notice of Termination or ever been defaulted or terminated on a Project.

The undersigned hereby authorizes and requests any firm, person or corporation to furnish any information requested by the Owner or Architect in verification of the matters contained in the Bidder Qualification Statement.

Dated _____, 20____

(Name of Bidder)

By _____

Title _____

AFFIDAVIT

July 22, 2021
Construction Documents
SED #66-10-04-06-0-013-013

Chappaqua Central School District
Westorchar Elementary School
Roof Replacement

STATE OF _____)
S.S.
COUNTY OF _____)

_____ being duly sworn and says that he/she is

_____ of _____

(Name of Organization)

and that the answers to the foregoing interrogatories and all statements therein contained are true and correct.

Subscribed and sworn to before me

this _____ day of _____ 20____

Signature

Notary Public, County of _____

****End of Section****

SECTION 00 46 43

WAGE AND HOUR RATES

1.01 GENERAL

- A. The following are instructions for obtaining the minimum wage rates, health and welfare and pension fund contributions as determined by the Industrial Commissioner of the State of New York in accordance with the provisions of Section 220 of the Labor Law.
- B. All contractors will be bound and obligated by the Laws of New York State to insure payment to all workers involved with the construction of the Project.

1.02 MINIMUM WAGE RATES

- A. The current wage and benefit rates are available when following the instructions on the attached page.

The "Request for Wage and Supplement Information" (PW 39) you have submitted has been accepted, and a Prevailing Rate Case Number (PRC# 2021006471 - Westorchard ES Roof Replacmnt.) has been assigned to the project.

To access the PDF file of your schedule, click on <https://apps.labor.ny.gov/wpp/publicViewProject.do?method=showIt&id=1515985> or copy and paste into your browser

June 30, 2021 | 12:40 pm

COVID-19 Updates

The COVID-19 vaccine is here. It is safe, effective and free. Walk in to get vaccinated at sites across the state. Continue to mask up and stay distant where directed.

GET THE FACTS >**Prevailing Wage**
[Wage Schedule](#) · [Submit Notice Of Award](#) · [Submit Notice Of Project Completion](#)
PRC#: 2021006471**Type of Contracting Agency:** Local School District**Acceptance Status:** Accepted Article 8**Contracting Agency**

Chappaqua CSD
John Chow
Asst. Superintendent for Bus.
66 Roaring Brook Road
Chappaqua NY 10514

(914) 238-7200
jochow@chappaquaschools.org

Send Reply To

Ryan Carper
Project Architect
KG+D Architects, PC
285 Main Street
Mount Kisco NY 10549

(914) 666 -5900
rcarper@kgdarchitects.com

Project Information

Project Title Westorcharde ES Roof Replacmnt.
Description of Work Replace roof and related work
Contract Id No. 2021-1039
Project Location(s) Westorcharde Elementary School
Route No / Street Address 25 Granite Road
Village / City
Town Chappaqua
State / Zip NY 10514
Nature of Project Other Reconstruction, Maintenance, Repair or Alteration
Approximate Bid Date 07/30/2021
Checked Occupation(s) Construction (Building, Heavy & Highway, Sewer, Water, Tunnel)

Applicable Counties

Westchester

Department of Labor**Accessibility****Contact****Language Access****Privacy Policy**



AIA[®] Document A132[™] – 2009

Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition

AGREEMENT made as of the _____ day of _____ in the year Two-Thousand Twenty-One
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514
Telephone: 914.238.7200

and the Contractor:
(Name, legal status, address and other information)

Telephone:

for the following Project:
(Name, location and detailed description)

Westorchard Elementary School Roof Replacement
25 Granite Road, Chappaqua, NY 10514
SED #66-04-01-06-0-013-013

The Construction Manager:
(Name, legal status, address and other information)

N/A

The Architect:
(Name, legal status, address and other information)

KG+D Architects, PC
285 Main Street
Mount Kisco, NY 10549
Telephone: 914.666.5900

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Documents A232[™]–2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition; B132[™]–2009, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132[™]–2009, Standard Form of Agreement Between Owner and Construction Manager as Adviser. ^AIA Document A232[™]–2009 is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

Init.

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User Notes:

(791696986)

TABLE OF ARTICLES

1	THE CONTRACT DOCUMENTS
2	THE WORK OF THIS CONTRACT
3	DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
4	CONTRACT SUM
5	PAYMENTS
6	DISPUTE RESOLUTION
7	TERMINATION OR SUSPENSION
8	MISCELLANEOUS PROVISIONS
9	ENUMERATION OF CONTRACT DOCUMENTS
10	INSURANCE AND BONDS

EXHIBIT A DETERMINATION OF THE COST OF THE WORK

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. An enumeration of the Contract Documents, other than Modifications, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be the date of this Agreement unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner.

(Insert the date of commencement, if it differs from the date of this Agreement or, if applicable, state that the date will be fixed in a notice to proceed.)

As per the Milestone Schedule found in Division 01 of the Specifications included in Exhibit A – the Bid Package with Project Manual dated **TBD** – Cover and Index attached.

If, prior to the commencement of the Work, the Owner requires time to file mortgages, mechanics' liens and other security interests, the Owner's time requirement shall be as follows:

N/A

§ 3.2 The Contract Time shall be measured from the date of commencement.

§ 3.3 The Contractor shall achieve Substantial Completion of the entire Work as follows:

(Insert number of calendar days. Alternatively, a calendar date may be used when coordinated with the date of commencement. If appropriate, insert requirements for earlier Substantial Completion of certain portions of the Work.)

As per the Milestone Schedule found in Division 01 of the Specifications included in Exhibit A – the Bid Package with Project Manual dated **TBD** – Cover and Index attached

(Table deleted)

, subject to adjustments of this Contract Time as provided in the Contract Documents.

(Insert provisions, if any, for liquidated damages relating to failure to achieve Substantial Completion on time or for bonus payments for early completion of the Work.)

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be one of the following:

(Check the appropriate box.)

- ☒ **[X]** Stipulated Sum, in accordance with Section 4.2 below
- ☐ **[]** Cost of the Work plus the Contractor's Fee without a Guaranteed Maximum Price, in accordance with Section 4.3 below
- ☐ **[]** Cost of the Work plus the Contractor's Fee with a Guaranteed Maximum Price, in accordance with Section 4.4 below

(Based on the selection above, complete Section 4.2, 4.3 or 4.4 below. Based on the selection above, also complete either Section 5.1.4, 5.1.5 or 5.1.6 below.)

§ 4.2 Stipulated Sum

§ 4.2.1 The Stipulated Sum shall be _____ and 00/100 Dollars (\$ _____ .00), subject to additions and deletions as provided in the Contract Documents.

§ 4.2.2 The Stipulated Sum is based on the following alternates, if any, which are described in the Contract Documents and are hereby accepted by the Owner:

(State the numbers or other identification of accepted alternates. If the bidding or proposal documents permit the Owner to accept other alternates subsequent to the execution of this Agreement, attach a schedule of such other alternates showing the amount for each and the date when that amount expires.)

§ 4.2.3 Unit prices, if any:

(Identify and state the unit price, and state the quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit (\$0.00)

§ 4.2.4 Allowances included in the Stipulated Sum, if any:

(Identify allowance and state exclusions, if any, from the allowance price.)

Item	Allowance	Amount

§ 4.3 Cost of the Work Plus Contractor's Fee without a Guaranteed Maximum Price – article deleted

(Paragraph deleted)

(Table deleted)

(Paragraphs deleted)

§ 4.4 Cost of the Work Plus Contractor's Fee with a Guaranteed Maximum Price – article deleted

(Table deleted)

(Paragraphs deleted)

Init.

§ 4.4.7 Guaranteed Maximum Price – article deleted

(Paragraphs deleted)

(Table deleted)

(Paragraphs deleted)

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor, and upon certification of the Project Application and Project Certificate for Payment or Application for Payment and Certificate for Payment by the Architect and issuance by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month.

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the fifteenth (15th) day of a month, the Owner shall make payment of the certified amount in the Application for Payment to the Contractor not later than the fifteenth (15th) day of the following month. If an Application for Payment is received by the Architect after the application date fixed above, payment shall be made by the Owner not later than forty-five (45) days after the Architect receives the Application for Payment.

(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Progress Payments Where the Contract Sum is Based on a Stipulated Sum

§ 5.1.4.1 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work and be prepared in such form and supported by such data to substantiate its accuracy as the Architect may require. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.4.2 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.4.3 Subject to the provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

- .1 Take that portion of the Contract Sum properly allocable to completed Work as determined by multiplying the percentage completion of each portion of the Work by the share of the total Contract Sum allocated to that portion of the Work in the schedule of values, less retainage of five percent (5 %). Pending final determination of cost to the Owner of changes in the Work, amounts not in dispute may be included as provided in Section 7.3.9 of the General Conditions;
- .2 Add that portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction (or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing), less retainage of five percent (5 %);
- .3 Subtract the aggregate of previous payments made by the Owner; and
- .4 Subtract amounts, if any, for which the Construction Manager or Architect has withheld or nullified a Certificate for Payment as provided in Section 9.5 of the General Conditions.

§ 5.1.4.4 The progress payment amount determined in accordance with Section 5.1.4.3 shall be further modified under the following circumstances:

- .1 If final completion of the Work is thereafter materially delayed through no fault of the Contractor, any additional amounts payable in accordance with Section 9.10.3 of the General Conditions.

§ 5.1.4.5 Reduction or limitation of retainage, if any, shall be as follows:

(If it is intended, prior to Substantial Completion of the entire Work, to reduce or limit the retainage resulting from the percentages inserted in Sections 5.1.4.3.1 and 5.1.4.3.2 above, and this is not explained elsewhere in the Contract Documents, insert here provisions for such reduction or limitation.)

Upon Substantial Completion, the Owner shall make payment of retainage. Such payment shall be net of an amount equal to 200% of the value of all punch list items and unsettled claims, which amount will be held by the Owner until final completion of the work in accordance with the Contract Documents is achieved.

§ 5.1.5 Progress Payments Where the Contract Sum is Based on the Cost of the Work without a Guaranteed Maximum Price – article deleted

(Paragraphs deleted)

§ 5.1.6 Progress Payments Where the Contract Sum is Based on the Cost of the Work with a Guaranteed Maximum Price – article deleted

(Paragraphs deleted)

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

- .1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Section 12.2 of AIA Document A232–2009, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment or Project Certificate for Payment has been issued by the Architect; such final payment shall be made by the Owner not more than 30 days after the issuance of the final Certificate for Payment or Project Certificate for Payment.

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Owner shall appoint a representative who will serve as Initial Decision Maker pursuant to Section 15.2 of AIA Document A232–2009.

(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Section 15.3 of AIA Document A232–2009, the method of binding dispute resolution shall be as follows:

(Check the appropriate box. If the Owner and Contractor do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.)

☒ Litigation in a court of competent

(Paragraphs deleted)

jurisdiction in Westchester County, NY

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 Where the Contract Sum is a Stipulated Sum

§ 7.1.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A232–2009.

§ 7.1.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A232–2009.

(Paragraphs deleted)

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A232–2009 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate in effect on the date when the interest is made, and the interest rate, notwithstanding any other provision of the law to the contrary, shall be computed at the rate equal to the overpayment rate set by the Commissioner of Taxation and Finance, pursuant to N.Y. Tax Law § 1096 (e).
(Insert rate of interest agreed upon, if any.)

§ 8.3 The Owner's representative:
(Name, address and other information)

TBD, Assistant Superintendent for Business
Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514
Telephone: 914.238.7200 (x1006)

§ 8.4 The Contractor's representative:
(Name, address and other information)

Telephone:

§ 8.5 Neither the Owner's nor the Contractor's representative shall be changed without ten days written notice to the other party.

§ 8.6 Other provisions:

None

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 The Contract Documents, except for Modifications issued after execution of this Agreement, are enumerated in the sections below.

§ 9.1.1 The Agreement is this executed AIA Document A132–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition.

§ 9.1.2 The General Conditions are AIA Document A232–2009, General Conditions of the Contract for Construction, Construction Manager as Adviser Edition.

§ 9.1.3 The Supplementary and other Conditions of the Contract:

(Table deleted)

Those contained in Exhibit A, the Bid Package with Project Manual – Cover and Index and Title Drawing Sheet – attached, dated **TBD**.

§ 9.1.4 The Specifications:
(Either list the Specifications here or refer to an exhibit attached to this Agreement.)

Those contained in Exhibit A, the Bid Package with Project Manual – Cover and Index – attached, dated **TBD**.
(Table deleted)

§ 9.1.5 The Drawings:
(Either list the Drawings here or refer to an exhibit attached to this Agreement.)

Those contained in Exhibit A, the Bid Package with Project Manual – Drawing Title Sheet – attached, **TBD**.
(Table deleted)

§ 9.1.6 The Addenda, if any:

Init.

Portions of Addenda relating to bidding requirements are not part of the Contract Documents unless the bidding requirements are also enumerated in this Article 9.

§ 9.1.7 Additional documents, if any, forming part of the Contract Documents are:

.1 AIA Document A232™–2009, General Conditions of the Contract for Construction.

.2

(Paragraphs deleted)

Other documents, if any, listed below:

(List here any additional documents which are intended to form part of the Contract Documents. AIA Document A232–2009 provides that bidding requirements such as advertisement or invitation to bid, Instructions to Bidders, sample forms and the Contractor's bid are not part of the Contract Documents unless enumerated in this Agreement. They should be listed here only if intended to be part of the Contract Documents.)

Exhibit A – Bid Package with Project Manual dated **TBD** – Specifications Cover and Index, and Drawing Title Sheet

Exhibit B – Addendum List

Exhibit C – Contractor's Bid Form

Exhibit D – Insurance Requirements

ARTICLE 10 INSURANCE AND BONDS

The Contractor shall purchase and maintain insurance and provide bonds as set forth in Article 11 of AIA Document A232–2009 General Conditions. Additional Insurance requirements are outlined in Exhibit D – Insurance Requirements.

(State bonding requirements, if any, and limits of liability for insurance required in Article 11 of AIA Document A232–2009.)

(Table deleted)

This Agreement is entered into as of the day and year first written above.

OWNER *(Signature)*

President

(print name)

CCSD Board of Education

(Printed name and title)

CONTRACTOR *(Signature)*

, President

(Printed name and title)

Exhibit A

BID PACKAGE WITH PROJECT MANUAL

Exhibit B

LIST OF ADDENDA

Exhibit C

CONTRACTOR'S BID RESPONSE FORMS

Exhibit D

INSURANCE REQUIREMENTS
Insurance to be Provided by Contractor

EXHIBIT D
INSURANCE REQUIREMENTS

Insurance to be Provided by Contractor

A. Required Coverage. Contractor shall purchase and maintain insurance of the following types of coverage and limits of liability (the “Policies”):

1. *Commercial General Liability* (“CGL”) coverage with primary limits of insurance of not less than **\$1,000,000** for each occurrence and **\$2,000,000** in the aggregate.

- a. If the CGL coverage contains a General Aggregate Limit, such General Aggregate shall apply separately to each project.
- b. CGL coverage shall be written on ISO Occurrence form CG 00 01 10/01 or a substitute form, approved by the Owner, providing equivalent coverage and shall cover liability arising from premises, operations, independent contractors, products-completed operations, residential projects (if applicable) and personal and advertising injury.
- c. CGL coverage shall be issued on an “Occurrence” basis. “Claims Made” coverage is not acceptable.
- d. The certificate of insurance must describe the specific services provided by the contractor (e.g., roofing, carpentry, and plumbing) that are covered by CGL.
- e. Defense costs shall be outside of policy limits. Eroding limits coverage is not acceptable.
- f. Owner and all additional insureds listed in **Section B 9.** below, shall be included as additional insureds on the CGL, using ISO Additional Insured Endorsement CG 20 10 (11 85) or a combination of CG 20 10 (10 01) & CG 20 37 (10 01), or an endorsement approved by the Owner providing equivalent or broader coverage to the additional insureds.
 - (1) The additional insured endorsement shall not require privity of contract with the named insured.
 - (2) The coverage provided to the additional insureds shall be at least as broad as the coverage provided to the Contractor under the policy.
 - (3) Coverage for the additional insureds shall apply as primary and non-contributing insurance before any other insurance or self-insurance, including any deductible, maintained by, or provided to, the additional insureds. Therefore coverage provided the additional insureds shall not require or contemplate contribution by any other policy or policies obtained by, or available to, and additional insured; any other such coverage shall be excess over the coverage to be provided by the Contractor.
- g. Contractor 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 six (6) years after final completion of the Work.
- h. The CGL coverage shall not contain any “Montrose” language.

EXHIBIT D – INSURANCE REQUIREMENTS

Insurance to be Provided by Contractor

- i. The only acceptable Professional Liability exclusion is CG 22 79 07 98 (or its equivalent).
- j. CGL coverage shall not exclude bodily injury to employees or contain any so-called “Labor Law” exclusions.
- k. CGL coverage shall not exclude work at specific heights or otherwise contain any “Scaffold Law” exclusion.
- l. CGL coverage shall not exclude losses from “earth movement” or contain any endorsement excluding coverage for XCU (Explosion, Collapse, or Underground).
- m. The CGL coverage shall not contain any deductible that exceeds \$10,000.00. If the CGL contains a deductible, the Contractor shall be responsible for the deductible amount for any paid claim.
- n. Contractor shall provide a completed ACORD 855 endorsement.

2. *Automobile Liability*

- a. Business Auto Liability with limits of at least **\$1,000,000** combined single limit.
- b. Business Auto coverage must include coverage for liability arising out of all owned, leased, hired and non-owned automobiles.
- c. Owner, and all other parties required by the Owner, shall be included as insureds on the Business Auto policy. The Business Auto policy shall be primary and non-contributory to any applicable coverage acquired by the Owner, and all required parties.

3. *Commercial Umbrella*

- a. Umbrella limits must be at least **\$5,000,000**.
- b. Umbrella coverage must include as insureds all entities that are additional insureds on the CGL.
- c. The certificate of insurance must describe the specific services provided by the contractor (e.g., roofing, carpentry, and plumbing) that are covered by the policy.
- d. Umbrella coverage for such additional insureds shall apply as primary and non-contributing insurance before any other insurance (whether issued on a primary or excess basis) or self-insurance, including any deductible, maintained by, or provided to, the additional insured other than the CGL, Automobile Liability, and Employers Liability coverages maintained by the Contractor.
- e. Umbrella coverage shall “follow form” to the CGL and shall not otherwise have exclusions for residential projects, territorial limitations, bodily injury to employees, Labor Law exclusion, work at heights exclusion, Scaffold Law exclusion, or any other exclusion deemed unacceptable to the Owner.
- f. Umbrella coverage shall have the same inception dates as the underlying liability policies, and shall be maintained throughout the course of the Project (i.e. ongoing operations) and thereafter shall provide completed operations coverage for a period of six (6) years following the final completion of the Work.

4. *Workers Compensation and Employers Liability*

- a. Workers’ Compensation Insurance Coverage for all of Contractor’s workers at the site of the Project, with statutory required limits. Contractor shall require all of

EXHIBIT D – INSURANCE REQUIREMENTS

Insurance to be Provided by Contractor

Subcontractors to provide Workers' Compensation insurance for all the Subcontractor's employees unless such employees are covered by the protection afforded by the Contractor.

- b. Employers Liability Insurance limits of at least **\$500,000** each accident for bodily injury by accident and **\$500,000** each employee for injury by disease.

5. *Pollution Insurance*

- a. If any abatement work is within the Contractor's scope of work, Contractor shall be required to provide Contractors Pollution Liability ("CPL") insurance providing liability and defense coverage for bodily injury and property damage from any work that involves abatement, removal, replacement, repair, enclosure, encapsulation, demolition and/or disposal of any hazardous material or substance, including, but not limited to, asbestos and lead hazards.
- b. The CPL insurance shall remain in force for both on-site and off-site exposures.
- c. The CPL coverage shall contain limits of **\$2,000,000** per occurrence and **\$2,000,000** aggregate.
- d. The CPL insurance shall be issued on an "occurrence" basis and shall be for a term of no less than ten (10) years.
- e. If Underground Storage Tanks ("USTs") work is within the Contractor's scope, the CPL insurance must apply to losses involving unknown USTs.
- f. The CPL coverage must include a definition of "property damage" that includes diminution in value of third-party property.
- g. The CPL coverage must apply to pollution from products brought onto the work site where Work is being performed.
- h. The CPL coverage must contain a definition of "stop loss" or "cleanup cost cap" that includes monitoring activities.
- i. The CPL coverage must contain a definition of "cleanup costs" that includes any costs associated with natural resources damages.
- j. The CPL coverage must contain a statement that exclusions for modifications of remedial action plans ("RAP") shall not include changes required by regulatory agencies (either via a change in regulation, or as a result of governmental entity oversight, increased levels or quantities of pollutants within the boundary of the RAP, discovery of pollutants not identified in the exclusion, and amendments to the RAP because of a change in technological approach).
- k. If the Contractor's scope of work does not include any abatement, Contractor shall not be required to provide CPL insurance.

6. *Professional Liability*

- a. If Contractor is providing design, engineering and/or any other professional services, Contractor shall provide and maintain professional liability insurance having minimum limits of no less than **\$2,000,000** per claim, **\$2,000,000** aggregate. Coverage will be maintained for the duration of the Project and thereafter for a period of six (6) years following the final completion of the Work.

7. *Personal Property*

EXHIBIT D – INSURANCE REQUIREMENTS

Insurance to be Provided by Contractor

- a. Contractor shall secure, pay for, and maintain “all risk” Property Insurance necessary for protection against the loss of all capital equipment and tools, including but not limited to: staging towers, forms, scaffolding, hoists, and cranes, that are owned, leased, borrowed or rented by Contractor (or its employees), or by any of its Subcontractors (or their employees).
- b. Contractor shall also secure, pay for, and maintain Business Property Insurance and/or Business Income Coverage adequate to protect against the loss of its computers, peripheral devices, media, computer equipment, data and software. Coverage should be provided for the costs to research, replace or repair lost or damaged data and software as a result of covered damage to, among other things, computer equipment, certain power failures, or a computer virus. The requirement to secure and maintain such insurance is solely for the benefit of Contractor.
- c. Owner shall not be liable for any loss or damage whatsoever to Personal Property owned, leased, borrowed or rented by Contractor, as described in **Sub-Sections a. and b.** above.
- d. The policy above shall contain a waiver of subrogation in favor of the Owner.
- e. Failure of Contractor to secure such insurance as described in **Sub-Sections a. and b.** above, or failure to maintain adequate levels of such, coverage, shall not render the Owner or any of its respective agents and employees legally liable or otherwise responsible for any personal property losses by Contractor.

8. Other Required Insurance

- a. Notwithstanding any other provision of the Contract Documents, Owner may require Contractor to provide, at Contractor’s expense, any other form or limit of insurance necessary to secure the interests of Owner. Owner will provide advanced written notice to Contractor of any such changes.

B. General Requirements. Each of the Policies identified above in **Section A**, are subject to the following terms and conditions:

1. ***New York State Authorized.*** All of the Contractor’s insurance policies naming the Owner as an additional insured shall be from an A.M. Best rated “secured” or better insurer, authorized to conduct business in New York State. A New York licensed insurer is preferred.
2. ***Waiver of Subrogation.*** Contractor waives all rights against Owner, Construction Manager, Architect and their respective agents, officers, directors, consultants and employees for recovery of damages to the extent these damages are covered by any of the insurance policies maintained per the requirements stated above.
3. ***Retention of Subcontractors.*** Contractor shall not sublet any part of its work without written approval from the Owner. Contractor shall not sublet any part of its work without assuming full responsibility for requiring similar insurance from its Subcontractors and shall submit satisfactory evidence to that effect to the Owner. Contractor shall require that Subcontractors procure and maintain insurance coverage commensurate with the level of services it shall provide and as may be required in writing by the Owner and/or

EXHIBIT D – INSURANCE REQUIREMENTS

Insurance to be Provided by Contractor

its agent, and subject to the same terms and conditions as are provided in this Exhibit. Contracts with Subcontractors will specifically require additional insured status for the Owner.

4. **NYSIR.** The Owner is a member of the New York Schools Insurance Reciprocal (“NYSIR”). The Contractor further acknowledges that the procurement of such insurance as required herein is intended to benefit not only the Owner, but also NYSIR as the Owner’s insurer.
5. ***Additional Insured Coverage.*** Except as to the Workers Compensation Policy and any acquired Professional Liability Policy, each policy of insurance acquired by Contractor pursuant to the Contract Documents shall include the Owner, and the parties identified in **Section B 9.** below as additional insureds.
 - a. Any coverage afforded to Owner shall be primary and non-contributory to any coverage insuring the Owner as a named insured, regardless of whether such coverage is issued on a primary or excess basis.
 - b. Additional insured status for the Owner must include both on-going and completed operations with confirmation of that written in the description section of the certificate of insurance.
 - c. The presence of engineers, inspectors or other employees or agents of the Owner at the Project shall not invalidate coverage afforded to the additional insureds.
 - d. Violation of any of the terms of the policies in question by one additional insured or the named insured shall not invalidate this policy as to another additional insured.
6. ***Evidence of Insurance.*** Contractor is to provide the Owner with a certificate of insurance, evidencing the above requirements have been met, and the completed ACORD 855 endorsement, prior to the commencement of the Work or use of Owner’s facilities. At the Owners request, Contractor shall provide a copy of the declaration page of the liability and umbrella policies with a list of endorsements and forms. If so requested by the Owner or Construction Manager, Contractor will provide a copy of the policies (including policy endorsements and forms) obtained by Contractor in compliance with this Exhibit.
7. **Contractor Non-Compliance.**
 - a. At any time that the coverage provisions and limits on the policies required under the Contract Documents fail to meet the provisions and limits set forth above, Contractor shall immediately cease work on the Project. Contractor shall not resume work on the Project until authorized to do so by Owner. Any delay or time lost as a result of Contractor not having the required insurance shall not give rise to a Claim, as defined in the Contract Documents, against Owner.
 - b. Should Contractor fail to provide or maintain any insurance required by the Contract Documents, such failure shall constitute a material breach of the Contract, and the Owner may, at its discretion, exercise any of the following options:
 - (1) declare the Contract void and of no cause;

EXHIBIT D – INSURANCE REQUIREMENTS

Insurance to be Provided by Contractor

- (2) terminate the Contractor for cause;
 - (3) purchase insurance complying with the requirements of this Contract Documents and charge back such purchase to Contractor or otherwise withhold payment due to Contractor; or
 - (4) purchase a Contractor's protective policy, or other similar policy, that affords coverage and limits providing reasonably equivalent protections as Owner would have received if the insurance required of Contractor (and its Subcontractors) had been maintained, the cost of which shall be charged back to Contractor.
- c. Owner's election of any of the above-mentioned remedies, or its decision not to undertake any such remedies on any given instance of Contractor non-compliance, shall be without prejudice and shall not constitute a waiver of any contractual or legal remedies otherwise available to the Owner.

8. Non-Waiver by Owner.

- a. Neither the procurement nor the maintenance of any type of insurance by the Owner or the Contractor shall in any way be construed or deemed to limit, discharge, waive or release Contractor from any of the obligations or risks accepted by Contractor or to be a limitation on the nature or extent of said obligations and risks.
- b. Contractor and its Subcontractors shall not violate, or permit to be violated, any term or condition of their insurance policies, and shall at all times satisfy the safety requirements of the Owner, and of the insurance companies issuing such policies.
- c. The Contractor agrees that the failure of the Owner to enforce any of the terms of the Contract Documents shall not waive the responsibility of the Contractor to comply with these conditions and requirements. In the event the Contractor shall fail or refuse to obtain and maintain all the foregoing insurance coverage, then at the sole option of the Owner, the Owner shall have the absolute right to terminate the Contract or to purchase insurance complying with the requirements of the Contract Documents and charge back such purchase or premium price to the Contractor.

9. Additional Insureds. Notwithstanding any terms, conditions or provisions, in any other writing between the parties, the Contractor hereby agrees to effectuate the naming of the following as an unrestricted additional insureds on the Contractor's insurance policies, with the exception of Workers' Compensation. Additional insured status shall be provided by ISO endorsement CG 20 10 11 85 or equivalent. The certificate of insurance must state that this endorsement is being used, and a copy of the endorsement must be attached to the certificate of insurance.

- a. The Chappaqua Central School District;
- b. Members of the Board of the Chappaqua Central School District, any of the Owner's administrators, staff or employees, and the successors, assigns, affiliates, partners, agents, heirs, and personal representatives of each of the foregoing;
- c. School Construction Consultants, Inc. and any consultants or sub-consultants of School Construction Consultants, Inc., and any partner, member, officer or

EXHIBIT D – INSURANCE REQUIREMENTS

Insurance to be Provided by Contractor

employee of each of the foregoing, and affiliates, agents, heirs, and personal representatives of the same;

- d. KG+D Architects, PC and any consultants or sub-consultants of KG+D Architects, PC, and any partner, member, officer or employee of each of the foregoing, and affiliates, agents, heirs, and personal representatives of the same; and
- e. Additional individuals and entities as the Owner may so name.

SECTION 00 61 00

BOND REQUIREMENTS

SEE SECTION 00 61 01 FOR ACCEPTABLE BONDING COMPANY RATINGS

- 1.01 Prior to the Owner signing the contract agreement, he will require the Contractor (s) to furnish separate performance and labor and material payment bonds covering the faithful performance of the entire construction contract agreement.

The performance bond and the labor and material payment bond shall each be made out in one hundred percent (100%) of the guaranteed maximum contract amount.

- 1.02 The "Performance Bond" and "Labor and Material Payment Bond", A.I.A. Document A-312, as published by The American Institute of Architects shall be used and modified, if necessary, to comply with applicable statutes.

NOTE: Date of forms to be used shall be complementary to the date of the contract form and general conditions incorporated within these Bidding and Contract Requirements.

- 1.03 The bonds shall be signed by an official of the bonding company and shall be accompanied by the bonding agent's written power of attorney.
- 1.04 Provide four (4) copies each of the bonds and the power of attorney in order that one (1) copy of each may be attached to each copy of the contract agreement.
- 1.05 The Contractor (s) shall include in his proposal amount the total premiums for the performance and labor and material payment bonds.

****End of Section****

Attachment To Section 00 61 00 - Bonding Requirements

Acceptable Bonding Company Ratings

Contract Amounts (\$)	A.M. Best Company Rating							
	A + XII	B + XI	B + X	B X	B IX	B VIII	B VII	B VI
10 Million and Over	▲							
7.5 to 10 Million	▲	▲						
5.0 to 7.5 Million	▲	▲	▲					
2.5 to 5.0 Million	▲	▲	▲	▲				
1.0 to 2.5 Million	▲	▲	▲	▲	▲			
0.5 to 1.0 Million	▲	▲	▲	▲	▲	▲		
0.25 to 0.5 Million	▲	▲	▲	▲	▲	▲	▲	
0.25 and Under	▲	▲	▲	▲	▲	▲	▲	▲



AIA® Document A310™ – 2010

Bid Bond

CONTRACTOR:

(Name, legal status and address)

TBD

SURETY:

(Name, legal status and principal place of business)

TBD

OWNER:

(Name, legal status and address)

Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514

BOND AMOUNT: \$**PROJECT:**

Roof Replacement
Westorchard Elementary School
25 Granite Road
Chappaqua, NY 10514

SED #66-04-01-06-0-013-013

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or

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User Notes:

(1634815604)

legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this day of ,

(Witness)

(Witness)

(Contractor as Principal)

(Seal)

(Title)

(Surety)

(Seal)

(Title)

Init.

/



AIA[®] Document A312[™] – 2010

Payment Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)
Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

Roof Replacement
Westorchard Elementary School
25 Granite Road
Chappaqua, NY 10514

SED #66-04-01-06-0-0-013-013

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: ☐ None ☐ See Section 18

(Paragraphs deleted)

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

SURETY

Company: (Corporate Seal)

Signature: _____

Name and

Title:

(Any additional signatures appear on the last page of this Payment Bond.)

Signature: _____

Name and

Title:

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:
OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

KG+D Architects, PC
285 Main Street
Mount Kisco, NY 10549
914.666.5900

(Row deleted)

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

Init.

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

§ 7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- .1 the name of the Claimant;
- .2 the name of the person for whom the labor was done, or materials or equipment furnished;
- .3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- .4 a brief description of the labor, materials or equipment furnished;
- .5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- .6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- .7 the total amount of previous payments received by the Claimant; and
- .8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____ (Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____

SURETY

Company: _____ (Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____



AIA® Document A312™ – 2010

Performance Bond

CONTRACTOR:

(Name, legal status and address)

SURETY:

(Name, legal status and principal place of business)

OWNER:

(Name, legal status and address)

Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514

CONSTRUCTION CONTRACT

Date:

Amount: \$

Description:

Roof Replacement
Westorchard Elementary School
25 Granite Road
Chappaqua, NY 10514

SED #66-04-01-06-0-0-013-013

6

BOND

Date:

(Not earlier than Construction Contract Date)

Amount: \$

Modifications to this Bond: ☐ None ☐ See Section 16

CONTRACTOR AS PRINCIPAL

Company: (Corporate Seal)

SURETY

Company: (Corporate Seal)

Signature: _____

Name and

Title:

(Any additional signatures appear on the last page of this Performance Bond.)

Signature: _____

Name and

Title:

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

KG+D Architects, PC
285 Main Street
Mount Kisco, NY 10549
914.666.5900

(Row deleted)

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

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§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the

Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____

SURETY

Company: _____
(Corporate Seal)

Signature: _____
Name and Title: _____
Address: _____

Init.

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SECTION 00 63 00

REQUESTS FOR INFORMATION (RFI)

Part 1 - GENERAL

- 1.01 This document is for issuance at the Post Bid/Pre-Construction Conference and specifies administrative and procedural requirements for handling requests for information (RFI's) made after award of Contract.
- 1.02 Attention is directed to Sections 01 33 00 and 01 32 00 of Division #1 as same concerns construction progress schedules, submittal schedules and submittals of shop drawings, samples and product data in general.
- 1.03 SUBMITTAL PROCEDURES: RFI's shall be submitted in the following manner:
- A. One (1) completed copy of form following to Architect with copies to Owner (as directed) and appropriate Consultants with the following minimum information:
 - 1. Work identified by RFI listing affected Drawing(s) and specific detail(s) and Specification paragraph reference(s).
 - 2. Identify specific field conditions and "as-built" conditions on sketches attached to RFI submittal.
 - 3. If RFI addresses conflict(s) in, or between, Contract Documents, describe completely and provide such data necessary to permit thorough and proper response by affected discipline.
 - 4. Indicate proposed solution along with any impacts on cost and construction time.
 - 5. Listing of Trade/Specialty Contractors affected by RFI and indication that RFI proposal has been coordinated with said contractors.

INCOMPLETE RFI's WILL BE RETURNED TO CONTRACTOR WITHOUT ACTION TAKEN.

- 1.04 REVIEW PROCEDURES/ACTIONS
- A. Architect/Engineer may request additional information or documentation as may be deemed necessary for fair evaluation of RFI.
 - B. Architect/Engineer will respond with reasonable promptness as outlined in Section 01 33 00 in writing and may, if deemed appropriate, issue a "Bulletin" as a clarification to the Contract Documents.

****End of Section****

Date of Request: _____ **RFI NUMBER** _____

Contractor:		Architect: KG+D Architects, PC	
Address:		Address: 285 Main St., Mt. Kisco, NY 10549	
Telephone:		Telephone: 914.666.5900	
Fax:		Fax: 914.666.0051	
Email:		Email:	
Project Name:		Project Location:	
Description <i>(complete with backup data as necessary attached hereto):</i> 			
Sketches of Conditions	Spec Reference:	Drawing Reference:	
Proposed Solution: 			
Cost Impact:		Time Impact:	
Trade/Specialty Contractors Affected:			
Trade/Specialty Contractors Coordinated With:			
Submitted By:			
Architect's Response: 			
Response By:		Date of Response:	

 AIA[®] Document A232[™] – 2009**General Conditions of the Contract for Construction, Construction Manager as Adviser Edition****for the following PROJECT:***(Name, and location or address)*

Westorchard Elementary School Roof Replacement
25 Granite Road
Chappaqua, NY 10514
SED #66-10-04-06-0-013-013

THE CONSTRUCTION MANAGER:*(Name, legal status and address)*

NA

THE OWNER:*(Name, legal status and address)*

Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, New York, 10514

THE ARCHITECT:*(Name, legal status and address)*

KG+D Architects, PC
285 Main Street
Mount Kisco, New York 10549

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This document is intended to be used in conjunction with AIA Documents A132[™]–2009, Standard Form of Agreement Between Owner and Contractor, Construction Manager as Adviser Edition; B132[™]–2009, Standard Form of Agreement Between Owner and Architect, Construction Manager as Adviser Edition; and C132[™]–2009, Standard Form of Agreement Between Owner and Construction Manager as Adviser.

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents. The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement), and consist of the Agreement (including all Exhibits attached thereto), this A232-2009, General Conditions of the Contract ("General Conditions"), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, or (3) a Construction Change Directive.

§ 1.1.2 The Contract. The Contract Documents form the Contract for Construction. The "Contract" represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification by written amendment signed by both parties hereto or by the terms of the Contract Documents. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and the Construction Manager or the Construction Manager's consultants, (3) between the Owner and the Architect or the Architect's consultants, (4) between the Contractor and the Construction Manager or the Construction Manager's consultants, (5) between the Owner and a Subcontractor or Sub-subcontractor (6) between the Construction Manager and the Architect, or (7) between any persons or entities other than the Owner and Contractor. The Construction Manager and Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of their duties.

§ 1.1.2.1 No obligation of the Architect to the Owner, pursuant to its separate agreement with the Owner, shall be construed as intended for the benefit of the Contractor. Nothing in the Contract Documents shall create or give rise to any duty whatsoever on the part of the Architect to the Contractor.

§ 1.1.2.2 No obligation of the Construction Manager to the Owner, pursuant to its separate agreement with the Owner, shall be construed as intended for the benefit of the Contractor. Nothing in the Contract Documents shall create or give rise to any duty whatsoever on the part of the Construction Manager to the Contractor.

§ 1.1.3 The Work. The term "Work", without limitation, means the construction and services required by the Contract Documents to be performed by the Contractor, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations in the preparation, prosecution and full and timely completion of the Project in conformity with the Contract Documents and all federal, state and local statutes, laws, codes, rules, regulations and requirements in effect during the term hereof and applicable to the performance of the Work. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project. The "Project" is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by other Multiple Prime Contractors and by the Owner's own forces, including persons or entities under separate contracts not administered by the Construction Manager.

§ 1.1.5 The Drawings. The "Drawings" are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 The Specifications. The "Specifications" are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service. Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker. The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2.

Init.

§ 1.1.9 Final Completion. The date the Contract has been fully performed, all the Work has been completed and a final Certificate for Payment approved by the Construction Manager has been issued to the Owner.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. Should any of the Contract Documents be inconsistent in themselves or with each other, the Contractor shall request written clarification from the Construction Manager and/or the Architect and/or the Owner to resolve any such inconsistency. Where a typical or representative detail is shown in the Drawings, such detail shall constitute the standard of workmanship and materials throughout corresponding portions of the Work in a manner that is satisfactory to the Construction Manager and the Owner.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.4 All Work indicated in the Contract Documents shall be performed by the Contractor as part of this Contract unless it is specifically indicated in the Contract Documents that such Work is to be done by others.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.4.1 Severability. In the event that any term or provision, or part thereof, of this General Conditions and the Contract Documents is held to be illegal, invalid or unenforceable under applicable law by a court of competent jurisdiction, such term or provision, or part thereof, shall be deemed ineffective, to the extent of such invalidity or unenforceability only, and severed from this General Conditions and/or the Contract Documents and the remaining term(s) and provision(s) shall remain unaffected thereby.

§ 1.4.2 Captions. Titles or captions of Articles, Sections, and Exhibits contained in this General Conditions and the Contract Documents are inserted only as a matter of convenience and for reference, and in no way define, limited, extend or describe the scope of this General Conditions or the Contract Documents or the intent of any provision hereof. All Exhibits referenced in the Agreement are deemed attached hereto and incorporated in the Agreement by reference.

§ 1.5 Ownership and Use of Drawings, Specifications and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights. The Contractor, Subcontractors, sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect, or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The

Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect's consultants.

§ 1.6 Transmission of Data in Digital Form

If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions, unless otherwise already provided in the Agreement or the Contract Documents.

§ 1.7 Public Communication / Confidentiality – Use and Disclosure of Project Information

Any public communications or disclosure of materials or information with respect to the Project by the Contractor and its employees and Subcontractors, except as required by law, shall be subject to the Owner's prior written approval, including, without limitation, any promotional, marketing, media or other material or information relating to the Owner or the Project.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Board of Education of the Owner shall be the only entity with authority to bind the Owner or provide approval or authorization on behalf of the Owner as required by law and/or the policies and procedures of the Owner unless the Contractor is notified otherwise in writing signed by the Owner. The term "Owner" means the Owner or the Owner's authorized representative as designated in writing by the Owner from time to time.

§ 2.1.2 The Owner shall furnish to the Contractor after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of or enforce mechanic's lien rights.

§ 2.2 Information and Services Required of the Owner

§ 2.2.1 All permits, with the exception of building permits, and fees approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities are the responsibility of the Contractor under the Contract Documents. Unless otherwise provided under the Contract Documents, the Owner, through the Construction Manager, shall secure and pay for the building permit. Contractor's price shall include all fees and other costs for securing and maintaining (by Contractor and its Subcontractors) for the life of the Project: all permits, PE licenses, connection fees, inspections, etc., applicable to, or customarily secured for the Work. This provision includes any permits to be issued in the name of the Contractor as required for the Work. Originals of all permits are to be issued in the name of the Contractor as required for the Work. The Contractor shall furnish the Construction Manager and Owner with true copies of all permits prior to the commencement of Work, and shall prominently display a copy of all permits at a location agreed upon with the Construction Manager.

(Paragraph deleted)

§ 2.2.3 If requested by the Contractor in writing, the Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2. Any and all additional copies will be furnished to the Contractor at its own expense (including the cost of reproducing, postage and handling).

§ 2.2.6 The Owner shall endeavor to forward all communications to the Contractor through the Construction Manager and shall contemporaneously provide the same communications to the Architect about matters arising out of or relating to the Contract Documents.

§ 2.3 Owner's Right to Stop the Work

If the Contractor fails to correct Work which is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or fails to carry out Work in accordance with the Contract Documents, the Owner by written order signed personally or by an agent so empowered by the Owner, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated, as determined by the Owner or its agent; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

§ 2.4 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a three (3) day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, after such three (3) day period, without prejudice to other remedies the Owner may have, immediately correct such deficiencies and continue to carry out any portion or all of the Work. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the cost of correcting such deficiencies, including: (i) compensation for the Construction Manager's and Architect's and their respective consultants' additional services made necessary by such default, neglect or failure; and (ii) the Owner's expenses, including, but not limited to, attorneys' fees. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. Such Change Order shall be deemed to have been executed by the Contractor, whether or not actually signed by the Contractor. Notwithstanding anything contained in the Contract Documents to the contrary, written notice pursuant to Section 2.4 shall be deemed received by Contractor if sent via e-mail.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The plural term "Multiple Prime Contractors" refers to persons or entities who perform construction under contracts with the Owner that are administered by the Construction Manager. The term does not include the Owner's own forces, including persons or entities under separate contracts not administered by the Construction Manager.

§ 3.1.3 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.4 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Construction Manager or Architect in their assistance of Owner in its administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited and examined the Project site, that it has examined all physical, legal, and other conditions affecting the Work and that it has become familiar with local conditions (including, but not limited to, layout, nature, surrounding areas, climatic conditions, anticipated labor supply and costs, availability and costs of materials, tools and equipment, etc.) under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

(Paragraph deleted)

§ 3.2.2 The Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it for the purpose of facilitating coordination and construction by the Contractor. The Contractor shall promptly report to the Owner, Construction Manager and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information submitted to the Construction Manager in such form as the Owner, Construction Manager and Architect may require. It is

recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. Contractor acknowledges and warrants that it has examined all the Contract Documents, that they are suitable and sufficient to enable Contractor to complete the Work in a timely manner.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Owner, Construction Manager and Architect any nonconformity discovered by or made known to the Contractor as a request for information submitted to Construction Manager in such form as the Owner, Construction Manager and Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Owner, Construction Manager or Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, unless Contractor knew or should have known of such error, inconsistency or omission and failed to report it to the Owner and Construction Manager, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities. If and to the extent that Contract Documents contain ambiguities, discrepancies, errors or omissions, or if and to the extent discrepancies exist between the Contract Documents and the existing conditions on the Project site and or depicted in surveys provided to the Contractor (collectively, "Errors and Omissions"), the Contractor hereby waives any claims for additional compensation or damages or additional time resulting from any such Errors and Omissions to the extent that the Contractor has actually observed, or, in accordance with the Standard of Care, a contractor with experience in constructing projects similar to size, type, magnitude, location and class as the Project should have observed, those Errors and Omissions and failed to report them to the Owner and the Architect prior to executing the Agreement.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instruction concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner, the Construction Manager, and the Architect and shall not proceed with that portion of the Work without further written instructions from the Architect, through the Construction Manager. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of the Project already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 Contractor shall attend scheduled project meetings with Construction Manager and Architect (and/or any representatives thereof) at reasonable times and places and present status reports, in a format agreed to by Construction Manager, on the progress of the Work. Construction Manager or, if requested by the Owner, Contractor shall prepare detailed written minutes of each project meeting and, if requested by the Owner, shall furnish copies thereof to the Owner.

§ 3.3.5 Contractor shall schedule and attend regular job and coordination meetings with Subcontractors and the Construction Manager (if the Construction Manager deems it appropriate to attend), and present on safety, the Project's schedule, request for information status, submittal, contract coordination, material storage, and progress of the Work. If requested by Construction Manager or Owner, Contractor shall prepare detailed written minutes of each job and coordination meeting and within a reasonable time after the meeting shall furnish copies thereof to Owner and Construction Manager.

§ 3.3.6 Contractor shall prepare and maintain on a daily basis: signed daily reports showing, among other things, the Contractor's employees at the site, the Subcontractors at the site and number of employees of each, the general work (and location of same) performed by Contractor and/or Subcontractors, the names of persons (such as, but not limited to, Construction Manager, Owner's representatives, Architect, consultants, inspectors, investigators, and other persons not generally at the site on a daily basis) at the site, temperature and weather conditions, and description in reasonable detail of any extraordinary or special occurrences. Contractor shall make all such reports available to and/or deliver copies of such to the Construction Manager and Owner promptly upon Construction Manager's or Owner's request.

§ 3.3.5 Contractor shall provide to Owner and/or Construction Manager, as Owner or Construction Manager may reasonably request, copies of all correspondence, memoranda and bulletins, and other like documents, to and from the Construction Manager, Architect, consultants, Subcontractors, suppliers, public agencies, and others on the Project.

§ 3.3.6 Contractor agrees that it shall not permit any unauthorized persons or entities to visit or enter upon the Project absent Owner's prior approval.

§ 3.3.7 Contractor shall arrange for reasonable protection to secure the site against theft and vandalism and arrange for reasonable protection of adjoining property in agreement with Owner.

§ 3.3.8 Contractor must exert due care and diligence when working in or near any existing buildings or site work which is to remain. The absence of protection around such items shall not excuse the Contractor from its responsibility to provide protection. Any damages due to the Contractor's failure to discharge such responsibilities to the existing buildings, site work or facilities shall be repaired by the Contractor at its sole cost and expense and if Contractor cannot repair the same, it shall bear the cost thereof.

§ 3.3.9 Contractor shall develop methods of dust and fume control so as to comply with applicable legal requirements.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. The Contractor shall check all materials and labor included in the Work and entering into the Work site and shall keep full detailed accounts thereof.

§ 3.4.1.1 Contractor agrees to furnish sufficient staff with the requisite experience (in comparable projects – type, size and location) and competent full-time Project construction team familiar with local conditions for the overall performance of the Work of the Project to meet the overall "Milestone Schedule", found in Division 01 of the Specifications, developed by the Construction Manager and Architect, and approved by the Owner (also referred herein as "Project Schedule"). After approved by the Construction Manager, the primary members of the Project construction team shall not be reassigned or otherwise removed from the Project unless they leave the employ of the Contractor, or unless the Construction Manager or the Owner shall reasonably request a change, or the parties otherwise agree. The Construction Manager or Owner may reasonably request that any member of the Project construction team be removed, and in such event the Contractor shall make such change within seven (7) days after receipt of notice thereof. The Owner shall have the right to approve any replacement members of the Project construction team and shall similarly have the right to approve all other top-level supervisory and administrative personnel assigned full-time to the Project, and the same shall not be changed without the prior written consent of the Construction Manager. Construction Manager's approval and consent shall not be unreasonably withheld.

§ 3.4.2 The Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect, in consultation with the Construction Manager, and in accordance with a Change Order or Construction Change

Directive. Contractor shall inform the Construction Manager and Architect in writing of the nature of such requested deviations at the time the material is submitted for approval, and shall request written approval from the Owner of the deviation from the requirements of the Contract Documents.

§ 3.4.2.1 By submitting a request for approval of a deviation or substitute, Contractor warrants to Owner that: (a) it has investigated the proposed substitute product and determined that it is equal in all respects to the specified material, and (b) it will coordinate the installation of the substitute, and make the changes required to incorporate the substitute into the Work, without additional cost to Owner. Contractor shall provide, without cost to Owner, evidence leading to a reasonable certainty that the proposed substitution or deviation: (a) will provide a quality of result at least equal to the specified material; (b) is at least equal in serviceability to the specified material; (c) will not entail changes in details and construction of related Work other than those approved by Construction Manager or Architect to be performed at no additional cost to Owner; and (d) will provide a cost advantage (to be credited to Owner) or other benefit to Owner. All proposed substitutions shall be subject to Owner's final approval, which may be given or withheld in Owner's sole discretion as set forth above.

§ 3.4.2.2 Any loss or damage arising from an unapproved substitution of any material or any method from those originally specified shall be borne by Contractor without cost to Owner, unless such substitution was made at the written request or direction of Owner.

§ 3.4.3 Labor Harmony. The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them. Any worker or other person involved in the performance of the Work who, in the reasonable opinion of the Construction Manager or Owner, is incompetent or careless in the execution of the Work or otherwise unsatisfactory shall be forthwith removed upon the request of the Owner.

§ 3.4.3.1 The Contractor shall employ only labor on the Project or in connection with its Work capable of working harmoniously with all trades, crafts and any other individuals associated with the Work to be performed. It shall be the responsibility of the Contractor to anticipate and plan to mitigate any potential strikes, picketing, work stoppages, slowdowns or other disruptive labor related activity at or about the Project for any reason by anyone employed or engaged by the Contractor to perform the Work. There shall be no lockout at the Project by the Contractor. The Contractor shall be responsible for providing the manpower required to proceed unimpeded with the Work under any circumstance. Contractor shall be responsible to perform all actions to mitigate and bear such costs associated with any strikes, picketing, work stoppages, slowdowns or other disruptive activity at or about the Project (for example and without limitation, signage, fencing, separate gates, temporary roads, reserved hours of Work for separate Subcontractors, security personnel, etc.) as deemed necessary by the Contractor, Construction Manager or Owner for the safety of the occupants of the site and progress of the Work pursuant to the Milestone Schedule.

§ 3.4.3.2 In case the progress of the Work to be performed by the Contractor is affected by any undue delay in furnishing or installing any items or materials or equipment required pursuant to its Agreement with the Owner because of a conflict involving any labor agreement or regulation, the Owner may require the other material or equipment of equal kind and quality be provided pursuant to a Change Order or Construction Change Directive but in no case shall the amount of such change be charged by the Contractor to the Owner as an additional cost to perform the Work pursuant to its Contract Documents.

§ 3.4.3.3 The Contractor shall ensure that its Work continues uninterrupted pursuant to the Project Schedule during the pendency of any labor dispute.

§ 3.5 Warranty

In addition to all warranties provided to the Contractor by Subcontractors, consultants or others, copies of which the Contractor shall deliver and assign to the Owner, the Contractor warrants to the Owner, Construction Manager, and Architect that materials and equipment furnished under the Contract will be of the best quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform with the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or

normal wear and tear and normal usage. If required by the Construction Manager or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.1 All manufacturers' warranties shall be addressed and assigned to the Owner and delivered to the Owner upon completion of the Work and received prior to the request for Final Payment. Contractor shall perform all Work in such a manner so as to obtain and preserve any and all such manufacturers' warranties.

§ 3.6 Taxes

The Contractor shall pay all required sales, consumer, use and similar taxes for the Work or portions thereof provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. The Owner, as identified on Page 1 of this General Conditions, is a nonprofit educational facility and is therefore "tax-exempt" in accordance with the applicable laws of the State of New York and with Chapter 32 of the Internal Revenue Code, as most recently amended, for collection of all sales and excise taxes. Exemption Certificates will be furnished, upon request, to the Contractor by the Owner.

§ 3.7 Permits, Fees, Notices, and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Owner, through the Construction Manager, shall secure and pay for the building permit. The Contractor shall secure and pay for other permits, fees, licenses and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work where it knew or should have known it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents (the "Concealed Conditions"), the Contractor, as a condition precedent to making a Claim for an adjustment in the Contract Sum or the Contract Time as a result of such, shall promptly provide notice to the Owner, Construction Manager, and the Architect before conditions are disturbed and in no event later than twenty-one (21) days after first observance of the Concealed Conditions. If the Contractor does not provide written notice to the Owner, through the Construction Manager, within the required time and otherwise in conformance with the requirements of such written notice, Contractor shall be deemed to have waived such Claim and shall not be entitled to make any Claim for any remedies for such Concealed Conditions, including Contract Time extension. The Architect and Construction Manager will investigate such conditions and, advise the Contractor in writing as to how to proceed, so as to minimize any delay to the Project. If the Architect, in consultation with the Construction Manager, determines that the conditions differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, an adjustment of actual cost in the Contract Sum or Contract Time, or both. If the Construction Manager, determines that the conditions at the site are not materially different from those indicated in the Contract Documents, or otherwise do not fall within a category of a Concealed Conditions as set forth above, and that no change in the terms of the Contract (i.e. Contract Sum or the Contract Time) is justified, the Construction Manager shall promptly notify the Owner, Architect, and Contractor in writing, stating the reasons. Claims in opposition to such determination must be made within ten (10) days after the Owner has given notice of its determination.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner, Construction Manager, and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents:

- .1 Allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- .3 Whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner and Architect through the Construction Manager, the name and qualifications of a proposed superintendent. The Construction Manager may reply within 14 days to the Contractor in writing stating (1) whether the Owner, the Construction Manager, or the Architect has reasonable objection to the proposed superintendent or (2) that any of them require additional time to review.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall prepare and submit for the Owner's and Architect's information and the Construction Manager's approval a Contractor's construction schedule for the Work (the "Construction Schedule"). The Construction Schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project Schedule to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. The Contractor shall cooperate with the Construction Manager in scheduling and performing the Contractor's Work to avoid conflict with, and as to cause no delay in, the work or activities of other Multiple Prime Contractors or the construction or operations of the Owner's own forces.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter update it as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Construction Manager's and Architect's approval. The Architect and Construction Manager's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's Construction Schedule, and (2) allow the Construction Manager and Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall participate with other Contractors, the Construction Manager and Owner in reviewing and coordinating all schedules for incorporation into the "Project Schedule" that is prepared by the Construction Manager. The Contractor shall make revisions to the Construction Schedule and submittal schedule as deemed necessary by the Construction Manager to conform to the Project Schedule.

§ 3.10.4 The Contractor shall perform the Work in general accordance with the most recent Construction Schedule and submittal schedules submitted to the Owner, Construction Manager and Architect and incorporated into the approved Project Schedule.

§ 3.11 Documents and Samples at the Site

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. The Contractor's attention is directed to the necessity of keeping accurate records of all concealed Work so that "record" Drawings will contain this information in correct detail and locations. These documents shall be available to the Architect and delivered to the Construction Manager for submittal to the Owner upon completion of the Work (or such earlier time as may be required by Owner) as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work. "Shop Drawings" as used herein includes fabrication, erection, layout and setting drawings; manufacturers' standard drawings; samples; schedules; descriptive literature, catalogs and brochures; performance and test data; calculations; wiring and control diagrams; all other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems and methods of construction as may be required to show that the materials, equipment or systems and the position thereof conform to the Contract Documents. Shop Drawings shall establish the actual detail of all manufactured or fabricated items; indicate proper relation to adjoining Work; amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure; and incorporate minor changes of construction to suit actual conditions.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor or Subcontractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect and Construction Manager is subject to the limitations of Sections 4.2.9 through 4.2.11. Informational submittals upon which the Construction Manager and Architect are not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Construction Manager or Architect without action.

§ 3.12.5 The Contractor shall review and cause all Subcontractors to submit required Shop Drawings and other submittals with such promptness as to cause no delay to the Project. The submittal schedule shall be issued at the start of construction and updated as reasonably agreed upon by the Owner and Contractor. Each Subcontractor shall submit all Shop Drawings and other submittals through the Contractor for the Construction Manager's review. Contractor shall receive, log and transmit Shop Drawings among Construction Manager, Architect, Owner's other consultants, if any, and Subcontractors, and promptly advise Construction Manager and Architect and Owner's other consultants, if any, and take all necessary action if any party shall fail to perform in accordance with agreed upon schedules. Contractor shall review for compliance with the Contract Documents. Review by the Construction Manager and/or the Architect, shall not relieve the Contractor from its responsibility in preparing and submitting proper Shop Drawings in accordance with the Contract Documents. Any submission which, in the Construction Manager's opinion, is incomplete or contains numerous errors or has not been checked or only checked superficially, will be returned unchecked by the Construction Manager for re-submission through the Contractor by Subcontractor. By submitting Shop Drawings, samples and other submittals, the Contractor represents that the Contractor (and the relevant Subcontractor) has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner, Construction Manager, and Architect, that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been reviewed and approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Construction Manager and Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Construction Manager and Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 Use of Site

§ 3.13.1 The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.13.2 The Contractor shall coordinate the Contractor's operations with, and secure the approval of, the Construction Manager before using any portion of the site.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner's own forces or of other Multiple Prime Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner's own forces or by other Multiple Prime Contractors except with written consent of the Construction Manager, Owner and such other Multiple Prime Contractors; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the other Multiple Prime Contractors or the Owner the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner, or Construction Manager with the Owner's approval, may do so and the Owner shall be entitled to reimbursement from the Contractor. Upon completion of the Work, and prior to final inspection and acceptance of same by the Owner, the Contractor shall thoroughly clean all Work, remedy any defects, and leave the Project in good condition. Specifically, ceiling and wall surfaces, floors, window/and door frames, hardware, metalwork and interior surfaces of glass shall be thoroughly cleaned. Contractor shall maintain streets and sidewalks around the Project site in a clean condition. The Contractor shall remove all spillage and tracking arising from the performance of the Work from such areas, and shall establish a regular maintenance program of sweeping and hosing to minimize accumulation of dirt and dust, upon such areas. The Contractor shall be responsible for broken glass, and at the completion of the Work shall replace such damaged or broken glass. After damaged or broken glass has been replaced the Contractor shall remove all labels on and wash and polish both sides of all glass. The Contractor shall also protect and relocate (to the extent relocation is required in connection with the Work) all existing trees around the Project site, and replace such trees upon the Substantial Completion of the Project (if such tree dies or is adversely affected by the Work), in accordance with all applicable laws or requirements.

§ 3.16 Access to Work

The Contractor shall provide the Owner, Construction Manager and Architect access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner, Construction Manager and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner, Architect, or Construction Manager. However, if the Contractor has or should have had reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect through the Construction Manager.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall defend (with counsel acceptable to the Owner), indemnify and hold harmless the Owner, Construction Manager, Architect, Construction Manager's and Architect's consultants, and agents and employees of any of them (the "Indemnified Parties") from and against claims, damages, losses, liabilities, demands, causes of action, judgments and expenses, including but not limited to attorneys' fees, of every kind and character that are caused by, attributable to, arise from, result from, or are in any way connected, in whole or in part, to: (a) Contractor or its Subcontractor(s) breach or failure to comply with the requirements of the Contract Documents; or (b) the performance of the Work or the operations or acts or omissions of Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable; including without limitation: (i) bodily injury, sickness, disease or death, and damage to or destruction of tangible property, including loss of use resulting therefrom (an "Indemnified Claim(s)"). The preceding obligations shall apply regardless of how, when or where such Indemnified Claim(s) occurs. All of the indemnification and hold harmless obligations herein and therein are subject and subordinate to the limitations of any applicable laws of the State of New York and in no event shall Contractor nor any other party be required to indemnify any person in violation of such

applicable laws. It is further understood that in the event that a court of competent jurisdiction determines that any of the indemnification obligations of this General Conditions and the Contract Documents are unenforceable in whole or in part, Contractor's obligation to indemnify shall be replaced with the strictest enforceable indemnification provision allowable by such laws.

§ 3.18.1.1 Unless otherwise appropriately compensable as a Cost of the Work elsewhere in the Contract Documents, the Contractor's defense, indemnification and hold harmless obligations under this Contract shall also specifically include, without limitation, all fines, penalties, damages, liability, costs, expenses (including, without limitation, reasonable attorneys' fees and expenses, as such are described above in **§ 3.18**) arising out of, or in connection with, any (i) violation of or failure to comply with any law, statute, ordinance, rule, regulation, code, or requirements of a public authority that bears upon the performance of the Work by the Contractor or any person or entity for whom it is responsible, (ii) means, methods, procedures, techniques, or sequences of execution or performance of the Work, and (iii) failure to secure and pay for permits, fee approvals, licenses, and inspections as required under the Contract Documents, or any violation of any permit or other approval of a public authority applicable to the Work by the Contractor or any person or entity for whom it is responsible.

§ 3.18.1.2 Should Contractor fail to perform its duties to defend, indemnify and hold harmless any of the Indemnified Parties as required herein, and upon written notice by the Owner of such failure and allowing reasonable time for the Contractor to cure, the Owner and the other Indemnified Parties may defend or settle such Indemnified Claim(s) as they deem prudent, in the exercise of reasonable judgment, and the Contractor agrees to be bound by any such defense, settlement, judgment, or award that may result from such action by the Owner or the other Indemnified Parties. The rights of the Owner and Indemnified Parties pursuant to this paragraph shall not give rise to any duty on the part of the Owner or any Indemnified Party to exercise such rights for its benefit or the benefit of the Contractor or any other person or entity.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18 shall not be limited in any way by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts. It is expressly understood that the Contractor indemnity and hold harmless obligations shall also include all expenses, including reasonable attorneys' fees and expenses (as such are described above in **§ 3.18.1**), incurred in securing indemnity and hold harmless from Contractor.

§ 3.18.3 The indemnification provisions contained in this **§ 3.18** shall survive the completion or termination of the Contract.

ARTICLE 4 ARCHITECT AND CONSTRUCTION MANAGER

§ 4.1 General

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 The Owner shall retain a construction manager lawfully licensed to practice construction management or an entity lawfully practicing construction management in the jurisdiction where the Project is located. That person or entity is identified as the Construction Manager in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.3 Duties, responsibilities and limitations of authority of the Construction Manager and Architect as set forth in the Contract Documents shall not be restricted, modified or extended without prior written consent of the Owner.

§ 4.1.4 If the employment of the Construction Manager or Architect is terminated, the Owner may employ a successor construction manager or architect whose status under the Contract Documents shall be that of the Construction Manager or Architect, respectively.

§ 4.2 Administration of the Contract

§ 4.2.1 The Construction Manager and Architect will provide administration of the Contract as described in the Contract Documents and will be the Owner's representatives during construction until the date the Architect issues the

final Certificate for Payment. The Construction Manager and Architect may be granted authority to act on behalf of the Owner, but only to the extent established by the Owner and in accordance with the Contract Documents. Nothing contained in the Agreement or the General Conditions shall limit the obligation of the Architect and the Construction Manager under any separate agreement(s).

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to: (1) become generally familiar with the progress and quality of the portion of the Work completed, (2) endeavor to guard the Owner against defects and deficiencies in the Work, and (3) determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner and Construction Manager (1) known deviations from the Contract Documents and from the most recent Project Schedule prepared by the Construction Manager, and (2) defects and deficiencies observed in the Work.

§ 4.2.3 The Construction Manager shall provide a staffing plan to include one or more representatives who shall be in attendance at the Project site whenever the Work is being performed. The Construction Manager will determine in general if the Work observed is being performed in accordance with the Contract Documents, will keep the Owner reasonably informed of the progress of the Work, and will report to the Owner and Architect (1) known deviations from the Contract Documents and the most recent Project Schedule, and (2) defects and deficiencies observed in the Work.

§ 4.2.4 The Construction Manager will schedule and coordinate the activities of the Contractor and other Multiple Prime Contractors in accordance with the latest approved Project Schedule.

§ 4.2.5 The Construction Manager, except to the extent required by Section 4.2.4, and Architect will not have control over, or charge of, construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1, and neither will be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. Neither the Construction Manager nor the Architect will have control over or charge of or be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or of any other persons or entities performing portions of the Work.

§ 4.2.6 Communications Facilitating Contract Administration. The Contractor shall endeavor to communicate with the Owner through the Construction Manager, and shall contemporaneously provide the same communications to the Architect about matters arising out of or relating to the Contract Documents. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with other Multiple Prime Contractors shall be through the Construction Manager and shall be contemporaneously provided to the Architect if those communications are about matters arising out of or related to the Contract Documents. Communications by and with the Owner's own forces shall be through the Owner.

§ 4.2.7 The Construction Manager and Architect will review and certify all Applications for Payment by the Contractor, in accordance with the provisions of Article 9.

§ 4.2.8 The Owner, Architect and Construction Manager have authority to reject Work that does not conform to the Contract Documents and will notify each other about the rejection. The Construction Manager shall determine in general whether the Work of the Contractor is being performed in accordance with the requirements of the Contract Documents and notify the Owner, Contractor and Architect of defects and deficiencies in the Work. Whenever the Construction Manager considers it necessary or advisable, the Construction Manager will have authority to require additional inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, upon written authorization of the Owner, whether or not such Work is fabricated, installed or completed. The foregoing authority of the Construction Manager will be subject to the provisions of Sections 4.2.18 through 4.2.20 inclusive, with respect to interpretations and decisions of the Architect. However, neither the Architect's nor the Construction Manager's authority to act under this Section 4.2.8 nor a decision made by either of them in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Construction Manager to the

Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons performing any of the Work.

§ 4.2.9 The Construction Manager will receive and review for conformance with the submittal requirements of the Contract Documents, all submittals from the Contractor such as Shop Drawings, Product Data and Samples. Where there are Multiple Prime Contractors, the Construction Manager will also check and coordinate the information contained within each submittal received from Contractor and other Multiple Prime Contractors, and transmit to the Architect those recommended for approval. By submitting Shop Drawings, Product Data, Samples and similar submittals, the Construction Manager represents to the Owner and Architect that the Construction Manager has reviewed and recommended them for approval. The Construction Manager's actions will be taken in accordance with the Project submittal schedule approved by the Architect or, in the absence of an approved Project submittal schedule, with reasonable promptness while allowing sufficient time to permit adequate review by the Architect.

§ 4.2.10 The Owner may authorize the Architect to review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Upon the Architect's completed review, the Architect shall transmit its submittal review to the Construction Manager.

§ 4.2.11 Review of the Contractor's submittals by the Construction Manager and Architect is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Construction Manager and Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Construction Manager and Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Construction Manager and Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.12 The Construction Manager will prepare Change Orders and Construction Change Directives, and no Change Order or Construction Change Directive shall be effective until approved by Owner in writing, it being agreed that the term "Change Order" shall be deemed to include only those instruments which have been approved in writing by Owner.

§ 4.2.13 The Construction Manager and the Architect will take appropriate action on Change Orders or Construction Change Directives in accordance with Article 7. The Architect, in consultation with the Construction Manager, will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.14 Utilizing the documents provided by the Contractor, the Construction Manager will maintain at the site for the Owner one copy of all Contract Documents, approved Shop Drawings, Product Data, Samples and similar required submittals, in good order and marked currently to record all changes and selections made during construction. These will be available to the Architect and the Contractor, and will be delivered to the Owner upon completion of the Project.

§ 4.2.15 The Construction Manager will assist the Architect in conducting inspections to determine the dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion in conjunction with the Architect pursuant to Section 9.8; and receive and forward to the Owner written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10. The Construction Manager will forward to the Architect a final Application and Certificate for Payment or final Project Application and Project Certificate for Payment upon the Contractor's compliance with the requirements of the Contract Documents.

§ 4.2.16 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site.

§ 4.2.17 If so directed, the Architect will interpret and decide matters concerning performance under, and requirements of the Contract Documents on written request of the Construction Manager, Owner or Contractor through the Construction Manager. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.18 Interpretations and decisions of the Architect will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either and will not be liable for results of interpretations or decisions so rendered in good faith and in the absence of negligence.

§ 4.2.19 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.20 If so directed, the Construction Manager will receive and review requests for information from the Contractor, and forward each request for information to the Architect, with the Construction Manager's recommendation. The Architect will review and respond in writing to the Construction Manager to requests for information about the Contract Documents. The Construction Manager's recommendation and the Architect's response to each request will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site and/or supply materials for the Project. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include other Multiple Prime Contractors of the Owner or subcontractors of other Multiple Prime Contractors of the Owner. Each Subcontractor agreement and/or purchase order between Contractor and Subcontractor may be referred to as a "Subcontract".

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents or the bidding requirements, the Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Construction Manager for review by the Owner, Construction Manager and Architect the names of persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each principal portion of the Work. The Construction Manager may reply to the Contractor in writing stating (1) whether the Owner, the Construction Manager or the Architect has reasonable objection to any such proposed person or entity or, (2) that the Construction Manager, Architect or Owner requires additional time for review.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner, Construction Manager or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner, Construction Manager or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner, Construction Manager or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person or entity previously selected if the Owner, Construction Manager or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner, Construction Manager and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner, Construction Manager and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.1 Contractor shall promptly (i.e. within twenty-four [24] hours) provide notice to Owner, through the Construction Manager, of its receipt of any Subcontractor notice of default under any Subcontract.

§ 5.3.2 Without limitation to other requirements in the Agreement and the Contract Documents relating to Subcontracts, all Subcontracts shall be in writing and shall comply with the following:

.1 All Subcontracts shall require that, in the event of any default by the Contractor under any Subcontract and the Contractor's failure to cure such default within the applicable cure period, Owner shall have the right, at its sole option, to cure such default under the Subcontract. In addition, each Subcontract shall by its terms be conditionally assigned by the Contractor to the Owner, and only for those Subcontracts which the Owner accepts by notifying the Subcontractor and Contractor in writing, and assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

.2 Contractor shall require each Subcontractor, to the extent of the Work to be performed by such Subcontractor, be bound, without limitation, to Contractor by the terms and conditions no less stricter than of the Contract Documents, and, without limitation, to assume toward Contractor all of the obligations and responsibilities which are no less stricter than the Contractor, by the Contract Documents assumes towards the Owner.

.3 Each Subcontract shall include the Owner as an indemnified party and nothing in the Contract Documents shall limit Owner's direct right to enforce the indemnity provisions of each Subcontract.

.4 Each Subcontract shall include a provision that there is an express understanding and agreement by the Subcontractor that the Owner shall be an express intended third party beneficiary of each Subcontract and nothing in the Contract Documents or the Subcontract shall limit the Owner's direct right to enforce the provisions of the Subcontracts.

§ 5.3.3 Contractor agrees to observe all of Contractor's duties and obligations under any Subcontract and not to terminate any Subcontract without first advising Owner, through the Construction Manager.

§ 5.3.4 Immediately upon execution, Contractor shall forward to the Construction Manager one (1) executed copy of each and every Subcontract with each Subcontractor. Failure of Construction Manager or Owner to demand such Subcontract(s) or demand full compliance with the requirements herein, or failure to identify a deficiency from documents provided to Owner pursuant to this Section shall not be construed as a waiver of the Contractor's obligations hereunder.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each Subcontract for a portion of the Work is assigned by the Contractor to the Owner, provided that

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- .1 assignment is effective only after termination of the Contract by the Owner for cause or for convenience pursuant to Section 14 and only for those Subcontract that the Owner accepts by notifying the Subcontractor and Contractor in writing; and
- .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a Subcontract, the Owner assumes the Contractor's rights and obligations under the Subcontract.

§ 5.4.2 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the Subcontract to a successor Contractor or other entity. If the Owner assigns the Subcontract to a successor Contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor Contractor's obligations under the Subcontract.

§ 5.4.3 The Owner may, at its sole discretion, furnish to any Subcontractor or supplier information regarding the Contractor's Applications for Payment and the amounts actually paid by the Owner to the Contractor on account of Work done by such Subcontractor or for materials furnished by such supplier.

§ 5.4.4 If the Owner fails to approve an Application for Payment for a cause which the Owner determines is the fault of the Contractor and not the fault of a particular Subcontractor, or if the Contractor fails to make a payment, which is properly due to a particular Subcontractor, the Owner may pay such Subcontractor directly, less the amount to be retained under its subcontract. Owner shall not exercise its rights to make payment directly to Subcontractor, if the Owner determines that Contractor's withholding of payment is warranted and in the best interest of the Project. Any amount so paid by the Owner shall be credited against the Contract Sum; however, if the Contractor reasonably disputes any payments to any Subcontractor or supplier, the Owner shall withhold such payments from those funds remaining to be paid until the disputed claim between the Contractor and the Subcontractor or supplier is resolved, provided that the withholding of such funds does not adversely affect the completion of the Work in a timely manner.

§ 5.4.5 The Owner shall have no obligation to pay, or to see to the payment of any monies to any Subcontractor. Nothing contained in Article 5 (or elsewhere in the Contract Documents) shall be deemed to create any contractual relationship between the Owner and any Subcontractor. Subcontractor shall not have any claim as of a third party beneficiary or otherwise against the Owner by virtue of any provisions hereof.

§ 5.4.6 The Contractor shall promptly advise the Owner of any claim or demand by a Subcontractor claiming that any amount is due to such Subcontractor or claiming any default by the Contractor in any of its obligations to such Subcontractor.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY OTHER CONTRACTORS

§ 6.1 Owner's Right to Perform Construction with Own Forces and to Award Other Contracts

§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, which include persons or entities under separate contracts not administered by the Construction Manager, and to award other contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When the Owner performs construction or operations with the Owner's own forces including persons or entities under separate contracts not administered by the Construction Manager, the Owner shall provide for coordination of such forces with the Work of the Contractor, who shall cooperate with them.

§ 6.1.3 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces, the Owner shall be deemed to be subject to the same obligations and to have the same rights that apply to the Contractor under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11 and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner's own forces, Construction Manager and other Multiple Prime Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner's own forces or other Multiple Prime Contractors, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Construction Manager and Architect apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's own forces or other Multiple Prime Contractors' completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs, including costs that are payable to a separate contractor or to other Multiple Prime Contractors because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of delays, improperly timed activities, damage to the Work or defective construction by the Owner's own forces or other Multiple Prime Contractors.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner, separate contractors, or other Multiple Prime Contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and other Multiple Prime Contractors shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, other Multiple Prime Contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Construction Manager, with notice to the Architect, will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 This Contract is entered into with the understanding that Contractor shall furnish, and the Stipulated Sum includes, all items required for proper completion of the Work as set forth in the Contract Documents or reasonably inferable therefrom, without adjustment to the Stipulated Sum. Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order or Construction Change Directive, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner and Contractor; a Construction Change Directive requires agreement by the Owner and may or may not be agreed to by the Contractor.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work.

