

Project Manual

PROJECT NO. SU- 043014

PROJECT TITLE: Acquisition and Installation of
Dust Collector at Visual Arts
Building, Purchase College.

DATE: April 30th, 2014

State University of New York, Purchase College

SUNY Purchase College
735 Anderson Hill Road
Purchase, New York 10577-1400

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http://www.suny.edu/sunypp/documents.cfm?doc_id=514

Form B, Affirmation with respect to State Finance Law §§139-j and 139-k

http://www.suny.edu/sunypp/documents.cfm?doc_id=282

Form C, Disclosure and Certification with respect to State Finance Law §§139-j and 139-k

http://www.suny.edu/sunypp/documents.cfm?doc_id=283

MWBE Form 104 - Contractor's EEO Policy Statement http://www.suny.edu/sunypp/lookup.cfm?lookup_id=615

MWBE Form 107 – MWBE Utilization Plan http://www.suny.edu/sunypp/lookup.cfm?lookup_id=618

MWBE Form 108 – EEO Staffing Plan http://www.suny.edu/sunypp/lookup.cfm?lookup_id=621

Construction Vendor Responsibility Questionnaire with Attachments A, B and C

http://www.suny.edu/sunypp/documents.cfm?doc_id=506

http://www.osc.state.ny.us/vendrep/forms_vendor.htm

Certificate of Insurance <http://www.suny.edu/sunypp/docs/505.pdf>

State University of New York Sub-Contracting Information

Form AC 2947, NY State Labor Law, Section 220-a, Prime Contractor's Certification

Form AC 2948, NY State Labor Law, Section 220-a, Subcontractor's Certification

Form AC 2958, NY State Labor Law, Section 220-a, Sub-subcontractor's Certification

http://www.suny.edu/sunypp/documents.cfm?doc_id=516

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Project Number SU-043014

Acquisition and Installation of a Dust Collector at Visual Arts Building Purchase College

Form Revised April 2007

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AGENCY NUMBER: 28260

STATE UNIVERSITY OF NEW YORK

NOTICE TO BIDDERS

Purchase College, State University of New York will receive sealed Proposals for **Project SU-043014**, Titled **“Acquisition and Installation of Dust Collector at Visual Arts Building, Purchase College.”** until **1:00 P.M. Local Time on May 29th, 2014**, at the Purchasing & Accounts Payable Office, Administration Building, Purchase College, State University of New York, 735 Anderson Hill Road, Purchase, New York 10577-1402, when they will be opened publicly and read. Proposals may be hand delivered or mailed to the above location and must be received by such time.

All work on this Contract is to be completed within **120** calendar days starting **ten (10)** calendar days after the contract approval date. The Dust Collector needs to be installed and running over **by August 15th 2014**.

A Pre-Bid Conference and site walk-through for prospective Bidders will be held at the Capital Facilities Management conference room at Purchase College, 735 Anderson Hill Road, Purchase, New York 10577-1402 at **10:00AM on May 12th, 2014**. Please note: The walkthrough is **Mandatory**. This will be the only guided walk-through of the subject project facilities.

For directions to Purchase College, see <http://www.purchase.edu/AboutPurchase/VisitorsGuide/Directions/>
For a campus map, see <http://www.purchase.edu/sharedmedia/admissions/campus%20map.pdf>

Purchase College is dedicated to environmentally sustainable development. In an effort to conserve resources and reduce waste, the Bidding and Contract Documents will only be available electronically in PDF format for viewing and downloading at the following website: <http://www.purchase.edu/purchasemeansbusiness>

There will be an Open Question and Answer Period from **May 12th – May 19th, 2014**. During this time any questions must be submitted in writing (no telephone calls) to the following email address, sayim.malik@purchase.edu. The email should reference the project in the subject line and include bidders contact information and email address. A response to all questions submitted within the Open Question and Answer Period and any required Addendum will be posted no later than **May 20th, 2014** at the following website: <http://www.purchase.edu/purchasemeansbusiness>

Bids must be submitted in duplicate in accordance with the instructions contained in the Information for Bidders.

It is the policy of the State of New York and the State University of New York to encourage minority and women-owned business enterprise participation in its projects by contractors, subcontractors and suppliers, and all bidders are expected to cooperate in implementing this policy. The minority (MBE) and women (WBE) owned business contractor/subcontractor participation goals for this construction procurement are 13% for MBEs and 8% for WBEs.

The rates of wages and supplements determined by the Industrial Commissioner of the State of New York as prevailing in the locality of the site at which the work will be performed can be found at on

<http://wpp.labor.state.ny.us/wpp/publicViewProject.do?method=showIt&id=1023561>

. The Prevailing Rate Case (PRC) Number assigned to this project. **PRC#2014003647**.

Pursuant to State Finance Law §§139-j and 139-k, this solicitation includes and imposes certain restrictions on communications between Purchase College and an Offerer/Bidder during the procurement process. An Offerer/Bidder is restricted from making contacts from the earliest notice of intent to solicit proposals through final award and approval of the Procurement Contract by Purchase College/State University of New York and, if applicable, the Office of the State Comptroller (“restricted period”) to other than designated staff unless it is a contact that is included among certain statutory exceptions set forth in State Finance Law §139-j(3)(a). Pursuant to the statute, Purchase College employees are also required to obtain certain information when contacted during the restricted period and maintain a record of the communication, and make a determination of a knowing and willful contact. Contact made to other than designated staff regarding this procurement may disqualify the vendor from the current award and affect future procurements with government entities in the State of New York.

The State University of New York reserves the right to reject any or all bids.

NB - 1

Designated Contacts:

Sayim Malik
Project Manager, Capital Facilities Planning
Purchase College
State University of New York
735 Anderson Hill Road
Purchase, NY 10577-1402
Tel: (914) 251-4479
Fax: (914) 251-6063
Email: sayim.malik@purchase.edu

Sealed bids are to be sent to:
Nikolaus D. Lentner
Director of Purchasing & Accounts Payable
Purchase College
State University of New York
735 Anderson Hill Road
Purchase, NY 10577-1402
Tel: (914) 251-6070
Fax: (914) 251-6075
Email: L@purchase.edu

STATE UNIVERSITY OF NEW YORK

INFORMATION FOR BIDDERS

Section 1 Definitions

All definitions set forth in the Agreement are applicable to the Notice to Bidders, Information for Bidders and the Proposal, all of which documents are hereinafter referred to as the Bidding Documents.

Section 2 Issuance of Bidding and Contract Documents

- (1) Purchase College is dedicated to environmentally sustainable development. In an effort to conserve resources and reduce waste, the Bidding and Contract Documents will only be available electronically in PDF format for viewing and downloading at the following website: <http://www.purchase.edu/purchasemeansbusiness>

Section 3 Proposals

- (1) Sealed Proposals must be submitted in duplicate on the forms provided by the University. Facsimile copies of the Proposal will not be accepted by the University. They shall be addressed to the University in a sealed envelope, marked with the name and address of the bidder, the title of the Project and the Project number to:

Nikolaus D. Lentner
Director of Purchasing & Accounts Payable
Purchase College
State University of New York
735 Anderson Hill Road
Purchase, NY 10577-1402

Proposals must be received in the Purchasing & Accounts Payable Office by the due date and time. Bidders mailing their Proposals must allow sufficient time to ensure receipt of their Proposals by the date and time specified. Bidders are cautioned that, although using a trackable mailing/courier/messenger service, bids must be received in the Purchasing Office by the due date and time. Although bids may be signed for by Purchase College Mail Operations personnel prior to bid opening time on the day of the bid, this does not guarantee that the Purchasing & Accounts Payable Office will receive the bid by bid opening time. No bid will be considered that is not physically received in the Purchase College Purchasing & Accounts Payable Office by the bid opening time.

- (2) All blank spaces in the Proposal must be filled in and, except as otherwise expressly provided in the Bidding Documents, no change is to be made in the phraseology of the Proposal or in the items mentioned therein.
- (3) Proposals that are illegible or that contain omissions, alterations, additions or items not called for in the Bidding Documents may be rejected as informal. In the event any bidder modifies limits or restricts all or any part of its Proposal in a manner other than that expressly provided for in the Bidding Documents, its Proposal may be informal.
- (4) Any Proposal may be considered informal which does not contain prices in words and figures in all of the spaces provided or which is not accompanied by a bid security in proper form. In case any price shown in words and its equivalent shown in figures do not agree, the written words shall be binding upon the bidder. In case of a discrepancy in the prices contained in the Proposal forms submitted in duplicate by the bidder, the Proposal form which contains the lower bid shall be deemed the bid of the bidder; provided, however, the University at its election may consider the Proposal of such bidder informal.
- (5) If the Proposal is made by a corporation, the names and places of residence of the president, secretary and treasurer shall be given. If by a partnership, the names and places of residence of the partners shall be given. If by a joint venture, the names and addresses of the members of the joint venture shall be given. If by an individual, the name and place of residence shall be given.
- (6) No Proposal will be considered which has not been deposited with the University at the location designated in and prior to the time of opening designated in the Notice to Bidders or as extended by Addendum.
- (7) Bids may be modified, withdrawn or canceled only by written, facsimile or telegraphic notice received by the University prior to the time of opening of bids designated in the Bidding and Contract Documents. A written, facsimile or telegraphic notice

of modification, withdrawal or cancellation shall be marked by the bidder with the name and address of the bidder, the title of the Project and the Project number, and, upon receipt by the University, shall be sealed in an envelope by a duly authorized employee of the University, who shall sign and note thereon the date and time of receipt and shall thereupon attach said written, facsimile or telegraphic notice of modification, withdrawal or cancellation to the envelope submitted by the bidder pursuant to subdivision (1) of this section.

- (8) Permission will not be given to modify, explain, withdraw or cancel any Proposal or part thereof after the time designated in the Bidding and Contract Documents for the opening of bids, unless such modification, explanation, withdrawal or cancellation is permitted by law and the University is of the opinion that it is in the public interest to permit the same.

Section 4 Examination of Bidding and Contract Documents

- (1) Prospective bidders shall examine the Bidding and Contract Documents carefully and, before bidding, shall make written request to the Consultant (with a copy thereof to the University) for an interpretation or correction of any ambiguity, inconsistency or error therein which should be discovered by a reasonably prudent bidder. Such interpretation or correction as well as any additional Contract provision the University shall decide to include will be issued in writing by the Consultant as an Addendum, which will be sent by certified or registered mail or telegraph or delivered to each person recorded as having received a copy of the Bidding and Contract Documents from the Campus or Consultant, and which also will be available at the places where the Bidding and Contract Documents are available for inspection by prospective bidders. Upon such mailing or delivery and making available for inspection, such Addendum will become a part of the Bidding and Contract Documents and will be binding on all bidders whether or not the bidder receives or acknowledges the actual notice of it. The requirements contained in all Bidding and Contract Documents shall apply to all Addenda.
- (2) Only the written interpretation or correction so given by Addendum shall be binding. Prospective bidders are warned that no trustee, officer, agent or employee of the University or the Consultant is authorized to explain or interpret the Bidding and Contract Documents by any other method, and any such explanation or interpretation, if given, must not be relied upon.

Section 5 Computation of Bid

- (1) In computing their bids, bidders are not to include the sales and compensating use taxes of the State of New York or any city and county in the State of New York for any supplies or materials which are incorporated into the completed Project as the University is exempt from such taxes.
- (2) Any unit prices listed in the Proposal by the University are based upon the Consultant's appraisal of a fair cost for the work involved. Such listed prices will be binding upon both the bidder and the University unless the bidder wishes to change any of such unit prices by crossing out the listed unit price and inserting a revised unit price. Such revised unit price shall not be binding upon the University unless it accepts the same, in writing, before it issues a Contract. In the event the Proposal contains blank spaces for unit prices or the Contractor revises any stated unit price, the amount of such unit prices for additions shall not vary by more than 15 percent from the prices inserted by the bidder for deductions, and, if the variance of such prices exceeds 15 percent, the University may adjust the deduction price inserted by the bidder so that it is only 15 percent lower than the addition price inserted by the bidder. In addition, the University may adjust any unit price filled in by a bidder to an amount agreeable to both the bidder and the University or it may reject any unit prices.
- (3) Alternatives, if any, listed in the Proposal and described in Section A of the Technical Specifications shall be accepted in the order indicated and will be used in combination with the Total Bid to determine the low bidder. Unit prices will not be used to determine the low bidder.

Section 6 Payment of Security

- (1) The University will return, without interest, bid securities in accordance with the following procedure:
 - a. Bid securities in the form of bank drafts or certified checks, to all bidders except the apparent three (3) lowest bidders within two (2) working days after the opening of bids.
 - b. To any bidder submitting a Bid Bond, meeting the requirements of paragraph (1) hereof, after the opening of bids, as a substitute for a bank draft or certified check within two (2) working days after the University's approval of such Bid Bond.
 - c. To the apparent three (3) lowest bidders, unless their bid security was previously returned, within two (2) working days after delivery to the University by the successful bidder of the executed Agreement and required Bonds, or within two (2) working days of the University's rejection of all bids or within two (2) working days after the expiration of forty-five (45) calendar days after the bid opening, whichever event shall occur first.
 - d. Bid Bonds, due to their nature, will not be returned.

- (2) The University reserves the right to deposit bid security drafts or checks pending final disposal of them.

Section 7 Qualifications of Bidders

- (1) All prospective bidders are hereby notified that, on request of the University, they must be able to prove to the satisfaction of the University that they have the skill and experience, as well as the necessary facilities, ample financial resources, organization and general reliability to do the work to be performed under the provisions of the Contract in a satisfactory manner and within the time specified.
- (2) Each bidder must be prepared to show to the satisfaction of the University that it has working capital available for the Project upon which it is bidding in an amount equal to 15 percent of the first \$100,000 of the amount of its Total Bid plus 10 percent of the next \$900,000 plus 5 percent of the remainder of its Total Bid. Working capital is defined as the excess of current assets over current liabilities. The University defines current assets as assets which can be reasonably expected to be converted into cash within a year, and current liabilities as debts which will have to be paid within a year.
- (3) A bidder must also be prepared to prove, to the satisfaction of the University, that it has successfully completed a contract of similar work in an amount of not less than 50 percent of the amount of its Total Bid.

Section 8 Submission of Post-Bid Information

- (1) Within forty-eight (48) hours after the opening of bids, each of the apparent three lowest bidders, unless otherwise directed by the University or otherwise provided in the Bidding and Contract Documents, shall submit to both the University and the Consultant:
 - a. A New York State Uniform Contracting Questionnaire with all requested information furnished.
 - b. The names of the bidder's proposed subcontractors for the Electrical Work, the Heating, Ventilating and Air Conditioning Work and the Plumbing Work for each of said work categories valued at more than \$20,000. Only one proposed subcontractor should be named for each of such trades and the naming of the bidder itself for any of such work is not acceptable and may result in rejection of the bidder unless the bidder can demonstrate to the University that it has successfully completed a contract for the designated work in an amount not less than 50 percent of the value thereof. The bidder will be required to establish, to the satisfaction of the Consultant and the University, the reliability and responsibility of each of their said proposed subcontractors to furnish and perform the work described in the sections of the Specifications pertaining to each of such proposed subcontractors' respective trades. The bidders must submit to the University, within seven (7) calendar days after the bid opening, a Contracting Questionnaire, on the form provided by the University, with all of the applicable blank spaces filled in, for each of the aforesaid proposed subcontractors. In the event that the University and the Consultant reject any of said proposed subcontractors, the bidder, within five (5) working days after receipt of notification of such rejection, shall again submit to the University and the Consultant the name of another proposed subcontractor in place of the one rejected and it will be required to establish to the satisfaction of the University and the Consultant the reliability and responsibility of said proposed subcontractor; provided, however, that the bidder will not be permitted to submit another proposed subcontractor if it designated itself for any of the aforesaid categories of work. Proposed subcontractors of the bidder, approved by the University and the Consultant, must be used on the work for which they were proposed and approved and they may not be changed except with the specific written approval of the University.
 - c. A breakdown of the amount of the bidder's Proposal. Such breakdown shall be prepared in accordance with industry standards. No bidder shall be barred from revising, in the Contract breakdown required under the provisions of Section 4.08 of the Agreement, the various amounts listed in the bid breakdown required under the provisions of this Section. The amount set forth in said bid breakdown will not be considered as fixing the basis for additions to or deductions from the Contract consideration.
- (2) Notwithstanding the foregoing, any bidder or any of the proposed subcontractors referred to in paragraph (1) b, who, within the past year immediately preceding the bidding date, had submitted to the State or the University a Contracting Questionnaire, need not complete a new Questionnaire; provided, however, that they execute an Affidavit of No Change, and deliver the same together with the Questionnaire previously submitted.
- (3) Within 10 calendar days after the bid opening date each of the apparent three lowest bidders must complete the CONTRACTOR'S EEO POLICY STATEMENT and SUBCONTRACTING INFORMATION forms contained in the Project Manual and forward copies of the same to the University and the Consultant. This requirement applies only to Contracts in excess of \$100,000, and contracts which contain subcontracts that are in excess of \$25,000, regardless of their total value.

Contractor compliance with the Non-Discrimination Requirements indicated on Exhibit A of the Agreement and the University's Affirmative Action Policy as indicated on Exhibit A-1, of the Agreement is a precondition to entering into a valid and binding Contract with the University.

Successful contractors with contracts meeting the above criteria will be required to submit to the University a work force

utilization report, in a form and manner required by the University. The form, contained in Project Manual, will indicate the work force actually utilized on the Contract, broken down by specified ethnic background, gender and Federal occupational categories or other appropriate categories specified by the University.

- (4) The above information and such other information as the University or the Consultant may request or obtain will be used by the University in determining the reliability and responsibility of the bidder. Each bidder must comply promptly with all requests by the University and the Consultant for information and must actively cooperate with the University and the Consultant in their efforts to determine the qualifications of the bidder. All information required to be furnished to the University under this Section shall be sent to the State University of New York campus where the work is to be performed.

Section 9 Award of Contract

- (1) The award of the Contract shall be made to the bidder submitting the lowest bid Amount (including the cost for the equipment and the cost for all work as specified herein), and who, in the opinion of the University, is qualified to perform the work involved and is responsible, responsive and reliable. The University shall determine the lowest bid by adding to or deducting from the Total Bid of the bidders the additive or deductive alternates, if any, the University elects to accept after the opening of the Proposals. Alternatives will be accepted in the order they are set forth in the Proposal. The unit prices set forth in the Proposal for additions to or deductions from the work shall not be considered in determining the lowest bid.
- (2) Subject to the rights hereinafter reserved, the work will be awarded within forty-five (45) calendar days after the opening of bids to a single responsible bidder or any combination of bidders whose Proposal conforms to the requirements of the Bidding Documents.
- (3) The right is reserved, if, in the University's judgment, the public interest will be promoted thereby, to reject any or all Proposals, to waive any informality in any Proposal received or to afford any bidder an opportunity to remedy any deficiency resulting from a minor informality or irregularity. Without limiting the generality of the foregoing:
 - a. A Proposal may be rejected if the bidder fails to furnish the required bid security or to submit the data required with or after its Proposal.
 - b. A Proposal may be rejected if the bidder cannot show to the satisfaction of the University: (i) that it has the necessary capital, skill and experience; or (ii) that it owns, controls or can procure the necessary plant and equipment to commence the work at the time prescribed in the Contract and thereafter to prosecute and complete the work at the rate, or within the time specified; or (iii) that it is not already obligated by the performance of so much other work as is likely to delay the commencement, prosecution or completion of the work contemplated by the Contract.
 - c. A Proposal will be rejected if it does not provide for the completion of the work by the date of completion specified in the Proposal.
- (4) The University also expressly reserves the right to reject any Proposal if, in its opinion, considering the work to be performed, the facts, as to the bidder's business or technical organization, plant, financial and other sources of business experience compared with the work bid upon, justify rejection.
- (5) The award of the Contract shall not be construed as a guarantee by the University that the plant, equipment and the general scheme of operations and other data submitted by the bidder with or after its Proposal is either adequate or suitable for the satisfactory performance of the work.

Section 10 Required Bonds

- (1) Within ten (10) calendar days after the receipt of Notice of Award, the Contractor shall procure, execute and deliver to the Consultant and maintain, at its own cost and expense, a Performance Bond and a Labor and Material Bond, both of which Bonds shall be on the form prescribed by the University and in an amount not less than 100 percent of the total amount of the Contract awarded to the Contractor by the University. Said Bonds must be issued by a surety company approved by the University and authorized to do business in the State of New York as a surety.
- (2) Attorneys-in-fact who execute said Bonds on behalf of a surety must affix thereto a certified and effectively dated copy of their power of appointment.

Section 11 New York State Business Enterprises

- (1) It is the policy of New York State and the University to maximize opportunities for the participation of New York State Business Enterprises, including Minority and Women's Business Enterprises as bidders, subcontractors and suppliers on its procurement contracts.
- (2) Information on the availability of New York State subcontractors and suppliers is available from: Empire State Development

Corporation (<http://www.empire.state.ny.us/default.asp>).

- (3) A directory of Minority and Women's Business Enterprises is available from: Empire State Development Corporation, Minority and Women's Business Development Division (<http://www.empire.state.ny.us/default.asp>).
- (4) The minimum MWBE goals for this will be:
MBE= 13%
MWBE=8%

Section 12 Examination of Site

- (1) A **Mandatory** pre-bid conference and project walk-through will be held on **May 12th, 2014**, with all contractors assembled **at the Capital Facilities Conference Room 735 Purchase Street, Purchase, New York 10577-1402**. The bidder can make arrangements to verify the quantity of pile at campus and can reach out to sayim.malik@purchase.edu.
- (2) No individual or additional walk-through will be performed under the pre-bid time period. Failure to attend a walk-through shall not be the cause for extra payment.

NAME OF BIDDER

E-MAIL OF BIDDER

ADDRESS OF BIDDER

**PROPOSAL
FOR**

SUNY PROJECT NO.: SU-043014

**PROJECT TITLE: Acquisition and Installation of Dust
Collector at Visual Arts Building,
Purchase College.**

SUNY CAMPUS: Purchase College

TO THE STATE UNIVERSITY OF NEW YORK:

1. **The Work Proposed Herein Will Be Completed Within 120 Calendar Days, Starting 10 Calendar Days After The Contract Approval Date. The Duct Collector needs to be in operation by August 15th 2014.** In the event the bidder fails to complete such work by said date or dates, or within the time to which such completion may have been extended in accordance with the Contract Documents, the bidder agrees to pay the Purchase College of SUNY liquidated damages in an amount equal to the values indicate in the Liquidated Damages Schedule below for each calendar day of delay in completing the work.

LIQUIDATED DAMAGES SCHEDULE

<u>Contract Amount</u>	<u>Liquidated Damages</u>
Under \$100,000.....	\$100/day
\$100,000-\$499,999.....	\$200/day
\$500,000-\$999,999.....	\$300/day
\$1MM-\$1,999,999.....	\$400/day
\$2MM-\$3,499,999.....	\$500/day
\$3.5MM-\$5MM.....	\$700/day
Over \$5MM (to be determined by the Purchase College of SUNY in each instance)	\$____/day

2. The bidder hereby declares that it has carefully examined all Bidding and Contract Documents and that it has personally inspected the actual location of the work, together with the local sources of supply, has satisfied itself as to all the quantities and conditions, and understands that in signing this Proposal, it waives all right to plead any misunderstanding regarding the same.
3. The bidder further understands and agrees that it is to do, perform and complete all work in accordance with the Contract Documents and to accept in full compensation therefore the amount of the Total Bid.
4. The bidder further agrees to accept the unit prices, if any, set forth in paragraph (5) hereof, except as the same may be modified as agreed to by both the Purchase College and the Bidder, in advance, as full payment for the amount of the credit to Purchase College for any deletions, additions, modifications or changes to the portion or portions of work covered by said unit prices.
5. a. **TOTAL BID \$** _____

(in numbers)

(in words)

b. **ALTERNATIVES:** Reference Section B of the General Requirements. The bidder proposes the following additions to or

deductions from the Total Bid for the alternatives listed below:

Alternate Number	Add/Deduct	Amount in Words	Amount in Figures

- c. **UNIT PRICES:** Reference Construction Documents and/or the technical specifications include in the Project Manual. The request for Unit Prices is for determining the value of omitted and/or extra work, and, in the case of extra work, such unit prices shall be deemed to include all profit, overhead and expenses, necessary for completion of the item for which the Unit Price was for.

Work or Materials Description	Amount in Words	Amount in Figures

6. **ALLOWANCES:** Reference page A-29 of the Agreement. The bidder further agrees that its Total Bid includes the following allowances:

Work or Materials Description	Amount in Words	Amount in Figures

7. 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 its knowledge and belief: (a) 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; (b) unless otherwise required by law, the prices 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 opening, directly or indirectly, to any other bidder or to any competitor; and (c) no attempt has been made or will be made by the bidder to include any person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

A bid shall not be considered for award nor shall any award be made where (a), (b) and (c) above have not been complied with; provided, however, that if in 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), (b), and (c) above shall have not been complied with, the bid shall not be considered for award nor shall any award be made unless Purchase College or designee, or Assistant Vice Chancellor for Capital Facilities, or designee, determines that such disclosure was not made for purposes of restricting competition.

The fact that a bidder (a) has published price lists, rates, or tariffs covering items being procured, (b) has informed prospective customers of proposed or pending publication of new or revised price lists for such items, or (c) has sold the same items to other customers at the same prices being bid, does not constitute, without more, a disclosure within the meaning of this Section.

8. The bidder agrees that if awarded the Contract, it will commence work within (10) calendar days after date of receipt of a fully executed Agreement and that it will fully complete the work by the date stated herein.

9. The bidder acknowledges the receipt of the following addenda, but agrees that it is bound by all addenda whether or not listed herein.