§ 7.1.4 It is understood, that without limitation, **§ 15.1** shall apply to any Claim by Contractor for an increase in the Stipulated Sum and/or Contract Time relating to any Work that it believes is a change in the Work and/or Work not included in the Drawings and Specifications upon which the is based or for an extension of time for a delay that is excusable to Contractor pursuant to the Contract Documents. Contractor shall provide Owner with written notice of such Claim within the timeframe set forth therein. Failure to provide such required notice within the required timeframe shall act as a waiver of such Claim.

§ 7.2 Change Orders

A Change Order is a written instrument prepared by the Construction Manager and signed by the Owner, Construction Manager and Contractor, stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

It is expressly agreed that the term Change Order as used in the Contract Documents shall be deemed to include only those written instruments that have been approved and signed by Owner.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Construction Manager and signed by the Owner and Construction Manager, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Construction Manager and Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Construction Manager shall determine the method or elect the Contractor to perform the Construction Change Directive on a time and material basis, at actual cost to the Contractor (without any charge for administration, clerical expense, supervision or superintendence of any nature) plus, in case of an increase in the Contract Sum, an amount of no more than ten (10) percent for overhead and profit. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Construction Manager may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

- .1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers compensation insurance;
- .2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others; and

- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Construction Manager and Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit, not to exceed more than ten (10) percent, shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Any refusal by the Contractor to commence or perform disputed Change Order Work as directed by Owner, shall constitute a default hereunder. The Contract Sum and/or the Contract Time may be changed only by an Owner approved and signed Change Order.

§ 7.3.10 A Change Order signed by the Contractor indicates its agreement therewith, including the adjustment in the Contract Sum and/or Contract Time, if any.

§ 7.4 Minor Changes in the Work
Intentionally Omitted.

§ 7.5 BACKUP FOR CHANGE ORDERS, COST ESTIMATES AND CHANGE ORDER REQUESTS

§ 7.5.1 Cost Proposal. Any request for an increase in the Contract Sum submitted by or on behalf of the Contractor in connection with changes in the Work shall be itemized for the various components of Work and segregated by labor, material and equipment. The Contractor will furnish its itemized cost proposal and the similarly detailed cost estimates from Subcontractors.

§ 7.5.2 Time and Material. Should the Owner elect, in its sole discretion, to compensate the Contractor for the change in the Work on a time and materials basis, the Owner shall so notify the Contractor thereof in writing, through the Construction Manager, and the Contractor shall provide to the Owner, through the Construction Manager, such records and supporting documents to evidence the actual cost of the Work performed as reasonably required by the Owner.

§ 7.5.3 Unit Prices. To the extent that the Change Order Work is subject to Unit Prices, the Contractor's cost proposal for the Change Order Work shall itemize the quantities of each item of Work for which there is an applicable Unit Price

§ 7.6 PRIOR APPROVAL REQUIRED FOR INCREASES IN COMPENSATION OR EXTENSION OF TIME

Any changes in the Work undertaken without the Owner's prior authorization will not be recognized as a basis for an increase in the Contract Sum or an extension of the Contract Time. If the Contractor believes that any instructions or orders, whether oral, written, by drawings, or otherwise, constitute a change in the Work pursuant to which the Contractor would be entitled to an increase in the Contract Sum or an extension of the Contract Time, the Contractor shall promptly so notify the Owner in writing, through the Construction Manager, prior to proceeding with the Work which writing shall describe the basis for Contractor's position. Upon receipt of such notice the Owner, through the Construction Manager, shall either instruct the Contractor to proceed with the Work in question on the basis of a Construction Change Directive (or, if agreement is reached on the terms thereof, pursuant to a properly executed Change Order) or the Owner may instruct the Contractor to suspend that portion of the Work pending investigation of the Contractor's claim. The Contractor shall not be entitled to additional compensation or an extension of time unless the Contractor has so notified the Owner before proceeding.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Contractor to achieve Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect, as approved by the Owner and Construction Manager, in accordance with the Contract Documents and is otherwise defined in Section 9.8.

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§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 The Contractor shall prepare the "Schedule" for the full construction and completion of all Work of the Project, including, but not limited to, containing details of construction sequences and timing, scheduling of purchase orders and deliveries of materials and equipment, and a schedule for preparation and processing of Shop Drawings, Samples and Product Data. The Schedule shall be subject to the Construction Manager's and Architect's review and the Owner's acceptance and will be the binding schedule for the Contractor's performance of its duties under this Contract subject only to changes resulting from a properly authorized Change Order signed by Owner, but, only if and to the extent such Change Order (a) is a scope Change Order proven to the reasonable satisfaction of Owner to demonstrably affect the Critical Path of the Schedule, or (b) is issued in response to a proper Claim for extension of time for the Required Substantial Completion Date for a delay that is excusable to Contractor under the Contract Documents, but, only to the extent that such excusable delay is proven to the satisfaction of Owner, in its discretion, to demonstrably impact the Critical Path of the Schedule (collectively "Critical Path Changes"). After approval of the initial Schedule, the Contractor shall prepare on a monthly basis, or more often as the Construction Manager may reasonably require, an updated Schedule that shall document the current status of the Work. The updated Schedule shall be subject to the Owner's approval but shall not alter the Contractor's obligation to meet the initial Schedule (as modified only by Critical Path Changes in properly authorized Change Orders signed by Owner). In addition, the Contractor shall prepare and keep current, for the Owner's and Construction Manager's approval, a schedule of submittals which is coordinated with the Schedule and allows the Construction Manager and Architect reasonable time to review submittals.

§ 8.2.1.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work. The Contractor shall perform the Work in accordance with the Schedule approved by Owner, as may be updated. Unless otherwise agreed by Owner, Contractor shall use the Critical Path Method of scheduling. It is agreed that time is of the essence in the performance of the Contract.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time. If the Owner, through the Construction Manager, determines that the Contractor is not maintaining the pace of the Work in accordance with the Schedule or otherwise consistent with the Contract Time and such delays are not justified as set forth in § 8.3, then the Owner may require the Contractor to undertake a time recovery plan (including more personnel, overtime and/or double shifts) at the Contractor's sole expense, to reasonably assure completion of the Work within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If, through no fault of any of the Contractor or Subcontractor(s), the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner, Owner's own forces, Construction Manager, Architect, any of the other Multiple Prime Contractors or an employee of any of them, or by changes ordered in the Work by the Owner, or by industry-wide labor disputes, fire, unusual and unforeseen delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration, or by other causes that the Owner, based on the recommendation of the Construction Manager, determines may justify delay (the foregoing, collectively, "Excusable Delay") and provided such Excusable Delay delays the critical path of the Work, the Contract Time shall be extended by Change Order for such reasonable time as the Construction Manager and/or Architect may determine.

§ 8.3.1.1 In order for the Owner to properly investigate a Claim for Excusable Delay and mitigate the effects thereof, TIME IS EXPRESSLY OF THE ESSENCE FOR Contractor to provide written notice to Owner of any Claim relating to an Excusable Delay, and it is a condition precedent to Contractor's ability to pursue such Claim that the written notice of Claim shall: (a) be delivered to Owner, through the Construction Manager, within five (5) days after

Contractor knew or should have known of the cause of the Excusable Delay; (b) state the basis for the Claim for Excusable Delay; (c) include demonstrable proof that the Excusable Delay affects the Critical Path of the Schedule; and (d) suggest strategies to the Construction Manager to mitigate the effect of any such delay including without limitation overtime, re-sequencing and other remedial methods. If Contractor does not provide written notice to Owner, through the Construction Manager, within the time required herein and otherwise in conformance with the requirements of such written notice, Contractor shall be deemed to have waived such Claim and shall not be entitled to make any Claim for any remedies for such Excusable Delay, including Contract Time extension.

§ 8.3.1.2 To the fullest extent permitted by law, should Contractor be entitled to an extension of time for an Excusable Delay pursuant to the terms and conditions above and elsewhere in the Contract, Contractor expressly agrees not to make, and hereby waives, any Claim for costs and damages, including, but not limited to, those resulting from increased supervision, labor or material costs, on account of any such Excusable Delay, and agrees that, except as provided herein, the sole right and remedy therefore shall be an extension of time.

§ 8.3.2 No Damage for Delay. The Owner shall not be liable to the Contractor and/or Subcontractor(s) for Claims or damages of any nature caused by or arising out of delays. The sole remedy against the Owner for delays shall be the allowance of additional time for completion of the Work, the amount of which shall be subject to the procedures set forth in this Contract. Except to the extent, if any, expressly prohibited by law, the Contractor expressly agrees not to make and hereby waives any Claim for damages for delay, including, but not limited to, those resulting from increased labor or material costs; directions given or not given by the Construction Manager or Architect, including scheduling and coordination of the Work; the Architect's preparation of drawings and specifications or review of shop drawings and requests for instruction(s); or, on account of any delay, obstruction or hindrance for any cause whatsoever by the Owner, Construction Manager, Architect, or any other contractor on the Project, whether or not foreseeable or anticipated. The Contractor agrees that its sole right and remedy therefore shall be an extension of time if appropriate.

§ 8.3.3 It is expressly understood that notwithstanding **§ 8.3.1** and **§ 8.3.2** above, that no such Subcontractor shall be entitled to make any Claims for additional compensation, costs or damages against the Contractor (nor may the Contractor assert against Owner and/or Construction Manager such Claims as pass-through claims of Subcontractor or otherwise). Unless agreed by Owner in writing, Contractor shall endeavor to include in every Subcontract a 'No-Damage-For-Delay' provision in a form reasonably approved by the Owner.

§ 8.4 ACCELERATION

§ 8.4.1 Acceleration Due To Contractor Delay - Extraordinary Measures. In addition to any other rights granted to Owner under the Contract Documents, in the event the Owner and/or Construction Manager reasonably determines that the performance of the Work, relative to the required Substantial Completion Dates and Final Completion date and/or the Project Schedule has not progressed or reached the level of completion required by the Contract Documents, and such delayed performance was not caused by an Excusable Delay subject to an appropriate time extension pursuant to the Agreement, the Owner, through the Construction Manager, shall have the right to order the Contractor to take corrective measures necessary to expedite the progress of construction of the Work, including, but not limited to, acceleration of the Work by means of overtime, additional crews or additional shifts, or additional equipment or facilities, or re-sequencing of the Work ("Extraordinary Measures"). The Owners right to require Extraordinary Measures is solely for the purpose of ensuring the Contractor's compliance with the Schedule relating to delayed performance for which the Contractor has not developed alternative recovery plans and schedules acceptable to the Owner. All such Extraordinary Measures shall be at no cost to the Owner and the Contractor shall not be entitled to an adjustment to the Contract Sum. Contractor shall perform such Extraordinary Measures until the progress of the Work complies with the stage of completion required by the Schedule. In the event of any acceleration requested pursuant to this **§ 8.4.1**, Contractor shall promptly provide a recovery plan and schedule acceptable to the Owner including Contractor's recommendations for the most effective and economical acceleration.

§ 8.4.1.1 The Owner may exercise the rights furnished the Owner under or pursuant to **§ 8.4.1** as frequently as the Owner deems necessary to ensure that the Contractor's performance of the Work will comply with the Required Substantial Completion Dates and Final Completion date set forth in the Schedule.

§ 8.4.2 Any rights conferred on the Owner pursuant to **§ 8.4.1** or in any other portion of the Contract Documents shall neither require Owner to exercise such rights for the benefit of the Contractor, nor shall they make Owner responsible in any way whatsoever for the Contractor's completion of the Work of the Project in conformance with the Schedule.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 Schedule of Values

The Contractor shall submit to the Construction Manager, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Construction Manager and Architect may require. This schedule, unless objected to by the Construction Manager or Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. The schedule of values shall be prepared by the Contractor in such a manner that each major item of the Work is shown as separate line item on AIA Document G703 ("Application and Certificate for Payment, Continuation Sheet"), or other form acceptable to the Construction Manager. In the event there is one Contractor, the Construction Manager shall forward to the Architect the Contractor's schedule of values. If there are Multiple Prime Contractors responsible for performing different portions of the Project, the Construction Manager shall forward the Multiple Prime Contractors' schedules of values only if requested by the Architect.

§ 9.3 Applications for Payment

§ 9.3.1 The Contractor shall submit to the Construction Manager an itemized Application for Payment prepared in accordance with the schedule of values for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the Owner, Construction Manager or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier unless such Work has been performed by others whom the Contractor intends to pay.

(Paragraph deleted)

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that: (i) upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work; (ii) all Subcontractors, material suppliers, or other persons or entities performing and having provided labor, materials and equipment relating to the Work have been paid; and (iii) Contractor knows of no existing or threatened claims by any party against the Owner or the Project and/or the Project funds.

§ 9.4 Certificates for Payment

§ 9.4.1 Where there is only one Contractor, the Construction Manager will, within seven (7) days after the Construction Manager's receipt of the Contractor's Application for Payment, along with all Supporting Documentation (as required by the Agreement and Owner), review the Application, certify the amount the Construction Manager determines is due the Contractor, and forward the Contractor's Application and Certificate for Payment to the Architect. Within seven (7) days after the Architect receives the Contractor's Application for Payment from the Construction Manager, the Architect will either issue to the Owner a Certificate for Payment, with a copy to the Construction Manager, for such amount as the Architect determines is properly due, or notify the Construction Manager and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided

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in Section 9.5.1. The Construction Manager will promptly forward to the Contractor the Architect's notice of withholding certification.

§ 9.4.2 Where there are Multiple Prime Contractors performing portions of the Project, the Construction Manager will, within seven days after the Construction Manager receives the Multiple Prime Contractors' Applications for Payment: (1) review the Applications and certify the amount the Construction Manager determines is due each of the Multiple Prime Contractors; (2) prepare a Summary of Contractors' Applications for Payment by combining information from each Multiple Prime Contractors' application with information from similar applications for progress payments from other Multiple Prime Contractors; (3) prepare a Project Application and Certificate for Payment; (4) certify the amount the Construction Manager determines is due all Multiple Prime Contractors; and (5) forward the Summary of Contractors' Applications for Payment and Project Application and Certificate for Payment to the Architect.

§ 9.4.3 Within seven (7) days after the Architect receives the Project Application and Project Certificate for Payment and the Summary of Contractors' Applications for Payment from the Construction Manager, the Architect will either issue to the Owner a Project Certificate for Payment, with a copy to the Construction Manager, for such amount as the Architect determines is properly due, or notify the Construction Manager and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1. The Construction Manager will promptly forward the Architect's notice of withholding certification to the Contractors.

§ 9.4.4 The Construction Manager's certification of an Application for Payment or, in the case of Multiple Prime Contractors, a Project Application and Certificate for Payment shall be based upon the Construction Manager's evaluation of the Work and the information provided as part of the Application for Payment. The Construction Manager's certification will constitute a representation that, to the best of the Construction Manager's knowledge, information and belief, the Work has progressed to the point indicated and the quality of the Work is in accordance with the Contract Documents. The certification will also constitute a recommendation to the Architect and Owner that the Contractor be paid the amount certified.

§ 9.4.5 The Architect's issuance of a Certificate for Payment or in the case of Multiple Prime Contractors, Project Application and Certificate for Payment, shall be based upon the Architect's evaluation of the Work, the recommendation of the Construction Manager, and information provided as part of the Application for Payment or Project Application for Payment. The Architect's certification will constitute a representation that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated, that the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified.

§ 9.4.6 The representations made pursuant to Sections 9.4.4 and 9.4.5 are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Construction Manager or Architect.

§ 9.4.7 The issuance of a separate Certificate for Payment or a Project Certificate for Payment will not be a representation that the Construction Manager or Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed the Contractor's construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Construction Manager or Architect may withhold a Certificate for Payment or Project Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Construction Manager's or Architect's opinion the representations to the Owner required by Section 9.4.4 and 9.4.5 cannot be made. If the Construction Manager or Architect is unable to certify payment in the amount of the Application, the Construction Manager will notify the Contractor and Owner as provided in Section 9.4.1 and 9.4.3. If the Contractor, Construction Manager and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment or a Project Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner, as approved by the Owner, or in an amount determined by the Owner. The Construction Manager or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence or subsequent

observations, may nullify the whole or a part of a Certificate for Payment or Project Certificate for Payment previously issued, to such extent as may be necessary in the Construction Manager's or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from the acts and omissions described in Section 3.3.2 because of

- .1 defective Work or material not remedied;
- .2 unsatisfactory or disputed job progress ;
- .3 failure of the Contractor to make timely payments to Subcontractors or for labor, including collectively bargained fringe benefit contributions, payroll taxes and insurance, materials, equipment damage to the Owner, or reasonable evidence that the Contract cannot be completed for the unpaid balance of the Contract Sum; or

(Paragraph deleted)

- .4 failure to comply with other material provisions of the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld. The Owner may in its sole judgment, notwithstanding that a Certificate for Payment may have been issued by the Architect, withhold any payment or portion thereof from the Contractor in the event that any of the conditions listed in **§ 9.5.1** exists, provided that the amount withheld shall not exceed a reasonable estimate of the direct costs which the Owner has incurred or may incur as a result of such condition. When such grounds for non-payment are removed, payment shall be made in the amounts withheld on account thereof. The Owner shall not be deemed to be in breach of the Contract for the withholding any payments pursuant to this **§ 9.5.2** or any other provisions of this General Conditions.

§ 9.5.3 If the Architect or Construction Manager withholds certification for payment under Section 9.5.1, the Owner may, at its sole option, issue a check to Subcontractor or material or equipment suppliers to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by check, the Owner shall notify the Contractor, the Architect and the Construction Manager and both will reflect such payment on the next Certificate for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment or Project Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Construction Manager and Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven (7) days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work in compliance with applicable law concerning the prompt payment of Subcontractors, and in no event more than seven (7) days after receipt of payment from Owner. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner. Should the Contractor fail to make such payment to each Subcontractor, or any portion thereof, within such seven (7) days, Contractor shall immediately return such payment or portion thereof to Owner or, if such payment is not made solely because a bona-fide dispute exists between the Contractor and Subcontractor, such sum shall be paid to Contractor's attorney to be held in escrow pending the resolution of the dispute, and Owner shall concurrently with such deposit and any disbursal thereof be provided with written notice thereof.

§ 9.6.3 The Construction Manager will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Owner, Construction Manager and Architect on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner, Construction Manager nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor except as may otherwise be required by law.

§ 9.6.5 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors and suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not commingled with money of the Contractor, shall create any fiduciary liability or tort liability on the part of the Contractor for breach of trust or shall entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.7 Failure of Payment

§ 9.7.1 If the Construction Manager and Architect do not issue a Certificate for Payment or a Project Certificate for Payment, through no fault of the Contractor, within twenty-one (21) days after the Construction Manager's receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within thirty (30) days after the date established in the Contract Documents the amount certified by the Construction Manager and Architect or awarded by binding dispute resolution, then the Contractor may, upon thirty (30) additional days' written notice to the Owner, Construction Manager and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's actual costs of shut-down, delay and start-up.

§ 9.7.2 Notwithstanding anything to the contrary contained in the Contract Documents, if the Owner withholds any payment from the Contractor in good faith with reasonable cause and in accordance with any provision of this General Conditions, then the Contractor shall nevertheless continue to prosecute the Work expeditiously, provided that the Owner immediately notifies the Contractor that it intends to withhold such payment and states the reasons therefor, and the Owner affords the Contractor reasonable opportunity to remedy or cure the condition causing the Owner to withhold such payments.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work shall have been completed and all systems included in the Work shall be operational in accordance with the Contract Documents, and the premises may be occupied by the Owner to the reasonable exclusion of Contractor with only minor items remaining and the Owner can begin its complete use of the Project for its intended use. As a further condition of Substantial Completion acceptance, the Contractor shall certify that all remaining Work will be complete within thirty (30) consecutive calendar days following the Date of Substantial Completion..

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify the Construction Manager, and the Contractor and Construction Manager shall jointly prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment (the "Punch List"). Failure to include an item on Punch List does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Punch List, the Architect, assisted by the Construction Manager, will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Punch List, which is not sufficiently complete in accordance with the requirements of the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect, assisted by the Construction Manager, to determine Substantial Completion.

§ 9.8.4 When the Architect, assisted by the Construction Manager, determines that the Work or designated portion thereof is substantially complete, the Construction Manager will prepare, and the Construction Manager and Architect shall execute a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall

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establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, any damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the final Punch List accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage applying to such Work or designated portion thereof. Such payment shall be net of an amount equal to 200% of the value of all Punchlist items which amount will be held by the Owner until final completion of the Project in accordance with the requirements of the Contract Documents.

§ 9.8.6 Following the issuance of a Certificate of Substantial Completion of the Project, Contractor shall coordinate and ensure the correction and completion of all Work and make recommendations to the Owner and Architect when the Work of the Project is ready for final inspection. Contractor shall assist the Owner and the Architect in conducting final inspections. Contractor shall secure from Subcontractors and transmit to Owner required guarantees, affidavits, releases and waivers. Contractor shall deliver all keys, manuals, record drawings and maintenance stocks to Owner.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor and Construction Manager shall jointly prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect after consultation with the Construction Manager.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Construction Manager, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon completion of the Work, the Contractor shall forward to the Construction Manager a written notice that: (i) the Work has passed all inspections by all applicable local and municipal building and zoning authorities, and (ii) the Work is ready for final inspection and acceptance and shall also forward to the Construction Manager a final Contractor's Application for Payment. Upon receipt, the Construction Manager will evaluate the completion of Work of the Contractor and then forward the notice and Application, with the Construction Manager's recommendations, to the Architect who will make such inspection. When the Architect, finds the Work acceptable under the Contract Documents and the Contract fully performed, the Construction Manager and Architect will issue a final Certificate for Payment or Project Certificate for Payment, to be reviewed and accepted by the Owner, stating that to the best of their knowledge, information and belief, and on the basis of their on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Construction Manager's and Architect's final Certificate for Payment or Project Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect through the Construction Manager (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or

encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) other data establishing payment or satisfaction of obligations, such as receipts, releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner, (6) all operating, servicing, maintenance and cleaning instructions, parts list and special tools for mechanical and electrical work incorporated into the Project, and Drawings and Specifications marked-up to show 'as-built' conditions, in such form subject to Owner's approval, (7) all permits and approvals, and guarantees and warranties, including without limitation, manufacturers' warranties and certificates of inspections, (along with any assignments to Owner as necessary) in form and substance satisfactory to Owner, (8) evidence of completion and submission to all necessary parties of all documents, information and sign-off's required by Owner, and (9) evidence that Contractor and/or Contractor's Subcontractors have satisfactorily instructed appropriate Owner's personnel in the operation and maintenance of all systems and equipment.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Construction Manager and Architect so confirm, the Owner shall, upon application by the Contractor and certification by the Construction Manager and Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect through the Construction Manager prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4

(Paragraphs deleted)

Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

§ 9.10.5 Neither the issuance of a Certificate for Payment nor any payment (whether progress payment, payment upon substantial completion or final payment) nor any partial or total acceptance or occupancy of the Project by the Owner (either in writing or de facto) shall constitute approval of any costs included in any Application for Payment or an acceptance of any Work not in accordance with the Contract Documents nor shall any inspection or test by the Owner be an acceptance of any Work not in accordance with the Contract Documents.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall submit the Contractor's safety program to the Construction Manager for review and coordination with the safety programs of other Contractors. The Construction Manager's responsibilities for review and coordination of safety programs shall not extend to direct control over or charge of the acts or omissions of the Contractors, Subcontractors, agents or employees of the Contractors or Subcontractors, or any other persons performing portions of the Work and not directly employed by the Construction Manager.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors;

- .3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and
- .4 construction or operations by the Owner or other Contractors.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities. Contractor, shall cause to be performed any work and furnish and install any materials and equipment which Contractor deems reasonably necessary to prevent threatened damage, injury or loss and shall otherwise protect all finished and unfinished Work and all materials at the Project site, all adjacent property, and all plant, equipment and other appliances at the Project site from rain, water, frost and the elements and from other kinds of damage which may be caused in any manner whatsoever, and Contractor shall be entirely responsible for any loss or damage done to the Work, materials, plant, equipment and other appliances in any manner aforementioned, excepting damage caused by Owner or its separate contractors or by causes outside the Contractor's control, unless such damage would not have occurred if the Work had been protected in accordance with good construction practices at projects of similar size, complexity and location. Contractor shall notify Owner of an emergency as soon as practicable but shall not wait for instructions before proceeding.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel and shall give the Owner reasonable notice.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2, 10.2.1.3 and 10.2.1.4, except damage or loss attributable to acts or omissions of the Owner, Construction Manager or Architect or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.1.8.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner, Construction Manager and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding twenty-one (21) days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents, the Contractor shall immediately report the condition to the Owner, Construction Manager and Architect in writing and take reasonable precautions to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to, asbestos or polychlorinated biphenyl (PCB). If such reasonable precautions will be inadequate to so prevent foreseeable bodily injury and death, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify a presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless or otherwise abated. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor, Construction Manager and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of such material or substance or who are to perform the task of removal or safe containment of such material or substance. The Contractor, the Construction Manager and the Architect will promptly reply to the Owner in writing stating whether or not any of them has reasonable objection to the persons or entities proposed by the Owner. If the Contractor, Construction Manager or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor, the Construction Manager and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased in the amount of the Contractor's reasonable additional costs of shut-down, delay and start-up.

§ 10.3.2.1 In no event shall the Owner have any responsibility for any substance or material that is brought to the Project site by the Contractor, any Subcontractor or any materialman or supplier, or any entity for whom any of them is responsible. The Contractor agrees not to use any fill or other materials to be incorporated into the Work, which are hazardous, toxic or comprised of any items that are hazardous or toxic.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Construction Manager, Architect, their consultants, and agents and employees of any of them from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 To the fullest extent permitted by law, the Contractor shall indemnify, defend and hold harmless the Owner, its agents, representative and employees for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall indemnify the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7. The Contractor shall promptly notify insurers as applicable, and the Owner of the nature of the emergency. Immediately thereafter, the Contractor shall submit to the Owner a written report including description of circumstances of the emergency and details of actions taken.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Liability Insurance

§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set

forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- .1 Claims under workers' compensation, disability benefit and other similar employee benefit acts which are applicable to the Work to be performed;
- .2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
- .3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
- .4 Claims for damages insured by usual personal injury liability coverage;
- .5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
- .6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle; and
- .7 Claims for bodily injury or property damage arising out of completed operations; and
- .8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Certificates of insurance acceptable to the Owner shall be submitted to the Construction Manager for transmittal to the Owner with a copy to the Architect prior to commencement of the Work and thereafter upon renewal or replacement of each required policy of insurance. An additional certificate evidencing continuation of liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment as required by Section 9.10.2 and thereafter upon renewal or replacement of such coverage until the expiration of the time required by Section 11.1.2. Information concerning reduction of coverage shall be furnished by the Contractor with reasonable promptness. The Contractor shall provide written notification to the Owner of the cancellation or expiration of any insurance required by Section 11.1. The Contractor shall provide such written notice within five (5) business days of the date the Contractor is first aware of the cancellation or expiration, or is first aware that the cancellation or expiration is threatened or otherwise may occur, whichever comes first.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner and the entities listed on Exhibit D to the Agreement as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions.

§ 11.2 Owner's Liability Insurance

The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 Property Insurance

§ 11.3.1 The Owner shall maintain its current property insurance provided by the New York Schools Insurance Reciprocal, which shall be the Owner's property insurance applicable to the Project.

§ 11.3.1.1 Notwithstanding the definition of "Work" in the Contract Documents, the Contractor assumes all responsibility for the safety and keeping of all tools and equipment and any materials or products used to complete or perform the Work, and which do not form a permanent part of the Work.

§ 11.3.1.2 The Contractor waives all rights against the Owner, Construction Manager, Architect, their consultants and sub-consultants, employees and agents for any loss or damage to any tools and equipment and any materials or products used to complete or perform the Work, and which do not form a permanent part of the Work. The Contractor shall require similar waivers in favor of the above named parties from all Subcontractors and sub-Subcontractors, agents and employees of any of them.

§ 11.3.1.3 If the property insurance requires deductibles, the Contractor shall pay costs not covered because of such deductibles.

§ 11.3.1.4 The Contractor shall provide insurance coverage for portions of the Work stored off the site, in transit, and stored on the site, but not incorporated into the Work on a full replacement cost basis. The Contractor is responsible for all deductible amounts.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.2 **Boiler and Machinery Insurance.** The Owner shall purchase and maintain boiler and machinery insurance required by the Contract Documents or by law, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this insurance shall include interests of the Owner, Construction Manager, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

§ 11.3.3 **Loss of Use Insurance.** The Owner, at the Owner's option, may purchase and maintain such insurance as will insure the Owner against loss of use of the Owner's property due to fire or other hazards, however caused.

§ 11.3.4 If the Contractor requests in writing that insurance for risks other than those described herein or other special causes of loss be included in the property insurance policy, the Owner shall, if possible, include such insurance, and the cost thereof shall be charged to the Contractor by appropriate Change Order.

§ 11.3.5 If during the Project construction period the Owner insures properties, real or personal or both, adjoining or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, the Owner shall waive all rights in accordance with the terms of Section 11.3.7 for damages caused by fire or other causes of loss covered by this separate property insurance. All separate policies shall provide this waiver of subrogation by endorsement or otherwise.

§ 11.3.6 The Owner shall provide written notification to the Contractor of the cancellation or expiration of any insurance required by Sections 11.2 and 11.3. The Owner shall provide such written notice within five (5) business days of the date the Owner is first aware of the cancellation or expiration, or is first aware that the cancellation or expiration is threatened or otherwise may occur, whichever comes first.

§ 11.3.7 **Waivers of Subrogation.** The Contractor waive all rights against the Owner, the Construction Manager, Architect, Architect's consultants, separate contractors described in Article 6, if any, 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 property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work.

§ 11.3.8 A loss insured under the Owner's property insurance shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.3.10. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.3.9 Intentionally Omitted.

§ 11.3.10 The Owner as fiduciary shall have power to adjust and settle a loss with insurers unless one of the parties in interest shall object in writing within five days after occurrence of loss to the Owner's exercise of this power; if such objection is made, the dispute shall be resolved in the manner selected by the Owner and Contractor as the method of binding dispute resolution in the Agreement.

§ 11.4 Performance Bond and Payment Bond

§ 11.4.1 The Contractor shall furnish bonds covering faithful performance of the Contract (the "Performance Bond") and payment of obligations arising thereunder as stipulated in the Contract Documents on the date of execution of the Contract (the "Payment Bond").

§ 11.4.2 The Contractor shall furnish a Performance Bond and Payment Bond (collectively the "Bonds") each be in an amount equal to one hundred percent (100%) of the Contract Sum meeting all statutory requirements of the State of New York, in form and substance satisfactory to the Owner (including, but not limited to, a New York State admitted surety company, in good standing) and, without limitation, complying with the following specific requirements:

- .1 Except as otherwise required by statute, the form and substance of the Bonds shall be satisfactory to the Owner in the Owner's sole judgment;
- .2 Bonds shall be executed by a responsible surety licensed in the Jurisdiction of the Work with a Best's rating of no less than A/XII and shall remain in effect for a period not less than two (2) years following the date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer; and
- .3 The Contractor shall require the attorney in fact who executes the Bonds on behalf of the surety to affix thereto a certified and current copy of its power of attorney indicating the monetary limit of such power.
- .4 Bonds must display the Surety Bond Number. Each Bond shall include the following modifications:
 - .1 Surety hereby agrees that it consents to and waives notice of any addition, alteration, omission, change, or other modification of the Contract Documents. Such addition, alteration, change, extension of time, or other modification of the Contract Documents, or a forbearance on the part of either the Owner or the Contractor to the other, shall not release the Surety of its obligations hereunder and notice to the Surety of such matters is hereby waived.
 - .2 Surety further agrees that in event of any default by the Owner in the performance of the Owner's obligations to the Contractor under the Contract, the Contractor or Surety shall cause written notice of such default (specifying said default in detail) to be given to the Owner, and the Owner shall have thirty (30) days from time after receipt of such notice within which to cure such default, or such additional reasonable period of time as may be required if the nature of such default is such that it cannot be cured within thirty (30) days. Such Notice of Default shall be sent by certified registered U.S. Mail, return receipt requested, first class postage prepaid, to the Architect and the Owner.
- .5 Notwithstanding anything to the contrary set forth in the Contract Documents, the Performance Bond shall not contain a condition that any meeting must be scheduled among Owner, Contractor and its surety, or any combination of them, prior to Owner declaring Contractor in default or prior to Owner terminating Contractor's Contract. Any such language in a Performance Bond shall be null, void and unenforceable.

§ 11.4.3 Upon the request of any person or entity appearing to be a potential beneficiary the Bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the Bonds or shall permit a copy to be made.

§ 11.4.4 The Contractor shall deliver the Bonds to the Owner prior to beginning construction activity at the site, but no later than seven (7) days after execution of the Contract.

§ 11.4.5 The Owner may, in the Owner's sole discretion and without prior notice to the Contractor, inform surety of the progress of the Contractor's Work and obtain consents as necessary to protect the Owner's rights, interest, privileges and benefits under and pursuant to any bond issued in connection with the Contractor's Work.

§ 11.4.6 If the surety, the Bonds furnished by the Contractor, is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of this Article, the Contractor shall within ten (10) days thereafter substitute another Performance Bond and Payment

Bond and surety, both of which must be acceptable to the Owner.

§ 11.4.7 The Contractor shall keep the surety informed of the progress of the Work, and, where necessary, obtain the surety's consent to, or waiver of: (1) notice of changes in the Work; (2) request for reduction or release of retention; (3) request for final payment; and (4) any other material required by the surety. The Owner and Construction Manager shall be notified by the Contractor, in writing, of all communications with the surety. The Owner may, in the Owner's sole discretion, inform surety of the progress of the Work and obtain consents as necessary to protect the Owner's rights, interest, privileges and benefits under and pursuant to any bond issued in connection with the Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Construction Manager's or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by either, be uncovered for their observation and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered which the Construction Manager or Architect has not specifically requested to observe prior to its being covered, the Construction Manager or Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or one of the other Contractors in which event the Owner shall be responsible for payment of such costs.

§ 12.2 Correction of Work

§ 12.2.1 Before or After Substantial Completion

The Contractor shall promptly correct Work rejected by the Construction Manager or Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Construction Manager's and Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly, at its sole cost and expense, after receipt of written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4 and Contractor shall be obligated to reimburse the Owner all costs incurred in relation to such correction.

§ 12.2.2.2 The one-year period shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors or other Multiple Prime Contractors caused by the

Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.2.6 The corrective remedies set forth in **§ 12.2** are not exclusive and shall not deprive the Owner of any action, right or remedy otherwise available to it for breach of any of the provisions of the Contract Documents and for any damages suffered by Owner as a result of such defects in the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the laws of State of New York Any action arising out of or relating to the Contract or Project shall be brought exclusively in a court of competent jurisdiction in the State of New York.

§ 13.1.1 Survival. All defense and indemnification obligations of Contractor, and all representations, warranties, covenants, and waivers contained in this Contract or made during the course of performance hereunder shall survive the making of the final payment and any termination of the Contract.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a similarly situated entity with demonstrated financial ability needed for the competition the Project if the entity agrees to assume the Owner's rights and obligations under this General Conditions. The Contractor shall execute all consents reasonably required to facilitate such assignment.

§ 13.3 Written Notice

All notices given pursuant to the Contract Documents shall be in writing and shall be hand delivered or sent by overnight mail service, with an e-mail copy, to the respective representatives of the parties at the addresses set forth above or to such other addresses for which notice of change shall have been given. All notices shall be deemed to have been given on the date received.

§ 13.4 Rights and Remedies

§ 13.4.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available at law and equity.

§ 13.4.2 No action or failure to act by the Owner, Construction Manager, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing. No provision contained in the Contract Documents shall create or give to third parties any claim or right of action against the Owner, except as specifically provided herein.

§ 13.5 Tests and Inspections

§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections and approvals. The Contractor shall give the Construction Manager and Architect timely notice of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. The Owner shall bear costs of (1) tests, inspections or approvals that do not become requirements until after bids are received or negotiations concluded, and (2) tests, inspections or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Construction Manager, Architect, Owner or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Construction Manager and Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Construction Manager and Architect of when and where tests and inspections are to be made so that the Construction Manager and Architect may be present for such procedures. Such costs except as provided in Section 13.5.3, shall be at the Owner's expense. If the inspections and tests conducted under **§ 13.5.1** or this **§ 13.5.2** reveal failure in a portion of the Work, the Owner may order the inspection and testing, at the Contractor's expense, of any and all portions of the Work that are identical or similar to the failing portion.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Construction Manager's and Architect's services and expenses shall be at the Contractor's expense.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Construction Manager for transmittal to the Architect.

§ 13.5.5 If the Construction Manager or Architect is to observe tests, inspections or approvals required by the Contract Documents, the Construction Manager or Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 Interest

Payments due and unpaid under the Contract Documents shall bear interest to the extent required by the Contract Documents.

§ 13.7 Liens. At all times, Contractor shall fully and promptly pay and discharge any and all commitments and claims and wholly defend, protect, indemnify and hold harmless Owner, and any lenders or investors, (and their respective officers, directors, agents, servants, employees, members, shareholders, parents, subsidiary and affiliate companies) (collectively the foregoing "Lien Indemnitees") from and against any and all mechanic's liens or claims by Contractor or Subcontractors or any others for whom Contractor is responsible in connection with supplies materials or services relating to the Project and against all damages, liability, cost and expense arising out of or related thereto (whether direct or consequential notwithstanding any provisions of the Contract to the contrary) and including all reasonable attorneys' fees and disbursements (including attorneys' fees relating to the enforcement of this provision, and any appeals, and in obtaining judgments and collection of such costs and expenses), that the Lien Indemnitees may suffer or incur as a result thereof, provided, however, that Contractor has been paid by Owner all undisputed sums properly due pursuant to the Contract Documents. In connection with the foregoing, all mechanic's liens filed by Contractor or Subcontractors or any others for whom Contractor is responsible (except where Owner has not paid the Contractor all undisputed sums properly due pursuant to the Contract Documents) shall be removed, discharged or bonded by Contractor within seven (7) days of notice from Owner. If Contractor fails to commence the process to discharge or remove any lien within seven (7) days after notice of the lien, and notify Owner thereof in writing that it is doing so, or

if Contractor thereafter commences the same but fails to diligently prosecute and achieve such discharge or removal to the satisfaction of Owner in its sole discretion within the seven (7) days required for such, Owner shall, without limitation to Contractor's full defense and indemnification obligations under this § 13.7 have the right to remove, discharge or bond such lien and deduct the cost thereof (including the amount paid or bonded plus reasonable attorneys' fees, disbursements, and other necessary costs) from any payment due the Contractor. Rights under this § 13.7 are in addition to any other rights available to the Lien Indemnitees under the Contract and/or law, and shall survive the term or earlier termination of the Contract.

§ 13.8 Standard of Care. Unless otherwise specified in the Contract Document, specifically including, but in no event limited to, the Drawings and Specifications, all materials shall be new and of good quality and the Contractor shall, requested by the Owner, furnish satisfactory evidence to the Owner as to transportation, services and all other things necessary to complete the Work in accordance with the intent of the Contract Documents, including all work expressly specified therein and reasonably inferable from the Contract Documents, except for only such items or work specifically stated in the Contract Documents not to be the obligation of the Contractor. Contractor represents and warrants to Owner that it has extensive experience in constructing projects similar to the Project that it is experienced with public schools in New York State and that it is familiar with and knowledgeable regarding the components that are properly and customarily included within such a project, including the requirements of state laws, local building codes, local building officials, manufacturers' recommendations, building standards, and trade practices as to the types and quantities of components, items, systems, materials, and methods of construction to be included in the Project, in order to produce a project that will operate with utility and efficiency; and the Work shall be performed by qualified, trained, experienced and competent personnel in a professional and workmanlike manner in accordance with (i) generally prevailing and accepted industry standards; (ii) all requirements of any warranties applicable to the Work; and (iii) all applicable laws, ordinances, rules, regulations and orders of any public, quasi-public or other governmental authority relating to the Work and the safety of persons and their protection against injury. The Contractor represents and warrants to the Owner that it has experience in constructing projects similar to size, type, magnitude, location and class as the Project, and that it is familiar with and knowledgeable regarding the components that are properly and customarily included within such a project, including the requirements of state laws, local building codes, local building officials, manufacturers' recommendations, building standard and trade practices ("Good Building Practices") (collectively, the "Standard of Care"). The Contractor represents and warrants that all work, materials, equipment, labor and operations that are likely to be required for the Project will be in accordance with Good Building Practices and is included within the cost of the Project.

§ 13.8.1 The Contractor further represents and warrants that it has visited and examined the Project site, that it has examined all physical, legal, and other conditions affecting the Work and that it has become familiar with local conditions (including, but not limited to, layout, nature, surrounding areas, climatic conditions, anticipated labor supply and costs, availability and costs of materials, tools and equipment, etc.) under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents.

§ 13.8.1.1 The Contractor has thoroughly reviewed and inspected all of the existing Contract Documents and all other information and documents provided by the Owner to the Contractor and the Contractor represents and warrants to the Owner that the Contractor has notified the Owner and Architect of any errors, discrepancies or missing information which the Contractor has identified prior to executing the Contract. Contractor acknowledges and warrants that it has examined all the Contract Documents, that they are suitable and sufficient to enable Contractor to complete the Work in a timely manner.

§ 13.9 PREVAILING WAGES: The wage rate which can be paid to workers employed in the performance of the Contract shall be no less than the rates of wages as promulgated by the Department of Labor and Industry of the State for the location and duration of this project.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped; or

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.2 An act of government, such as a declaration of national emergency that requires all Work to be stopped.
(Paragraphs deleted)

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner payment for Work executed including reasonable overhead and profit.

§ 14.1.4 If the Work is stopped for a period of 90 consecutive days through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing portions of the Work under contract with the Contractor because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' written notice to the Owner, Construction Manager and Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.1.5 The notice of termination delivered pursuant to **§ 14.1.3** or **§ 14.1.4** must state with specificity the means by which the Owner may cure its nonperformance, and the Contractor shall not terminate the Contract if, within the applicable seven (7) day period, the Owner begins to take such curative measures.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner shall have the right to terminate the Contract, at any time, upon not less than seven (7) days written notice, all or any portion of the Work and/or phase of the Project to be performed hereunder by the Contractor for cause (provided the Contractor does not cure such default to the satisfaction of Owner, or if not curable within said seven (7) day period, commence and diligently prosecute such cure to satisfaction of the Owner), if the Contractor

- .1** refuses or fails to supply enough properly skilled workers or proper materials or to otherwise prosecute the work promptly and diligently;
- .2** fails to make payment to Subcontractors for materials or labor in accordance with the respective agreements between the Contractor and the Subcontractors or otherwise materially breaches its obligations under a subcontract with a Subcontractor;
- .3** disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4** fails to comply with the directions, instructions and requirements of the Owner given pursuant to the terms of the Contract Documents;
- .5** fails to remove lien or other claim by Subcontractors against the Owner or the Owner's property or Project;
- .6** has a voluntary or involuntary petition filed by it or against it in bankruptcy; or (ii) be adjudged a bankrupt; or (iii) has any or all of its assets or the business conducted by it taken by any trustee, receiver or other person pursuant to any judicial proceedings; or (iv) becomes insolvent; or (v) has a petition for a dissolution, reorganization or arrangement of its affairs filed by or against it; or (vi) makes a general assignment for the benefit of its creditors; or (vii) has a receiver or trustee in liquidation, whether temporary or permanent appointed for it or for any of its property;
- .7** knowingly submits any document that is false or misleading; or
- .8** otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, after consultation with the Construction Manager, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven (7) days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- .1** Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2** Accept assignment of subcontracts pursuant to Section 5.4; and

- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the costs of finishing the Work, including compensation for the Construction Manager's and Architect's services and out-of-pocket expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, exceed the unpaid balance or Contract Sum, the Contractor shall pay the difference to the Owner. This obligation for payment shall survive termination of the Contract.

§ 14.2.5 In the event of termination due to the default by the Contractor, the Owner shall pay to the Contractor the amount due and owing for properly performed work, completed as of the date of the termination, provided, however, that any payment shall be reduced by an amount deemed by the Owner as appropriate compensation for damages suffered by reason of such default. Termination under this Article shall be in addition to any other remedy or relief available to the Owner.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 Subject to the Contractor's obligations herein to provide written notice and other information as a condition precedent to make a Claim for such, the Contract Sum and the Contract Time shall be adjusted for actual and reasonable increases in the cost and time caused by suspension, delay or interruption pursuant to an Owner written notice, as described in Section 14.3.1 as agreed by Owner and Contractor in an Owner approved and signed Change Order. No adjustment shall be made to the extent:

- .1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of this Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause upon seven (7) days' written notice.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
- .3 tender for Owner's acceptance, assignment of Subcontracts pursuant to Section 5.4; and
- .4 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing Subcontracts and purchase orders for which Owner does not accept assignment and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall only be entitled to receive payment for Work executed.

§ 14.5 POST TERMINATION PROCEDURES - CONTRACTOR

§ 14.5.1 Upon any termination of Contractor by Owner under the Contract Documents pursuant to the provisions of this Article 14, the Contractor shall immediately, in accordance with instructions from the Owner, proceed with performance of the following items:

- .1 cease operation as specified in the termination notice;
- .2 place no further orders and enter into no further Subcontracts for materials, labor, services or facilities except as necessary to complete continued portions of the Contract Documents upon Owner's written instruction;

- .3 upon the Owner's written instruction to do so, terminate specified Subcontracts and orders on terms acceptable to Owner to the extent they relate to the Work terminated;
- .4 execute and deliver assignments of the Contractor's contractual rights under all Subcontracts, purchase orders, commitments, or other obligations specified by Owner, for the purpose of fully vesting in the Owner the rights and benefits of the Contractor under such obligations or commitments pertaining to the Work;
- .5 take actions that may be necessary, or that the Owner may direct, to preserve and protect the Work already in progress and to protect materials and equipment at the site or in transit to the site, diligently; and
- .6 fully cooperate with Owner in connection with the completion of the Project, Owner's taking possession thereof, and providing to Owner all information and documents (including, but not limited to plans, memoranda, correspondence, notes, minutes, drawings, sketches, electronic data, Contract Documents, etc.) regarding the Project.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition. A "Claim" is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of the Contract terms, payment of money, extension of time or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. A Claim must be initiated by written notice. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 Notice of Claims. It is a condition precedent to Contractor's ability to pursue any Claim that written notice of the Claim by Contractor must be delivered to the Owner within twenty (21) days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later, and the written notice of Claim must provide the information required by this § 15.1.2. The notice of Claim shall set forth: (i) the reasons for which the Contractor believes additional compensation will or may be due or additional Contract Time should be granted; (ii) the nature of the costs involved with the Claim and if reasonably ascertainable, the amount or estimated amount of the potential Claim; (iii) the Contractor's plan for mitigating such costs relating to the Claim; (iv) if the Contractor's Claim relates to or will affect the Project Schedule, demonstrable proof of such; and (v) suggestion to Owner to mitigate the effect of any such delay including without limitation overtime, re-sequencing and other remedial methods. If Contractor does not provide written notice to Owner within the time required herein and otherwise in conformance with the requirements of such written notice, Contractor shall be deemed to have waived any such Claim or any ability to pursue any remedies for the subject matter of the Claim if initiated after the time limit set forth in this § 15.1.2 (or otherwise in conformance herein).

§ 15.1.3 Continuing Contract Performance. Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. Without limitation to the generality to the preceding, Contractor shall discharge or remove (by bond or otherwise) any mechanic's lien filed against the property of the Project pursuant to the provisions of Section 13.9, with the understanding that TIME IS OF THE ESSENCE regarding such.

§ 15.1.4 Claims for Additional Cost. If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work and otherwise as a condition precedent to making such Claim, unless such Claim for an increase in the Contract Sum is the result of an Excusable Delay, then Contractor shall comply with the notice provision provided in § 8.3.1. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.3.

§ 15.1.5 Claims for Additional Time

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given before proceeding to execute the Work and otherwise as a condition precedent to making such Claim, unless such Claim for an increase in the Contract Time results from an Excusable Delay (in the manner provided in § 8.3.1).

(Paragraphs deleted)

§ 15.2 Initial Decision

§ 15.2.1 Claims, excluding those arising under Sections 10.3, 10.4, 11.3.9, and 11.3.10, shall be referred to the Initial Decision Maker for initial decision. The representative identified in Section 6.1 of the Agreement will serve as the Initial Decision Maker. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim arising prior to the date final payment is due, unless 30 days have passed after the Claim has been referred to the Initial Decision Maker with no decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within twenty (21) days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect and Construction Manager of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

(Paragraphs deleted)

§ 15.3 Mediation

§ 15.3.1 Any claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived by the Contractor per the Contract Documents shall be subject to mediation, if agreed in writing by both the Owner and Contractor.

§ 15.3.1.1 The process set forth above in **§ 15.3.1** is an "informal" and non-binding process aimed at resolving disputes between the parties to the Contract as expeditiously as possible. This process shall not be considered as a condition precedent for either party to move to a more formal dispute resolution process. Either party shall be entitled to proceed immediately with litigation.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of a complaint.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 LITIGATION

If the parties do not resolve a dispute through non-binding mediation pursuant to **§ 15.3**, the dispute shall be resolved by litigation exclusively in a court of competent jurisdiction in Westchester County in the State of New York. In connection with the foregoing, the Owner and Contractor hereby consent to the exclusive jurisdiction of the Supreme Court of the State of New York and the Federal District Court for the Southern District of New York and waive any challenge to the venue or personal jurisdiction of such courts. Notwithstanding **§ 15.3**, either party may proceed to enforce their rights in court before or while informal discussion and/or non-binding mediation is pending or without any informal discussion and/or mediation.

(Paragraphs deleted)

REQUISITION FOR PARTIAL PAYMENT - WAIVER OF LIENS

PROJECT	OWNER
GENERAL CONTRACTOR	SUBCONTRACTOR/VENDOR
CONTRACT	WORK COMPLETE
PROJECT:	CONTRACT - \$
TRADE:	CHANGE ORDERS - \$
CONTRACT - \$	TOTAL COMPLETE - \$
CHANGE ORDERS - \$	RETAINAGE (___ %) - \$
TOTAL CONTRACT - \$	LESS PRE. REQ. - \$
	THIS REQUISITION - \$

Waiver of Lien

The undersigned, upon receipt of the above requisition payment hereby releases and discharges the Owner of and from any liability or obligation in any way related to or arising out of this project up to and including the date of this document.

The undersigned further covenants and agrees that it shall not in any way claim or file a mechanic's or other lien against the premises of the above designated project, or any part thereof, or against any fund applicable thereto for any of the work, labor, materials heretofore furnished by it in connection with the improvement of said premises.

The undersigned further warrants that, in order to induce the Owner to release this partial payment, they have paid all claims for labor, material, insurance, taxes, equipment, etc., employed in the prosecution of the work above, to date of this requisition.

The undersigned hereby releases and agrees to hold the Owner harmless from any and all claims in connection with the furnishing of such labor and materials, etc., for the construction of the aforementioned project.

The undersigned further guarantees that all portions of the work furnished and/or provided by them are in accordance with the contract and that the terms of the contract with respect to these guarantees will hold for the period specified in said contract.

IN WITNESS WHEREOF, we have executed under seal this release on the above date and to be legally bound hereby:

WITNESS: _____ FIRM: _____

BY: _____

CORPORATE ACKNOWLEDGEMENT

)SS.
)

On the _____ day of _____, before me came _____ to me known and who by me being duly sworn did depose and say that he resides at _____; that he is the officer of the said corporation executing the foregoing instrument, that he knows the seal of said corporation, that the seal affixed to said instrument is such corporate seal, that it was so affixed by order of the Board of Directors of said corporation and that he signed his name thereto by like order.

Notary Public

INDIVIDUAL ACKNOWLEDGEMENT

State of

)SS.
)

County of

On the _____ day of _____, before me came _____ to me known and who by me being duly sworn did depose and say that he resides at _____ that he is the individual who executed the foregoing instrument.

Notary Public

PARTNERSHIP ACKNOWLEDGEMENT

State of

)SS.
)

County of

On the _____ day of _____, before me came _____ to me known and who by me being duly sworn did depose and say that he resides at _____; that he is the partner in the firm of _____ doing business under the name of _____ and that he executed the foregoing instrument on behalf of said partnership.

Notary Public

SECTION 01 10 00

DESCRIPTION OF WORK

1.01 GENERAL PROJECT DESCRIPTION

A. The Owner, **Chappaqua Central School District**, at 66 Roaring Brook Road, Chappaqua, NY, 10514, invites sealed bids for the **Westorcharde Elementary School Roof Replacement Project, 25 Granite Road, Chappaqua, NY 10514**, as depicted on the accompanying Contract Drawings and the Technical Specifications.

B. Scope Statement - For purposes of establishing the specific items of Work a listing of the "general scope" is included as follows:

1. Replacement of the existing roof and related work including ACBM abatement.

This "scope" listing is to be considered as for information only; failure to list any item of work therein required to complete the Work will not relieve any Contractor from providing that work and all ancillary items necessary to complete same in accordance with the Contract Documents.

The general items of work applicable to the Project are included in the companion Technical Specifications and as depicted on the accompanying Contract Drawings.

The accompanying technical sections establish all governing requirements set forth in Part 1 as well as supplemental general items of Scope; Part 2, for all material requirements and Part 3, for all execution and workmanship requirements.

C. Existing conditions are shown on the drawings to the best knowledge of the Architect. The Architect, however, cannot guarantee the correctness of the existing conditions shown and assumes no responsibility therefore. It shall be the responsibility of the Contractor to visit the site and verify all existing conditions.

D. The Contractor's attention is directed to Articles 6.1.4 through 6.2.1.2 of Section 007000, which required coordination of this Contractor's work with the work and progress of other separate contracts.

E. SECURITY PROVISIONS: Coordinate and comply with AIA 232-2009, General Conditions, and Section 01 15 01 Special Project Requirements.

1. All Contractors' employees shall use a single means of access and egress, except in the case of emergency, to be designated by the General Contractor.

2. Each Contractor and each Subcontractor shall require his employees, while on the job site, to wear, in a conspicuous location, a Photo I.D. badge bearing the name of the individual and the Contractor for whom working. The badges of each Contractor shall be numbered consecutively. An up-to-date list of all I.D. badges, indicating the name and number along with a copy of the photograph for each employee, shall be furnished to the Owner.

G. Regarding special inspections, the registered design professional in responsible charge shall be the Architect. The Owner shall hire the special inspectors and shall

be responsible for the cost of special inspections, but the contractor is responsible for the cost of any re-inspections or retesting. The inspections required are outlined on the Statement of Special Inspection and Tests Form (attached). The Architect shall be responsible for determining the qualifications of the special inspectors, receiving and retaining all reports and assuring that any discrepancies are corrected.

Special inspectors must keep records of inspections and furnish inspection reports to the Architect of record. The reports must indicate that the work inspected was done in conformance with the approved construction documents. Discrepancies must be brought to the attention of the contractor and non-corrected discrepancies must be brought to the attention of the Architect of record. A final report of inspections documenting required special inspections and correction of any discrepancies noted must be submitted to the registered design professional in responsible charge at the completion of the project. The design professional shall forward a copy of the final report to the school district for their records.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Asbestos and lead paint awareness requirements
- B. Construction requirements
- C. Proof of orders and delivery dates
- D. Intent of Documents
- E. Field Measurements
- F. Initial Submittal Requirements
- G. Quality Requirements
- H. Testing and Inspection Laboratory Services
- I. Manufacturers Field Services and Reports
- J. Coordination
- K. Field Engineering
- L. Job and Progress Meetings – See Section 013119
- M. Design Responsibility - NONE
- N. Schedules and Milestones
- O. Additional Requirements
- P. Mold Mitigation Requirements
- Q. Waste Management
- R. Use of Premises
- S. Owner Occupancy Requirements
- T. Payrolls and Payroll Records – Coordinate with Sections 012900, 012901 and 017700

1.03 ASBESTOS AND LEAD PAINT AWARENESS REQUIREMENTS

- A. Contractor agrees not to use or permit the use of any asbestos containing material in or on any property belonging to the Owner.
- B. For purposes of this requirement, asbestos free shall mean free from all forms of asbestos including - actinolite, amosite, anthrophyhlite, chrysotile, cricidolite and tremolite both in friable and non-friable states and without regard to the purposes for which such material is used.

1.04 CONSTRUCTION TIME AND PHASING REQUIREMENTS

- A. The Contractor is advised the "time is of the essence" of the Contract as defined in Article 8 of the "Conditions". Further, safe and legal ingress and egress shall be

maintained at all times to and through the occupied portions of the construction site. Attention is directed to Article 3.13 of Section 007000 for use of site, temporary new work and maintenance of legal egress at all times.

B. Work shall proceed in such a manner as to cause the least amount of disruption to the ongoing operations as possible. COORDINATE CLOSELY WITH SCHOOL OPERATING PERSONNEL.

C. All work and storage areas shall be completely enclosed by a fence or barricade at all times so that no student or the public can approach the area or the equipment. The Contractor shall maintain fences and barricades at all times and shall -

- ° Provide signs posted on fence 50 feet on center that read "Work Area - Keep Out."

- ° Maintain at all times, all exits and walkways from the Building.

Where the barricade is removed for work, the Contractor performing such work shall provide adequate safety personnel to prevent unauthorized persons from approaching the work area.

1. The Contractor is advised that areas of the existing buildings which are to be added to and/or altered under this Contract will remain in use during construction, coordinate with Section 015000 for temporary facilities.

2. Electrical and mechanical services to functioning spaces shall be maintained at all times.

3. The Contractor shall provide and maintain all required separations between old and new construction to prevent:

- a. Entrance to construction areas by unauthorized individuals.

1.05 PROOF OF ORDERS AND DELIVERY DATES - Coordinate w/Sections 013300 and 013200.

A. Within 2 weeks after the approval of shop drawings, samples, product data and the like, the Contractor shall provide copies of purchase orders for all equipment and materials which are not available in local stock. The Contractor shall submit written statements from suppliers confirming the orders and stating promised delivery dates.

B. This information shall be incorporated within the progress schedules so required as part of Section 013200 and shall be monitored so as to insure compliance with promised dates.

1.06 INTENT OF DOCUMENTS - See Article 1, Subparagraph 1.2.1 of Section 007000 for resolution of conflicts between drawings and specifications.

Regardless of hierarchy listed in reference paragraph, in cases of conflict as to the type or quality of materials to be supplied, the more restrictive shall govern.

1.07 FIELD MEASUREMENTS

A. Each Respective Contractor shall take all necessary field measurements prior to fabrication and installation of work and shall assume complete responsibility for accuracy of same.

B. This project is an ADDITION AND ALTERATION and therefore necessitates additional attention to existing conditions receiving newly fabricated and installed equipment, i.e. note the requirements for field dimensioning of shop fabricated items whether or not so required by each technical section.

1.08 INITIAL SUBMITTAL REQUIREMENTS

- A. As outlined in Sections 005000, 007000, 013300, 013200 and 015000 Contractor shall provide items noted including - bonds, insurance, emergency telephone numbers, progress scheduling, schedules of submittals, subcontractor listings, and the like prior to the start of any work.
- B. Schedule of Values
 - 1. Submit schedule on AIA Form G703.
 - 2. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement or as established in Notice to Proceed, whichever is earliest.

1.09 QUALITY REQUIREMENTS

- A. Monitor quality control over suppliers, manufacturers, Products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturer's instructions.
- C. Comply with specified standards as minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- D. Monitor fabrication and installation tolerance control of installed Products over suppliers, manufacturers, Products, site conditions, and workmanship, to produce acceptable Work. Do not permit tolerances to accumulate.
- E. Comply fully with manufacturer's tolerances.

1.10 MANUFACTURER'S FIELD SERVICES AND REPORTS

- A. When specified in individual specification sections, require material or Product suppliers or manufacturers to furnish qualified staff personnel to observe site conditions and to initiate instructions when necessary.
- B. Report observations and site decisions or instructions that are supplemental or contrary to manufacturer's written instructions.

1.11 COORDINATION

- A. Coordinate scheduling, submittals, and Work of various sections of specifications to ensure efficient and orderly sequence of installation of interdependent construction elements.
- B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.
- C. Coordinate space requirements and installation of mechanical and electrical work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable.
- D. In finished areas, conceal pipes, ducts, and wiring within construction.

1.12 SCHEDULES

- A. General
 - 1. The objective of this project is to complete the overall work in the shortest period of time and to protect the building and occupants from damages caused by weather and construction activity during the progress of the work.
 - 2. To meet these objectives, the Contractor shall plan the work, obtain materials, and execute the construction on the most expeditious manner possible in accordance with the requirements listed below.

3. If the Contractor fails to expedite and pursue any part of the work, the Owner may terminate the contract as per Article 14.2 or may carry out the work as per Article 2.4 of the General Conditions.
 4. The Contractor shall work in coordination with work of other Contractors and with School activities with special attention to noise, dust, safety and other contract requirements for work in and around the occupied building.
- B. Work Period and Milestones

Award of Contract / Notice to Proceed	August 12, 2021
Start Construction	August 26, 2021
Substantial Competition	October 07, 2021
Final Completion	October 21, 2021

1.13 ADDITIONAL REQUIREMENTS

- A. If it appears that some of the work cannot be completed by the scheduled date, the Contractor shall increase the work force or increase the hours of work, including evenings and weekends or necessary, at no additional cost to the Owner. If the work is complete but the area is not cleaned, and debris or equipment is not removed, the Owner shall have the right to prepare the area for occupancy with his own forces and deduct the costs from the Contract Amount.
- B. If the Contractor fails to staff the job adequately to meet the completion date, the Owner reserves the right to assume possession of the material and complete installation with the Owner's forces or other Contractors or to require the Contractor to work evenings and weekends.
- C. The school can be made available on weekends and evenings to allow the Contractor adequate time to complete the work before final completion date. Any custodial cost resulting in this after-hours scheduling will be the Contractor's responsibility.
- D. In addition to the above-stated requirements for phasing of the work, the Contractors shall not do any noisy work in the areas where examinations will be conducted as per the published school calendar.
- E. The Contractor is responsible for temporary protection of all work until acceptance.
- F. The school will be closed on Saturdays, Sundays, regularly scheduled district holidays, and at night after cleaning crews have finished. If any Contractor wishes to work at any time when the school is normally closed, that Contractor shall arrange and pay for custodial services for the building at the applicable district pay rates.

1.14 MOLD MITIGATION REQUIREMENTS (As applicable to Project Construction)

- A. All return air ductwork and all exhaust air ductwork be sealed tight with mastic.
- B. Do not allow open plenum returns above dropped ceilings unless the plenum is sealed tightly with respect to the exterior walls and roof.
- C. The buildings HVAC system shall not be operated during construction.
- D. All gypsum wallboard be installed with a fire sealant bead of 3/8 in. (9 mm) between the floor and the bottom edge of the gypsum, coordinate with Sections 078400 and 092900.
- E. The moisture content (or water vapor emission rate) of all concrete block walls be measured and documented by the general contractor, and that no gypsum board be hung on those walls until the moisture content of the blocks in the wall measures

the same as the identical type of block that has been stored away from any rain exposure, coordinate with Sections 042000 and 092900.

- F. The moisture content of the taped and sanded gypsum board walls be measured and documented by the general contractor at two locations on each wall: the bottom edge and halfway between floor and ceiling. Interior finish may not be applied until the moisture content of the wallboard is below 0.4% on a gypsum moisture meter or below 12% on a wood meter, coordinate with Division 9 sections as applicable.
- G. The moisture content of the concrete floor slab shall be measured as soon as the building has been closed in and as soon as the slab temperature can be brought within the 65°F to 75°F (18.3°C to 23.9°C) temperature required for the measurement. If the moisture content is excessive, the air above the concrete shall be held below 30% relative humidity until the material is dry enough to meet the specification established by the respective flooring manufacturers, coordinate with Division 9 sections as applicable.
- H. Attention is directed to Sections 062000, 095100 and 099000 for temperature and humidity restrictions prior to start of work and maintenance of work conditions.

1.15 WASTE MANAGEMENT PROCEDURES AND DEFINITIONS

- A. Waste Management Coordination: Coordinate recycling of materials with Owner and as required to conform to the Construction Waste Management Plan defined in Section 017419.
- B. Contractor shall conduct Construction Waste Management meetings as outlined in Section 013119 - Project Meetings. At a minimum, waste management goals and issues shall be discussed at the following meetings:
 - 1. Pre-bid meeting
 - 2. Pre-construction meeting
 - 3. Regular job-site meetings
 - 4. Job safety meetings
- C. Use on-site waste as primers, sealers, underlayments, supports, backing, blocking, furring, suspension systems, and accessories as required for any purpose in patching work damaged as a result of construction activities.
- D. Waste Management Definitions
 - 1. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like
 - 2. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations
 - 3. Hazardous: Exhibiting the characteristics of hazardous substances, i.e. ignitability, corrosivity, toxicity or reactivity
 - 4. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e. ignitability, corrosivity, toxicity or reactivity
 - 5. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure
 - 6. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.
 - 7. Recycle: To remove a waste material from the Project site to another site for remanufacture into a new product for reuse by others.
 - 8. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered

form. Recycling does not include burning, incinerating, or thermally destroying waste.

9. Return: To give back reusable items or unused products to vendors for credit
10. Reuse: To reuse a construction waste material in some manner on the Project site
11. Salvage: To remove a waste material from the Project site to another site for resale or reuse by others
12. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water
13. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste
14. Toxic: Poisonous to humans either immediately or after a long period of exposure
15. Trash: Any product or material unable to be reused, returned, recycled or salvaged
16. Volatile Organic Compounds (VOCs): Chemical compounds common in and emitted by many building products over time through outgassing including - solvents in paints and other coatings; wood preservatives; strippers and household cleaners; adhesives in particleboard, fiberboard, and some plywoods; and foam insulation
17. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.
18. Waste Management Plan: A Project-related plan for the collection, transportation, and disposal of the waste generated at the construction site. The purpose of the plan is to ultimately reduce the amount of material being landfilled

1.16 USE OF PREMISES

A. Use of Buildings and Sites:

1. Limits: Confine constructions operations to areas within contract limits indicated. Do not disturb portions of the site beyond the areas in which the Work is indicated. All areas of the site with the exception of the project area where the Work is being performed are off limits to Contractor and his employees
2. Owner Occupancy: Allow for Owner occupancy of adjacent buildings and sites and use by the public. Conduct the Work to provide the least possible interference to the activities of the Owner's personnel and use of the buildings and sites by the public
3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, the public and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
 - c. Coordinate staging, parking and storage areas with the Owner's Representative.
4. Damages: Promptly repair damages caused to adjacent facilities by work of the Contract to a good-as-new condition acceptable to the Owner.

5. Existing Facilities: The following facilities are specifically noted as **not** to be used by Contractor or his employees:
 - a. Toilet facilities
 - b. Food service facilities, including kitchen and dining areas
 - c. Telephones
 6. Utility Shutdowns: Coordinate all utility shut downs and cross overs with the Owner's Representative, schedule during off hours and non-occupied times only.
- B. Work Hours: During the school session contract work may be performed weekdays from 3:30 pm to 11:00 pm. Work hours on Saturdays and on school holidays are from 7:30 am to 4:00 pm. Summer hours are from 7:30 am to 4:00 pm. All areas affected by Work need to be in perfect condition by 6:00 am the day school opens. All asbestos abatement must be performed on weekends or school holidays. Contractors may work Saturday if additional work hours are required to meet the schedule (Saturday work will be required if necessary, to meet deadline) with prior approval from the owner and Construction Manager and after Contractor has verified allowable working hours by town ordinance.
- C. Deliveries: Deliveries to any area of the project will only be allowed between 4:00 pm and 6:00 pm on school days. On Saturdays, school holidays and summer work periods, deliveries are permitted during work hours.
- D. Utility shutdowns: Coordinate all utility shut downs and cross overs with the Construction Manager, schedule during off hours and non-occupied times only.

1.17 OWNER OCCUPANCY REQUIREMENTS

- A. Owner will occupy site and existing buildings during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Occupancy level will be reduced during summer months when school is not in session. Coordinate with Owner's Representative for schedule of working hours and work restrictions during period when school is in session.
- B. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied before Owner occupancy. Obtain a Certificate of Occupancy from authorities having jurisdiction before Owner occupancy. Before partial Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will provide, operate, and maintain mechanical and electrical systems serving occupied portions of building. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of building and site.
- C. Comply with standards for construction projects as follows:
 1. Interaction with employees and the public is strictly forbidden.
 2. Use of offensive or inappropriate language is strictly forbidden.
 3. The use of radios, tape and CD players is prohibited on the site and in the buildings.
 4. Smoking is prohibited on the site and in the buildings.

1.18 PAYROLLS AND PAYROLL RECORDS – See Section 012900 and 012901

- A. In accordance with Article 8, Section 220 of the New York State Labor Law and applicable Article in the General Conditions, every contractor and subcontractor

must keep original payrolls or transcripts subscribed and affirmed as true under penalty of perjury. Payrolls must be maintained for at least three years from the project's date of completion. At a minimum, payrolls must show the following information for each person employed on a public work project:

1. Name
 2. Classification(s) in which the worker was employed
 3. Hourly wage rate(s) paid
 4. Supplements paid or provided
 5. Daily and weekly number of hours worked in each classification.
- B. Every contractor and subcontractor shall submit, within thirty (30) days after issuance of its first payroll and every thirty (30) days thereafter, a transcript of the original payrolls, subscribed and affirmed as true under penalty of perjury.

****End of Section****

SECTION 01 15 01

SPECIAL PROJECT REQUIREMENTS

Excerpts from 8 NYCRR Section 155.5 as they address "General Safety and Security Standards for Construction Projects".

STATEMENT OF PURPOSE: "The occupied portion of any school building shall always comply with the minimum requirements necessary to maintain a certificate of occupancy"

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. All contractors, subcontractors, Sub-subcontractors, vendors and the like shall monitor their workers and require that they adhere to the following safety provisions during all construction and maintenance activities for the duration of the project.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION AS APPLICABLE TO THE PARTICULAR PROJECT SCOPE OF WORK

- A. Safe and Secure Storage of Construction Materials
- B. Fencing – Project; Material storage areas; Container/Refuse areas
- C. Gates – Manned during working hours; locked and secure off hours.
- D. Sidewalk bridges, security barriers, etc. reference "Exterior Renovations"
- E. Worker identification system
- F. Temporary partitions – separation of construction areas from occupied spaces; construction, materials, inspection and maintenance.
- G. Worker access both horizontal and vertical in occupied buildings
- H. Debris removal.
- I. Ventilation of work spaces
- J. Exiting
- K. Fire and hazard prevention
- L. No Smoking
- M. Fire extinguishers
- N. Temporary sprinklers (if any)
- O. Smoke detectors (temporary)
- P. Fire watch and maintenance of existing fire alarm systems
- Q. Storage of gas and welding equipment
- R. Noise abatement procedures
- S. Construction fume controls
- T. Off-Gassing/bake out procedures
- U. Material Safety Data Sheet log
- V. Asbestos Code Rule 56
- W. Asbestos TEM
- X. Lead Abatement/Lead paint
- Y. Indoor Air Quality – **See section 00 80 00**

- 1.03 SAFE AND SECURE STORAGE OF CONSTRUCTION MATERIALS – Coordinate with Sections 01 50 00 and 01 61 00 each as included with these documents.
- A. Materials stored on the Site shall be neatly arranged and protected, and shall be stored in an orderly fashion in locations that shall not interfere with the progress of the Work.
- NOTE: If approval is given to store materials in any part of the building area, they shall be so stored as to cause no overloading of the structure.
- 1.04 FENCING – PROJECT; MATERIAL STORAGE AREAS; CONTAINER/REFUSE AREAS – Coordinate with Section 01 50 00
- A. Barrier fencing constructed as outlined in Section 01 50 00 shall be provided surrounding all work areas, material storage locations and around dumpsters and/or chutes when involved with demolition/removal operations.
- B. Fencing shall be maintained in good sound condition throughout the entire course of construction by the Owner's Representative and/or Contractor and removed only when directed by the Architect and/or Owner's Representative.
- 1.05 GATES
- A. Gates in construction fencing shall be of construction outlined in Section 01 50 00 and shall be under either the Owner's Representative or Contractors' supervision throughout the work day and shall be secured in a locked condition at the close of any single business day and on all non-work days. Gates shall be manned at all times work is in progress.
- 1.06 SIDEWALK BRIDGES, SECURITY BARRIERS, ETC. REFERENCE "EXTERIOR RENOVATIONS"
- A. As applicable to the project involved, provide overhead protective devices for the work consisting of tubular framed scaffold bridges, joist trusses and solid decking. Provide guard rails, lights and warning signs.
- 1.07 WORKER IDENTIFICATION SYSTEM – Coordinate with Section 01 10 00, Article 1.01.
- A. All Contractors' employees shall use a single means of access and egress, except in the case of emergency, to be designated by the General Contractor.
- B. The Contractor shall, for all work covered under the Contract, establish a security control system for personnel and material involved with the work herein.
- C. The control system shall include photo identification badges and the like so as to insure against unauthorized entry to the site and resultant entry to the building proper.
- 1.08 TEMPORARY PARTITIONS – SEPARATION OF CONSTRUCTION AREAS FROM OCCUPIED SPACES; CONSTRUCTION, MATERIALS, INSPECTION AND MAINTENANCE – Coordinate with Section 01 50 00 as applicable to project type.
- A. Provide temporary partitions from floors to underside of structure above, in sash and any other openings created by new construction, additions and alterations.
- B. **Such partitions shall be constructed dust-tight using steel studs and acoustically and/or thermally insulated, Level 1 taped fire rated gypsum board as specified in Section 09 29 00.**
- C. Locate enclosures as directed by the Architect and/or as shown on the drawings.

- D. In addition to partitions and closures, provide tight fitting filters over all return air grilles and/or open ducts in order to properly protect central air handling equipment.
 - E. Take all necessary precautions to avoid unnecessary dust spreading to adjoining rooms and spaces.
 - F. Keep all doors to spaces closed and provide positive seals around cracks, frames, doors and other openings within work areas.
 - G. WHERE EXTERIOR CLOSURES ARE REQUIRED, INSULATE SAME TO MAINTAIN A TEMPERATURE OF SIXTY-FIVE (65) DEGREES F. WITHIN THE PLANT WITHOUT THE USE OF SPECIAL HEATING EQUIPMENT.
 - H. All temporary enclosures/partitions/containment barriers shall be periodically inspected and maintained in good repair so as to prevent exposure to dust and contaminants outside the work and/or containment areas.
- 1.09 WORKER ACCESS BOTH HORIZONTAL AND VERTICAL IN OCCUPIED BUILDINGS
- A. A specific stairwell and/or elevator shall be assigned for construction worker use during work hours. Workers may not use corridors, stairs or elevators designated for students or school staff.
- 1.10 DEBRIS REMOVAL – Coordinate with Sections 01 50 00, 01 77 00 and 02 41 19/20.
- A. Large amounts of debris must be removed by use of enclosed chutes or similar systems. There shall be no movement of debris through corridors of occupied spaces of the building. No materials shall be dropped or thrown outside the walls of the building.
 - B. All occupied parts of the building or buildings affected by renovation activity shall be cleaned at the close of each work day.
 - C. School buildings occupied during any construction period shall maintain required health, safety and educational capabilities at all times that classes are in session.
- 1.11 VENTILATION OF WORK SPACES
- A. The General Contractor shall provide indoor air quality management as follows:
 - 1. Provide at exhaust air system for the project indoor areas which could produce fumes, VOC's off-gasses, gasses, dusts, mists, or other emissions both during construction activities **and** during required curing periods, coordinate with manufacturer's requirements for all materials used.
 - 2. Exhaust air system for the project areas which could produce emissions listed in Paragraph 1 shall be utilized. Work area exhaust shall terminate at the building exterior.
 - 3. Provide temporary partitions and air seals to prevent the migration of airborne contaminants from unoccupied areas to occupied areas when applicable.
 - 4. Quality assurance:
 - a. Maintain a negative pressure between the work area and the space surrounding the work area.
 - b. Before start of work, submit a design for the exhaust air system. Do not begin work until approval of the Construction Manager is obtained. The design shall include, but not be limited to:
 - 1. The number of machine required.
 - 2. Location of the machines in the work space.
 - 3. Description of the methods used to test air flow and pressure differential.