Addendum Number	Date	Addendum Number	Date
_____	___/___/___	_____	___/___/___
_____	___/___/___	_____	___/___/___
_____	___/___/___	_____	___/___/___

10. *The bidder submits herewith bid security in an amount not less than five (5) percent of the Total Bid. In the event that (a) the bidder's Total Bid is the lowest one submitted and the bidder does not timely provide the Post-Bid Information required by the Information for Bidders or (b) this Proposal is accepted by the Purchase College and the bidder shall refuse or neglect, within ten (10) calendar days after date of receipt of Agreement, to execute and deliver said Agreement in the form provided herein, or to execute and deliver a Performance Bond and a Labor and Material Bond in the amounts required and in the form prescribed, the bidder shall be liable to Purchase College, as liquidated damages, for the amount of the bid security or the difference between the Total Bid of the bidder and the Total Bid of the bidder submitting the next lowest bid, whichever sum shall be higher, otherwise the total amount of the bid security will be returned to the bidder in accordance with the provisions set forth in the Information for Bidders. Purchase College may apply the bid security in full or partial payments, as the case may be, of said liquidated damages and in the event the bid security is less than the amount of liquidated damages to which Purchase College is entitled, the bidder shall pay the difference, upon demand, to Purchase College. (N/A)*

11. The bidder certifies that all wood products that are to be used in the performance of this Contract shall be in accordance with the Specifications and provisions of Section 167 b. of the State Finance Law which Section prohibits the purchase and use of tropical hardwoods.

Dated ___/___/___

(If corporation, affix corporate seal)

Firm's Federal ID Number or Social Security Number as applicable _____

Legal name of person, partnership, joint venture or corporation:

By _____
(signature)

Title _____

E-Mail _____

ACKNOWLEDGMENT FOR THE PROPOSAL

THE LEGAL ADDRESS OF THE BIDDER

Telephone No. _____ Facsimile No. _____

If a Corporation

Name	Address
_____	PRESIDENT _____
_____	SECRETARY _____
_____	TREASURER _____

If a Partnership

Name of Partners	Address
_____	_____
_____	_____
_____	_____

If a Joint Venture

Name of Members	Address
_____	_____
_____	_____
_____	_____

If an Individual

Name of Individual	Address
_____	_____

State University of New York AGREEMENT

Contract No. SU-

This Agreement made as of the _____ day of _____, 20____, for Contract Number SU-043014 by and between STATE UNIVERSITY OF NEW YORK, a corporation organized and existing under the laws of the State of New York, with its principal office located at State University Plaza, Albany, New York 12246, on behalf of State University of New York at Purchase located at 735 Anderson Hill Road, Purchase, New York 10577-1400 hereinafter referred to as "University" and _____ having its principal office located at _____, hereinafter referred to as "Contractor".

Federal ID or
Social Security No. _____

The University and the Contractor agree as follows:

1. The Contractor shall perform all work and duties required for the construction of Project Number **___ SU-043014**, titled "**Acquisition and Installation of Dust Collector at Visual Arts Building, Purchase College**", as contained in the Contract Documents. Subject to authorized adjustments the work and duties contained in the same shall be completed within **120** calendar days starting 10 calendar days after the approval date. The Contractor agrees to pay the University liquidated damages in accordance with paragraph 1 of the Proposal for each calendar day of delay in completing the work.
2. The University shall pay and the Contractor shall accept for the performance of work of the above referenced Project, the total contract compensation of \$_____, (in figures), _____ (in word)s.

ARTICLE I

General Provisions

Section 1.01 Definitions

Where the following words and expressions are used in the Contract Documents it is understood that they have the meaning set forth as follows:

CONSULTANT	The Architect, Engineer, Landscape Architect, or Surveyor named in the Notice to Bidders or such other person or firm designated by the University to provide general administration of the Contract and inspection of the work.
BIDDING DOCUMENTS	The Notice to Bidders, Information for Bidders and Proposals
BONDS	Performance Bond and Labor and Material Bond
CONTRACT OR CONTRACT DOCUMENTS	The Agreement, Project Manual, Proposal, Bonds, Specifications, Contract Drawings, Addenda issued prior to the opening of bids and Change Orders issued after the award of the Contract.
UNIVERSITY	State University of New York
NOTICE OF AWARD	Letter of Intent
PROJECT	The facility or facilities to be constructed including all usual, appropriate and necessary attendant work shown on, described in or mentioned in the Contract.
SITE	The area within the Contract limit lines, as shown on the Drawings, and all other areas upon which the Contractor is to perform work.
WORK	The using, performing, installing, furnishing and supplying of all materials, equipment, labor and incidentals necessary or proper for or incidental to the successful completion of the Project and the carrying out of all duties and obligations imposed upon the Contractor by the Contract.
NOT IN CONTRACT, "N.I.C."	Indicates equipment furnished by the Owner and installed under another construction contract or by another contractor, or operations at the site not included as part of this Contract.

PROVIDE, PROVIDED

Mean that the Contractor shall furnish and install all materials and labor for the item so specified.

Section 1.02 Captions

The titles or captions of Articles and Sections of the Contract are intended for convenience and reference purposes only and in no way define, limit or describe the scope or intent thereof or of the Contract or in any way affect the Contract.

Section 1.03 Nomenclature

Materials, equipment or other work described in words which have a well-known, technical or trade meaning shall be interpreted as having such meaning in connection with the Contract.

Section 1.04 Contract Documents

- (1) This agreement
- (2) Exhibit A and A-1

The Contract, together with all exhibits thereto, constitutes the entire agreement between the parties hereto and no statement, promise, condition, understanding, inducement or representation, oral or written, expressed or implied, which is not contained herein shall be binding or valid and the Contract shall not be changed, modified, or altered in any manner except by an instrument in writing executed by the parties hereto.

Section 1.05 Successors and Assigns

To the extent allowed by the terms of "Exhibit A", the Contract shall bind the successors, assigns and representatives of the parties hereto. The University reserves the right to have the State University Construction Fund (Fund) act on its behalf at any time or duration of this Agreement. Such designation of the Fund to act on the behalf of the University shall be in writing and addressed to the Contractor and signed by the University.

Section 1.06 Accuracy and Completeness of Contract Documents

- (1) The Contract Documents are complementary and what is called for by any one shall be as binding as if called for by all. The intention of the Documents is to include all materials, plant, equipment, tools, skill and labor of every kind necessary for the proper execution of the work and also those things which may be reasonably inferable from the Contract Documents as being necessary to produce the intended results.
- (2) The Contract Documents contemplate a finished piece of work of such character and quality as is reasonably inferable from them. The Contractor acknowledges that the contract consideration includes sufficient money allowance to make its work complete and operational and in compliance with good practice and it agrees that inadvertent minor discrepancies or omissions or the failure to show details or to repeat on any part of the Contract Documents the figures or notes given on another shall not be the cause for additional charges or claims. In case of a conflict between any part or parts of the Contract Documents with any other part or parts thereof, as contrasted with an omission or failure to show details or to repeat on any part of the Contract Documents the figures or notes given on another part thereof, the following shall be given preference, in the order hereinafter set forth, to determine what work the Contractor is required to perform: (a) Addenda (later dates to take preference over earlier dates); (b) Amendments to Agreement; (c) Agreement; (d) Specifications; (e) Schedules; (f) Large scale detail Drawings (detail drawings having a scale of 3/4" and over); (g) Large scale plan and section Drawings (plan and section drawings having a scale equal to or larger than that used for the basic floor or site plan, as the case may be); (h) Small scale detail Drawings (detail drawings having a scale of less than 3/4"); and (i) Small scale plan and section Drawings (plan and section drawings having a scale less than that used for the basic floor or site plan, as the case may be). In the event of such a conflict between or among parts of the Contract Documents that are entitled to equal preference, the more expensive way of doing the work, the better quality or greater quantity of material shall govern unless the University otherwise directs.

Section 1.07 Organization of Contract Documents

The Specifications and Drawings are generally divided into trade sections for the purpose of ready references, but such division is arbitrary and such sections shall not be construed as the prescription by the Consultant or the University of the limits of the work of any subcontractor or as a determination of the class of labor or trade necessary for the fabrication, erection, installation or finishing of the work required. The Contractor will be permitted to allot the work of subcontractors at its own discretion regardless of the grouping of the Specifications and Drawings. It shall be the Contractor's responsibility to settle definitively with each subcontractor the portions of the work which the latter will be required to do. The University and the Consultant assume no responsibility whatever for any jurisdiction claimed by any of the trades involved in the work.

Section 1.08 Furnishing of Contract Documents

The Contractor shall be furnished, free of charge, with as many copies of the Specifications and Drawings as it may reasonably request, in the judgment of the University, within fifteen (15) working days after the Notice of Award. Any other copies of the Specifications and Drawings which the Contractor may desire can be obtained by it from the Consultant at the latter's cost of duplication thereof.

Section 1.09 Examination of Contract Documents and Site

By executing the Contract, the Contractor agrees: that it has carefully examined the Contract Documents together with the site of the proposed work as well as its surrounding territory; that it is fully informed regarding all the conditions affecting the work to be done and the labor and materials to be furnished for the completion of the Contract; and that its information has been acquired by personal investigation and research and not in the estimates and records of the University.

Section 1.10 Invalid Provisions

If any term or provision of the Contract Documents or the application thereof to any person, firm or corporation or circumstance shall, to any extent, be invalid or unenforceable, the remainder of the Contract Documents, or the application of such terms or provisions to persons, firms or corporations or circumstances other than those to which it is held invalid or unenforceable, shall not be affected thereby and each term or provision of the Contract Documents shall be valid and be enforced to the fullest extent permitted by law.

Section 1.11 No Collusion or Fraud

Reference "Exhibit A" which is attached to and made a part of this Agreement.

Section 1.12 Notices

Any notice to either party hereunder must be in writing signed by the party giving it and shall be served either personally, by facsimile or registered mail of the United State Post Office and individuals indicated below:

TO THE UNIVERSITY: Director of Purchasing
Purchase College
State University of New York
735 Anderson Hill Road
Purchase, New York 10577-1402

And a copy to: Vice Chancellor for Capital Facilities
State University of New York
State University Plaza
Albany, New York 12246

TO THE CONTRACTOR: At the address indicated on page 1 of this Agreement
Or to such other addressee as may be hereafter designated by notice. All notices become effective only when received by the addressee.

Section 1.13 Singular-Plural; Male-Female

As used in the Contract Documents, the singular of any word or designation, whenever necessary or appropriate, shall include the plural and vice versa, and the masculine gender shall include the female and neuter genders and vice versa.

ARTICLE II

Contract Administration and Conduct

Section 2.01 Consultant's Status

- (1) The Consultant, as the University's representative, shall provide general administration of the Contract and inspection of the work. The Consultant will not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the work, and it will not be responsible for the Contractor's failure to carry out the work in accordance with the Contract Documents. The Consultant's duties, services and work shall in no way supersede or dilute the Contractor's obligation to perform the work in conformance with all Contract requirements, but it is empowered by the University to act on its behalf with respect to the proper execution of the work and to give instructions when necessary to require such corrective measures as may be necessary, in its professional opinion, to insure the proper execution of the Contract or to otherwise protect the University's interest.
- (2) The Consultant shall have the authority to stop the work or to require the prompt execution thereof whenever such action may be necessary, in its professional opinion, to insure the proper execution of the Contract or to otherwise protect the interests of the University.
- (3) Except as otherwise provided in the Contract, the Consultant shall determine the amount, quality, acceptability, fitness and progress of the work covered by the Contract and shall decide all questions of fact which may arise in relation to the interpretation of the plans and Specifications, the performance of the work and the fulfillment by the Contractor of the provisions of the Contract. The Consultant shall in the first instance be the interpreter of the provisions of the Contract and the judge of its performance and it shall use its power under the Contract to enforce its faithful performance.

Section 2.02 Finality of Decisions

- (1) Any decision or determination of the Consultant under the provisions of the Contract shall be final, conclusive and binding on the Contractor unless the Contractor shall, within ten (10) working days after such decision, make and deliver to the University a verified written statement of its contention that the decision of the Consultant is contrary to a provision of the Contract. The University shall thereupon determine the validity of the Contractor's contention. Pending decision by the University, the Contractor shall proceed in accordance with the Consultant's decision.
- (2) Wherever it is provided in the Contract Documents that an application must be made to the University and/or determination made by the University, the University's decision on such application and/or its determination under the Contract Documents shall be final, conclusive and binding upon the Contractor unless the same shall be determined by a court of competent jurisdiction to have been fraudulent, capricious,

arbitrary or so grossly erroneous as necessarily to imply bad faith and unless the Contractor, within ten (10) working days after receiving notice of the University's decision or determination, files a written statement with the University and the Consultant that it reserves its rights in connection with the matters covered by said decision or determination.