5. System operation:
 - a. A sufficient quantity of exhaust fans in existing window openings or other approved locations shall be operated in accordance with the following standards:

Provide one work place air change every 15 minutes.

To calculate total air flow requirements:

$$\frac{\text{TOTAL FT}^3/\text{MIN} - \text{VOLUME OF WORK AREA (IN FT}^3\text{)}}{15 \text{ MINUTES}}$$

To calculate the number of units needed for the work area.

$$\frac{\text{NUMBER OF UNITS NEEDED} - \text{TOTAL FT}^3/\text{MIN}}{(\text{CAPACITY OF UNIT IN FT}^3/\text{MIN})}$$

- b. Exhaust air system shall operate for a minimum of 72 hours after work is completed, or until all materials have cured sufficiently as to stop out gassing of fumes or odors and area has been ventilated to remove all detectable traces of odors and fumes.**
 - c. Maintain 25 feet clearance from all temporary exhaust outlets to all active building outdoor air intakes.

6. **During reroofing operations, air intakes shall be "shut-down" or made safe in other approved manners.**

- B. The HVAC Specialty Contractor is to be completely responsible for maintaining all required ventilation in the occupied areas of the building during construction as follows:

1. Prior to construction, the HVAC Specialty contractor will examine the existing ductwork in the occupied areas of the building.
 2. The layout of existing ductwork is shown, to the extent that it was originally documented, on the HVAC drawings.
 3. The HVAC Specialty contractor will reroute, disconnect or cap any duct, which because of its proximity to the construction area, may carry contaminants from the construction area to the occupied area.
 4. **This alteration of the existing ventilation system must prevent contaminants from entering the occupied areas, but must not prevent the maintenance of necessary ventilation in the occupied area.**

Additionally, as the HVAC Specialty contractor provides and connects new ductwork it will continue to evaluate the effect of such ducts and connections on contaminant migration. It will reroute, disconnect or cap this ductwork as needed to prevent contaminants from the construction area from entering the occupied section of the building.

At each point in the construction where such evaluation and rerouting, disconnecting or capping is required, the HVAC Specialty contractor will confer with the Architect and Construction Manager (as appropriate) in determining its course of action and will obtain the Architect's approval prior to executing this work."

1.12 EXITING

- A. At all times, the General Contractor is responsible for maintenance of safety and egress requirements from work areas.

NOTE: All legal forms of egress must be maintained at all times.

- B. Provide temporary exit passage system(s) with guard and hand rails and ramps and such other measures indicated on the drawings and as specified.

1.13 FIRE AND HAZARD PREVENTION – See Section 01 50 00 for requirements for fire watches, storage and maintenance of welding gasses and temporary heating and the like.

1.14 NO SMOKING – No smoking is permitted on the grounds or within the construction area of any project.

1.15 FIRE EXTINGUISHERS – Fire extinguishers shall be provided within the work area and shall be monitored on a scheduled maintenance basis and so tagged to indicate same.

1.16 TEMPORARY SPRINKLERS (IF ANY) – See Section 01 50 00 for applicable text and requirements.

1.17 SMOKE DETECTORS – The Electrical contractor shall provide a temporary battery powered smoke detection system for all areas under construction.

1.18 FIRE WATCH AND MAINTENANCE OF EXISTING FIRE ALARM SYSTEMS – See Sections 01 35 16 and 01 50 00

- A. All Contractors shall comply with the safety provisions of the National Fire Protection Association's "National Fire Codes" pertaining to the work and, particularly, in connection with any cutting or welding performed as part of the work.
- B. During welding or cutting operations, a contractor's man shall act as a fire watcher. The fire watcher shall have proper eye protection and suitable firefighting equipment including fire extinguisher (bearing current inspection Certificate), protective gloves and any other equipment deemed necessary.
- C. The Electrical Specialty Contractor will provide for and maintain the proper operation of fire alarm and smoke detection systems in all areas throughout the course of the project. The Electrical Specialty Contractor will provide all labor and material required to accomplish this in occupied areas of the school buildings and in areas under construction.

1.19 STORAGE OF GAS AND WELDING EQUIPMENT – See Section 01 50 00 for specific requirements and controls.

1.20 NOISE ABATEMENT PROCEDURES

- A. Develop and maintain a noise abatement program and enforce strict discipline over all personnel to keep noise to a minimum. Equipment and work shall not produce noise in excess of 60db in occupied areas or shall be scheduled for off hours or acoustical abatement procedures shall be taken. Noise level measurements (dba) shall be taken with a type 2 sound level meter in the occupied space in a location closest to the source of the noise.

- B. Execute construction work by methods and by use of equipment which will reduce excess noise.
- C. Equip air compressors with silencers, and power equipment with mufflers.
- D. As established in Section 01 10 00, all contractors shall abide by the "no work" periods designated by the Owner.

1.21 CONSTRUCTION FUME CONTROLS – See Article 1.11 herein.

1.22 OFF-GASSING/BAKE OUT PROCEDURES – See Section 01 77 00

- A. Heat all areas of new construction to 95 degrees for a minimum of 72 hours.
- B. At the end of this period ventilate area with 100 percent outside air and exhaust air for a minimum of 24 hours to eliminate off gassing that occurs during bake out period.
- C. Change all air filters upon completion.
- D. Manufacturers shall be contacted to obtain information regarding appropriate temperatures and times needed to cure or ventilate the product during use and before safe occupancy of a space can be assured. Building materials or furnishings which "off-gas" chemical fumes, gases, or other contaminants shall be aired out in well-ventilated heated warehouse before they are brought to the project for installation or the manufacturer's recommended "off-gassing" periods must be scheduled between installation and use of the space. If the work will generate toxic gases that cannot be contained in an isolated area, the work must be done when school classes and programs are not in session. The building must be properly ventilated and the material must be given proper time to cure or "off-gas" before re-occupancy.

1.23 MATERIAL SAFETY DATA SHEET LOG – Coordinate with Section 01 33 00

- A. Contractor shall maintain "MSDS" file on site, accessible to workers and otherwise in compliance with jurisdiction's "Right to Know" legislation.
- B. The submittal of the required MSDS information shall be segregated from the required material/shop drawing/sample submittals in a separate binder and not commingled with the technical submittals, failure to so conform will be cause for rejection of any submittal.

1.24 ASBESTOS CODE RULE 56 AND ASBESTOS CONTAMINATED MATERIALS (ACM)

- A. Abatement projects as defined by Rule 56 shall not be performed while the building is occupied.
- B. In the event asbestos-contaminated materials are encountered during the work Contractor shall immediately notify the Architect and/or Owner for instructions as to procedures to be taken.
- C. All asbestos abatement projects shall comply with all applicable federal and State laws including but not limited to the New York State Department of Labor industrial code rule 56(12 NYCRR 56), and the federal Asbestos Hazard Emergency Response Act (AHERA), 40 CFR Part 763 (Code of Federal Regulations, 1998 Edition, Superintendent of Public Documents, U.S. Government Printing Office, Washington, DC 20402; 1998; available at the Office of Facilities Planning, Education Building Annex, Room 1060, State Education Department, Albany, New York 12234). Large and small asbestos projects as defined by 12 NYCRR 56 shall not be performed while the building is occupied. Minor asbestos projects defined

by 12 NYCRR 56 as an asbestos project involving the removal, disturbance, repair, encapsulation, enclosure or handling of 10 square feet or less of asbestos or asbestos material, or 25 linear feet or less of asbestos or asbestos material may be performed in unoccupied areas of an occupied building in accordance with the above referenced regulations.

1.25 LEAD ABATEMENT/LEAD PAINT

- A. In the event lead based paint is encountered during the work Contractor shall immediately notify the Architect and/or Owner for instructions as to procedures to be taken.
- B. Attention is directed to technical Section 09 90 00 for "protocols" concerning lead paint removals and preparation.
- C. Any construction or maintenance operations which will disturb lead based paint shall be abated pursuant to protocols detailed in the "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing" (June 1995; U.S. Department of Housing and Urban Development, Washington, DC 20410; available at the Office of Facilities Planning, Education Building Annex, Room 1060, State Education Department, Albany, NY 12234). All areas scheduled for construction as well as areas of flaking and peeling paint shall be tested for the presence of lead and abated or encapsulated in accordance with the above noted guidelines

End of Section

SECTION 01 22 00

UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.

1.2 DEFINITIONS

- A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

- A. Unit Price No. 1: Brick Repointing
 - 1. Indicate a unit price for additions to the base bid for preparation and repointing brick façade at change-in-elevation walls, above lower sections of roof, and where designated by the Architect. Based on 1 unit = 1 square foot.
 - 2. Include 2,000 sf as base bid work.
- B. Unit Price No. 2: Metal Deck Replacement
 - 1. Indicate a unit price for additions to the base bid to remove and replace existing deteriorated sections of 1-1/2 inch deep metal deck. Based on 1 unit = 1 square foot.

END OF SECTION 01 22 00

SECTION 01 23 00

ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Proposal/Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
 - 1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
 - 2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

- A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
 - 1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
- B. Execute accepted alternates under the same conditions as other work of the Contract.
- C. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate. See Drawings for extent of Alternates.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

Add Alternate No 1: Additional Abatement & Roof Replacement

This alternate request covers the amount TO BE ADDED to the Base Bid for additional abatement, roof replacement, and related work as shown & detailed in the Drawings.

END OF SECTION 01 23 00

SECTION 01 25 00

PRODUCT OPTIONS AND SUBSTITUTIONS

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Approved Equal Clause
- B. Substitution Requests
- C. Options
- D. Contractor's Representation
- E. Reimbursements

1.03 APPROVED EQUAL CLAUSE

- A. Throughout the Specifications, types of material may be specified by manufacturer's name and catalog number in order to establish standards of quality and performance and not for the purpose of limiting competition.
Inclusion by name, of more than one manufacturer or fabricator, does NOT necessarily imply acceptability of standard products of those named. All manufacturers, named or proposed, shall conform, with modification as necessary, to criteria established by Contract Documents for performance, efficiency, materials and special accessories.
- B. Contractor may assume the phrase "or approved equal" except that the burden is upon the Contractor to prove such equality and to satisfy Architect that proposed substitute is equal to, or superior to, the item specified.

1.04 SUBSTITUTION REQUESTS

- A. If the Contractor elects to prove such equality, he must request the Architect's and the Owner's approval in writing for substitution of such items for the specified items, stating the differences involved with and submitting supporting data and samples, if required, to permit a fair evaluation of the proposed substitution with respect to -
 - 1. Performance
 - 2. Delivery times and effect on schedules, if any
 - 3. Safety
 - 4. Function
 - 5. Appearance
 - 6. Quality and durability
 - 7. Any required license fees or royalties
 - 8. Warranty terms and conditionsThe contractor shall submit a separate request for each product, supported with complete data, with drawings and samples as are appropriate to substantiate the above.
- B. The Architect, as set forth in the Post Bid Requirements in Section 00 21 00, will review requests for substitutions with reasonable promptness, and notify the Contractor, in writing, of the decision to accept or reject the requested substitution.

1.05 OPTIONS

- A. Where Technical Specifications permit Contractor to select optional materials, items, systems, or equipment, the selection of such options is subject to the following conditions:
1. Once an option has been selected and approved, it shall be used for the entire contract.
 2. The Contractor shall coordinate his selection with the drawings and specifications and make all necessary adjustments without additional cost to the Owner.

1.06 CONTRACTOR'S REPRESENTATION

- A. A request for a substitution constitutes a representation that the Contractor:
1. Has investigated the proposed product and determined that it is equal to or superior in all respects to that specified;
 2. Will provide the same warranties or bonds for the substitution as for the product specified;
 3. Will coordinate the installation of an accepted substitution in the work, and make such other changes in the work as may be required for installation to make the work complete in all respects;
 4. Will waive all claims for additional costs, under its responsibility, which may subsequently become apparent.
 5. **Will have coordinated installation with all affected trade contractors, specialty contractors and the like and will be responsible for any and all costs which may arise as a result of this substitution.**

1.07 REIMBURSEMENTS

- A. As outlined in Section 01 33 00, when resubmittals of materials, equipment and accessories to be incorporated in the project are necessary due to failure of Contractors to properly coordinate submittals, the submitting Contractor shall compensate the Design Professionals for required re-reviews of said submittals in accordance with the following fee schedule:

Principal's Time ----- \$ 225.00 per hour
Associate's Time ----- \$ 155.00 per hour
Employees Time ----- Direct Personnel Expenses X 3.0
Engineer's Time ----- \$ 175.00 per hour

The charges incurred will be deducted from the ensuing requisition at the direction of the Owner.

****End of Section****

SUBSTITUTION REQUEST FORM

TO:			Product:
Section	Page	Paragraph	Specified Item

THE UNDERSIGNED REQUESTS CONSIDERATION OF THE FOLLOWING SUBSTITUTION:

Attached data shall include, in a tabular format to provide a line by line comparison - product description, specifications, drawings, photographs, performance and laboratory tests and the like with applicable portions of said data clearly identified.

FURTHER, The Proposed Substitution WILL (OR WILL NOT) Affect:

Dimensions indicated on the drawings?

Wiring, piping, ductwork, or other building services indicated on the drawings?

Other trades and abutting or interconnection work?

Manufacturer's guarantees and warranties?

The construction schedule?

Maintenance and service parts locally-available?

(NOTE: If Substitution WILL affect any item above, explain in detail.)

In addition to the above, the undersigned agrees to pay for -

1. Any and all changes to the building design, including structural, civil or electro/mechanical systems engineering (if any), detailing; and
2. Any and all additional construction costs caused by the requested substitution.

The undersigned further states that the function, appearance and quality of the Proposed Substitution are equivalent or superior to the Specified Item.

SUBMITTED:		DESIGN PROFESSIONAL'S COMMENTS	
By:	Accepted	Accepted as Noted	
Firm:	Not Accepted	Received Too Late	
Address:		By:	
Date:			
Telephone/Fax:		Remarks:	
Approved for Subcontractor Submittal:			
By:	Contractor:	Date:	

SECTION 01 29 00

APPLICATIONS FOR PAYMENT

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. This Section specifies administrative and procedural requirements governing the Contractor's Applications for Payment, and supplements provisions of Article 9, Payments and Completion, of the General Conditions of the Contract.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Schedule of Values
- B. Applications for Payment

1.03 SCHEDULE OF VALUES – Article 9.2, General Conditions and Supplements thereto.

- A. Coordination: Each prime Contractor shall coordinate preparation of its Schedule of Values for its part of the Work with preparation of the Contractors' Construction Schedule.
 - 1. Correlate line items in the Schedule of Values with other required administrative schedules and forms, including:
 - a. Contractor's Construction Schedule
 - b. Application for Payment forms, including Continuation Sheets
 - c. List of subcontractors
 - d. Schedule of alternates
 - e. Schedule of allowances
 - f. List of products
 - g. List of principal suppliers and fabricators
 - h. Schedule of submittals
 - 2. Submit the Schedule of Values to the Architect as soon as possible but no later than seven (7) days before the date scheduled for submittal of the initial Applications for Payment.
 - 3. Sub-schedules: Where Work is separated into phases requiring separately phased payments, provide sub-schedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values. Provide at least one line-item for each Specification Section. For major trades with total line items exceeding \$25,000, provide a separate, back-up breakdown of each such trade with line items for identifiable units of work within such trade each of which has a value not exceeding \$25,000. Provide a computed unit price for each line total.
 - 1. Identification: Include the following Project identification on the Schedule of Values:
 - a. Project name and location
 - b. Name of the Architect
 - c. Project number
 - d. Contractor's name and address
 - e. Date of submittal

2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or Division
 - b. Description of Work
 - c. Name of subcontractor
 - d. Name of manufacturer or fabricator
 - e. Name of supplier
 - f. Change Orders (numbers) that affect value
 - g. Dollar value
 - h. Percentage of Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent
 - i. Phase Area (as applicable)

NOTE: Margins of Cost: Show line items for indirect costs and margins on actual costs only when such items are listed individually in Applications for Payment. Each item in the Schedule of Values and Applications for Payment shall be complete. Include the total cost and proportionate share of general overhead and profit margin for each item.

3. Provide a breakdown of the Contract Sum by Phase Area in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Break principal subcontract amounts down into several line items.
4. Round amounts to nearest whole dollar; the total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the Work where Application for Payment may include materials or equipment, purchased or fabricated and stored, but not installed. Differentiate between items stored on-site and items stored off-site. Include requirements for insurance and bonded warehousing, if required.
6. Provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
7. Unit Price Work: Show the line-item value of unit-cost allowances, as a product of the unit multiplied by the measured quantity. Estimate quantities from the best indication in the Contract Documents.
8. Temporary facilities cleanup and other major cost items and correction of existing conditions are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense, at the Contractor's option.
9. Project Closeout Expenses including any and all expenses involving project documentation, warranty assembly, inspection costs and fees and the like
10. Include a line item for each of the following in the specified percentage of the Contract Sum:
 - a. Submittals and Shop Drawings: 1%
 - b. Meetings and Documentation: 2%
 - c. O&M and Closeout: 3%
 - d. Punch List: 1%

11. Schedule Updating: Update and resubmit the Schedule of Values prior to the next Application for Payment when Change Orders result in a change in the Contract Sum.

1.04 APPLICATIONS FOR PAYMENT - See Article 9.3 of the General Conditions and Supplements thereto.

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by the Architect and paid for by the Owner. The initial Application for Payment, the Application for Payment at time of Substantial Completion and the final Application for Payment involve additional requirements.
- B. Payment-Application Times: Each progress-payment date is indicated in the Agreement. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement or in absence thereof the previous month.
- C. Payment-Application Forms: Use AIA Document G702 and Continuation Sheets G703 as the form of Applications for Payment.
- D. Application Preparation: Complete every entry on the form. Include notarization and execution of person authorized to sign legal documents on behalf of the Contractor. The Architect will reject, and return, incomplete applications without action.
 1. Entries shall match data on the approved Schedule of Values and the Contractor's Construction Schedule. Update schedules if revisions were made.
 2. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.
 3. Provide copies of payrolls which are signed and notarized documenting compliance with prevailing wage laws as applicable to particular project.
- E. Transmittal: Submit three (3) signed and notarized original copies of each Application for Payment to the Architect by a method ensuring receipt within 24 hours. One copy shall be complete, including waivers of lien and similar attachments, when required. Transmit each copy with a transmittal form listing attachments and recording appropriate information related to the application, in a manner acceptable to the Architect.
- F. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics liens from subcontractors, sub subcontractors and suppliers for the construction period covered by the previous application.
 1. Submit partial waivers on each item for the amount requested, prior to deduction for retainage, on each item.
 2. When an application shows completion of an item, submit final or full waivers.
 3. The Owner reserves the right to designate which entities involved in the Work must submit waivers.

Submit final Applications for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.

4. Waiver Forms: Submit waivers of lien on forms, and executed in a manner, acceptable to the Owner and/or as included as attachment to Section 007000.

- G. Initial Application for Payment: Administrative actions and submittals, that must precede or coincide with submittal of the first Application for Payment, shall include the following prerequisites to processing:
1. List of subcontractors, approved
 2. List of principal suppliers and fabricators, approved
 3. Schedule of Values, approved
 4. Contractor's Construction Schedule, approved
 5. Schedule of principal products
 6. Schedule of unit prices, approved
 7. Submittal Schedule, approved.
 8. List of Contractor's staff assignments
 9. List of Contractor's principal consultants
 10. Copies of building permits as applicable to project requirements
 11. Copies of authorizations and licenses from governing authorities for performance of the Work
 12. Initial progress report
 13. Report of pre-construction meeting
 14. Certificates of insurance and insurance policies
 15. Performance and payment bonds
 16. Data needed to acquire the Owner's insurance
 17. Initial settlement survey and damage report, if required by project
 18. Safety plan
- H. Monthly Application for Payment Administrative actions and submittals, that must precede or coincide with submittal of the periodic Application for Payment, shall include the following:
1. As-built Record documents required documents and submittal records on site
 2. Contractor's construction schedule, updated, with corrective action plan as applicable
 3. Material Status Report
 4. Stored Materials forms
 5. Submittal Schedule and submittal status reports
 6. RFI submittal and status log
 7. Monthly Progress report, and Notarized Progress Report Statement from each Contractor's manager/superintendent stating that the work is on schedule, and that Contractor will meet the Substantial Completion date for the Work, and the Substantial Completion dates for every portion established under Construction Phasing Schedule Section.
- I. Application for Payment at Substantial Completion: Following issuance of the Certificate of Substantial Completion, submit an Application for Payment.
1. This application shall reflect Certificates of Partial Substantial Completion issued previous to Owner occupancy of designated portions of the Work.
 2. Administrative actions and submittals that shall precede or coincide with this application include:
 - e. Occupancy permits and similar approvals
 - f. Warranties (guarantees) and maintenance agreements
 - g. Test/adjust/balance records
 - h. Maintenance instructions
 - i. Meter readings
 - j. Startup performance reports

- k. Changeover information related to Owner's occupancy, use, operation, and maintenance
 - l. Final cleaning
 - m. Application for reduction of retainage and consent of surety
 - n. Advice on shifting insurance coverages
 - o. Final progress photographs
 - p. List of incomplete Work, recognized as exceptions to Architect's Certificate of Substantial Completion
- J. Final Payment Application: Administrative actions and submittals that must precede or coincide with submittal of the final Application for Payment include the following:
- 1. Completion of Project closeout requirements.
 - 2. Completion of items specified for completion after Substantial Completion.
 - 3. Ensure that unsettled claims will be settled.
 - 4. Ensure that incomplete Work is not accepted and will be completed without undue delay.
 - 5. Transmittal of required Project construction records to the Owner.
 - 6. Certified property survey as and/or required by project documents.
 - 7. Proof that taxes, fees, and similar obligations were paid.
 - 8. Removal of temporary facilities and services.
 - 9. Removal of surplus materials, rubbish, and similar elements.
 - 10. Change of door locks to Owner's access.
 - 11. Consent of Surety to final payment.

Part 2 – PRODUCTS

NOT USED

Part 3 – EXECUTION

NOT USED

****End of Section****

SECTION 01 29 03

LABOR AND/OR MATERIALS AFFIDAVIT

STATE OF: _____)

COUNTY OF: _____)

(Name)
being duly sworn, deposes and says that he/she is the _____
(Officer)
of _____
(Name of Company)

furnishing Labor and or Materials in connection with a public improvement for

(Description of Improvement)

That, to his/her knowledge, all subcontractors for Labor and/or Materials Dealers have been paid the amount of money due them or not less than the amount paid by Owner to the Contractor as shown by previous requisitions.

(Signature)

(Title)

(Corporate Seal)

State of _____)
County of _____)ss:
)

Sworn to Before Me

This _____ Day of _____, 20 ____.

Notary Public
(Stamp)

End of Section

SECTION 01 29 04

DAILY AND WEEKLY WAGE AFFIDAVIT

STATE OF: _____)

COUNTY OF: _____)

(Name)
being duly sworn, deposes and says that he/she is the _____
(Officer)

of _____
(Name of Company)

furnishing Labor and or Materials in connection with a public improvement for

(Description of Improvement)

That, to his/her knowledge, all laborers for Daily and Weekly Wages employed by

_____, on such improvement, have been paid in full

except _____
(Name and Amount Due, If Any)

This statement read, subscribed and sworn to by me to induce the said Owner to make payment under Contract for such improvement.

(Signature)

(Title)

(Corporate Seal)

State of _____)
County of _____) ss:

Sworn to Before Me

This _____ Day of _____, 20____.

Notary Public
(Stamp)

End of Section

SECTION 01 31 13

PROJECT COORDINATION

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Coordination of Work
- B. Trade Contractor Obligations

1.03 COORDINATION OF WORK

- A. As required by the General Conditions, and restated herein, each Trade and/or Specialty Contractor or Subcontractor shall compare the architectural, structural, civil/site, mechanical and electrical Drawings and Specifications with those for all other trades and shall report any discrepancies between them to the Architect, thru the General Contractor, and obtain from him written instructions for changes necessary to the work. All work shall be installed in cooperation with other trades installing interrelated work. Before installation, each Trade Contractor shall make proper provisions to avoid interference in a manner approved by the Architect. All changes required in the work caused by neglect to so advise the Architect shall be made by the offending Contractor at his own expense.
- B. Each Trade Contractor shall be responsible for exact location of anchor bolts, sleeves, inserts, supports, chases, conduits and openings that may be required for the work.

Attention is directed to Section 01 31 14. Each Trade Contractor shall prepare layout drawings for incorporation of items to be built-in the work, pass through the work and the like in sufficient time so as not to cause any undue delay in the execution of the work.

Built-in items shall be furnished under the same Section of the Specifications as the respective items to be supported, and they shall be installed, except as otherwise specified, by the trade furnishing and installing the material in which they are to be located. The trade responsible for the installation of anchor bolts shall also insure that they are properly installed. Chases, conduits and openings shall be laid out in advance to permit provision in work. Sleeves and inserts shall not be used in any portion of the building, where their use would impair strength or construction features of the building. Sleeves, conduits and inserts shall be set in forms before concrete is poured. Extra work required where anchor bolts, supports, sleeves, chase openings, conduits or inserts have been omitted or improperly placed shall be performed at expense of trade which made error or omission.

- C. Slots, chases, openings and recesses through floors, walls, ceilings and roofs as specified will be provided for the various trades in their respective materials under

general construction work, but the trade requiring them shall see that they are properly located and shall do any cutting and patching caused by the neglect to do so.

- D. Locations of pipes, ducts, electrical raceways, switches, panels, equipment, fixtures, etc. shall be adjusted to accommodate the work to interferences anticipated and encountered. Each Trade Contractor shall determine, and submit for approval, the exact route and location of each pipe, duct and electrical raceway prior to fabrication.

Approval by the Architect is required prior to any such modifications.

- E. Lines which pitch shall have the right of way over those which do not pitch.

For example, plumbing and condensate piping drains shall normally have right of way.

Lines whose elevations cannot be changed shall have the right of way over lines whose elevations can be changed.

- F. Offsets, transitions and changes in direction in pipes, ducts and electrical raceways shall be made as required to maintain proper headroom and pitch of sloping lines whether or not indicated on the Drawings. Each Trade Contractor shall provide air vents, sanitary vents, pull boxes, etc.; as required to effect these offsets, transitions and changes in direction.
- G. Each Trade Contractor shall install all mechanical and electrical work to permit removal (without damage to other parts) of coils, heat exchanger bundles, fan shafts and wheel, draw-out circuit breakers, filters, belt guards, sheaves and drives and all other parts requiring periodic replacement or maintenance. Each Trade Contractor shall arrange pipes, ducts, raceways, traps, starters, motors, control components, and the like, to clear the openings of swinging and overhead doors and of access panels.
- H. In all locations where subjected to public access, or in any occupied spaces, any and all piping systems servicing mechanical delivery systems which run on the face of construction shall be encased in a permanent encasement such as steel studs and drywall; steel framing, lathing and plaster; or other suitable and approved materials.
- I. AS REQUIRED BY COORDINATED SCHEDULING, The General Contractor shall provide temporary weathertight and protected openings in structure to facilitate placement of equipment.

1.04 TRADE CONTRACTOR OBLIGATIONS

- A. The Trade Contractors are required to supply all necessary supervision and coordination information to any other trades who are supplying work to accommodate the electrical and mechanical installations.
- B. Where a trade is required to install items which it does not purchase, it shall include for such items:
 - 1. The coordination of their delivery.
 - 2. Their unloading from delivery trucks driven in to any designated point on the property line at grade level.
 - 3. Their safe handling and field storage up to the time of permanent placement in the project.

4. The correction of any damage, defacement or corrosion to which they may have been subjected.
 5. Their field assembly and internal connection as may be necessary for their proper operation.
 6. Their mounting in place including the purchases and installation of all dunnage supporting members and fastenings necessary to adapt them to architectural and structural conditions unless support members are shown on structural or architectural drawings.
 7. Their connection to building systems including the purchase and installation of all terminating fittings necessary to adapt and connect them to the building systems.
- C. Items which are to be installed but not purchased as part of the work of a particular trade shall be carefully examined by this trade upon delivery to the project.

Claims that any of these have been received in such condition that their installation will require procedures beyond the reasonable scope of the work of the installing trade will be considered only if presented in writing within one week of the date of delivery to the project of the items in question.

The work of the installing trade shall include all procedures, regardless of how extensive, necessary to put into satisfactory operation, all items for which no claims have been submitted as outlined above.

****End of Section****

SECTION 01 31 14

COORDINATION DRAWINGS AND PROCEDURES

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.
- D. Coordination of the work shall be performed as outlined below.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Scheduling (Coordinate with Section 01 32 00)
- B. Coordination Drawings and Procedures - Electrical Work
- C. Meetings
- D. Penalties

1.03 SCHEDULING

- A. Development of coordination drawings shall begin immediately upon award and shall not be dependent upon structural shop drawings; development shall be based upon structural information included on the Contract Documents.
- B. During the "final" review of the coordination drawings, the approved structural shop/fabrication drawings shall be checked and any conflicts identified. General Contractor shall coordinate and insure structural shop drawings are processed so as to meet this requirement. Failure to prosecute same in a timely manner will be cause for implementation of penalties as outlined in 1.07 herein.
- C. Progress of coordination drawings must be reported at every project meeting until accepted.

1.04 COORDINATION DRAWINGS AND PROCEDURES - GENERAL CONSTRUCTION WORK

Attention is directed to this Section for coordination drawing requirements for this project. These drawings are critical to the proper execution of the Work and failure to honor these requirements may become the basis for denial of any and all claims for either or both "time" and "money".

1.05 COORDINATION DRAWINGS AND PROCEDURES - MECHANICAL/ELECTRICAL WORK

- A. Electrical work shall be coordinated as indicated by the following procedure. Review of coordination drawings shall not diminish responsibility under this Contract for final coordination of installation with Architectural work.

NOTE: Electronic documents (CAD files) can be used for these operations based upon agreement between all parties and in accordance with terms and conditions set for obtaining of CAD files as per attachment to Section 01 33 00.

- B. Coordination Drawings include but are not necessarily limited to:
 - 1. Partition/room layout.
 - 2. Ceiling tile and grid.
 - 3. Light fixtures.
 - 4. Major electrical conduit runs, panelboards, feeder conduit and racks of branch conduit.
 - 5. Above ceiling miscellaneous metal.
 - 6. Fire Protection Systems.
- C. All coordination drawings shall be delivered to the Architect at the end of the project as part of the record drawing requirements set forth in Article 3.11 of the General Conditions.

1.06 MEETINGS – Coordinate with Section 01 31 19

- A. Coordination meetings to resolve interferences in the work will be held at the project site under the direction of the Architect and Owner's Representative.

Representatives of each Contractor shall be present at each meeting.

Each Contractor shall provide the necessary manpower and/or overtime to insure that the coordination process described herein does not delay the Project Schedule.

1.07 PENALTIES

- A. FAILURE OF ANY INDIVIDUAL PRIME CONTRACTOR TO PARTICIPATE IN THE PREPARATION OF SAID COORDINATION DRAWINGS AND TO OBTAIN ARCHITECT'S REVIEW AND CONCURRENCE THEREOF WILL RESULT IN FORFEITURE OF THEIR RIGHT OF PAYMENT UNTIL SAID DRAWINGS ARE ACCEPTED.
- B. REPEATED VIOLATIONS OF THIS CONTRACTUAL REQUIREMENT MAY RESULT IN TECHNICAL DEFAULT OF THE AGREEMENT BETWEEN THE OWNER AND THE OFFENDING PRIME CONTRACTOR;

HOWEVER, THE FAILURE OF THE OWNER TO SO TERMINATE SHALL NOT RELIEVE THE CONTRACTOR FROM FUTURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS SECTION.

****End of Section****

SECTION 01 31 19

PROJECT MEETINGS

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Initial (Kick-Off or Orientation) Meeting
- B. Regular Project Meetings
- C. Job Progress Meetings
- D. Job Coordination Meetings
- E. Pre-Installation Conferences
- F. Recording

NOTE: As part of all individual meetings outlined above there shall be a Waste Management program discussion held with all responsible parties in attendance.

1.03 INITIAL (KICK-OFF OR ORIENTATION) MEETING

- A. The Owner's Representative will schedule the initial job meeting, prior to the start of any work, at the project site and will notify all parties concerned of the time and place of the meeting.
- B. Attendance:
 - 1. Prime Contractor (s) or Construction Manager if involved
 - 2. Owner's Representative or Owner.
 - 3. Architect and principal consultants.
 - 4. Major subcontractors and suppliers as deemed appropriate.
 - 5. Representative of Testing Laboratory if independent.
- C. Review and Discuss:
 - 1. Relation and coordination of various parties, and responsible personnel for each party.
 - 2. Use of premises, including office and storage areas, temporary controls, and security procedures.
 - 3. Waste management requirements as outlined in Section 01 74 19.
 - 4. Construction schedule and critical work sequencing.
 - 5. Processing of:
 - a. Contract modifications.
 - b. Shop Drawings, Product Data, and Samples.
 - c. Applications for Payment.
 - d. Substitutions.
 - e. Requests for Information.
 - f. Other required submittals.
 - 6. Adequacy of distribution of Contract Documents.
 - 7. Procedures for maintaining contract closeout submittals.

- 8. Installation and removal of temporary facilities.
- D. Notification procedures and extent of testing and inspection services
- E. The meeting will be conducted by the Architect and Owner's Representative and shall address the conduct of the job, lines of communications, and the like. Discussions on waste management requirements as outlined in Section 01 74 19 shall be part of the agenda.
- F. All Contractors are required to attend.

1.04 REGULAR PROJECT MEETING AGENDA

- A. Coordinate the Work of the Project (Reference Section 01 31 14).
- B. Establish a sound working relationship among the Contractors, the Architect and the Owner.
- C. Review and update progress, submittal and delivery schedules.
- D. Review job progress.
- E. Review progress payment requests; change proposals and change orders.
- F. Expedite the work to completion within the project schedule.
- G. Provide a 2 week look ahead schedule.

1.05 JOB PROGRESS MEETINGS

- A. Unless otherwise directed, bi-weekly job meetings will be held by the Owner's Representative. Present at these meetings shall be EACH CONTRACTOR or a representative authorized to make commitments for action on behalf of the Contractor and the Owner.
- B. EACH CONTRACTOR shall arrange for the participation of its Subcontractors when their presence is required by the Owner's Representative and/or the Architect.
- C. The minimum agenda will cover:
 - 1. Review minutes of previous meetings
 - 2. Note field observations, problems, and decisions
 - 3. Identify present problems and resolve them
 - 4. Plan work progress during next work period and its effect on the related work of others
 - 5. Review shop drawings and submittal schedules
 - 6. Review change order status
 - 7. Review status of construction progress schedule
 - 8. Coordinate occupancy arrangements and access requirements with Owner
 - 9. Discussions on waste management requirements as outlined in Section 01 74 19 shall be part of the agenda

1.06 JOB COORDINATION MEETINGS (Reference Section 01 31 14)

- A. On a bi-weekly basis, either on the day of the scheduled job progress meeting, or such other time established, a "working" coordination meeting will be held at the project site. Present at these meetings shall be **each contractor's site supervisor** with men working, or **scheduled to work within the ensuing 2 weeks**, and the Owner's site Representative.

Further, prior to the start of any major trade work, a coordination meeting following the guidelines established herein shall be held subject to the same parties' presence as for general meetings.

- B. Meeting shall be used to coordinate work between contracts for the ensuing 2 weeks. At the close of the meeting, each supervisor shall, in an agreed format, provide a summarized 2-week work plan to the other contractors and the Owner's Representative.
- C. The time and place for the meetings will be as established in the preconstruction meeting.
- D. Minutes will be taken by the party designated and distributed to all parties involved and the Owner's Representative or the General Contractor will provide, at the next regular progress meeting, a verbal report of the date and time of the last coordination meeting and a listing of those present.

1.07 PRE-INSTALLATION CONFERENCES

- A. Where required in individual specification Section, convene a pre-installation conference at project site or other designated location.
- B. Require attendance of parties directly affecting or affected by work of the specific Section.
- C. Review conditions of installation, preparation and installation procedures, and coordination with related work.

1.08 RECORDING: The Owner's Representative or the Architect, as agreed to by contract, shall write minutes of all meetings and distribute them to all parties present and to those on the distribution list given out at the orientation meeting within 48 hours of the meeting.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

****End of Section****

SECTION 01 32 00

SCHEDULING AND PROGRESS

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the "Conditions of the Contract" and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project.
 - 1. "Contractor for General Construction (CGC)" meaning the party responsible for the preparation of, and monitoring of, the coordinated project progress schedule (CPPS) prepared in consort with the "Prime Contractors" as defined below;
 - 2. "The Contractor" or "Contractor" meaning that Prime Contractor normally responsible for that work referenced;
 - 3. "Prime/Trade Contractor" meaning either the - General, Plumbing, HVAC or Electrical Contractors normally responsible for the referenced work;
 - 4. "Coordinated Project Progress Schedule (CPPS)" meaning that schedule prepared by the "Contractor for General Construction" with all required input from each of the "Prime Contractors" as defined in Paragraph 1.01.C.3 above.and such other terms relating to Contractors to be taken in context with respect to referenced work.
- D. The requirements set forth within this section are directed to all Contractors involved in the work and shall be considered mandated requirements subject to penalties as defined elsewhere in this Section.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Preliminary Requirements
- B. Commencement, Prosecution and Completion of the work
- C. Coordinated Submittal Schedules
- D. Proposed Product List and Status Report on Material Orders - See Article 1.11 of Section 01 33 00; failure to comply with these requirements shall result in rejection of schedules and withholding of any requisitions.
- E. Coordinated Project Progress Schedule
- F. Breach of Contract
- G. Time of Completion

1.03 PRELIMINARY REQUIREMENTS (Coordinate with Post-Bid Requirements set forth in Section 00 21 00)

- A. Within seven (7) days after bids are opened, and before the Contract is executed, the three (3) apparent low bidder for each trade/contract must submit to the Architect, in writing, a list of duration's and a sequence, in the form of a bar chart, for all activities that are the responsibility of the bidder. Contractor's proposed work force and other resource loading for each activity of the bar chart, broken down by trades, must also be provided. Failure to comply with this requirement may be cause for rejection of the bid.

- B. The apparent low bidders, concurrent with the submission of bar chart for each school, shall also submit to the Architect, in writing, the following information:
 - 1. Shop drawing and material sample schedules keyed to the duration's submitted in the bar chart. (See Section 01 33 00)
 - 2. Schedules for the award of subcontractor and equipment contracts keyed to the duration's submitted for the bar chart.
 - 3. The name of the person who, as Scheduling Coordinator for the apparent low bidder, is authorized to act on behalf of the apparent low bidder on all matters of scheduling included in this Section. Once named, the Scheduling Coordinator may only be replaced after written notice is given to the Owner's Representative and Architect. The Contractor agrees, upon the request of either of the two parties, to replace the Scheduling Coordinator.
- C. Failure to comply with this subsection 1.03 of this Section of the General Requirements may be cause for rejection of the bid and forfeiture of security. (See the "Post-Bid Procedures" in the Instructions to Bidders.)

1.04 COMMENCEMENT, PROSECUTION AND COMPLETION OF THE WORK

- A. Contractor shall commence work under this contract upon receipt by him of Letter of Intent to Award, Notice to Proceed, and/or Execution of the Contract, and shall prosecute said work diligently and complete the work within the stated calendar days for each portion of the work as set forth in Section 01 10 00.
- B. The time stated for completion for contract work includes final cleanup of area. Upon completion of total Contract work, ALL AREAS SHALL BE CLEAN.
- C. The Contractor is to carry on responsibility for services and maintenance of such items as temporary roads, walks, ramps, field offices, parking areas, environmental controls and the like until work under this contract is complete, unless otherwise directed by the Owner. Coordinate work herein with Section 01 10 00, Description of Work.

1.05 COORDINATED SUBMITTAL SCHEDULES

- A. Within two (2) weeks after receipt of Letter of Intent to Award, Notice to Proceed, and/or Execution of the Contract, each Contractor shall submit, to each other for review and comment prior to submittal to the Contractor for General Construction, a detailed listing of all items to be incorporated within the work, including all items of mechanical and electrical.

This agreed upon information will then be incorporated in the "CPPS" as prepared by the "CGC" in accordance with Paragraph 1.05 of this Section.

Listing should generally include the following:

- 1. Overall project milestones;
- 2. Proposed products list and status report on material orders.
- 3. Dates of shop drawing/sample submittals;
- 4. Guaranteed delivery dates after shop drawing and/or sample approvals;
- 5. Date of installation start;
- 6. Date of installation completion.

1.06 COORDINATED PROJECT PROGRESS SCHEDULE

- A. Within two (2) weeks after receipt of Letter of Intent to Award, Notice to Proceed, and/or Execution of the Contract, but prior to the actual start of the field work, the

Contractor for General Construction shall submit to the Architect for his approval the proposed Coordinated Project Progress Schedule giving the information listed below.

In order to complete the "CPPS" each Contractor shall submit to each other for review, comment and time coordination prior to submittal to the Contractor for General Construction, their requirements so as to allow for said schedule to be drawn.

EACH CONTRACTOR SHALL SIGNIFY ACCEPTANCE OF SAID COORDINATED PROJECT PROGRESS SCHEDULE BY SIGNING PRIOR TO SUBMITTAL.

FAILURE OF THE "CGC" TO SUBMIT SAID COORDINATED PROJECT PROGRESS SCHEDULE AND TO OBTAIN APPROVAL THEREOF WILL RESULT IN FORFEITURE OF RIGHT OF PAYMENT UNTIL SAID SCHEDULE IS APPROVED.

SHOULD SUCH FAILURE BE CAUSED BY THE LACK OF COOPERATION ON THE PART OF ANY CONTRACTOR, SAID CONTRACTOR WILL BE PENALIZED BY FORFEITURE OF RIGHT OF PAYMENT AS WELL AS BEING HELD RESPONSIBLE FOR ANY DELAYS AND RESULTANT COSTS AS OUTLINED IN THE GENERAL CONDITIONS THAT MAY ACCRUE UNTIL SUCH PARTICIPATION IS FORTHCOMING AND SAID SCHEDULE IS APPROVED.

The minimum information contained within the required project progress schedule shall consist of -

1. The estimated dates the various classes of work included in the Schedule of Values will be started and completed.
2. The estimated percentages of completion to be obtained and the total dollar value of the various classes of said work projected to the end of each calendar month until substantial completion.

Calculations shall be based upon - work in place; materials on site and not installed; materials fabricated and stored under suitable conditions and insured to full value in a manner satisfactory to Architect and Owner; and such other items as may be agreed to among the Contractor, Architect and Owner.

3. The estimated delivery and installation dates of the major pieces of equipment to be furnished and installed by the Contractor.
4. The estimated projected progress of work that will be performed away from the job site.
5. A delineation of the work that will be performed by the Contractor's own forces and by his Subcontractors.
6. The estimated calendar dates on which all the work under the contract will be completed and ready for substantial completion and final inspections.

- B. The Coordinated Project Progress Schedule shall be based on an orderly progression of the Work, allowing adequate time for each operation, and leading to a reasonable certainty of Substantial Completion by the date established in Section 01 10 00.

The "CPPS" will be reviewed by the Architect and Owner's Representative for compliance with the requirements of this article and will be accepted by them or returned to the "CGC" for revision and resubmittal.

In the event that said schedule is returned, each contractor shall participate in the revision, as required, to prepare same for resubmittal.

Unless specifically required by law, no payment under this Contract shall be due until the Progress Schedule has been submitted to the Architect and Owner's Representative and approved by both parties.

- C. As the work progresses, an up-to-date copy of the "CPPS" with the actual percent completion of the various classes of the work indicated in red shall be submitted by the "CGC", with input from each Prime Contractor, to the Architect and/or Owner's Representative during the first week of each calendar month. (Distribution to be established as part of "preconstruction meeting".

Each Prime Contractor shall sign the monthly schedules as a prerequisite to the requisitioning process.

The "CPPS" may be adjusted and revised to meet unforeseen job conditions, but such changes shall, at all times, be approved by the Architect and the Owner's Representative.

- D. A copy of the "CPPS" shall be available at all times at the job site for the inspection and guidance of other Contractors, Subcontractors and Vendors engaged on any construction phase of the project.

It shall be the responsibility of Each Contractor to ascertain that all his Subcontractors, Vendors and Material men periodically consult the Schedule so that their work schedule shall be maintained in conformance with his own.

It shall also be the responsibility of Each Contractor to periodically consult the Job Progress Schedules of any other Contractors that may be engaged on any separate construction of the project, so that undue delay in progress on their part shall not delay the work of the other Contractors.

- E. AN UP TO DATE COPY OF COORDINATED PROJECT PROGRESS SCHEDULE MUST BE ATTACHED TO MONTHLY REQUISITION IN ORDER FOR PROCESSING TO BEGIN.

INCOMPLETE REQUISITIONS WILL BE REJECTED.

1.07 BREACH OF CONTRACT

- A. The Contractor's failure to comply with any requirement called for in subsections 1.04, 1.05 and 1.06 above shall constitute a material breach of the Contract, and the Owner shall have the right to and may terminate the Contract, provided, however, that the failure of the Owner to so terminate shall not relieve the Contractor from future compliance.

- 1.08 TIME OF COMPLETION – Coordinate with Article 8, Sections 00 70 00 and 01 10 00
- A. Notwithstanding the implementation of the Construction Schedule, it is the sole responsibility of the Contractor to complete the Work within a Contract Time which will assure the substantial completion of the Project by the required date.

****End of Section****

SECTION 01 33 00

SUBMITTAL REQUIREMENTS

NOTES:

- SUBMISSIONS CAN BE MADE ELECTRONICALLY PROVIDED THAT SAID SUBMISSIONS FOLLOWS THE CRITERIA OUTLINED HEREIN AND BOTH THE FORMAT FOR THE OVERALL PROCESS IS AGREED TO BETWEEN ALL PARTIES PRIOR TO INITIAL START OF THE PROJECT.
- SUBMITTAL TRANSMISSIONS SHALL BE LIMITED TO THE TECHNICAL PRODUCT AND DRAWING REQUIREMENTS ONLY. MSDS DATA SHALL NOT BE TRANSMITTED AS AN INTEGRAL PART OF THE SUBMITTAL BUT SHALL BE INCLUDED AS A SEPARATE DOCUMENT FOR THE EXPRESS PURPOSE OF ASSEMBLING THE REQUIRED FIELD MANUAL AS SPECIFIED HEREIN.
- **ALL SUBMITTALS SHALL BE MADE THROUGH THE SUBMITTAL EXCHANGE PROCESS – EMAIL TRANSMITTAL OF SAME WILL NOT BE ACCEPTED AND WILL BE RETURNED WITHOUT REVIEW.**

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.
- D. Where practical, submittals shall be made in groupings where installations are complimentary, i.e. steel, steel decking, steel stairs, stair railings; roof systems/flashings; etc. **Failure to comply with this requirement will be cause for rejection of any or all submittals.**

Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

- E. The Contractor is encouraged to submit for approval products made from recycled and/or environmentally responsible material. Every effort will be made by the Design Professional Team to approve these materials; the substitution request procedure shall still be enforced.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Related Work Specified Elsewhere.
- B. Approved Equal Clause/Substitutions/Options
- C. Certification

- D. Manufacturer's Instructions
- E. Submittal Instructions
- F. Shop Drawings
- G. Samples
- H. Material Safety Data Sheet (MSDS) Submittals
- I. Proposed Products List and Status Report on Material Orders
- J. Scheduling of Submittals
- K. Job Progress Schedule - See Section 01 32 00
- L. Coordination Drawings
- M. Progress Photographs
- N. Certificates
- O. Construction Waste Management Procedures and Certifications – See Section 01 74 19.
- P. V.O.C. Compliance certification – See individual technical sections.

1.03 RELATED WORK SPECIFIED ELSEWHERE

- A. 01 29 00 - Applications for Payment and the Schedule of Values
- B. 01 31 13/14 - Project Coordination and Coordination Drawings
- C. 01 32 00 - Scheduling and Progress
- D. 01 43 26 - Testing Laboratory test and inspection reports
- E. 01 77 00 - Project Closeout requirements
- F. 01 77 19 - Project Record Documents
- G. 01 78 23 - Operation and Maintenance
- H. Divisions 2 through 33 Sections for specific requirements for submittals in those Sections

1.04 APPROVED EQUAL CLAUSE/SUBSTITUTIONS/OPTIONS - Section 01 25 00

1.05 CERTIFICATION

- A. Certification of compliance with specification performance standards and manufacturers' specifications and directions shall be furnished for any portion of this work for which specific performance requirements and/or manufacturers' specifications are listed. It shall be the responsibility of the Contractor to secure two (2) copies of each certification when required and transmit same to the Architect.
- B. Sample Certification Form (2 pages) Section 01 33 06 as an exhibit at the close of this Section. Each item requiring certification shall be so noted and affidavits shall be filed singly to cover each specified material, installation, application and the like. CERTIFICATIONS SHALL BE SUBMITTED AS PART OF THE CLOSE OUT DOCUMENT REQUIREMENTS SET FORTH IN SECTION 01 77 00.
- C. Decorations, Furnishings and Interior Finish - The Contractor's attention is directed to the New York State Fire Code as it relates to regulations controlling decoration, furnishings and interior finishes as they affect the work of this Contract.

It is deemed the sole responsibility of the vendors furnishing fabrics, floor coverings, ceiling finishes, wall coverings and finishes and the like as covered by the regulations to submit applications and obtain approvals for same without additional charges to the Owner. Failure to obtain, and submit, approvals in accordance with requirements of this section will result in rejection of any submittal for this phase of the work.

- D. Packaged Equipment: Where packaged (factory assembled) mechanical and electrical equipment is furnished, a certificate shall be included with the submission of shop drawings or catalog data stating that the equipment complies with OSHA, National Electric Code, and applicable Underwriter's Laboratories Standards in respect to motor protection, grounding and protection against hazards, and is approved by all Regulatory Agencies.

1.06 MANUFACTURER'S INSTRUCTIONS

- A. Where in these specifications an item is called for to be installed in accordance with the manufacturer's directions, specifications or recommendations, the Contractor shall furnish the Architect with two (2) printed copies of said directions, specifications or recommendations, before the item is installed.

1.07 SUBMITTAL INSTRUCTIONS

- A. Transmit each submittal, except sample installations and sample panels to the Architect. Transmit submittals with Submittal Cover Sheet attached as Section 01 33 02. On the Cover Sheet identify Contractor, indicate date of submittal, and include information prescribed by form and required in paragraph entitled, "Submittal Requirements" of the individual technical Section and as follows. Process transmittal forms to record actions regarding sample installations and panels.
 - 1. Name, address, and telephone number of subcontractor, supplier, manufacturer and any other subcontractor associated with the submittal
 - 2. Name of Owner
 - 3. Name of Project and Location
 - 4. Construction contract number/designation
 - 5. Product Identification
 - 6. Manufacturer
 - 7. Subcontractor/Supplier
 - 8. Specification Section Number
 - 9. Specification Paragraph/Article
 - 10. Drawing Numbers
 - 11. Drawing Date(s)
 - 12. Room or Detail Numbers
 - 13. When a resubmission, add alphabetic suffix on submittal description, for example, submittal 18 would become 18A, to indicate resubmission

1.08 SHOP DRAWINGS

- A. The following serves as a further definition of the requirements for shop drawing submittals as covered in Article 3.12 of the General Conditions:
 - 1. The Contractor shall submit to the Architect with such promptness as to cause no delay in the work, layout, detail, schedule, setting, product data and shop drawings for each part of the work as specified or required.
 - a. Submission of data for review by the Structural and Mechanical/Electrical Engineers shall be sent directly to those Engineers with duplicate transmittals sent to the Architect.
 - 2. BEFORE SUBMITTING ANY DATA FOR APPROVAL, THE CONTRACTOR SHALL CHECK THE SUBMITTALS OF ALL SUBCONTRACTORS FOR ACCURACY AND CONTRACT COMPLIANCE. ALL SUBMITTALS SHALL BE UNDER THE COVER SHEET ATTACHED HERETO. SUBMITTALS NOT COMPLYING WITH THE ABOVE SHALL BE RETURNED TO THE

SUBMITTING CONTRACTOR WITHOUT EXAMINATION BY THE ARCHITECT. Contractor shall see that all work contiguous with and having bearing on work indicated on drawings is accurately and distinctly illustrated and that work shown is in conformity with contract requirements.

EACH CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THEIR WORK AND SUBMITTAL WITH OTHER CONTRACTORS PERFORMING WORK ON THE PROJECT.

SHOULD ANY CONTRACTOR CAUSE THE NEED FOR RE-SUBMISSION OR RE-REVIEWS OF PREVIOUSLY APPROVED INFORMATION OF ANOTHER CONTRACTOR, ALL COSTS INVOLVED WITH SAID REVIEW WILL BE BACKCHARGED AT THE RATES SET FORTH IN SECTION 01 25 00 TO THE CONTRACTOR CREATING THE NEED FOR ADDITIONAL REVIEWS.

3. Shop drawings shall be numbered consecutively and shall represent:
 - a. All working and erection dimensions
 - b. Arrangement and sectional views
 - c. Necessary details, including information for making connections to other work
 - d. Kinds of materials and finishes. Colors, where applicable
4. Shop drawings shall be dated, and shall generally contain:
 - a. Name and Number of project
 - b. Name, address and telephone number of submitting Contractor
 - c. Description of required equipment, materials, and classification item numbers
 - d. Locations at which materials or equipment are to be installed in the Work
 - e. Identification of drawings, schedules, notes and/or details and specification sections and related paragraphs/articles to which they apply
 - f. Equipment or fixture identification corresponding to that used in Contract Documents.
 - g. Accessories and special or non-standard features and materials which are being furnished
 - h. Properly marked with external connection identification as related to the project where they consist of standard factory assembly or field installation drawings

In addition to the general data required above, mechanical and electrical submissions shall contain:

- a. Manufacturer's specifications including materials of construction, metal gauge, thickness and finish
- b. Certified dimensional drawings including clearances required for maintenance or access (coordinate with Section 01 31 14)
- c. Performance data, ratings, operating characteristics, and operating limits
- d. Electrical ratings and characteristics

- e. Wiring and control diagrams, where applicable
 - f. Certifications requested, including UL label or listing
 - g. List of accessories which are required but are NOT being provided by the product manufacturer or are NOT being furnished under this Section; Identify the Section(s) under which the accessories are being furnished.
5. Submission of data for approval shall be accompanied by letter of transmittal, in duplicate, containing the name of the project, Contractor's name, number of drawings, titles and other pertinent data.
6. Procedure for Submitting Shop Drawings and Product Data:

The contractor shall submit five (5) copies of data, for standard manufactured items, in the form of manufacturer's catalog sheets, showing illustrated cuts of the items to be furnished, scale details, sizes, dimensions, performance characteristics, operating clearances, capacities, wiring diagrams and all other pertinent information.

Two copies of reviewed submissions will be returned to the contractor.

For all other shop drawings, Contractor shall submit one transparency for each drawing until final approval is obtained.

Each drawing transparency shall have a clear space approximately 4 inches by 10 inches on the right-hand side for stamps showing "Date Received" and disposition of submittal.

In addition to the transparency, three (3) prints shall be required.

- a. After completion of checking, the Architect, and Engineer (as appropriate) will retain one print for his record and return the transparencies to the submitting Contractor.

The average "turn around time" of any one in-house submittal by the Architect shall not exceed 15 business days for review and at least 20 business days when another consultant is involved.

- b. For drawings returned "Resubmit", "Amend & Resubmit", "Disapproved" or "Rejected-Resubmit", the original drawings shall be corrected, a new transparency made, and resubmitted until final approval.

NOTE: The Owner reserves the right to back-charge the Contractor for the additional costs beyond the review of any resubmittal as outlined in Section 01 25 00.

- c. For drawings returned "Approved", "No Exceptions Taken", "Approved as Noted", and "Make Corrections Noted", the Contractor shall obtain and provide sufficient prints as required for the field.

NOTE: It is the responsibility of the contractor to confirm all dimensions, quantities, and the coordination of materials and

products supplied by him with other trades. Approval of shop drawings containing errors does not relieve the contractor from making corrections at his expense.

7. No work as called for by shop drawings shall be done until Architect's approval.
8. IF SUBMITTALS SHOW VARIATIONS FROM CONTRACT REQUIREMENTS BECAUSE OF STANDARD SHOP PRACTICES, OR OTHER REASONS, CONTRACTOR SHALL MAKE SPECIFIC MENTION OF SUCH VARIATION IN HIS LETTER OF TRANSMITTAL.
9. APPROVAL OF SHOP DRAWINGS IS GENERAL. IT SHALL NOT RELIEVE CONTRACTOR OF THE RESPONSIBILITY FOR ACCURACY OF SUCH DRAWINGS, NOR FOR THE FURNISHING OF MATERIALS OR PROVISION OF WORK REQUIRED BY THE CONTRACT AND NOT SHOWN ON THE SHOP DRAWINGS.

Unless it is an interpretation of design intent, approval of shop drawings shall not be construed as approval of departures from Contract.

10. If the Contractor should alter any information on previous submittals, besides the notations called for by the Architect, he must circle this new information to bring it to the Architect's attention.
11. ***Where practical, in submitting data for approval, all associated drawings, product data and the like, relating to a complete assembly shall be submitted at one and the same time so that each may be checked in relation to the entire proposed assembly.***

PARTIAL SUBMISSIONS WILL BE RETURNED WITHOUT ACTION TAKEN.

EXTRANEIOUS MATERIAL ON PRODUCT DATA SHEETS SHALL BE STRUCK PRIOR TO SUBMITTAL.

Resubmittals of any data shall be "complete", i.e. – Lighting Fixture resubmittal shall include all fixtures whether or not some have been approved so that when the entire submittal is approved, a full record copy is on file.

12. Contractor shall have copies of all approved shop drawings as listed in Paragraph 1.08.A.6 above on the job at all times and shall make them available to the Architect or the Owner's representatives.

1.09 SAMPLES

A. The following serves as a further definition of the requirements for sample submittals as covered in Article 3.12 of the General Conditions:

1. Names of proposed manufacturers, materialsmen and dealers who are to furnish materials, fixtures, appliances or other fittings shall, where practical, be submitted to the Architect for early approval to afford proper investigation and check.

2. No manufacturer will be approved for any materials to be furnished under this contract unless he shall be of good reputation and shall have plant of ample capacity and shall have successfully produced similar products.
3. All transactions with manufacturers and subcontractors shall be through the Prime Contractor.
4. Unless otherwise specified, samples shall be in duplicate (2) and of adequate size to show quality, type, color, range, finish, texture, etc.

INTERRELATED COLOR SELECTIONS WILL NOT BE MADE UNTIL ALL PERTINENT SAMPLES ARE MADE AVAILABLE TO ARCHITECT.

Deliver one (1) sample to field office and one (1) sample to Architect's office unless otherwise directed.

5. Each sample shall be labeled, bearing material and quality names, submitting Contractor's name, and project name, and other pertinent data.

In accordance with OSHA regulation Number 1910.1200, a Material Safety Data Sheet (MSDS) shall be submitted for each product to be incorporated in the work.

The sole purpose for requiring submittal of MSDS sheets as outlined herein and respective technical sections is to advise the General Contractor that health and safety is of primary importance to the execution of the work and for the future occupants of the project under construction. It is to be assumed, and will be enforced, that the submission of MSDS sheets be made as a separate package, covered by it's own transmittal and marked "for evidence of legal compliance". This submission will be noted and returned with a stamp indicating "SUBMITTED INFORMATION ONLY, NOT REVIEWED". **Failure to observe these submittal requirements will be cause for rejection of the entire submittal.**

The safe handling of products by the applicator according to MSDS warnings is a safety issue, like any other, entirely within the purview of the Respective Prime Contractor.

6. Where Specifications require manufacturer's printed installation directions, such directions and diagrams shall accompany samples. Coordinate with Paragraph 1.05 herein
7. A duplicate letter of transmittal from the submitting Contractor requesting approval of the sample shall accompany the samples.
8. Transportation charges to designated locations must be prepaid on all samples.
9. Materials shall not be ordered until approval is received in writing from the Architect.
10. ***All materials shall be furnished equal in all respects to the samples which were approved.***

1.10 MATERIAL SAFETY DATA SHEET (MSDS) SUBMITTALS

- A. As specified in Paragraph 1.09 of this Section and within the technical sections forming this Specification, the Contractor is directed to the following requirements concerning "MSDS" submissions.
 - 1. Submit MSDS's for all products used during construction whether incorporated within the work or used in the performance of the work.
 - 2. Identify which products may be harmful to construction workers or other building occupants.
 - 3. Develop means and methods for protection of construction workers and other building occupants from potentially harmful products. **Submit said means and methods to the Owner for review and approval.**
 - B. Further, the General Contractor with assistance from each individual contractor shall maintain a "MSDS" file on site, accessible to workers and otherwise in compliance with jurisdiction's "Right To Know" legislation.
 - C. **Attention is directed Section 01 77 00, Article 1.04.A.12 for final closeout submittal of MSDS compilation to the Owner.**
- 1.11 PROPOSED PRODUCTS LIST AND STATUS REPORT ON MATERIAL ORDERS - Coordinate with Section 01 32 00.
- A. Within two (2) weeks after date of Notice to Proceed or execution of the Contract (whichever is the earliest), submit a complete list of products proposed for use, with name of manufacturer/vendor/fabricator, trade name, and model number of each product.
 - B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
 - C. Report to include list, in chronological order by need date, materials orders necessary for completion of the contract. The following information will be required for each material order listed:
 - 1. Material name, supplier, and invoice number.
 - 2. Bar chart line item or CPM activity number affected by the order.
 - 3. Delivery date needed to allow directly and indirectly related work to be completed within the contract performance period.
 - 4. Current delivery date agreed on by supplier.
 - 5. When item 4 exceeds item 3, the effect that delayed delivery date will have on contract completion date.
 - 6. When item 4 exceeds item 3, a summary of efforts made by the Contractor to expedite the delayed delivery date to bring it in line with the needed delivery date, including efforts made to place the order (or subcontract) with other suppliers.
- NOTE: This information shall be updated for each requisition, failure to complete and certify accuracy will be cause for non-payment of requisition.***
- 1.12 SCHEDULING OF SUBMITTALS
- A. Within two (2) weeks after execution of the Contract, the Contractor shall submit a detailed listing of all items to be incorporated within the work, including all items of mechanical and electrical.
 - 1. Submittals for Review.
 - 2. Quality Control Submittals.
 - 3. Sustainable Design Submittals.
 - 4. Closeout Submittals.

Listing should state the following:

1. Specification section number
2. Description of submittal
3. Type of submittal
4. Date of shop drawing/sample submittals
5. Guaranteed delivery date after shop drawing and/or sample approvals
6. Date of installation start
7. Date of installation completion

1.13 JOB PROGRESS SCHEDULE - See Section 01 32 00

1.14 COORDINATION DRAWINGS

- A. Each Contractor's attention is directed to Section 01 31 14 for required coordination drawings and the responsibility therefore.

1.15 PROGRESS PHOTOGRAPHS

- A. This Article includes requirements for periodic construction photography by the General Contractor, utilizing digital camera equipment, to demonstrate construction progress and to serve as a communicative device when describing a given condition to others at a remote location, by means of the internet.
- B. Photography shall be taken using a digital camera and electronic program which will download the digital photos in a JPEG format to a computer with resolution adequate to demonstrate the item under discussion.
- C. One set of record prints will be required and filed with the monthly requisition. The JPEG files shall be transmitted to the appropriate parties who shall then have the option to view the picture(s) on screen or print them out using their own equipment.
- D. It is the intention of this Section to provide a tool to enhance communications and reduce the amount of time required to address questions arising at the Project site. In this end, the Contractor shall utilize good judgment in providing photographs that are informative, and not merely repeating what is shown in the other photographs.
- E. Provide factual representation of construction extent and conditions. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion, utilizing a normal lens.
- F. Before starting work, the General Contractor shall take photographs of the Work Areas from different points of view sufficient in number to show all present conditions.
- G. The minimum requirements, per requisition period are three (3) photographs of the Work, from different points of view designated by the Architect

1.16 CERTIFICATES

- A. Submit a Summary of Solid Wastes Generated, manifests, weight tickets, and the like in accordance with requirements of Section 01 74 19 - Construction Waste Management.
- B. Submit, as required by each technical section a certification for V.O.C. compliance.

Part 2 - PRODUCTS

Not used

Part 3 - EXECUTION

July 22, 2021
Construction Documents
SED #66-10-04-06-0-013-013

Chappaqua Central School District
Westorchar Elementary School
Roof Replacement

Not used

****End of Section****

CONTRACTOR REQUEST FOR ELECTRONIC DRAWING FILES

The Architect, for the convenience of the Client/Owner, has electronic copies or representations of Drawings, Specifications and Project Manuals. Requests for electronic copies of such Drawings, Specifications and Project Manuals by the Contractor, for the Contractor's use or the use of Subcontractors, shall be made in writing to the Client/Owner as outlined hereinbelow and shall outline the benefit derived from such a request. The Contractor shall be prepared to reimburse the Client/Owner for any costs involved in preparing such electronic documents for the Contractor's use.

Architect's Project Number:	
Project Name:	
Architect:	KG+D Architects, PC
Client/Owner:	
Contractor/Recipient's Name:	
Attention to:	
Contractor/Recipient's Address:	
Date of Request:	
Date of Release:	

As requested, attached is a list of electronic drawing files in DWG/DWF format (Drawings may be compressed). For the release of these electronic drawing files to the recipient, the following items shall be understood, acknowledged and signed by the authorized personnel of the recipient with the fee included as may be required.

- A. The electronic drawing files are the property of the Architect and the Contractor is granted a license to use the electronic files only in connection with the subject project.
- B. The electronic drawing files do not necessarily represent the Contract Documents associated with the referenced project. These files are solely for the use of the recipient and are not a representation of the scope of work for the project. Any use by contractors, subcontractors or fabricators shall be on all of the same terms and conditions being applicable to such users who shall acknowledge the same in writing. The Recipient may use the electronic drawing files only. Electronic drawing files or portions thereof, shall not be provided to anyone else without the written approval of the Client/Owner. The use of the electronic drawing files, documents and any reprographics shall not identify any member of the Architect or Architect's consultants or sub-consultants or the Client/Owner without the written approval from the parties.
- C. The entire risks as to the results and performance of the package including the electronic drawing files, are assumed by the Contractor/recipient. The Client/Owner, the Architect and the Architect's consultants and sub-consultants, including directors, employees, representatives, and licensors of the company, shall not have any liability to the Contractor/recipient or any other person or entity for any direct, indirect, incidental special or consequential damages whatsoever, including, but not limited to, the loss of revenue or profit, lost data, or any other personnel, commercial or economic loss, and claims by third parties. Even if the Client/Owner and Architect and the Architect's consultants and sub-consultants has been advised of the possibility of such damages; said Client/Owner

and Architect and the Architect's consultants and sub-consultants shall not be held liable as stated above.

- D. The Contractor/recipient hereby agrees to indemnify and hold the Client/Owner, the Architect and the Architect's consultants and sub-consultants harmless from and against any cost, damage, liability, loss or claim arising from violation of this license. The Contractor/recipient and all subcontractors of all tiers also agrees that, in addition to all other remedies hereunder, the Contractor/recipient and such parties grant the Client/Owner the right to seek injunctive or other equitable relief to prevent the violation or require the performance of any of the Contractor's/recipient's obligations under this license, and the Contractor/recipient hereby consents to the issuance of such relief by any court of competent jurisdiction without the need to post any bond or security.

- E. The electronic files requested are as follows:

Electronic file name	Corresponding Drawing (close approximation)
1. Architectural Drawings	
2.	
3.	
Etc.	
Total number of files:	

CONTRACTOR'S/RECIPIENT'S AGENT'S SIGNATURE:

NAME IN BLOCK LETTERS:

AUTHORIZED POSITION HELD:

DATE OF SIGNATURE:

****End of Attachment****

SUBMITTAL COVER SHEET

Contractor: _____

Address: _____ Telephone: () _____

Owner: _____

Name of Project: _____

TYPE OF SUBMITTAL:

- ☐ Shop Drawings
☐ Technical Data
☐ Test Report

- ☐ Schedule
☐ Certificate
☐ Warranty

- ☐ Physical Sample
☐ Color Sample
☐ _____

Submission #: (circle one) 1st 2nd 3rd 4th

Description:

Product Identification: _____

Manufacturer: _____

Subcontractor/Supplier: _____

DOCUMENT REFERENCES: (Must be fully filled out)

Spec Section No.: _____ Drawing No(s): _____

Paragraph: _____ Rm. Or Det. No(s): _____

Contractor Remarks:

Contractor Submittal Review Stamp

THE ATTACHED MATERIAL HAS BEEN REVIEWED BY THE UNDERSIGNED AND IS BELIEVED TO COMPLY WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE UNDERSIGNED UNDERSTANDS VERIFICATION OF FIELD DIMENSIONS, AND COORDINATION WITH OTHER TRADES, REMAINS THE RESPONSIBILITY OF THE CONTRACTOR.

DATE: _____ BY (SIGN): _____

Consultant use below this line:

Architect Submittal Review Stamp

☐ NO EXCEPTIONS	☐ MAKE CORRECTIONS NOTED
☐ REJECTED	☐ REVISE AND RESUBMIT
☐ EXAMINED	☐ SUBMIT SPECIFIED ITEM

CHECKING IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. ANY ACTION SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE PLANS & SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS WHICH SHALL BE CONFIRMED & CORRELATED AT THE JOB SITE; FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION; COORDINATION OF HIS WORK WITH THAT OF ALL OTHER TRADES & THE SATISFACTORY PERFORMANCE OF HIS WORK

KG+D ARCHITECTS, P.C.

DATE _____ BY _____

SECTION 01 33 06

CERTIFICATION OF SPECIFICATION COMPLIANCE

I/WE, the MANUFACTURER/SUPPLIER and INSTALLER of _____
as specified in Section Number _____ of the Contract Documents prepared by
KG+D Architects, PC, 285 Main Street, Mt. Kisco, NY 10549

Westorchar Elementary School Roof Replacement Project

Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514

do (does) herein certify that -

1. All materials furnished for said project do fully comply with all specification requirements as stated within the Contract Documents;
2. That no asbestos containing materials of any nature are used in the work;
3. That execution of the Work covered by this certification has been performed in accordance with the drawings prepared by the design professional team.

CONTRACTOR: _____

CERTIFICATION BY: _____ TITLE: _____

ADDRESS: _____

CERTIFICATION DATED: _____

Distribution:

Original and One Copy to:

KG+D Architects, PC
285 Main Street
Mt. Kisco, NY 10549

Att: _____

One Copy to:

CERTIFICATION OF SPECIFICATION COMPLIANCE

CORPORATE ACKNOWLEDGEMENT

)SS.
)

On the _____ day of _____, before me came _____ to
me known and who by me being duly sworn did depose and say that he resides at
_____ that he is the officer of the said corporation executing the
foregoing instrument, that he knows the seal of said corporation, that the seal affixed to said
instrument is such corporate seal, that it was so affixed by order of the Board of Directors of said
corporation and that he signed his name thereto by like order.

Notary Public

INDIVIDUAL ACKNOWLEDGEMENT

State of

)SS.
)

County of

On the _____ day of _____, before me came _____
to me known and who by me being duly sworn did depose and say that he resides at
_____ that he is the individual who executed the foregoing
instrument.

Notary Public

PARTNERSHIP ACKNOWLEDGEMENT

State of

)SS.
)

County of

On the _____ day of _____, before me came _____ to
me known and who by me being duly sworn did depose and say that he resides at
_____ that he is the partner in the firm of
_____ doing business under the name of
_____ and that he executed the foregoing instrument on behalf of
said partnership.

Notary Public

SECTION 01 35 29

HEALTH AND SAFETY PLAN

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Provide all labor, equipment and materials and perform all operations in connection with monitoring air quality, decontaminating equipment and providing worker health and safety protection for all Contractor and Subcontractor personnel.
- B. Develop a site-specific Health and Safety Plan (HASP) specifically addressing the potential hazards that may be encountered. This plan shall meet all Occupational Safety and Health Administration (OSHA) requirements.
- C. Review the requirements and data presented and supplement the program with any additional measures deemed necessary to fully comply with regulatory requirements and adequately protect personnel on the site.

1.03 REFERENCES

- A. OSHA Regulation 29 CFR 1910.120
- B. OSHA Regulation 29 CFR 1926.62

1.04 DEFINITIONS

- A. Site Safety Official (SSO): The individual who is responsible to the Contractor and has the authority and knowledge necessary to implement the site safety and health plan and verify compliance with applicable safety and health requirements.
- B. SSO shall possess full and complete authority to order stoppage of any work which he deems unsafe.

1.05 SUBMITTALS

- A. Provide within seven (7) days after execution of the Agreement.
 - 1. Site-specific HASP including the Emergency Response Plan to the Owner, Owner's Representative and Architect for review, including provisions for decontamination and a contingency plan for unforeseen emergencies. The review is only to determine if the HASP meets basic regulatory requirements and the minimum requirements of this Section. The review will not determine the adequacy of the HASP to address all potential hazards, as that remains the sole responsibility of the Contractor.
 - 2. Current certification of employee's health and safety training and certification of employee's baseline medical exam status.
 - 3. Certification of additional required health and safety training for Supervisors.
 - 4. Qualifications and experience of the SSO for approval.
- B. Submit minutes of weekly safety meetings at periodic progress meetings.

- C. Refer to related submittal requirements in Section (s) 02 82 00 - Asbestos Abatement for project.

1.06 CONTRACTOR'S RESPONSIBILITIES

- A. Contractor is solely responsible for the health and safety of workers employed by the Contractor, any Subcontractor and anyone directly or indirectly employed by any of them.
- B. Develop and follow a site-specific Health & Safety Plan (HASP) in accordance with the requirements of paragraph 1.07.
- C. Provide a full-time SSO regardless of whether or not the Work is at a defined Uncontrolled Hazardous Waste Site.
- D. Pre-arrange emergency medical care services at a nearby hospital, including establishment of emergency routes of travel.
- E. Meetings:
 - 1. Conduct daily job briefings with all site personnel to discuss relevant health and safety issues including but not limited to hazards, monitoring, procedures and controls. Document attendance and topics covered.
 - 2. At a minimum, conduct weekly safety meetings with all site personnel, documenting attendance and topics covered.
- F. Train all workers assigned to areas where contaminated media are likely to be encountered in accordance with 29 CFR 1910.120.
- G. Include those workers involved with the abatement of Asbestos containing materials in a medical surveillance program and respiratory protection program that meet the requirements of 29 CFR 1910.120 and 29 CFR 1910.134, respectively.
- H. In areas where contaminated media are likely to be encountered, monitor air quality in and around work area using appropriate air monitoring equipment/analysis, as indicated in Part 2. Record all readings and maintain record on site. Stop work and/or upgrade respiratory protection or personal protective equipment levels if action levels established in the HASP are exceeded. Ensure that degree and type of respiratory protection provided is consistent with the monitored concentrations and individual chemical parameters. Lawfully dispose of all contaminated clothing and equipment that cannot be decontaminated.