Section 2.03 Claims and Disputes

- (1) If the Contractor claims (i) that any work it has been ordered to do is extra work or (ii) that it has performed or is going to perform extra work or (iii) that any action or omission of the University or the Consultant is contrary to the terms and provisions of the Contract, it shall:
 - a. Promptly comply with such order;
 - b. File with the University and the Consultant, within five (5) working days after being ordered to perform the work claimed by it to be extra work or within five (5) working days after commencing performance of the extra work, whichever date shall be the earlier, or within five (5) working days after the said action or omission on the part of the University or the Consultant occurred, a written notice of the basis of its claim and request a determination thereof;
 - c. File with the University and the Consultant, within thirty (30) calendar days after said alleged extra work was required to be performed or said alleged extra work was commenced, whichever date shall be the earlier, or said alleged action or omission by the University or the Consultant occurred, a verified detailed statement, with documentary evidence, of the items and basis of its claim;
 - d. Produce for the University's examination, upon notice from the University, all its books of account, bills, invoices, payrolls, subcontracts, time books, progress records, daily reports, bank deposit books, bank statements, checkbooks and canceled checks, showing all of its actions and transactions in connection with or relating to or arising by reason of its claim, and submit persons in its employment and in its subcontractors' employment for examination under oath by any person designated by the University to investigate any claims made against the University under the Contract, such examination to be made at the offices of the Contractor; and
 - e. Proceed diligently, pending and subsequent to the determination of the University with respect to any such disputed matter, with the performance of the Contract and in accordance with all instructions of the University and the Consultant.
- (2) The Contractor's failure to comply with any or all parts of subdivision b of paragraph (1) of this Section shall be deemed to be (i) a conclusive and binding determination on its part that said order, work, action or omission does not involve extra work and is not contrary to the terms and provisions of the Contract; and (ii) a waiver by the Contractor of all claims for additional compensation or damages as a result of said order, work, action or omission. The provisions of subdivision b of paragraph (1) of this Section are for the purpose of enabling the University to avoid waste of public funds by affording it promptly the opportunity to cancel or revise any order, change its plans, mitigate or remedy the effects of circumstances giving rise to a claim or take such other action as may seem desirable and to verify any claimed expenses or circumstances as they occur. Compliance with such provisions is essential whether or not the University is aware of the circumstances of any order or other circumstances which might constitute a basis for a claim and whether or not the University has indicated it will consider a claim in connection therewith.
- (3) No person has power to waive or modify any of the foregoing provisions and, in any action against the University to recover any sum in excess of the sum certified by the University to be due under or by reason of the Contract, the Contractor must allege in its complaint and prove at the trial compliance with the provisions of this Section.
- (4) Nothing in this Section shall in any way affect the University's right to obtain an examination before trial or a discovery and inspection in any action that might be instituted by or against the University or the Contractor.

Section 2.04 Omitted Work

The University reserves the right at any time during the progress of the work to delete, modify or change the work covered by the Contract, by a Change Order thereto providing for either a reduction or omission of any portion of the work, without constituting grounds for any claim by the Contractor for allowances for damages or for loss of anticipated profits and in such event a deduction shall be made from the Contract consideration, the amount of which is to be determined in accordance with the provisions of Section 4.02 of the Agreement.

Section 2.05 Extra Work

- (1) The University reserves the right at any time during the progress of the work to add, modify or change the work covered by the Contract by a Change Order thereto providing for extra work of either a qualitative or quantitative nature and in such event the Contract consideration shall be increased by an amount to be determined in accordance with the provisions of Section 4.02 of the Agreement and the completion date for all or any part of the work shall be extended for such period of time as may be determined by the University as necessary, because of the extra work, to complete the work or any part thereof.
- (2) Nothing in the Contract Documents shall excuse the Contractor from proceeding with the extra work as directed and, except as otherwise specifically provided for in a Change Order, the terms and conditions of the Contract Documents shall be fully applicable to all extra work.
- (3) The Contractor shall have no claim for extra work if the performance of such work, in the judgment of the Consultant, is made necessary or desirable because of any act or omission of the Contractor which is not in accordance with the Contract.
- (4) Notwithstanding the provisions of Section 2.02 of the Agreement and any other provisions of the Contract Documents to the contrary, the University, after conferring with the Consultant, shall have the right to overrule a determination or decision of the Consultant, that relates to whether certain work is included in the Contract Documents or is extra work, which he or she believes is incorrect; in the event an officer exercises such right, his or her determination or decision shall be final, conclusive and binding upon the Contractor and the University unless

the same shall be determined by a court of competent jurisdiction to have been fraudulent, capricious, arbitrary or so grossly erroneous as necessarily to imply bad faith.

Section 2.06 Contractor to Give Personal Attention

- (1) The Contractor shall give its constant personal attention to all the work while it is in progress and shall place the working charge of a competent and reliable full-time superintendent acceptable to the Consultant and the University who shall have authority to act for the Contractor and who shall be accountable to the Consultant to the extent provided in the Contract. Unless the superintendent proves to be unsatisfactory to the Contractor and ceases to be in its employ, such superintendent shall not be changed without the written permission of the Consultant and the University.
- (2) When the Contractor and its superintendent are temporarily absent from the site of the work, the Contractor or its superintendent shall designate a responsible supervisory employee to receive such orders as the Consultant or its representative may give. At no time shall any work be conducted on the site in the absence of an individual present who has been so designated by the Contractor or its superintendent as having authority to receive and execute instructions given by the Consultant or its representative.

Section 2.07 Employment of Workers

The Contractor shall at all times employ competent and suitable workers and equipment which shall be sufficient to prosecute all the work to full completion in the manner and time specified. All workers engaged in specially or skilled work shall have had sufficient experience in such work to properly and satisfactorily perform the same. Should the Consultant deem any employee of the Contractor or any subcontractor incompetent, careless, insubordinate or otherwise objectionable or whose continued employment on the work is deemed by the Consultant to be contrary to the public interest, it shall so advise the Contractor and the latter shall dismiss or shall cause the subcontractor, if such employee is employed by the latter, to dismiss such employee and such employee shall not again be employed on the work to be performed under the Contract without obtaining the prior written approval of the Consultant.

Section 2.08 Detailed Drawings and Instructions

Upon timely notice by the Contractor that supplementary information is required, the Consultant shall furnish additional instructions, by means of Drawings or otherwise, necessary for the proper execution of the work. All such Drawings and instructions shall be consistent with the Contract Documents, true developments thereof and reasonably inferable therefrom. The work shall be executed in conformity therewith and the Contractor shall do no work without proper Drawings and/or instructions.

Section 2.09 Contract Documents to Be Kept at Site

The Contractor shall keep at the site of the work a copy of the Drawings and Specifications and shall at all times give the Consultant and the University access thereto.

Section 2.10 Permits and Building Codes

The Contractor shall obtain from the proper authorities all permits legally required to carry on its work, pay any and all taxes and fees legally required and shall be responsible for conducting its operations in accordance with the provisions of such permits. Except as otherwise expressly provided in the Contract Documents, all of the work covered by this Contract which is to be performed on property owned by the State University of New York is not subject to the building code of any city, county or other political subdivision of the State of New York. It is, however, subject to the provisions of the New York State Uniform Fire Prevention and Building Code and the applicable Federal and State health and labor laws and regulations. The building permit for the work shall be issued by the Campus Code Compliance Officer.

Section 2.11 Surveys

- (1) From the data shown on the Drawings and identified at the site by the Consultant, a licensed surveyor, to be designated and paid for by the University, shall establish one (1) fixed bench mark and one (1) fixed base line at the site. The Contractor shall work from the bench marks and base lines shown on the Drawings, identified at the site by the Consultant and established at the site by the aforesaid surveyor and shall establish such supplementary bench marks and base lines that are required in order for it to lay out the work. The Contractor shall be responsible for all measurements that may be required for execution of the work to the exact position and elevation as prescribed in the Specifications, shown on the Drawings, or as the same may be modified at the direction of the Consultant to meet changed conditions or as a result of modifications to the work covered by the Contract.
- (2) The Contractor shall furnish at its own expense such stakes and other required equipment, tools and materials, and all labor as may be required in laying out any part of the work. If, for any reason, monuments are disturbed, it shall be the responsibility of the Contractor to reestablish them, without cost to the University, as directed by the Consultant. The Consultant may require that construction work be suspended at any time when location and limit marks established by the Contractor are not reasonably adequate to permit checking completed work or the work in progress.
- (3) In all multiple-story construction, the Contractor shall establish and maintain line marks at each floor level and grade marks four (4) feet above the finished floor at each floor level.

Section 2.12 Site Conditions

- (1) The Contractor acknowledges that it has assumed the risk and that the Contract consideration includes such provision as it deems proper for all physical conditions and subsurface conditions as it could reasonably anticipate encountering from the provisions of the Contract Documents, borings, rock cores, topographical maps and such other information as the University or the Consultant made available to it prior

to the University's receipt of bids or from its own inspection and examination of the site prior to the University's receipt of bids.

- (2) In the event that the Contractor encounters subsurface physical conditions or other latent physical conditions at the site differing substantially from those shown on or described or indicated in the Contract Documents and which could not have been reasonably anticipated from the aforesaid information made available by the University or the Consultant or from the Contractor's aforesaid inspection and examination of the site, it shall give immediate notice to the Consultant of such conditions before they are disturbed. The Consultant will thereupon promptly investigate the conditions and, if it finds that they do substantially differ from that which should have been reasonably anticipated by the Contractor, it shall make such changes in the Drawings and Specifications as may be necessary and a Change Order shall be issued, the amount of which shall be determined in accordance with the provisions of Section 4.02, to reflect any increase or decrease in the cost of, or the time required for, performance of the Contract as a result of any of the aforesaid changes made by the Consultant and/or as a result of such unanticipated subsurface conditions.

Section 2.13 Right to Change Location

When additional information regarding the subsurface conditions becomes available to the University as a result of the excavation work, further testing or otherwise, it may be found desirable to change the location, alignment, dimensions or grades to conform to such conditions. The University reserves the right to make such reasonable changes in the work as, in its opinion, may be considered necessary or desirable, such changes and any adjustments in the Contract consideration as a result thereof are to be made in accordance with the provisions of Sections 2.04, 2.05 and 4.02 of the Agreement.

Section 2.14 Unforeseen Difficulties

Except as otherwise expressly provided in Section 2.12 of the Agreement and in other Sections of the Contract Documents, the Contractor acknowledges that it has assumed the risk and that the Contract consideration includes such provisions as it deems proper for any unforeseen obstacles or difficulties which it may encounter in the performance of the work.

Section 2.15 Moving Materials and Equipment

Should it become necessary, in the judgment of the Consultant, at any time during the course of the work to move materials which are stored on the site and equipment which has been temporarily placed thereon, the Contractor upon request of the Consultant shall move them or cause them to be moved at its sole cost and expense; provided, however, if materials and equipment have been stored or placed by the Contractor at a location on the site expressly approved, in writing, by the consultant and the same are moved or caused to be moved by the Contractor at the Consultant's request, such removal shall be deemed extra work and the Contractor shall be compensated therefore in accordance with the provisions of Section 4.02 of the Agreement.

Section 2.16 Other Contracts

- (1) Prior to and during the progress of the work hereunder the University reserves the right to let other contracts relating to the Project or in connection with work on sites within the Contract limit lines or adjoining or adjacent to that on which the work covered by this Contract is to be performed. In the event such other contracts are let, or have previously been let, the Contractor and such other contractors shall coordinate their work with each other, arrange the sequence of their work to conform with the progressive operation of all the work covered by such contracts and afford each other reasonable opportunities for the introduction and storage of their materials, supplies and equipment and the execution of their work. If the Contractor or such other contractors contend that their work or the progress thereof is being interfered with by the acts or omissions of the other or others or that there is a failure to coordinate or properly arrange the sequence of the work on the part of the Contractor or such other contractors, they shall, within five (5) working days of the commencement of such interference or failure of coordination or failure to perform work in proper sequence, give written notification to the University and the Consultant of such contention. Upon receipt of such notification or on its own initiative, the Consultant shall investigate the situation and issue such instructions to the Contractor or such other contractors with respect thereto as it may deem proper. The Consultant shall determine the rights of the Contractor and of such other contractors and the sequence of work necessary to expedite the completion of all work covered by this Contract in relation to the work covered by said other contracts.
- (2) The Contractor agrees that it has and will make no claim for damages against the University by reason of any act or omission to act by any other contractor or party or in connection with the Consultant's or University's acts or omissions to act in connection with such other contractor, but the Contractor shall have a right to recover such damages from the other contractors under a provision similar to the following provision which has been or will be inserted in the Contract with such other contractors.
- (3) Should any other contractor, having or who shall hereafter have a contract with the University relating to the Project or in connection with the work on sites adjoining or adjacent to that on which the work covered by this Contract is to be performed, sustain any damage, during the progress of the work hereunder, through any act or omission of the Contractor, the Contractor agrees to reimburse such other contractor for all such damages and it further agrees to indemnify and save harmless the University and the State of New York from all claims for such damages.
- (4) If the proper and accurate performance of the work covered by the Contract depends upon the proper performance and execution of work not included herein or depends upon the work of any other contractor, the Contractor shall inspect and promptly report to the Consultant any defects in such work that render it unsuitable for proper execution and results. Its failure to so inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the execution of the work covered by the Contract, except as to latent defects which may be discovered thereafter.

Section 2.17 Inspection and Testing

- (1) All materials and workmanship shall be subject to inspection, examination and testing by the Consultant and the University at all times during the performance of the work and at all places where the work is carried on. Except as otherwise herein specified, the University shall pay for

the cost of inspection, examination and testing by the Consultant or the University. If, however, the tests and any attendant re-inspection or re-examination prove that the materials and/or work tested do not meet the requirements of the Contract, then the entire cost of such tests is to be borne by the Contractor. The Consultant will have the right to reject defective material and workmanship furnished by the Contractor or require its correction. The Contractor, without charge therefore, shall satisfactorily and promptly correct all rejected work and replace all rejected material with proper material.

- (2) The Contractor shall promptly segregate and remove from the site of the work all rejected material and work. If the Contractor shall fail to proceed at once with the replacing of rejected material and/or correction of defective workmanship, the University may, by contract or otherwise, replace such material and/or correct such workmanship, and charge the costs thereof to the Contractor and/or it may cancel the Contract and terminate the Contractor's employment as provided in the Agreement.
- (3) The Contractor, without additional charge therefore, shall promptly furnish all reasonable facilities, labor and materials necessary for the safe and convenient inspection and testing that may be required by the Consultant or the University.
- (4) If the Contract Documents or the Consultant's instructions or the applicable laws, ordinances or regulations of any governmental authority require any part of the work covered by the Contract to be specially tested or inspected, the Contractor shall give the Consultant timely notice of its readiness for such testing or inspection or, if the same is to be performed by a governmental authority, of the date fixed therefore. If any such work, without the written permission of the Consultant, should be covered up prior to such testing or inspection, the Contractor, at its sole cost and expense, must, if directed by the Consultant, uncover the same for testing or inspection and reconstruct the same after the tests or inspection are conducted. All certificates of inspection or testing, involving the Contractor's work, required to be obtained from governmental authorities are to be secured by the Contractor at its sole cost and expense.
- (5) Should it be considered necessary or advisable by the Consultant at any time before final acceptance of the entire work to make an examination of work already completed by removing or tearing out same, the Contractor, upon request, shall furnish all necessary facilities, labor and material to perform such examination. If the work subject to such examination is found to be defective or nonconforming in any manner due to the fault of the Contractor or any of its subcontractors, such uncovering or destruction and necessary reconstruction, even though such includes work not covered in the Contract, shall be at the expense of the Contractor. If, however, such work after testing and examination is found to be satisfactory, the University will pay the Contractor the cost of such uncovering or destruction and reconstruction, such cost to be determined as in the case of extra work as provided in Section 4.02.
- (6) Inspection of material and furnished articles to be incorporated in the work may be made at the place of production, manufacture or shipment unless otherwise stated herein. The inspection of material and workmanship for final acceptance as a whole or in part will be made at the site of the work.

Section 2.18 Subcontractors

- (1) Except for subcontractors designated by the University, or required to be named at any earlier date, pursuant to the provisions of the Information for Bidders, within thirty (30) calendar days after Notice of Award, the Contractor must submit a written statement to the Consultant giving the name and address of all proposed subcontractors. Said statement must contain a description of the portion of the work and materials which the proposed subcontractors are to perform and furnish and any other information tending to prove that the proposed subcontractors have the necessary facilities, skill, integrity, past experience and financial resources to perform the work in accordance with the terms and provisions of the Contract Documents.
- (2) If the Consultant finds that the proposed subcontractors are qualified, it will so notify the Contractor within ten (10) working days after receipt of the aforesaid information. If the determination is to the contrary, however, the Consultant within such period will notify the Contractor of such determination and the latter, unless it decides to do such work itself and is qualified, in the Consultant's opinion, to do such work, must, within ten (10) working days thereafter, submit similar information with respect to other proposed subcontractors.
- (3) The Consultant's approval of a subcontractor and/or the University's designation of a subcontractor pursuant to the provisions of the Contract Documents shall not relieve the Contractor of any of its responsibilities, duties and liabilities hereunder. The Contractor shall be solely responsible to the University for the acts or defaults of such subcontractors and of such subcontractors' officers, agents and employees, each of whom shall, for this purpose, be deemed to be the agent or employee of the Contractor to the extent of its subcontract.
- (4) The Contractor shall be fully responsible for the administration, integration, coordination, direction and supervision of all of its subcontractors and of all work and it shall check all space requirements of the work and coordinate and adjust the same so that conflicts in space do not occur in the work being performed by it with its own employees and with the work being performed by its subcontractors and so that all equipment, piping, wiring, etc., can be installed, where possible, in the spaces allowed for the same.
- (5) No subcontractor shall be permitted to work at the site until (a) it has furnished satisfactory evidence to the Consultant of the insurance required by law; (b) in the case of a Project involving a federal grant, it has furnished satisfactory evidence to the Consultant of the same type and amount of liability insurance as that required of the Contractor by Section 5.06 of the Agreement; and (c) except for subcontractors designated by the University pursuant to the provisions of the Information for bidders, it has been approved by the Consultant.
- (6) Within seven (7) working days after the Contractor receives payment from the University on account of a progress payment application for the percentage of the work done, it shall pay each of its subcontractors the sum contained in said payment for the percentage of said subcontractor's work, less the same amount retained therefrom by the University under the terms of the Contract Documents or in consequence of any legal proceedings or statutory liens, and less any amounts due the Contractor under the subcontract for work not performed or not properly or timely performed by the subcontractor. In the event any subcontractor is not paid by the Contractor, the former should immediately notify the University of such fact. Notwithstanding the foregoing, no retention or withholding of payment by the university shall affect the Contractor's obligation to pay all subcontractors, agents, employees or other parties for goods or services provided in connection with the work.
- (7) The Contractor shall execute with each of its subcontractors and shall require all subcontractors to execute with their sub-subcontractors a

written agreement which shall bind the latter to the terms and provisions of this Contract insofar as such terms and provisions are applicable to the work to be performed by such subcontractors. The Contractor shall require all subcontractors and sub-subcontractors to promptly, upon request, file with the Consultant and the University a copy of such agreements, from which the price and terms of payment may be deleted.

- (8) If for sufficient reason, at any time during the progress of the work to be performed hereunder, the Consultant determines that any subcontractor or sub-subcontractor is incompetent, careless or uncooperative, the Consultant will notify the Contractor accordingly and immediate steps will be taken by the Contractor for cancellation of such subcontract or sub-subcontract. Such termination, however, shall not give rise to any claim by the Contractor or by such subcontractor or sub-subcontractor for loss of prospective profits on work unperformed and/or work unfurnished and a provision to that effect shall be contained in all subcontracts and sub-subcontracts.
- (9) No provisions of this Contract shall create or be construed as creating any contractual relation between the University and any subcontractor or sub-subcontractor or with any person, firm or corporation employed by, contracted with or whose services are utilized by the Contractor.

Section 2.19 Shop Drawings and Samples

- (1) The Contractor, in accordance with the approved Shop Drawing and Sample schedule and with such promptness and in such sequence as to cause no delay in the work, shall submit for the Consultant's approval all Shop Drawings and Samples called for under the Contract or requested by the Consultant.
- (2) Shop Drawings shall establish the actual detail of the work, 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 design or construction to suit actual conditions.
- (3) All Shop Drawings and Samples shall be thoroughly checked by the Contractor for compliance with the Contract Documents before submitting them to the Consultant for approval and all Shop Drawings shall bear the Contractor's recommendation for approval certifying that they have been so checked. Any Shop Drawings submitted without this stamp of approval and certification, and Shop Drawings which, in the Consultant's opinion, are incomplete, contain numerous errors or have not been checked or only checked superficially, will be returned unchecked by the Consultant for resubmission by the Contractor. In checking Shop Drawings, the Contractor shall verify all dimensions and field conditions and shall check and coordinate the Shop Drawings of any section or trade with the requirements of all other sections or trades whose work is related thereto, as required for proper and complete installation of the work.
- (4) Samples must be of sufficient size or number to show the quality, type, range of color, finish and texture of the material. Each Sample shall be properly labeled to show the nature of the material, trade name of manufacturer, name and location of the work where the material represented by the Sample is to be used and the name of the Contractor submitting the Sample. Transportation charges to the Consultant must be prepaid on Samples forwarded to it.
- (5) Shop Drawings and Samples, submitted by the Contractor in accordance with the approved Shop Drawing and Sample schedule, will be reviewed by the Consultant within fifteen (15) working days and if satisfactory will be approved. A Shop Drawing, when approved, will be returned to the Contractor. If not satisfactory, the Drawings and Samples will be appropriately marked and returned to the Contractor for correction thereof, in which event the Contractor shall resubmit to the Consultant a corrected copy of the Shop Drawing or a new Sample, as the case may be. The Contractor shall make any correction required by the Consultant and shall appropriately note any changes or revisions on the Shop Drawing, dated to correspond with the date of the Consultant's request for the change. Upon approval of the Shop Drawing by the Consultant, the Contractor shall promptly furnish to the Consultant as many copies thereof as the Consultant may reasonably request.
- (6) At the time of submission of a Shop Drawing or Sample, the Contractor shall inform the Consultant and the University in writing of any deviation in the Shop Drawing or Sample from the requirements of the Contract Documents. Unless such deviation is specifically noted by the Contractor with a notation that such deviation will result in extra work for which the Contractor requests payment or requires additional time, the Contractor shall be deemed to have waived any claim for extra work, additional compensation or payment or an extension of time with respect to all work shown on, described in or related to the Shop Drawing or Sample.
- (7) The Consultant's approval of Shop Drawings or Samples is for design only and is not a complete check on the method of assembly, erection or construction. Approval shall in no way be construed as: (a) permitting any departure whatsoever from the Contract Documents, except where the Contractor, in accordance with the provisions of paragraph 6 of this Section, has previously notified the University and the Consultant of such departure; (b) relieving the Contractor of full responsibility for any error in quality of materials, details, dimensions, omissions or otherwise that may exist; (c) relieving the Contractor of full responsibility for adequate field connections, erection techniques, bracing or deficiencies in strength; (d) relieving the Contractor of full responsibility for satisfactory performance of all work and coordination with the work of all subcontractors and other contractors; or (e) permitting departure from additional details or instructions previously furnished by the Consultant.
- (8) No work requiring a Shop Drawing or Sample shall be commenced until a Shop Drawing or Sample is approved in writing by the Consultant and all such work shall be: (a) in accordance with the approved Shop Drawing, provided the latter conforms in all respects to the Contract Documents or to such deviations therefrom as have been previously noted by the Contractor in accordance with the provisions of paragraph 6 of this Section; and (b) in conformance in all respects to the sample furnished to and approved by the Consultant and, unless otherwise specified, as new and of good quality.

Section 2.20 Equivalents - Approved Equal

A. EQUIVALENTS OR APPROVALS - GENERAL

- (1) The words "similar and equal to", "or equal", "equivalent", and such other words of similar content and meaning shall, for the purposes of this Contract, be deemed to mean similar and equivalent to one of the named products. For the purposes of subdivisions A and B of this Section and for purposes of the Bidding Documents, the word "products" shall be deemed to include the words "articles", "materials", "items",

"equipment" and "methods". Whenever in the Contract Documents one or more products are specified, the words "similar and equal to" shall be deemed inserted.

- (2) Whenever any product is specified in the Contract Documents by a reference to the name, trade name, make or catalog number of any manufacturer or supplier, the intent is not to limit competition, but to establish a standard of quality which the Consultant has determined is necessary for the Project. A Contractor may at its option use any product other than that specified in the Contract Documents provided the same is approved by the Consultant in accordance with the procedures set forth in subdivision B of this Section. In all cases the Consultant shall be the sole judge as to whether a proposed product is to be approved and the Contractor shall have the burden of proving, at its own cost and expense, to the satisfaction of the Consultant, that the proposed product is similar and equal to the named product. In making such determination the Consultant may establish such objective and appearance criteria as it may deem proper that the proposed product must meet in order for it to be approved.
- (3) Nothing in the Contract Document shall be construed as representing, expressly or implicitly, that the named product is available or that there is or there is not a product similar and equal to any of the named products and the Contractor shall have and make no claim by reason of the availability or lack of availability of the named product or of a product similar and equal to any named product.
- (4) The Contractor shall have and make no claim for an extension of time or for damages by reason of the time taken by the Consultant in considering a product proposed by the Contractor or by reason of the failure of the Consultant to approve a product proposed by the Contractor.
- (5) Requests for approval of proposed equivalents will be received by the Consultant only from the Contractor.