1.07 HEALTH & SAFETY PLAN (HASP) REQUIREMENTS

- A. The following items shall be addressed in the HASP:
 - 1. safety and health hazard assessment
 - 2. procedures for emergency medical treatment and first aid
 - 3. map indicating route to hospital for emergency medical care
 - 4. Lead Exposure Control Plan (29 CFR 1926.62)
 - 5. equipment decontamination procedures
 - 6. air monitoring procedures and action levels
 - 7. personal protective equipment and decontamination
 - 8. physical hazard evaluation and abatement including:
 - a. equipment operation
 - b. confined space entry
 - c. slips and falls
 - d. building collapse
 - e. falling debris
 - f. encountering unmarked utilities
 - g. cold and heat stress

- h. hot work (cutting and welding)
 - i. excavation entry
 - 9. training requirements
 - 10. recordkeeping requirements
 - 11. emergency response plan that includes:
 - a. names of three (3) Emergency Response Contractors, experienced in the removal and disposal of oils and hazardous chemicals, that the Contractor intends to use in the event of an emergency
 - b. evacuation routes and procedures
 - c. emergency alerting and response procedures

1.08 CONTINGENCY MEASURES & NOTIFICATIONS

- A. The potential for encountering hazardous buried objects or materials that could pose a threat to human health or the environment exists at the Project Site. In the event that potentially hazardous materials are encountered during the work under this contract, the responsibilities of the Contractor and the Owner's Representative are described herein.
- B. The procedures and protocols to be used by the SSO in defining materials that are potentially hazardous include screening with a photoionization detector, odor, visual appearance of a material, and obvious oil or chemical contaminated materials.
- C. Upon encountering suspected hazardous buried objects or materials as described above, cover the excavation immediately if no imminent danger, as defined by the SSO, is present. If there is an imminent danger, as defined by the SSO, evacuate the area immediately. The SSO shall then notify the Owner's Representative of the situation.
- D. Establish, properly barricade, and mark the area as an exclusion zone under the direction of the SSO. The SSO shall establish the exclusion zone boundaries based upon air quality monitoring using a photoionization detector and other equipment as appropriate. The exclusion zone shall be established at a minimum 50-foot radius around the location where the potentially hazardous material is encountered. Work within the exclusion zone shall be discontinued until the hazardous condition has been remediated and testing indicates that a hazard does not exist. Other activities of the site, outside the limits of the exclusion zone shall continue. Ambient air quality monitoring shall be performed by the SSO to demonstrate that ambient air quality in other portions of the site is not adversely impacted by the exclusion zone condition.
- E. Notify Owner's Representative regarding the presence of potentially hazardous materials. Owner's Representative may direct the Contractor to notify regulators and to obtain necessary regulatory approvals for remediation.
- F. Mobilize the appropriate equipment and personnel to sample and test the hazardous material within the exclusion zone to determine the remedial action required, subject to the Owner's Representative's direction. Contractor may be directed to remove and legally dispose of the material. Compensation for the removal and disposal of hazardous material will be as a Change in Work and Change in Contract Price in accordance with the Subcontract Agreement, if not covered under a specific bid item.

Part 2 - PRODUCTS

2.01 AIR MONITORING EQUIPMENT

- A. Provide and maintain portable photoionization detector or organic vapor analyzer capable of detecting organic vapors or total hydrocarbons. Equipment shall be sensitive to the 0.5 PPM level.
- B. Provide and maintain an oxygen analyzer to measure oxygen concentration in any trench or confined space prior to entry, as determined by the SSO.
- C. Provide and maintain an explosimeter whenever the potential for accumulation of explosive gases exists, as determined by the SSO.
- D. Provide and maintain air monitoring equipment as required for the collection/monitoring of airborne asbestos fibers. All air samples related to abatement work shall be analyzed by a laboratory accredited by the American Industrial Hygiene Association.
- E. All air monitoring equipment shall remain the property of the Contractor.

Part 3 – EXECUTION

NOT USED

****End of Section****

SECTION 01 41 00

PERMITS AND COMPLIANCE

Part 1 - GENERAL

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Preconstruction Meeting
- B. Permits and Licenses
- C. Compliance
- D. Additional Compliance

1.03 PRECONSTRUCTION MEETING

- A. After award of Contract and prior to the commencement of the Work, schedule and conduct meeting with Owner and Architect to discuss the applicable environmental regulations and requirements; coordinate with Sections 01 57 13, 01 57 19 and 01 74 19.
- B. For Owner's 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 environmental regulations bearing on performance of the Work.

1.04 PERMITS AND LICENSES

- A. The Contractor shall obtain, maintain and pay for all permits and licenses necessary for the execution of the work and for the use of such work when completed.

1.05 COMPLIANCE

- A. The Contractor shall give all notices, pay all fees and comply with all laws, rules and regulations applicable to the work.

1.06 ADDITIONAL COMPLIANCE

- A. The Contractor, Subcontractors, and the employees of the Contractor and Subcontractors, shall comply with all regulations governing conduct, access to the premises, operation of equipment and systems, and conduct while in or near the premises and shall perform the work in such a manner as not to unreasonably interrupt or interfere with the conduct of business of the Facility.
- B. **Further, attention is directed to requirements of Section 01 15 01.**

Part 2 – PRODUCTS – Not Used

Part 3 – EXECUTION – Not Used

July 22, 2021
Construction Documents
SED #66-10-04-06-0-013-013

Chappaqua Central School District
Westorchar Elementary School
Roof Replacement

****End of Section****

SECTION 014219 - CODES AND STANDARDS

Part 1 - GENERAL

1.01 QUALITY ASSURANCE

- A. Applicability of Standards: Unless 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 to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
- C. Conflicting Requirements: Where compliance with two or more standards is specified, and the standards may establish different or conflicting requirements for minimum quantities or quality levels comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Architect for a decision before proceeding.

1.02 REFERENCE STANDARDS - The abbreviations, which may be used in the construction specifications, refer to the organizations and specifications of the organizations listed below.

AABC	Associated Air Balance Council
AAN	American Association of Nurserymen
AI	Asphalt Institute
AISC	American Institute of Steel Construction
AMCA	Air Movement and Control Association
ARMA	Asphalt Roofing Manufacturers Association
ASC	Adhesive and Sealant Council
ASLA	American Society of Landscape Architects
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.
ASTM	American Society for Testing and Materials International
CLFMI	Chain Link Fence Manufacturers Institute
CRI	Carpet and Rug Institute
GANA	Glass Association of North America
GS	Green Seal
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IGMA	Insulating Glass Manufacturers Alliance
LSGA	Laminators Safety Glass Association
NAIMA	North American Insulation Manufacturers Association
NFPA	National Fire Protection Association
NFRC	National Fenestration Rating Council
NHLA	National Hardwood Lumber Association
NPCA	National Paint and Coatings Association
NPA	National Particleboard Association
NSF	National Sanitation Foundation International
NTMA	The National Terrazzo and Mosaic Association
RFCI	Resilient Floor Covering Institute
SFPA	Southern Forest Products Association

SIGMA	Sealed Insulating Glass Manufacturers Association
SPC	Southern Pine Inspection Bureau (Grading Rules)
SSPC	Steel Structures Painting Council
WDMA	Window & Door Manufacturers Association
WRI	Wire Reinforcement Institute, Inc.
WWPA	Woven Wire Products Association

B. Federal Agencies:

CE	Army Corps of Engineers)
CPC	Consumer Product Safety Commission
EPA	Environmental Protection Agency
DOE	Department of Energy
NIST	National Institute of Standards and Technology
OSHA	Occupational Safety & Health Administration

Further attention is directed to industry guide compiled by Sweet's division of McGraw-Hill denoted as "PROJECT INFORMATION AND SERVICES" as well as in the web site www.4specs.com wherein a comprehensive list of international organizations representing building product manufacturers, associations, institutes, governmental agencies and testing bureaus is put forth.

1.03 APPLICABLE CODES: The following is a listing of applicable codes within the jurisdiction of the Work as embodied within the **2020** New York State Uniform Fire Prevention and Building Code.

- A. **2020 Building Code New York State**
- B. **2020 New York State Energy Conservation Code (includes amendments to ASHRAE 90.1-2016)**
- C. **2020 Plumbing Code of New York State**
- D. **2020 Mechanical Code of New York State**
- E. **2020 Fuel Gas Code of New York State**
- F. **2020 Fire Code of New York State**
- G. **2020 Property Maintenance Code of New York State**
- H. **2020 Residention Code New York State**
- I. Accessibility Code - ANSI A117.1 New York State Building Code
- J. Elevator Code - ASME A17.1-2006 New York State Building Code
- K. Boiler Code - ASME Boiler & Pressure Vessel Code; NBIC
- L. **2020 Existing Building Code New York State**

****End of Section****

SECTION 01 43 26

TESTING LABORATORY SERVICES

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.
- D. Pursuant to the provisions of Section 01 33 00, Submittal Requirements, it is further required that unless otherwise specified, tests called for in the Specifications applicable to the work and/or required to implement the work shall be paid for by the Owner.
- E. Where tests are required by the Architect to substantiate conformance to the specifications the Owner will pay all costs of such tests and engineering services unless said tests indicate that the workmanship or materials used by the Contractor are not in conformance with the Drawings, Specifications, Approved Shop Drawings or the approved materials.

In such event, the Contractor shall pay for the tests, remove all work and material so failing to conform, REPLACE with work and materials which are in full conformity.

- F. Requirements related to testing services and specified elsewhere in these documents include:
 - 1. Inspections and testing as required by laws, ordinances, rules, regulations or orders of public authorities having jurisdiction over the work.
 - 2. Certification of compliance as required by individual specification sections.
 - 3. Testing, adjusting and balancing of mechanical equipment and systems.
 - 4. Project record documents, including operation and maintenance manuals, record drawings and the like.
 - 5. Tests and standards governing work and/or materials as may be specified throughout these specifications and/or as shown on the drawings.
- G. The Owner will employ, and pay for, the services of an Independent Testing Laboratory to perform all specified services.
- H. Inspection, sampling and testing is required for the following as applicable to the particular project:
 - ☐ Concrete, formwork, reinforcing and the like
 - ☐ Masonry and mortar
 - ☐ Roofing and flashing systems
 - ☐ Structural steel systems, joists, decking, light metal framing and the like
 - ☐ Weldinghowever, this listing is to be considered as partial only with the burden placed on the Contractor to advise, and the Laboratory to provide, all such inspections, sampling and testing as may be specified and/or required by these Contract Documents and the applicable laws and ordinances of the jurisdiction.
- I. Employment of the Testing Laboratory shall not relieve the Contractor of his obligation to perform Work in accordance with the Contract.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Laboratory Qualifications
- B. Laboratory Duties
- C. Contractor's Responsibilities
- D. Tests Required

1.03 LABORATORY QUALIFICATIONS

- A. Laboratory shall meet -
 - 1. The "Recommended Requirements for Independent Laboratory Qualifications", latest edition as published by the American Council of Independent Laboratories.
 - 2. Basic requirements of ASTM E 329, latest edition, governing "Standards of Recommended Practice for Inspection and Testing Agencies for Concrete and Steel as Used in Construction".
- B. Laboratory shall submit copy of inspection of facilities as made by Materials Reference Laboratory of the National Bureau of Standards during most recent tour of inspection; with memorandum of remedies of any deficiencies reported by inspection.
- C. Testing equipment shall be calibrated at maximum 12 month intervals by devices of accuracy traceable to either - National Bureau of Standards or accepted values of natural physical constants; submit copy of certificate of calibration as executed by an accredited calibration agency.

1.04 LABORATORY DUTIES

- A. Cooperate with Architect and Contractor; provide qualified personnel promptly on notice.
- B. Perform specified inspections, sampling and testing of materials and methods of construction in conformance with specified standards, recognized authorities and the like to ascertain compliance with the requirements of the Contract Documents.
- C. Promptly notify Architect and Contractor of irregularities or deficiencies of Work which are observed during performance of services.
- D. Promptly submit sufficient copies (minimum 5) of reports and tests to Architect for distribution. Reports shall contain -
 - 1. Issue date
 - 2. Project title and number
 - 3. Testing laboratory name and address
 - 4. Name and signature of inspector
 - 5. Date of inspection or sampling
 - 6. Temperature and weather observations
 - 7. Test date
 - 8. Identification of product and specification section
 - 9. Location in project
 - 10. Type of inspection or test
 - 11. Observations regarding Contract Document compliance.
- E. Perform additional services as required by the Owner and/or Architect.
- F. The laboratory is not authorized to - release, revoke, alter or enlarge on, requirements of the Contract Documents; approve or accept any portion of Work; perform any duties of the Contractor.

1.05 CONTRACTOR'S RESPONSIBILITIES

- A. The Contractor shall to the best of his ability -
1. Cooperate with laboratory personnel, provide access to the Work and to Manufacturer's operations as may be necessary.
 2. Provide to the laboratory preliminary representative samples of materials to be tested in required quantities.
 3. Furnish copies of mill test reports.
 4. Provide casual labor and facilities as required to provide access to Work to be tested; to obtain and handle samples at the Site; to facilitate inspections and tests; for laboratory's exclusive use for storage and curing of test samples.
 5. Notify laboratory sufficiently in advance of operations to allow for his assignment of personnel and scheduling of tests.
 6. Arrange with laboratory and PAY FOR, additional sampling and testing required for the Contractor's convenience.
 7. Employ, AND PAY FOR, services of a separate, equally qualified Independent Testing Laboratory to perform additional inspections, sampling and testing required when initial tests indicate Work does not comply with Contract Documents. Coordinate with Paragraph 1.05.A.4 above.

1.06 TESTS REQUIRED

- A. General Construction Tests: More detailed testing requirements are given in individual Specification Sections. The Owner shall retain the right to make any additional tests the Architect deem necessary or appropriate. The Contractor is responsible for providing his own tests to determine that materials meet specified requirements. The scope of tests required and paid for by the Owner (unless otherwise noted below) shall include as a minimum the following:
1. Concrete Paving and General Concrete Work: Concrete mix design testing shall be paid for by Contractor. Owner reserves the right to retain and pay for his own testing for checking purposes.
 2. Concrete Paving and General Concrete Work: Concrete test cylinders as specified in Section 03 30 00, Cast-in-Place Concrete. All concrete cylinder testing will be performed by the Owner's testing laboratory at the cost of the Owner.
 5. Masonry Mortar: Three cubes tested for compressive strength at 10 days; ASTM C 91 tests
 6. Metals: Strength dimension; coating thickness; bolt torque; welding X-ray or ultrasonic tests
- B. Plumbing: At least the following tests will be performed. Conform to requirements specified in individual Division 22 Specification Sections. The test shall be performed and paid for by the subcontractor and witnessed by the Contractor and Owner's on-site representative:
1. Water supply piping hydrostatic pressure test
 2. Sanitary piping test before fixture installation: Cap pipes and fill to highest point in system
 3. Plumbing fixture operation
- C. Fire Protection System: At least the following tests will be performed. Conform to requirements specified in individual Division 21 Specification Sections. The test shall be performed and paid for by the subcontractor and witnessed by the Contractor and Owner's on-site representative:

1. Fire protection system flushed and pressure tested.
- D. HVAC Testing: All HVAC work shall be tested by an independent testing and balancing agency. Conform to requirements specified in individual Division 23 Specification Sections. All costs of these tests will be paid by the subcontractor. Adjustments shall be made by the subcontractor as directed by the Owner. At least the following tests will be performed:
 1. Piping hydrostatic tests.
 2. Air and water balancing.
 3. Thermostat control monitoring and testing.
 4. Boiler efficiency testing.
- E. Electrical Power System Testing: At least the following tests will be performed. Conform to requirements specified in individual Division 26 Specification Sections. The test shall be performed and paid for by the subcontractor and witnessed by the Contractor and Owner's on-site representative:
 1. Polarity tests.
 2. Operation of all circuits.
 3. Testing of emergency system.
 4. Security systems.
 5. Generation system.
 6. Grounding systems.
- F. Electrical Lighting System Testing: Conform to requirements specified in individual Division 26 Specification Sections. At least the following tests shall be performed and paid for by the subcontractor.
 1. Operation of every component of entire system.
- G. Fire Alarm System Testing: At least the following tests will be performed. Conform to requirements specified in individual Division 28 Specification Sections. The test shall be performed and paid for by the subcontractor and witnessed by the Contractor and Owner's on-site representative:
 1. All smoke and heat detectors.
 2. Proper operation as required by authorities having jurisdiction.
- H. Contractor's Responsibilities: The Contractor shall notify the Owner, Architect, and Testing Laboratory personnel at least 48 hours prior to performance of work requiring testing. The Contractor shall always fully cooperate with testing agencies and permit free access to all areas. The Contractor shall permit taking samples at any time during construction, either before or after installation. Prior to notice to proceed with construction, the Contractor shall submit a Testing Log of planned tests and scheduled test dates. Tests shall be numbered based on type of work, type of test, and sequence. The Testing Log shall be maintained by the Contractor and updated weekly.
 1. Coordination: The Contractor shall coordinate all testing, including all testing and inspections to be paid for by the Owner. The Contractor will arrange testing and sampling performed by the Owner's testing agency and will have prepared test record forms. Upon receipt of test results, the Owner will distribute 2 copies to the Contractor and 2 copies to the Architect with test results.
- I. Follow-up and Corrective Action: The Contractor and the Owner will note the test record on the Testing Log to acknowledge test procedures and results. If the follow-up or corrective action is needed, the Contractor shall submit to the Owner 2 written copies of proposed follow-up or corrective plans and obtain the Owner's written approval before proceeding.

1. Cost of Testing: If tests indicate that materials or work do not comply with requirements, the contractor shall pay for all retesting, and shall remove and replace non-complying work at no additional cost to the Owner.
- J. Local Owner Inspections: The Contractor is also responsible for coordinating and cooperating with local requirements for inspections.

****End of Section****

SECTION 01 43 39

MOCKUP REQUIREMENTS

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. General Purpose of Mockups
- B. Miscellaneous Mockups

1.03 GENERAL PURPOSE OF MOCKUPS

- A. Contractors are advised that various sections of the Specifications require construction of mockups. Where mockups are required the Contractor erecting the mockup shall notify the Architect one week prior to its completion.
- B. The purpose of each mockup will be to establish minimum standards of materials and workmanship and to assure that completed installations based on the mockups will be fully functional and will serve the purpose for which they have been designed.
- C. Approved mockups may be left in place and incorporated into the permanent installation.
- D. The Contractor shall not proceed with the purchase or fabrication of any "mockup" items until the procedure of mockup erection, inspection and approval is completed and documented.
- E. Contractor shall coordinate work at each mockup with other trades construction that mockup.

1.04 MISCELLANEOUS MOCKUPS

- A. Field mockups for work are required as noted within the technical specifications and generally include work identified within said sections.

Failure to list any required mockup will not relieve the Contractor from executing said mockup.

****End of Section****

SECTION 01 50 00

TEMPORARY FACILITIES

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications; further, attention of all contractors is directed to requirements set forth in Section 01 15 01 as they affect school building safety during the execution of the work of this project.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00.
- D. Temporary facilities indicated to be provided by any Prime Contractor for the use of his Subcontractors and/or other Contractors shall mean for their use without payment for such use unless otherwise specified and shall generally consist of the following;
- E. Further, temporary facilities noted below shall be provided and maintained at each project site as if separately bid and awarded.
 - 1. Temporary Field Office Buildings
 - 2. Storage Facilities
 - 3. Weather Protection (Coord. w/Section 01 15 01)
 - 4. Temporary Water Services
 - 5. Temporary Electric Services
 - 6. Temporary Sanitary/Toilets
 - 7. Temporary Heat and Ventilation
 - 8. Temporary Telephone Services
 - 9. Temporary Fire Protection (Coord. w/Section 01 15 01)
 - 10. Scaffold and Staging
 - 11. Security (Coord. w/Section 01 10 00)
 - 12. Lifting Devices and Hoisting Facilities

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Project Sign
- B. Field Office
- C. Temporary and Permanent Services, General
- D. Temporary Light and Power
- E. Temporary Heating/Cooling Facilities
- F. Temporary Toilet Facilities
- G. Temporary Water
- H. Storage Facilities
- I. Scaffolding and Staging
- J. Roof Protection
- K. Temporary Use of Permanent Elevator as Equipment Material Hoist - As applicable to particular Project.
- L. Rubbish Container and Removal Systems
- M. Construction Fencing
- N. Janitorial Service/Daily Cleanup
- O. Dust and Mud Control

- P. Temporary Roadways
- Q. Maintenance of Permanent Roadways
- R. Traffic Control
- S. Fire Prevention Control
- T. Temporary Fire Protection
- U. Discontinuance, Changes and Removal

1.03 PROJECT SIGN

- A. The Contractor shall provide and maintain at the site of the work, the exact location thereof to be designated by the Architect, a construction sign containing the title of the Project; the name of the Owner; the names of the Architectural/Engineering team; and such other information as may be indicated and/or required by the Architect.
- B. Said project sign shall be constructed of APA A/C "MDO" plywood, edged and banded in a minimum size of 4 foot by 8 foot and shall be set on supporting system designed to withstand a minimum 50 mph wind velocity or greater as determined by codes. Graphics shall be applied by a sign painter using a maximum of 4 colors plus black and white.
- C. Upon completion of the project, or as may be directed by the Architect, said sign, framing, supports and foundations shall be removed from the project site.

1.04 FIELD OFFICE

- A. The Contractor, until all the work covered by the Contract is accepted by the Owner, shall provide a temporary office structure, with sanitary facilities, in accordance with provisions elsewhere described in the Contract Documents, for his use, and use of the Architect, Owner and their representatives and shall bear the cost of constructing, maintaining and removing such structure.
- B. The minimum size of such structure shall be 400 sq.ft. and shall be divided into:
 - 1. Office for Architect;
 - 2. Office for Owner's Representative;
 - 3. Office for General Contractor;
 - 4. Central conference/meeting area with tables and chairs for 16 people.
- C. Further, provide:
 - 1. adequate heating, lighting and air conditioning in said office;
 - 2. all required telephone service separate from the Owner's telephone service and system;
- D. The Contractor shall provide daily housekeeping for all office spaces.
- E. Maintain, in the Contractor's field office, all articles necessary for First Aid treatment; further, the Contractor shall establish standing arrangements for the immediate removal and hospital treatment of any employees and other persons on the job site who may be injured or who may become ill during the course of the work.
- F. All other Prime Contractors shall, and subcontractors may with permission from the Architect and/or Owner's Representative, establish a field office for their own use.
- G. Said offices for the individual Prime Contractors, Sub-Contractors, Specialty Contractors and the like shall be of such size and design as approved by the Owner and Architect and shall be located as directed by the Architect.
- H. Each respective Contractor will arrange for telephone service, if required, directly with the utility company.
- I. Electric service will be provided in accordance with Paragraph 1.06 of this Section.

1.05 TEMPORARY AND PERMANENT SERVICES, GENERAL

- A. The Contractor shall provide and maintain, either directly or through its' subcontractors, all temporary services and utilities, including all labor, materials, equipment and the like necessary to adequately furnish, deliver and maintain said services at all times when required during the term of the Contract.
- B. Temporary work shall generally include, but not be limited to - temporary light and power; temporary heat; temporary toilets; temporary water; hoisting systems; rubbish chutes; temporary stairs, rails and shaft protection; storage; temporary fences; roof protection; temporary enclosures; pay telephones; and the like required to conduct the work in a proper manner.
- C. The Contractor's use of any permanent system or service of the building or portions thereof shall be subject to the Owner's approval.
- D. The Contractor shall be responsible for any and all damage to permanent services used and shall make good any and all damage to the satisfaction of the Owner, prior to final completion and acceptance.

NOTE: In accordance with OSHA and other applicable regulations, the respective Contractors performing erection of structural steel, precast concrete and such other "skeleton" type work are solely responsible for the netting, guard rail protection and such other safety devices as deemed necessary to protect the workers and public from harm.

1.06 TEMPORARY LIGHT AND POWER

- A. The Electrical Trade Contractor (Contract #4) shall -
 - 1. Provide all required temporary electric facilities as specified in Division 26 and further outlined below.
 - 2. Make all arrangements with the local power company for the installation of necessary temporary electric service, pay all installation and related charges for this work and include these charges in the bid price.
 - 3. Insure that all temporary electrical work shall be in conformity with the National Electric Code and in accordance with applicable governmental regulations.
 - 4. MAINTAIN AND SERVICE THE TEMPORARY ELECTRIC SYSTEM.

The energy will be supplied, **and paid for**, by the Owner for all work within the present building as same relates to the interior alterations; all new additions will be fed from new temporary panels and service installation and all costs for service **other than usage charges** will be borne by the Electrical Contractor. Usage charges shall be borne by the General Contractor.

Abuse of service will be cause for termination of service. No reimbursement will be made by Owner in the event of disconnect.

- B. In general, and where feasible, locations for temporary power shall be from the nearest adequate duplex or simplex outlet to the work of this Contract.

In the event that this is inadequate, the Electrical Contractor shall provide, from the nearest adequately sized electric panel, the required temporary facilities in accordance with these specifications.

- C. Self-generated welding equipment shall be used. It shall be the responsibility of the General Contractor that any electric welding equipment used on the project will not have any harmful effect on existing computers, computer storage systems or other computer equipment.
- D. Time of operation shall be established from 7:30 AM until 1/2 hour after last trade is finished with the Work of that day or as may be standard within the industry and as required to satisfy the local authorities having jurisdiction over the work and to insure, without additional cost to the Owner, that temporary light and power will be made available during all normal hours of each Prime Contractor. Arrangements for operation of temporary system for other times shall be made directly with the Electrical Contractor by the Prime Contractors needing same without additional costs to the Owner. All such costs involved shall be borne by the Trade requesting same.

NOTE: Temporary light and power connections to other field offices than the Contractor's field offices, etc., shall be paid for by the individual contractor if they so desire this service; further, all use charges for remote offices will be paid for by those respective contractors requiring said service.

1.07 TEMPORARY HEATING/COOLING FACILITIES

- A. The Contractor shall provide and pay for all temporary heating/cooling/dehumidification, coverings and enclosures necessary to properly protect all work and materials against damage by dampness and cold, to dry out the work and to facilitate the completion thereof.

The fuel, equipment, materials, operating personnel and methods used therefore shall be at all times satisfactory to the Architect and adequate for the purpose intended.

The Contractor shall maintain the critical installation temperatures provided in the technical provisions of the specifications herein for all work in those areas where same is being performed.

The maintenance of proper heating, ventilation and adequate drying out of the work is the responsibility of the Contractor and any work damaged by dampness, insufficient or abnormal heating shall be replaced to the satisfaction of the Architect by and at the sole expense of the Contractor.

IT IS RECOMMENDED THAT A SYSTEM SIMILAR AND EQUAL TO POLYGON GROUP (Formerly MUNTERS MOISTURE CONTROL SERVICES) TEMPORARY DEHUMIDIFICATION EQUIPMENT BE EMPLOYED IN THE WORK OF THIS PROJECT AND SHALL CONFORM TO THE FOLLOWING:

- Desiccant dehumidifiers, as manufactured by Polygon, will be a solid desiccant design having a single rotary desiccant wheel capable of fully automatic continuous operation. Dehumidification will utilize all outside air. No air from inside the building shall be recirculated through the dehumidifiers.

- Supply ductwork shall be canvas spiral duct. If supply ductwork is placed outside building, it shall be securely attached or anchored to withstand damage from winds.
- Interior distribution ductwork shall consist of polyethylene tubing (Layflat) of the appropriate diameter to inflate fully without flutter. The conditioned air shall be distributed through 2-3-inch holes cut in the Layflat ducting. Distribute air evenly throughout the area being served. Suspend temporary system from the existing ceiling structure as recommended by the system manufacturer. Coordinate with Architect for mounting locations within the building.

- B. After the Project is enclosed, the Contractor shall provide all necessary temporary environmental conditions for efficient and effective work by himself and all trades engaged in the work.

Unless otherwise specified, the minimum temperature shall be 50 degrees F at all places where work is actually being performed within the enclosed Project.

Attention is directed to specific temperature requirements for masonry, concrete, roofing, metal, painting, carpentry, millwork, drywall, flooring and such other temperature sensitive operations connected with the execution of the Work.

- C. Before and during the placing of wood finish and the application of other interior finishing, varnishing, painting, etc. and until final acceptance by the Owner of all work covered by the Contract, the Contractor shall, unless otherwise specified in the Contract Documents, maintain a temperature of between 65 and 85 degrees F. Coordinate with Division 9 of the Technical Specifications.
- D. The permanent mechanical system may not be used without express written consent from the Owner, through the Owners Representative.

Use of the permanent system, if granted, shall not shorten, or negate, any equipment, or system guarantees required under this Contract.

A program of use, maintenance and restoration will be submitted with request for use of systems for temporary services.

1.08 TEMPORARY TOILET FACILITIES

- A. The Contractor shall provide suitable toilet facilities at approved locations complying with all state and local requirements in every respect as follows:
1. Toilets shall be portable chemical type with screened enclosures each having a urinal and closet and mounted on skids. One (1) unit shall be provided for every 25 employees.
 2. Each unit shall be serviced by the renter at least twice a week, including removal of water matter, sterilizing, recharging tank, refilling tissue holders and thorough cleaning and scrubbing of entire interior.
 3. Each unit shall be delivered to site, located as directed, relocated if desired, and removed from site by rental company when required.

1.09 TEMPORARY WATER

- A. The Owner will provide water service to the Contractor without charge, but reserves the right to terminate, without incurring additional cost, said service in the event of abuse of such service.
- B. The Contractor shall make all necessary connections and extend piping to areas required at no additional cost to the Owner.
- C. The Contractor shall have all equipment for the temporary water removed at the completion of the Project or when directed by the Architect or Owner.

1.10 STORAGE FACILITIES

- A. The Contractor and each subcontractor shall provide temporary storage shanties, tool houses and other facilities as required for his own use. Temporary structures shall be located where directed or approved by the Owner and shall be removed upon completion of the work or when directed. Temporary structures shall be maintained in a neat appearance.
- B. Materials delivered to the site shall be safely stored and adequately protected against loss or damage. Particular care shall be taken to protect and cover materials that are liable to be damaged by the elements.

1.11 SCAFFOLDING AND STAGING

- A. All scaffold, staging and appurtenances thereto shall comply in total to the requirements of Safety and Health Regulations for Construction Chapter XVII of OSHA, Part 1926 and all related amendments.

1.12 ROOF PROTECTION

- A. During the construction period, after installation of roofing system specified under Section 07 55 00, and notification from Manufacturer as to certified completeness, the Contractor shall take strict precautions against unnecessary traffic on the roofing surface.
- B. The Contractor shall provide temporary protection on the roof surface when it is necessary for work to take place on completed sections.
- C. Upon such notification as required in subparagraph A, the Contractor shall assume responsibility for damages, if any, to the roofing system caused by the work of other trades, except that financial liability for any and all damages rests with the offending trade.

1.13 TEMPORARY USE OF ELEVATOR AS EQUIPMENT MATERIAL HOIST (As Applicable to Particular Project)

- A. The Contractor may, with the Owner's written permission, use the elevator installations for temporary service, including transportation of men and materials within the building.
- B. If the Contractor elects to use such permanent elevator equipment, he shall:
 - 1. Protect elevator cabs with plywood panels, box hoistway entrances both inside and outside with solid stock.
 - 2. Operate such equipment within a capacity not to exceed that allowed by law, rule or regulation.
 - 3. Provide for the maintenance of the elevator equipment as approved by the Architect.
 - 4. Leave such equipment in perfect condition.
- C. Repair any damage to the interior of elevator cabs or hoistway entrances to the satisfaction of the Architect at no cost to the Owner.

1.14 RUBBISH CONTAINER AND REMOVAL SYSTEMS

- A. The Contractor shall provide, in area designated, an enclosed means of rubbish removal from the upper floors of the altered premises. Said means shall consist of a wooden or metal chute system with adequate transitions, doors, and the like penetrating each floor thru existing openings. Provide ramping systems as required.

NO CUTTING OF EXTERIOR WALL WILL BE PERMITTED TO DISPOSE OF RUBBISH.

- B. Provide, at termination at base, sliding door unit to prevent accidental discharge of rubbish. Provide at base of chute, suitable rubbish container device, properly maintained and serviced, replaced as required and protected from access by the public by fencing as may be specified herein or approved by the Architect.
- C. Chute system shall be removed when no longer required and all areas of penetration shall be restored to new finished condition as part of the work.
- D. Each Subcontractor shall sweep up and gather together daily all his own rubbish and place same in containers to be provided by the Contractor. Wood crates and similar matter shall be broken up, securely tied into bundles and stacked alongside rubbish containers OR in locations as directed by the Contractor. Items larger than container capacity shall be removed from the site by the respective Contractor.
- E. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE REQUIREMENT OF RELOCATION OF THE COMPLETE REMOVAL SYSTEM AT VARIOUS TIMES THROUGHOUT THE PROJECT AS MAY BE REQUIRED TO MAINTAIN PROGRESS OF THE WORK.

1.15 CONSTRUCTION FENCING – Coordinate with Staging/Exiting Drawings as applicable to the particular project.

- A. Construction fencing shall be provided enclosing all work and storage areas or where indicated on the drawings. Unless otherwise shown or directed, all fencing shall be 8 feet high, accurately aligned and plumb, adequately braced, and complete with gates, locks, and hardware as required.

UNDER NO CONDITIONS SHALL FENCING BE ATTACHED OR ANCHORED TO EXISTING CONSTRUCTION OR TREES.

- B. Fencing shall be as follows:
1. Fencing traversing paved areas shall be free standing sandbagged barrier type in a continuous manner, firmly aligned and securely mounted. Fencing shall essentially consist of heavy timber wood sill with chainlink fencing consisting of 2-inch posts with top and bottom rails of 1-inch pipe and No. 9 wire fabric. All fencing shall be galvanized.
 2. Chainlink fencing traversing grassed areas shall consist of 2-inch posts with top and bottom rails of 1 inch pipe and No. 9 wire fabric. All fencing shall be galvanized. Posts shall be set below grade a minimum of 2 foot and firmly anchored.
- C. Site access gates shall be provided as required of same material as site fence complete with all operating hardware and security devices.

- D. Contractor shall submit drawings showing type, materials and construction of fencing to Architect for approval before proceeding with installation.
- E. All wood or metal products, unless galvanized, shall receive 2 coats of latex exterior paint of color and manufacturer as approved by the Architect.
- F. Should fencing be required to be relocated during the course of the project, same shall be done at the total expense of the Contractor. At the completion of the project, the Contractor shall remove and dispose of the construction fencing.
- G. The construction fence shall be MAINTAINED IN GOOD ORDER by the Contractor throughout the life of the project.

1.16 JANITORIAL SERVICE/DAILY CLEANUP

- A. The Contractor shall furnish daily janitorial services for the project and perform any required maintenance of facilities as deemed necessary by the Architect during the entire life of the contract. Toilet facilities shall be kept clean and sanitary at all times. Services shall be accomplished to the satisfaction of the Architect. The Contractor shall provide daily trash collection and cleanup of the project area and shall dispose of all discarded debris, and the like in a manner approved by the Architect.
- B. The Contractor shall place foot wiping carpet at all entrances, exits to the work areas and provide daily cleaning for all dust and footprints from the corridors, stairs, and the like, caused by construction.

1.17 DUST AND MUD CONTROL

- A. The Contractor shall at all times provide adequate dust control measures. He shall accomplish this, without interference with the public, and vehicular transportation.
- B. To control dust, it is required that all vehicles transporting dust producing materials to and from the job shall be covered with tarpaulins securely tied down, be sprinkled when necessary or be satisfactorily treated by other approved methods.
- C. Trucks leaving excavations shall be water washed prior to entry on access roads or public streets to remove mud and other deleterious substances from wheels and undercarriages.
- D. All public and private ways adjacent to the site shall be broomed and flushed whenever necessary in the opinion of the Architect. Drainage systems shall be cleaned and flushed whenever mud or debris hinders the flow of storm water to or in the sewers.
- E. The Contractor shall immediately remove refuse, rubbish, debris and soil accumulations on roads, streets and on sidewalks, caused by wind, rain and snow erosions or by his own operations to prevent traffic hazards or interference with road drainage.

1.18 TEMPORARY ROADWAYS - The Contractor shall:

- A. Provide all temporary roadways required by the Contract. Where such roadways are not designated in the Contract, the location of such roadways shall be approved by the Owner through the Architect.
- B. Maintain all temporary roadways used for the work, including but not limited to the removal of snow.
- C. Allow all persons engaged in the work free access to and use of all such roadways.

1.19 MAINTENANCE OF PERMANENT ROADWAYS

- A. The General Contractor, for the life of the project, shall immediately remove dirt and debris which may collect on permanent roadways due to the work. This includes permanent roads and sidewalks adjacent to the project site.

1.20 TRAFFIC CONTROL

- A. Routes to and from the location of the work shall be as indicated in the Contract or as directed by the Owner through the Architect. Temporary roadways shall be closed only with prior approval of the Owner.
- B. Parking areas for the use of those engaged in the work shall be as indicated on the Contract Drawings or as directed by the Owner.
- C. The Contractor shall maintain parking areas for the use of those engaged in the work, including but not limited to snow removal.

1.21 FIRE PREVENTION CONTROL

- A. The Contractor shall provide private unlisted telephone service reserved for fire calls at a location or locations approved by the Owner. Such service shall be in addition to any other telephone service. **Clear instructions for sending alarms shall be conspicuously posted.**
- B. The Contractor shall pay all costs thereof until completion and acceptance of the work or as otherwise directed by the Owner.
- C. All Contractors shall comply with the safety provisions of the National Fire Protection Association's "National Fire Codes" pertaining to the work and, particularly, in connection with any cutting or welding performed as part of the work.

1.22 TEMPORARY FIRE PROTECTION

- A. Each Contractor shall take all possible precautions for the prevention of fires. Where flame cutting torches, blow torches, or welding tools are required to be used within the building, their use shall be as approved by the Architect at the site. When welding tools or torches of any type are in use, have available in the immediate vicinity of the work a fire extinguisher of the dry chemical 20 lbs. type. The fire extinguisher (s) shall be provided and maintained by the Contractor doing such work.
- B. Fuel for cutting and heating torches shall be gas only and shall be contained in Underwriter's laboratory approved containers. Storage of gas shall be in locations as approved by the Owner and subject to Fire Department regulations and requirements.
- C. No volatile liquids shall be used for cleaning agents or as fuels for motorized equipment or tools within a building except with the express approval of the Owner and/or Architect and in accordance with local codes. On-site bulk storage of volatile liquids shall be outside the buildings at locations directed by the Owner, who shall determine the extent of volatile liquid allowed within the building at any given time.
- D. The Contractor shall comply with the following requirements relating to compressed gas:
 - 1. Where compressed gas of any type is used for any purpose at the site, it shall be contained in cylinders complying with ICC regulations. Gases of different types shall not be stored together except when in use and when such proximity is required.
 - 2. All gas cylinders shall be stored in sheds constructed of noncombustible materials. Sheds shall be well ventilated and without electric lights or

- fixtures and shall be located as far from other buildings as is practicable. All gas cylinders not in actual use, or in proposed immediate use, shall be removed from the building under construction or reconstruction. Empty gas cylinders shall be removed prior to bringing in a replacement cylinder. Cylinders shall at all times be supported and braced in an upright position. When not in use, the protective cap shall be screwed over the valve.
3. All persons required to handle gas cylinders or to act as temporary firemen (Fire Watchers) shall be able to read, write and understand the English language; they shall also be required by the Contractor to read Part 3 of Pamphlet P-1 "Safe Handling of Compressed Gases" published by the Compressed Gas Association, 500 Fifth Avenue, New York, NY 10036.
 4. Where LP-Gas is required for Temporary Heat (including Construction Heat), the number of the cylinders within the structure or building shall be limited to the least amount required; in general, one (1) cylinder per heater. Cylinders and heaters shall be connected with two (2) braid neoprene hoses fitted at each end with threaded unions and capable of withstanding a pressure of 250 P.S.I. The length of those shall not exceed 30 feet and shall be protected from mechanical injury, kinking and abrasion. Heaters shall not be less than 6 feet from any cylinder and not less 10 feet from any tarpaulins or type closure. All debris and rubbish shall be removed to prevent fire hazards.
 5. Where local ordinances are in effect regarding gas cylinders, (their use, appurtenances and handling), such ordinances shall supplement the requirements of this paragraph. All personnel engaged in firewatch shall be certified by the Local Fire Department having jurisdiction.
 6. LP-Gas Heating will not be permitted in enclosed areas below grade.
 7. Any cylinder not having the proper ICC markings or reinspection marking, or any cylinder with a leak shall be isolated immediately away from any building and the supplier shall be immediately notified; such other precautions as may be required to prevent damage or injury shall also be taken by the Contractor.
- E. The Contractor shall comply with the following requirements relating to welding and cutting:
1. All cutting and/or welding (electric or gas) must be done only by skilled, certified and licensed personnel.
 2. During welding or cutting operations, a contractor's man shall act as a fire watcher. The fire watcher shall have proper eye protection and suitable firefighting equipment including fire extinguisher (bearing current inspection Certificate), protective gloves and any other equipment deemed necessary.
 3. Welding or cutting shall not be done near flammable liquid, vapors or tanks containing such material.
 4. Where cutting or welding is done above or adjacent to (within two feet) combustible material or persons, a shield of incombustible material shall be installed to protect against fire or injury to sparks or hot metal.
 5. Tanks supplying gases for welding or cutting are to be placed in an upright position securely fastened, and as close as practical to the operation. Tanks, actives or spares, shall be protected from excess heat and shall not be placed in stairways, hallways or exits. When not in use, protective valve cap shall be screwed on the cylinder.

6. Adequate fire extinguishing equipment shall be maintained at all welding or cutting operations.
 7. The Contractor shall secure all required inspections.
 8. All equipment, hoses, gauges, pressure reducing valves, torches, etc., shall be maintained in good working order and all defective equipment shall immediately be removed from the job.
 9. No person shall be permitted to do any welding or cutting until his name, address and current license number have been submitted in writing to the Owner.
- F. Contractors for work outside the building shall commence operations promptly on award of Contract and shall be responsible for same being kept clear of materials and debris in connection with their own work and that of other Contractors. If a Contractor for outside work allows other contractors to deposit material and debris over its lines, the Contractor shall be responsible for all delay and extra cost occasioned thereby.

1.23 DISCONTINUANCE, CHANGES AND REMOVAL

- A. All Contractors shall:
1. Discontinue all temporary services required by the Contract when so directed by the Owner or the Architect.
 2. The discontinuance of any such temporary service prior to the completion of the work shall not render the Owner liable for any additional cost entailed thereby and each Contractor shall thereafter furnish, at no additional cost to the Owner, any and all temporary service required by such Contractor's work.
 3. Remove and relocate such temporary facilities as directed by the Owner or the Architect without additional cost to the Owner and shall restore the site and the work to a condition satisfactory to the Owner.

****End of Section****

SECTION 01 57 19

ENVIRONMENTAL PROTECTION DURING CONSTRUCTION

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions to the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Scope
- B. Applicable Regulations
- C. Protection of Land Resources
- D. Protection of Water Resources
- E. Burning
- F. Dust and Mud Control - Coordinate with Section 01 50 00
- G. Maintenance of Pollution Control Facilities During Construction

1.03 SCOPE

- A. The work covered by this section consists of furnishing all labor, material and equipment and performing all work required for the prevention of environmental pollution during and as the result of construction operations under this contract except for those measures set forth in other Technical Provisions of these specifications.

For the purpose of this specification environmental pollution is defined by regulatory authorities as the presence of chemical, physical or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic and recreational purposes.

The control of environmental pollution requires consideration of air, water and land, and involves noise, solid waste-management and management of radiant energy and radioactive materials, as well as other pollutants.

- B. Compliance with the provisions of this section by all Subcontractors shall be the responsibility of the Contractor.

1.04 APPLICABLE REGULATIONS

- A. In order to provide for abatement and control of any environmental pollution arising from the construction activities of the Contractor and his subcontractors in the performance of this contract, they shall comply with all applicable Federal, State and local laws, and regulations concerning environmental pollution control and abatement as well as the specific requirements stated elsewhere in the contract specifications.

1.05 PROTECTION OF LAND RESOURCES

- A. It is intended that the land resources within the project boundaries and outside the limits of permanent work performed under this contract be preserved in their present condition or be restored to a condition after completion of construction that will appear to be natural and not detract from the appearance of the project. Insofar as possible, the Contractor shall confine his construction activities to areas defined by the plans or specifications.
- B. The following additional requirements are intended to supplement and clarify the requirements contained in the General Conditions.

The location on the project site of the Contractor's storage and other construction buildings, required temporarily in the performance of the work, shall be upon assigned portions of the job site and shall require written approval of the Architect.

The preservation of the landscape shall be an imperative consideration in the selection of all sites and in the overall construction of buildings.

Plans showing storage and office facilities shall be submitted for approval of the Architect.

- C. If the Contractor proposes or is required to construct temporary roads or embankments and excavations for plant and/or work areas, he shall submit the following for approval at least 21 days prior to scheduled start of such temporary work.
 - 1. A layout of all temporary access roads, excavations and embankments to be constructed with the work area.
 - 2. Plans and cross sections of proposed embankments and their foundations, including a description of proposed materials.

1.06 PROTECTION OF WATER RESOURCES

- A. The Contractor shall not pollute streams, lakes, reservoirs or public waters with fuels, oils, bitumens, calcium chloride, acids or harmful materials.
- B. It is the responsibility of the Contractor to investigate and comply with all applicable Federal, State, County and Municipal laws concerning pollution of surrounding public waters.
- C. All work under this contract shall be performed in such a manner that objectionable conditions will not be created in public waters through or adjacent to the project areas.
- D. Prior to any major construction the Contractor shall submit a plan for approval by the Architect showing his scheme for controlling erosion and disposing of waste.
- E. Surface drainage from cuts and fills within the construction limits, whether or not completed, and from borrow and waste disposal areas, shall, if turbidity producing materials are present, be held in suitable sedimentation ponds or shall be graded to control erosion within acceptable limits. Temporary erosion and sediment control measures such as berms, dikes, drains, or sedimentation basins, if required to meet the above standards, shall be provided until permanent drainage and erosion control facilities are completed and operative. Fills and waste areas shall be constructed by selecting placement to eliminate silts or clays on the surface that will erode and contaminate adjacent public waters.

- D. At all times of the year, special measures shall be taken to prevent chemicals, fuels, oils, grease, bituminous materials, waste washings, herbicides and insecticides, and cement and surface drainage from entering public waters.
- E. Disposal of any materials, wastes, effluents, trash, garbage, oil, grease, chemicals, etc., in areas adjacent to public waters shall be subject to the approval of the Architect.
- F. If any waste material is dumped in unauthorized areas the Contractor shall remove the material and restore the area to the condition of the adjacent undisturbed area.
- G. If necessary, contaminated ground shall be excavated, disposed of as directed by the Architect, refilled with clean material and compacted all at the expense of the Contractor.

1.07 BURNING

- A. Burning will not be permitted.

1.08 DUST AND MUD CONTROL - See Section 01 50 00

1.09 MAINTENANCE OF POLLUTION CONTROL FACILITIES DURING CONSTRUCTION

- A. During the life of this contract the Contractor shall maintain all facilities constructed for pollution control under this contract as long as the operations creating the particular pollutant are being carried out or until the material concerned has become stabilized to the extent that pollution is no longer being created.
- B. During the construction period the Contractor shall conduct frequent training courses for his maintenance personnel. The curriculum shall include methods of detection of pollution, familiarity with pollution standards, and installation and care of vegetation covers, plants and other facilities to prevent and correct environmental pollution.

****End of Section****

SECTION 01 61 00

MATERIAL AND EQUIPMENT

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. General Standards
- B. Products
- C. Sustainability
- D. Transportation and Handling
- E. Storage and Protection

1.03 GENERAL STANDARDS APPLICABLE TO ALL SPECIFICATION SECTIONS

- A. These provisions, standards, and tolerances shall apply to all work under this Contract. Where stricter standards and tolerances are specified elsewhere in these Specifications or in references specified in these Specifications, they shall take precedence over these standards and tolerances.
- B. Build and install parts of the Work level, plumb, square, and in correct position unless specifically shown or specified otherwise.
 - 1. No part shall be out of plumb, level, square, or correct position so much as to impair the proper functioning of the part or the Work as judged by the Architect.
 - 2. No part shall be out of plumb, level, square, or correct position so much as to impair the aesthetic effect of the part or the Work as judged by the Architect.
- C. Make joints tight and neat. Provide uniform joints in exposed work. Arrange joints to achieve the best visual effect. Refer choices of questionable visual effect to the Architect.
- D. Under potentially damp conditions, provide galvanic insulation between different metals which are not adjacent on the galvanic scale.
- E. Manufacturers, subcontractors, and workmen shall be experienced and skillful in performing the work assigned to them; coordinate with Article 5 of Section 00 70 00.
- F. All paint used on all products shall conform to ANSI Z66.1, Specifications for Paints and Coatings Accessible to Children to Minimize Dry Film Toxicity.
- G. The Drawings do not attempt to show every item of existing work to be demolished and every item of repair required to existing surfaces. Perform work required to remove existing materials which are not to be saved and to restore existing surfaces to condition equivalent to new as judged by Architect. If possible, repairs shall be indistinguishable from adjacent sound surfaces. Where it is impossible to achieve repairs, which are indistinguishable from adjacent sound surfaces to remain, notify Architect, and proceed according to his instructions;

coordinate with Sections 02 41 00 and 02 41 19 as applicable to the particular Project.

1.04 PRODUCTS

- A. Products include material, equipment and systems.
- B. Comply with Specifications and referenced standards as minimum requirements.
- C. Components required to be supplied in quantity within a Specification Section shall be the same, and shall be interchangeable.
- D. In the case of an inconsistency between Drawings and the Specifications, or within either document which is not clarified by addendum, the product of greater quality or greater quantity of work shall be provided in accordance with the Designer's interpretation.
- E. Provide environmentally preferable products to the greatest extent possible. To the greatest extent possible, provide products and materials that have a lesser or reduced effect on the environment considering raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, and/or disposal of the product.

1.05 SUSTAINABILITY

- A. In the selection of the products and materials of this section as well as for the entire project, preference will be given to those with the following characteristics:
 - 1. Water based.
 - 2. Water-soluble.
 - 3. Can be cleaned up with water.
 - 4. Non-flammable.
 - 5. Biodegradable.
 - 6. Low or preferably no Volatile Organic Compound (VOC) content.
 - 7. Manufactured without compounds that contribute to ozone depletion in the upper atmosphere.
 - 8. Manufactured without compounds that contribute to smog in the lower atmosphere.
 - 9. Do not contain methylene-chloride.
 - 10. Do not contain chlorinated hydrocarbons.
 - 11. Contains the least possible of post-consumer or post-industrial waste.

1.06 TRANSPORTATION AND HANDLING

- A. Arrange deliveries of materials in accordance with construction schedules in order to avoid delay in, conflict with, or the impeding of the progress of the Work and conditions at the site.
- B. Deliver materials in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.

1.07 STORAGE AND PROTECTION

- A. Store materials in accordance with manufacturer's instructions, with seals and labels accessible for inspection.
- B. Contractor shall be responsible for work and equipment until fully inspected, tested and accepted.
- C. Carefully store materials and equipment which are not immediately installed after delivery to site. Close open ends of work with temporary covers or plug during construction to prevent entry of obstructing material or damaging water.

- D. Materials stored on the Site shall be neatly arranged and protected and shall be stored in an orderly fashion in locations that shall not interfere with the progress of the Work or with the operations of the Owner.
- E. Interior Storage: Maintain temperature and humidity within the ranges required by manufacturer's instructions.
- F. Exterior Storage:
 - 1. Store products subject to damage by the elements in weathertight enclosures.
 - 2. Store fabricated products above the ground, on blocking or skids; prevent soiling or staining. Cover products subject to damage or deterioration with impervious sheet coverings; provide adequate ventilation to avoid condensation.
 - 3. Store loose granular materials in a well drained area on solid surfaces to prevent mixing with foreign matter. Locate away from drainage or areas subject to flooding or storm washes.
- G. If it becomes necessary to remove and restack materials to avoid impeding the progress of any part of the Work or interfering with the work to be done by any other contractor employed on the Work, or interfering with the Owner's activities, the Contractor shall remove and restack such materials at no additional cost to the Owner.
- H. Protection After Installation
 - 1. Provide adequate coverings to protect installed materials from damage resulting from natural elements, traffic, and subsequent construction.
 - 2. Remove when no longer needed.

****End of Section****

SECTION 01 71 23

FIELD ENGINEERING

Part 1 - GENERAL

1.01 SUMMARY

- A. This Section specified field engineering services required for the Project, including but not limited to:
 - 1. Survey work
 - 2. Civil, structural, or other professional engineering services specified, or required to execute Contractor's construction methods
- B. Owner's representative will identify existing control points and property line corner stakes indicated on the Drawings, as required.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Related Requirements
- B. Qualifications of Surveyor or Engineer
- C. Survey Reference Points
- D. Project Survey Requirements
- E. Records
- F. Submittals

1.03 RELATED REQUIREMENTS

- A. Examine Contract Documents for requirements that affect work on this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
 - 1. General Conditions and Modifications to General Conditions
 - 2. 01 10 00 - Description of Work
 - 3. 01 77 00 - Project Closeout

1.04 QUALIFICATIONS OF SURVEYOR OR ENGINEER

- A. Qualified engineer or registered land surveyor, acceptable to Architect and Owner.
- B. Registered professional engineer of the discipline required for the specific service on the Project, licensed in the state in which the Project is located.

1.05 SURVEY REFERENCE POINTS

- A. Existing basic horizontal and vertical control points for the Project are those designated on Drawings.
- B. Locate and protect control points prior to starting sitework and preserve all permanent reference points during construction.
 - 1. Make no changes or relocations without prior written notice to Architect.
 - 2. Report to Architect when any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations.
 - 3. Require surveyor to replace Project control points which may be destroyed.
 - a. Establish replacements based on original survey control.

1.06 PROJECT SURVEY REQUIREMENTS

- A. Establish a minimum of two permanent bench marks on-site, referenced to data established by survey control points.

1. Record locations, with horizontal and vertical data, on Project Record Documents
- B. Establish lines and levels, locate and lay out by instrumentation and similar appropriate means:
 1. Site improvements
 - a. Stakes for grading, fill, and topsoil placement
 - b. Utility slopes and invert elevations
 2. Batter boards for structures
 3. Building foundation, column locations, and floor levels
 4. Controlling lines and levels required for mechanical and electrical trades
- C. From time to time, verify layouts by same methods

1.07 RECORDS

- A. Maintain a complete, accurate log of all control and survey work as it progresses.
- B. On completion of foundation walls and major site improvements, prepare a certified survey showing all dimensions, locations, angles, and elevations of construction in accordance with the requirements of modifications to General Conditions.

1.08 SUBMITTALS

- A. Submit name and address of surveyor and professional engineer to Architect.
- B. On request of Architect, submit documentation to verify accuracy of field engineering work.
- C. Submit certificate signed by registered engineer or surveyor certifying that elevation and locations of improvements are in conformance, or non-conformance, with Contract Documents.

****End of Section****

SECTION 01 73 29

CUTTING AND PATCHING

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.
- D. Provide materials, labor, equipment and services necessary and/or required to execute the work of this Section as shown on the drawings, specified herein and/or required by job conditions.
- E. All cutting, removing, relocation, fitting, altering and rough patching for the installation and completion of his work in other than finished surfaces noted below shall be performed by the Trade or Subcontractor requiring said cutting and patching.

FINISH PATCHING SHALL BE BY THE RESPECTIVE TRADE OR SUBCONTRACTOR THAT NORMALLY DOES THAT FINISH WORK.

- F. All finish patching of finished surfaces including - exposed concrete, concrete masonry, brick masonry, glazed masonry and the like shall be performed by the trade customarily involved with the finished work.
- G. All coring and finish patching shall be performed by the Contractors requiring such coring work.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Coordination Efforts Between Trades
- B. Definitions
- C. Specific Requirements by Prime Contractor

1.03 COORDINATION EFFORTS BETWEEN TRADES

- A. General Contractor will provide all exterior utility trenching and backfill for Electrical Contractor as shown on Electrical site drawings and details. All installations related to EC's, pipe, boxes, connectors, poles or bases, shall be by the EC.
- B. The GC shall provide temporary facilities not called for by other trades below, including an office trailer for use by Owner/Architect, temporary toilets, temporary roadways and maintaining roadways throughout the duration of the project, fencing, signs, etc. See Section 01 50 00.
- C. Interior trenching, backfill and restoration, will be done by the contractor (including MEP contractors) requiring same.
- D. All cutting and patching and providing access through surfaces to do their work is by the contractor requiring same, including openings through masonry and providing lintels for openings over 12" wide. Where GC is shown to install new or remove and replace a ceiling or a wall, MEP contractors will coordinate their work and schedule to install their work in coordination with the GC's schedule.

- E. At roof areas, cutting and patching and installations of a contractor's work is by that contractor, however no contractor except a licensed roofer, under the GC, will make penetrations of the membrane (water barrier) surface. Also, GC will close abandoned openings and provide edge support) for new openings.
- F. EC will provide power to equipment by others and low voltage for (only) those connections of systems shown in the documents. Interconnection between the same trades equipment will be by that trade unless specifically shown in the Electric or Data scope.
- G. Interior Plumbing non-hazardous removals (and restoration) by PC, non-hazardous materials to be place in a dumpster provided by the GC. Also see references to cutting and patching.
- H. Plumbing contractor shall provide temporary water (within the building) as required, see Section 01 50 00, an office trailer if contractor requires, and phone service for their own forces.
- I. Interior Hvac non-hazardous removals (and restoration) by HC, non-hazardous materials to be place in a dumpster provided by the GC. Also see references to cutting and patching.
- J. HC to maintain 2 – minimum 30", ¼ hp fans on site to ventilate and exhaust work areas.
- K. HC contractor shall provide temporary heat and dehumidification (within the building) as required, see Section 01 50 00, an office trailer if contractor requires, and phone service for their own forces.
- L. Interior Electrical removals (and restoration) by EC, non-hazardous materials to be place in a dumpster provided by the GC. Also see references to cutting and patching. EC will properly dispose of all ballast, bulbs, and transformers.
- M. Electrical contractor shall provide temporary light and power as required and noted in Section 01 50 00, for the office trailer as specified in Section 01 50 00, and phone service for their own forces. They will include wiring, including phone wire of office space to be provided for A/E by the GC. Payment for phone line services by GC.
- N. Field office for use by Architect, or Engineer, or Owner representative as noted in Section 01 50 00, to be in GC's base bid.

1.04 DEFINITIONS - The following definitions shall apply to all work of this Contract involving cutting, patching, filling and the like.

- A. Cutting - those operations required to expose existing construction or required to permit the installation of work under this contract, or passage of new or relocated work through existing construction.
- B. Patching - Those operations required to bring surfaces to a level to permit the application of a finish treatment. The Contractor responsible for performing the patching shall be responsible for the restoration of the substrate to match adjacent areas, whether new or existing, except for the following conditions:
 - 1. Exposed masonry, concrete or similar surfaces which do not require or call for painting.
 - 2. Those patched surfaces which are wholly contained within an area which is to receive a new finish treatment as called for elsewhere in the Contract Documents.
- C. Replace - Shall mean to furnish and install an entirely new element which matches the original element's material, color, dimension and design.

- D. Repair - Shall mean to make the existing element as nearly "new", as possible, by the means and methods indicated for each element.
- E. Fill - Shall mean to carefully and thoroughly remove, by approved methods, loose and deteriorated surface material and to install "new" material in the element so that the original contour is completely restored and color matched if exposed as a finished element. Follow manufacturers' instructions as applicable.
- F. Match Original - Where indicated, this type of replacement will match the best available representative element, in design, dimension, and installation, with improvements which represent the best standards of fabrication, so that even if an existing best example of an element is gouged or pitted, or otherwise worn, the new element shall be unworn and without defects and fabricated of new material. The Architect will provide identifications of all original elements.

1.05 CUTTING AND PATCHING REQUIREMENTS

- A. Where cutting, drilling or removals are required in existing and/or newly constructed wall, floor or roof construction, the work shall be done in a manner that will safeguard and not endanger the structure, and shall, in all cases, be as approved by the Architect. Prior to any cutting, drilling or removals, the Contractor shall investigate both sides of the surface involved, shall determine the exact location of adjacent structural members by visual examination, and shall avoid interference with such members. No structural members such as joists, beams, columns supporting work that is to remain shall be cut, drilled or removed unless such conditions are shown in detail on the Contract Documents and reinforcing of members affected or new members to compensate for such drilling, cutting and removals are shown. Positive instructions shall be obtained from the Architect before cutting beams or other structural members, arches, lintels and the like and the Contractor shall be guided by such instructions.
- B. Each Trade Contractor shall provide all sleeves, inserts, hangers and the like required for the execution of their respective work; failing to provide such, said responsible Contractor shall reimburse the General Contractor who shall do all necessary cutting and patching required for the execution of his work.

Coordinate with Section 01 31 13/14 for sleeve types, packing of sleeves, pipe penetrations and duct openings for fire safing material and/or caulking; coordinate with Section 07 84 00 for firestopping systems.

- C. No Contractor shall:
 - 1. endanger any work by cutting or drilling or otherwise;
 - 2. cut or alter the work of any other contractor except with the written consent of the Architect.
 - 3. cut or drill above the minimum needed to install work.
- D. All holes cut through masonry exposed to view in the finished work and concrete slabs shall be core drilled except for specific holes that have been structurally detailed per Contract Documents. The Contractor shall locate adjacent structural members before core drilling to ensure that structural members are not damaged. No jack hammering will be permitted in the work within any occupied portions of a structure.
- E. Exposed patches and repairs shall be as inconspicuous as possible. Where new work does not match exactly the color, finish, dimension, size and the like of the

existing, the new work shall be carried across the surface to which it is applied and be continued to a natural stopping point or corner.

- F. All cutting and patching shall be performed using skilled mechanics of the trade or craft involved.

1.06 SPECIFIC REQUIREMENTS BY CONTRACTS

General Assignment of Responsibilities - The General Contractor shall construct temporary partitions where shown on Drawings or where otherwise required for safety of the public or to prevent dust from entering occupied areas. Partitions shall be dust-proof from floor to slab or structure above (if existing condition is a drop-in tile ceiling, the Contractor shall remove tile and install partition to structure above). In addition to framing and sheetrock, the Contractor shall install fire resistant plastic partitions on the work area side of its work. If an access door is required, an alternating 3-layer plastic system shall be used. The door shall be a standard hollow metal door with lockset and closer. Keys shall be distributed to the Owner's other Contractors, the Owner and the Architect. Further, where a Contractor other than the General Contractor is the only Contractor scheduled to perform work in a particular area of the site at any given time, the responsibilities allocated for all cutting and patching and all other temporary Work required shall be performed by such other Contractor.

- A. The General Contractor, or Subcontractors directly related to the "general construction operations", shall perform -
1. All cutting and patching required to install their work under the Contract and as indicated on the Architectural, Structural and Site drawings.
 2. Cutting and patching of existing concrete slabs on grade in connection with underground utility work for all plumbing, heating, electric and other services; work shall be ascertained from the companion plumbing, heating and fire protection drawings; all such excavations needed shall further be accomplished by the General Contractor as specified in Division 31. Attention is directed to Section 02 41 19 wherein modifications to this requirement will be set forth as applicable to the project scope.
 3. Cutting and patching of existing and/or new roof membrane, insulation and the like for installation of work under all contracts.
- B. The HVAC Contractor shall perform -
1. All cutting and rough patching required to install his work under the Contract.
 2. Cutting, rough and finish patching of existing walls, floors and ceilings, including refinishing of all disturbed surfaces, for the installation of new ductwork, piping and equipment, which are beyond the extent of work areas that will be removed/replaced by the General Contractor as indicated on the Architectural, Structural and Site drawings. This work statement shall be deemed to include any required trenching, bedding and backfill operations made necessary in accordance with Section 31 23 33.
 3. Cutting and patching of existing slabs within the General Contractors immediate work areas for the installation of new ductwork and piping shall be accomplished by the General Contractor in accordance with statement set forth in Section 02 41 19.
 4. SHOULD HVAC CONTRACTOR FAIL TO PERFORM WORK INVOLVED

WITH ROOF EQUIPMENT OR PENETRATIONS DURING THE SCHEDULED ACTIVITY TIME, ALL REQUIRED CUTTING AND PATCHING OF ROOF MEMBRANE AND INSULATION SYSTEMS FOR REFRAMING, CURBS, FLASHINGS AND THE LIKE SHALL BE PERFORMED BY THE GENERAL CONTRACTOR AT THE SOLE EXPENSE OF THE HVAC CONTRACTOR.

- C. Electrical Contractor shall perform -
1. All cutting and rough patching required to install his work under the Contract.
 2. Cutting and rough and finish patching of existing walls, floors and ceilings, including refinishing of disturbed surfaces, for the installation of new conduits, busduct, feeders, fixtures and equipment, which are beyond the extent of work areas that will be removed/replaced by the General Contractor as indicated on the Architectural, Structural and Site drawings. This work statement shall be deemed to include any required trenching, bedding and backfill operations made necessary in accordance with Division 31. **Coordinate with Section 02 41 19.**
 3. Cutting and patching of existing slabs within the General Contractors immediate work areas for the installation of new ductwork and piping shall be accomplished by the General Contractor in accordance with statement set forth in Section 02 41 19.
 4. SHOULD ELECTRICAL CONTRACTOR FAIL TO PERFORM WORK INVOLVED WITH ROOF EQUIPMENT OR PENETRATIONS DURING THE SCHEDULED ACTIVITY TIME, ALL REQUIRED CUTTING AND PATCHING OF ROOF MEMBRANE AND INSULATION SYSTEMS FOR REFRAMING, CURBS, FLASHINGS AND THE LIKE SHALL BE PERFORMED BY THE GENERAL CONTRACTOR AT THE SOLE EXPENSE OF THE ELECTRICAL CONTRACTOR.
- D. Plumbing Contractor shall perform -
1. All cutting and rough patching required to install his work under the Contract.
 2. Cutting and rough and finish patching of existing walls, floors and ceilings, including refinishing of disturbed surfaces, for the installation of new piping and equipment, which are beyond the extent of work areas that will be removed/replaced by the General Contractor as indicated on the Architectural, Structural and Site drawings. This work statement shall be deemed to include any required trenching, bedding and backfill operations made necessary in accordance with Section 31 23 33. **Coordinate with Section 02 41 19.**
 3. Cutting and patching of existing slabs within the General Contractors immediate work areas for the installation of new ductwork and piping shall be accomplished by the General Contractor in accordance with statement set forth in Section 02 41 19.
 4. SHOULD PLUMBING CONTRACTOR FAIL TO PERFORM WORK INVOLVED WITH ROOF EQUIPMENT OR PENETRATIONS DURING THE SCHEDULED ACTIVITY TIME, ALL REQUIRED CUTTING AND PATCHING OF ROOF MEMBRANE AND INSULATION SYSTEMS FOR REFRAMING, CURBS, FLASHINGS AND THE LIKE SHALL BE PERFORMED BY THE GENERAL CONTRACTOR AT THE SOLE

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Construction Documents
SED #66-10-04-06-0-013-013

Chappaqua Central School District
Westorchar Elementary School
Roof Replacement

EXPENSE OF THE PLUMBING CONTRACTOR.

****End of Section****

SECTION 01 74 00

CLEANING

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Description
- B. Safety Requirements
- C. Materials
- D. Cleaning During Construction
- E. Final Cleaning

1.03 DESCRIPTION

- A. In addition to that work required under Articles 3.15 and 6.3 of the AIA General Conditions, the Work included shall generally consist of the following:
 - 1. Maintain premises and all properties free from accumulations of waste, debris and rubbish caused by operations connected with the Work.
 - 2. The General Contractor shall provide for the continual removal of rubbish and debris from the area until completion of the Work and shall bear the cost of all tipping fees.
 - 3. Each Prime Contractor shall sweep up and gather together daily, all his own rubbish and deposit same at a location, or locations, as directed by the Contractor.
 - 4. At completion of Work, each respective Contractor shall remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave project clean and ready for occupancy;
 - 5. Staging areas, walkways, grounds and any areas affected by the work shall be cleaned of debris and restored to "new" condition by the General Contractor.
- B. Related Work Specified Elsewhere
 - 1. 01 10 00 - Description of Work
 - 2. 01 31 13 - Mechanical and Electrical Coordination
 - 3. 01 73 29 - Cutting and Patching
 - 4. 01 50 00 - Temporary Facilities
 - 5. 01 77 00 - Project Closeout
 - 6. Cleaning for specific products or work: Reference specific Section for that work.

1.04 SAFETY REQUIREMENTS

- A. Standards: Maintain project in accord with following safety and insurance standards:
 - 1. Occupational Safety and Health Administration (OSHA)

2. New York State Uniform Fire Prevention and Building Code 1 May 2008 and amendments thereto.
3. State Education Department Manual of Planning Standards
- B. Hazards Control
 1. Store volatile wastes in covered metal containers and remove from premises daily.
 2. Prevent accumulation of wastes which create hazardous conditions.
 3. Provide adequate ventilation during use of volatile or noxious substances.
- C. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 1. Do not burn or bury rubbish and waste materials on project site.
 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 3. Do not dispose of wastes into streams or waterways.

1.05 MATERIALS

- A. Utilize non-toxic cleaning materials and methods.
 1. Comply with GS 37 for general purpose cleaning and bathroom cleaning.
 2. Use natural cleaning materials where feasible. Natural cleaning materials include:
 - a. abrasive cleaners: substitute 1/2 lemon dipped in borax
 - b. ammonia: substitute vinegar, salt and water mixture, or baking soda and water
 - c. disinfectants: substitute 1/2 cup borax in gallon water
 - d. drain cleaners: substitute 1/4 cup baking soda and 1/4 cup vinegar in boiling water
 - e. upholstery cleaners: substitute dry cornstarch

1.06 CLEANING DURING CONSTRUCTION

- A. Execute cleaning to ensure that building, grounds, and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. At reasonable intervals during progress of work, clean site and public properties, and dispose of waste materials, debris and rubbish.
- D. Provide on-site containers for collection of waste materials, debris and rubbish.
- E. Should waste materials, debris and rubbish be too large for containers above, remove same from site and legally dispose of at public or private dumping areas off Owner's property.
- F. Vacuum clean interior building areas when ready to receive finish painting and continue vacuum cleaning on an as-needed basis until building is ready for substantial completion or occupancy.
- G. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- H. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.
- I. All materials and equipment shall be properly and effectively protected by Prime Contractors. All piping and conduits must be properly capped by installing contractor during construction to prevent obstruction and damage. Any damage resulting in the failure to use proper precautions to this work shall be replaced or altered to the satisfaction of the Architect.

1.07 FINAL CLEANING

- A. Employ experienced workmen, or professional cleaners, for final cleaning.
- B. In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and exterior surfaces, and of concealed spaces.
- C. At completion of Work, remove all remaining waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all exposed surfaces; leave Project clean and ready for occupancy.

****End of Section****

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT

Part 1 - GENERAL

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Any and all "Waste Handlers and Haulers" shall be licensed by the Authority having jurisdiction over "Solid Waste Management" and a copy of said license shall be submitted in accordance with Article 1.05 herein.

1.02 DESCRIPTION OF WORK

- A. This Section specifies requirements for a complete program for implementation of waste management controls and systems for the duration of the Work and to –
 - 1. Protect the environment, both on-site and off-site, during construction operations.
 - 2. Prevent environmental pollution and damage.
 - 3. Maximize source reduction, reuse and recycling of solid waste.

1.03 INTENT

- A. The Owner has established that this Project shall generate the least amount of waste practical and that processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors shall be employed.
- B. Of the waste that is generated, as many of the waste materials as economically feasible shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized to the greatest extent practical. Regarding these goals, the Contractor shall develop, for Owner's Representative's and Architect's review, a Waste Management Plan for this Project. The Contractor shall be responsible for ensuring that debris will be disposed of at appropriately designated licensed solid waste disposal facilities, as defined by governing laws of the jurisdiction of the Work.

1.04 WASTE MANAGEMENT PLAN

- A. After award of Contract and prior to the commencement of the Work, schedule and conduct meeting with Owner and Architect to discuss the proposed Waste Management Plan and to develop mutual understanding relative to details of environmental protection.
- B. Waste Management Plan: The Contractor shall provide a plan containing the following:
 - 1. Analysis of the proposed jobsite waste to be generated, including types and rough quantities.
 - 2. Landfill Options: The name of the landfills where trash and building debris will be disposed of, the applicable landfill tipping fees, and the projected cost of disposing of all Project waste in the landfills.

3. Landfill Certification: Contractor's statement of verification that landfills proposed for use are licensed for types of waste to be deposited and have sufficient capacity to receive waste from this project.
4. Alternatives to Landfilling: A list of each material proposed to be salvaged or recycled during the Project. Include the following and any additional items proposed:
 - a. Cardboard
 - b. Clean dimensional wood
 - c. Beverage containers
 - d. Land clearing debris
 - e. Concrete
 - f. Bricks and masonry
 - g. Asphalt
 - h. Gypsum boards
 - i. Acoustical ceiling material (grid separate)
 - j. Metals from framing, banding, stud trim, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized sheet steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze
 - k. Glass, colored glass allowed
 - l. Plastic
 1. Type 1: Polyethylene Terephthalate (PET, PETE)
 2. Type 2: High Density Polyethylene (HDPE)
 3. Type 3: Vinyl (Polyvinyl Chloride or PVC)
 4. Type 4: Low Density Polyethylene (LDPE)
 5. Type 5: Polypropylene (PP)
 6. Type 6: Polystyrene (PS)
 7. Type 7: Other - Use of this code indicates that the package in question is made with a resin other than the six listed above or is made of more than one resin listed above and used in a multi-layer combination.
 - m. Paint and paint cans
 - n. Carpet
 - o. Insulation
 - p. Light Fixtures and other electrical apparatus
 - q. Others as appropriate
5. Meetings: A description of the regular meetings to be held to address waste management
6. Materials Handling Procedures: A description of the means by which any waste materials identified above will be protected from contamination, and a description of the means to be employed in recycling the above materials consistent with requirements for acceptance by designated facilities
7. Transportation: A description of the means of transportation of the recyclable materials (whether materials will be site-separated and self-hauled to designated centers, or whether mixed materials will be collected by a waste hauler and removed from the site) and destination of materials

1.05 SUBMITTALS

- A. Construction Waste Management Plan: Submit 3 copies of plan within 21 days of date established for the Notice to Proceed.

- B. Calculations and supporting documentation to demonstrate end-of-project recycling rates meeting the requirements for Construction Waste Management Plan of Item above.
- C. For materials separated for recycling off-site, establish a method for tracking the weight of the recycled material. The method shall be included in the CWM Plan for the Architect's review and approval.
- D. Waste Reduction Progress Reports: Concurrent with the Applications for Payment, submit three copies of report. Include monthly tabulations for demolition and construction waste sent off-site for disposal or recycling.
- E. Waste haulers solid waste management license.

Part 2 - PRODUCTS

NOT USED

Part 3 - EXECUTION

3.01 RECYCLING

- A. Metal, including but not limited to aluminum stairs, structural beams and sections, and reinforcing steel shall be recycled.
- B. Wood that is not painted and does not contain preservatives (i.e. creosote, arsenic, and chromium-containing preservatives) shall be segregated and recycled.

3.02 WASTE MANAGEMENT PLAN IMPLEMENTATION – All sorting will be done “off-site” by a recognized construction and demolition processing facility who will be responsible for provision of all documentation as to where loads were processed, and the recycling rate achieved.

****End of Section ****

SECTION 01 77 00

PROJECT CLOSE OUT

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.

1.02 REQUIREMENTS INCLUDED

- A. Final Cleanup
- B. Required Close Out Documentation
- C. Orientation Instruction
- D. Project Close Out Inspections

1.03 FINAL CLEANUP

- A. The Contractor shall leave the work ready for use and occupancy without the need of further cleaning of any kind.
- B. The Contractor shall remove all tools, appliances, project signs, material and equipment from the phased areas as soon as possible upon completion of the work.
- C. The work is to be turned over to the Owner in new condition, in proper repair and in perfect adjustment.