B. EQUIVALENTS OR APPROVALS AFTER BIDDING

- (1) Requests for approval of proposed equivalents will be considered by the Consultant after bidding only in the following cases: (a) the named product cannot be obtained by the Contractor because of strikes, lockouts, bankruptcies or discontinuance of manufacture and the Contractor makes a written request to the Consultant for consideration of the proposed equivalent within ten (10) calendar days of the date it ascertains it cannot obtain the named product; or (b) the proposed equivalent is superior, in the opinion of the Consultant, to the named product; or (c) the proposed equivalent, in the opinion of the Consultant, is equal to the named product and its use is to the advantage of the University, e.g., the University receives an equitable credit, acceptable to it, as a result of the estimated cost savings to the Contractor from the use of the proposed equivalent or the University determines that the Contractor has not failed to act diligently in placing the necessary purchase orders and a savings in the time required for the completion of the construction of the Project should result from the use of the proposed equivalent; or (d) the proposed equivalent, in the opinion of the Consultant, is equal to the named product and less than ninety (90) calendar days have elapsed since the Notice of Award of the Contract.
- (2) Where the Consultant pursuant to the provisions of the subdivision approves a product proposed by a Contractor and such proposed product requires a revision or redesign of any part of the work covered by this Contract, all such revision and redesign and all new Drawings and details required therefore shall be subject to the approval of the Consultant and shall be provided by the Contractor at its own cost and expense.
- (3) Where the Consultant pursuant to the provisions of this Section approves a product proposed by a Contractor and such proposed product requires a different quantity and/or arrangement of duct work, piping, wiring, conduit or any other part of the work from that specified, detailed or indicated in the Contract Documents, the Contractor shall provide the same at its own cost and expense.

Section 2.21 Patents, Trademarks and Copyrights

The Contractor acknowledges that the Contract consideration includes all royalties, license fees and costs arising from patents or trademarks in any way involved in the work, provided, however, that the Contract consideration shall not be deemed to have included therein any royalty, license fee or cost arising from a patent or trademark for a design prepared by the Consultant and neither the Contractor nor the University shall have any liability in connection therewith. Where the Contractor is required or desires to use any product, device, material or process covered by patent or trademark, the Contractor shall indemnify and save harmless the University and the State of New York from any and all claims, actions, causes of action or demands, for infringement by reason of the use of such patented product, device, material or process, and shall indemnify the University and the State of New York from any cost, liability, damage and expense, including reasonable attorneys' fees and court costs, which it may be obligated to incur or pay by reason of any claim or infringement at anytime both before or after the University's final acceptance of all the work to be performed under the Contract.

Section 2.22 Possession Prior to Completion

If before the final completion of all the work it shall be deemed advisable or necessary by the University to take over, use, occupy or operate any part of the completed or partly completed work or to place or install therein equipment and furnishings, the University, upon reasonable written notice to the Contractor, shall have the right to do so and the Contractor will not in any way interfere therewith or object to the same. Such action by the University shall in no way affect the obligations of the Contractor under the terms and provisions of the Contract Documents and the Contractor acknowledges that such action by the University does not in any way evidence the completion of the work or any part thereof or in any way signify the University's acceptance of the work or any part thereof, provided, however, that the period for the Contractor's warranties and guarantees under the Contract for the work so occupied or operated shall be deemed to commence on the date said work is occupied or operated. The Contractor agrees to continue the performance of all work covered by the Contract in a manner which will not unreasonably interfere with such takeover, use, occupancy, operation, placement or installation.

Section 2.23 Completion and Acceptance

A. PARTIAL COMPLETION AND ACCEPTANCE

If before the final completion of all the work any portion of the permanent construction has been satisfactorily completed and the same will be immediately useful to the University, the latter may, by written notice, advise the Contractor that it accepts such portion of the work. Such actions by the University shall in no way affect the obligations of the Contractor under the terms and provisions of the Contract with respect to any work not so completed and accepted.

B. SUBSTANTIAL COMPLETION

When all the work covered by the Contract is substantially completed, i.e., has reached such point of completion that the Project can be fully occupied and used for the purposes for which it was intended, the Contractor shall give written notice thereof to the University and the Consultant. The latter will then promptly make an inspection of the work and, if they shall determine that all the work is substantially completed, they shall so advise the Contractor. Such action shall in no way affect the obligations of the Contractor under the terms and provisions of the Contract with respect to any uncompleted (including untested or deferred work), unaccepted or corrective work or in any way affect, limit or preclude the issuance by the Consultant, from time to time thereafter, of "Punch Lists", i.e., lists of uncompleted or corrective work which the Contractor is to promptly complete and/or correct.

C. FULL COMPLETION AND ACCEPTANCE

After the completion of all the work the Contractor shall give written notice to the University and the Consultant that all the work is ready for inspection and final acceptance. The University and the Consultant shall promptly make such inspection and, if they shall determine that all the work has been satisfactorily completed, the University shall thereupon by written notice advise the Contractor that it accepts such work.

Section 2.24 Record Drawings

- (1) Prior to acceptance by the University of all work covered by the Contract, the Contractor shall furnish to the Consultant one (1) set of current Contract Drawings on which the Contractor has recorded, using colored pencil, in a neat and workmanlike manner, all instances where actual field construction differs from work as indicated on the Contract Drawings. These "Record" Drawings shall show the following information: (a) all significant changes in plans, sections, elevations and details, such as shifts in location of walls, doors, windows, stairs and the like made during construction; (b) all significant changes in foundations, columns, beams, openings, concrete reinforcing, lintels, concealed anchorage and "knock-out" panels made during construction; (c) final location of electric panels, final arrangement of electric circuits and any significant changes made in electrical design as a result of Change Orders or job conditions; (d) final location and arrangement of all mechanical equipment and major concealed plumbing, including, but not limited to, supply and circulating mains, vent stacks, sanitary and storm water drainage; and (e) final location and arrangement of all underground utilities, connections to building and/or rerouting of existing utilities, including, but not limited to, sanitary, storm, heating, electric, signal gas, water and telephone.
- (2) Shop Drawings shall not be acceptable as "Record" Drawings.
- (3) The Contractor agrees to provide Record Drawings on "electronic media" or "hard copy" at the discretion of the University at no extra cost.

Section 2.25 Guarantees

- (1) The Contractor, at the convenience of the University, shall remove, replace and/or repair at its own cost and expense any defects in workmanship, materials, ratings, capacities or characteristics occurring in or to the work covered by the Contract within one (1) year or within such longer period as may otherwise be provided in the Contract, the period of such guarantee to commence with the University's final acceptance of all work covered under the Contract or at such other date or dates as the University may specify prior to that time, and the Contractor, upon demand, shall pay for all damage to all other work resulting from such defects and all expenses necessary to remove, replace and/or repair such other work which may be damaged in removing, replacing or repairing the said defects. The obligations of the Contractor under the provisions of this paragraph or any other guarantee provisions of the Contract Documents are not limited to the monies retained by the University under the Contract.
- (2) Unless such removal, replacement and/or repair shall be performed by the Contractor within ten (10) working days after it receives written notice from the University specifying such defect, or if such defect is of such a nature that it cannot be completely removed, repaired and/or replaced within said ten (10) day period and the Contractor shall not have diligently commenced removing, repairing and/or replacing such defect within said ten (10) day period and shall not thereafter with reasonable diligence and in good faith proceed to do such work, the University may employ such other person, firm or corporation as it may choose to perform such removal, replacement and/or repair and the Contractor agrees, upon demand, to pay to the University all amounts which it expends for such work.

Section 2.26 Default of Contractor

- (1) In addition to those instances specifically referred to in other Sections hereof, the University shall have the right to declare the Contractor in default of the whole or any part of the work if:
 - a. The Contractor makes an assignment for the benefit of creditors pursuant to the statutes of the State of New York; or if
 - b. A voluntary or involuntary petition in bankruptcy is filed by or against the Contractor; or if
 - c. A receiver or receivers are appointed to take charge of the Contractor's property or affairs; or if
 - d. The Contractor shall sublet, assign, transfer, convey, or otherwise dispose of the Contract other than as herein specified; or if

- (2) Before the University shall exercise its right to declare the Contractor in default by reason of the conditions set forth in this subsection, it shall give the Contractor three (3) working days' notice of its intention to declare the Contractor in default and unless, within such three (3) day period, the Contractor shall make arrangements, satisfactory to the University, to correct and/or eliminate the conditions set forth in the University's aforesaid notice, the Contractor may be declared in default at the expiration of such three (3) day period or at the expiration of such longer period of time as the University may determine. In addition to those instances specifically referred to above, the University shall have the right to declare the Contractor in default of the whole or any part of the work if, in the sole opinion of the University:
- a. The Contractor becomes insolvent; or if
 - b. The Contractor fails to commence work when notified to do so by the Consultant; or if
 - c. The Contractor shall abandon the work; or if
 - d. The Contractor shall refuse to proceed with the work when and as directed by the Consultant; or if
 - e. The Contractor shall without just cause reduce its working force to a number which, if maintained, would be insufficient, in the opinion of the University, to complete the work in accordance with the approved time progress schedule, and shall fail or refuse to sufficiently increase such working force when ordered to do so by the Consultant; or if
 - f. The Contractor is or has been unnecessarily or unreasonably or willfully delaying the performance and completion of the work, or the award of necessary subcontracts, or the placing of necessary material and equipment orders; or if
 - g. The work cannot be completed within the time herein provided therefore or within the time to which such completion may have been extended; provided, however, that the impossibility of timely completion is, in the University's opinion, attributable to conditions within the Contractor's control; or if
 - h. The work is not completed within the time herein provided therefore or within the time to which the Contractor may be entitled to have such completed extended; or if
 - i. The Contractor is or has been willfully or in bad faith violating any of the provisions of this Contract; or if
 - j. The Contractor is not or has not been executing the Contract in good faith and in accordance with its terms.
- (3) The right to declare in default for any of the grounds specified or referred to shall be exercised by the University sending the Contractor a written notice setting forth the ground or grounds upon which such default is declared. Upon receipt of notice that it has been declared in default, the Contractor shall immediately discontinue all further operations under the Contract and shall immediately quit the site, leaving untouched all plant, materials, equipment, tools and supplies then on site.
- (4) The University, after declaring the Contractor in default, may then have the work completed by such means and in such manner, by contract, with or without public letting, or otherwise, as it may deem advisable, utilizing for such purpose such of the Contractor's plant, materials, equipment, tools and supplies remaining on the site, and also such subcontractors as it may deem advisable, or it may call upon the Contractor's surety at its own expense to do so.
- (5) In the event that the University declared the Contractor in default of the work or any part of the work, the Contractor, in addition to any other liability to the University hereunder or otherwise provided for or allowed by law, shall be liable to the University for any costs it incurs for additional architectural and engineering services necessary, in its opinion, because of the default and the total amount of liquidated damages from the date when the work should have been completed by the Contractor in accordance with the terms hereof to the date of actual completion of the work, both of which items shall be considered as expenses incurred by the University in completing the work and the amount of which may be charged against and deducted out of such monies as would have been payable to the Contractor or its surety if the work had been completed without a default.
- (6) If the University completes the work, the Consultant shall issue a certificate stating the expenses incurred in such completion, including the cost of re-letting. Such certificates shall be final, binding and conclusive upon the Contractor, its surety, and any person claiming under or through the Contractor, as to the amount thereof.
- (7) The expense of such completion, as so certified by the Consultant, shall be charged against and deducted out of such monies as would have been payable to the Contractor if it had completed the work; the balance of such monies, if any, subject to the other provisions of the Contract, to be paid to the Contractor without interest after such completion. Should the expense of such completion, so certified by the Consultant, exceed the total sum which would have been payable under the Contract if the same had been completed by the Contractor, any such excess shall be paid by the Contractor to the University upon demand.
- (8) In the event the University shall determine to complete the work without calling upon the Contractor's surety to do so, the Contractor shall not be entitled, from and after the effective date of the declaration of the default, to receive any further payment under the Contract until the said work shall be wholly completed and accepted by the University.
- (9) In case the University shall declare the Contractor in default as to a part of the work only, the Contractor shall discontinue such part, shall continue performing the remainder of the work in strict conformity with the terms of the Contract, and shall in no way hinder or interfere with any other contractors or persons whom the University may engage to complete the work as to which the Contractor was declared in default.
- (10) The provisions relating to declaring the Contractor in default as to the entire work shall be equally applicable to a declaration of partial default, except that the University shall be entitled to utilize for completion of the part of the work as to which the Contractor was declared in default only such plant, materials, equipment, tools and supplies as had been previously used by the Contractor on such part.

- (11) In completing the whole or any part of the work, the Consultant and the University shall have the power to depart from, change or vary the terms and provisions of the Contract; provided, however, that such departure, change or variation is made for the purpose of reducing the time or expense of such completion. Such departure, change or variations, even to the extent of accepting a lesser or different performance, shall not affect the conclusiveness of the Consultant's certificate of the cost of completion, nor shall it constitute a defense to any action to recover the amount by which such certificate exceeds the amount which would have been payable to the Contractor hereunder but for its default.
- (12) The provisions of this Section shall be in addition to any and all other legal or equitable remedies provided by this Agreement and otherwise available by law.

Section 2.27 Termination

- (1) The performance of work under this Contract may be terminated by the University, in whole or in part, whenever the University shall determine that such termination is in the best interest of the University; or in the event the State Finance Law Sections 139-j and 139-k certifications are found to be intentionally false or intentionally incomplete; or in the event the information provided in Sales Tax Certifications ST-220TD and/or ST-220CA is found to be false or incomplete. Any such termination shall be effected by a notice in writing to the Contractor specifying the date upon which such termination shall become effective and the extent to which performance of the Contract shall be terminated. Such termination shall be effective on the date and to the extent specified in said notice.
- (2) Upon receipt of a notice of termination, and except as otherwise directed in writing by the University, the Contractor shall:
 - a. Discontinue all work and the placing of all orders for materials and facilities otherwise required for the performance thereof;
 - b. Cancel all existing orders and subcontracts to the extent such orders and subcontracts relate to the performance of work terminated by the notice of termination;
 - c. Take such actions as may be necessary to secure to the University the benefits of any rights of the Contractor under orders or subcontracts which relate to the performance of work terminated by the notice of termination, including, but not limited to, the assignment to the University, in the manner and to the extent directed by the University, all the right, title and interest of the Contractor under the orders or subcontracts so terminated and canceled. In the event of such assignment, the University shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination and cancellation of such orders and subcontracts;
 - d. Transfer title and deliver to the University, in accordance with the direction of the University, all materials, supplies, work in process, facilities, equipment, machines or tools produced as a part of or acquired by the Contractor in connection with the work terminated by said notice, and all plans, Drawings, Working Drawings, sketches, Specifications and information for use in connection therewith; provided, however, that the Contractor may retain any of the foregoing if it so elects and forgoes reimbursement therefore;
 - e. Take such action as may be necessary or as the Consultant or the University may prescribe for the protection and preservation of all property in the possession or control of the Contractor in which the University, under the provisions of the Contract, has or may acquire an interest.
- (3) Notwithstanding the foregoing, should the notice of termination relate to only a portion of the work covered by the Contract, the Contractor will proceed with the completion of such portions of the work as are not terminated.
- (4) The University will pay and the Contractor shall accept, in full consideration for the performance and completion of the portions of the work as are not terminated, a sum calculated by determining the percentage the portions of the work not terminated bear to the total amount of the work covered by the Contract, and by multiplying the Contract consideration by such percentage the product thereof being the amount to be paid to the Contractor. The University shall determine the amount of such consideration in accordance with the foregoing.
- (5) Upon compliance by the Contractor with the foregoing provisions of this Section and subject to deductions for payments previously made, the University, for the portions of the work terminated, shall compensate the Contractor as follows:
 - a. By reimbursing the Contractor for actual expenditures made with respect to such work, including expenditures made in connection with any portion thereof which may have been completed prior to termination, as well as expenditures made after termination in completing those portions of the work covered by the Contract which the Contractor may have been required by the notice of termination to complete. The University shall determine the allocability and amount of such expenditures.
 - b. By reimbursing the Contractor for all actual expenditures made, with the prior written approval of the University or pursuant to a court judgment, in settling or discharging any outstanding contractual obligations or commitments incurred or entered into by the Contractor in good faith with respect to the Contract and resulting from the termination thereof.
 - c. By reimbursing the Contractor for all actual expenditures made after the effective date of the notice of termination resulting from or caused by the Contractor taking necessary action or action prescribed by the Consultant or the University for the protection and preservation of all property in the possession or control of the Contractor in which the University, under the provisions of the Contract, has or may acquire an interest.
 - d. By paying the Contractor a markup, which is to be calculated in the same manner as that provided for in subdivision c of paragraph (1) of Section 4.02 for extra work, on the foregoing expenditures, which markup is to cover the Contractor's overhead and profit; provided, however, that if it appears that the Contractor would have sustained a loss on the entire Contract had it been completed, said markup shall be reduced by one-third.
- (6) The sum of all amounts payable under this Section, plus the sum of all amounts previously paid by the University under the provisions of the Contract, shall not exceed the amount of the Contract consideration. In no event shall the Contractor be entitled to any payment for loss of

anticipated profits on uncompleted work and the University shall not be liable for the same.

- (7) Termination by the University under the provisions of this Section shall be without prejudice to any claims or rights which the University may have against the Contractor. The University may retain from the amount due to the Contractor under the provisions of this Section such monies as may be necessary to satisfy any claim which the University may have against the Contractor in connection with the Contract; provided, however, that the University's failure to retain such monies shall not be deemed a waiver of any of its rights or claims against the Contractor.
- (8) Notwithstanding the foregoing, where the Contractor and the Consultant can agree upon another method of determining the amount of the consideration to be paid to the Contractor under the provisions of the Section, such method, subject to the approval of the University, may, at the option of the University, be substituted for the method set forth above.

ARTICLE III

Time of Performance

Section 3.01 Commencement, Prosecution and Completion of Work

- (1) The Contractor agrees that it will begin the work herein embraced within ten (10) calendar days after the Contract approval date and that it will prosecute the same with such diligence that all work covered by the Contract shall be entirely completed and performed on or before the time specified on page A-1 of the Agreement.
- (2) The Contractor further agrees that time is of the essence in this Contract and that the work shall be prosecuted in such manner and with sufficient plant and forces to complete all the work by the specified completion date.

Section 3.02 Time Progress Schedule

- (1) Within thirty (30) calendar days after receipt of the Notice of Award, the Contractor, unless otherwise directed by the University, shall submit to the University and the Consultant for their approval its proposed working plan and schedule for its first ninety (90) calendar days of operation. The working plan and schedule shall be in the form of suitable charts, diagrams or bar graphs and shall be based on the Contractor's logic and time estimates. Such plan and schedule shall be sufficiently detailed to show clearly, in sequence, all salient features of the work of each trade including: the anticipated time of commencement and completion of such work and the interrelationship between such work, submission of Shop Drawings and Samples for approval, approval of Shop Drawings and Samples, placing of orders of materials, fabrication and delivery of materials, installation and testing of materials, contiguous or related work under other contracts, and other items pertinent to the work.
- (2) Within ninety (90) calendar days after receipt of the Notice of Award, the Contractor, unless otherwise directed by the University, shall submit to the University and the Consultant for their approval its proposed working plan and schedule for all the work covered by the Contract. Said proposed working plan and schedule shall be prepared in accordance with the form and requirements set forth in the preceding paragraph.
- (3) The aforesaid proposed working plan and schedule shall be revised by the Contractor until they are satisfactory to the University and the Consultant, and the same shall be periodically revised thereafter and submitted by the Contractor to the University and the Consultant for approval at such time or times as the University or the Consultant may request.
- (4) The proposed working plan and schedule, including any revision or revisions thereof, when approved by both the University and the Consultant shall be known as the time progress schedule. The time progress schedule, as the same may be revised from time to time by the Contractor and approved by the University and the Consultant, shall be strictly adhered to by the Contractor.
- (5) If through the fault of the Contractor or any subcontractor the Contractor shall fail to adhere to the time progress schedule, it must promptly adopt such other and additional means and methods of construction as will make up for the time lost and will assure completion in accordance with such schedule.
- (6) The University's or the Consultant's approval of the Contractor's time progress schedule or of its time, means and/or methods of construction, including any revisions thereof, and/or their failure to reject the same shall not relieve the Contractor of its obligation to accomplish the result required by the Contract, nor shall the exercise of such right to reject, create or give rise to any claim, action or cause of action, legal, equitable or otherwise, against the Consultant or the University.

Section 3.03 Time Schedule for Shop Drawings and Samples

- (1) Within sixty (60) calendar days after the date specified for the commencement of the work, the Contractor, unless otherwise directed by the Consultant, shall submit to the latter for approval a proposed time schedule covering the preparation and submission of all Shop Drawings and Samples. The proposed schedule will be revised by the Contractor until it is satisfactory to the Consultant and it shall be periodically revised thereafter and submitted by the Contractor to the Consultant for approval at such time or times as the Consultant may request.
- (2) The aforesaid schedule, as the same may be revised from time to time by the Contractor, after approval by the Consultant, shall be strictly adhered to by the Contractor.

Section 3.04 Notice of Conditions Causing Delay

- (1) Within ten (10) working days after the commencement of any condition which is causing or may cause delay in completion, the Contractor must notify the Consultant and the University in writing of the effect, if any, of such condition upon the time progress schedule, and must state why and in what respects, if any, the condition is causing or may cause such delay.

- (2) Failure to strictly comply with this requirement may, in the discretion of the University, be deemed sufficient cause to deny any extension of time on account of delay in completion arising out of or resulting from any change, extra work, suspension, or other condition.

Section 3.05 Extension of Time

- (1) An extension or extensions of time for the completion of the work may be granted by the University subject to the provisions of this Section, but only upon written application therefore by the Contractor to the University and the Consultant.
- (2) An application for an extension of time must set forth in detail the source and the nature of each alleged cause of delay in the completion of the work, the date upon which each such cause of delay began and ended and the number of days of delay attributable to each of such causes. It must be submitted prior to completion of the work.
- (3) If such an application is made, the Contractor shall be entitled to an extension of time for delay in completion of the work caused solely: (a) by the acts or omissions of the University, its trustees, officers, agents or employees; or (b) by the acts or omissions of other contractors, not including subcontractors of the Contractor, on this Project; or (c) by unforeseeable supervening conditions entirely beyond the control of either party hereto (such as, but not limited to, acts of God or the public enemy, war or other national emergency making performance temporarily impossible or illegal, or strikes or labor disputes).
- (4) The Contractor shall, however, be entitled to an extension of time for such causes only for the number of calendar days of delay which the University may determine to be due solely to such causes, and then only if the Contractor shall have strictly complied with all of the requirements of this Section and Section 3.04. The University shall make such determination within ninety (90) calendar days after receipt of the Contractor's application for an extension of time; provided, however, said application complies with the requirements of this Section.
- (5) The Contractor shall not be entitled to receive a separate extension of time for each one of several causes of delay operating concurrently, but, if at all, only for the actual period of delay in completion of the work as determined by the University, irrespective of the number of causes contributing to produce such delay. If one of several causes of delay operating concurrently results from any act, fault or omission of the Contractor or of its subcontractors or materialmen, and would of itself (irrespective of the concurrent causes) have delayed the work, no extension of time will be allowed for the period of delay resulting from such act, fault or omission.
- (6) The granting of an application for an extension of time for causes of delay other than those herein referred to shall be entirely within the discretion of the University.
- (7) If the Contractor shall claim to have sustained any damages by reason of delays, extraordinary or otherwise, or hindrances which it claims to be due to any action, omission, direction or order by the University or the Consultant, the Contractor shall be entitled only to an extension of time as hereinabove provided and shall not have or assert any claim or prosecute any suit, action, cause of action or proceeding against the University based upon such delays or hindrances, unless such delays or hindrances were caused by the University's bad faith or its willful, malicious, or grossly negligent conduct, or unanticipated delays, or delays so unreasonable that they constitute an intentional abandonment of the contract by the University, or delays resulting from the University's breach of a fundamental obligation of the contract.

Section 3.06 Contractor's Progress Reports

After commencement of the work the Contractor shall furnish the Consultant with written monthly reports setting forth the condition and general progress of the work, the percentage of each part of the work that has been finished, those parts of the work which have been completed within the scheduled time and those parts of the work which have not been finished within the scheduled time, and the general progress of the work that is being performed away from the site and the approximate date when such work will be finished and delivered to the site.

ARTICLE IV

Payment

Section 4.01 Compensation to Be Paid Contractor

The University shall pay to the Contractor and the latter shall accept as full and complete payment for the performance of this Contract, subject to additions or deductions as provided herein, the sum indicated on page 1 of this Agreement which sum is the amount of the total contract compensation. The Contractor shall provide complete and accurate billing invoices to the University in order to receive payment for its services. Billing invoices submitted to the University must contain all information and supporting documentation required by the University and the Office of the State Comptroller (OSC). **Payment for invoices submitted by the Contractor shall only be rendered electronically** unless payment by paper check is expressly authorized by the Vice President for Administration or designee, in her/his sole discretion, due to extenuating circumstances. Such electronic payment shall be made in accordance with ordinary New York State procedures and practices. The Contractor shall comply with the OSC procedures to authorize electronic payments. Authorization forms are available at the OSC website at www.osc.state.ny.us/epay/index.htm, by email at epunit@osc.state.ny.us or by telephone at 518-474-4032. The Contractor acknowledges that it will not receive payment on any invoices submitted under this contract if it does not comply with the OSC's electronic payment procedures, except where the Vice President or designee has expressly authorized payment by paper check as set forth above.