1.04 REQUIRED CLOSE OUT DOCUMENTATION

- A. Prior to final payment the Owner shall receive, in addition to those documents required by the General Conditions, the following:
 - 1. Project record documents as per Section 01 77 19
 - 2. The Contractor's general guarantees
 - 3. Specific guarantees of material, equipment and systems installed in the work
 - 4. A copy of all test data taken in connection with the work
 - 5. Three (3) copies of all operation and maintenance manuals which shall include:
 - a. Parts List, including illustrations, assembly drawings and diagrams required for maintenance, predicted life of parts subject to wear, and recommendations for stocking spare parts
 - b. Copies of accepted shop drawings, charts and diagrams
 - c. Names, addresses and telephone numbers of manufacturer's representative and service company
 - d. Letters from each manufacturer certifying that his equipment was properly installed and is operating in accordance with manufacturer's intent
 - 6. All keys, tools, screens, spare construction material and equipment required to be furnished to the Owner as part of the work
 - 7. Copies of all Certifications of Specifications Compliance as per Section 013300
 - 8. Record of Material Safety Data Sheets (MSDS)
 - 9. Certified Payroll Records

1.05 ORIENTATION INSTRUCTION

- A. Prior to final payment appropriate maintenance personnel of the Owner shall be oriented and instructed by the Contractor in the operation of all systems and equipment as required by the Contract.

1.06 PROJECT CLOSE OUT INSPECTIONS

- A. When the Work has reached such a point of completion that the building or buildings, equipment, apparatus or phase of construction or any part thereof required by the Owner for occupancy or use can be so occupied and used for the purpose intended, the Contractor, prior to notification to the Architect, shall make a preliminary inspection of the Work to insure that all the requirements of the Contract have been met and the Work is substantially complete and is acceptable. Upon such notification, the Architect shall make a detailed inspection of the Work to ensure that all the requirements of the Contract have been met and that the Work is complete and is acceptable.
- B. A copy of the report of the inspection shall be furnished to the Contractor as the inspection progresses so that the Contractor may proceed without delay with any part of the Work found to be incomplete or defective.
- C. When the items appearing on the report of inspection have been completed or corrected, the Contractor shall so advise the Architect. After receipt of this notification, the Architect shall inform the Contractor of the date and time of final inspection. A copy of the report of the final inspection containing all remaining contract exceptions, omissions and incompletions shall be furnished to the Contractor.
- D. After the receipt of notification of completion and all remaining contract exceptions, omissions and incompletions from the Contractor, the Architect will reinspect the Work to verify completion of the exception items appearing on the report of final inspection.
- E. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance or will furnish to the Contractor a copy of the report of the Architect's reinspection detailing Work that is incomplete or obligations that have not been fulfilled but are required for final acceptance.

The Contractor shall pay the Architect for services performed in inspection beyond the original inspection and two reinspections of the same area, through a "credit" change order to the Owner in accordance with Schedule outlined in Section 01 25 00.

****End of Section****

SECTION 01 77 19

PROJECT RECORD DOCUMENTS

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Project Record Drawings
- B. Record Drawing Certification

1.03 PROJECT RECORD DRAWINGS

- A. The purpose of the project drawings is to record the actual location of the work in place including but not limited to underground lines, concealed piping within buildings, concealed valves and control equipment, and to record changes in the work.

In addition to the above, these drawings shall be "color-coded", by each trade, on a daily basis to indicate progress of the work. Color legend will be assigned by the Architect.

- B. In addition to the sets of contract drawings that are required by the Contractor on the site to perform the work, the Contractor shall maintain, at the site, one (1) copy of all drawings, specifications and addenda that are part of the Contract as awarded.

Each of these documents should be clearly marked "Project Record Copy", always maintained in a clean and neat condition available for inspection by the Owner or the Architect, and shall not be used for any other purpose during the progress of the work.

The Owner's Representative, or other designee, will be the custodian of the project record documents until the end of the Project.

- C. Project Record Requirements
 - 1. The Contractor shall mark-up the "Project Record Copy" to show:
 - a. Approved changes in the work
 - b. Location of underground work and concealed work
 - c. Details not shown in the original Contract Documents
 - d. Any relocation of work including piping, conduits, ducts and the like
 - e. All changes in dimensions
 - f. All access doors and "tack" locations access points in accessible ceilings
 - g. Location of all plumbing, heating, ventilating, air conditioning or electrical assemblies, whether existing to remain or newly installed
 - h. Revisions to any electrical circuitry
 - 2. Such information shall include, but shall not be limited to:

- a. Any change in floor elevations
 - b. Any structural changes
 - c. Any substitutions
 - d. Elevations and locations of all underground utilities, services, or structures referenced to permanent above ground structures or monuments
 - e. Designation of all utilities as to the size and use of such utilities
 - f. The location of all utilities, services and appurtenances concealed in building structures that have been installed differently from that required by the Contract
 - g. Any approved change orders
- and other such data as required by the Architect and/or Owner to establish a complete record of "As-Constructed" conditions.

- D. The Contractor, ***as part of the contract requirements and at no additional cost to the Owner***, shall keep the project record documents up-to-date from day to day as the work progresses. Appropriate documents are to be updated promptly and accurately; no work is to be permanently concealed until all required information has been recorded.
- E. The project record drawings are to be submitted by the Contractor to the Owner or the Architect when all the work is completed and is approved by the Owner and the Architect before the Contractor may request final payment.

If the project record drawings as submitted are found to be unacceptable due to incompleteness or inaccurate information, the drawings shall be returned to the offending Contractor for corrective action and resubmitted for approval prior to the release of final payment.

FINAL PAYMENT IS CONTINGENT UPON PREPARATION OF FINAL PROJECT RECORD DRAWINGS ON A SET OF "PRINTS" and CAD DISKETTES IN "DXF" or "DWG" FORMAT AS APPROVED BY THE OWNER (A SET OF BASE DISKETTES WILL BE FURNISHED BY THE ARCHITECT) AND SUBMITTAL OF SAME TO THE OWNER, THROUGH THE ARCHITECT.

- F. In addition to the drawings required as mentioned above, the Contractor shall submit a list of all approved Shop Drawings of the Work as installed.

From this list the Architect will select the drawings desired for permanent records. The Contractor shall furnish these in a bound set to the Owner as part of the closeout requirements.

1.04 RECORD DRAWING CERTIFICATION

- A. The record drawings required under the terms and conditions of this Section shall be reviewed and processed by the CM/Contractor as part of their overall contractual responsibility.
- B. This certification may be issued for individual trades or as a collective document to cover the entire record drawing requirements of the project.

The format of this certification shall be as follows:

These record drawings prepared by:

for _____
have been reviewed by the undersigned and:

***Appear to be an accurate representation of the work incorporated
within the project and are accepted as submitted in accordance with
the technical documents.***

This record document review made by this office is for determination of compliance to the requirements of the contract documents.

Firm Name: _____

Review Date: _____ By: _____

****End of Section****

SECTION 01 78 23

OPERATION AND MAINTENANCE REQUIREMENTS

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the Conditions of the Contract and the balance of Division #1 and Technical Specifications.
- B. All Contractors, Subcontractors, Sub-subcontractors, Vendors and the like shall be required to familiarize themselves with said provisions.
- C. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 10 00, Article 1.01.

1.02 REQUIREMENTS INCLUDED IN THIS SECTION

- A. Start Up and Demonstration
- B. Parts List
- C. Operation and Maintenance Data

1.03 START UP AND DEMONSTRATION

- A. The work required herein consists of starting up and demonstrating all systems and equipment to operating personnel and includes training of said operating personnel.
- B. The respective Trade or Subcontractor shall make arrangements, via the Owner's Representative (with notification to the Architect), as to whom the instructions are to be given in the operation of the basic and auxiliary systems and the period of time in which they are to be given.
- C. As specified in individual sections, furnish the services of instructors to train designated personnel in adjustment, operation, maintenance, and safety requirements of equipment and systems. If procedures are not specified for specific items of equipment, follow that recommended by the item Manufacturer.
- D. Instructors shall be thoroughly familiar with the equipment and systems and shall be trained in operating theory as well as practical operation and maintenance work. Instruction shall be given after the equipment or system has been accepted and turned over to the Owner. The duration of instruction shall be as specified in individual sections but shall be not less than two (2) days on each portion of operating mechanical/electrical systems. When more than four (4) days of instruction are specified, approximately one-half of the time shall be used for classroom instructions. All other time shall be used for instruction with the equipment or system. Use Operating and Maintenance Data as a training guide. If requested by the Owner, videotape all demonstrations and training sessions on VHS two hour format and provide cassettes to the Owner.
- E. The Architect, and Owner's Representative, shall be completely satisfied that the representative of the Owner has been thoroughly and completely instructed in the proper operation of all systems and equipment before final payment is made. If the Architect, or the Owner's Representative, determines that complete and thorough instructions have not been given by the contractor to the Owners' Representative, then the offending Contractor shall be directed by the Architect to provide whatever instructions are necessary until the intent of this paragraph of the Specification has been complied with as determined by the Architect and Owner's Representative.

1.04 PARTS LIST

- A. As required the respective Trade or Subcontractor shall furnish three (3) typed sets of instructions for the ordering and stocking of spare parts for all equipment installed. The lists shall include parts numbered and suggested supplier.
- B. Each set shall also include an itemized list of component parts that should be kept on hand and where such parts can be purchased.

1.05 OPERATION AND MAINTENANCE DATA

- A. The Contractor shall submit to the Architect for approval three (3) typed sets, bound neatly in hard backed loose leaf binders, of all instructions for the installation, operation, care and maintenance of all equipment, fixtures and systems.
 - 1. Provide typed or printed label identifying binder as operating and maintenance data. List title of project, contract number, and location of equipment.
 - 2. Furnish manufacturer's printed data or sheets neatly typewritten on 8-1/2 inch by 11 inch, 20 pound minimum white paper. Provide indexed tabs.
 - 3. Drawings: Bind in with text. Provide reinforcement rings. Fold larger drawings to the size of the text pages.

Information shall indicate possible problems with equipment and suggested corrective action.

B. CONTENT OF MANUAL FOR EQUIPMENT AND SYSTEMS

The instructions shall contain information deemed necessary by the Architect and include but not be limited to the following:

- 1. Introduction:
 - a. Explanation of Manual and its use
 - b. Summary description of all mechanical and electrical and equipment operating systems
 - c. Purpose of systems
 - d. Maintenance scheduling summary analysis, sheets and software operating instructions and diskette(s)
- 2. System:
 - a. Detailed description of all systems
 - b. Illustrations, schematics, block diagrams, photographs and other exhibits
 - c. Complete wiring diagrams, tabulations and installation drawings
 - d. Valve tag charts and control diagrams
 - e. 1/2-size reduced copy of "Record Drawings"
- 3. Operations:
 - a. Complete detailed, step-by-step, sequential description of all phases of operation for portion of the systems, including startup, shutdown, adjusting and balancing, and emergency procedures. Include all posted instruction charts
- 4. Maintenance:
 - a. Parts list and parts number
 - b. Maintenance, lubrication and replacement charts and Contractor's recommendations for preventative maintenance
 - c. Trouble shooting charts for systems and components
 - d. Instructions of testing each type of part
 - e. Recommended list of on-hand spare parts

- f. Complete calibration instructions for all parts and entire systems.
 - g. Instruction for charging, filling, draining and purging
 - h. General or miscellaneous maintenance notes
- 5. Manufacturer's Literature:
 - a. Complete listing for all parts with names, addresses and telephone numbers
 - b. Care and operation.
 - c. All and only pertinent brochures, illustrations, drawings, cuts, bulletins, technical data, certified performance charts and other literature with the model furnished to be clearly and conspicuously identified
 - d. Internal wiring diagrams and engineering data sheets for all items and/or equipment to be furnished
 - e. Guarantee and warranty data
- 6. Instructions for lubricating each piece of equipment installed. Instructions shall state type of lubricant, where and how frequently lubrication is required.

Frame all instructions under glass and hang in the Mechanical Room or other location as directed by Architect.

C. MANUALS FOR PRODUCTS, MATERIALS, AND FINISHES:

- 1. Submit three (3) copies of complete manual
- 2. Content: Provide complete information for architectural products, applied materials, and finishes.
 - a. Manufacturer's data, including catalog number, size, composition, color and texture designations, and information for reordering.
 - b. Instructions for care and maintenance, including manufacturer's recommendations for cleaning agents and methods; cautions against detrimental cleaning agents and methods; and recommended schedule for cleaning and maintenance.

****End of Section****

TECHNICAL SPECIFICATION

ASBESTOS ABATEMENT PROJECT AT:
WESTORCHARD ELEMENTARY SCHOOL
25 GRANITE ROAD
CHAPPAQUA, NY 10514

Prepared for:



Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514

Prepared by:



WSP USA Solutions, Inc.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595

July 22, 2021
Project No. 31402629.074

Michael Gelfand
NYS Project Designer
98-17113

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SECTION 02081
ASBESTOS ABATEMENT

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

- A. The Asbestos abatement contractor shall perform the following work as described below and indicated on the drawings. The drawings are only a diagrammatic representation of the Work Areas and do not constitute the actual quantities of material. Asbestos abatement contractor is responsible for the confirmation of the actual total quantities of the Work. The Asbestos Contractor shall provide all plant, labor, equipment and materials complete for performance of the Work in accordance with the Contract Documents. All asbestos material is to be disposed of as ACM waste. Quantities indicted below are confirmed asbestos.

WESTORCHARD ELEMENTARY SCHOOL

25 Granite Road, Chappaqua, NY 10514

1. Drawing H002.00: Roof Plan, Base Bid

- a. Remove and dispose of asbestos-containing Roof Flashing within **Work Areas BB-1, BB-2 and BB-3** utilizing NYS DOL 12 NYCRR Part 56 §11.6 Exterior Removal of Non-friable ACM Roofing, Siding, Caulking, Glazing Compound, Transite, Tars, Sealers, Coating, and Other NOB ACMs Procedures.

Work Area #	Location	Asbestos-Containing Material	Approximate Quantity	Removal Procedure
BB-1	Roof A1	Roof Flashing	730 SF	NYS DOL 12 NYCRR Part 56 §11.6 Exterior Removal of Non-friable ACM Roofing, Siding, Caulking, Glazing Compound, Transite, Tars, Sealers, Coating, and Other NOB ACMs
BB-2	Roof A3	Roof Flashing	400 SF	
BB-3	Roof A2	Roof Flashing	300 SF	

2. Drawing H003.00: Roof Plan, Add Alternate No.1

- a. Remove and dispose of asbestos-containing Roof Flashing within **Work Areas AA1-1, AA1-2, AA1-3 and AA1-4** utilizing NYS DOL 12 NYCRR Part 56 §11.6 Exterior Removal of Non-friable ACM Roofing, Siding, Caulking, Glazing Compound, Transite, Tars, Sealers, Coating, and Other NOB ACMs Procedures.
- b. Remove and dispose of assumed asbestos-containing Drain Bowl Insulation within **Work Area BB2-4** utilizing NYS DOL 12 NYCRR Part 56 §7.11 (ii) Tent Procedures.

Work Area #	Location	Asbestos-Containing Material	Approximate Quantity	Removal Procedure
AA1-1	Roofs A, A1, A2, and A3	Roof Flashing and Skylight Flashing	3,500 SF	NYS DOL 12 NYCRR Part 56 §11.6 Exterior Removal of Non-friable ACM Roofing, Siding, Caulking, Glazing Compound, Transite, Tars, Sealers, Coating, and Other NOB ACMs
AA1-2	Roofs F, and F1	Roof Flashing and Tar Vapor Barrier	5,000 SF	
AA1-3	Roofs G	Roof Flashing	1,300 SF	
AA1-4	Roofs E, D and J	Roof Flashing	1,280 SF	
	Mechanical Room below Roof D	Assumed ACM Drain Bowl Insulation	2 SF	NYS DOL 12 NYCRR Part 56 § 7.11 (ii) Tent Procedures

- B. The Contractor is responsible for completing all notifications and variances required to meet the determined start date (if applicable).
- C. If asbestos containments are required, the Contractor shall establish the asbestos containments so as to not interfere with operation of or access to the temporary equipment that shall be installed by others.
- D. The Contractor shall field verify the amount of ACM and familiarize him/her-self with all variable field conditions in the building before the submission of his/her quote. The quantities presented in this specification are approximate only and should not be used solely as the basis for any quote. Any discrepancies or difference in the approximate and actual quantities shall be resolved before the award of any Contract. No change order relative to ACM material quantity will be permitted after the award of the Contract. In the event that suspect materials not included in this Specification are encountered while the work is in progress, such material shall be tested and, if confirmed ACM, removed as ACM, in accordance with the procedures contained herein. The discovery of any new material(s) should not delay the progress of the work as contained in this specification. Payment for any additional work will be considered on a case-by-case basis by the Environmental Consultant and Chappaqua Central School District (CCSD). It is the responsibility of the Contractor to determine and negotiate the full cost of any such payment prior to performance of any additional work.
- F. ACM shall be properly handled, packaged, and transported for disposal in a landfill in accordance with all Federal, State and Local regulations. After September 4, 2006, the Contractor shall follow Part 56 of Title 12 of the Official Compilation of Codes, Rules and Regulations of the State of New York (Cited as 12 NYCRR Part 56) as amended effective March 21, 2007. All related manifests and shipping logs shall be provided to CCSD upon or before the end of the project.
- G. All work shall be accomplished in strict adherence to the project Specification, applicable Federal, State, and Local Regulations. Whenever there is a conflict or overlap of the above references, the more stringent provision shall apply.
- H. The Contractor's industrial hygiene practices during asbestos abatement will be monitored by CCSD's Environmental Consultant. The Contractor shall be responsible for monitoring his/her own construction safety work practices for compliance with the OSHA regulations.
- I. The Asbestos Contractor shall provide the best available technology, and state-of-the-art procedures and methods of execution, clean-up, disposal, and safety.

- J. The Contractor will be required, if approved by CCSD and/or its Representative, to obtain at his/her own expense appropriate variances from regulatory agencies as required to complete the safe removal of asbestos containing material as described in this specification.
- K. CCSD's environmental consultant will sample all suspect materials that may be identified during the course of demolition, if applicable. The Contractor shall provide access to the consultant to perform the testing and no additional costs will be paid for the time it takes to perform the testing. The contractor shall provide itemized cost proposal to CCSD which must include separate costs for the abatement of the individual materials revealed to be ACM (if applicable). Additional asbestos-containing materials shall not be abated without written authorization from CCSD or environmental consultant. The contractor will not be compensated for any additional materials that can be encountered during the abatement project, without prior written authorization from CCSD or environmental consultant.

1.02 PHASING OF WORK: This work shall include asbestos abatement associated with upcoming interior, exterior and roof upgrades project. The Asbestos Contractor shall perform and complete the abatement of asbestos-containing materials during regular working hours, Monday through Friday between 8:00 am and 4:00 pm or as directed by the facility. It is the Contractor's responsibility to ensure that acceptable visual inspection and air monitoring results are obtained with fiber count of <70 Structures/mm² of air using AHERA analysis method and are completed prior to the return of building occupants or other trades. All work shall be coordinated with CCSD and CCSD's Environmental Consultant prior to start of any work. The CCSD's Environmental Consultant shall be present whenever any asbestos abatement work is being conducted.

1.03 AUTHORITY TO STOP WORK: CCSD and the Environmental Consultant shall have the authority to stop the abatement work at any time the contractor's work is not in conformance with the Specifications and applicable regulations. The stoppage of work shall continue until conditions have been corrected to the satisfaction of CCSD and the Environmental Consultant. Standby time to resolve the problems shall be at the contractor's expense.

1.04 SITE REQUIREMENTS:

- A. Noise Control: Provide mufflers or other acceptable means of noise reduction for all equipment to be used by the Contractor. Observe local laws regarding noise control.

- B. Wastewater: All water used by the Contractor during asbestos abatement activities shall be collected and passed through a water filtration system capable of filtering particles down to 5 microns prior to being discharged into the sanitary sewer. The Contractor shall contact the Westchester County engineering department to determine the acceptable location(s) to access the sanitary sewer. The Contractor shall be responsible for connection to the sanitary sewer, and for providing piping, pumps, water filtration systems, and other items necessary to collect, transport, filter, and dispose of the wastewater.
- C. Log In/Out: The Asbestos Contractor must ensure all workers log in and out daily at the site.
- D. The location of the Decontamination Unit shall be as per abatement design drawings. All variations must be coordinated and approved by the site manager and CCSD's Environmental Consultant.

1.05 HEALTH AND SAFETY:

- A. Toxic Effects: The Contractor shall assume all responsibility for any toxic effects to workers from the air supplied to respirators, or from toxic or damaging vapors or residues resulting from the use of encapsulant and/or wetting agents or other substances used by the Contractor during construction.
- B. Chemical/Biological Hazards: The known chemical/biological hazards on site include asbestos-containing material and debris. The Contractor shall provide materials, equipment and training to its workers to ensure their protection from these and any other chemical/biological hazards which may be identified during the course of this work.
- C. Physical Hazards: The Contractor shall provide safety equipment and training to his/her workers to ensure their protection from any physical hazards including but not limited to trip/fall hazards, working at elevation, heat stress, contact with energized (hot) active equipment, noise, overhead bump hazards, and electrical shock that may be present during the Work.
- D. Safety Act: The Occupational and Safety Health Act (OSHA) of 1970, as amended, shall be strictly complied with during the course of this project. This Act shall govern the conduct of the Contractor's workmen, tradesmen, material-men, and subcontractors, and visitors to the project site.
- E. Accident Prevention: In order to protect the lives and health of his/her employees, the Contractor shall comply with all pertinent provisions of the latest edition of the "Manual of Accident Prevention in Construction" issued by the Associated General Contractors of America, Inc. and shall maintain an accurate record of all accidents which occur during the project. An injury or loss of life must be immediately reported by the Contractor to the CCSD and/or its

Representatives, and a copy of the Contractor's report to his/her insurer of an accident must be provided to the CCSD and/or its Representatives.

- F. Emergency Response: The Contractor shall establish an Emergency Response Team made up of members of his/her work force. Team members shall be trained, organized, and capable of responding in the event of an accident, fire, or other emergency. The Contractor shall designate a site Safety Coordinator to train team members regarding the location and use of site-specific fire/life safety equipment. As a minimum requirement, members of the Emergency Response Team shall be knowledgeable in standard first aid and CPR techniques, fire extinguisher use, and evacuation procedures.
- G. Workmen Protection: The Contractor shall provide and maintain all safety measures necessary to properly protect workmen.
- H. Emergency Actions: In an emergency affecting the safety of life, the work, or adjoining property, the Contractor, to prevent such threatened loss or injury without special instruction or authorization from the CCSD and/or its Representatives, is hereby permitted to act at his/her discretion.
- I. Hazard Communication Act: The Contractor shall comply with the Hazard Communication Standard promulgated by the Occupational Safety and Health Administration (OSHA No. 29 CFR 1910.1200). This program ensures that all employers provide the information they need to inform and train employees properly and to design and put in place employee protection program. It also provides necessary hazard information to employees so they can participate in, and support, the protective measures needed at their work place. The contractor shall ensure that labels or other forms of warning are legible in English. Employer having employees who speak other languages must add the information in their languages. See OSHA 29 CFR 1910.1200 for more details.

1.06 WORK SUPERVISION AND COORDINATION:

- A. Abatement Contractor's Supervisor: From the start of work through to the project completion the Contractor shall have on-site a responsible and competent supervisor who possesses valid NYSDOL Supervisor certifications. As a minimum, the Asbestos Contractor's Supervisor shall meet the qualifications as required by Article 1.12, for a job supervisor. The Supervisor shall be on site during all working hours. When the Supervisor must leave site during work, a temporary Supervisor shall be appointed.

- B. Quality of Work: The Supervisor shall supervise, inspect and direct the Work competently and efficiently, devoting such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. The Supervisor shall be responsible to see that Work complies accurately with the Contract Documents, and that all Work installed is of good quality and workmanship.

1.07 SUBMITTALS: Unless otherwise noted the Contractor shall submit three (3) copies of each APPLICABLE submittal to the CCSD's Environmental Consultant and its Representatives for review and/or approval. The Contractor shall provide the following:

A. Pre-Project Submittal:

1. Certificates of Insurance naming CCSD as additional insured.
2. All required bonds. All bonds shall be underwritten by a United States based, preferably New York State, A or B rated bonding company.
3. List of Subcontractors.
4. Health and Safety Plan: Provide a written Health and Safety Plan addressing procedures for work place safety. As a minimum, the following topics shall be addressed in the plan:
 - a. Hazard Communication. Procedure on how physical and health hazards associated with the work are identified and communicated to employees, and name of the person responsible for implementation of the Hazard Communication Program.
 - b. Guidelines for assessment and prevention of heat stress.
 - c. Procedures for using ladders safely.
 - d. Electrical safety procedures.
 - e. Emergency Action Plan: The Contractor shall submit for review a written Emergency Action Plan. This Plan shall outline the contingency actions to be performed for emergencies including fire, accident, power failure, supplied air system failure, breach of work area containment, unexpected asbestos contamination in the site area and on the adjoining grounds, or spilling of asbestos material being hauled to storage and/or disposal. This Plan shall identify the manner in which emergencies are announced, emergency escape procedures and routes, and procedures to account for all employees after evacuation. The Plan shall identify those persons responsible for fire/life safety duties including the

Site Safety Coordinator, persons responsible for fire prevention equipment and the control of fuel source hazards, and the members of the Emergency Response Team (see Paragraph "Emergency Response" of this Section). This Plan shall be readily available for review by all workers.

- f. Fall Protection Plan: The Contractor shall submit for review a written Fall Protection Plan. This plan shall outline the actions to be performed to protect personnel when they are working at elevation. The plan shall detail specific fall protection devices to be utilized, training provided to personnel for same and training of designated competent person in charge of and responsible for the elevated work site.
4. Proof of written notifications required by Paragraph "Codes, Permits and Standards" of this Section. Proof that all required permits and variances have been obtained.
5. Proof of written notification to the local police department, fire department and Facility (include a copy of required by NYS DOL ICR 56 section 56-3.6a ten day notice) that asbestos abatement work is being conducted. As a minimum, the notification letter shall include the address of the Facility, dates work is to be performed, and drawings indicating the areas to undergo abatement.
6. Documentation of compliance with all requirements of paragraph "Requirements and Qualifications" of this Section. Submittal shall include:
 - a. Proof that the job supervisors, foremen, and asbestos abatement workers meet State certification and license requirements.
 - b. Proof of a current medical surveillance program for all Contractor's personnel to work on this project.
 - c. Completed and notarized Certificate of Worker's Release for each asbestos abatement worker, workers of other trades, or supervisory personnel who enter the work area or otherwise contact ACM.
7. Proof of a respiratory protection program. Submit level of respiratory protection intended for each operation required by the project.

8. Proof of historic airborne fiber data. Submit airborne asbestos fiber monitoring data from an independent air monitoring firm to substantiate selection of respiratory protection proposed. Data shall include the following for each procedure required by the work: 1. date of measurement; 2. type of work task monitored; 3. methods used for sample collection and analysis, and; 4. number, duration and results of samples taken.
9. Proof that a landfill site has been located, and arrangements for transport and disposal of asbestos-containing or asbestos-contaminated materials have been made. Provide the name and location of the landfill, and waste transport company, if applicable.
10. Manufacturer's literature on all proposed job related equipment and products to be used on this project. Include Safety Data Sheets (SDS) for encapsulant, fire retardant plastics, mastic remover and other chemicals to be used on this project.
11. A detailed Asbestos Removal and Disposal Work Plan which describes all aspects of the work to be performed for this project. The Plan shall include the following:
 - a. A detailed description of the work area enclosure. Provide shop drawings (with dimensions and locations) of proposed decontamination facilities and work areas. These drawings shall indicate the following: 1) areas to be sealed off and work area boundaries; and 2) proposed layout and location of the decontamination enclosure systems. Include a detailed description of any modifications or changes to be made to the specified negative pressure work area enclosure.
 - b. Specimen of the daily log proposed for use. Minimally, the log should include the date(s) and time(s) when all personnel enter and leave the work area(s).

B. During Work Submittal:

1. Schedule of Work Changes: Any changes in the Schedule of Work proposed by the Contractor shall be submitted for approval to CCSD no later than seven days prior to the commencement date of the proposed change. A revised Schedule shall be submitted at the end of each week.
2. Notarized copy of payroll showing that prevailing wage rates have been paid shall be submitted to the CCSD on a weekly basis. Contractor shall use DOL form for wage payment.

3. A "Request For Services" form shall be submitted at least 24 hours in advance of required air monitoring tests and inspections to be performed by the CCSD's Environmental Consultant.
4. Results of all air monitoring performed by the Contractor shall be posted within 24 hours for regular abatement project after collection for all workers to see. A copy of the results shall be given to the CCSD's Environmental Consultant at the same time.
5. A certified, signed, and completed copy of each "Waste Shipment Record" form used, and receipts from the landfill operator which acknowledge the Contractor's delivery(s) of material, shall be submitted to the Consultant and Engineer within thirty days following removal of ACM from building.
6. A copy of the bound log book.

C. Post Project Submittal:

1. A notarized "Release of Liens" in a form acceptable to the CCSD. Use the standard AIA form. Such notarized release of all liens shall certify that all subcontractors, labor suppliers, etc., have been paid their pro rate share of all payments to date, that the contractor has no basis for further claim, and will not make further claim for payment in any account after the first payment is made to him.
2. Proof of payment of prevailing wage rate to direct employees and subcontractor.
3. Notarized copies of a daily log showing the date(s) and time(s) of entrance to and exit from the work area(s) for all persons.
4. Compilation in chronological order of all air monitoring records pertaining to this project.
5. Compilation of all completed and signed Waste Shipment Record forms, bills of lading, or disposal receipts pertaining to this project.
6. Copies of notifications and checks to applicable agencies (see Subparagraph "Pre-Project Submittal Information" of this Section) that the asbestos abatement project has been completed.
7. Contractor shall submit the following items as part of his final submittals: Paid invoice verifications for sub-contractor (for Time and Material job), service contract agreement, insurance certificates, copies of the workers licenses (NYSDOL), and other submittal required for the Specification.

1.08 FIRE PROTECTION AND EMERGENCY EGRESS: The Contractor shall be responsible to the security and safeguarding of all areas turned over by the facility to the Contractor. The Contractor shall designate to his/her workers and other building occupants a means of egress in case of emergency.

- A. The Contractor shall establish emergency and fire exits from the work area. First aid kit, 2 full sets of protective clothing and respirators shall be provided for use by qualified emergency personnel in the clean room of the decontamination facility.
- B. For full containment only, the Contractor shall provide a secure work area to protect against unauthorized entry into and around the work area. Any hazardous conditions shall be reported to the contractor's Supervisor and the contractor shall correct the hazard immediately. Any intrusion or incident shall be documented in a bound log book which shall be maintained at the project site.

1.09 CLEAN-UP:

- A. Asbestos Related Clean-up: All clean-up work related to asbestos abatement work shall be in strict accordance with general technical requirements and this specification.
- B. Final Site Cleaning: Upon completion of the work, the Contractor shall remove all temporary construction, decontamination facilities, and unused materials placed on site by the Contractor; put the premises in a neat and clean condition; and provide all sweeping, cleaning, and washing required to restore the site to its original condition.

1.10 CODES, PERMITS, AND STANDARDS:

- A. The Contractor shall be solely responsible for compliance with all applicable federal, state (12 NYCRR Part 56 Adopted March 21, 2007), and local laws, ordinances, codes, rules, and regulations which govern asbestos abatement work or hauling and disposal of asbestos waste material. The current issue of each document shall govern. All work shall comply with all applicable codes and regulations as amended including: EPA Title 40CFR, Part 763, OSHA Title 29CFR, part 1910(including sections 1001,134,1926.2 and 1926.1200); EPA Title 40 CRF Part 61; NYSDEC Title 6,Part 364 and NYSDOH Title 10,Part 73
- B. Before starting the work, the Contractor shall examine the Technical Specification for compliance with codes and regulations applicable to the work and shall immediately report any discrepancy to the CCSD's Environmental Consultant.
- C. Where conflict among requirements or with these Specifications exists, the more stringent requirements shall apply.
- D. Permits, State Licenses, and Notifications: The Contractor shall be responsible for obtaining necessary permits, variances, state licenses, and certifications of personnel in conjunction with asbestos removal, hauling, and disposition and shall provide timely notification of such actions as may be required by federal, state, regional, and local authorities. Fees and/or charges for these licenses, permits, and notifications shall be paid by the Contractor. Contractor shall use all notification forms where applicable.
 - 1. Agency Notification: At least 10 days prior to commencement of any asbestos removal, the Contractor shall prepare written notification to EPA Region 2, to the New York State Department of Labor (NYSDOL), and all other applicable agencies having jurisdiction. In addition, the Contractor shall be required to obtain any other permits for work covered under this specification including permits required for air sampling.

1.11 TERMINOLOGY: The following commonly-used terms are defined in the context of these Specifications:

- A. Asbestos Project: Work that involves the removal, encapsulation, enclosure, repair or disturbance of friable or non-friable asbestos, or any handling of asbestos material that may result in the release of asbestos fibers. For the purpose of compliance with this Part, an asbestos project shall include any disturbance of asbestos fibers, and the planning, asbestos survey (as per Subpart 56-5.1), design, background air sampling, inspection, air sampling and oversight of abatement work, cleanup, and the handling of all asbestos material subject to abatement, as well as the supervising of such activities. Installation of friable ACM shall also be considered an asbestos project. An asbestos project starts with Phase I when the planning, asbestos survey, and design work begins or is required to begin.
- B. Asbestos-Containing Material (ACM): Any material or product which contains more than 1 percent asbestos.
- C. Aggressive Air Sampling: Air monitoring samples collected while a leaf blower, fans, or other such devices are used to generate air turbulence within the work area.
- D. Air Filtration Device (AFD) - A portable local exhaust system equipped with HEPA filtration, capable of maintaining a constant low velocity air flow into contaminated areas from adjacent, uncontaminated areas and capable of maintaining a negative air pressure with respect to the adjacent, uncontaminated areas.
- E. Air Lock: A system for permitting ingress or egress to the work area while permitting minimal air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways placed a minimum of three feet apart.
- F. Air Monitoring: The process of measuring the fiber content of a specific volume of air in a stated period of time. Personal air sampling results shall be calculated to reflect the employee's eight-hour time weighted average (TWA) exposure. Area sampling results are reported directly, without calculating the TWA.
- G. Amended Water: Water to which a surfactant has been added.
- H. Asbestos Removal Encapsulant: A chemical solution used in place of amended water during asbestos removal to penetrate, bind, and encapsulate the asbestos-containing material.

- I. Authorized Visitor: CCSD's Environmental Consultant or representatives of any regulatory or other agency having jurisdiction over the project.
- J. CCSD's Environmental Consultant: CCSD's agent who is authorized to exercise general contract administration and industrial hygiene inspection of the work.
- K. Certified Industrial Hygienist (CIH): One certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene.
- L. Class II asbestos work: Activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic. Class I asbestos work includes the removal of thermal system or surfacing materials.
- M. Competent Person: Definition and responsibilities as set down in 29 CFR 1926.1101(b) and as outlined herein.
- N. Curtained Doorway: A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms.
- O. Decontamination Enclosure System: A series of connected rooms for the decontamination of workers (a Personnel Decontamination Enclosure System) or of materials and equipment (Equipment Decontamination Enclosure System).
- P. Equipment Decontamination Enclosure System: A decontamination system for waste materials and equipment, typically consisting of a designated area of the work area, a washroom, and a holding area, with an air lock between any two adjacent rooms and a curtained doorway between the holding area and the non-work area. Not to be used for personnel entry/exit.
- Q. Encapsulant (Sealant): A liquid material which can be applied to ACM and which controls the possible release of asbestos fibers from the material, either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).
- R. Encapsulation: Application of an encapsulant to asbestos-containing building materials to control the possible release of asbestos fibers into the ambient air.
- S. Enclosure: Procedures necessary to completely enclose ACM behind air-tight, impermeable, permanent barriers.
- T. Excursion Limit (EL): The EL is an airborne concentration of asbestos to which no employee shall be exposed when not using respiratory protection. The EL is 1.0 f/cc as averaged over a 30 minute period.

- U. Fixed Object: A unit of equipment or furniture in the work area which cannot be removed from the work area.
- V. Friable: Any material which, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure, or is capable of being released into the air by hand pressure.
- W. Full Facepiece High Efficiency Respirator (FFHER): A respirator which covers the wearer's entire face from the hairline to below the chin and which is equipped with a HEPA filter.
- X. Half Mask High Efficiency Respirator (HMHER): A respirator which covers one-half of the wearer's face, from the bridge of the nose to below the chin, and is equipped with HEPA filters.
- Y. HEPA Filter: A high efficiency particulate air (HEPA) filter capable of trapping and retaining 99.97 percent of the fibers of 0.3 micrometer or larger in diameter.
- Z. HEPA Vacuum Equipment: High efficiency particulate air (HEPA) filtered vacuuming equipment having a UL 586 filter system capable of collecting and retaining asbestos fibers.
- AA. Large Asbestos Project: Large asbestos project shall mean an asbestos project involving the disturbance, enclosure, encapsulation, repair or handling of 160 square feet or more of ACM, PACM or asbestos material or 260 linear feet or more of ACM, PACM or asbestos material.
- AB. Lockdown: Procedure of applying an encapsulant as a protective coating or sealant to a surface from which ACM has been removed in order to control and minimize airborne asbestos fiber generation that might result from residual asbestos-containing debris.
- AC. Minor Asbestos Project: Minor project shall mean an asbestos project involving the disturbance, enclosure, encapsulation, repair or handling of 10 square feet or less of ACM, PACM or asbestos material or 25 linear feet or less of ACM, PACM or asbestos material.
- AD. Movable Object: A unit of equipment or furniture which can be removed from the work area.
- AE. Plasticize: To cover floors and walls with plastic sheeting as herein specified.
- AF. Permissible Exposure Limit (PEL): The PEL is an airborne concentration of ACM to which no employee shall be exposed when not using respiratory protection. The OSHA PEL is 0.1 f/cc expressed on an 8-hour time weighted average (TWA).

- AG. Personnel Decontamination Enclosure System: A decontamination system for personnel and limited equipment, typically consisting of an equipment room, shower room, and clean room, with an air lock between any two adjacent rooms, and a curtained doorway between the equipment room and the work area, and a curtained doorway between the clean room and the non-work area. The decontamination system serves as the only entrance/exit for the work area.
- AH. Powered Air Purifying Respirator (PAPR): Either a full face-piece, helmet, or hooded respirator that powers breathing air to the wearer after the air has been purified through a HEPA filter.
- AI. Regulated Abatement Work Area: The portion of the restricted area where abatement work actually occurs. For tent work areas, the interior of each tent is a regulated abatement work area. For OSHA Class I and Class II asbestos abatement, the interior of the restricted area containment enclosure is the regulated abatement work area. For exterior non-friable asbestos abatement conducted without the establishment of negative air ventilation systems or containment enclosures, the entire restricted area surrounding the abatement location is considered to be the regulated abatement work area.
- AJ. Removal: The act of removing and transporting asbestos-containing or asbestos-contaminated materials from the work area to a suitable disposal site.
- AK. Small Asbestos Project: Small asbestos project shall mean an asbestos project involving the removal, disturbance, repair, encapsulation enclosure or handling of more than 10 and less than 160 square feet of ACM, PACM or asbestos material or more than 25 and less than 260 linear feet of ACM, PACM or asbestos material.
- AL. Surfactant: A chemical wetting agent added to water to improve penetration, thus reducing the quantity of water required for a given operation or area.
- AM. Tent Procedure: A fire retardant polyethylene enclosure that includes walls, ceiling and a floor as required to remove ACM, PACM or asbestos material.
- AN. Type C Respirator: A respirator which supplies air to the wearer from a source outside the work area by means of a compressor.
- AO. Wet Cleaning: The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with amended water or asbestos removal encapsulant and by afterwards disposing of these cleaning tools as asbestos-contaminated waste.

- AP. Work Area: Designated rooms, spaces, or areas of the project where asbestos abatement actions are to be undertaken or which may become contaminated as a result of such abatement actions. A contained work area has been sealed, plasticized, and equipped with an airlock entrance or a decontamination enclosure system. A non-contained work area is an isolated or controlled-access area which has not been plasticized.

1.12 REQUIREMENTS AND QUALIFICATIONS:

- A. Minimum Experience: The Contractor shall have experience with abatement work, as evidenced through participation in at least **two** asbestos abatement projects of complexity comparable to this project.
- B. Experience and Training: The Contractor's job supervisors, foremen, and workers shall be adequately trained and knowledgeable in the field of asbestos abatement. All personnel engaged in asbestos abatement or related activities shall have New York State DOL certifications. All phases of the work shall be executed by skilled craftsmen experienced in each respective trade. Proof of such experience shall be submitted upon request by the CCSD. Improperly trained, untrained, or inexperienced personnel shall not be allowed in the work area(s). Personnel shall meet minimum training and experience requirements outlined in this Section.
1. The Contractor's on-site job supervisor shall have successfully completed, within the last twelve months, the NYSDOH-approved course "Supervision of Asbestos Abatement Projects", and shall be qualified as a NYSDOL-certified Contractor/Supervisor. Course must be provided by an NYSDOH-approved training provider. The supervisor shall have experience with abatement work, as evidenced through participation in at least two asbestos abatement projects of complexity comparable to this project.
 2. The job supervisors and foremen shall be thoroughly familiar with and experienced in asbestos removal and related work and shall meet the requirements of a competent person set down in OSHA Standard 29 CFR 1926.1101.
 3. All asbestos abatement workers shall be knowledgeable, qualified, and trained in the removal, handling, and disposal of asbestos material and in subsequent cleaning of the affected environment. All asbestos abatement workers shall be certified as having attended and satisfactorily completed asbestos worker training in accordance with OSHA Standard 29 CFR 1926.1101(k)(3). Course must be provided by an NYSDOH-approved training provider.
 4. The Contractor's job supervisors, foremen, and asbestos abatement workers shall be certified and licensed as required by the NYSDOL.

5. Prior to commencement of work, all personnel who are to enter the work area shall be instructed in and shall be knowledgeable of the appropriate procedures for personnel protection and asbestos abatement. On-site training in the use of equipment and facilities unique to this job site shall be performed. Emergency evacuation procedures from the work area shall also be included in worker training.
- C. Supervision Requirements: The Contractor shall provide adequate job supervision for all phases of the asbestos abatement work.
1. The Contractor shall have a NYSDOL job supervisor present on site whenever work described in this Section is in progress. If the job supervisor leaves the site for any reason a qualified and certified supervisor, who meets the requirements of this Section and is familiar with the current status of the work, shall be designated. CCSD's Designated Representative shall be informed of the substitution. The supervisor must be familiar and experienced with asbestos removal and its related work, safety procedures, and equipment.
- D. Worker Medical Examinations: The Contractor shall provide medical examinations for all employees engaged in asbestos removal and disposal operations, in accordance with OSHA Standards 29 CFR 1910.134(b), 1926.1101, and applicable state regulations. The Contractor shall ensure that all employee examination results are on file in his office and available for review and are maintained in accordance with OSHA Standard 29 CFR 1926.1101 (n) (3).
- E. Certificate of Worker's Release: Each asbestos abatement worker, workers of other trades, or any supervisory personnel who enter the work area, or otherwise contact ACM, shall submit a Certificate of Worker's Release, as required in the Section "Submittal".

1.13 TESTING AND INSPECTION REQUIREMENTS AND RESPONSIBILITIES:

Visual inspections and air monitoring will be performed before, during, and after asbestos abatement to document airborne asbestos fiber concentrations as defined in this specification.

- A. CCSD's Responsibilities:
1. CCSD will employ an Environmental Consultant to perform Project Monitoring and air testing. The project monitor will have the authority to approve the contractor's work, stop the contractor's work and direct the contractor to take corrective actions where required.

2. Area air samples will be collected and analyzed using NIOSH Method 7400. Air samples will be collected during each shift as required by the regulations.
3. Clearance testing by Transmission electron microscopy (TEM) will be conducted as per AHERA regulations. Air samples will be collected to demonstrate final re-occupancy clearance for work areas within the building. The fiber concentration must comply with the specified clearance level as per AHERA and this specification. CCSD will provide for collection and analysis of one round of samples required to demonstrate clearance in each discrete work area.
4. CCSD's Environmental Consultant will perform inspections of the work area, as specified, upon request of the Contractor.

B. Contractor's Responsibilities:

1. TEM air samples which fail to meet the re-occupancy clearance standard shall be paid for by the Contractor. Should a delay occur, due to failure(s) of clearance air testing, all associated expenses such as TEM analysis, and the Environmental Consultant's time for additional cleaning and air testing, shall be paid by the asbestos contractor. If results of the inside work area group of air samples are unsatisfactory, recleaning of regulated abatement work area surfaces using wet methods, followed by another drying time period and then collection and analysis of an additional set (both inside and outside work area samples) of clearance air samples is required. If only the results of the outside work area group of air samples is unsatisfactory, clean-up of surfaces outside of the regulated abatement work area using HEPA-vacuums and wet-cleaning methods shall be performed prior to collection and analysis of an additional group of outside work area clearance air samples as required by ICR 56 Section 56-9.2. This recleaning/clean-up and sampling process shall be repeated until satisfactory clearance air sampling results have been achieved for all asbestos project non-exempt regulated abatement work areas throughout the entire work site.
2. The Contractor, at his/her expense, shall provide OSHA monitoring and all other all tests required by specified applicable regulations, codes, and standards and any other tests for his/her use. The use of a testing laboratory by CCSD does not release the Contractor from providing tests required for the protection and safety of his/her employees.
3. The Contractor shall employ an independent testing laboratory for analysis of OSHA personal air monitoring samples. The laboratory used for air sample analysis shall be successfully participating in the "Proficiency Analytical Testing (PAT) Program for Laboratory Quality Control for

Asbestos." The monitoring shall be supervised by an Industrial Hygienist certified by the American Board of Industrial Hygiene (A.B.I.H.). Each testing laboratory shall be ELAP (Environmental Laboratory Accreditation Program) and NVLAP (National Voluntary Laboratory Accreditation Program) certified. CCSD shall approve the contractor's testing laboratory.

4. From each work area the Contractor, at his/her expense, shall collect and analyze OSHA personal air monitoring samples. Sampling shall be repeated during each different work activity. Sample collection and analysis shall be performed using the OSHA Reference Method as outlined in 29 CFR 1926.1101, Appendix A.
 5. Results of all air monitoring performed by the Contractor shall be posted within 24 hours for regular abatement project after collection for all workers to see. A copy of the results shall be given to the CCSD's Environmental Consultant at the same time.
 5. The Contractor shall be advised whenever questions arise concerning compliance with standards of quality and completeness of the work, and shall use his/her best efforts to resolve any such questions to the satisfaction of the CCSD's Environmental Consultant.
 6. Where air monitoring tests and/or inspections are specified, the Contractor shall notify CCSD's Environmental Consultant, in writing, 24 hours, in advance of the required test and/or inspection.
 8. The Contractor is responsible for ensuring the Work is complete to the level that meets the criteria of the inspection. The Contractor shall perform an inspection of the Work to evaluate completeness prior to requesting an inspection by the CCSD's Environmental Consultant.
- C. Time Requirements for CCSD's Environmental Consultant's Inspections and Testing: Where visual inspections or air testing is required to be performed by the CCSD's Environmental Consultant, the Contractor shall allow for the following response/analytical time for completion of the inspection/test.
1. Where visual inspections are required, allow 24 hours, beginning from the time the Contractor's request is received by the CCSD's Environmental Consultant, for the performance of the inspection.
 2. Where TEM clearance air monitoring tests are required, allow 24 hours, beginning from the time the Contractor's written request is received by the CCSD's Environmental Consultant, to the beginning of the air test.

PART 2 - PRODUCTS

2.01 MATERIALS: Materials provided under this section shall be standard products of manufacturers regularly engaged in the production of the items and shall conform to OSHA Standard 29 CFR 1926.1101; EPA Standard 40 CFR 61, Subpart M; Department of Transportation Standards 49 CFR 171, 172, and 173; applicable state regulations; and requirements specified herein. Materials listed under this section "or equal" shall be provided for work under contract.

- A. Plastic: Provide fire retardant plastic of 6-mil thickness shall be provided in rolls of sizes which will minimize the frequency of joints. Fire retardant plastic sheet shall be used for plasticizing the enclosed work area, for preparation of the decontamination enclosure system, and for waste packaging.
- B. Reinforced Fire Retardant Plastic: Provide reinforced polyethylene sheet for the floor area of the decontamination enclosure system. Reinforced plastic sheet provided for this project shall be a 19 mil, 3-ply, high density flame resistant-reinforced-polyethylene sheet. Plastic color shall be opaque.
- C. Duct Tape: Duct tape shall be capable of sealing joints of adjacent sheets of plastic and of attaching plastic sheeting to finished surfaces without damage to existing finish and shall be capable of adhering under both dry and wet conditions, including use of amended water
- D. Surfactant: Surfactant (Wetting Agent) shall consist of resin materials in a water base, which have been tested to ensure materials are non-toxic and non-hazardous. Surfactants shall be installed according to the manufacturer's written instructions.
- E. Lockdown Encapsulants: Encapsulants used after asbestos removal to lockdown fugitive fibers shall carry a Class "A" fire resistance rating and shall have an ASTM E-162 flame spread index of 15 or less. A tint shall be given to the encapsulant by means of the addition of non-toxic, nonflammable colorings before application. The encapsulant shall be installed according to the manufacturer's written instructions.
- F. Caulking Sealant: Caulking sealant shall be single component, non-sag elastomer with 1600% elongation capacity. Sealant shall meet the requirements of Federal Specification TT-S-00230C, Class A Type II. Sealant shall be used to form an airtight seal around plywood barriers or temporary partitions, to seal along the seams of the decontamination enclosure system's plywood sheathing, and to seal around piping or other small penetrations of the work area. Sealant application shall be according to the manufacturer's written instructions.

- G. Foam Sealant: Foam Sealant shall be expanding urethane Class 1 foam sealant with an Underwriters Laboratories, Inc. (U.L. 723) flame spread index of 25 or less, smoke developed index of 0, and a minimum operating temperature range between -30°F and 250°F.
- H. Plywood: Plywood used for temporary partitions, decontamination enclosure systems, and tunnels shall be an exterior grade and a minimum 3/8-inch thick.
- I. Spray Adhesive: Spray Aerosol Adhesive shall be specially formulated to stick to sheet polyethylene (3M 76, 3M 77, or equivalent).
- J. Other Materials: All other materials, such as lumber, plywood, tools, scrapers, brushes, cleaning materials, adhesive, nails, hardware, etc., which are required to perform the work described in this Section shall be provided. Materials and equipment shall be new or used, uncontaminated by asbestos, in serviceable condition, and appropriate for the intended purpose.
- K. Disposal Bags: Plastic Disposal Bags shall be a minimum of six mils in thickness. Bags shall be labeled in accordance with this Section.
- L. Shipping Containers: Impermeable Containers shall be suitable to receive and retain any asbestos-containing or asbestos-contaminated materials until they are disposed of at an approved landfill. The containers shall be labeled in accordance with this Section. Containers shall be both airtight and watertight and conform to DOT Standard 49 CFR 178.224. Each container shall be constructed of fiber, hard plastic, or metal, with locking, airtight lids.

- L. Shipping Containers: Impermeable Containers shall be suitable to receive and retain any asbestos-containing or asbestos-contaminated materials until they are disposed of at an approved landfill. The containers shall be labeled in accordance with this Section. Containers shall be both airtight and watertight and conform to DOT Standard 49 CFR 178.224. Each container shall be constructed of fiber, hard plastic, or metal, with locking, airtight lids.
- M. Markings and Labels: Disposal bags and shipping containers shall bear danger labels, transportation packaging labels, and generator identification information. Labels shall be permanently affixed to all bags and shipping containers containing ACM, in accordance with OSHA Standard 29 CFR 1926.1101(k)(2), DOT Standard 49 CFR Part 171 and 172, and EPA Standard 40 CFR Part 61.150(a)(1)(v).

1. Danger label format and color shall conform to OSHA Standard 29 CFR 1926.200. Danger labels shall display the following legend/information:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG
DISEASE HAZARD

2. DOT Marking and Labels: Markings and labels shall be permanently affixed to all bags and containers containing ACM, in accordance with DOT 49 CFR 172.304 and 172.407.

- a. Markings shall display the following text:

RQ, ASBESTOS, NA 2212

- b. Labels shall be diamond shape and shall be located near the Marking text. Labels will consist of a diamond a minimum of 100 millimeters (mm) on each side with each side having a solid line inner boarder 5.0 to 6.3 mm from the edge. The label shall be white with seven black vertical stripes on the top half. Black stripes and white spaces shall be equally spaced. The lower half of the label shall be white with the class number "9" underlined and centered at the bottom. Refer to DOT 40 172.446 for label format.
3. Generator identification information shall be affixed to each DOT label format and color shall conform to DOT Standard 49 CFR 172.304. Generator identification information labels shall display the following legend/information:

GENERATOR'S NAME

GENERATOR'S 24 HOUR PHONE
GENERATOR'S FACILITY ADDRESS

- N. Reuse of Containers: If impermeable containers used to transport bagged asbestos waste to the landfill are to be reused, the empty containers shall display the following label:

RESIDUE:
LAST CONTAINED ASBESTOS RQ

- O. Warning Signs: Warning Signs shall be posted at the perimeter of the work area prior to abatement operations in accordance with OSHA Standard 29 CFR 1926.1101. Danger sign format and color shall conform to OSHA Standard 29 CFR 1926.200. The signs shall display the legend indicated below:

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE
CLOTHING ARE REQUIRED IN THIS AREA

- P. Mastic remover. The contractor shall use an odorless mastic remover. Manufacture and brand of mastic remover shall be approved by the Facility prior to commencing removal work.

2.02 EQUIPMENT: Equipment provided under this section shall conform to applicable federal and state regulations, local codes, and the requirements specified herein.

- A. Spraying Equipment: Equipment used to apply amended water or removal encapsulant shall be of a low pressure type to prevent disturbance of the asbestos prior to physical controlled removal. Airless spray equipment shall be provided for the application of asbestos encapsulant.
- B. Vehicles: Trucks or Vans used for the transportation of asbestos waste shall be enclosed and suitable for loading, temporary storage, transit, and unloading of asbestos-contaminated waste without exposure to persons or property.
- C. Fall Protection Equipment: Certified and approved equipment to be used by trained personnel when working at elevation to protect against falling from an elevated work area.
- D. Fire Extinguisher: Type "ABC" dry chemical extinguisher or a combination of several extinguisher of NFPA recommended types for the fire hazard exposures in each extinguisher location shall be provided. Minimum size of extinguisher shall be 4-A, and 40-B:C. Supply a minimum of one extinguisher for every 1,000

square feet of floor area, with a maximum travel distance to an extinguisher of 75-feet. Supply at least one extinguisher in each decontamination enclosure equipment room, and clean room. Supply 2 additional extinguishers inside the work area

- E. Smoke Detectors: Smoke detectors of the battery powered ionization type will be required at a rate of one per 5,000 square feet, with a minimum of one smoke detector in the decontamination enclosure clean room, and one in the work area.
- F. Water Filtration System: A system capable of filtering and retaining particles larger than 5.0 microns in size shall be provided.
- G. Carts: Provide water tight wheeled carts with tight fitting lids suitable for movement of non-contaminated waste or bagged asbestos waste from the decontamination enclosure system to the waste storage container or transport vehicle.
- H. Power Tools: Provide power tools necessary to complete the Work. Power tools used directly for asbestos removal shall be equipped with a dust collection system. Attach a shroud connected to a HEPA vacuum system for capture of dust.

2.03 WORKER PROTECTIVE CLOTHING AND EQUIPMENT: Protective clothing and equipment shall conform to OSHA Standard 29 CFR 1926.1101.

- A. Protective Clothing: Workers shall be provided with sufficient sets of properly fitting, full-body, disposable coveralls, head covers, gloves, and 18-inch high boot-type foot covers. Disposable coveralls, head covers, and 18-inch high boot-type foot covers shall be constructed of material equal to DuPont "TYVEK-Type 14" or Kimberly-Clark "Kleenguard", as a minimum requirement.
 - 1. The Contractor shall provide authorized visitors and the CCSD's Environmental Consultant suitable properly fitting protective disposable clothing, headgear, hard hats, eye protection, respiratory protection, and footwear (up to four sets per 8-hour shift) whenever they are required to enter the work area.
- B. Equipment: Eye protection and hard hats required for job conditions or by applicable safety regulations shall be provided.

- C. Respiratory Protection: The Contractor shall be solely responsible for providing adequate respiratory protection at all times for all individuals in the work area. Types of respirators used shall be approved by MSHA/NIOSH for asbestos in accordance with OSHA Standard 29 CFR 1926.1101 and 29 CFR 1910.134. The Contractor shall provide a level of respiratory protection which supplies an airborne fiber level inside the respirator below 0.01 fibers per cubic centimeter (f/cc), as the minimum level of protection allowed. Determine the proper level of protection by dividing the actual airborne fiber count in the work area by the "protection factors" given below for each respirator type:

<u>Respirator Type</u>	<u>Protection Factor</u>
Air purifying: Negative-pressure respirator, High efficiency HEPA filter, Half-facepiece	10
Air purifying: Negative-pressure respirator, High efficiency HEPA filter, Full-Facepiece	50 (quantitative)
Powered air purifying (PAPR): Positive pressure respirator High efficiency HEPA filter, Full-facepiece	1000
Type C supplied air: Positive-pressure respirator, Pressure-demand, Full-facepiece HEPA escape	1000
Type C supplied air: Positive-pressure respirator, Pressure-demand, Full-facepiece HEPA escape	1000
Type C supplied air: Pressure-demand, Full-facepiece equipped with an auxiliary SCBA	1000

1. The Contractor shall provide workers with individually issued and marked respiratory equipment. Respiratory equipment shall be suitable for the asbestos exposure level(s) in the work area(s), as specified in OSHA Standard 29 CFR 1926.1101, and as more stringently specified otherwise, herein.
2. During the use of supplied air systems the Contractor shall provide authorized visitors, CCSD's Environmental Consultant, and the testing laboratory representative with individually issued and marked respiratory equipment (up to six units). Respiratory equipment shall be compatible with the supplied air system in use, and shall be suitable for the asbestos exposure level(s) in the work area(s), as specified in OSHA Standard 29 CFR 1926.1101, and as more stringently specified otherwise, herein.
3. Where respirators with disposable filter parts are employed, the Contractor will provide sufficient filter parts for replacement as necessary or as required by the applicable regulation.
4. Breathing air supply systems shall conform to the USEPA NIOSH Document EPA-560-OPTS-86-001 (September 1986) entitled "A Guide to Respiratory Protection for the Asbestos Abatement Industry."
5. The Contractor shall have a minimum of two spare air hoses with connectors to permit the CCSD's Environmental Consultant or testing laboratory's representative to connect his/her assigned Type C respirator to the air system at any time without having to wait for personnel to exit the work area in order to obtain a spare hose.

PART 3 - EXECUTION

3.01 DECONTAMINATION ENCLOSURE SYSTEMS:

- A. Personal decontamination system enclosures shall be constructed and functional prior to commencing the regulated abatement work area preparation activities. Waste decontamination system enclosures shall be constructed and functional at the completion of preparation activities. After installation of the personal decontamination system enclosure, all access to the regulated abatement work area shall be via the installed personal decontamination system enclosure.
- B. Personal Decontamination System Enclosure - Large Project.
 - (1) Enclosure – General. A personal decontamination system enclosure shall be provided outside the regulated abatement work area and in close proximity to all locations where personnel shall enter or exit the regulated abatement work area. One personal decontamination enclosure system for each regulated abatement work area shall be required. This system may

utilize adequate existing lighting sources separate from the decontamination system enclosure, or shall be supplied with a GFCI protected temporary lighting system. The personal decontamination system enclosure shall be sized to accommodate the number of workers and equipment required for the intended purpose. Such system may consist of existing attached rooms outside of the regulated abatement work area, if the layout is appropriate, that can be plasticized and are accessible from the regulated abatement work area. When this situation does not exist, personal decontamination enclosure systems may be constructed of metal, wood or plastic supports covered with fire-retardant plastic sheeting. A minimum of one (1) layer of six (6) mil fire-retardant plastic sheeting shall be installed on the ceiling, and walls of the enclosure system. At least two (2) layers of six (6) mil fire-retardant reinforced plastic sheeting shall be used for flooring protection of this area. This system must be kept clean, sanitary and climate controlled at all times in conformance with all federal, state and local government requirements. This system shall remain on-site, operational and be used until completion of Phase II C of the asbestos project.

- (2) Rooms and Configuration. The personal decontamination system enclosure shall consist of a clean room, a shower room and an equipment room connected in series but separated from each other by airlocks. There shall be a curtained doorway separation between the equipment room and the regulated abatement work area, and there shall be a lockable door to the outside. (See Figure 1 within ICR 56) Minimum dimensions for each airlock, shower room and equipment room shall be three (3) feet wide by six (6) feet in height, to allow for adequate access to and from the regulated abatement work area.
- (3) Curtained Doorway. An assembly which consists of at least three (3) overlapping sheets of six (6) mil fire retardant plastic over an existing or temporarily framed doorway. One sheet shall be secured at the top and left side, the second sheet at the top and right side, and the third sheet at the top and left side. All sheets shall have weights attached to the bottom to insure that the sheets hang straight and maintain a seal over the doorway when not in use.
- (4) Framing. Enclosures systems accessible to the public shall be fully framed, hard-wall sheathed and utilize a lockable door for safety and security.
- (5) Sheathing. A plywood or oriented strand board (OSB) sheathing material of at least 3/8-inch thickness.
- (6) Plastic Sheeting. Enclosure systems constructed at the work site shall use at least one (1) layer of six (6) mil fire-retardant plastic sheeting on walls and ceiling. At least two (2) layers of six (6) mil fire-retardant reinforced plastic sheeting shall be used for floor protection of this area.

- (7) Prefabricated or Trailer Units. A completely watertight fiberglass or marine painted prefabricated unit does not require plasticizing. Rooms shall be configured as per paragraph (2) of this Section. All prefabricated or trailer decontamination units shall be kept in good condition, and shall be completely decontaminated after final cleaning and immediately prior to clearance air sampling. Upon receiving satisfactory clearance air results, the prefabricated units shall be sealed then separated from the regulated abatement work area and removed from the site.
- (8) Clean Room. The clean room shall be sized to accommodate a full workshift of asbestos abatement contractor personnel, as well as the air sampling technician and the project monitor. The clean room shall be a minimum of six (6) feet in height. A minimum of thirty-two (32) square feet of floor space shall be provided for every six (6) full shift abatement workers, calculated on the basis of the largest work shift. If the largest work shift consists of three (3) or less full shift abatement workers, the minimum clean room size requirement is reduced to twenty-four (24) square feet of floor space. Benches, lockers and hooks shall be provided for street clothes. Shelves for storing respirators shall be provided. Clean clothing, replacement filters for respirators, towels and other necessary items shall be provided. The clean room shall not be used for storage of tools, equipment or materials. It shall not be used for office space. A lockable door shall be provided to permit access to the clean room from outside the regulated abatement work area or enclosure and shall be used to secure the regulated abatement work area and decontamination enclosure during non-work hours.
- (9) Shower Room. The shower room shall contain one (1) shower per every six (6) full shift abatement workers, calculated on the basis of the largest work shift. Multiple showers shall be simultaneously accessible (installed in parallel) to certified personnel. Each showerhead shall be supplied with hot and cold water adjustable at the tap. The shower enclosure shall be constructed to ensure against leakage of any kind. Uncontaminated soap, shampoo and towels shall be available at all times. Shower water shall be drained, collected and filtered through a system with at least 5.0-micron particle size collection capability. Submersible pumps shall be installed, maintained and utilized in accordance with pertinent OSHA regulations and manufacturer's recommendations. A multi-stage filtering system containing a series of several filters with progressively smaller pore sizes shall be used to avoid rapid clogging of the filtering system by larger particles. Filtered wastewater shall be discharged in accordance with applicable codes. Contaminated filters shall be disposed of as asbestos-contaminated waste.
- (10) Equipment Room. The equipment room shall be used for the storage of decontaminated equipment and tools. A one (1) day supply of replacement filters for HEPA-vacuums and negative pressure ventilation equipment in sealed containers, extra tools, containers of surfactant and other materials and equipment that may be required during the abatement project may also

be stored here. A container lined with a labeled, at least six (6) mil plastic bag for collection of clothing shall be located in this room. Contaminated footwear and work clothes shall be stored in this area.

- (11) Airlocks. Airlock construction shall consist of two (2) curtained doorways with three (3) alternating six (6) mil fire retardant polyethylene curtains per doorway, separated by a distance of at least three (3) feet, such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the next doorway. Minimum airlock size shall be three (3) feet wide, by three (3) feet long, by six (6) feet in height.

C. Personal Decontamination System Enclosure - Small Project

- (1) Enclosure Requirements. A personal decontamination system enclosure for a Small asbestos project shall consist of, at a minimum, an equipment room, a shower room and a clean room separated from each other and from the regulated abatement work area and other areas by curtained doorways as defined in ICR 56 Section 56-2.1. All other provisions for personal decontamination system for a Large asbestos project shall apply. Equipment storage, personal gross decontamination and removal of clothing shall occur in the equipment room just prior to entering the shower. (See Figure 4 in the ICR 56) The full personal decontamination system enclosure specified for Large asbestos projects is recommended.

- D. Remote Personal Decontamination System Enclosure. If a personal decontamination system cannot be attached to the regulated abatement work area, due to available space restrictions or other building and fire code restrictions, a remote personal decontamination system enclosure may be used for limited Special Projects as per subpart 56-11, negative pressure tent enclosure work areas with glovebag only abatement, or if non-friable ACM is being removed in a manner which will not render the ACM friable.

Limitation. If it is found during removal, that the non-friable ACM or asbestos material will become friable during the removal process, and it is logistically possible to attach the decontamination system enclosure, abatement work must stop immediately while the remote personal decontamination system is relocated to be attached and contiguous to the regulated abatement work area.

The following requirements apply for all remote personal decontamination systems:

- (1) Protective Clothing. Workers shall don two (2) sets of disposable protective clothing and a supply of protective clothing shall be kept in the airlocks attached to the regulated abatement work area.
- (2) Location. The remote personal decontamination system shall be constructed as close to the regulated abatement work area as physically

- possible. If the remote personal decontamination system must be located at the exterior of the building/structure due to space or code restrictions, it shall be constructed within fifty (50) feet of the building/structure exit used for access by the asbestos abatement contractor personnel. The decontamination unit shall be cordoned off at a distance of twenty-five (25) feet to separate it from public areas.
- (3) Airlocks. At a minimum, two (2) extra airlocks as defined in ICR 56 Section 56-2.1 shall be constructed as per ICR 56 Section 56-7.5(b)(11). One shall be constructed at the entrance to the equipment room or equipment/washroom. The other extra airlock shall be constructed at the entrance to the containment or regulated abatement work area(s). These airlocks shall have lockable doorways at the entrance to the airlock from uncontaminated areas. These airlocks shall be cordoned off at a distance of twenty-five (25) feet and appropriately signed in accordance with ICR 56 Section 56-7.4(c). Airlocks shall not be used as a waste decontamination area and shall be kept clean and free of asbestos containing material.
 - (4) Designated Pathway. The walkway from the regulated abatement work area to the personal decontamination system or next regulated abatement work area shall be cordoned off and signage installed as per ICR 56 Section 56-7.4(c), to delineate it from public areas while in use during Phase IIA through IID.
 - (5) Travel Through Uncontaminated Areas. If at any time a worker must travel through an uncontaminated area to access the personal decontamination area, the worker shall HEPA-vacuum and/or wet wipe his/her outer protective clothing while in the regulated abatement work area, then proceed into the airlock, which serves as a changing area, where he/she shall remove the outer clothing and don a clean set of protective clothing. The worker may then proceed to the personal decontamination system enclosure only along a designated pathway as described above. Travel in any other area shall not be allowed.
 - (6) Removal. The remote personal decontamination unit shall be removed only after satisfactory clearance air sampling results have been achieved.

E. Waste Decontamination System Enclosure - Large and Small Asbestos Projects.

- (1) Enclosure – General. A waste decontamination system enclosure shall be provided outside the regulated abatement work area and shall be attached to the regulated abatement work area. One (1) waste decontamination enclosure for each regulated abatement work area shall be required. This system may utilize adequate existing lighting sources separate from the decontamination system enclosure, or shall be supplied with a GFCI protected temporary lighting system. The waste decontamination system enclosure shall be sized to

accommodate the number of workers and equipment for the intended purpose. Such system may consist of existing attached rooms outside of the regulated abatement work area, if the layout is appropriate, that can be plasticized and are accessible from the regulated abatement work area. When this situation does not exist, enclosure systems may be constructed of metal, wood or plastic supports covered with fire-retardant plastic sheeting. A minimum of one (1) layer of six (6) mil fire-retardant plastic sheeting shall be installed on the ceiling, and walls of the enclosure system. At least two (2) layers of six (6) mil fire-retardant reinforced plastic sheeting shall be used for flooring protection of this area. This system must be kept clean, sanitary and climate controlled at all times in conformance to all federal, state and local government requirements. This system shall remain and be used until completion of Phase II C of the asbestos project.

- (2) Rooms and Configuration. A waste decontamination system enclosure shall consist of a washroom and a holding area connected in series but separated from each other by an airlock. There shall be a lockable door to the outside, and there shall be a curtained doorway between the washroom and the regulated abatement work area. (See Figure 2 in the ICR 56)
- (3) Curtained Doorway. An assembly which consists of at least three (3) overlapping sheets of six (6) mil fire retardant plastic over an existing or temporarily framed doorway. One (1) sheet shall be secured at the top and left side, the second sheet at the top and right side, and the third sheet at the top and left side. All sheets shall have weights attached to the bottom to insure that the sheets hang straight and maintain a seal over the doorway when not in use.
- (4) Washroom. A room/chamber between the regulated abatement work area and the holding area in the waste decontamination system enclosure, where equipment and waste containers are wet cleaned or HEPA-vacuumed. Adequate drainage and bag/container wash water shall be provided within the room/chamber, as well as a sufficient quantity of clean waste bags/containers.
- (5) Equipment/Washroom Alternative. Where there is only one (1) exit from the regulated abatement work area, the holding area of the waste decontamination system enclosure may branch off from the equipment room of the personal decontamination system enclosure. The equipment room will also be used as a waste washroom. (See Figure 3 in the ICR 56)
- (6) Plastic Sheeting. Waste decontamination system enclosures constructed at the work site shall use at least one (1) layer of six (6) mil fire-retardant plastic sheeting on walls and ceiling. At least two (2) layers of six (6) mil fire-retardant reinforced plastic sheeting shall be used for flooring protection of these areas.
- (7) Enclosure Security. The waste decontamination system enclosure and regulated abatement work area airlock(s) (when remote

decontamination systems are used) shall be constructed with lockable doors to prevent unauthorized entry. Enclosures systems located within twenty-five (25) feet of an area of public access shall be fully framed and hard-wall sheathed for safety.

- (8) Drains. The waste washroom shall be equipped with a wash bin of sufficient size to perform waste container washing operations and shall have a submersible pump installed to collect waste water and deliver it to the shower wastewater filtration system where it shall be filtered in accordance with paragraph (b)(9) of this Section.
- (9) Shower/Washroom Alternative - Small Asbestos Project. For Small asbestos projects with only one (1) exit from the regulated abatement work area, the shower room may be used as a waste washroom. The clean room shall not be used for waste storage, but shall be used for waste transfer to carts, which shall be immediately removed from the enclosure. Waste shall be transferred only during times when the showers are not in use. (See Figure 4 in this Section)

F. Waste Decontamination System Enclosure – When Remote Personal Is Allowed. When a remote personal decontamination system enclosure is allowed and utilized for a regulated abatement work area, the following requirements shall apply:

- (1) Minor Size Regulated Abatement Work Area. No specific waste decontamination system enclosure is required for minor size regulated abatement work areas. The waste generated shall be immediately bagged/containerized within the regulated abatement work area.
- (2) Small & Large Size Regulated Abatement Work Areas.
 - (i) Washroom. An additional chamber shall be constructed within the regulated abatement work area, attached to the existing airlock used to access the work area. The washroom/airlock combination shall be utilized as the contiguous waste decontamination enclosure for waste bagging/containerization and waste transfer activities. The washroom shall be constructed and supplied with equipment/materials consistent with waste decontamination system enclosure washroom requirements for contiguous personal and waste decontamination system enclosures.
 - (ii) Removal. The washroom chamber shall be removed only after satisfactory clearance air sampling results have been achieved.

3.02 PERSONNEL PROTECTION AND DECONTAMINATION PROCEDURES:

- A. General: The Contractor shall take all safety measures and precautions necessary to protect his/her employees and building occupants in accordance with OSHA Standard 29 CFR 1926, EPA Standard 40 CFR, Part 61, Subpart M, and applicable state and city regulations. The Contractor shall be solely responsible for enforcing personnel protection requirements.
1. After the installation of the personal decontamination system, full PPE in compliance with current OSHA regulations shall be worn in regulated abatement work areas during preparation activities, for all friable OSHA Class I or Class II asbestos projects. Asbestos abatement contractor's respirator selection, filter selection, medical surveillance and respiratory training must be consistent with current OSHA regulations. Appropriate respiratory protection is also required of all authorized visitors.
 2. Workers or authorized visitors shall not eat, smoke, drink, or chew gum or other substances while in the work area(s) or decontamination area(s).
 3. Contaminated worker footwear, eye protection, and hard hats shall be stored in the equipment room when not in use in the work area and, upon completion of asbestos abatement, disposed of as asbestos-contaminated waste or decontaminated for reuse.
 4. Entry to the personal and waste decontamination system enclosures shall be restricted to the asbestos contractors involved with the asbestos project, appropriately certified employees of the asbestos contractors, authorized visitors, police, fire and other public safety personnel.
 5. Asbestos workers shall not wear any jewelry; e.g. watch, necklace, etc. while in the work area or decontamination area.
- B. Worker Respiratory Protection: With approval from the CCSD's Environmental Consultant, historical airborne fiber level data may serve as the basis for selection of the level of respiratory protection to be used for the time interval prior to the Contractor establishing the eight-hour time weighted average (TWA) for an abatement task. Historical data provided by the Contractor shall be based on OSHA personal air monitoring of the "breathing zone" of his/her employees for other asbestos abatement projects, and the data were obtained during work operations conducted under work place conditions closely resembling the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the Contractor's current operations. Documentation of aforementioned results shall be presented to the CCSD's Environmental Consultant for review of applicability. (See "Submittal, Pre-Project Information." This will not relieve the Contractor in providing personal air monitoring to determine the TWA for the work under contract. The TWA shall be determined in accordance with 29 CFR 1926.1101. After the TWA is

established, the Contractor may provide respirators as presented in the Specification. The minimum level of protection for TSI and/or Surfacing Materials abatements is full face-piece Powered Air Purifying Respirator (PAPR).

1. Review safety data sheets (SDS) for products to be used during the work. Follow recommendations as given by the product manufacturer for personnel protection required to be worn during product application.
2. Personal Air Monitoring Requirements: The Contractor's CIH shall be responsible for development and implementation of a personal air monitoring program in accordance with OSHA Standard 29 CFR 1926.1101, good industrial hygiene practices, and the requirements herein. Personal air monitoring shall be performed by an independent testing laboratory and supervised by the Contractor's CIH. Documentation of air sampling shall include as a minimum, calculations of minimum sample volume to achieve necessary detection limits; sampling time; sampling location (or subject); evidence of periodic inspection of sampling equipment; documentation of daily pre- and post-calibration of sampling equipment; detailed description of worker protective devices; description of any typical environmental conditions; and a description of work practices/procedures/controls in operation during the sampling period. Documentation of sample analysis shall include, as a minimum, sample identification; total sample duration, sample flow rate; the "Limit of Reliable Quantification"; total air volume; total fibers counted (with work sheets); total fields counted; blank filter analysis; and reticule field area. Airborne fiber concentrations in fibers per cubic centimeter (f/cc) shall be calculated and reported at the 95 percent confidence level.
3. Full-shift personal exposure air sampling of workers shall be performed to establish the 8-hour (TWA) exposure. Such sampling shall be conducted for each employee (or representative group of employees, at least one sample per eight man crew) expected to evidence the highest exposure in each work area for each type of activity on the first shift that site preparation, removal, or cleanup activities occur. Similarly, 30-minute personal exposure air sampling shall be conducted during activities anticipated to produce the highest airborne concentrations to determine the Excursion Limit. Personal exposure sampling shall be repeated everyday as per protocol requirements where removal and cleanup operations are conducted for the duration of the project, or at any time that conditions indicate to the Contractor or the Contractor's CIH that the most recent personal sampling results are no longer indicative of employee exposure. PCM personal samples shall be collected and analyzed according to the OSHA Reference Method in OSHA Standard 29 CFR 1926.1101, Appendix B.

C. **Personnel Entrance and Decontamination Procedures for Gross Removal Operations Utilizing NYSDOL ICR 56-11.7 for Non Friable Exterior or Flooring and/or Mastic Removal at the Facility:** The following entry/exit procedures shall be used for gross removal:

1. All workers and authorized visitors shall enter the work area through the worker decontamination enclosure system.
2. All individuals who enter the work area shall sign the entry log, located in the clean room, upon each entry and exit. The log shall be permanently bound and shall identify fully the facility, agents, contractor(s), the project, each work area and worker respiratory protection employed. The site supervisor shall be responsible for the maintenance of the log during the abatement activity.
3. Each worker or authorized visitor shall, upon entering the job site, remove street clothes in the clean room and put on a clean respirator (with new filters, if appropriate) and clean protective clothing before entering the work area through the shower room and equipment room.
4. Each worker or authorized visitor shall, each time he/she leaves the work area: remove gross contamination from clothing before leaving the work area; proceed to the equipment room and remove all clothing except the respirator; still wearing the respirator, proceed to the shower room; clean the outside of the respirator with soap and water while showering; remove filters, wet them, and dispose of them in the container provided for that purpose; wash and rinse the inside of the respirator; and thoroughly shampoo and wash himself/herself.
5. Following showering and drying off, each worker or authorized visitor shall proceed directly to the clean room, dress in street clothes, and exit the decontamination enclosure system immediately. Disposable clothing of the type worn inside the work area is not permitted outside the work area.

D. **Personnel Entrance and Decontamination Procedures for Gross Removal Operations Utilizing Full Decontamination Facility:** The following entry/exit procedures shall be used for gross removal using full containment.

1. All workers and authorized visitors shall enter the work area through the worker decontamination enclosure system.
2. All individuals who enter the work area shall sign the entry log, located in the clean room, upon each entry and exit. The log shall be permanently bound and shall identify fully the facility, agents, contractor(s), the project, each work area and worker respiratory protection employed. The

site supervisor shall be responsible for the maintenance of the log during the abatement activity.

- 3 Each worker or authorized visitor shall, upon entering the job site, remove street clothes in the clean room and put on a clean respirator (with new filters, if appropriate) and clean protective clothing before entering the work area through the shower room and equipment room.
- 4 Each worker or authorized visitor shall, each time he/she leaves the work area: remove gross contamination from clothing before leaving the work area; proceed to the equipment room and remove all clothing except the respirator; still wearing the respirator, proceed to the shower room; clean the outside of the respirator with soap and water while showering; remove filters, wet them, and dispose of them in the container provided for that purpose; wash and rinse the inside of the respirator; and thoroughly shampoo and wash himself/herself.
- 5 Following showering and drying off, each worker or authorized visitor shall proceed directly to the clean room, dress in street clothes, and exit the decontamination enclosure system immediately. Disposable clothing of the type worn inside the work area is not permitted outside the work area.

3.03 PREPARATION OF WORK AREA: The following Paragraph "General Preparations" outlines procedures applicable to all work areas. Work procedures specific for preparing each asbestos removal area is addressed in its respective Subparagraph. If a site specific variance is approved, procedures outlined in the variance will supercede this specification.

A. **General Preparations:** The following general preparations shall be used for all work areas being abated:

1. Erect barricades; post notices and warning signs.
2. Provide and install decontamination enclosure systems in accordance with Article 3.01, "Decontamination Enclosure Systems" of this Section.
3. Seal drains and other collection devices with 6-mil plastic and plywood, as necessary, and provide a system to collect all water used by the Contractor. Collected water shall be passed through a water filtration system prior to being discharged into the sanitary sewer.
4. Ensure that the Contractor's approved Fall Protection Equipment (if applicable) is in place, in operating condition, and in operation during work described in this section.

5. Maintain emergency and fire exits from the work areas or establish alternative exits satisfactory to the local fire officials. Emergency exits and routes shall be established and clearly marked with florescent paint or other effective designations to permit easy location from anywhere within the work area. Emergency exits shall be secured to prevent access from uncontaminated areas and yet permit emergency exiting. Exits shall be checked daily against exterior blockage or impediments to exiting.
6. Temporary lighting within the work area and decontamination system shall be provided as required to achieve minimum illumination levels.
7. Hand power tools used to drill, cut into, or otherwise disturb ACM shall be equipped by manufacture with HEPA filtered local exhaust ventilation.
8. Hot and cold water may not be available in all work areas. In such cases sufficient heating equipment shall be provided to maintain a necessary supply of hot water for showers.

B. Exterior Project Removal of Non-friable ACM Gross Removal:

1. The immediate work area shall be considered to be the area from which the asbestos containing materials are actively being removed. The asbestos project regulated abatement work area shall extend twenty-five (25') feet from the perimeter of the immediate work area and shall have signage in accordance with Section 56-7.4. An airlock shall be required at the entrance to the regulated abatement work area to serve as a changing area, if the workers shall have to pass through enclosed publicly occupied space, such as from a roof through an interior stairway, to access the decontamination units.
2. Where the asbestos project regulated abatement work area extends outward twenty-five (25) feet and extends downward one (1) floor to encompass a passage or vehicular door which must be used for either a primary entrance or by an emergency vehicle, thereby precluding sealing such door, a tunnel structure (with sides and roof) built of plywood sheeting, covered with at least two (2) layers of at least six (6) mil plastic, shall extend outward twenty-five (25) feet horizontally from the line of vertical projection of the roof edge downward to grade level.
3. Regulated abatement work area preparation shall also comply with Sections 56-7.2, 7.3, 7.4, 7.5, 7.6, 7.7 and 7.9.
4. Isolation barrier partitions shall be constructed of wood or metal framing in all openings larger than thirty-two (32) square feet, except that where any one dimension is one foot or less, framing is not required. Existing walls or framing may be used to support isolation barrier partition framing and sheathing.

5. Removals without tents will require plasticizing or sealing of nearby windows within twenty-five (25) feet of the immediate work area, placement of dropcloths, plasticizing of a man-lift or scaffolding and other operational safeguards as outlined below.
6. For larger work area removals, any operable windows or openings to the building at the work level or on the floor below within twenty-five (25) feet of the immediate work area shall be plasticized with two (2) layers of six (6) mil fire retardant polyethylene sheeting. The windows can be plasticized outdoors, or for reasons of safety, from the indoors. Window, door and louver units subject to complete removal must have their openings plasticized at the interior of the building. Windows that are fixed or non-operable and that will remain sealed airtight for the duration of abatement activities, do not require installation of critical barriers.
7. Under areas where non-friable materials are removed without tents, a dropcloth, made of six (6) mil fire retardant polyethylene sheeting, shall be placed on the ground below the work area to prevent spread of any ACM remnants. This dropcloth shall be a minimum of ten (10) feet wide with an additional ten (10) feet of width for every floor above a 1st floor level where removal work will take place, up to a maximum of thirty (30) feet of width measured perpendicular to the building/structure. In addition, if a straight scaffolding, man-lift, swing scaffolding or similar equipment is used for areas above the 1st floor, the lift/scaffolding unit shall be plasticized with two (2) layers of six (6) mil fire retardant polyethylene on the platform, with plastic sheeting extended vertically to waist-high (as so equipped) guardrail sides and back of the lift unit. While the platform/lift walking surfaces must be plasticized, the asbestos abatement contractor must provide proper traction surfaces or equipment to assure the safety and comfort of abatement workers while performing abatement activities on the lift/scaffold equipment. After non-friable ACM is removed from each work location, the platform and plasticized surfaces toward the building shall be wet wiped and/or HEPA vacuumed clean before reuse. The plasticizing on the lift or scaffolding shall be periodically inspected during use and repaired as needed.

C. Friable Interior Asbestos-Containing Materials (Tent Enclosure):

1. Tent enclosure work areas shall at a minimum have decontamination areas installed and utilized, as per the requirements of Section 56-11.3.

2. Tents with greater than twenty (20) square feet of floor space, that are scheduled for gross removal of friable ACM, PACM, or asbestos material, shall be constructed of two (2) layers of six (6) mil fire-retardant plastic sheeting and shall include walls, ceiling and a floor (except for portions of walls, floors and ceilings that are the removal surface) with double folded seams. Seams shall be duct taped airtight and then duct taped flush with the adjacent tent wall.
3. Tents with no gross removal of friable ACM, PACM or asbestos material, shall be constructed of one (1) layer six (6) mil fire-retardant plastic sheeting and shall include walls, ceiling and a floor (except for portions of walls, floors and ceilings that are the removal surface) with double –folded seams. Seams shall be duct taped airtight and then duct taped flush with the adjacent tent wall.
4. Tents or tent-like structures or enclosures shall be adequately supported and reinforced to withstand local environmental conditions and the negative pressures developed within them.
5. An airlock shall be constructed as per Section 56-7.5(b)(11), at the entrance to each tent that utilizes remote decontamination system facilities. Each tent and airlock shall be cordoned off twenty-five (25) feet from its perimeter, or the interior space/room where the tent and airlock is located shall be secured from non-certified personnel or public access, and signage shall be installed as per Section 56-7.4(c).
6. Manometers consistent with the requirements of Section 56-7.8(a)(4), are required for negative pressure tent enclosure regulated abatement work areas with OSHA Class I 12 NYCRR 56 Subpart 7, Page 69 abatement. Negative air shall be maintained at four (4) air changes per hour for non-friable and glovebag abatement tent enclosure work areas. Eight (8) air changes shall be maintained for friable gross removal tent enclosure work areas. If a HEPA-filtered vacuum is used for a Minor size abatement tent enclosure work area to maintain the required air changes, after final cleaning is completed twenty (20) minutes shall elapse, then ventilation may be stopped, clearance air samples collected if required, and the tent sealed until results are read. If air sample results are unacceptable, ventilation shall be re-established, the area recleaned and new samples taken.

3.04 PRE-REMOVAL INSPECTIONS:

- A. Prior to removal of any ACM the Contractor shall notify the CCSD's Environmental Consultant and request a pre-removal inspection. Posting of warning signs, plasticizing of work area, building of decontamination enclosure systems, and all other preparatory steps have been taken prior to notification of CCSD's Environmental Consultant. The Contractor shall not begin asbestos removal until the CCSD's Environmental Consultant approves the work area preparations.

3.05 MAINTENANCE OF CONTAINED WORK AREA AND DECONTAMINATION ENCLOSURE SYSTEMS:

- A. Repair damaged barriers and remedy any defects immediately upon their discovery. Visually inspect barriers at the beginning and end of each work period.
- B. Visually inspect non-Work Areas and the decontamination enclosure system for water leakage. Check the floor below, ceiling and walls, and view beneath/or around the decontamination enclosure system, for signs of leakage. Perform the visual inspection a minimum of twice each 8- hour work shift.
- C. Ensure that both hot and cold water exist in sufficient supply for the decontamination enclosure system.

3.06 REMOVAL OF ASBESTOS-CONTAINING MATERIAL: The Asbestos Contractor shall be responsible for the proper removal of ACM from the Work Area using standard abatement industry removal techniques. The Environmental Consultant or their representative shall observe the Work. Approval of the Asbestos Contractor's abatement techniques is required by the Environmental Consultant to allow for the continuance of work.

1. Removal of asbestos-containing material using Exterior Project Removal Procedures (large projects).

- A. Prior to the placement of critical barriers, affected surfaces shall be pre-cleaned using HEPA-filtered vacuum equipment and wet cleaning methods. All openings within the regulated abatement work area shall be sealed with critical barriers installed as per Section 56-7.11(a), prior to beginning Phase II B activity on the project. The critical barriers shall be removed only after satisfactory clearance air sampling results have been obtained or the asbestos project is complete. The requirements of Section 56-7.11(b-e) do not apply. Additional requirements are as follows:
- B. Removals without tents will require plasticizing or sealing of nearby windows within twenty-five (25) feet of the immediate work area, placement of dropcloths, plasticizing of a man-lift or scaffolding and other operational safeguards as outlined below.

- C. For larger work area removals, any operable windows or openings to the building at the work level or on the floor below within twenty-five (25) feet of the immediate work area shall be plasticized with two (2) layers of six (6) mil fire retardant polyethylene sheeting. The windows can be plasticized outdoors, or for reasons of safety, from the indoors. Window, door and louver units subject to complete removal must have their openings plasticized at the interior of the building. Windows that are fixed or non-operable and that will remain sealed airtight for the duration of abatement activities, do not require installation of critical barriers.
- D. Under areas where non-friable materials are removed without tents, a dropcloth, made of six (6) mil fire retardant polyethylene sheeting, shall be placed on the ground below the work area to prevent spread of any ACM remnants. This dropcloth shall be a minimum of ten (10) feet wide with an additional ten (10) feet of width for every floor above a 1st floor level where removal work will take place, up to a maximum of thirty (30) feet of width measured perpendicular to the building/structure. In addition, if a straight scaffolding, man-lift, swing scaffolding or similar equipment is used for areas above the 1st floor, the lift/scaffolding unit shall be plasticized with two (2) layers of six (6) mil fire retardant polyethylene on the platform, with plastic sheeting extended vertically to waist-high (as so equipped) guardrail sides and back of the lift unit. While the platform/lift walking surfaces must be plasticized, the asbestos abatement contractor must provide proper traction surfaces or equipment to assure the safety and comfort of abatement workers while performing abatement activities on the lift/scaffold equipment. After non-friable ACM is removed from each work location, the platform and plasticized surfaces toward the building shall be wet wiped and/or HEPA vacuumed clean before reuse. The plasticizing on the lift or scaffolding shall be periodically inspected during use and repaired as needed.
- E. Removal of ACM shall utilize manual wet methods for all non-friable ACM removals, and rotating blade roof cutters for roofing removals, as applicable. In no event shall methods be used that may render the ACM friable.
- F. Residual non-friable ACM shall be wet scraped and HEPA vacuumed. Materials removed shall be containerized or immediately wrapped in two (2) layers of six (6) mil fire retardant plastic sheeting and secured air tight prior to transport to the waste decontamination facility.
- G. Under façade areas where non-friable ACM is to be removed

without tents, whenever possible, an asbestos handler (worker) with a HEPA vacuum will position the vacuum hose within four (4) inches of the material being removed to capture small pieces of non-friable ACM and asbestos fines. The hose end will be positioned so that as many smaller pieces of material as possible will fall into the vacuum hose end. Larger pieces of ACM should be immediately bagged or containerized.

- H. Asbestos containing materials will not be allowed to accumulate in the work area or on the drop cloth.
- I. In lieu of using an exterior chute as per Section 8.4(g), waste bags and containers may be lowered to the waste trailer/dumpster by crane or hoist using a temporary waste transfer container of adequate size and strength.

2. Removal of Interior Friable Asbestos-Containing Materials (Tent Enclosure):

- A. All persons shall don appropriate personal protective equipment before entering the tent in compliance with current OSHA regulations. Authorized visitors entering the tent shall also don NIOSH-approved respiratory protection.
- B. A HEPA-vacuum or other negative pressure HEPA-filtered ventilation equipment shall be used to continuously exhaust 12 NYCRR 56 Subpart 11, Page 100 the tent in accordance with Sections 56-7.8(a) and 56-7.11(f)(1).
- C. All material to be removed shall be saturated with amended water as specified in this Part.
- D. Asbestos material shall be removed and sealed in plastic bags prior to removal from tent. Edges of asbestos material remaining shall be encapsulated or sealed with wettable cloth.
- E. The substrate from which asbestos was removed and any exposed edges shall be sealed with encapsulant.

3. Additional Removal Requirements:

- A. CCSD's Environmental Consultant shall issue a stop work order if visible emissions are detected outside the work areas and/or should the fiber count in adjacent non-work areas exceed 0.01 f/cc of air or the background count (use the greater of these two values as the reference). Work shall not resume until the condition(s) causing

the increase are corrected, surfaces outside of the work area are decontaminated using HEPA vacuums or wet cleaning techniques and the Contractor receives written notice from CCSD's Environmental Consultant.

3.07 ACM WASTE PACKAGING AND LOAD OUT PROCEDURES:

- A. Packaging of ACM shall conform to OSHA Standard 29 CFR 1926.1101, DOT 49 CFR 171,172, and 173, EPA Standard 40 CFR Part 61, New York City Department of Sanitation (in relation to transport, storage, and disposal of ACM) and the requirement as heretofore specified. ACM waste shall be placed in a wet condition into properly labeled disposal bags or sealed in two layers of 6-mil plastic sheeting wrapped airtight and properly labeled. Materials to be transported through a non-Work Area building space shall be placed in hard wall shipping containers for handling. Specific requirements for decontamination of waste containers, and load out through the decontamination enclosure systems is outlined below:
- B. Frequency of Waste Removal: Properly packaged and labeled asbestos waste shall be removed from the site on a daily basis. Under no circumstance shall asbestos waste be stored on site. The waste hauler and landfill shall be as indicated on the notifications to regulatory agencies.
- C. Waste Load-out Through Waste Decontamination Unit: Place asbestos waste in disposal bags. Large items not able to fit into disposal bags shall be wrapped in one layer of 6-mil thick plastic sheeting. Clean outer covering of asbestos waste package by wet cleaning and/or HEPA vacuuming in a designated part of the Work Area. Move wrapped asbestos waste to the washroom, wet clean each bag or object and place it inside a second disposal bag, or a second layer of 6-mil plastic sheeting, as the item's physical characteristics demand. Air volume shall be minimized, and the bags or sheeting shall be sealed airtight with tape.
- D. The clean containerized items shall be moved directly to the Waste Hauler's truck pending load-out to storage or disposal facilities.
- E. Workers who have entered the decontamination enclosure system from the uncontaminated non-work area shall perform load-out of containers from the decontamination enclosure holding area. Dress workers asbestos waste to storage or disposal facilities in clean overalls of a color different than from that of coveralls used in the Work Area. Ensure that workers do not enter from uncontaminated areas into the equipment washroom or the Work Area. Ensure that contaminated workers do not exit the Work Area through the equipment decontamination enclosure system.
- F. Thoroughly clean the decontamination enclosure system immediately upon completion of the waste load-out activities, and at the completion of each work shift.

- G. Labeled ACM waste containers or bags shall not be used for non-ACM debris or trash. Any materials placed in labeled containers or bags, whether turned inside out or not, shall be handled and disposed of as ACM waste.

3.08 CLEANUP AND CLEARANCE TESTING OF WORK AREAS: The following clean-up procedures shall be performed during abatement.

- A. Visible accumulations of loose asbestos containing waste material shall be cleaned up using rubber or plastic dustpans and rubber squeegees or HEPA filtered vacuums. Metal shovels may also be used, except in the vicinity of plastic sheeting, critical barriers and isolation barriers, which could be perforated by these tools. To pick up excess water and gross wet debris, a wet-dry HEPA filtered shop vacuum dedicated to asbestos abatement may be used. This cleaning shall be done whenever there is sufficient asbestos waste material to fill a single leak-tight bag/container, or this cleaning shall be done at the end of each work shift whichever shall occur first. Visible debris shall be maintained adequately wet.
- B. Work shall stop whenever excessive water accumulation or flooding is present in the area and shall not resume until the water is collected and disposed of properly.

3.09 DISPOSAL AND TRANSPORTATION OF ASBESTOS-CONTAMINATED WASTE:

- A. Storage of Containerized ACM: As the work progresses, remove sealed and labeled bags of ACM from the Work Area and place in a lockable trailer, dumpster, or other container approved for storage or transport of asbestos waste. The waste container shall be lined with two layers of 6-mil fire retardant plastic on all sides. Asbestos-containing waste shall remain under the positive control of the Asbestos Contractor and must never be left unattended in an area or on a vehicle where unauthorized persons could gain access. Containerized ACM shall be removed from the site on a daily basis. Unless specifically approved in writing by the Owner, ACM shall not be permitted to be stored on site during non-working hours.
- B. Sealed and labeled bags or waste wrapped in two layers of plastic sheeting sealed airtight shall be used to transport asbestos-contaminated waste to the landfill. Procedures for hauling and disposal shall comply with 40 CFR, Part 61, 49 CFR, Part 171 and 172, and other applicable state, regional, and local government regulations. Procedures for removal from the Work Area and disposal of waste are outlined below:

- C. A properly completed and original "Waste Shipment Record" form shall accompany asbestos waste, which is transported to a disposal site. This form shall be signed and dated by each party who has control over the asbestos waste, and a copy retained by each party as responsibility for the waste is transferred to the next party. All original manifest forms and waste receipts shall be provided to the Architect. The Environmental Consultant shall be provided with copies of all waste manifests.
- D. Trucks hauling asbestos waste shall be totally enclosed to prevent loss or damage to waste container en-route to approved landfill. The interior of the vehicles shall be lined with two layers of 6-mil plastic.
- E. Mark with a visible warning sign during the loading and unloading of asbestos-containing waste all vehicles used to transport the waste material. Danger sign legend, text size, style and arrangement shall conform to the requirements of EPA Standard 40 CFR Part 61.149 (d) (I).
- F. Only sealed plastic bags or completely sealed items shall be deposited in landfill. Damaged, broken sealed windows or leaking plastic bags shall be resealed prior to being deposited in the landfill. Workers shall place asbestos waste in the landfill. Throwing or dumping of containers shall not be allowed. Workers unloading and handling the sealed bags/drums at the disposal site shall wear appropriate personnel protective equipment including respirators and protective clothing.
- G. After the vehicle is unloaded at the landfill, the plastic sheeting that was taped to the floor, sides and top of the truck shall be carefully removed and placed in properly labeled bags for disposal with the rest of the waste.

END OF SECTION

LIST OF SUBMITTALS

SUBMITTAL
APPROVED

DATE SUBMITTED

DATE

Pre-Project Submittal:

1.	Insurance	_____	_____
2.	All required bonds	_____	_____
3.	List of Subcontractors	_____	_____
4.	Health and Safety Plan	_____	_____
5.	Proof that all required permits and variances have been obtained	_____	_____
6.	Documentation of Required Qualifications of Workers	_____	_____
7.	Proof of a respiratory protection program.	_____	_____
8.	Proof of historic airborne fiber data.	_____	_____
9.	Proof that a landfill site has been located.	_____	_____
10.	SDS of chemicals to be used on this project.	_____	_____
11.	Asbestos Removal and Disposal Work Plan	_____	_____

During Work Submittal:

1.	Schedule of Work Changes	_____	_____
2.	Notarized copy of weekly payroll showing a prevailing wage rate has been paid.	_____	_____
3.	A "Request For Services" form.	_____	_____
4.	Results of all air monitoring performed by the Contractor (OSHA)	_____	_____

5. A certified, signed, and completed copy of each "Waste Shipment Record" form (Section 1.07) _____

6. A copy of the bound log book _____

Post Project Submittal:

1. A notarized "Release of Liens" _____

2. Proof of payment of prevailing wage rate _____

3. Notarized copies of a daily log. _____

4. Compilation in chronological order of all air monitoring records pertaining to this project. _____

5. Compilation of all completed and signed Waste Shipment Record forms. _____

6. Copies of notifications to applicable agencies. _____

7. Paid invoice verifications for sub-contractor (for Time and Material job), service contract agreement, insurance certificates, copies of the workers licenses, and other required submittals. _____

FINAL REPORT OF ENVIRONMENTAL SERVICES

Performed at:

**WESTORCHARD ELEMENTARY SCHOOL
ROOF REPLACEMENT
25 GRANITE ROAD
CHAPPAQUA, NY 10514**

Prepared for:



**Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514**

Prepared by:



**WSP USA Solutions, Inc.
500 Summit Lake Drive, Suite 450
Valhalla, NY 10595
Tel. (914) 747-1120**

**Project No. 31402629.074
Final Submission Date: June 08, 2021**



June 08, 2021

Mr. Joe Gramando
Director of Facilities
Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514

**Subject: Final Report of Environmental Services
Westorchar Elementary School
Roof Replacement
25 Granite Road
Chappaqua, NY 10514**

Dear Mr. Gramando:

WSP USA Solutions, Inc. has completed a material inspection at the Westorchar Elementary School located at 25 Granite Road, Chappaqua, NY 10514. The inspection included visual observation, material sampling, and laboratory sample analysis of suspect Asbestos-Containing Materials (ACM), Lead Based Paints (LBP) and Polychlorinated Biphenyls (PCBs) as part of the Roof Replacement project at the Westorchar Elementary School.

The attached report presents descriptions and results of the material sampling procedures and visual analysis. Relevant general project information is provided, followed by our findings, assessments and recommendations. Laboratory analysis data and certifications are provided in the Appendices.

If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

WSP USA SOLUTIONS, INC.

A handwritten signature in blue ink, appearing to read 'CN', is positioned above the name and title of the signatory.

Craig Napolitano, CHMM
Vice President, Emergency Management & IH Services



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Appendices

Appendix A: Asbestos Sample Analysis Results in Tabular Form

Appendix B: Asbestos Bulk Sample Field Data Sheets with Chain of Custody & Laboratory Results

Appendix C: Asbestos Bulk Sample Location Drawings

Appendix D: Asbestos Containing Materials Location Drawings

Appendix E: Lead XRF Shot Results

Appendix F: PCB Bulk Sample Field Data Sheets with Chain of Custody & Laboratory Results

Appendix G: Company License, Personnel Certifications and Laboratory Accreditations

Appendix H: Scope of Work Drawings

Appendix I: Photographic Documentation

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1.0 EXECUTIVE SUMMARY

WSP USA Solutions, Inc. has performed a material inspection for the presence or absence of Asbestos-Containing Materials (ACM), Lead Based Paints (LBP) and Polychlorinated Biphenyls (PCBs) at the Westorcharde Elementary School located at 25 Granite Road, Chappaqua, NY 10514. The intent of this inspection was to screen for ACM, LBP and PCBs that may be impacted during the Roof Replacement project at the Westorcharde Elementary School.

Josue Garcia and Mike Gelfand of WSP performed this inspection on May 26, 2021. Mr. Garcia is licensed as a New York State Department of Labor (NYSDOL) Asbestos Inspector (Cert# 01-04292). Mr. Gelfand is licensed as a New York State Department of Labor (NYSDOL) Asbestos Inspector (Cert# 98-17113) and as a New York State EPA as a Lead Risk Assessor (Cert# LBP-R-11499-1).

The results of the visual inspection and bulk sample analysis determined that the following suspect ACM, LBP and PCB materials may be impacted by the proposed Roof Replacement project at the Westorcharde Elementary School:

A. ASBESTOS-CONTAINING MATERIAL

Analytical results of the bulk samples collected on 05/26/21 by WSP indicate that the following materials **contain asbestos** (greater than 1-percent).

- **Roof Flashing, Black (Roof A)**
- **Skylight Flashing, Black (Roof A)**
- **Roof Flashing, Black (Roof G)**
- **Tar Vapor Barrier, Black (Roof F)**
- **Roof Flashing, Black (Roof F)**
- **Roof Flashing, Black (Roof E)**
- **Roof Flashing, Black (Roof D)**

The following materials were Assumed to **contain asbestos**.

- **Drain Bowl Insulation (Mechanical Room below Roof D)**

Analytical results of the bulk samples collected on 05/26/21 by WSP indicate that the following materials **did not contain asbestos** (less than 1-percent);

- Coating on Roof Membrane, Beige (Roof A)
- Roof Membrane, Black (Roof A)
- Tar on Metal Deck, Black (Roof A)
- Fiberboard Flashing Insulation, Brown (Roof A)
- Roof Tar Patch, Black (Roof A)
- Metal Flashing Caulking, Black (Roof A)
- Metal Flashing Caulking, White/Tan (Roof A)
- Metal Flashing Caulking, Gray (Roof A)



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- Skylight Panel Caulking, Beige (Roof A)
- Skylight Old Caulking, White (Roof A)
- Wall Expansion Joint Caulking, Gray/Light Brown (Roof A & Roof F)
- Wall Expansion Joint Tar, Black (Roof F)
- Coating on Roof Membrane, Beige (Roof B)
- Roof Membrane, Black (Roof B)
- Tar on Metal Deck, Black (Roof B)
- Roof Flashing, Black (Roof B)
- Fiberboard Flashing Insulation, Brown (Roof B)
- Coating on Roof Membrane, Black/Beige (Roof G)
- Roof Membrane, Black (Roof G)
- Fiberboard Flashing Insulation, Brown (Roof G)
- Roof Tar Patch, Black (Roof G)
- Roof Membrane, Black (Roof I)
- Old Roof Membrane, Black (Roof I)
- Roof Insulation, Brown (Roof I)
- Tar on Metal Deck, Black (Roof I)
- Roof Flashing, Black (Roof I)
- Tar on Roof Flashing, Black (Roof I)
- Coating on Roof Membrane, Beige (Roof F)
- Roof Membrane, Black (Roof F)
- Fiberboard Flashing Insulation, Brown (Roof F)
- Coating on Roof Membrane, Beige (Roof E)
- Roof Membrane, Black (Roof E)
- Tar Vapor Barrier, Black (Roof E)
- Fiberboard Flashing Insulation, Brown (Roof E)
- Coating on Roof Membrane, Beige (Roof D)
- Roof Membrane, Black (Roof D)
- Tar Vapor Barrier, Black (Roof D)
- Fiberboard Flashing Insulation, Brown (Roof D)

Analytical results of bulk samples **previously collected** by Berger indicate that the following materials **did not contain asbestos** (less than 1-percent);

- Interior Brick Mortar
- Cinderblock Mortar
- 2'x4' Ceiling Tile – 2'x2' Pattern
- 2'x4' Ceiling Tile – Fissure
- Exterior Brick Mortar
- Scratch Coat on Exterior Soffit
- Roof Membrane
- Coating on Roof Membrane
- Drywall
- Joint Compound



B. LEAD-BASED PAINT

Based upon XRF readings, lead has been confirmed to exist in the following tested combinations:

- None

Lead was **not detected** in the following tested combinations via XRF readings:

- Light Gray Paint on Roof Coating
- Light Gray Paint on Roof Coating
- Light Gray Paint on Roof Coating
- Silver Paint on Metal Ladder to Upper Roof
- Brown Paint on Metal A/C Unit
- Yellow Paint on Fiberglass Drain Pipe
- Yellow Paint on Cinderblock Wall

C. PCB-CONTAINING MATERIAL

Analytical results of the bulk samples collected indicate that the following materials **contain** PCB (greater than 50 PPM):

- Wall Expansion Joint Caulking, Gray/Light Brown

Analytical results of the bulk samples collected indicate that the following materials **did not** contain PCB (less than 50 PPM):

- Metal Flashing Caulking, Black
- Metal Flashing Caulking, White/Tan
- Metal Flashing Caulking, Gray
- Skylight Panel Caulking, Beige
- Skylight Old Caulking, White

2.0 FIELD INSPECTION PROCEDURES AND SAMPLE ANALYSIS METHODS

A. ASBESTOS-CONTAINING MATERIAL

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA).



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Field information was organized in accordance with the AHERA methodology of homogenous area (HA). During the Inspection, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos. Furthermore, some materials that were not originally specified to contain asbestos may in fact contain this mineral. For example, cementitious pipe insulation and plaster were frequently mixed with asbestos at the construction site for ease of application. Locating all asbestos materials can only be definitively achieved by conducting exploratory demolition and sampling every section of pipe insulation, fitting or valve covering, fireproofing, and other suspect ACM.

Bulk samples of suspect ACM are analyzed using polarized light microscopy (PLM) coupled with dispersion staining, as described in 40 CFR Part 763 and the National Emissions Standard for Hazardous Air Pollutants (NESHAPS). NESHAPS is the standard industry protocol for the determination of asbestos in building materials. A suspect material is immersed in a solution of known refractive index and subjected to illumination by polarized light. The color displays that result are compared to a standardized atlas whereby the specific variety of asbestos is determined. It should also be recognized that PLM is primarily a qualitative identification method whereby asbestos percentage, if any, is estimated. While EPA, New York State, and New York City regulations governing ACM consider materials containing greater than 1-percent as asbestos, accurately quantifying asbestos content below 5-percent has been shown to be unreliable.

The New York State Department of Health has recently revised the PLM Stratified Point Counting Method. The March 25th, 2011 method, "Polarized Light Microscopy Methods for Identifying and Quantifying Asbestos in Bulk Samples" can be found as Item 198.1 in the Environmental Laboratory Approval program (ELAP) Certification manual. Whereas the procedure of analysis for bulk samples that fall into the category of "Non-friable Organically Bound" (NOB) can be found in the March 25th 2011 method "Polarized-Light Microscope Method for Identifying and Quantifying Asbestos in Non-Friable Organically Bound Bulk Samples", Item 198.6 in the ELAP Certification Manual. This category includes any sample in a flexible to rigid asphalt or vinyl matrix (floor tiles, mastic, roofing shingles, roofing felt, etc.). These samples must be "ashed" in a muffle furnace at 480-degrees Celsius (to remove organic matrix), treated with acid (to remove any mineral carbonate), and filtered through a 0.4-micron polycarbonate filter before being analyzed by PLM. The sample must be weighted between each of these steps to track the percent loss of organic matrix.

ELAP has determined that analysis of NOB materials is not reliably performed by PLM. Therefore, if PLM analysis yields results of 1-percent asbestos or less, the result must be confirmed by TEM. For bulk samples that undergo TEM analysis, the March 25th, 2011 method "Transmission Electron Microscope Method for Identifying and Quantitating Asbestos in Non-Friable organically Bound Bulk Samples" must be used and can be found as Item 198.4 in the ELAP Certification Manual. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) NOB sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or



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treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

All samples are initially analyzed by Polarized Light Microscopy in accordance with Item 198.1 and 198.6 of the ELAP Certification Manual. Samples which yield a negative PLM result and which are classified as a "non-friable" material, are then re-analyzed utilizing TEM methodology in accordance with Item 198.4 of the ELAP Certification Manual. The laboratory performing both these analysis procedures is EMSL located at 307 West 38th Street | New York, NY 10018. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101048-10)
- New York State Environmental Laboratory Approval Program (Lab No. 11469)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 102344)

B. LEAD-BASED PAINT

Painted surfaces within the space equivalents in the scope of work were identified and grouped together by component type, substrate and visible color. In similar fashion, the inspection continued in each space equivalent with the identification of unique combinations of component, substrate and visible color. A random representative area of each unique combination was sampled and tested. For each of these designated components, an area on the component was chosen which represents the paint on that building component. During the inspection, components that are accessible surfaces, friction surfaces, impact surfaces, or have deteriorated paint was identified.

The readings of paint surfaces were taken using an RMD LPA-1 XRF Lead Paint Spectrum Analyzer. The LPA-1 method of measurement is based on the spectrometric analysis of lead K-shell X-ray fluorescence within a controlled depth of interrogation. The LPA-1 Analyzer uses a Co-57 radioactive source and an advanced, solid-state, room temperature, radiation detector to generate and detect the x-ray fluorescence spectrum of a painted surface. The spectrum is then analyzed by a microprocessor to eliminate the effects of substrate and other factors such as scattering to allow an accurate determination of the amount of lead on a surface. The LPA-1 automatically analyzes spectrometric data in real time and differentiates the lead signal from the spectrum. The x-ray fluorescence properties are determined through calibration process and are used for automatic substrate correction and calculation of the lead content of a painted surface.

For quality control, the XRF instrument was calibrated using a U.S. Department of Commerce National Institute of Standards and Technology (NIST) Level III 1.0 mg/cm² lead based paint film. For each calibration, three (3) XRF readings were taken on the paint film. The average of these three (3) readings was then subtracted from the known lead content in the paint film. The difference was compared with an Environmental Protection Agency (EPA)-approved tolerance range. Such calibration procedures were conducted at the start and at the end of the workday.



C. POLYCHLORINATED BIPHENYLS (PCBs)

PCBs belong to a broad family of man-made organic chemicals known as chlorinated hydrocarbons. PCBs were domestically manufactured from 1929 until their manufacture was banned in 1979. They have a range of toxicity and vary in consistency from thin, light-colored liquids to yellow or black waxy solids. Due to their non-flammability, chemical stability, high boiling point, and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics, and rubber products; in pigments, dyes, and carbonless copy paper; and many other industrial applications.

Although no longer commercially produced in the United States, PCBs may be present in products and materials produced before the 1979 PCB ban. Products that may contain PCBs include: Transformers and capacitors, Oil used in motors and hydraulic systems, Fluorescent light ballasts, Adhesives and tapes, Caulking, Plastics, etc.

The PCBs used in these products were chemical mixtures made up of a variety of individual chlorinated biphenyl components, known as congeners. Most commercial PCB mixtures are known in the United States by their industrial trade names. The most common trade name is aroclor.

Polychlorinated biphenyls (PCBs) are regulated pursuant to the United States Environmental Protection Agency Code of Federal Regulations (40 CFR Part 761) and the Toxic Substances Control Act (TSCA – 15 U.S.C. 2605). These regulations require certain testing and reporting requirements to determine management, recycling and disposal options for PCBs.

3.0 INSPECTION SCOPE AND MATERIAL ASSESSMENT

The areas inspected for ACM materials that may be impacted by the proposed Roof Replacement project at the Westorchard Elementary School. Locations surveyed include:

- Roofs

A. ASBESTOS-CONTAINING MATERIAL

Materials examined during the WSP this inspection included:

- Coating on Roof Membrane, Beige
- Coating on Roof Membrane, Black/Beige
- Roof Membrane, Black
- Tar on Metal Deck, Black
- Roof Flashing, Black
- Fiberboard Flashing Insulation, Brown
- Skylight Flashing, Black
- Roof Tar Patch, Black
- Metal Flashing Caulking, Black



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- Metal Flashing Caulking, White/Tan
- Metal Flashing Caulking, Gray
- Skylight Panel Caulking, Beige
- Skylight Old Caulking, White
- Wall Expansion Joint Caulking, Gray/Light Brown
- Wall Expansion Joint Tar, Black
- Roof Tar Patch, Black
- Old Roof Membrane, Black
- Roof Insulation, Brown
- Tar on Roof Flashing, Black
- Interior Brick Mortar
- Cinderblock Mortar
- 2'x4' Ceiling Tile – 2'x2' Pattern
- 2'x4' Ceiling Tile – Fissure
- Exterior Brick Mortar
- Scratch Coat on Exterior Soffit
- Drywall
- Joint Compound

Analytical results of the bulk samples collected on 05/26/21 by WSP indicate that the following materials **contain asbestos** (greater than 1-percent).

- **Roof Flashing, Black (Roof A)**
- **Skylight Flashing, Black (Roof A)**
- **Roof Flashing, Black (Roof G)**
- **Tar Vapor Barrier, Black (Roof F)**
- **Roof Flashing, Black (Roof F)**
- **Roof Flashing, Black (Roof E)**
- **Roof Flashing, Black (Roof D)**

The following materials were Assumed to **contain asbestos**.

- **Drain Bowl Insulation (Mechanical Room below Roof D)**

Analytical results of the bulk samples collected on 05/26/21 by WSP indicate that the following materials **did not contain asbestos** (less than 1-percent);

- Coating on Roof Membrane, Beige (Roof A)
- Roof Membrane, Black (Roof A)
- Tar on Metal Deck, Black (Roof A)
- Fiberboard Flashing Insulation, Brown (Roof A)
- Roof Tar Patch, Black (Roof A)
- Metal Flashing Caulking, Black (Roof A)
- Metal Flashing Caulking, White/Tan (Roof A)
- Metal Flashing Caulking, Gray (Roof A)



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- Skylight Panel Caulking, Beige (Roof A)
- Skylight Old Caulking, White (Roof A)
- Wall Expansion Joint Caulking, Gray/Light Brown (Roof A & Roof F)
- Wall Expansion Joint Tar, Black (Roof F)
- Coating on Roof Membrane, Beige (Roof B)
- Roof Membrane, Black (Roof B)
- Tar on Metal Deck, Black (Roof B)
- Roof Flashing, Black (Roof B)
- Fiberboard Flashing Insulation, Brown (Roof B)
- Coating on Roof Membrane, Black/Beige (Roof G)
- Roof Membrane, Black (Roof G)
- Fiberboard Flashing Insulation, Brown (Roof G)
- Roof Tar Patch, Black (Roof G)
- Roof Membrane, Black (Roof I)
- Old Roof Membrane, Black (Roof I)
- Roof Insulation, Brown (Roof I)
- Tar on Metal Deck, Black (Roof I)
- Roof Flashing, Black (Roof I)
- Tar on Roof Flashing, Black (Roof I)
- Coating on Roof Membrane, Beige (Roof F)
- Roof Membrane, Black (Roof F)
- Fiberboard Flashing Insulation, Brown (Roof F)
- Coating on Roof Membrane, Beige (Roof E)
- Roof Membrane, Black (Roof E)
- Tar Vapor Barrier, Black (Roof E)
- Fiberboard Flashing Insulation, Brown (Roof E)
- Coating on Roof Membrane, Beige (Roof D)
- Roof Membrane, Black (Roof D)
- Tar Vapor Barrier, Black (Roof D)
- Fiberboard Flashing Insulation, Brown (Roof D)

Analytical results of bulk samples **previously collected** by Berger indicate that the following materials **did not contain asbestos** (less than 1-percent);

- Interior Brick Mortar
- Cinderblock Mortar
- 2'x4' Ceiling Tile – 2'x2' Pattern
- 2'x4' Ceiling Tile – Fissure
- Exterior Brick Mortar
- Scratch Coat on Exterior Soffit
- Roof Membrane
- Coating on Roof Membrane
- Drywall
- Joint Compound



B. LEAD-BASED PAINT

Based upon XRF readings, lead has been confirmed to exist in the following tested combinations:

- None

Lead was **not detected** in the following tested combinations via XRF readings:

- Light Gray Paint on Roof Coating
- Light Gray Paint on Roof Coating
- Light Gray Paint on Roof Coating
- Silver Paint on Metal Ladder to Upper Roof
- Brown Paint on Metal A/C Unit
- Yellow Paint on Fiberglass Drain Pipe
- Yellow Paint on Cinderblock Wall

C. PCB-CONTAINING MATERIAL

Analytical results of the bulk samples collected indicate that the following materials **contain PCB** (greater than 50 PPM):

- **Wall Expansion Joint Caulking, Gray/Light Brown**

Analytical results of the bulk samples collected indicate that the following materials **did not contain PCB** (less than 50 PPM):

- Metal Flashing Caulking, Black
- Metal Flashing Caulking, White/Tan
- Metal Flashing Caulking, Gray
- Skylight Panel Caulking, Beige
- Skylight Old Caulking, White

4.0 INSPECTION RESULTS

A. ASBESTOS-CONTAINING MATERIAL

The asbestos inspection involved a thorough visual examination of all areas that may be impacted by the proposed Roof Replacement project at the Westorchard Elementary School. The following suspect materials were sampled and analyzed for asbestos content by WSP:



Final Report for Environmental Inspection Services

4.1 Table 4.1 – Suspect Materials Inspected

HOMOGENOUS MATERIAL	LOCATION	MATERIAL	ASBESTOS CONTENT
WSP Sampled on 05/26/21			
01	Roof A	Coating on Roof Membrane, Beige	NAD
02	Roof A	Roof Membrane, Black	NAD
03	Roof A	Tar on Metal Deck, Black	NAD
04	Roof A	Roof Flashing, Black	4.80% Chrysotile
05	Roof A	Fiberboard Flashing Insulation, Brown	NAD
06	Roof A	Skylight Flashing, Black	8.60% Chrysotile
07	Roof A	Roof Tar Patch, Black	NAD
08	Roof A	Metal Flashing Caulking, Black	NAD
09	Roof A	Metal Flashing Caulking, White/Tan	NAD
10	Roof A	Metal Flashing Caulking, Gray	NAD
11	Roof A	Skylight Panel Caulking, Beige	NAD
12	Roof A	Skylight Old Caulking, White	NAD
13	Roof A, Roof F	Wall Expansion Joint Caulking, Gray/Light Brown	NAD
14	Roof F	Wall Expansion Joint Tar, Black	NAD
15	Roof B	Coating on Roof Membrane, Beige	NAD
16	Roof B	Roof Membrane, Black	NAD
17	Roof B	Tar on Metal Deck, Black	NAD
18	Roof B	Roof Flashing, Black	NAD
19	Roof B	Fiberboard Flashing Insulation, Brown	NAD
20	Roof G	Coating on Roof Membrane, Black/Beige	NAD
21	Roof G	Roof Membrane, Black	NAD
22	Roof G	Roof Flashing, Black	1.4% Chrysotile
23	Roof G	Fiberboard Flashing Insulation, Brown	NAD
24	Roof G	Roof Tar Patch, Black	NAD
25	Roof I	Roof Membrane, Black	NAD
26	Roof I	Old Roof Membrane, Black	NAD
27	Roof I	Roof Insulation, Brown	NAD
28	Roof I	Tar on Metal Deck, Black	NAD
29	Roof I	Roof Flashing, Black	NAD
30	Roof I	Tar on Roof Flashing, Black	NAD
31	Roof F	Coating on Roof Membrane, Beige	NAD
32	Roof F	Roof Membrane, Black	NAD



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HOMOGENOUS MATERIAL	LOCATION	MATERIAL	ASBESTOS CONTENT
33	Roof F	Tar Vapor Barrier, Black	1.10% Chrysotile
34	Roof F	Roof Flashing, Black	4.00% Chrysotile
35	Roof F	Fiberboard Flashing Insulation, Brown	NAD
36	Roof E	Coating on Roof Membrane, Beige	NAD
37	Roof E	Roof Membrane, Black	NAD
38	Roof E	Tar Vapor Barrier, Black	NAD
39	Roof E	Roof Flashing, Black	2.30% Chrysotile
40	Roof E	Fiberboard Flashing Insulation, Brown	NAD
41	Roof D	Coating on Roof Membrane, Beige	NAD
42	Roof D	Roof Membrane, Black	NAD
43	Roof D	Tar Vapor Barrier, Black	NAD
44	Roof D	Roof Flashing, Black	6.80% Chrysotile
45	Roof D	Fiberboard Flashing Insulation, Brown	NAD
--	Mechanical Room below Roof D	Drain Bowl Insulation (Assumed ACM)	Assumed ACM
Previous Sampled by Berger			
03	Interior Throughout	Interior Brick Mortar	NAD
04	Interior Throughout	Cinderblock Mortar	NAD
05	Interior Throughout	2'x4' Ceiling Tile – 2'x2' Pattern	NAD
07	Interior Throughout	2'x4' Ceiling Tile – Fissure	NAD
10	Exterior Throughout	Exterior Brick Mortar	NAD
13	Exterior Throughout	Scratch Coat on Exterior Soffit	NAD
14	Library Roof	Roof Membrane	NAD
15	Library Roof	Coating on Roof Membrane	NAD
-	Interior Throughout	Drywall	NAD
-	Interior Throughout	Joint Compound	NAD

Bold = Positive for ACM

NAD = No Asbestos Detected

NA/PS = Not analyzed/ positive sample

4.2 CONDITION AND FRIABILITY ASSESSMENT TABLE

For each inspection conducted, the inspector classifies ACM or Assumed ACM materials by friability and condition. This helps to determine the extent of damage in certain areas as well as the potential for further damage and Asbestos release due to disturbance of the material.



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Table 4.2 – Condition and Friability Assessment

Location	Material	Quantity	Friability	Condition
Roof A	Roof Flashing, Black	3,500 SF	Non-Friable	Good
Roof A	Skylight Flashing, Black		Non-Friable	Good
Roof G	Roof Flashing, Black	1,300 SF	Non-Friable	Good
Roof F	Tar Vapor Barrier, Black	5,000 SF	Non-Friable	Good
Roof F	Roof Flashing, Black		Non-Friable	Good
Roof E	Roof Flashing, Black	900 SF	Non-Friable	Good
Roof D	Roof Flashing, Black	350 SF	Non-Friable	Good
Mechanical Room below Roof D	Drain Bowl Insulation (Assumed ACM)	2 SF	Friable	Good

Condition Definitions:

Good: None/Minimal apparent damage to ACM

Fair: Up to 10% localized damage or up to 25% of the entire ACM is damaged

Poor: Over 10% localized damage or over 25% of the entire ACM is damaged

4.3 SAMPLE ANALYSIS TABLE

Laboratory analysis results, in tabular form, are included in Appendix A.

B. LEAD-BASED PAINT

The lead Inspection involved a thorough visual examination of all accessible areas impacted by the proposed Roof Replacement project at the Westorchard Elementary School. The following suspect surfaces were tested for lead content:

Test Number	Sample Location	Building Component	Color	Substrate	Condition	Lead Content (mg/cm2)
01	Calibration Check @ 1.0	---	---	---	---	0.7
02	Calibration Check @ 1.0	---	---	---	---	0.8
03	Calibration Check @ 1.0	---	---	---	---	0.8
04	Calibration Check @ 0.0	---	---	---	---	0.1



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Test Number	Sample Location	Building Component	Color	Substrate	Condition	Lead Content (mg/cm2)
05	Calibration Check @ 0.0	---	---	---	---	-0.1
06	Calibration Check @ 0.0	---	---	---	---	0.1
07	Roof A	Roof Coating	Light Gray	Roof	Fair	-06
08	Roof A	Roof Coating	Light Gray	Roof	Fair	-0.1
09	Roof A	Roof Coating	Light Gray	Roof	Fair	-06
10	Roof A	Ladder to Upper Roof	Silver	Metal	Poor	0.0
11	Roof A	A/C Unit	Brown	Metal	Good	0.0
12	Fan Room	Drain Pipe	Yellow	Fiberglass	Good	-0.2
13	Fan Room	Wall	Yellow	Cinderblock	Good	-0.1
14	Calibration Check @ 1.0	---	---	---	---	0.8
15	Calibration Check @ 1.0	---	---	---	---	0.9
16	Calibration Check @ 1.0	---	---	---	---	0.8
17	Calibration Check @ 0.0	---	---	---	---	-0.1
18	Calibration Check @ 0.0	---	---	---	---	0.0
19	Calibration Check @ 0.0	---	---	---	---	-0.1

C. PCB-CONTAINING MATERIAL

The PCB Inspection involved a thorough visual examination of all areas that may be impacted by the proposed Roof Replacement project at the Westorchard Elementary School. The following suspect materials were tested for PCB content:

HOMOGENOUS MATERIAL	LOCATION	MATERIAL	PCB CONTENT (PPM)
01	Roof A	Metal Flashing Caulking, Black	19
02	Roof A	Metal Flashing Caulking, White/Tan	ND
03	Roof A	Metal Flashing Caulking, Gray	1.2
04	Roof A	Skylight Panel Caulking, Beige	5.2
05	Roof A	Skylight Old Caulking, White	1.4
06	Roof A, Roof F	Wall Expansion Joint Caulking, Gray/Light Brown	3700

Bold = Positive for PCB

ND = No PCB Detected



5.0 AREAS NOT ACCESSIBLE

During the inspection the following areas were not accessible:

Spaces within Walls/Floors/Ceilings: No destructive sampling was performed on concealed spaces in walls to access plenum, chases etc. It should be assumed that asbestos containing materials may exist in these spaces. Any suspect materials encountered during work should be sampled for analysis before work continues.

Building Envelope: No destructive sampling was performed on the building envelope. It should be assumed that asbestos, lead and PCB containing materials may exist in these spaces. Any suspect materials encountered during work should be sampled for analysis before work continues.

6.0 CONCLUSIONS AND RECOMMENDATIONS

ACM and PCB have been identified in this inspection that may be impacted as part of the proposed Roof Replacement project at the Westorchard Elementary School, reported in Section 3.0 of this report, may require complete removal prior to the start of the upgrade project.

No LBP was identified in this inspection that may be impacted as part of the proposed Roof Replacement project at the Westorchard Elementary School.

The ACM, LBP & PCB inspection was conducted at the request of Chappaqua Central School District for the proposed Roof Replacement project at the Westorchard Elementary School. Any change in the scope of work will require further investigation to accurately classify any additional ACM, LBP or PCBs resulting from the modified or updated scope of work.



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7.0 REPORT CERTIFICATIONS

This report, and the supporting data, findings, conclusions, opinions, and recommendations it contains represent the result of WSP's efforts for the environmental inspection work for the Westorcharde Elementary School.

Opinions and recommendations presented in this report apply to site conditions and features as they existed at the time of WSP's site visits, and those reasonably foreseeable. They cannot necessarily apply to conditions and features of which WSP is unaware and has not had the opportunity to evaluate.

The conclusions presented in this report are professional opinions solely upon WSP's visual observations of accessible areas, laboratory test data, and current regulatory requirements. These conclusions are intended exclusively for the purpose stated herein and the site indicated for the project indicated.

Prepared by:

A blue ink signature of Josue Garcia, consisting of a large, stylized 'J' and 'G'.

Josue Garcia
NYS DOL Inspector

Reviewed by:

A blue ink signature of Craig Napolitano, consisting of a stylized 'C' and 'N'.

Craig Napolitano, CHMM
Vice President, Emergency
Management & IH Services



**APPENDIX A:
ASBESTOS SAMPLE ANALYSIS RESULTS IN TABULAR FORM**



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APPENDIX A SAMPLE ANALYSIS RESULTS IN TABULAR FORM WESTORCHARD ELEMENTARY SCHOOL 25 GRANITE ROAD CHAPPAQUA, NY 10514

Homogeneous Area No.	Sample No.	Location	Material	PLM Result	TEM Result
WSP Sampled on 05/26/2021					
01	01	Roof A, Southwest	Coating on Roof Membrane, Beige	NAD	NAD
	02	Roof A, Northeast		NAD	NAD
02	03	Roof A, Southwest	Roof Membrane, Black	NAD	NAD
	04	Roof A, Northeast		NAD	NAD
03	05	Roof A, Southwest	Tar on Metal Deck, Black	NAD	NAD
	06	Roof A, Northeast		NAD	NAD
04	07	Roof A, Southwest	Roof Flashing, Black	<1% Chrysotile	NA/PS
	08	Roof A, Northeast		4.80% Chrysotile	NA/PS
05	09	Roof A, Southwest	Fiberboard Flashing Insulation, Brown	NAD	N/A
	10	Roof A, Northeast		NAD	N/A
06	11	Roof A, Center	Skylight Flashing, Black	8.60% Chrysotile	NA/PS
	12	Roof A, Center		NA/PS	NA/PS
07	13	Roof A, Northeast	Roof Tar Patch, Black	NAD	NAD
	14	Roof A, Northeast		NAD	NAD
08	15	Roof A, West	Metal Flashing Caulking, Black	NAD	NAD
	16	Roof A, West		NAD	NAD

Bold = Positive for ACM
NAD = No Asbestos Detected

N/A = Not Applicable
NA/PS = Not analyzed/ positive sample



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Homogeneous Area No.	Sample No.	Location	Material	PLM Result	TEM Result
09	17	Roof A, West	Metal Flashing Caulking, White/Tan	NAD	NAD
	18	Roof A, West		NAD	NAD
10	19	Roof A, Northeast	Metal Flashing Caulking, Gray	NAD	NAD
	20	Roof A, Northeast		NAD	NAD
11	21	Roof A, Center	Skylight Panel Caulking, Beige	NAD	NAD
	22	Roof A, Center		NAD	NAD
12	23	Roof A, North	Skylight Old Caulking, White	NAD	NAD
	24	Roof A, North		NAD	NAD
13	25	Roof A, Northeast	Wall Expansion Joint Caulking, Gray/Light Brown	NAD	NAD
	26	Roof F, Southeast		NAD	NAD
14	27	Roof F, Southeast	Wall Expansion Joint Tar, Black	NAD	NAD
	28	Roof F, Southeast		NAD	NAD
15	29	Roof B, Center	Coating on Roof Membrane, Beige	NAD	NAD
	30	Roof B, South		NAD	NAD
16	31	Roof B, Center	Roof Membrane, Black	NAD	NAD
	32	Roof B, South		NAD	NAD
17	33	Roof B, Center	Tar on Metal Deck, Black	NAD	NAD
	34	Roof B, South		NAD	NAD
18	35	Roof B, South	Roof Flashing, Black	<1% Chrysotile	<1% Chrysotile
	36	Roof B, South		<1% Chrysotile	<1% Chrysotile
19	37	Roof B, South	Fiberboard Flashing Insulation, Brown	NAD	N/A
	38	Roof B, South		NAD	N/A

Bold = Positive for ACM
NAD = No Asbestos Detected

N/A = Not Applicable
NA/PS = Not analyzed/ positive sample



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Homogeneous Area No.	Sample No.	Location	Material	PLM Result	TEM Result
20	39	Roof G, Center	Coating on Roof Membrane, Black/Beige	NAD	NAD
	40	Roof G, South		NAD	NAD
21	41	Roof G, Center	Roof Membrane, Black	NAD	NAD
	42	Roof G, Center		NAD	NAD
22	43	Roof G, South	Roof Flashing, Black	NAD	NAD
	44	Roof G, West		<1% Chrysotile	1.4% Chrysotile
23	45	Roof G, South	Fiberboard Flashing Insulation, Brown	NAD	N/A
	46	Roof G, West		NAD	N/A
24	47	Roof G, Center	Roof Tar Patch, Black	NAD	NAD
	48	Roof G, Center		NAD	NAD
25	49	Roof I, Center	Roof Membrane, Black	NAD	NAD
	50	Roof I, West		NAD	NAD
26	51	Roof I, Center	Old Roof Membrane, Black	NAD	NAD
	52	Roof I, West		NAD	NAD
27	53	Roof I, Center	Roof Insulation, Brown	NAD	N/A
	54	Roof I, West		NAD	N/A
28	55	Roof I, Center	Tar on Metal Deck, Black	NAD	NAD
	56	Roof I, West		NAD	NAD
29	57	Roof I, West	Roof Flashing, Black	NAD	NAD
	58	Roof I, West		NAD	NAD
30	59	Roof I, Northwest	Tar on Roof Flashing, Black	NAD	NAD
	60	Roof I, Southwest		NAD	NAD

Bold = Positive for ACM
NAD = No Asbestos Detected

N/A = Not Applicable
NA/PS = Not analyzed/ positive sample



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Homogeneous Area No.	Sample No.	Location	Material	PLM Result	TEM Result
31	61	Roof F, Center	Coating on Roof Membrane, Beige	NAD	NAD
	62	Roof F, Northwest		NAD	NAD
32	63	Roof F, Center	Roof Membrane, Black	NAD	NAD
	64	Roof F, Northwest		NAD	NAD
33	65	Roof F, Center	Tar Vapor Barrier, Black	NAD	NAD
	66	Roof F, Northwest		<1% Chrysotile	1.10% Chrysotile
34	67	Roof F, Northwest	Roof Flashing, Black	4.00% Chrysotile	NA/PS
	68	Roof F, Southwest		NA/PS	NA/PS
35	69	Roof F, Northwest	Fiberboard Flashing Insulation, Brown	NAD	N/A
	70	Roof F, Southwest		NAD	N/A
36	71	Roof E, Center	Coating on Roof Membrane, Beige	NAD	NAD
	72	Roof E, West		NAD	NAD
37	73	Roof E, Center	Roof Membrane, Black	NAD	NAD
	74	Roof E, West		NAD	NAD
38	75	Roof E, Center	Tar Vapor Barrier, Black	NAD	NAD
	76	Roof E, West		NAD	<1% Chrysotile
39	77	Roof E, West	Roof Flashing, Black	NAD	NAD
	78	Roof E, East		<1% Chrysotile	2.30% Chrysotile
40	79	Roof E, West	Fiberboard Flashing Insulation, Brown	NAD	N/A
	80	Roof E, East		NAD	N/A
41	81	Roof D, Center	Coating on Roof Membrane, Beige	NAD	NAD
	82	Roof D, East		NAD	NAD

Bold = Positive for ACM
NAD = No Asbestos Detected

N/A = Not Applicable
NA/PS = Not analyzed/ positive sample



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Homogeneous Area No.	Sample No.	Location	Material	PLM Result	TEM Result
42	83	Roof D, Center	Roof Membrane, Black	NAD	<1% Chrysotile
	84	Roof D, East		NAD	<1% Chrysotile
43	85	Roof D, Center	Tar Vapor Barrier, Black	NAD	NAD
	86	Roof D, East		NAD	NAD
44	87	Roof D, East	Roof Flashing, Black	6.80% Chrysotile	NA/PS
	88	Roof D, East		NA/PS	NA/PS
45	89	Roof D, East	Fiberboard Flashing Insulation, Brown	NAD	N/A
	90	Roof D, East		NAD	N/A

Bold = Positive for ACM
NAD = No Asbestos Detected

N/A = Not Applicable
NA/PS = Not analyzed/ positive sample



**APPENDIX B:
ASBESTOS BULK SAMPLE FIELD DATA SHEETS WITH
CHAIN OF CUSODY & LABORATORY RESULTS**



EMSL Analytical, Inc.

307 West 38th Street New York, NY 10018

Tel/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com / manhattanlab@emsl.com>

EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Attention: Alex Smolyar

WSP USA Solutions Inc

96 Morton Street

8th floor

New York, NY 10014

Phone: (212) 612-7900

Fax:

Received Date: 05/27/2021 1:20 PM

Analysis Date: 06/02/2021

Collected Date: 05/26/2021

Project: 31402629.074/ CHAPPAQUA CSD/ WEST ORCHARD ES, 25 GRANITE RD, CHAPPAQUA, NY 10514/
ROOFS

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 01 032109153-0001		Description Homogeneity	ROOF A, SW - COATING ON ROOF MEMBRANE, BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Beige		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Beige		100.00% Other	None Detected
Sample ID 02 032109153-0002		Description Homogeneity	ROOF A, NE - COATING ON ROOF MEMBRANE, BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Beige		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Beige		100.00% Other	None Detected
Sample ID 03 032109153-0003		Description Homogeneity	ROOF A, SW - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	1.10% Glass	98.90% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 04 032109153-0004		Description Homogeneity	ROOF A, NE - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 05 032109153-0005		Description Homogeneity	ROOF A, SW - TAR ON METAL DECK, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 06 032109153-0006		Description Homogeneity	ROOF A, NE - TAR ON METAL DECK, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 07 032109153-0007		Description Homogeneity	ROOF A, SW - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	None	100.00% Other	Inconclusive : <1% Chrysotile
TEM NYS 198.4 NOB	06/02/2021				Positive Stop (Not Analyzed)
Sample ID 08 032109153-0008		Description Homogeneity	ROOF A, NE - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	None	95.20% Other	4.80% Chrysotile
TEM NYS 198.4 NOB	06/02/2021				Positive Stop (Not Analyzed)
Sample ID 09 032109153-0009		Description Homogeneity	ROOF A, SW - FIBERBOARD FLASHING INSULATION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	85.00% Cellulose	15.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 10 032109153-0010		Description Homogeneity	ROOF A, NE - FIBERBOARD FLASHING INSULATION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	95.00% Cellulose	5.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 11 032109153-0011		Description Homogeneity	ROOF A CENTER - SKYLIGHT FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	None	91.40% Other	8.60% Chrysotile
TEM NYS 198.4 NOB	06/02/2021				Positive Stop (Not Analyzed)

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 12 032109153-0012		Description Homogeneity	ROOF A CENTER - SKYLIGHT FLASHING, BLACK		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021				Positive Stop (Not Analyzed)
TEM NYS 198.4 NOB	06/02/2021				Positive Stop (Not Analyzed)
Sample ID 13 032109153-0013		Description Homogeneity	ROOF A, NE - ROOF TAR PATCH, BLACK		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 14 032109153-0014		Description Homogeneity	ROOF A, NE - ROOF TAR PATCH, BLACK		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
Final residue mass <1%,					
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 15 032109153-0015		Description Homogeneity	ROOF A, WEST - METAL FLASHING CAULKING, BLACK		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 16 032109153-0016		Description Homogeneity	ROOF A, WEST - METAL FLASHING CAULKING, BLACK		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 17 032109153-0017		Description Homogeneity	ROOF A, WEST - METAL FLASHING CAULKING, WHITE/TAN		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	White		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	White		100.00% Other	None Detected

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 18 032109153-0018		Description Homogeneity	ROOF A, WEST - METAL FLASHING CAULKING, WHITE/TAN Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	White		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	White		100.00% Other	None Detected
Sample ID 19 032109153-0019		Description Homogeneity	ROOF A, NE - METAL FLASHING CAULKING, GRAY Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Gray		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Gray		100.00% Other	None Detected
Sample ID 20 032109153-0020		Description Homogeneity	ROOF A, NE - METAL FLASHING CAULKING, GRAY Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Gray		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Gray		100.00% Other	None Detected
Sample ID 21 032109153-0021		Description Homogeneity	ROOF A, CENTER - SKYLIGHT PANEL CAULKING, BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Beige		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Beige		100.00% Other	None Detected
Sample ID 22 032109153-0022		Description Homogeneity	ROOF A, NORTH - SKYLIGHT PANEL CAULKING, BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB Final residue mass <1%,	06/02/2021	Beige		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Beige		100.00% Other	None Detected
Sample ID 23 032109153-0023		Description Homogeneity	ROOF A, NORTH - SKYLIGHT OLD CAULKING, WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	White		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	White		100.00% Other	None Detected

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 24 032109153-0024		Description Homogeneity	ROOF A, NORTH - SKYLIGHT OLD CAULKING, WHITE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	White		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	White		100.00% Other	None Detected
Sample ID 25 032109153-0025		Description Homogeneity	ROOF A, NE - WALL EXPANSION JOINT CAULKING, GRAY/ LIGHT BROWN Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Gray		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Gray		100.00% Other	None Detected
Sample ID 26 032109153-0026		Description Homogeneity	ROOF F, SE - WALL EXPANSION JOINT CAULKING, GRAY/ LIGHT BROWN Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Gray		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Gray		100.00% Other	None Detected
Sample ID 27 032109153-0027		Description Homogeneity	ROOF F, SE - WALL EXPANSION JOINT TAR, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 28 032109153-0028		Description Homogeneity	ROOF F, SE - WALL EXPANSION JOINT TAR, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 29 032109153-0029		Description Homogeneity	ROOF B, CENTER - COATING ON ROOF MEMBRANE, BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	White		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	White		100.00% Other	None Detected

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 30 032109153-0030		Description Homogeneity	ROOF B, SOUTH - COATING ON ROOF MEMBRANE, BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	White		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	White		100.00% Other	None Detected
Sample ID 31 032109153-0031		Description Homogeneity	ROOF B, CENTER - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	2.30% Glass	97.70% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 32 032109153-0032		Description Homogeneity	ROOF B, SOUTH - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	<1.00% Glass	100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 33 032109153-0033		Description Homogeneity	ROOF B, CENTER - TAR ON METAL DECK, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	<1.00% Glass	100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 34 032109153-0034		Description Homogeneity	ROOF B, SOUTH - TAR ON METAL DECK, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 35 032109153-0035		Description Homogeneity	ROOF B, SOUTH - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	None	100.00% Other	Inconclusive : <1% Chrysotile
TEM NYS 198.4 NOB	06/02/2021	Black	None	100.00% Other	<1% Chrysotile

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 36 032109153-0036		Description Homogeneity	ROOF B, SOUTH - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	None	100.00% Other	Inconclusive : <1% Chrysotile
TEM NYS 198.4 NOB	06/02/2021	Black	None	100.00% Other	<1% Chrysotile
Sample ID 37 032109153-0037		Description Homogeneity	ROOF B, SOUTH - FIBERBOARD FLASHING INSULATION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	90.00% Cellulose	10.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 38 032109153-0038		Description Homogeneity	ROOF B, SOUTH - FIBERBOARD FLASHING INSULATION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	90.00% Cellulose	10.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 39 032109153-0039		Description Homogeneity	ROOF G, CENTER - COATING ON ROOF MEMBRANE, BLACK/ BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 40 032109153-0040		Description Homogeneity	ROOF G, SOUTH - COATING ON ROOF MEMBRANE, BLACK/ BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 41 032109153-0041		Description Homogeneity	ROOF G, CENTER - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	1.30% Glass	98.70% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 42 032109153-0042		Description Homogeneity	ROOF G, CENTER - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	1.40% Glass	98.60% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 43 032109153-0043		Description Homogeneity	ROOF G, CENTER - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 44 032109153-0044		Description Homogeneity	ROOF G, WEST - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	None	100.00% Other	Inconclusive : <1% Chrysotile
TEM NYS 198.4 NOB	06/02/2021	Black	None	98.60% Other	1.40% Chrysotile
Sample ID 45 032109153-0045		Description Homogeneity	ROOF G, SOUTH - FIBERBOARD FLASHING INSULATION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	85.00% Cellulose	15.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 46 032109153-0046		Description Homogeneity	ROOF G, WEST - FIBERBOARD FLASHING INSULATION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	85.00% Cellulose	15.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 47 032109153-0047		Description Homogeneity	ROOF G, CENTER - ROOF TAR PATCH, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 48 032109153-0048		Description Homogeneity	ROOF G, CENTER - ROOF TAR PATCH, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	<1.00% Glass	100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 49 032109153-0049		Description Homogeneity	ROOF I, CENTER - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	1.20% Glass	98.80% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 50 032109153-0050		Description Homogeneity	ROOF I, WEST - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	<1.00% Glass	100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 51 032109153-0051		Description Homogeneity	ROOF I, CENTER - OLD ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	1.30% Glass	98.70% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 52 032109153-0052		Description Homogeneity	ROOF I, WEST - OLD ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 53 032109153-0053		Description Homogeneity	ROOF I, CENTER - ROOF INSULATION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	88.00% Cellulose	12.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

Initial report from: 06/02/2021 16:51:43



EMSL Analytical, Inc.

307 West 38th Street New York, NY 10018

Tel/Fax: (212) 290-0051 / (212) 290-0058

<http://www.EMSL.com / manhattanlab@emsl.com>

EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 54 032109153-0054		Description Homogeneity	ROOF I, WEST - ROOF INSULATION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	85.00% Cellulose	15.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 55 032109153-0055		Description Homogeneity	ROOF I, CENTER - TAR ON METAL DECK, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	1.30% Glass	98.70% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 56 032109153-0056		Description Homogeneity	ROOF I, WEST - TAR ON METAL DECK, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	1.60% Glass	98.40% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 57 032109153-0057		Description Homogeneity	ROOF I, WEST - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 58 032109153-0058		Description Homogeneity	ROOF I, WEST - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 59 032109153-0059		Description Homogeneity	ROOF I, NW - TAR ON ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected

Initial report from: 06/02/2021 16:51:43



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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 60 032109153-0060		Description Homogeneity	ROOF I, SW - TAR ON ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 61 032109153-0061		Description Homogeneity	ROOF F, CENTER - COATING ON ROOF MEMBRANE, BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	White/ Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	White/ Black		100.00% Other	None Detected
Sample ID 62 032109153-0062		Description Homogeneity	ROOF F, NW - COATING ON ROOF MEMBRANE, BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	White/ Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	White/ Black		100.00% Other	None Detected
Sample ID 63 032109153-0063		Description Homogeneity	ROOF F, CENTER - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	<1.00% Glass	100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 64 032109153-0064		Description Homogeneity	ROOF F, NW - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	<1.00% Glass	100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 65 032109153-0065		Description Homogeneity	ROOF F, CENTER - TAR VAPOR BARRIER, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected

Initial report from: 06/02/2021 16:51:43



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307 West 38th Street New York, NY 10018

Tel/Fax: (212) 290-0051 / (212) 290-0058

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report: Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 66 032109153-0066		Description Homogeneity	ROOF F, NW - TAR VAPOR BARRIER, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	None	100.00% Other	Inconclusive : <1% Chrysotile
TEM NYS 198.4 NOB	06/02/2021	Black	None	98.90% Other	1.10% Chrysotile
Sample ID 67 032109153-0067		Description Homogeneity	ROOF F, NW - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	None	96.00% Other	4.00% Chrysotile
TEM NYS 198.4 NOB	06/02/2021				Positive Stop (Not Analyzed)
Sample ID 68 032109153-0068		Description Homogeneity	ROOF F, SW - ROOF FLASHING, BLACK		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021				Positive Stop (Not Analyzed)
TEM NYS 198.4 NOB	06/02/2021				Positive Stop (Not Analyzed)
Sample ID 69 032109153-0069		Description Homogeneity	ROOF F, NW - FIBERBOARD FLASHING INSULTION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	80.00% Cellulose	20.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 70 032109153-0070		Description Homogeneity	ROOF F, SW - FIBERBOARD FLASHING INSULTION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	95.00% Cellulose	5.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 71 032109153-0071		Description Homogeneity	ROOF E, CENTER - COATING ON ROOF MEMBRANE, BROWN Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	White/ Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	White/ Black		100.00% Other	None Detected

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 72 032109153-0072		Description Homogeneity	ROOF E, WEST - COATING ON ROOF MEMBRANE, BROWN Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	White/ Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	White/ Black		100.00% Other	None Detected
Sample ID 73 032109153-0073		Description Homogeneity	ROOF E, CENTER - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	1.50% Glass	98.50% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 74 032109153-0074		Description Homogeneity	ROOF E, WEST - ROOF MEMBRANE, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	1.20% Glass	98.80% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 75 032109153-0075		Description Homogeneity	ROOF E, CENTER - TAR VAPOR BARRIER, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 76 032109153-0076		Description Homogeneity	ROOF E, WEST - TAR VAPOR BARRIER, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black	None	100.00% Other	<1% Chrysotile
Sample ID 77 032109153-0077		Description Homogeneity	ROOF E, WEST - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected

Initial report from: 06/02/2021 16:51:43



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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 78 032109153-0078		Description Homogeneity	ROOF E, EAST - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	None	100.00% Other	Inconclusive : <1% Chrysotile
TEM NYS 198.4 NOB	06/02/2021	Black	None	97.70% Other	2.30% Chrysotile
Sample ID 79 032109153-0079		Description Homogeneity	ROOF E, WEST - FIBERBOARD FLASHING INSULATION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	88.00% Cellulose	12.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 80 032109153-0080		Description Homogeneity	ROOF E, EAST - FIBERBOARD FLASHING INSULATION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	95.00% Cellulose	5.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed
Sample ID 81 032109153-0081		Description Homogeneity	ROOF D, CENTER - COATING ON ROOF MEMBRANE, BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black/ Beige	<1.00% Glass	100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black/ Beige		100.00% Other	None Detected
Sample ID 82 032109153-0082		Description Homogeneity	ROOF D, EAST - COATING ON ROOF MEMBRANE, BEIGE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black/ Beige	<1.00% Glass	100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black/ Beige		100.00% Other	None Detected
Sample ID 83 032109153-0083		Description Homogeneity	ROOF D, CENTER - ROOF MEMBRANE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	<1.00% Glass	100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black	None	100.00% Other	<1% Chrysotile

Initial report from: 06/02/2021 16:51:43



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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 84 032109153-0084		Description Homogeneity	ROOF D, EAST - ROOF MEMBRANE Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	<1.00% Glass	100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black	None	100.00% Other	<1% Chrysotile
Sample ID 85 032109153-0085		Description Homogeneity	ROOF D, CENTER - TAR VAPOR BARRIER, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 86 032109153-0086		Description Homogeneity	ROOF D, EAST - TAR VAPOR BARRIER, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black		100.00% Other	Inconclusive: None Detected
TEM NYS 198.4 NOB	06/02/2021	Black		100.00% Other	None Detected
Sample ID 87 032109153-0087		Description Homogeneity	ROOF D, EAST - ROOF FLASHING, BLACK Heterogeneous		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021	Black	None	93.20% Other	6.80% Chrysotile
TEM NYS 198.4 NOB	06/02/2021				Positive Stop (Not Analyzed)
Sample ID 88 032109153-0088		Description Homogeneity	ROOF D, EAST - ROOF FLASHING, BLACK		
PLM NYS 198.1 Friable					Not Analyzed
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB	06/02/2021				Positive Stop (Not Analyzed)
TEM NYS 198.4 NOB	06/02/2021				Positive Stop (Not Analyzed)
Sample ID 89 032109153-0089		Description Homogeneity	ROOF D, EAST - FIBERBOARD FLASHING INSULATION, BROWN Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	90.00% Cellulose	10.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

Test	Analyzed Date	Color	Non-Asbestos		Asbestos
			Fibrous	Non-Fibrous	
Sample ID 90 032109153-0090			Description ROOF D, EAST - FIBERBOARD FLASHING INSULATION, BROWN Homogeneity Homogeneous		
PLM NYS 198.1 Friable	06/02/2021	Brown	95.00% Cellulose	5.00% Non-fibrous (other)	None Detected
PLM NYS 198.6 VCM					Not Analyzed
PLM NYS 198.6 NOB					Not Analyzed
TEM NYS 198.4 NOB					Not Analyzed

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EMSL Order: 032109153

Customer ID: LBAP78

Customer PO: 31402629.074

Project ID:

Test Report:Asbestos Analysis of Bulk Material

The samples in this report were submitted to EMSL for analysis by Asbestos Analysis of Bulk Materials via NYS ELAP Approved Methods . The reference number for these samples is the EMSL Order ID above . Please use this reference number when calling about these samples.

Report Comments:

Sample Receipt Date: 5/27/2021

Sample Receipt Time: 1:20 PM

Analysis Completed Date: 6/2/2021

Analysis Completed Time: 12:24 AM

Analyst(s):

Christopher Cernansky PLM NYS 198.1 Friable (7)

Johannes Breckheimer PLM NYS 198.1 Friable (7)

Ghaly Hemaya PLM NYS 198.6 NOB (73)

Ted Lam TEM NYS 198.4 NOB (1)

Venisha Lazarus-Barnes TEM NYS 198.4 NOB (67)

Samples reviewed and approved by:

James Hall, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis . Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. Estimation of uncertainty available upon request. This report is a summary of multiple methods of analysis, fully compliant reports are available upon request. All samples examined for the presence of vermiculite when analyzed via NYS 198.1. A combination of PLM and TEM analysis may be necessary to ensure consistently reliable detection of asbestos . Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. This report must not be used to claim product endorsement by NVLAP of any agency or the U.S. Government . Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing. NOB= Non friable organically bound; N/A= Not applicable VCM= Vermiculite containing material.

Samples analyzed by EMSL Analytical, Inc. New York, NY NYS ELAP 11506, NVLAP Lab Code 101048-9

Initial report from: 06/02/2021 16:51:43



ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

PAGE 1 OF 8

PROJECT NO.: 31402629.074

CLIENT: Chappaqua CSD

PROJECT SITE: Westford ES, 25 Granite Rd, Chappaqua, NY

Project Manager: A. Smolyar

LOUIS BERGER

TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341

ADDRESS: 96 Morton Street, 8th Floor, New York, NY 10014

LOCATION(S) SURVEYED: Roofs

PROPOSED PROJECT: Roofs

DATE(S) OF INSPECTION: 5/26/21

Inspector(s): M. Gelfand, J. Garcia

RESULTS TO: Lb.Labresults@wsp.com

TURNAROUND TIME: ☐ 12 HR. ☐ 24 HR.☐ 48 HR. ☒ 72 HR.

032109153

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
01	01	Roof A SW	Coating on Roof Membrane, Beis		
	02	↓ NE	↓		
02	03	Roof A SW	Roof Membrane, Black		
	04	↓ NE	↓		
03	05	Roof A SW	Tar on Metal Deck, Black		
	06	↓ NE	↓		
04	07	Roof A SW	Roof Flashing, Black		
	08	↓ NE	↓		
05	09	Roof A SW	Fiberboard Flashing Insulation, Brown		
	10	↓ NE	↓		
06	11	Roof A Center	Skylight Flashing, Black		
	12	↓	↓		

EMSL MANHATTAN LAB
RECEIVED
21 MAY 27 PM 1:20

CHAIN OF CUSTODY

Relinquished by: (print) <u>J. Garcia</u>	(Sign) <u>[Signature]</u>	5/27/21	AM/PM	Relinquished by: (print) <u>[Signature]</u>	(Sign) <u>[Signature]</u>	5/27/21	AM/PM	Relinquished by: (print) <u>[Signature]</u>	(Sign) <u>[Signature]</u>	5/27/21	AM/PM
Received by: (print) <u>[Signature]</u>	(Sign) <u>[Signature]</u>	5/27/21	1200	Received by: (print) <u>[Signature]</u>	(Sign) <u>[Signature]</u>	5/27/21	AM/PM	Received by: (print) <u>[Signature]</u>	(Sign) <u>[Signature]</u>	5/27/21	AM/PM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

WSP 6/1/21

6/2/21



ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

PAGE 2 OF 8

PROJECT NO.: 3140 2629.074

CLIENT: Chappaqua CSD

PROJECT SITE: West Orchard ES

Project Manager: A. Smolyar

LOCATION(S) SURVEYED: Roofs

PROPOSED PROJECT: Roofs

DATE(S) OF INSPECTION: 5/26/21

Inspector(s): M. Gelfand, J. Garcia

032109153

LOUIS BERGER
TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 96 Morton Street, 8th Floor, New York, NY 10014

RESULTS TO: Lb.Labresults@wsp.com

TURNAROUND TIME: ☐ 12 HR. ☐ 24 HR.☐ 48 HR. ☒ 72 HR.

HA	SAMPLE NO.	SAMPLE LOCATION		MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
07	13	Roof A	NE	Roof Tar Patch, Black		
	14	↓	NE	↓		
08	15	Roof A	West	Metal Flashing caulking, Black		
	16	↓	↓	↓		
09	17	Roof A	W. g ^r	Metal Flashing Caulking, White/Tan		
	18	↓	↓	↓		
10	19	Roof A	NE	Metal Flashing Caulking, Gray		
	20	↓	↓	↓		
11	21	Roof A	Center	Skylight Panel caulking, Beise		
	22	↓	North	↓		
12	23	Roof A	North	Skylight old caulking, white		
	24		↓	↓		

EMSL MANHATTAN LAB
RECEIVED
21 MAY 27 PM 1:20

CHAIN OF CUSTODY

Relinquished by: (print) J. Garcia	(Sign)	5/27/21	AM/PM	Relinquished by: (print)	(Sign)		AM/PM	Relinquished by: (print)	(Sign)		AM/PM
Received by: (print) D. Holcomb	(Sign)	5/27/21	AM/PM	Received by: (print)	(Sign)		AM/PM	Received by: (print)	(Sign)		AM/PM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL



ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

PAGE 3 OF 8

PROJECT NO.: 31402629-074
 CLIENT: Chappaqua CSD
 PROJECT SITE: West Orchard ES
 Project Manager: A. Smolyar

LOCATION(S) SURVEYED: Roofs
 PROPOSED PROJECT: Roofs
 DATE(S) OF INSPECTION: 5/26/21
 Inspector(s): M. Gelford, J. Garcia

032109153

LOUIS BERGER
 TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
 ADDRESS: 96 Morton Street, 8th Floor, New York, NY 10014

RESULTS TO: Lb.Labresults@wsp.com

TURNAROUND TIME: ☐ 12 HR. ☐ 24 HR.☐ 48 HR. ☒ 72 HR.

HA	SAMPLE NO.	SAMPLE LOCATION		MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
13	25	Roof A	NE	Wall Expansion Joint Coating, Light Brown		
	26	Roof F	SE	↓		
14	27	Roof F	SE	Wall Expansion Joint Tar, Black		
	28	↓	↓	↓		
15	29	Roof B	Center	Coating on Roof Membrane, Beige		
	30	↓	South	↓		
16	31	Roof B	Center	Roof Membrane, Black		
	32	↓	South	↓		
17	33	Roof B	Center	Tar on Metal Deck, Black		
	34	↓	South	↓		
18	35 *	Roof B	South	Roof Flashing, Black		
	36 *	↓	↓	↓		

EMSL MANHATTAN LAB
 RECEIVED
 21 MAY 27 PM 1:20

CHAIN OF CUSTODY

Relinquished by: (print) J. Garcia	(Sign)	5/27/21	AM/PM	Relinquished by: (print)	(Sign)	6/2/21	AM/PM
Received by: (print) D. Hadowit	(Sign)	5/27/21	12	Received by: (print)	(Sign)		AM/PM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL



ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

PAGE 4 OF 8

PROJECT NO.: 31402629.074

CLIENT: Chappaqua CSD

PROJECT SITE: West Orchard, ES

Project Manager: A Smolcar

LOUIS BERGER

TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341

ADDRESS: 96 Morton Street, 8th Floor, New York, NY 10014

LOCATION(S) SURVEYED: Roofs

PROPOSED PROJECT: Roof

DATE(S) OF INSPECTION: 5/26/21

Inspector(s): M. Gelfond, S. Garcia

032109153

RESULTS TO: Lb.Labresults@wsp.com

TURNAROUND TIME: ☐ 12 HR. ☐ 24 HR.☐ 48 HR. ☒ 72 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
19	37	Roof B South	Fiberboard Flashing Insulation, Brown		
	38	↓ ↓	↓		
20	39	Roof G Center	Coating on Roof Membrane, Black/Beige		
	40	↓ South	↓		
21	41	Roof G Center	Roof Membrane, Black		
	42	↓ ↓	↓		
22	43	Roof G South	Roof Flashing, Black		
	44	↓ West	↓		
23	45	Roof G South	Fiberboard Flashing Insulation, Brown		
	46	↓ West	↓		
24	47	Roof G Center	Roof Tar Patch, Black		
	48	↓	↓		

 ENCL MANHATTAN LAB
RECEIVED
21 MAY 27 PM 1:20

CHAIN OF CUSTODY

Relinquished by: (print) <u>S. Garcia</u>	(Sign) 	5/27/21	AM/PM	Relinquished by: (print) _____	(Sign) _____	____/____/____	AM/PM	Relinquished by: (print) _____	(Sign) _____	____/____/____	AM/PM
Received by: (print) <u>D. Adowk</u>	(Sign) 	5/27/21	120 AM/PM	Received by: (print) _____	(Sign) _____	____/____/____	AM/PM	Received by: (print) _____	(Sign) _____	____/____/____	AM/PM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL



ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

PAGE 5 OF 8

PROJECT NO.: 31402629.074
CLIENT: Chappaqua CSD
PROJECT SITE: West Orchard ES
Project Manager: A. Smolgor

LOCATION(S) SURVEYED: Roof 5
PROPOSED PROJECT: Roof 5
DATE(S) OF INSPECTION: 5/26/21
Inspector(s): M. Gelfond, S. Garcia

032109153

LOUIS BERGER
 TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
 ADDRESS: 96 Morton Street, 8th Floor, New York, NY 10014

RESULTS TO: Lb.Labresults@wsp.com

TURNAROUND TIME: ☐ 12 HR. ☐ 24 HR.

☐ 48 HR. ☒ 72 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
25	49	Roof I Center	Roof Membrane, Black		
	50	↓ West	↓		
26	51	Roof I Center	Old Roof Membrane, Black		
	52	↓ West	↓		
27	53	Roof I Center	Roof Insulation, Brown		
	54	↓ West	↓		
28	55	Roof I Center	Tar on Metal Deck, Black		
	56	↓ West	↓		
29	57	Roof I West	Roof flashing, Black		
	58	↓ ↓	↓		
30	59	Roof I NW	Tar on Roof flashing, Black		
	60	↓ SW	↓		

EMSL MANHATTAN LAB
 RECEIVED
 21 MAY 27 PM 1:10

CHAIN OF CUSTODY

Relinquished by: (print) S. Garcia	(Sign)	5/27/21	AM/PM	Relinquished by: (print)	(Sign)	1	1	AM/PM
Received by: (print) J. Holcomb	(Sign)	5/27/21	AM/PM	Received by: (print)	(Sign)	1	1	AM/PM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL

[Signature] 6/2/21



ASBESTOS SURVEY DATA SHEET/ CHAIN OF CUSTODY

PAGE 6 OF 8

PROJECT NO.: 31402629.07X

CLIENT: Chappaqua CSD

PROJECT SITE: Westorchard ES

Project Manager: A. Smolyar

LOUIS BERGER
TELEPHONE NO.: (212) 612-7900 FAX NO.: (212) 363-4341
ADDRESS: 96 Morton Street, 8th Floor, New York, NY 10014

LOCATION(S) SURVEYED: Roof S

PROPOSED PROJECT: Roof S

DATE(S) OF INSPECTION: 5/26/21

Inspector(s): M. Gelford, S. Garcia

RESULTS TO: Lb.Labresults@wsp.com

TURNAROUND TIME: ☐ 12 HR. ☐ 24 HR.☐ 48 HR. ☒ 72 HR.

032109153

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	FIELD NOTES
31	61	Roof F Center	Coating on Roof Membrane, Beige		
	62	↓ NW	↓		
32	63	Roof F Center	Roof Membrane, Black		
	64	↓ NW	↓		
33	65	Roof F Center	Tor Vapor Barrier, Black		
	66 +	↓ NW	↓		
34	67 +	Roof F NW	Roof Flashing, Black		
	68 +	↓ ~~SW~~ SW	↓		
35	69	Roof F NW	Fiberboard Flashing Insulation, Brown		
	70	↓ ~~SW~~ SW	↓		
36	71	Roof E Center	Coating on Roof Membrane, Beige		
	72	↓ West	↓		

 EMCL MANHATTAN LAB
RECEIVED
71 MAY 27 PM 1:57

CHAIN OF CUSTODY

Relinquished by: (print) S. Garcia	(Sign)	5/22/21	AM/PM	Relinquished by: (print)	(Sign)		AM/PM	Relinquished by: (print)	(Sign)		AM/PM
Received by: (print) J. Holowak	(Sign)	5/27/21	12:20	Received by: (print)	(Sign)		AM/PM	Received by: (print)	(Sign)		AM/PM

NOTE: USE STOP AT FIRST POSITIVE METHODOLOGY FOR EVERY HOMOGENEOUS MATERIAL



ASBESTOS SURVEY DATA SHEET / CHAIN OF CUSTODY

032109153

PAGE 7 OF 8

PROJECT NO.: 31402629.074
 CLIENT: Chappaqua CSD CAPIs ID#: #:
 PROJECT SITE: Westorchard ES
 PROJECT ADDRESS: 25 Granite Rd, Chappaqua NY

DATE(S) OF INSPECTION: 12-2-21
 Project Manager: A. Smoker
 Inspector(s)/Investigator(s): M. Gelfand, J. Garcia

LOUIS BERGER dba WSP USA Solutions, Inc.
 TELEPHONE NO.: (212) 612-7900
 ADDRESS: 96 Morton Street 8th Floor, New York, NY 10014

RESULTS TO: josue.garcia@wsp.com;
 prakash.saha@wsp.com

TURNAROUND TIME:
☐ 12 HR. ☐ 24 HR. ☐ 48 HR. ☒ 72 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	Conditions Good/Fair/Poor	Friable Yes/No	FIELD NOTES
37	73	Roof E center	Roof Membrane, Black				
	74	↓ west	↓				
38	75	Roof E center	Tor Vapor Barrier, Black				
	76	↓ west	↓				
39	77	Roof E west	Roof Flashing, Black				
	78	↓ east	↓				
40	79	Roof E west	Fiberboard Flashing Insulation, Brown				
	80	↓ East	↓				
41	81	Roof D center	Coating on Roof Membrane, Beige				
	82	↓ East	↓				
42	83	Roof D center	Roof Membrane				
	84	↓ East	↓				

EMSL MANHATTAN LAB
 RECEIVED
 21 MAY 27 PM 1:00

CHAIN OF CUSTODY

Relinquished by: (print) J. Garcia	(Sign) [Signature]	5/27/21	AM/PM	Relinquished by: (print)	(Sign)	/ /	AM/PM	Relinquished by: (print)	(Sign)	/ /	AM/PM
Received by: (print) J. Garcia	(Sign) [Signature]	5/27/21	1:00 PM	Received by: (print)	(Sign)	/ /	AM/PM	Received by: (print)	(Sign)	/ /	AM/PM

General Notes: conclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.

[Signature]
 6/2/21

PROJECT NO.: 31402629.074

CLIENT: Chavez, CSD CAPIS ID#: #:

PROJECT SITE: Wash Orchard E S

PROJECT ADDRESS: 25 Granite Rd, Chappaqua, NY

DATE(S) OF INSPECTION: Reef 5

Project Manager: A. Snyder

Inspector(s)/Investigator(s): M. Gelford, J. Gouin

LOUIS BERGER dba WSP USA Solutions, Inc.

TELEPHONE NO.: (212) 612-7900

ADDRESS: 96 Morton Street 8th Floor, New York, NY 10014

RESULTS TO: josue.garcia@wsp.com;
prakash.saha@wsp.com

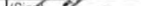
TURNAROUND TIME:

☐ 12 HR. ☐ 24 HR. ☐ 48 HR. ☒ 72 HR.

HA	SAMPLE NO.	SAMPLE LOCATION	MATERIAL DESCRIPTION	APPROX. QUANTITY (LF/SF)	Conditions Good/Fair/Poor	Friable Yes/No	FIELD NOTES
43	85	Roof D Center	Tor Vapor Barrier, Black				
	86	↓ East	↓				
44	87	Roof D East	Roof Flashing, Black				
	88	↓ ↓	↓				
45	89	Roof D East	Fiberboard Flashing Insulation, Brown				
	90	↓ ↓	↓				

EMUL MATERIAL LAB
 RECEIVED
 21 MAY 27 PM 1:20

CHAIN OF CUSTODY

Relinquished by: (print) S. Garcia	(Sign) 	5/27/21	AM/PM	Relinquished by: (print)	(Sign)	/ /	AM/PM	Relinquished by: (print)	(Sign)	/ /	AM/PM
Received by: (print) P. Hobart	(Sign) 	5/27/21	1200 AM/PM	Received by: (print)	(Sign)	/ /	AM/PM	Received by: (print)	(Sign)	/ /	AM/PM

General Notes: inconclusive NOBs to be analyzed by TEM. Please stop at 1st positive in any homogeneous group.



**APPENDIX C:
ASBESTOS BULK SAMPLE LOCATION DRAWINGS**

WESTORCHARD
ELEMENTARY
SCHOOL
ROOF
REPLACEMENT
25 Granite Road
Chappaqua, NY 10514



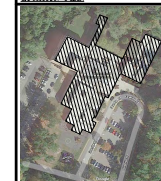
CHAPPAQUA CENTRAL
SCHOOL DISTRICT
66 Roaring Brook Rd.
Chappaqua, NY 10514

ENVIRONMENTAL CONSULTANT:



WSP USA SOLUTIONS, INC.
500 Stewart Lane, Suite 400
Middletown, NY 10940
TEL: 847.942.1120

LOCATION PLAN



No. Date Issue

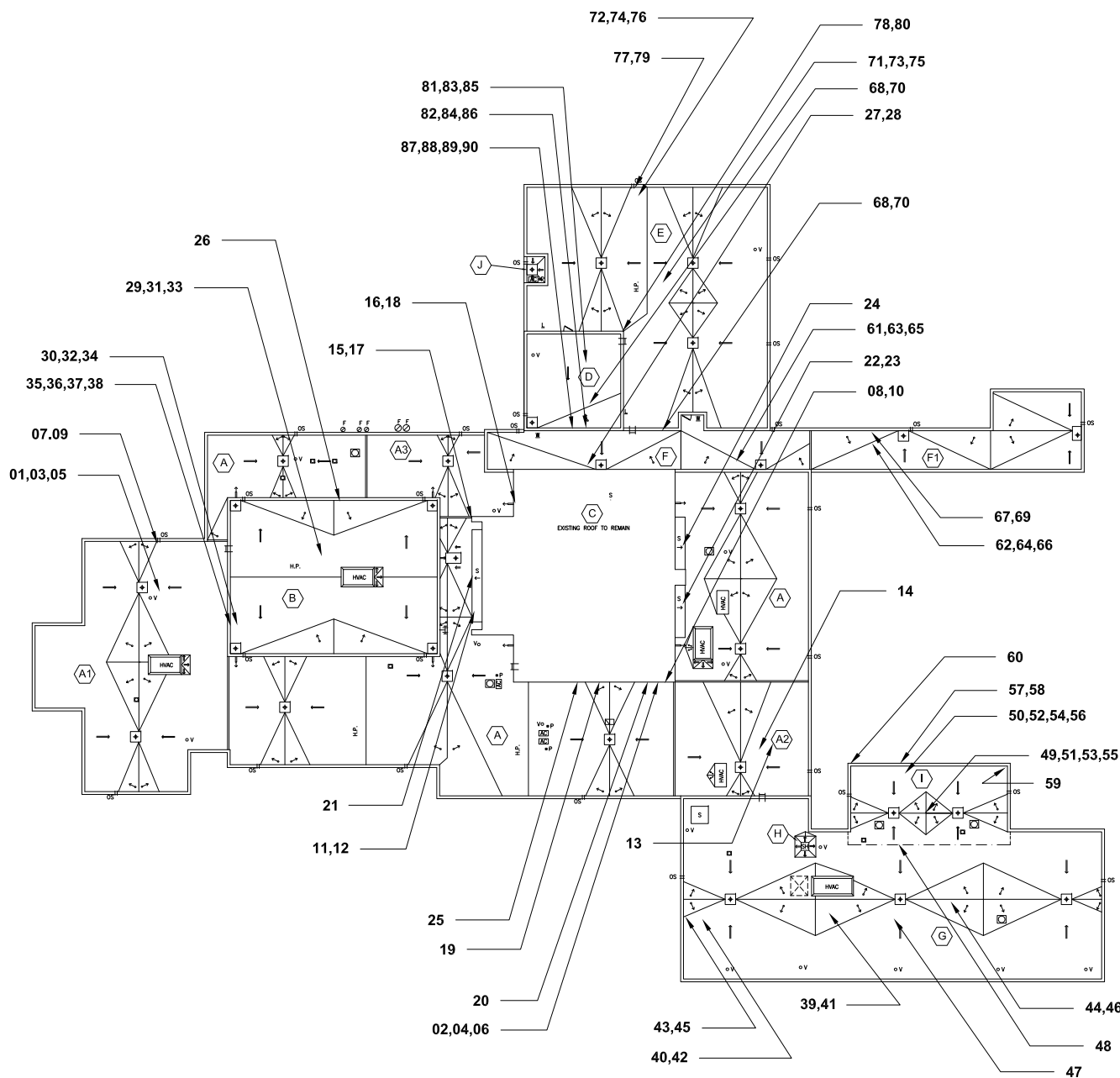
Sheet Title

BULK SAMPLE LOCATIONS
ROOF PLAN

Job No. 31402620,074 Date 06/09/2021
Scale AS NOTED Drawn / Checked JF AS

Sheet Number

BSL001



ROOF PLAN
0" = 4" = 8" = 16"



PROJECT
NORTH



**APPENDIX D:
ASBESTOS CONTAINING MATERIALS LOCATION
DRAWINGS**



CHAPPAQUA CENTRAL
SCHOOL DISTRICT
68 Roaring Brook Rd.
Chappaqua, NY 10514

ENVIRONMENTAL CONSULTANT



WSP USA SOLUTIONS, INC.
500 Stewart Lane, Suite 400
Middletown, NY 10940
TEL: 847.421.1100

LOCATION PLAN



No. Date Issue

Sheet Title

ASBESTOS CONTAINING
MATERIALS
ROOF PLAN

Job No. 314026205,074 Date 06/08/2021

Scale AS NOTED Drawn / Checked JF AS

Sheet Number

ACM001

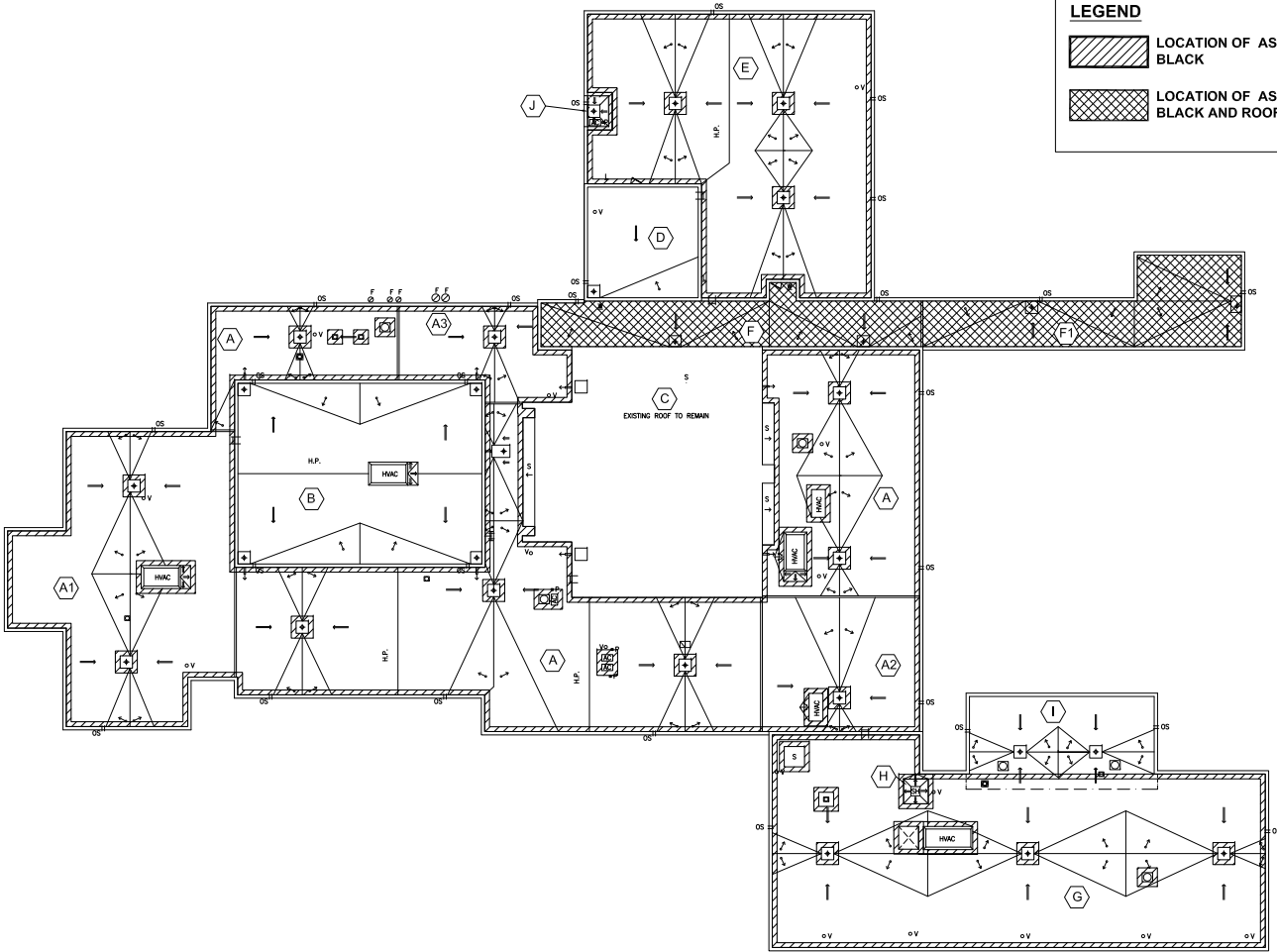
LEGEND



LOCATION OF ASBESTOS CONTAINING ROOF FLASHING,
BLACK



LOCATION OF ASBESTOS CONTAINING TAR VAPOR BARRIER,
BLACK AND ROOF FLASHING, BLACK



ROOF PLAN
0" 4" 8" 16"



PROJECT
NORTH



**APPENDIX E:
LEAD XRF SHOT RESULTS**

		XRF CALIBRATION CHECK FORM			PAGE ____ OF ____	
PROJ. NO.: <u>31402629.071</u>		DATE: <u>5/25/21</u>				
PROJECT NAME: <u>West orchard ES.</u>		INSPECTOR NAME: <u>M.G., J.G.</u>				
CLIENT: <u>Chappery CSO</u>		INSPECTOR SIGNATURE: _____				
SITE: _____		PROJ. MANAGER: <u>A.S.</u>				
LOUIS BERGER a WSP USA Company TELEPHONE #: (212) 612-7900 FAX #: (212) 425-1618 ADDRESS: 96 Morton Street, 8th Floor, New York, NY 10014		XRF MAKE/MODEL: <u>RMD LPA-1 (Serial#3675)</u> <u>Heuresis Pb200i (Serial#2150)</u>		LLW#: _____		JOB#: _____
		NOTES: _____				
CALIBRATION CHECK – PRIOR TO LEAVING OFFICE						
<u>1.0</u> mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: <u>8:00 am</u>	TEST #	<u>1</u>	<u>2</u>	<u>3</u>		
	XRF READING	<u>0.7</u>	<u>0.8</u>	<u>0.8</u>		
CALIBRATION CHECK – PRIOR TO LEAVING OFFICE						
<u>0.0</u> mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: <u>8:05 am</u>	TEST #	<u>4</u>	<u>5</u>	<u>6</u>		
	XRF READING	<u>0.1</u>	<u>-0.1</u>	<u>0.1</u>		
CALIBRATION CHECK – FIELD-START						
_____ mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: _____	TEST #					
	XRF READING					
CALIBRATION CHECK – FIELD-END/2-HR (circle one)						
<u>1.0</u> mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: <u>12:30 pm</u>	TEST #	<u>14</u>	<u>15</u>	<u>16</u>		
	XRF READING	<u>0.8</u>	<u>0.9</u>	<u>0.8</u>		
CALIBRATION CHECK – FIELD-END/2-HR (circle one)						
<u>0.0</u> mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: <u>12:35 pm</u>	TEST #	<u>17</u>	<u>18</u>	<u>19</u>		
	XRF READING	<u>-0.1</u>	<u>0.0</u>	<u>-0.1</u>		
CALIBRATION CHECK – FIELD-END/2-HR (circle one)						
_____ mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: _____	TEST #					
	XRF READING					
CALIBRATION CHECK – FIELD-END/2-HR (circle one)						
_____ mg/cm ² Calibration Block		FIRST READING	SECOND READING	THIRD READING	AVERAGE	
CALIBRATION TIME: _____	TEST #					
	XRF READING					

PROJECT NAME: Westonfield ES Road
PROJECT LOCATION: _____
INSPECTION DATE: 5/26/21

NOTES:

NOTES:

Side: Left/Center/Right; **Height:** Lower/Middle/Upper; **Substrate:** M: Metal; PL: Plaster; S: Sheetrock; C: Concrete; CB: Cinder Block; CR: Sinks, Water Closets, etc.; CT: Ceramic Tile; PG: Porcelain-glazed Block; B: Brick; W: Wood; V: Vinyl; FG: Fiberglass; G: Glass; **Condition:** I = Intact; F = Fair; P = Poor; **Initial Result:** P = Positive; N = Negative;



**APPENDIX F:
PCB BULK SAMPLE FIELD DATA SHEETS WITH CHAIN OF
CUSTODY & LABORATORY RESULTS**



EMSL Analytical, Inc.

200 Route 130 North, Cinnaminson, NJ 08077

Phone: (856) 303-2500 Fax: (856) 858-4571 Email: EnvChemistry2@emsl.com

Attn:

**Michael Gelfand
WSP USA Solutions Inc
96 Morton Street
8th floor
New York, NY 10014**

Phone: (212) 612-7900

Fax:

6/7/2021

The following analytical report covers the analysis performed on samples submitted to EMSL Analytical, Inc. on 5/28/2021. The results are tabulated on the attached data pages for the following client designated project:

31402629.074 Westerchord ES

The reference number for these samples is EMSL Order #012105637. Please use this reference when calling about these samples. If you have any questions, please do not hesitate to contact me at (856) 303-2500.

Approved By:

Phillip Worby, Environmental Chemistry
Laboratory Director



The test results contained within this report meet the requirements of NELAP and/or the specific certification program that is applicable, unless otherwise noted.

NELAP Certifications: NJ 03036, NY 10872, PA 68-00367, CA ELAP 1877

The samples associated with this report were received in good condition unless otherwise noted. This report relates only to those items tested as received by the laboratory. The QC data associated with the sample results meet the recovery and precision requirements established by the NELAP, unless specifically indicated. All results for soil samples are reported on a dry weight basis, unless otherwise noted. This report may not be reproduced except in full and without written approval by EMSL Analytical, Inc.

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (856) 303-2500 / (856) 858-4571

<http://www.EMSL.com>EnvChemistry2@emsl.com

EMSL Order: 012105637

CustomerID: LBAP78

CustomerPO:

ProjectID:

Attn: **Michael Gelfand**
WSP USA Solutions Inc
96 Morton Street
8th floor
New York, NY 10014

Phone: (212) 612-7900

Fax:

Received: 5/28/2021 09:00 AM

Project: 31402629.074 Westerchord ES

Analytical Results

Client Sample Description 01,02,03 **Collected:** 5/26/2021 **Lab ID:** 012105637-0001
 Roof A West

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
GC-SVOA					
3546/8082A	Aroclor-1016	ND D	0.86 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1221	ND D	0.86 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1232	ND D	0.86 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1242	ND D	0.86 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1248	ND D	0.86 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1254	11 D	0.86 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1260	9.4 D	0.86 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1262	ND D	0.86 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1268	19 D	0.86 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL

Client Sample Description 04,05,06 **Collected:** 5/26/2021 **Lab ID:** 012105637-0002
 Roof A West

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
GC-SVOA					
3546/8082A	Aroclor-1016	ND D	0.94 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1221	ND D	0.94 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1232	ND D	0.94 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1242	ND D	0.94 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1248	ND D	0.94 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1254	ND D	0.94 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1260	ND D	0.94 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1262	ND D	0.94 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1268	ND D	0.94 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL

Client Sample Description 07,08,09 **Collected:** 5/26/2021 **Lab ID:** 012105637-0003
 Roof A NE

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
GC-SVOA					
3546/8082A	Aroclor-1016	ND D	0.96 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1221	ND D	0.96 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1232	ND D	0.96 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1242	ND D	0.96 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1248	ND D	0.96 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (856) 303-2500 / (856) 858-4571

<http://www.EMSL.com>EnvChemistry2@emsl.com

EMSL Order: 012105637

CustomerID: LBAP78

CustomerPO:

ProjectID:

Attn: **Michael Gelfand**
WSP USA Solutions Inc
96 Morton Street
8th floor
New York, NY 10014

Phone: (212) 612-7900

Fax:

Received: 5/28/2021 09:00 AM

Project: 31402629.074 Westerchord ES

Analytical Results

Client Sample Description 07,08,09
Roof A NE

Collected: 5/26/2021 **Lab ID:** 012105637-0003

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
GC-SVOA					
3546/8082A	Aroclor-1254	1.2 D	0.96 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1260	ND D	0.96 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1262	ND D	0.96 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1268	ND D	0.96 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL

Client Sample Description 10,11,12
Roof A Center, North

Collected: 5/26/2021 **Lab ID:** 012105637-0004

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
GC-SVOA					
3546/8082A	Aroclor-1016	ND D	0.88 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1221	ND D	0.88 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1232	ND D	0.88 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1242	ND D	0.88 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1248	ND D	0.88 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1254	3.4 D	0.88 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1260	ND D	0.88 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1262	ND D	0.88 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1268	5.2 D	0.88 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL

Client Sample Description 13,14,15
Roof A North

Collected: 5/26/2021 **Lab ID:** 012105637-0005

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
GC-SVOA					
3546/8082A	Aroclor-1016	ND D	0.90 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1221	ND D	0.90 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1232	ND D	0.90 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1242	ND D	0.90 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1248	ND D	0.90 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1254	ND D	0.90 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1260	ND D	0.90 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1262	ND D	0.90 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL
3546/8082A	Aroclor-1268	1.4 D	0.90 mg/Kg	6/1/2021 PG	6/1/2021 00:00 TL

**EMSL Analytical, Inc.**

200 Route 130 North, Cinnaminson, NJ 08077

Phone/Fax: (856) 303-2500 / (856) 858-4571

<http://www.EMSL.com>EnvChemistry2@emsl.com

EMSL Order: 012105637

CustomerID: LBAP78

CustomerPO:

ProjectID:

Attn: **Michael Gelfand**
WSP USA Solutions Inc
96 Morton Street
8th floor
New York, NY 10014

Phone: (212) 612-7900

Fax:

Received: 5/28/2021 09:00 AM

Project: 31402629.074 Westerchord ES

Analytical Results

Client Sample Description 16,17,18
Roof A & Roof F, NE, SW, & E

Collected: 5/26/2021 **Lab ID:** 012105637-0006

Method	Parameter	Result	RL Units	Prep Date & Analyst	Analysis Date & Analyst
GC-SVOA					
3546/8082A	Aroclor-1016	ND D	870 mg/Kg	6/1/2021 PG	6/2/2021 00:00 TL
3546/8082A	Aroclor-1221	ND D	870 mg/Kg	6/1/2021 PG	6/2/2021 00:00 TL
3546/8082A	Aroclor-1232	ND D	870 mg/Kg	6/1/2021 PG	6/2/2021 00:00 TL
3546/8082A	Aroclor-1242	ND D	870 mg/Kg	6/1/2021 PG	6/2/2021 00:00 TL
3546/8082A	Aroclor-1248	ND D	870 mg/Kg	6/1/2021 PG	6/2/2021 00:00 TL
3546/8082A	Aroclor-1254	3700 D	870 mg/Kg	6/1/2021 PG	6/2/2021 00:00 TL
3546/8082A	Aroclor-1260	ND D	870 mg/Kg	6/1/2021 PG	6/2/2021 00:00 TL
3546/8082A	Aroclor-1262	ND D	870 mg/Kg	6/1/2021 PG	6/2/2021 00:00 TL
3546/8082A	Aroclor-1268	7600 D	870 mg/Kg	6/1/2021 PG	6/2/2021 00:00 TL

Definitions:

MDL - method detection limit

J - Result was below the reporting limit, but at or above the MDL

ND - indicates that the analyte was not detected at the reporting limit

RL - Reporting Limit (Analytical)

D - Dilution Sample required a dilution which was used to calculate final results

WSP PROJ #: 31402629.07X
CLIENT: Chalapaqua CSD
Project Site: Westorchard ES
Project Manager: A. Smolyar

LOCATION(S) SURVEYED Roof S
PROPOSED PROJECT : Roof S
DATE(S) OF INSPECTION: 5/26/21
Inspector(s) M. Gelfand J. Garcia

WSP
TELEPHONE NO. : (212) 612-7900 **FAX NO.: (212) 363-4341**
ADDRESS: 96 Morton Street, 8 Floor, New York, NY 10014

RESULTS TO:

TURNAROUND TIME:

☐ 48 HR ☐ 72 H R ☐ 96 HR ☒ 120 HR[illegible]

RECEIVED
MAY 27 1964
PM 1:19

CHAIN OF CUSTODY

Relinquished by: (print) S. Garco	(Sign) 	5/27/21	AM/PM	Relinquished by: (print)	(Sign)	/ /	AM/PM
Received by: (print) David H. Garco	(Sign) 	5/27/21	11:58 AM	Received by: (print)	(Sign)	/ /	AM/PM

LAB INSTRUCTIONS: create one (1) composite sample of each homogeneous material from equal mass portions ($\pm 5\%$) of the three (3) sub-samples for extraction and analysis via EPA Method 8082 and report the Arochlors listed (Arochlor 1016, Arochlor 1221, Arochlor 1232, Arochlor 1242, Arochlor 1248, Arochlor 1254, Arochlor 1260). The laboratory shall target a PCB detection limit of 1 ppm



**APPENDIX G:
COMPANY LICENSE, PERSONAL CERTIFICATIONS AND
LABORATORY ACCREDITATIONS**

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER



Expires 12:01 AM April 01, 2022
Issued April 01, 2021

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

MR. JAMES HALL
EMSL ANALYTICAL, INC
307 WEST 38TH STREET
NEW YORK, NY 10018

NY Lab Id No: 11506

*is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:*

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual



Department
of Health

Serial No.: 63009

Property of the New York State Department of Health. Certificates are valid only at the address shown, must be conspicuously posted, and are printed on secure paper. Continued accreditation depends on successful ongoing participation in the Program. Consumers are urged to call (518) 485-5570 to verify the laboratory's accreditation status.

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 101048-9

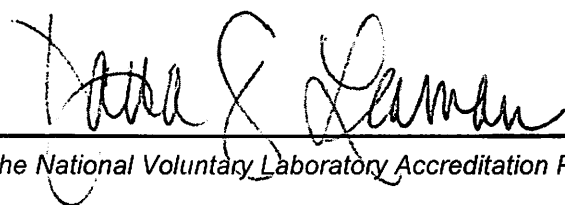
EMSL Analytical, Inc.
New York, NY

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2020-07-01 through 2021-06-30
Effective Dates



For the National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

EMSL Analytical, Inc.

307 W. 38th Street

New York, NY 10018

Mr. Jim Hall

Phone: 212-290-0051 Fax: 212-290-0058

Email: jhall@emsl.com

<http://www.emsl.com>

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 101048-9

Bulk Asbestos Analysis

Code

Description

18/A01

EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples

18/A03

EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

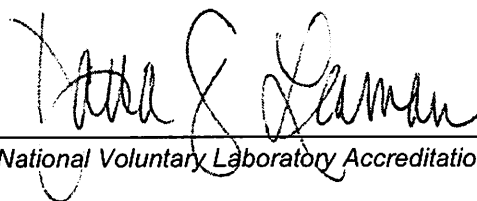
Airborne Asbestos Analysis

Code

Description

18/A02

U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.



For the National Voluntary Laboratory Accreditation Program



01213 005579771 60



Department
of Labor

JOSUE GARCIA

C/O LOUIS BERGER 96 MORTON ST 8TH FL
NEW YORK NY 10014

Enclosed is your new card.

NYS Department of Labor

The Department of Labor is happy to provide this improved card. We welcome your comments:

nysdol@labor.ny.gov or call (518) 457-2735

YOUR NEW CARD



STATE OF NEW YORK - DEPARTMENT OF LABOR
ASBESTOS CERTIFICATE



MICHAEL GELFAND

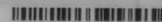
CLASS(EXPIRES)

D INSP(02/22) E MGPL(02/22)

I PD (02/22)

CERT# 98-17113

MUST BE CARRIED ON ASBESTOS PROJECTS



United States Environmental Protection Agency

This is to certify that



Michael Gelfand

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires April 27, 2022

LBP-R-11499-1

Certification #

April 13, 2019

Issued On



John Gorman, Chief

Pesticides & Toxic Substances Branch



**APPENDIX H:
SCOPE OF WORK DRAWINGS**

DECK TYPE CHART & INSULATION REQUIREMENTS				
ROOF AREA	DECK TYPE	STARTING THICKNESS OF NEW INSULATION	MINIMUM R-VALUE OF NEW INSULATION	AVERAGE THICKNESS OF NEW INSULATION
A	METAL	5.5"	30	7.3"
A1	METAL	5.5"	30	7.3"
A2	METAL	5.5"	30	7.1"
A3	METAL	5.5"	30	7.3"
B	METAL	5.5"	30	7.3"
C	EXISTING ROOFING TO REMAIN			
D	CONCRETE	5.5"	30	7.7"
E	CONCRETE	5.5"	30	6.9"
F	CONCRETE	5.5"	30	6.4"
F1	CONCRETE	1.2"	-	-
G	METAL	5.5"	30	7.4"
H	METAL	5.5"	30	5.7"
I	METAL	5.5"	30	6.4"
J	CONCRETE	5.5"	30	5.7"

NOTES:

1. INSTALL INSULATION WITH A MINIMUM R-VALUE OF 30 FOR CONTINUOUS INSULATION ENTIRELY ABOVE THE DECK, TO MEET THE NY STATE ENERGY CONSERVATION CONSTRUCTION CODE, INCLUDING THE INTERNATIONAL ENERGY CONSERVATION CODE AND THE NY STATE SUPPLEMENT, FOR A BUILDING IN CLIMATE ZONE 4.

2. INSTALL TAPERED ISOQUANATE INSULATION THAT SLOPES 1/8 INCH PER FOOT; MINIMUM STARTING THICKNESS 5-1/2 INCHES UNLESS OTHERWISE NOTED. INSTALL THE ISOQUANATE INSULATION IN MULTIPLE LAYERS, WITH THE THICKEST LAYER BEING 4 INCHES. STAGGER ALL JOINTS BETWEEN LAYERS 12 INCHES.

3. INSTALL ISOQUANATE INSULATION CRICKETS UNDER THE TAPERED INSULATION.

4. INSTALL A COVER BOARD USING LOW RISE FOAM ADHESIVE OVER THE INSULATION AND CRICKETS.

5. AREA "TY" IS A ROOF OVER AN OUTDOOR SPACE, R-VALUE CALCULATIONS ARE NOT REQUIRED.

CODE COMPLIANCE REQUIREMENTS:

- INSTALL NEW ROOFING TO MEET THE FOLLOWING MINIMUM REQUIREMENTS:
A. NEW YORK STATE UNIFORM FIRE PREVENTION AND BUILDING CODE, WHICH INCLUDES BY REFERENCE THE NEW YORK STATE ENERGY CONSERVATION CODE.
B. UNDERWRITERS LABORATORIES INC. CLASS A EXTERIOR FIRE RATING FOR ROOF ASSEMBLIES TESTED IN ACCORDANCE WITH ASTM E 108 OR UL 790.
C. UNDERWRITERS LABORATORIES INC. STANDARD 1256 FOR ROOF ASSEMBLIES WITH FLOW INSULATION.
- INSTALL ROOFING TO COMPLY WITH THE WIND UPLIFT REQUIREMENTS OF THE NY STATE UNIFORM FIRE PREVENTION AND BUILDING CODE, BASED ON THIS CRITERIA:
RISK CATEGORY III
BASIC WIND SPEED 130 MPH
EXPOSURE CATEGORY B
BUILDING HEIGHT 30 FT.
- INSTALL ROOFING AS INDICATED TO RESIST THE FOLLOWING UPLIFT LOADS, CALCULATED IN ACCORDANCE WITH ASCE 7 USING A SAFETY FACTOR OF 2:
FIELD ZONE: 60 PSF
PERIMETER ZONE: 100 PSF
CORNER ZONE: 150 PSF
- FABRICATE AND INSTALL ROOF PERIMETER FLASHINGS THAT COMPLY WITH THE NY STATE UNIFORM FIRE PREVENTION AND BUILDING CODE AND WITH ASCE/ENR 15-1 "WIND STANDARDS FOR EDGE SYSTEMS USED WITH LOW SLOPE ROOFING SYSTEMS," ON A BUILDING USING THE CRITERIA DESCRIBED ABOVE.
- FABRICATE AND INSTALL WOOD BLOCKING COMPONENTS TO RESIST A FORCE OF 275 POUNDS PER LINEAL FOOT APPLIED IN ANY DIRECTION.

ROOF PROTECTION NOTES:

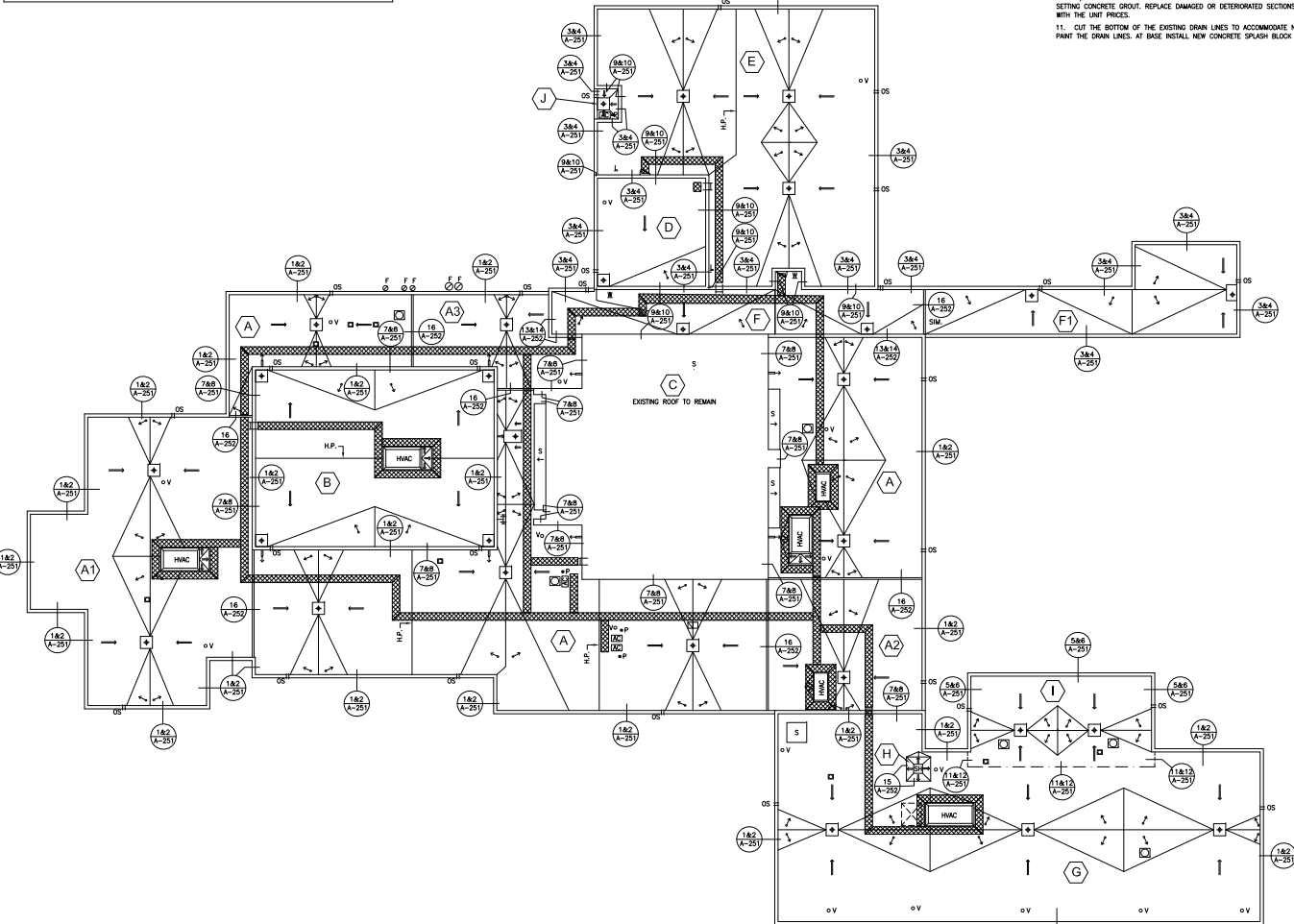
- AVOID WALKING ON NEW AND EXISTING N.C. ROOF AREAS.
- DO NOT STORE MATERIAL OR EQUIPMENT, AND DO NOT PILE DEBRIS ON NEW ROOF AREAS.
- INSTALL 1 INCH THICK EXTRUDED POLYSTYRENE INSULATION OVER 4 IN. FIRE RETARDANT POLYETHYLENE COVERED WITH 2x10 WOOD PLANKS TO PROTECT ROOFING WHERE CONSTRUCTION WORK AND TRAFFIC WILL OCCUR.
- NEATLY CUT AND POSITION ROOF PROTECTION COMPONENTS TO FIT WITHIN 1/2 INCH OF ROOF PENETRATIONS, EAVES AND CHANGE IN ELEVATION WALLS.
- DO NOT COVER THE ROOF DRAINS. MAINTAIN THE ROOF DRAIN STRAINERS VISIBLE AND CLEAR AT ALL TIMES.

GENERAL NOTES:

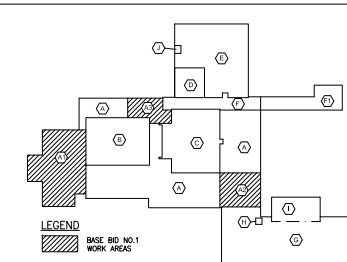
- DIMENSIONS AND CONDITIONS ON THE ROOF PLAN AND DETAILS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE CONTRACTOR.
- ONLY CERTAIN FASTENERS ARE SHOWN ON THE DRAWINGS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL FASTENER REQUIREMENTS.
- TEST EACH DRAIN LINE WITH A RUNNING HOSE FOR AT LEAST ONE HOUR PRIOR TO STARTING ANY OTHER WORK ON SITE. PROVIDE A WRITTEN REPORT OF ANY CLOSED LINES TO THE OWNER.
- CLOSED DRAIN LINES REPORTED TO THE OWNER BEFORE WORK STARTS WILL BE CLEANED BY THE OWNER.
- CORNER & PROTECT ALL DRAIN OPENINGS AT THE BEGINNING OF EACH WORK DAY. REMOVE THE COVERS AT THE END OF EACH DAY AND BEFORE PRECIPITATION OCCURS.
- PERFORM MAINTENANCE WORK IS REQUIRED SO ALL DRAIN LINES ARE CLEAN AND FREE FLOWING UPON COMPLETION OF THE PROJECT.
- REMOVE AND RESET EXISTING AC CONDENSERS ON 2 X 2 FOOT X 2 INCH THICK CONCRETE PAVES SET ON WALKWAY PADS A MINIMUM OF 10 FT. AWAY FROM THE ROOF EDGE. FASTEN THE CONDENSERS TO THE PAVES WITH STAINLESS STEEL NAIL-INS. DISCONNECT, ADJUST, MOODY, AND RECONNECT THE EXISTING SUMP & RETURN LINES AND CONDUCITS.
- REMOVE EXISTING ROOF TOP ELECTRICAL CONDUIT AND GAS PIPE SUPPORTS. RE-SET THE CONDUIT AND PIPES ON ADJUSTABLE HEIGHT FACTORY MANUFACTURED PIPE SUPPORTS PLACED ON WALKWAY PADS SPACED 5 FEET ON CENTER. SECURE THE CONDUITS AND PIPES TO THE PIPE SUPPORTS WITH GALVANIZED CLIPS & BOLTS.
- WIRE BRUSH, PRIME & PAINT ALL ROOF TOP EQUIPMENT HOUSINGS, EXTERIOR & INTERIOR ACCESS BULKHEAD DOORS & DOOR FRAMES (BOTH SIDES), GAS LINES, AND THE VENT PIPES. DO NOT PAINT OVER EQUIPMENT NAME PLATES AND LABELS.
- REPAIR EXHAUST EQUIPMENT HOUSINGS SO THEY ARE WATERPROOF. REPLACE ANY MISSING PIECES.
- RE-CAULK ALL VERTICAL MASONRY CONTROL AND EXPANSION JOINTS IN THE CHANGE IN ELEVATION WALLS ABOVE LOWER LEVEL ROOFS. REMOVE EXISTING SEALANT AND BACK UP MATERIALS, AND INSTALL NEW BACKER ROD AND SEALANT.
- RE-CAULK JOINTS BETWEEN THE WALL LOUVERS AND MASONRY FACADE. REMOVE EXISTING SEALANT AND BACK UP MATERIALS, AND INSTALL NEW BACKER ROD AND SEALANT.
- REPAIR LOOSE SECTIONS OF METAL DECKS AS BASE BID WORK. REPAIR SURFACE DEFECTS LESS THAN 1/2 INCH DEEP IN THE TOP SURFACE OF CONCRETE DECKS AS BASE BID WORK USING FAST SETTING CONCRETE GROUT. REPLACE DAMAGED OR DETERIORATED SECTIONS OF DECK IN ACCORDANCE WITH THE UNIT PRICES.
- CUT THE BOTTOM OF THE EXISTING DRAIN LINES TO ACCOMMODATE NEW ROOFING. PRIME AND PAINT THE DRAIN LINES. AT BASE INSTALL NEW CONCRETE SPLASH BLOCK OVER A WALKWAY PAD.

LEGEND:

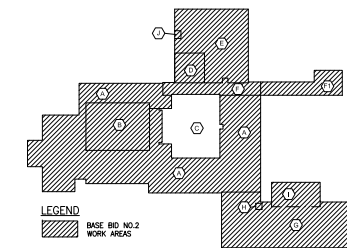
- ROOF AREA DESIGNATION
- ROOF DRAIN (SEE DETS. 17 & 18/A-252)
- VENT PIPE (SEE DET. 19/A-252)
- SEALANT POCKET (SEE DET. 20/A-252)
- HVAC CURB (SEE DET. 21/A-252)
- HVAC CURB (SEE DETS. 22, 23 & 24/A-252)
- SMOKE HATCH (SEE DET. 25/A-252)
- SKYLIGHT (SEE DET. 26/A-252)
- EXHAUST FAN (SEE DET. 27/A-252)
- SLOPED SKYLIGHT (SEE DETS. 29-31/A-252)
- GUTTER/SCUPPER (SEE DET. 32/A-252)
- WALL LOUVER (SEE DET. 33/A-252)
- WINDOW (SEE DET. 34/A-252)
- CAPPED CURB (SEE DET. 35/A-252)
- NEW ROOF LADDER (SEE DET. 36/A-252)
- AC UNIT (SEE NOTE 4)
- BOTTOM OF DRAIN PIPE (SEE NOTE 11)
- WEATHER VANE ANTENNA TO REMAIN
- FLUE TO REMAIN
- TAPERED ISOQUANATE INSULATION, SLOPE 1/8"/FT. (SEE R-VALUE CHART FOR MINIMUM STARTING THICKNESS)
- CRICKET- SLOPE 1/4"/FT
- INSULATION HIGH POINT
- WALKWAY PADS



ROOF PLAN
0" 6" 12"



KEY PLAN
N.T.S.



KEY PLAN
N.T.S.



ROOF PLAN



**APPENDIX I:
PHOTOGRAPHIC DOCUMENTATION**



Photo 1: ACM Tar Vapor Barrier (Roof F)



Photo 2: ACM Roof Flashing and Fiberboard Flashing Insulation.



Photo 3: Non-ACM Roofing System (Coating on Membrane, Roof Membrane, Tar on Metal Deck)



Photo 4: Non-ACM Roofing System (Roof Membrane, Old Roof Membrane, Roof Insulation, Tar on Metal Deck)



Photo 5: Non-ACM Roof Tar Patch



Photo 6: Non-ACM Metal Flashing Caulking, Black



Photo 7: Non-ACM Metal Flashing Caulking, White/Tan

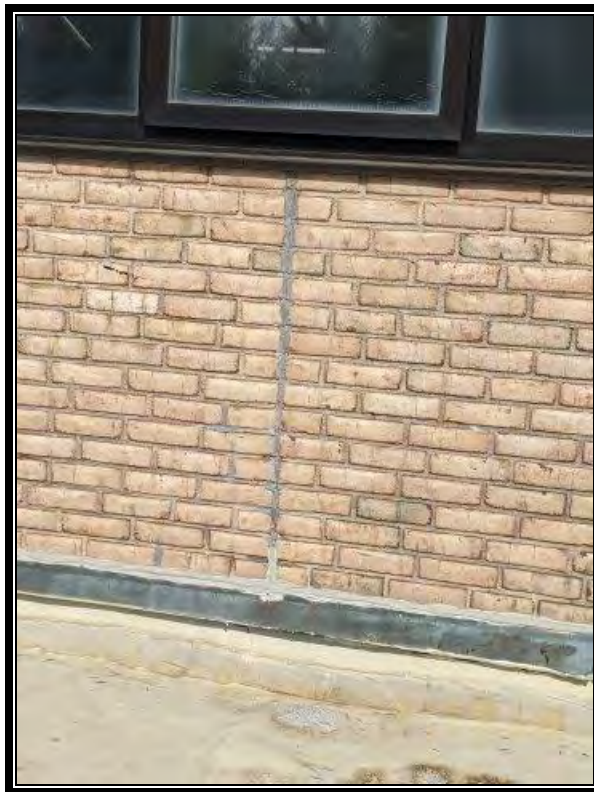


Photo 8: Non-ACM Metal Flashing Caulking, Gray and Wall Expansion Joint Caulking
PCB Containing Wall Expansion Joint Caulking



Photo 9: Non-ACM Skylight Panel Caulking, Beige and Skylight Old Caulking, White



Photo 10: Non-ACM Wall Expansion Joint Tar, Black



Photo 11: Non-ACM Tar on Roof Flashing, Black



Photo 12: Non-ACM Scratch Coat on Exterior Soffit



Photo 13: Non-ACM 2'x4 Ceiling Tile



Photo 14: Non-ACM Fiberglass Drain Pipe Insulation

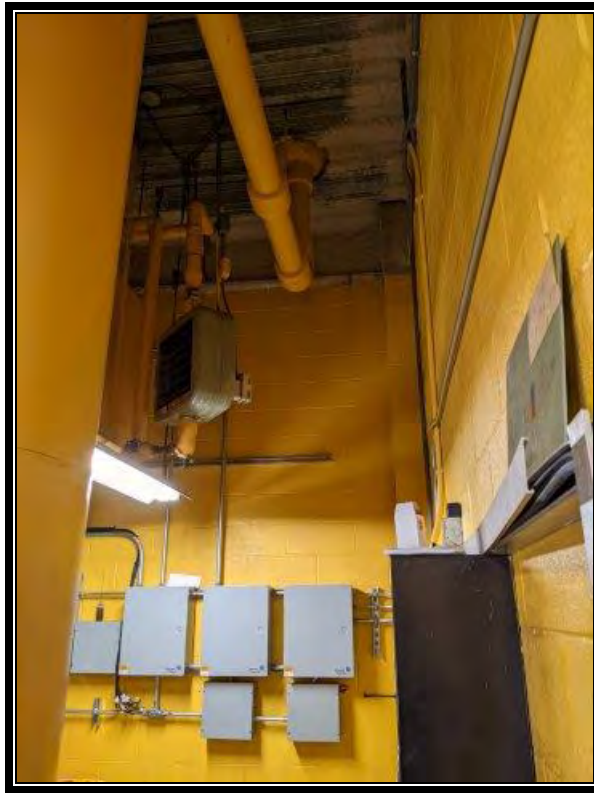


Photo 15: Assumed ACM Drain Bowl Insulations (Mechanical Room)



**APPENDIX J:
FILE SEARCH**

**FINAL REPORT OF
LIMITED ASBESTOS & PCB INSPECTION SERVICES**

Performed at:

**WESTORCHARD ELEMENTARY SCHOOL
25 GRANITE ROAD
CHAPPAQUA, NY 10514**



Prepared for:

**Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514**

Prepared by:



Louis Berger

Louis Berger

**565 Taxter Road, 5th Floor
Elmsford, New York 10523**

Tel. (914) 798-3710

Fax (914) 592-1734

Project No. 2041420.048

Submission Date: December 29, 2016



Louis Berger

565 Taxter Road, 5th Floor, Elmsford, NY 10523

Tel 914 798 3710

Fax 914 592 1734

www.louisberger.com

December 29, 2016

Mr. Joseph Gramando
Director of Facilities
Chappaqua Central School District
66 Roaring Brook Road
Chappaqua, NY 10514

**Subject: Limited Asbestos & PCB Inspection Services in Conjunction with Planned Renovations to Westorcharde Elementary School
25 Granite Road, Chappaqua, NY 10514**

Dear Mr. Gramando:

Louis Berger (Berger) has completed a limited asbestos and PCB inspection at Westorcharde Elementary School, located at 25 Granite Road, Chappaqua, NY. The inspections included visual observation, material sampling, and laboratory sample analysis of suspect Asbestos-Containing Materials (ACM) and Polychlorinated Biphenyls (PCBs). The scope of this inspection was based on a proposed renovation project.

The attached report presents descriptions and results of the material sampling procedures and visual analysis. Relevant general project information is provided, followed by our findings, assessments and recommendations. Laboratory analysis data and certifications are provided in the Appendices.

If you have any questions concerning this report or if we may be of further assistance to you, please contact us.

Sincerely,

LOUIS BERGER

Craig Napolitano, CHMM
Vice President, Industrial Hygiene & Hazmat Services



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Appendices

Appendix A: Asbestos Sample Analysis Results in Tabular Form

Appendix B: Asbestos Bulk Sample Field Data Sheets with Chain of Custody & Laboratory Results

Appendix C: Company License, Personnel Certifications & Laboratory Accreditations

Appendix D: PCB Bulk Sample Field Data Sheets with Chain of Custody & Laboratory Results

Appendix E: Bulk Sample Location Drawings

Appendix F: Asbestos Containing Material Locations Drawings

Appendix G: Site Photo Log



1.0 EXECUTIVE SUMMARY

Louis Berger (Berger) has performed a limited inspection at Westorchard Elementary School located at 25 Granite Road, Chappaqua, NY. The intent of this survey was to determine the presence and/or absence of Asbestos-Containing Materials (ACM) & Polychlorinated Biphenyls (PBCs) that may be impacted during the proposed renovation project.

Jeff Leed of Louis Berger performed this survey on November 18th, 2016 and December 2, 2016. Mr. Leed has licensing as a New York State Department of Labor (NYSDOL) Asbestos Inspector (Cert #09-00446). The results of the visual inspection and bulk sample analysis determined that the following suspect ACM may be impacted by the renovation project:

A. ASBESTOS-CONTAINING MATERIALS

Based upon visual inspection and bulk sampling, asbestos has been confirmed to exist in the following materials:

- **Exterior Window Glazing – Black**
- **Exterior Caulk to Lintel – Gray**

Based upon the AHERA report for the school asbestos has been confirmed to exist in the following materials which may be impacted by the current scope of work:

- **Pipe Fittings**

Asbestos was **assumed to exist** in the following materials due to either inaccessibility or inability to use destructive measures:

- **9"x9" Floor Tile – White**
- **Mastic to 9"x9" White Floor Tile – Black**

Analytical results of the bulk samples collected and/or visual examination indicate that the following materials **did not contain asbestos** (less than 1-percent);

- Leveling Compound Under Carpet
- Carpet Mastic - Yellow
- Interior Brick Mortar
- Cinderblock Mortar
- 2'x4' Ceiling Tile – 2'x2' Pattern
- Mastic to 4" Brown Cove Base – Yellow
- 2'x4' Ceiling Tile – Fissure
- Exterior Window Frame Caulk – Black
- Exterior Door Frame Caulk – Gray



- Exterior Brick Mortar
- Scratch Coat on Exterior Soffit
- Roof Membrane
- Coating on Roof Membrane
- Drywall
- Joint Compound

B. PCB-CONTAINING MATERIALS

Analytical results of the bulk samples collected indicate that the following materials **contain PCB** (greater than 50 PPM).

- **Exterior Door Frame Caulk - Gray**

Analytical results of the bulk samples collected indicate that the following materials **did not contain PCB** (less than 50 PPM);

- Caulk to Window Lintel – Gray
- Exterior Window Frame Caulk – Black
- Exterior Window Glazing – Black

2.0 FIELD SURVEY PROCEDURES AND SAMPLE ANALYSIS METHODS

ASBESTOS-CONTAINING MATERIAL

Guidelines used for the inspection were established by the Environmental Protection Agency (EPA) in the Guidance for Controlling Asbestos Containing Materials in Buildings, Office of Pesticides and Toxic Substances, Doc 560/5-85-024, and 40 CFR Part 763, Asbestos Hazard Emergency Response Act (AHERA)

Field information was organized in accordance with the AHERA methodology of homogenous area (HA). During the survey, reasonable effort was made to identify all locations and types of ACM materials associated with the scope of work. Sampling has included multiple samples of the same materials chosen at random. However, due to inconsistencies of a manufacturer's processes and the contractor's installation methods, materials of similar construction may contain various amounts of asbestos. Furthermore, some materials that were not originally specified to contain asbestos may in fact contain this mineral. For example, cementitious pipe insulation and plaster were frequently mixed with asbestos at the construction site for ease of application. Locating all asbestos materials can only be definitively achieved by conducting exploratory demolition and sampling every section of pipe insulation, fitting or valve covering, fireproofing, and other suspect ACM.

Bulk samples of suspect ACM are analyzed using polarized light microscopy (PLM) coupled with dispersion staining, as described in 40 CFR Part 763 and the National Emissions Standard for Hazardous Air Pollutants (NESHAPS). NESHAPS is the standard industry protocol for the



determination of asbestos in building materials. A suspect material is immersed in a solution of known refractive index and subjected to illumination by polarized light. The color displays that result are compared to a standardized atlas whereby the specific variety of asbestos is determined. It should also be recognized that PLM is primarily a qualitative identification method whereby asbestos percentage, if any, is estimated. While EPA, New York State, and New York City regulations governing ACM consider materials containing greater than 1-percent as asbestos, accurately quantifying asbestos content below 5-percent has been shown to be unreliable.

The New York State Department of Health has recently revised the PLM Stratified Point Counting Method. The March 25th, 2011 method, "Polarized Light Microscopy Methods for Identifying and Quantifying Asbestos in Bulk Samples" can be found as Item 198.1 in the Environmental Laboratory Approval program (ELAP) Certification manual. Whereas the procedure of analysis for bulk samples that fall into the category of "Non-friable Organically Bound" (NOB) can be found in the March 25th 2011 method "Polarized-Light Microscope Method for Identifying and Quantifying Asbestos in Non-Friable Organically Bound Bulk Samples", Item 198.6 in the ELAP Certification Manual. This category includes any sample in a flexible to rigid asphalt or vinyl matrix (floor tiles, mastic, roofing shingles, roofing felt, etc.). These samples must be "ashed" in a muffle furnace at 480-degrees Celsius (to remove organic matrix), treated with acid (to remove any mineral carbonate), and filtered through a 0.4-micron polycarbonate filter before being analyzed by PLM. The sample must be weighted between each of these steps to track the percent loss of organic matrix.

ELAP has determined that analysis of NOB materials is not reliably performed by PLM. Therefore, if PLM analysis yields results of 1-percent asbestos or less, the result must be confirmed by TEM. For bulk samples that undergo TEM analysis, the March 25th, 2011 method "Transmission Electron Microscope Method for Identifying and Quantitating Asbestos in Non-Friable organically Bound Bulk Samples" must be used and can be found as Item 198.4 in the ELAP Certification Manual. ELAP certified laboratories must include the following statement with their PLM analysis results for each "negative" (1-percent or less asbestos) NOB sample: "Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-ACM, confirmation must be made by quantitative transmission electron microscopy".

All samples are initially analyzed by Polarized Light Microscopy in accordance with Item 198.1 and 198.6 of the ELAP Certification Manual. Samples which yield a negative PLM result and which are classified as a "non-friable" material, are then re-analyzed utilizing TEM methodology in accordance with Item 198.4 of the ELAP Certification Manual. The laboratory performing both these analysis procedures is EMSL located at 307 West 38th Street, New York, NY 10018. The laboratory has received accreditation from the following agencies:

- National Voluntary Laboratory Accreditation Program (Lab Code 101048-9)
- New York State Environmental Laboratory Approval Program (Lab No. 11506)
- American Industrial Hygiene Association Accredited Laboratory (Lab No. 102581)



POLYCHLORINATED BIPHENYLS (PCBs)

PCBs belong to a broad family of man-made organic chemicals known as chlorinated hydrocarbons. PCBs were domestically manufactured from 1929 until their manufacture was banned in 1979. They have a range of toxicity and vary in consistency from thin, light-colored liquids to yellow or black waxy solids. Due to their non-flammability, chemical stability, high boiling point, and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics, and rubber products; in pigments, dyes, and carbonless copy paper; and many other industrial applications.

Although no longer commercially produced in the United States, PCBs may be present in products and materials produced before the 1979 PCB ban. Products that may contain PCBs include: Transformers and capacitors, Oil used in motors and hydraulic systems, Fluorescent light ballasts, Adhesives and tapes, Caulking, Plastics, etc.

The PCBs used in these products were chemical mixtures made up of a variety of individual chlorinated biphenyl components, known as congeners. Most commercial PCB mixtures are known in the United States by their industrial trade names. The most common trade name is aroclor.

Polychlorinated biphenyls (PCBs) are regulated pursuant to the United States Environmental Protection Agency Code of Federal Regulations (40 CFR Part 761) and the Toxic Substances Control Act (TSCA – 15 U.S.C. 2605). These regulations require certain testing and reporting requirements to determine management, recycling and disposal options for PCBs.

3.0 INSPECTION SCOPE AND MATERIAL ASSESSMENT

The areas inspected for ACM and PCB included:

- Roof
- Interior
- Exterior

A. ASBESTOS-CONTAINING MATERIAL ASSESSMENT

Materials examined during the Inspection included:

- Leveling Compound Under Carpet
- Carpet Mastic - Yellow
- Interior Brick Mortar
- Cinderblock Mortar



- 2'x4' Ceiling Tile – 2'x2' Pattern
- Mastic to 4" Brown Cove Base – Yellow
- 2'x4' Ceiling Tile – Fissure
- Exterior Window Frame Caulk – Black
- **Exterior Window Glazing – Black**
- Exterior Door Frame Caulk – Gray
- **Exterior Caulk to Lintel – Gray**
- Exterior Brick Mortar
- Scratch Coat on Exterior Soffit
- Roof Membrane
- Coating on Roof Membrane
- Drywall
- Joint Compound

Based upon visual inspection and bulk sampling, asbestos has been confirmed to exist in the following materials:

- **Exterior Window Glazing – Black**
- **Exterior Caulk to Lintel – Gray**

Based upon the AHERA report for the school asbestos has been confirmed to exist in the following materials which may be impacted by the current scope of work:

- **Pipe Fittings**

Asbestos was **assumed to exist** in the following materials due to either inaccessibility or inability to use destructive measures:

- **9"x9" Floor Tile – White**
- **Mastic to 9"x9" White Floor Tile – Black**

Analytical results of the bulk samples collected and/or visual examination indicate that the following materials **did not contain asbestos** (less than 1-percent);

- Leveling Compound Under Carpet
- Carpet Mastic - Yellow
- Interior Brick Mortar
- Cinderblock Mortar
- 2'x4' Ceiling Tile – 2'x2' Pattern
- Mastic to 4" Brown Cove Base – Yellow
- 2'x4' Ceiling Tile – Fissure
- Exterior Window Frame Caulk – Black



- Exterior Door Frame Caulk – Gray
- Exterior Brick Mortar
- Scratch Coat on Exterior Soffit
- Roof Membrane
- Coating on Roof Membrane

B. PCB-CONTAINING MATERIAL ASSESSMENT

Materials examined during the Inspection included:

- Caulk to Window Lintel – Gray
- Exterior Window Frame Caulk – Black
- **Exterior Door Frame Caulk - Gray**
- Exterior Window Glazing – Black

Analytical results of the bulk samples collected indicate that the following materials **contain PCB** (greater than 50 PPM).

- **Exterior Door Frame Caulk - Gray**

Analytical results of the bulk samples collected indicate that the following materials **did not contain PCB** (less than 50 PPM);

- Caulk to Window Lintel – Gray
- Exterior Window Frame Caulk – Black
- Exterior Window Glazing – Black

4.0 INSPECTION RESULTS

A. ASBESTOS-CONTAINING MATERIAL

The asbestos Inspection involved a thorough visual examination of all areas that may be impacted by the proposed renovation project. The following suspect materials were sampled and analyzed for asbestos content:

4.1 Table 4.1 – Suspect Materials Inspected

HOMOGENOUS AREA	LOCATION	MATERIAL	ASBESTOS CONTENT
01	Interior Throughout	Leveling Compound Under Carpet	Non-ACM
02	Interior Throughout	Carpet Mastic – Yellow	Non-ACM
03	Interior Throughout	Interior Brick Mortar	Non-ACM



04	Interior Throughout	Cinderblock Mortar	Non-ACM
05	Interior Throughout	2'x4' Ceiling Tile – 2'x2' Pattern	Non-ACM
06	Interior Throughout	Mastic to 4" Brown Cove Base – Yellow	Non-ACM
07	Interior Throughout	2'x4' Ceiling Tile – Fissure	Non-ACM
08	Exterior Throughout	Exterior Window Frame Caulk – Black	Non-ACM
09	Exterior Throughout	Exterior Window Glazing – Black	2.9% Chrysotile
10	Exterior Throughout	Exterior Door Frame Caulk – Gray	Non-ACM
11	Exterior Throughout	Exterior Caulk to Lintel – Gray	2.3% Chrysotile
12	Exterior Throughout	Exterior Brick Mortar	Non-ACM
13	Exterior Throughout	Scratch Coat on Exterior Soffit	Non-ACM
14	Library Roof	Roof Membrane	Non-ACM
15	Library Roof	Coating on Roof Membrane	Non-ACM
*	Library Storage and Library	9"x9" Floor Tile – White	Assumed ACM
*	Library Storage and Library	Mastic to White 9"x9" Floor Tile – Black	Assumed ACM
*	Boiler Room	Pipe Fittings	Positive as Per AHERA
Previously Sampled by Warren Panzer 11/1/2010			
*	Interior Throughout	Drywall	Non-ACM
*	Interior Throughout	Joint Compound Assoc. With Drywall	Non-ACM

Bold = Positive for ACM

4.2 CONDITION AND FRIABILITY ASSESSMENT TABLE

For each inspection conducted, the inspector classifies ACM or Assumed ACM materials by friability and condition. This helps to determine the extent of damage in certain areas as well as the potential for further damage and Asbestos release due to disturbance of the material.



Table 4.2 – Condition and Friability Assessment

Location	Material	Quantity	Friability	Condition
Library Storage and Library	9"x9" Floor Tile – White	500 SF	Non-Friable	Good
Library Storage and Library	Mastic to White 9"x9" Floor Tile – Black		Non-Friable	Good
Exterior Throughout	Exterior Window Glazing – Black	100 SF	Non-Friable	Good
Exterior Throughout	Exterior Caulk to Lintel – Gray		Non-Friable	Good
Boiler Room	Pipe Fittings	---*	Friable	Good

*Potentially Affected by Scope of Work, Quantity Affected to be Field Verified by Contractor

Condition Definitions:

Good: None/Minimal apparent damage to ACM

Damaged: Up to 10% localized damage or up to 25% of the entire ACM is damaged

Significantly Damaged: Over 10% localized damage or over 25% of the entire ACM is damaged

4.3 SAMPLE ANALYSIS TABLE

Laboratory analysis results, in tabular form, are included in Appendix A.

C. PCB-CONTAINING MATERIALS ASSESSMENT

The PCB Inspection involved a thorough visual examination of all areas that may be impacted by the proposed renovation project. The following suspect materials were sampled and analyzed for PCB content (greater than 50 PPM):

HOMOGENOUS MATERIAL	LOCATION	MATERIAL	PCB CONTENT (PPM)	QUANTITY
01	Exterior Throughout	Caulk to Window Lintel – Gray	1.21	---
02	Exterior Throughout	Exterior Window Frame Caulk – Black	2.45	---
03	Exterior Throughout	Exterior Door Frame Caulk - Gray	6590	10 SF
04	Exterior Throughout	Exterior Window Glazing – Black	17.8	---

Bold = Positive for PCB

ND = No PCB Detected



5.0 AREAS NOT ACCESSIBLE

During the survey the following areas were not accessible:

Void Spaces within Interior Walls: No destructive sampling was performed on concealed spaces in walls to access plenum, chases etc. It should be assumed that asbestos and PCB containing materials exist in these spaces. Any suspect materials encountered during work should be sampled for analysis before work continues.

6.0 CONCLUSIONS AND RECOMMENDATIONS

ACM and PCBs have been identified in our inspection effort that may be impacted as part of the proposed renovation project at Westorchard Elementary School. These materials, reported in Section 3.0 of this report, may require complete removal prior to the start of the project.

7.0 REPORT CERTIFICATIONS

This report, and the supporting data, findings, conclusions, opinions, and recommendations it contains represent the result of Berger's efforts for the environmental inspection work for the proposed library renovation project at Westorchard Elementary School.

Opinions and recommendations presented in this report apply to site conditions and features as they existed at the time of Berger's site visits, and those reasonably foreseeable. They cannot necessarily apply to conditions and features of which Berger is unaware and has not had the opportunity to evaluate.

The conclusions presented in this report are professional opinions solely upon Berger's visual observations of accessible areas, laboratory test data, and current regulatory requirements. These conclusions are intended exclusively for the purpose stated herein and the site indicated for the project indicated.

Prepared by:



Jeff Leed
NYS Asbestos Inspector

Reviewed by:



Craig Napolitano, CHMM
Vice President, Industrial Hygiene
& Hazmat Services

SECTION 04 01 00
MASONRY MAINTENANCE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section.

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules, and keynotes, as specified herein, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:

1. Remove and restore exterior masonry where new cap flashings are being installed.
2. Prepare and repoint mortar joints as directed by the Architect. Include 2,000 square feet of repointing in the Base Bid.
3. Install clear water repellent on masonry that was repointed.
4. Clean and prepare the joints, and then install new sealant in facade control joints above the roofs.
5. Remove and reset loose bricks and concrete masonry units (blocks) under roof edge blocking.
6. Fill hollow core masonry units under roof edge blocking with mortar prior to installing the blocking - the blocking is specified elsewhere.

B. Related Requirements

1. Carpentry	- Section 06 1000
2. Modified Bitumen Roofing	- Section 07 5216
3. Sheet Metal Flashing & Specialties	- Section 07 6200
4. Roof Accessories	- Section 07 7200

1.3 QUALITY ASSURANCE

A. Installer Qualifications:

1. A firm (Installer) with at least 5 continuous years' experience performing work similar to that required for this project, employing personnel skilled in the work specified.
 - a. The Installer shall directly employ the personnel performing the work of this section.

- b. The Installer shall have a full-time supervisor in the work area when work is in progress. The Supervisor shall have a minimum of 5 years' experience with work similar in nature and scope to this project and speak fluent English.
 - i) Submit the Supervisor's resume upon request.
 - 2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within a fifty-mile radius of this project, which may be observed by representatives of the Owner.
 - a. The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number.
 - b. Submit the reference list upon request.
- B. Material Quality: Obtain each type of material from a single source to ensure consistent quality, color, pattern, and texture.
- C. Pre-construction conference: Attend the pre-construction meeting and discuss the following:
 - 1. How and when masonry work will be performed.
 - 2. How the masonry work will be coordinated with other work.
 - 3. How roof & building surfaces will be protected, and how the building will be kept watertight as masonry work progresses.
 - 4. Weather to anticipate during construction.
 - 5. The availability of materials, personnel, equipment and facilities needed to proceed and complete the work on schedule.
 - 6. A schedule for Manufacturer and Architect inspections.

1.4 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any other work on site:
 - 1. A pre-work site and building inspection report with photos, to document conditions before any other work starts on site.
 - 2. Manufacturer's technical literature for all materials.
 - 3. Test reports and certifications substantiating compliance with specification requirements, only if requested by the Architect.
 - 4. Samples to show sizes, grade and color, prior to mock-up erection, of each new exposed masonry material. Include the full range of colors and textures needed in the samples.

- a. Bricks: four samples of solid colors, twelve samples of blended colors.
 - b. Precast concrete: four 6 inch square or round samples to show color and surface finish.
 - c. Mortar: four 6 inch long 1/2 inch wide strips set in metal or plastic channels.
 - d. Anchors: four pieces of each type of anchor.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
 1. Submittals shall be prepared and made by the firm that will perform the actual work.
 2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program is not established, provide the submittals on portable USB drives in pdf format, organized in folders by Section.
 3. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders.
- C. Payment requisitions will not be processed until all submittals are received and approved.

1.5 JOB MOCKUPS

- A. Prepare mock-ups of masonry work in actual job locations.
 1. For brick rebuilding - provide 4 foot long mockups.
 2. For repointing - provide 2 foot square mockups to show how the joints will be cut, and 2 foot square mockups to show new pointing.
 3. For sealant joints - provide 2 foot long mockups to show how the joints will be prepared, and 2 foot long mockups to show new backer rod and sealant.
- B. Construct each mockup with its associated roof and wall flashings, to show the following:
 1. The color, size and type of each masonry unit and mortar used to set it.
 2. Workmanship quality.
 3. The size and spacing of weep inserts.
 4. Flashings built into the masonry.
 5. Related materials and their installation techniques to fully establish a quality standard for the work.
- C. Mock-ups shall be constructed to establish the minimum acceptable standard of materials and workmanship, and to assure that completed work which matches the mockups will be fully functional and serve the purpose for which it was designed.
- D. Approved mock-ups may be left in place and incorporated into the permanent installation. Rejected mock-ups shall be removed and replaced until an acceptable mockup is approved.
- E. Do not proceed with masonry work until mock-ups are installed, inspected and approved in writing.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Carefully pack, handle, and ship masonry units and accessories in suitable packs or pallets or in heavy cartons.
- B. Deliver material to the site in the Manufacturer's original and unopened containers and packaging, bearing labels which identify the types and names of the products and Manufacturers. Unload and handle to prevent chipping and breakage.
- C. Protect masonry materials and aggregates during storage and construction from excess wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials.
- D. Protect grout, mortar and cement products from deterioration by moisture and temperature. Store in a dry location or in waterproof containers. Protect liquid components from freezing.
- E. Do not overload the structure when storing materials on the roof.
- F. Protect new and existing roof surfaces where material and equipment is placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.

1.7 GUARANTEE

- A. Provide a written Contractor's Guarantee which guaranties that all work will remain free of material and workmanship defects and in a watertight condition for a five year period beginning upon Final Completion:
 - 1. Defects include but are not limited to the following: leakage, delamination, lifting, loosening, splitting, cracking, joint separation and movement.
 - 2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as guaranteed at his own expense:
 - 3. Guarantee coverage shall include removing and replacing items installed as part of the original work, if removal is needed to make repairs.
- B. Provide one Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
- C. The Guarantee shall take effect no more than 30 days before the satisfactory completion of all punch list work.
- D. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Performance Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor's Guarantee.

1.8 JOB CONDITIONS

- A. Perform masonry work only when the air temperature is 40 degrees F and above and will remain so until the masonry has dried, but for not less than 72 hours after work ends.
- B. Erect temporary over-head protection at pedestrian walkways and at building entrances and exits which will remain active as the work progresses.
- C. Prevent mortar from staining the face of surrounding masonry and other building surfaces; immediately remove any which falls or spills. Protect sills, ledges and projections from mortar droppings.
- D. Protect new and existing roof surfaces where material and equipment are placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.
- E. Coordinate masonry removal and restoration with the installation of new flashings.
- F. Prevent masonry work from rapid drying during hot weather. Use burlap to shield fresh masonry from direct sunlight, and mist fresh masonry with potable water so it cures slowly for at least 72 hours.
 - 1. Remove and replace any new masonry that develops shrinkage cracks, or with mortar that isn't bonded well to adjoining masonry.

PART 2 - PRODUCTS

2.1 MASONRY UNITS

- A. Face Brick: Severe weather (SW) grade face brick and accessories, including special bricks for corners, and other special conditions, to match the color, surface texture, shape and size of existing bricks.

2.2 MORTAR

- A. General Construction Mortar:
 - 1. Type S, custom colored, non-staining masonry cement containing Type I Portland cement meeting ASTM C150 and Type S hydrated lime meeting ASTM C207.
 - 2. Natural or manufactured sand aggregate selected to match the size, texture, gradation and color of the existing mortar aggregate, meeting ASTM C 144.
 - 3. Clean potable water, free of oils, acids, alkalis and organic matter.
- B. Pointing Mortar:

1. Factory blended Type N masonry cement, aggregate and custom coloring agent, ready to use when mixed with clean potable water, as supplied by Spec-Mix.

2.3 MISCELLANEOUS MATERIALS

- A. Anchors: Fabricated from Type 304 stainless steel to match existing.
- B. Reinforcement Bar: minimum #4 epoxy coated steel rebar, with factory formed ridges.
- C. Sealant: High performance, solvent free, formulated and moisture curing silyl-terminated polyether sealant, ASTM C-920, Type S, Grade NS, Class 25, NovaLink construction sealant by ChemLink, color as selected.
- D. Backer Rod: Closed cell polyethylene foam, non-absorbent, compressible, chemically inert rod.
- E. Masonry Water Repellent: Cloudy odorless water-based penetrating liquid, UV stable, alkali resistant, translucent floural carbon emulsion, containing no volatile organic compounds: Cathedral Stone Products, Inc. R-97 Water Repellent.
- F. Weep Inserts: Full height head joint inserts formed of a polypropylene honeycomb, three-eighths inch thick, Hohmann & Barnard, Inc. #QV Quadro-Vent. Color gray.

PART 3 - EXECUTION

3.1 GENERAL

- A. Carefully perform work so the structural integrity of masonry adjoining the work is preserved. Simultaneously remove only limited sections of existing masonry; support and protect masonry remaining next to and above the removal areas.
- B. Completely remove and replace any existing masonry that moves, or if cracks form in the mortar joints between the masonry units, or within the masonry units.
- C. Cure all mortar by misting it with potable water to maintain it in a damp condition for not less than 72 hours. Shield fresh mortar from direct sunlight with wet burlap and prevent fresh mortar from prematurely drying during the curing period. Remove and replace mortar joints that dry pre-maturely.
- D. Cut and remove existing masonry using hand and machine methods. Equip each cutting machine with a separate dedicated vacuum and manufacturer's blade guard vacuum attachment and control the amount of dust produced so there are no visible plumes. Comply with OSHA crystalline silica standards for construction.
- E. Do not overcut brick head joints and allow the blade to nick the adjoining bricks; remove and replace bricks damaged during the cutting and repointing preparation process at no cost to the Owner.

3.2 MORTAR MIXES

A. Measurement and Mixing:

1. Measure general construction mortar materials when dry by volume using a pail or similar container. Do not measure with a shovel.
 - a. Mix mortar using 1 part mortar cement and 3 parts sand aggregate.
 - b. Thoroughly mix cement and aggregate in a clean mechanical batch mixer before adding water; then continue mixing and add only enough water to produce a workable mix.
 - c. Do not mix mortar by hand.
2. Mix factory blended pointing mortar in a clean mechanical batch mixer, adding only enough water to produce a workable mix.
 - a. Do not mix mortar by hand.
3. Use mortar within 45 minutes of final mixing; do not re-temper or use partially hardened material.

- B. Mix and install mortar with the same ingredients used to produce the approved mock-up. Do not adjust the color or proportions without written approval. Do not use admixtures of any kind in the mortar unless specifically approved.

3.3 BRICK REMOVAL AND REPLACEMENT

- A. Simultaneously remove only limited sections of existing brick masonry; support and protect masonry remaining next to and above the removal areas.
- B. Carefully remove bricks on a piece-by-piece basis. Cut out full units from joint to joint and to permit replacement with full size units. Clean the edges of the remaining bricks, to remove all mortar, dust, and loose debris in preparation for rebuilding.
- C. Install new cap flashings and wall flashing extensions, properly lapped under and connected to the existing wall flashings, as indicated on the drawings and specified elsewhere, before installing new bricks. Install the flashings so a full wythe of new brick will fit flush with the existing wall surface.
- D. Wet bricks which have initial rates of absorption (suction) greater than 30 grams per 30 square inches per minute, (in accordance with ASTM C 67), to ensure the bricks are nearly saturated with water, but surface dry when laid.
- E. Install new brick to replace removed brick. Fit replacement bricks to match the original bond and course pattern. Use a motor driven diamond blade wet saw to cut bricks with clean, sharp unchipped edges.
- F. Lay replacement brick with completely filled bed, head and collar joints. Butter the ends with sufficient mortar to fill the head joints and shove the bricks into place.
- G. Install new bricks with mortar joints to match the width of the adjoining brick joints. Tool the new joints to match existing joints in surrounding brickwork.

- H. Do not cut off the backs of the new bricks if a full wythe of brick doesn't fit. Notify the Architect and obtain his direction before proceeding further.

3.4 REPOINTING EXISTING MASONRY

A. Joint Preparation:

1. Remove existing mortar and foreign material from the mortar joints to a minimum depth of 1 inch, and deeper where needed to expose sound unweathered mortar.
2. Remove mortar from the sides of the joints to provide joints with square backs and to expose the sides of the adjoining masonry for contact with the pointing mortar. Brush or vacuum the joints to remove dirt and loose debris.
3. Remove mortar and other foreign material from the surface of masonry adjacent to the joint.
4. Do not spall the edges of adjacent masonry or widen the joints. Replace any masonry which is damaged.

B. Joint Pointing:

1. Rinse the joint surfaces with water to remove dust and mortar particles just prior to repointing. Time the rinse, so when repointing occurs, excess water has evaporated and the existing masonry is damp but free of standing water.
2. Apply pointing mortar in 1/2 inch thick layers, and thoroughly compact each layer before adding the next layer, to completely fill each joint.
3. Slightly recess pointing mortar from the face of the adjacent masonry units. Do not spread mortar on the edges or faces of the masonry. Do not featheredge the mortar.
4. Tool repointed joints when the mortar is thumbprint hard. Remove excess mortar from the edges of the joints with a soft bristle brush.

C. Cleaning:

1. Immediately after the mortar has fully hardened, thoroughly clean masonry surfaces of excess mortar and foreign matter using stiff nylon or bristle brushes and clean water.
2. Do not use metal scrapers or brushes. Do not use acid or alkali cleaning agents. Do not pressure-wash the masonry or new pointing mortar.

3.5 SEALANT JOINTS

- A. Carefully remove existing sealant and back up material from within the joints to a minimum depth of 1-1/2 inches, and from the surface of adjoining masonry at the edges of the joints.
 - 1. Use hand tools and work to avoid damage to adjoining masonry.
 - 2. Replace adjoining masonry damaged during sealant removal work.
- B. Install new backer rod without puncturing or tearing it, to snugly fill the joint at a depth to yield a sealant joint twice as wide as it is deep.
 - 1. Do not twist backer rods, or install multiple pieces of undersized rod, when the correct size rod is not onsite.
- C. Mask the edges of all joints prior to installing sealant.
 - 1. Push sealant into the joint to completely fill it, tool the sealant to produce a slightly concave, neat recessed joint, and remove joint masking before excess sealant sets.

3.6 WATER REPELLENT

- A. Prepare and clean masonry surfaces to receive water repellent utilizing hand, chemical and pressure water methods as needed to remove all dirt, dust, efflorescence, mold, salt, grease, oil, asphalt, laitance, paint and other foreign materials.
- B. Allow the masonry surfaces to dry for a minimum of 48 hours at a temperature above 50° F.
- C. Mask and protect adjoining surfaces i.e., the roof, flashings, windows, side walls and site plantings from over spray.
- D. Apply two coats of water repellent using a low pressure (15-20 psi maximum) wet fan type nozzle or 1 inch nap roller in a "flooding" application, to thoroughly saturate the masonry, starting at the bottom so the material runs 6 to 8 inches below the points of application.
 - 1. Apply the second coat of water repellent about 10 minutes after the first coat, and as soon as the first coat has soaked into the masonry, but before the first coat dries.

3.7 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any pre-existing leaks or damage, prior to performing any other work on site.

- B. The Owner will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leaks and damage that weren't documented in the Contractor's report or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.
- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather - which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the workday, so the roof and site present a neat, orderly and workmanlike appearance. Place the debris in a dumpster and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

END OF SECTION

SECTION 06 1000
CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section.

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules and notes, as specified herein, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:

1. Roof related wood nailers, blocking, shims, and plywood.
2. Light gauge metal framing.

B. Related Requirements

1. Masonry Maintenance	- Section 04 0100
2. Modified Bitumen Roofing	- Section 07 5216
3. Sheet Metal Flashing & Specialties	- Section 07 6200
4. Roof Accessories	- Section 07 7200

1.3 QUALITY ASSURANCE

A. Installer Qualifications:

1. A firm (Installer) with at least 5 continuous years experience performing work similar to that required for this project, employing personnel skilled in the work specified.
 - a. The Installer shall directly employ the personnel performing the work of this section.
 - b. The Installer shall have a full time supervisor on the roof when work is in progress. The Supervisor shall have a minimum of 5 years experience with work similar in nature and scope to this project, and speak fluent English.
 - i) Submit the supervisor's resume upon request.
2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within a fifty mile radius of this project, which may be observed by representatives of the Owner:
 - a. The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number.
 - b. Submit the reference list upon request.

- B. Material Quality: Obtain each type of material from a single source to ensure consistent quality, color, pattern, and texture.

- C. Pre-Construction Conference: Attend the pre-construction meeting and discuss how and when carpentry work will be performed and coordinated with other work, and how the building will be kept watertight as work occurs.

1.4 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any work on site:
 - 1. A pre-work site and building inspection report with photos, to document conditions before work starts on site.
 - 2. Manufacturer's technical literature for all materials.
 - 3. Test reports and certifications substantiating compliance with specification requirements if requested by the Architect.
 - 4. 2 foot long on-site samples which show the size, shape, configuration and method of fastening for all wood blocking assemblies, and which show how the blocking assemblies will relate to and fit on adjoining work.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
 - 1. Submittals shall be prepared and made by the firm that will perform the actual work.
 - 2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program isn't established, provide the submittals on portable USB drives in pdf format, organized in folders by Section.
- C. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders.
- D. Payment requisitions will not be processed until all submittals are received and approved.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver and store materials dry at all times. Cover with tarps and protect against exposure to weather and contact with damp or wet surfaces.
- B. Do not overload the structure when storing material on the roof.
- C. Protect new and existing roof surfaces where material and equipment is placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.
- D. Do not overload the structure when storing materials on the roof.

1.6 GUARANTEE

- A. Provide a written Contractor's Guarantee which guarantees that all work will remain free of material and workmanship defects and in a watertight condition for a five year period beginning upon Final Completion:

1. Defects include but are not limited to the following: leakage, delamination, lifting, loosening, splitting, cracking, joint separation and movement.
 2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as guaranteed at his own expense:
 3. Guarantee coverage shall include removing and replacing items installed as part of the original work, if removal is needed to make repairs.
- B. Provide one Guarantee that covers “all work performed” when a single contractor is awarded work specified in multiple Sections.
- C. The Guarantee shall take effect no more than 30 days before the satisfactory completion of all punch list work.
- D. The Contractor’s Surety Company may add a rider to the Performance Bond which clarifies that Performance Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor’s Guarantee.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. WOOD, including shims, nailers, blocking, furring and similar members, in the sizes indicated, worked into the shapes shown, and as follows:
1. Lumber: Douglas Fir dimension lumber, free of large knots and other imperfections.
 2. Plywood: Exterior grade APA rated Type CDX underlayment plywood.
 3. Beveled Siding: Utility grade cedar, redwood, or synthetic siding, 1/2 inch by 6 inches and 3/4 inch by 10 inches wide, tapered to 1/8 inch thick.
- B. METAL, including light gauge metal channel and stud sections factory formed of minimum 24 gauge cold rolled galvanized steel.

2.2 FASTENERS

- A. Hot dipped galvanized steel, stainless steel, or steel covered with a proprietary rust inhibiting coating.
1. Do not use un-coated steel nails. Remove and replace carpentry components installed with un-coated steel nails.
- B. Use screws wherever possible, minimum size diameter #12. If nails are used they shall be annular ring shank type.
1. Do not use dry wall screws to secure wood blocking assemblies. Remove and replace carpentry components installed with drywall screws.

2.3 CARPENTRY ACCESSORIES

- A. Gypsum board & related accessories: 5/8 inch thick Type X Firecode gypsum board, galvanized drywall screws, asbestos free factory pre-mixed joint compound, joint tape, and galvanized steel J, L and corner beads.

- B. Fiberglass and rock-wool batt insulation: asbestos free un-faced fiberglass and rock-wool insulation, minimum thickness 6 inches, and as needed to fill the expansion joints.

PART 3 - EXECUTION

3.1 INSTALLATION – GENERAL

- A. Coordinate carpentry work with the installation of the roofing system, insulation, flashings, and other similar items.
- B. Shim and set carpentry work plumb and true, except provide slope at the top surfaces of horizontal members as indicated.
- C. Stagger joints in built up assemblies at least 2 feet to obtain maximum strength. Provide the shapes needed and adjust wood blocking to suit the existing conditions and achieve full bearing and secure attachment. Discard defective material, and pieces which are too small, and fabricate the work with a minimum of joints and an optimum joint arrangement.
- D. Securely attach carpentry work to resist a force of 275 pounds per lineal foot in any direction. Countersink all fasteners flush unless otherwise shown.
- E. Space fasteners to achieve adequate holding power, and generally 12 inches apart.
 - 1. Space nails in wood blocking 8 inches apart.
 - 2. Install two rows of fasteners on blocking wider than 5 inches.
- F. Fit carpentry work neatly scribed and cut to fit within 1/8 inch of adjoining materials. Position furring, nailers, blocking, shims and similar supports for the proper attachment of subsequent work.
- G. Fasten wood and metal blocking assemblies to metal decks with #12 screws.
- H. Fasten wood and metal blocking assemblies to concrete decks and masonry walls with 1/4 inch diameter Spike or Drive fasteners. Pre-drill the holes.

3.2 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any pre-existing leaks or damage, prior to performing any other work on site.
- B. The Owner will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leaks and damage that weren't documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.
- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather - which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site present a neat, orderly and workmanlike appearance. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.

- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

END OF SECTION

SECTION 07 5216
SBS MODIFIED BITUMEN ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section.

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules and keynotes, as specified, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:
1. Remove and legally dispose of existing gravel surfacing, roofing, insulation, the vapor barrier, underlayment, wood blocking, and flashing. Clean all residual material from the surface of the deck, and from the flutes of the steel deck.
 - a. The work may include removing asbestos containing roofing materials. Refer to the asbestos abatement specification for additional information and asbestos removal requirements.
 2. Install a new cold process modified bitumen roofing system, including a base sheet, insulation, gypsum cover board, roof membrane, flashing, stripping, and roof accessories integrally related to the roof installation.
 - a. Install a vapor barrier on the concrete deck areas.
 3. Provide miscellaneous mechanical, electrical, hoisting and other work needed, and remove, adjust, modify, reset and reconnect all roof-mounted and roof-penetrating equipment.
 4. Install new flashings at the roof drains, and at all roof-mounted and roof-penetrating equipment.
 5. Disconnect and remove abandoned mechanical equipment and curbs, and infill the roof deck.
 6. Refasten loose sections of the existing metal decks as Base Bid work.
 7. Repair deterioration less than 1/2 inch deep in the surface of the existing concrete deck as Base Bid work.
 8. Replace deteriorated portions of existing deck in accordance with the Unit Prices.
- B. Related Requirements
1. Masonry Maintenance - Section 04 0100
 2. Carpentry - Section 06 1000
 3. Sheet Metal Flashing & Specialties - Section 07 6200
 4. Roof Accessories - Section 07 7200

1.3 CODE APPROVAL REQUIREMENTS

- A. Install roofing and insulation system components to meet the following minimum requirements:
 - 1. The New York State Uniform Fire Prevention and Building Code.
 - 2. Underwriters Laboratories Inc. Class A External Fire Rating for Roof Covering Materials.
 - 3. Underwriters Laboratories Inc. Standard 1256 for roof assemblies with foam insulation.
 - 4. Minimum wind uplift pressure resistance calculated using ASCE 7 and a safety factor of 2:
 - a. Field Zone: 60 psf
 - b. Perimeter Zones: 100 psf
 - c. Corner Zone: 150 psf
- B. Provide written certification from the roof material Manufacturer, before beginning work, to confirm the roofing system meets these requirements.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. A firm (Installer) with at least 5 continuous years experience performing work similar to that required for this project, employing personnel skilled in the work specified.
 - a. The Installer shall directly employ the personnel performing the work of this section.
 - b. The Installer shall have a full time Supervisor on the roof when roofing work is in progress. The Supervisor shall have a minimum of 5 years experience with work similar in nature and scope to this project, and speak fluent English.
 - i) Identify the intended Supervisor, and provide his resume prior to contract award.
 - 2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design within a fifty mile radius of this project, which may be observed by representatives of the Owner:
 - a. The reference list shall include the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number, and the Contractor's Supervisor's name.
 - b. Provide the reference list prior to contract award.
 - 3. The Installer shall be acceptable to or licensed by the Manufacturer of the primary roofing materials, and provide written certification from the Manufacturer to confirm this prior to award if requested.
- B. Material Quality: Obtain each product, including the base sheet, insulation, cover board, SBS sheets, bitumen, flashing, and the cements, primers and adhesives from a single Manufacturer, which has manufactured the same products in the United States of America for not less than 5 continuous years.

1.5 Pre-Construction Conference:

- A. Meet at the project site between one and two weeks prior to starting work, with the Architect, Owner and other representatives concerned about the work, to discuss the following:
1. How the building will be kept watertight as old roofing is removed and the work progresses.
 2. How new roofing will be coordinated with the installation of the vapor barrier, insulation, cover board, flashings and other items to provide a watertight installation.
 3. Generally accepted industry practice and the Manufacturer's instructions for handling and installing his products.
 4. The condition of the substrate (deck), curbs, penetrations and other preparatory work needed.
 5. Incomplete submittals; note that progress payments will be not processed until all submittals are received and approved.
 6. The construction schedule, weather forecast, availability of materials, personnel, equipment and facilities needed to proceed and complete the work on schedule.
 7. A schedule for Manufacturer and Architect inspections.

1.6 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any work on site:
1. A pre-work site and building inspection report with photos to document conditions before any other work starts on site.
 2. Written certification from the Manufacturer which states that the Installer is acceptable or licensed to install the specified roofing; if not previously provided.
 3. Manufacturer's technical data sheets for each component of the roofing system. Material sample submittals are not needed or wanted.
 4. Samples of the Contractor's and Manufacturer's guarantee/warranty forms.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
1. Submittals shall be prepared and made by the firm that will perform the actual work.
 2. Provide 6 copies of paper submittals, or provide electronic submittals on USB drives, in pdf format, organized in folders by Section.
- C. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders.
- D. Payment requisitions will not be processed until all submittals are received and approved.

1.7 JOB CONDITIONS (CAUTIONS & WARNINGS)

- A. Exercise caution when working with bitumen cements. Observe OSHA requirements and local fire codes.
- B. Do not heat the bituminous cements, they are flammable.
- C. Avoid excessive exposure to bitumen vapors and fumes.

1.8 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver material to the site in the Manufacturer's original and unopened packaging, with intact and legible labels which identify the products and Manufacturers,
- B. Cover all stored materials, with watertight tarpaulins installed immediately upon delivery.
- C. Immediately remove insulation which gets wet from the job site.
- D. Do not overload the structure when storing materials on the roof.
- E. Store and install all material within the Manufacturer's recommended temperature range.
- F. Protect new and existing roof surfaces where material and equipment is placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.

1.9 GUARANTEE AND WARRANTY

- A. Provide a written Manufacturer's Full System Warranty which warrants that the roofing system, including the insulation, cover board, SBS roofing and flashings, will remain in a watertight condition for a twenty year period beginning upon Final Completion.
- B. Provide a written Contractor's Guarantee which guaranties that all work will remain free of material and workmanship defects and in a watertight condition for a five year period beginning upon Final Completion:
 - 1. Defects include but are not limited to the following: leakage, adhesive separation, delamination, lifting, loosening, splitting, cracking, and undue expansion.
 - 2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as guaranteed at his own expense:
 - 3. Guarantee coverage shall include removing and replacing materials installed as part of the original work, if removal is needed to affect guarantee repairs.
 - 4. Provide one Contractor's Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
 - 5. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor's Guarantee.
- C. Guarantee and Warranty coverage shall take effect no more than 30 days before the completion of all punch list work.

- D. Guarantee and Warranty coverage shall remain in effect for gust wind speeds up to 72 miles per hour, measured at ground level at the site.
- E. Guarantee and Warranty coverage shall have no dollar value limit.
- F. Guarantee and Warranty coverage may be cancelled, for the affected portion of the roof, if the work is damaged by winds in excess of 72 mph, by hail, lightning, insects or animals, by failure of the structural substrate, by exposure to harmful chemicals, by other trades on the roof, or by vandalism, or if the Owner fails to maintain the roof in accordance with, or makes roof alterations contrary to, the Manufacturer's printed recommendations.
 - 1. Guarantee and Warranty coverage shall be reinstated, for the remainder of the original period; if the Owner restores the roof to the condition it was in prior to the damage occurring.

PART 2 - PRODUCTS

2.1 GENERAL

- A. The District has designated Tremco Inc. as their preferred vendor, to establish a standard of quality, and to maintain their existing maintenance contract and warranty coverage.
- B. Primary products include:
 - 1. Primer
 - 2. Vapor Barrier
 - 3. Roofing Felts
 - 4. Bitumen / Adhesive
 - 5. Insulation
 - 6. Insulation Adhesive
 - 7. Cant & Tapered Edge Strips
 - 8. Asphalt Cements
 - 9. Flashing Sheet
 - 10. Insulation Fasteners
 - 11. Expansion Joint Covers

2.2 MATERIALS

- A. Primers: Thin, cut back asphalt meeting ASTM D41
- B. Felts and Underlayments:
 - 1. Vapor Barrier: Fire resistant torch grade SBS modified smooth surfaced fiberglass reinforced sheet meeting ASTM D 5147 – POWERply Standard Smooth HW.
 - 2. Base Sheet - asphalt coated fiberglass reinforced sheet meeting ASTM D 6509: POWERply APP Base Sheet.
 - 3. Cap Sheet – white granular surfaced fire resistant bilaminate reinforced sheet meeting ASTM D 6162, Type III, Grade G, POWERply PREMIUM FR.
 - 4. Flashing Sheet: white granular surfaced fire resistant polyester reinforced sheet meeting ASTM D 6162, Type III, Grade G, POWERply PREMIUM FR.

C. Mastic & Adhesives:

1. Bituminous Adhesive: cold applied rubberized asphalt adhesive, manufactured by Tremco under the trade name POWERply Rubberized Cold Adhesive.
2. Insulation adhesive: Two component low rise polyurethane foam adhesive, installed with a mixing extruding Pace Cart dispenser, or with a pleural heated foam rig. Use insulation adhesive suitable for application at the intended application temperatures. Do not use twin cartridge "caulking gun" adhesive except on very small isolated sections of roof.
3. Asphalt Roofing Mastic: ASTM D 4586, Type II, Class 1, one-part, asbestos-free, cold-applied mastic.
4. Elastomeric Roofing Mastic: One-part, asbestos-free, trowel-grade, elastomeric roof mastic.

D. Insulation & Cover Board:

1. Isocyanurate - Rigid cellular polyisocyanurate boards with fibrous felt/fiberglass mat facers, maximum board size 4 feet by 4 feet, minimum compressive strength 20 psi, meeting ASTM C 1289-01, Type II, Class 1, Grade 2.
 - a. Tapered isocyanurate insulation sloping 1/8 inch per foot, minimum starting thickness 5-1/2 inches.
2. Gypsum Cover Board: Georgia Pacific Dens-Deck Prime, meeting ASTM C 1177, glass-mat, water-resistant gypsum substrate, 1/2 inch thick, factory primed.

E. Cants, Crickets and Tapered Edge Strips:

1. Factory fabricated from fiber insulation boards.
 - a. Crickets shall be tapered to achieve a 1/4 inch per foot slope.
 - b. Tapered edge strips shall be installed to create 4 foot square recessed sumps at all drains.

F. Concrete Grout: Fast setting Portland cement based polymer modified repair mortar as manufactured by The Quikrete Companies, under the trade name Quick-Setting Cement - to repair surface defects in the structural wood fiber deck.

G. Insulation fasteners for metal deck areas: No. 14 Fluoropolymer coated corrosion resistant screws and galvanized metal plates.

H. Expansion Joint Covers: Neoprene / aluminum, bellows type covers, with prefabricated intersections, in continuous lengths, bellows width approximately 1.5 times the joint opening, as manufactured by Johns Manville under the trade name Expand-O-Flash.

PART 3 - EXECUTION

3.1 GENERAL

- A. Construct the new roofing system in a watertight, workmanlike manner, meeting the guarantee requirements specified herein, in strict accordance with the drawings and in conformance with the Manufacturer's requirements, except as enhanced in this specification.

- B. Perform work at areas with roof mounted mechanical equipment to coincide with shutdown periods of the equipment. Cover mechanical equipment air openings and windows adjacent to the work area with polyethylene sheeting and prevent odors from entering the equipment or building or affecting the building occupants. Remove the polyethylene covers at the end of each workday.
- C. Clean the surface upon which the roofing system is to be applied of laitance, dirt, oil, grease or other foreign matter which might affect the quality of the installation.
- D. Install components of the roofing system on dry surfaces and only when weather conditions and outside temperatures meet the Manufacturer's recommendations.
- E. Complete work in sequence as quickly as possible so that as small an area as practicable is in the process of construction at any one time. Seal edges and make the roof watertight at the end of each day's work.
- F. Prime the top and bottom surfaces of metal flashings, and set the flanges into Roofing Cement.

3.2 SUBSTRATE INSPECTION AND DECK REPAIR

- A. Remove existing roofing, insulation, flashings, gravel, and vapor barrier and carefully check the existing deck to confirm it is well secured to the underlying structure and not rotted or otherwise deteriorated.
- B. Immediately notify the Architect and Owner by telephone and in writing if defects in the substrate are discovered.
- C. Maintain the building watertight in the interim, but do not install new roofing until defects have been corrected.

3.3 DECK REPAIR

- A. Steel deck repairs:
 - 1. Remove damage decking across the entire width of individual sections by a length equal to a minimum of two joist bays.
 - 2. Install new deck to match the thickness, gauge and cross section of the existing deck. New steel deck shall be galvanized.
 - 3. Fasten new decking to each joist with #12 screws spaced 6 inches on center.
 - 4. Stitch side seams of steel deck with #10 screws spaced 24 inches apart.
- B. Concrete deck repairs:
 - 1. Perform repairs to the surface of concrete deck areas, 1/2 inch or less in depth, with quick setting non-shrink grout under the Base Bid.
 - 2. Deterioration greater than 1/2 inch deep shall be brought to the Architect's attention for his review and direction.

3.4 VAPOR BARRIER ON CONCRETE DECKS

- A. Install primer and a vapor barrier on the concrete decks: install the primer and allow it to dry.
- B. Starting at the low point, torch apply and fully adhere modified bitumen vapor barrier sheets to the primed substrate. Lap sheets at least 4 inches at the ply overlaps and at least 6 inches at the end laps.
- C. Carefully install the vapor barrier sheets to achieve only the minimum required bleed out.
- D. Extend vapor barrier up vertical surfaces at the roof perimeter, and up and around all penetrations and curbs, and seal the vapor barrier to provide continuity of the building air/vapor envelope.

3.5 INSULATION AND COVER BOARD

- A. Install tapered insulation neatly cut at all miters and transitions. Do not lace corner boards.
- B. Install insulation with joints offset between rows and layers a minimum of 12 inches. Cut insulation to fit neatly at penetrations and joints. Fill any gap which is greater than 1/4 inch.
- C. Fasten all layers of insulation to the top flutes of the steel decks, with screws and discs which penetrate through the deck a minimum of 3/4 inch and a maximum of 1-1/2 inches.
 - 1. Install 16 fasteners per 4 by 8 foot insulation board in the field of the roof.
 - 2. Install 28 fasteners per 4 by 8 foot insulation board in 8 foot wide perimeter zones.
 - 3. Install 32 fasteners per 4 by 8 foot insulation board in 8 foot square corner zones.
 - 4. Carefully choose the length and position of each screw to ensure the screws do not protrude through the underside of the deck where visible inside the school, and to ensure the screws do not damage conduits mounted on the underside of the deck.
- D. On concrete deck areas with new vapor barrier install all layers of insulation using low rise polyurethane foam adhesive applied in accordance with the Manufacturer's recommendations and to achieve the specified minimum uplift resistance. Offset joints in the insulation between rows and layers a minimum of 12 inches. Cut insulation to fit neatly at penetrations and joints. Fill any gap which is greater than 1/4 inch.
 - 1. Install 1/2 inch diameter adhesive beads 12 inches on center in the field of the roof.
 - 2. Install 1/2 inch diameter adhesive beads 6 inches on center in 8 foot wide perimeter zones.
 - 3. Install 1/2 inch diameter adhesive beads 4 inches on center in 8 foot square corner zones.
 - 4. Place 5 gallon pails half full of gravel or concrete on the insulation and gypsum cover boards to hold them firmly in position for at least 15 minutes while the low rise foam adhesive sets. Position the pails no more than 24 inches apart in all directions.
- E. Install gypsum cover board using low rise polyurethane foam adhesive applied in accordance with the Manufacturer's recommendations and to achieve the specified minimum uplift resistance, over the insulation with joints offset between rows and layers a minimum of 12 inches. Cut gypsum cover board to fit neatly at penetrations and joints. Fill any gap which is greater than 1/4 inch.
 - 1. Install 1/2 inch diameter adhesive beads 12 inches on center in the field of the roof.
 - 2. Install 1/2 inch diameter adhesive beads 6 inches on center in 8 foot wide perimeter zones.
 - 3. Install 1/2 inch diameter adhesive beads 4 inches on center in 8 foot square corner zones.
 - 4. Place 5 gallon pails half full of gravel or concrete on the insulation and gypsum cover boards to hold them firmly in position while the low rise foam adhesive sets. Position the pails no more than 24 inches apart in all directions.

- F. **Insulation and cover boards installed using low rise foam adhesive without pails of gravel or concrete shall be removed and replaced at the Contractors expense**

3.6 MEMBRANE

- A. Starting at the low point of the roof, solidly coat the surface of the cover board uniformly with cold adhesive and embed two plies of POWERply Base Sheet set shingle fashion, lapping each ply 19 inches.
1. Immediately roll the plies as they are installed, with a 75 pound smooth surfaced roller, to ensure complete adhesion.
 2. Offset laps between the plies at least 18 inches.
- B. Starting at the low point of the roof, solidly coat the surface of the ply sheets uniformly with cold adhesive and embed the POWERply cap sheet.
1. Offset the ply lines between the ply sheets and cap sheet 9 inches.
 2. Offset the end laps between the ply sheets and cap sheet at least 18 inches.
 3. Immediately roll the cap sheet as it's installed, with a 75 pound, clean, smooth surfaced roller, to provide complete adhesive.
- C. Do not phase the roof – a temporary or partially complete roof shall not be left exposed overnight. Install all base plies and the cap sheet to complete the roof in final form on a day-to-day basis.
- D. Do not walk on the ply and cap sheets until the cold adhesive has completely set. Stage the work so all traffic occurs on the “old” roof surface.
- E. Broadcast color matching loose granules into any Adhesive that bleeds from the seams of the Cap Sheet.
- F. Neatly install the cap sheet to produce a clean uniform white roof surface.
1. A roof surface with adhesive spills, adhesive oozing from the seams, scuff marks or foot prints will not be accepted.
- G. Remove and replace unacceptable work at no cost to the District.

3.7 MEMBRANE FLASHING AND STRIPPING

- A. Install a cant between the roof deck and vertical junctures.
- B. Install the ply sheets to the top of the cant and cut off cleanly. Install the ply sheet flashing, before beginning the cap sheet.
- C. Install primer on wood, masonry and metal flashing substrate surfaces, and allow it to dry before installing flashings and stripping.
- D. Install two ply flashings, consisting of a ply sheet and a flashing sheet in solid coats of asphalt cement. Stagger joints between plies a minimum of 12 inches. Extend each ply of flashing and

stripping 2 inches wider than the underlying ply. Extend the flashing sheet a minimum of 6 inches onto flat roof surfaces at the base of cant strips and tapered edge strips.

- E. Coat both the back of the flashing sheet and the surface to which it is being adhered, with asphalt cement, and flop the sheet into position – then rub the sheet to achieve complete adhesion.
- F. Mechanically attach vertical flashings to the tops of the curbs by fastening it 6 inches on center, at points about 1 inch from the top of the flashing. Use nails driven through 1 inch diameter flat tin disks into wood nailers. Use screws with 1 inch steel washers into metal curbs.
- G. Neatly trowel a small bead of asphalt cement along the leading edge of the gravel stop.
- H. Broadcast color matching loose granules into any Asphalt Cement that bleeds from the flashing seams.

3.8 MISCELLANEOUS

- A. Provide any miscellaneous roofing, flashing, caulking, and metal work needed to leave the work complete and entirely watertight, neatly and carefully executed in a thorough and workmanlike manner.
- B. Perform work on mechanical and electrical items using mechanics skilled and licensed in these trades. Provide new material, couplings, transition pieces, blocking, fasteners and the like needed to complete the work.

3.9 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any pre-existing leakage or damage, prior to performing any work.
- B. The Owner will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leakage or damage which was not documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.
- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site present a neat, orderly and workmanlike appearance. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

3.10 ROOF INSPECTIONS BY MANUFACTURER

- A. Arrange for the roofing Manufacturer, or his authorized representative, to make a minimum of five inspections in accordance with the following schedule and submit a written report of each inspection to the Architect within one week following each inspection:
 - 1. First inspection during the first two days of new roof installation.
 - 2. Second inspection when roofing is approximately one third complete.
 - 3. Third inspection when roofing is approximately two thirds complete.
 - 4. Fourth inspection when all roofing and flashings are installed.
 - 5. Final inspection at the completion of all work.
- B. Provide 48 hours advance written notice to the Architect, so he may have a representative attend the inspections.
- C. Payment requisitions will not be reviewed nor approved until the inspection reports are received.

END OF SECTION

SECTION 07 6200
SHEET METAL FLASHINGS & SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section.

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules and keynotes, as specified herein, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:

- 1. Sheet metal work that is compatible with the roofing systems specified, including cap flashings, factory fabricated roof edge systems, miscellaneous flashings.

- B. Related Requirements

- 1. Masonry Maintenance - Section 04 0100
 - 2. Carpentry - Section 06 1000
 - 3. Modified Bitumen Roofing - Section 07 5216
 - 4. Roof Accessories - Section 07 7200

1.3 CODE APPROVAL REQUIREMENTS

- A. Fabricate and install roof perimeter flashings that comply with the NY State Uniform Fire Prevention and Building Code and with ANSI/SPRI ES-1 "Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems" requirements.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications:

- 1. A firm (Installer) with at least 5 continuous years experience performing work similar to that required for this project, employing personnel skilled in the work specified.
 - a. The Installer shall directly employ the personnel performing the work of this section.
 - b. The Installer shall have a full time supervisor on the roof when work is in progress. The Supervisor shall have a minimum of 5 years experience with work similar in nature and scope to this project, and speak fluent English.
 - i) Submit the supervisor's resume upon request.
 - 2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within a fifty mile radius of this project, which may be observed by representatives of the Owner:
 - a. The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number.

- b. Submit the reference list upon request.

B. Material Quality:

- 1. Obtain each product from a single Manufacturer which has manufactured the same product in the United States of America for not less than 5 continuous years.
- 2. Obtain copper and pre-finished sheet metal items from the same mill run to maintain consistent color hue and surface finish.

C. Pre-Construction Conference: Meet at the project site between one and two weeks prior to starting work, with the Architect, Owner and other representatives concerned about the work, to discuss the following:

- 1. How the building will be kept watertight as work progresses.
- 2. How sheet metal work will be coordinated with the installation of the vapor barrier, insulation, cover board, roofing, flashings, roof accessories and other items to provide a watertight installation.
- 3. Generally accepted industry practice and the Manufacturer's instructions for handling and installing his products.
- 4. The condition of the substrate, curbs, penetrations and other preparatory work needed.
- 5. Incomplete submittals; note that progress payments will not be processed until all submittals are received and approved.
- 6. The construction schedule, weather forecast, availability of materials, personnel, equipment and facilities needed to proceed and complete the work on schedule.
- 7. A schedule for Manufacturer and Architect inspections.

1.5 SUBMITTALS

A. Submit the following items far enough in advance to obtain approval prior to performing any work on site:

- 1. A pre-work site and building inspection report with photos to document conditions before any other work starts on site.
- 2. Manufacturer's technical literature for all materials.
- 3. Test reports and certifications substantiating compliance with specification requirements if requested by the Architect.
- 4. Shop drawings, or 2 foot long samples, for each sheet metal item, to show how it relates and fits on adjoining masonry and wood blocking assemblies, and with the roof, stripping, and flashings.
- 5. 6 inch square pieces of each type of sheet metal to show surface finish, texture and color.
- 6. A sample of the Contractor's guarantee form.

B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.

1. Submittals shall be prepared and made by the firm that will perform the actual work.
 2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program isn't established, provide the submittals on portable USB drives in pdf format, organized in folders by Section.
- C. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders.
- D. Payment requisitions will not be processed until all submittals are received and approved.

1.6 JOB MOCK-UPS

- A. After the submittals are approved, prepare in actual job locations, mock-ups of cap flashings, factory fabricated roof edge systems, and all other items of sheet metal and related work, for inspection and approval by the Architect.
- B. Construct each mock-up of two full lengths of metal, fastened, connected and stripped-in to the related roofing system, to show the following:
1. Type, gauge, color, cross-sectional dimensions and shape, and joint and mitering techniques.
 2. Related masonry work, wood blocking, and the attachment techniques and fasteners for all wood and metal components.
 3. Other sheet metal related materials and their installation techniques to fully define the detailing of each mock-up.
- C. Mock-ups shall be constructed to establish the minimum standard of materials and workmanship, and to assure that completed work which matches the mock-ups will be fully functional and serve the purpose for it has been designed.
- D. Approved mock-ups may be left in place and incorporated into the permanent installation. Rejected mock-ups shall be removed and replaced until an acceptable mock-up is approved.
- E. Do not purchase or fabricate sheet metal items until mock-up installation, inspection and approval are completed and approval is documented in writing.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver material to the site in the Manufacturer's original and unopened packaging, with intact and legible labels which identify the products and Manufacturers,
- B. Cover all stored materials with watertight tarpaulins installed immediately upon delivery.
- C. Do not overload the structure when storing materials on the roof.
- D. Protect new and existing roof surfaces where material and equipment is placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.

1.8 GUARANTEE

- A. Provide a written Contractor's Guarantee which guarantees that all work will remain free of material and workmanship defects and in a watertight condition for a five year period beginning upon Final Completion:
 - 1. Defects include but are not limited to the following: peeling paint, leakage, adhesive separation, delamination, lifting, loosening, splitting, cracking, and undue expansion.
 - 2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as warranted at his own expense.
 - 3. Guarantee coverage shall include removing and replacing materials installed as part of the original work, if removal is needed to affect guaranteed repairs.
 - 4. Guarantee coverage shall have no dollar limit.
- B. Provide one Contractor's Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
- C. The Guarantee coverage shall take affect no more than 30 days before the completion of all punch list work.
- D. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor's Guarantee.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Copper sheet: ASTM B370, 99.0 % pure copper, thickness 16 ounces per square foot. Use copper for all metal items not otherwise indicated
- B. Zinc-Tin coated copper: copper sheet, coated on both sides, with a smooth uniform coating of zinc and tin, base metal weight 16 ounces per square foot, cold rolled temper, available as FreedomGray Copper by Revere.
- C. Solder:
 - 1. 50-50 tin and lead for plain copper, supplied in one pound bars with the alloy mixture stamped into the bar by the Manufacturer.
 - 2. Lead free / or pure tin solder for zinc-tin coated copper, Number 497 by Johnson Manufacturing.
- D. Flux:
 - 1. Water-Soluble Liquid Flux, Kester #3345 for iron soldering of brass and copper.
 - 2. Tin-bearing flux such as "Flux-N-Solder E127 with pure tin" by Johnson Manufacturing.
- E. Aluminum miscellaneous trim: #3105-H14 alloy aluminum, minimum thickness .040 inches unless otherwise indicated, factory finished with a Fluoropolymer Kynar 500 finish, color as selected by the Architect, from the full range of custom and standard colors.
- F. Factory Fabricated Roof Edge System: Extruded aluminum anchor bars secured with #9 stainless steel screws spaced 12 inches on center and .050 inch thick Kynar 500 prefinished aluminum trim covers, independently tested to comply with the ANSI / SPRI ES-1 Wind Design Guide, provided by the roofing membrane manufacturer.

- G. Drain flashings: 4 pound sheet lead, 30 inches square.
- H. Fasteners: fabricated of stainless steel, or material that matches the sheet metal being fastened.
- I. Eveco ventilators: single cone gravity type ventilators, with no moving parts, fabricated of mill finish aluminum, furnished with #8 aluminum insect screen, 1/2 inch aluminum bird screen and factory fabricated curb mount bases, as manufactured by Empire Ventilation Equipment Co., Inc., Long Island City, NY. (Use these on flat roofs.)
- J. Glass Cloth: open mesh glass fabric coated on each side with plasticized asphalt as manufactured by Karnak Corporation or equal.
- K. Asphalt cement: Federal Specification SS-C-153B, Type 1, asbestos free grade.
- L. Sealant: High performance, solvent free, formulated and moisture curing silyl-terminated polyether sealant, ASTM C-920, Type S, Grade NS, Class 25, NovaLink construction sealant by ChemLink, color as selected.

PART 3 - EXECUTION

3.1 GENERAL

- A. Accurately reproduce the details and design shown, and form profiles, bends and intersections, sharp, true and even. Fabricate sheet metal in the shop whenever possible, and form joints, laps, splices and connections to shed water and condensation in the direction of flow.
- B. Provide any miscellaneous flashing and sheet metal work not shown on the drawings but otherwise needed to leave the project complete and entirely watertight, neatly and carefully executed in a thorough and workmanlike manner.

3.2 INSPECTION

- A. Examine surfaces to receive work of this section and report any defects to the Owner. Commencement of work will be construed as complete acceptance of surfaces.

3.3 INSTALLATION

- A. Fabricate and install copper work in accordance with the current edition of "Copper and Common Sense" as published by the Revere Copper and Brass Company, unless otherwise indicated.
 - 1. Form all joints, except loose locked sealant filled expansion joints, to overlap 2 inches.
 - 2. Secure the joints with rivets spaced 1 inch on center positioned about 1/2 inch from the top edge of the joint, then sweat solder the joint.
 - 3. Use solder only to fill and seal the joint, not for mechanical strength. Form soldered joints continuous, strong and free from defects, with well heated soldering irons. Do not use open flame torches for soldering.
 - 4. Clean soldered joints daily, immediately after soldering, by washing them with soap and water applied with a soft bristle brush, then rinsing with clear water.

- B. Securely fasten and anchor all work, and make provisions for thermal expansion. Submit details of expansion joints for approval. Install fasteners through one edge of metal only, use a hook strip on the other edge.
- C. Use stainless steel pin Zamac type nail-in fasteners, or stainless steel screws and washers with neoprene inserts where fasteners will be exposed.

3.4 CAP FLASHINGS

- A. Install new copper cap flashings above all roof and roof flashing components, including copings, wall penetrating ducts and gravel stops. Install cap flashings built into masonry walls; as they are demolished and reconstructed - properly joined to all related materials in a watertight manner.
 - 1. Solder all joints in the new cap flashing, except form 2 inch wide flat locked sealant filled expansion joints a maximum of 32 feet on center.
 - 2. Secure the joints with rivets spaced 1 inch on center positioned about 1/2 inch from the top edge of the joint, then sweat solder the joint.
 - 3. Form the flashing to turn up 2 inches inside the wall and finish with a hem on the bottom exposed edge.
 - 4. Fasten the top edge of the cap flashing to the back up masonry 12 inches on center.
 - 5. Install the new cap flashing under flexible type wall flashings where possible. Where it is not possible to lap the new cap flashing under an existing wall flashing, install a ply of glass cloth set in and coated with asphalt cement to connect the new cap flashing to the existing wall flashing.
 - 6. In the absence of an existing wall flashing, or at a solid masonry wall, turn up the new cap flashing 2 inches behind the first wythe of masonry.
 - 7. Install new cap flashings where shown on the drawings, and at a height of 10 to 12 inches above the roof surface.
 - 8. Install new cap flashings above parapet flashings and above eave metal at transitions with higher walls.
- B. Install new aluminum cap flashings on skylight and equipment curbs.
 - 1. Form the cap flashing to extend at least 2 inches under the equipment or skylight, 4 inches over the base flashing, and finish with a 1/2 inch hem on the bottom edge.
 - 2. Install a 1/2 inch thick by 2 inch wide continuous foam gasket between the cap flashing and mechanical equipment or skylight. Do not set the equipment or skylight in sealant.
 - 3. Secure the equipment or skylight to the curb with stainless steel screws spaced 12 inches on center.

3.5 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any pre-existing leaks or damage, prior to performing any other work on site.

- B. The Owner will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leaks and damage that weren't documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.
- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather - which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site present a neat, orderly and workmanlike appearance. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

END OF SECTION

SECTION 07 7200
ROOF ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Applicable provisions of the Conditions of the Contract and Division 1, General Requirements, govern work in this Section.

1.2 SUMMARY

- A. All plant, labor, materials, equipment, testing and services necessary to complete the work shown on the drawings, schedules and keynotes, as specified herein, and as may be required by conditions and authorities having jurisdiction, including, but not limited to, the following:

- 1. Roof specialties that are compatible with the roofing systems specified, including:
 - a. Plastic skylights.
 - b. Fiberglass panel skylights.
 - c. Drains, drain pipes and couplings.
 - d. Pipe insulation and fitting covers.
 - e. Aluminum smoke vent hatches.
 - f. Galvanized steel roof access ladders.
 - g. Roof walkway pads and concrete pavers.
- 2. Prepare, prime and paint all roof top equipment, bulkhead doors and frames (inside and outside), vent pipes, gas lines, and miscellaneous rooftop items indicated.

- B. Related Requirements

1. Masonry Maintenance	- Section 04 0100
2. Carpentry	- Section 06 1000
3. SBS Modified Bitumen Roofing	- Section 07 5216
4. Sheet Metal Flashing & Specialties	- Section 07 6200

1.3 CODE APPROVAL REQUIREMENTS

- A. Fabricate and install roof accessories that comply with the NY State Uniform Fire Prevention and Building Code.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications:

- 1. A firm (Installer) with at least 5 continuous years experience performing work similar to that required for this project, employing personnel skilled in the work specified.
 - a. The Installer shall directly employ the personnel performing the work of this section.
 - b. The Installer shall have a full time supervisor on the roof when work is in progress. The Supervisor shall have a minimum of 5 years experience with work similar in nature and scope to this project, and speak fluent English.
 - i. Submit the supervisor's resume upon request.

2. The Installer shall provide a reference list of at least three previously completed projects of comparable size and similar design, within a fifty mile radius of this project, which may be observed by representatives of the Owner:
 - a. The reference list shall include at a minimum, the completion date, a description of the work performed, the Owner's name - contact person - phone number and address and the Architect's name - contact person and phone number, and the Contractor's Supervisor's name.
 - b. Submit the reference list upon request.
- B. Material Quality: Obtain each product from a single Manufacturer which has manufactured the same product in the United States of America for not less than 5 continuous years.
- C. Pre-Construction Conference: Meet at the project site between one and two weeks prior to starting work, with the Architect, Owner and other representatives concerned about the work, to discuss the following:
 1. How the building will be kept watertight as work progresses.
 2. How roof accessory work will be coordinated with the installation of the vapor barrier, insulation, cover board, roofing, flashings, and other items to provide a watertight installation.
 3. Generally accepted industry practice and the Manufacturer's instructions for handling and installing his products.
 4. The condition of the substrate, curbs, penetrations and other preparatory work needed.
 5. Incomplete submittals; note that progress payments will not be processed until all submittals are received and approved.
 6. The construction schedule, forecast weather, availability of materials, personnel, equipment and facilities needed to proceed and complete the work on schedule.
 7. A schedule for Manufacturer and Architect inspections.

1.5 SUBMITTALS

- A. Submit the following items far enough in advance to obtain approval prior to performing any work:
 1. A pre-work site and building inspection report with photos to document conditions before any other work starts on site.
 2. Manufacturer's installation instructions and technical data sheets for each item. Material sample submittals are not needed unless requested to show color and texture.
 3. Samples of the Contractor's and Manufacturer's guarantee/warranty forms.
 4. Test reports and certifications substantiating compliance with specification requirements if requested by the Architect.
- B. Simultaneously provide all technical submittals needed for this project, for all technical sections, collated by section. Incomplete submittals will not be reviewed.
 1. Submittals shall be prepared and made by the firm that will perform the actual work.

2. Provide electronic submittals via an on-line submittal exchange program if one is established for this project; if an on-line program isn't established, provide the submittals on portable USB drives in pdf format, organized in folders by Section.
 - C. Safety Data Sheets: Simultaneously provide all Safety Data Sheets needed for this project, for all specification sections - collated by section, in three ring binders. Provide two binders.
 - D. Payment requisitions will not be processed until all submittals are received and approved.
- 1.6 DELIVERY, STORAGE AND HANDLING
- A. Deliver material to the site in the Manufacturer's original and unopened packaging, with intact and legible labels which identify the products and Manufacturers,
 - B. Cover all stored materials with watertight tarpaulins installed immediately upon delivery.
 - C. Do not overload the structure when storing materials on the roof.
 - D. Protect new and existing roof surfaces where material and equipment is placed on them, and where construction traffic occurs, with 6 mil fire retardant polyethylene, covered with 1-1/2 inch thick foam insulation, overlaid with 2 by 10 wooden planks.
- 1.7 GUARANTEE
- A. Provide a written Contractor's Guarantee which guarantees that all work will remain free of material and workmanship defects and in a watertight condition for a five year period beginning upon Final Completion:
 1. Defects include but are not limited to the following: peeling paint, leakage, adhesive separation, delamination, lifting, loosening, splitting, cracking, movement and undue expansion.
 2. The Contractor shall make the repairs and modifications necessary to enable the work to perform as warranted at his own expense.
 3. Guarantee coverage shall include removing and replacing materials installed as part of the original work, if removal is needed to affect repairs.
 4. Guarantee coverage shall have no dollar limit.
 - B. Provide one Contractor's Guarantee that covers "all work performed" when a single contractor is awarded work specified in multiple Sections.
 - C. The Guarantee shall take affect no more than 30 days before the satisfactory completion of all punch list work.
 - D. The Contractor's Surety Company may add a rider to the Performance Bond which clarifies that Performance Bond Coverage expires two years after Final Completion; i.e., Performance Bond Coverage does not run for the entire five year term of the Contractor's Guarantee.
 - E. Provide a Manufacturer's written warranty, which warrants the skylights will remain watertight for a minimum 5 year term beginning upon final completion.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide Manufacturer's standard units, modified as necessary to comply with the specified requirements. Fabricate each unit in a shop to the greatest extent possible, using the following components:
1. Aluminum Sheet: ASTM B 209 alloy 3003, tempered for forming and performance; mill finish, except as otherwise noted.
 2. Extruded Aluminum: Standard extrusions alloy 6063-T52; 0.078 inch minimum thicknesses for primary framing and curb member legs, 0.062 inch thickness for secondary framing and covers; mill finish, except as otherwise indicated.
 3. Insulation: Rigid fiber glass boards where encapsulated inside metal skirts, rigid isocyanurate where covered with roof flashings on the exterior of curbs.
 4. Wood Nailers: Dimension grade Douglas Fir, not less than 1-1/2 inches thick.
 5. Fasteners: Nonmagnetic stainless steel or hot dipped galvanized steel, to match the finish of the material being fastened.
 6. Gaskets: Tubular neoprene or polyvinyl chloride, or block sponge neoprene.
 7. Sealant: Polyisobutylene; nonhardening, nonskinning, nondrying, nonmigrating sealant.

2.2 PLASTIC SKYLIGHTS

- A. Factory assembled dome and frame assemblies with welded corners manufactured by Kingspan / Bristolite or American Skylights are specified to establish a quality standard. Equal products are acceptable provided they comply with the following requirements:
1. Glazing sheet thickness required for a minimum of 30 pounds per square foot external and 30 pounds per square foot internal loading; and to comply with the minimum thickness and wind pressure requirements of AAMA/WDMA/CSA 101/I.S.2/A440 as set forth in paragraph 2405.5 of the NYS Uniform Fire Prevention and Building Code.
 2. Outer Dome: Dome shaped polycarbonate meeting the following tests:
 - a. Burn Rate ASTM D635 - Not over 2.5
 - b. Smoke Developed ASTM D2843
 - c. Smoke Density Not over 75%
 3. Inner Panel: Clear multiwall polycarbonate panel meeting the following tests:
 - a. Burn Rate ASTM D635 - Not over 2.5
 - b. Smoke Developed ASTM D2843
 - c. Smoke Density Not over 75%
 4. Fall Protection: Fabricate the skylights so the dome and panel will not disengage from the frame upon impact of 755 foot pounds, and to comply with OSHA 1910.23 Fall Protection Guidelines.
 5. Energy Performance Ratings:
 - a. Maximum U-Value 0.50
 - b. Maximum Solar Heat Gain Coefficient (SHGC) of 0.40
- B. Curb Construction: Provide units with integral internal gutters and weep holes to drain condensation; fabricated with formed and extruded thermally broken welded aluminum frames and retaining angles for installation on field constructed curb assemblies.

2.3 FIBERGLASS PANEL SKYLIGHTS

- A. Factory fabricated impact resistant panels, 2-3/4 inches thick, formed from glass fiber reinforced thermoset resins and 7/16 inch thick 6063-T6 or 6005-T5 aluminum grid I-beams with thermal breaks, using heat and pressure resin adhesive, butyl sealing tape and stainless steel fasteners.

- B. Panels shall deflect no more than 1.9 inches when loaded to 30 psf in a 10 foot span without a supporting frame in accordance with ASTM E72
- C. Panels shall have a UL Class A External Fire Rating, a Maximum U-factor 0.50, a Solar Heat Gain Coefficient (SHGC) of 0.40, and meet OSHA 1910.23 Fall Protection Guidelines.
- D. Exposed aluminum framing members shall have a Kynar 500 paint finish, color as selected from the full range of Standard and Custom Colors
- E. Fiberglass panel colors shall be as selected from the full range of Standard and Custom Colors
- F. Basis of design is Kalwall 2-3/4 inch thick Custom Skylight System with impact resistant panels.

2.4 DRAINS, DRAIN PIPES, AND COUPLINGS

- A. Conventional cast iron bottom and side outlet roof drains, installed with drain receivers, under deck clamps, cast iron strainers, cast iron clamping rings and factory installed stainless steel gravel screens Series 1011 as manufactured by Jay R. Smith Manufacturing Company.
- B. Match the drain outlet size and style to the building drain line, except if the drain line is a copper pipe, then furnish the drain body with a threaded outlet and use a male adapter to connect the drain body to the drain line.
- C. Drain pipe: cast iron pipe with no hub fittings, minimum 3 inch diameter, and larger to match the existing building drain lines.
- D. No-hub couplings: heavy duty rubber neoprene sleeve couplings with full length Type 304 stainless steel shields and at least 4 worm drive clamps, conforming to ASTM A564.

2.5 PIPE INSULATION AND FITTING COVERS

- A. Insulation: minimum 1 inch thick pre-molded 3.5 lb. heavy density fiberglass pipe insulation with UL rated non-combustible service jackets.
- B. .030 inch thick factory fabricated white PVC "Smoke Safe" fitting and drain bowl covers as manufactured by the Speedline Corporation, with a maximum Flame Spread Value of 25 and a maximum Smoke Developed Value of 50 in accordance with ASTM E8450.

2.6 ALUMINUM SMOKE VENT HATCHES

- A. UL listed single and double leaf hatches constructed with welded double wall 11 gauge mill finish aluminum covers that incorporate insulation, and 12 inch high aluminum curbs complete with counter flashings, neoprene draft seals, 3-1/2 inch deck flanges, interior and exterior handles and tamper resistant hinges contained within the hatch, as manufactured by The Bilco Company.
 - 1. Furnish unit with 24 inch high curb with built in louvers on 3 sides.
 - 2. Furnish the units with manual, fusible link and electric releases that can be reset without having to replace any parts.
 - a. Match the electric release voltage to the local smoke detector and alarm system.
- B. Furnish hatches with 4 inch by 4 inch 6 gauge galvanized steel welded wire safety screens supported on 1-1/2 by 1-1/2 by 1/4 inch thick steel perimeter angle support frames.

- C. Furnish the units in the sizes needed to fit the deck openings, and as indicated.

2.7 GALVANIZED STEEL ROOF ACCESS LADDERS

- A. Fabricate ladders from 1-1/4 inch inside diameter steel pipe rails, spaced 22 inches apart, and 3/4 inch solid steel rebar rungs spaced 12 inches on center. Fit the rungs into drilled holes in the centerline of the rails, weld and grind the welds smooth. Extend the ladder rails and form goose-neck returns to finish 42 inches above the roof surface.
 - 1. Hot dip galvanize coat the ladder and mounting brackets after fabrication. Install with Type 316 stainless steel hardware.

2.8 ROOF WALKWAY PADS AND CONCRETE PAVERS

- A. 2 inches thick, 24 inches by 24 inches precast concrete pavers, natural buff color and finish, minimum 7500 psi compressive strength as manufactured by Hanover Architectural Products.
- B. 3/4 inch thick, 36 inches by 72 inches mineral surface asphalt composition walkway pads, manufactured by Meadows under the trade name "White Walk".

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Field measure existing openings. Comply with manufacturer's instructions and recommendations. Coordinate with the installation of roof deck, other substrates to receive specialty units, vapor barriers, roof insulation, roofing and flashing to ensure that each element of the work performs and fits properly, and that combined elements are waterproof and weathertight. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.

3.2 PLASTIC SKYLIGHTS

- A. Remove the existing skylight and curb assembly using care not to damage the roof deck or skylight well liner. Re-support ceiling and shaft components that are attached to the skylight curb or shaft liner. Construct or extend the existing curb to finish 10 inches above the roof surface. Install new base and cap flashings, and restore & finish the shaft liner to match the original construction. Install the new skylight on top of a 1/2 inch by 2 inch foam gasket.

3.3 FIBERGLASS PANEL SKYLIGHTS

- A. Carefully remove existing skylight components, but not the underlying structural steel support system.
- B. Scrape, wire brush prime and paint the structural steel support system before installing new skylight framing and panels.
- C. Install the skylight frame and panels using a crew that is experienced and trained to install fiberglass panel skylight systems, in accordance with the approved shop drawings, using stainless steel fasteners. Position the panels straight, in plane, level and true to create an attractive watertight skylight assembly.
- D. Remove, discard and replace any components that get damaged as the installation occurs.

- E. Carefully wipe the interior and exterior of the skylight clean immediately after the installation is complete.

3.4 DRAINS, DRAIN PIPES AND COUPLINGS

- A. Remove and replace the existing drains where roof removal and replacement work is indicated:
 - 1. Remove the existing drains and flashings; use care not to break or disturb the drain pipes within the building.
 - 2. Modify the existing drain lines to properly connect to the new drain assemblies.
 - 3. Enlarge the hole in the deck and reinforce the deck to accommodate the new drain, and install the drain recessed below the roof surface to achieve maximum drainage.
 - 4. Support the drain with a stamped sump drain receiver, secure it with an under deck clamp and patch the deck around the new drain.
 - 5. Connect the new drain to the existing drain line to conform to all applicable codes, and insulate the underside of the drain body and drain line.
- B. Connect the fittings and sections of cast iron pipe using heavy duty no-hub couplings; solvent weld PVC fittings and pipe, and use threaded connections to join steel fittings and pipe.

3.5 PIPE INSULATION AND FITTING COVERS

- A. Install insulation on all horizontal drain piping, and on new vertical pipes installed to connect the new drains to the existing lines.
- B. Install insulation on the undersides of the new drains.
- C. Install white PVC fitting and drain bowl covers, and wrap the joints between fitting covers and pipe insulation jackets with 3 inch wide white PVC tape.

3.6 SMOKE VENT HATCHES

- A. Remove the existing smoke hatch assemblies and related flashings. Modify any electrical conduits, sprinkler and heating system pipes which protrude above the level of the new curb.
- B. Install new steel beams and metal decking to re-configure the deck opening.
- C. Support the new smoke vent curbs on solid wood blocking that matches the height of the new roof.
- D. Connect the smoke vent hatches to a local smoke detector and the existing smoke alarm system. Test the smoke hatches to the satisfaction of the Architect and Owner.
- E. Install new safety screens to fit inside the curb openings. Wire brush, prime and install two finish coats of paint prior to installation. Fasten the screens with 5/16 inch diameter lag bolts / expansion bolts / epoxy set bolts spaced 12 inches on center around the entire perimeter of the screens.

3.7 GALVANIZED STEEL ROOF ACCESS LADDERS

- A. Install ladders at the interior and exterior locations shown. Support and secure each ladder at the top and bottom and at intermediate points spaced a maximum of 5 feet on center. Use bolted steel brackets, anchored with 1/2 inch diameter stainless steel epoxy set bolts. Space the ladders to provide 7 inches of toe clearance. Extend the rails 42 inches and goose-neck form them to provide additional support at the top of the ladder.

3.8 ROOF WALKWAY PADS AND CONCRETE PAVERS

- A. Install concrete pavers spaced 5 feet on center for conduit supports, and for AC equipment support.
 - 1. Install pavers over a piece of "White Walk".
- B. Install walkway pads to provide a path 3 feet wide, spot adhered to the cap sheet, for walkways where shown, at all roof access points, e.g.; doors, ladders, and under concrete pavers used for conduit and pipe supports.

3.9 MISCELLANEOUS

- A. Provide and install any sealants needed, where shown or required.
- B. Perform mechanical and electrical work using skilled and licensed tradesmen.
- C. Provide new material, couplings, transition pieces, blocking, fasteners and the similar accessories needed to complete the work.

3.10 CLEANING, PROTECTION AND WATERTIGHTNESS

- A. Inspect the interior and exterior of the building and grounds, and submit a written report with photos to document any pre-existing leaks or damage, prior to performing any other work on site.
- B. The Owner will conduct a similar inspection at the completion of the work, and the Contractor will be charged for all leaks and damage that weren't documented in the Contractor's report, or repaired to the Owners satisfaction at the Contractor's expense.
- C. Provide any equipment, material and labor necessary to protect the site, the building, its contents and occupants, pedestrians, and surrounding landscaped and paved areas from damage due to the construction work or from inclement weather during construction.
- D. Do not perform work during inclement weather. Protect incomplete work and the building from damage by inclement weather - which may occur unexpectedly. Make all work areas watertight at the end of each day's work.
- E. Clean up all litter, refuse, rubbish, scrap materials and debris at least twice a day; at noon and at the end of the work day, so the roof and site present a neat, orderly and workmanlike appearance. Place the debris in a dumpster, and remove the dumpster from the site as soon as it is full or no longer being used.
- F. Carefully and thoroughly clean the entire roof to remove all residual debris when all work is complete. After cleaning the roof, thoroughly clean all drain sumps, drain lines, leader heads and leaders. Do not allow debris to enter the drainage system.

3.11 TESTING

July 22, 2021
Issue for Bid
SED #66-10-04-06-0-013-013

Chappaqua Central School District
Westorcharde Elementary School
Roof Replacement

- A. Test the new smoke hatch with the Architect or Owner present, to demonstrate it is functional, particularly with regard to security, alarm signal operation, and venting. If faults are evidenced, make the needed corrections and repeat the test until no faults occur.

END OF SECTION