Section 4.02 Value of Omitted and Extra Work

- (1) The amount by which the Contract consideration is to be increased or decreased by any Change Order shall be determined by the University by one or more of the following methods:

- a. By accepting an amount agreed upon by both parties, which amount is to be calculated in a manner similar to that provided in subdivision c hereof.
- b. By applying the applicable price or prices set forth in the attached Schedule "I" of this Agreement or by applying a unit price agreed to by both parties. Subject to the provisions of Sections 4.04, this method must be used if the Contract Documents contain applicable unit prices.
- c. By estimating the fair and reasonable cost of: (i) labor, including all wages, required wage supplements and insurance required by law (workers' compensation, social security, disability, unemployment, etc.) paid to or on behalf of foremen, workers and other employees below the rank of superintendent directly employed at the site of the Project; (ii) materials; and (iii) equipment, excluding hand tools, which, in the judgment of the University, would have been or will be employed exclusively and directly on the omitted work or extra work, as the case may be; and, in the case of extra work, where the same is performed directly by the Contractor, by adding to the total of such estimated costs a sum equal to 15 percent thereof, but, where the extra work is performed by a subcontractor, by adding a sum equal to 15 percent of said costs for the benefit of such subcontractor, and by adding, for the benefit of the Contractor (no further allowance will be made where extra work is performed by the sub-subcontractor), an additional sum equal to 10 percent of the first \$10,000 of the above-estimated costs, including the subcontractor's percentage override, plus 5 percent of the next \$90,000 of the total of said items, plus 3 percent of any sum in excess of \$100,000 of the total of said items. For the purposes of the aforesaid percentage overrides, the words "extra work" shall be defined as a complete item of added, modified or changed work as described in the Consultant's written instructions to the Contractor. Such "extra work" may include the work of one or more trades and/or subcontractors or sub-subcontractors and shall include all labor, materials, plant, equipment, tools and all incidentals directly and/or indirectly necessary, related, involved in or convenient to the successful completion of the extra work item. Where the Consultant's aforesaid written instructions to the Contractor involve both an increase and a reduction in similar or related work, the above percentage overrides will be applied only on the amount, if any, the cost of the increased work exceeds the cost of the reduced work.

All profit, overhead and expense of whatsoever kind and nature, other than those set forth above in items (i) through (iii), of the Contractor, its subcontractors and sub-subcontractors, are covered by the aforesaid percentage overrides and no additional payment therefore will be made by the University. The University may make such cost estimate either before or after the extra work is completed by the Contractor.

- d. By determining the actual cost of the extra work in the same manner as in the above subdivision c except that actual costs of the Contractor shall be utilized in lieu of estimated costs. The University shall have the option of utilizing this method provided it notifies the Contractor of its intent to do so prior to the time the Contractor commences performance of such extra work.
- (2) Irrespective of the method used or to be used by the University in determining the value of a Change Order, the Contractor, within fifteen (15) working days after a request for the same, must submit to the University and the Consultant a detailed breakdown of the Contractor's estimate of the value of the omitted and/or extra work.
 - (3) For the purposes of paragraph (1) hereof, the cost of equipment shall be determined, irrespective of the actual price for any rental or actual cost associated with such equipment and irrespective of whether the equipment is or is not owned by the Contractor, as follows: (a) for the first 40 hours of use by taking the monthly rate listed in the "Green Book" (the publication of the Associated Equipment Distributors of Oakbrook, Illinois) and dividing the same by 176 hours to establish an hourly rate and then multiplying such hourly rate by the actual number of hours that the equipment was used; and (b) for any period of time in excess of the first 40 hours of use by taking 50 percent of the hourly rate established in accordance with the above for equipment used for periods of less than 40 hours, and then multiplying such rate by the actual number of hours in excess of 40 hours that the equipment was used. In the event that the "Green Book" does not list the item of equipment used, the applicable rate shall be determined in the same manner as that set forth above except that the monthly rate shall be that set forth in the "Blue Book" (published by Equipment Guidebook Co. of Palo Alto, California). If no listing or rates for an item of equipment is contained in either the "Green Book" or the "Blue Book", the University shall determine the reasonable rate of rental of the particular item of equipment by such other means as it finds appropriate. The editions of the "Green Book" and the "Blue Book" to be used shall be those in effect on the date of the receipt of bids for this Contract. None of the provisions of the "Green Book" or the "Blue Book" shall be deemed referred to or included in this Contract excepting only the aforesaid monthly rates. To the cost of equipment as determined above, there is to be added the actual cost of gasoline, oil, grease and maintenance required for operation of such equipment and, in the case of equipment utilized only for extra work when, in the opinion of the Consultant, suitable equipment therefore was not available on the site, the reasonable cost of transporting said equipment to and from the site. Notwithstanding the foregoing, if the Consultant should determine that the nature or size of the equipment used by the Contractor in connection with the extra work is larger or more elaborate, as the case may be, than the size or nature of the minimum equipment determined by the Consultant to be suitable for the extra work, the cost of equipment will not be based upon the equipment used by the Contractor but instead will be based on the smallest or least elaborate equipment determined by the Consultant to have been suitable for the performance of the extra work.
 - (4) Unless otherwise specifically provided for in a Change Order, the compensation specified therein for extra work includes full payment for both the extra work covered thereby and for any damage or expense caused the Contractor by any delays to other work to be done under the Contract resulting from or on account of said extra work, and the Contractor waives all rights to any other compensation for said extra work, damage or expense.

Section 4.03 Adjustment for Bond and Insurance Premiums

Upon final acceptance of the work to be performed under this Contract, the University shall adjust the Contract consideration to reflect any changes in the cost of all required Bonds and liability and builder's risk insurance premiums which the Contractor had to pay for on all extra work and would have had to furnish and pay for on all omitted work. Unless such cost is agreed upon by the University and the Contractor, the University shall calculate and determine the amount of the adjustment in the Contract consideration by estimating such cost.

Section 4.04 Unit Prices

- (1) Except as otherwise provided in the second paragraph of this Section, the unit prices, set forth in the attached Schedule I will be binding upon both the University and the Contractor in determining the value of omitted and/or extra work, and, in the case of extra work, such unit prices shall be deemed to include all profit, overhead and expenses of whatever kind and nature of the Contractor, its subcontractors and sub-subcontractors, and the Contractor agrees that it shall make no claim for any profit, overhead, expense or percentage override in connection therewith.
- (2) Where Schedule I sets forth a unit price for added and/or deducted work, the University shall have the option, whenever it is found that the quantity of changed work varies by more than 15 percent from the quantity that is stated or that can be determined by the Contract Documents at the time of execution thereof, to accept or reject such unit price for the quantity that the changed work varies by more than 15 percent from the stated or determinable quantity. Where a quantity is not specifically stated in the Contract Documents, the University's determination of the amount of said quantity included in the Contract Documents shall determine the applicability of this paragraph. Where the University, pursuant to the foregoing provisions, exercises its aforesaid option, the amount of the increase or decrease in the Contract consideration for the quantity of work which varies by more than 15 percent from the stated or determinable quantity shall be determined in accordance with the provisions of Section 4.02 of the Agreement as if there was no unit price therefore set forth in said Proposal.

Section 4.05 Allowances

- (1) The Contractor acknowledges that the Contract consideration includes the allowances set forth in the attached Schedule I and, except for quantitative allowances, it agrees to cause the work covered thereby to be done by such contractors for such sums as the University may direct. Where cash allowances are provided, the allowances shall be deemed to include the purchase of the materials and/or equipment and the delivery of the same to the job site. Unless otherwise specified in the Contract Documents, cash allowances do not include the proper installation of the materials and/or equipment or the connection for final utilities thereto; the cost of said installation and/or connection having been included in the amount of the Contract consideration.
- (2) The Contractor acknowledges that the Contract consideration includes such sums for expenses and profit on account of cash allowances as it deems proper and that it shall make no claim for expenses or profit or any percentage override in addition thereto; said items having been included in the amount of the Contract consideration.
- (3) In the event any cash allowance listed below is either higher or lower than the cost of having the work done in accordance herewith, the Contract consideration shall be adjusted to reflect such variance, the amount of said adjustment to be the difference between the amount of the allowance and the actual cost of performing the work covered thereby.
- (4) When quantitative allowances are provided, progress payments thereof to the Contractor will be based upon the applicable unit prices set forth in the attached Schedule I, subject, however to the provisions of paragraph (2) of Section 4.04. In the event any of said quantitative allowances are more than or less than the actual quantity of work performed, the Contract consideration shall be adjusted to reflect such variance, the amount of said adjustment to be determined in accordance with the provisions of Section 4.02 and Section 4.04 of the Agreement.

Section 4.06 Deductions for Unperformed and/or Uncorrected Work

- (1) Without prejudice to any other rights, remedies or claims of the University, in the event that the Contractor at any time fails or neglects to supply working forces and materials of the proper quantity and quality necessary, in the opinion of the Consultant or the University, to comply with the approved time progress schedule, or fails in any respect to prosecute the work with promptness and diligence or causes by any action or omission the stoppage or delay of or interference with the work of any other contractor having a contract with the University, or fails in the performance of any obligations and responsibilities under this Contract, then, and in that event, the University, acting itself or through the Consultant, may, upon three (3) working days' notice to the Contractor, either itself provide or have any other contractor provide any and all labor or materials or both necessary, in its opinion, to correct any aforesaid deficiency of the Contractor, and the University will thereafter back charge the Contractor by issuing a Change Order reducing the amount of the Contract consideration for all costs and expenses it incurs in connection with the correction of such deficiency.
- (2) Notwithstanding any provisions in the Contract Documents to the contrary, if the University deems it inexpedient to correct work not done in accordance with the Contract or any work damaged as a result thereof, it shall notify the Contractor of such fact and the latter shall not remedy or correct the same. In such event, however, the amount of the Contract consideration shall be decreased by an amount, determined by the University, which is equal to the difference in value of the work as performed by the Contractor and the value of the work had it been satisfactorily performed in accordance with the Contract or which is equal to the cost of performing the corrective work, whichever shall be the higher amount.

Section 4.07 Liquidated Damages

In the event that the Contractor shall fail to substantially complete all the work within the time fixed for such completion on page A-1 of the Agreement, or within the time to which such completion may have been extended, or in the event that the Contractor abandons the work and the same is not substantially completed within the aforesaid time for such completion, the Contractor must pay to the University as damages for each calendar day of delay in completing the work the amount set forth on page A-1. In view of the difficulty of accurately ascertaining the loss which the University will suffer by reason of delay in completion of the work hereunder, said sum is hereby fixed and agreed as liquidated damages which the University will suffer by reason of such delay and not as a penalty. The University may deduct and retain out of the monies which may become due hereunder to the Contractor the amount of any such liquidated damages and, in case the amount which may become due to the Contractor under the provisions of the Contract may be less than the liquidated damages suffered by the University, the Contractor shall pay the difference, upon demand, to the University.

Section 4.08 Contract Breakdown

Prior to the submission of its first application for a progress payment, the Contractor shall present to the University and the Consultant for their approval a detailed schedule showing the breakdown of the Contract consideration. Such schedule must contain the amount estimated for each part of the work and quantity survey for each part of the work. It shall also list the estimated value of the Contractor's guarantee obligations under the provisions of the Contract Documents, which is hereby fixed at \$5,000 or one-half of one percent (1/2%) of the Contract award amount, whichever is the lesser sum. Such schedule shall be revised by the Contractor until the same shall be satisfactory to the University and the Consultant and shall not be changed after the University and the Consultant have approved the same. The amounts set forth in the schedule will not be considered as fixing the basis for additions to or deductions from the Contract consideration.

Section 4.09 Prompt Payment Requirements

- (1) For the purposes of Article XI-A of the State Finance Law, the campus for which the work is being performed is the University's designated payment office. Applications for payment must contain the approval of the Consultant before being submitted to the University.
- (2) Whenever the Consultant's approval of an application for payment is required under the Contract, the Consultant shall have fifteen (15) calendar days after receipt of such application to inspect the work before acting on the application.
- (3) This Contract is subject to the approval of the Comptroller of the State of New York. Until such approval is given, the thirty (30) day period referred to in Article XI-A of the State Finance Law for the payment of invoices without interest shall not begin.

Section 4.10 Progress Payments

- (1) Unless otherwise provided in the Contract, progress payments will be made as the work progresses upon applications submitted by the Contractor and approved by the Consultant and the University. Payment of such approved applications shall be made by the University within thirty (30) days after such approval has been given.
- (2) The University shall make progress payments to the Contractor on the basis of such approved applications, less an amount equal to 5 percent thereof, plus an amount necessary, in the University's judgment, to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged, which it shall reserve from each such payment until all of the work covered by the Contract has been completed.
- (3) When the University and the Consultant have determined that all the work is substantially completed, or that a substantial portion of the permanent construction has been completed and accepted, the University shall make a progress payment to the Contractor, on the basis of an application submitted by the Contractor and approved by the Consultant and the University, which shall reduce the unpaid amount due to the Contractor under the terms of the Contract, including all monies retained by the University from previous progress payments to the Contractor, to an amount equal to two (2) times the cost, estimated by the Consultant, of performing, in accordance with the Contract, all uncompleted, unaccepted and corrective work, plus an amount necessary, in the University's judgment, to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged. As the remaining items of work are satisfactorily completed or corrected, the University shall make progress payments to the Contractor, on the basis of applications submitted by the Contractor and approved by the University and the Consultant, covering said items of work less an amount necessary, in the University's judgment, to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged.

Section 4.11 Applications for Progress Payments

The Contractor shall prepare all applications for progress payments for work performed, together with supporting data and computations as are deemed necessary by the Consultant to determine the accuracy of the application. The application for payment shall be submitted on the form prescribed by the University. Failure of the Contractor to submit applications for progress payments, or lack of complete and accurate supporting data, shall be sufficient reason for withholding payment until such omissions or errors are rectified. Unless otherwise directed, such applications, signed and certified as correct by the Contractor, shall be delivered by the Contractor to the Consultant once each month showing the total value of work completed and in place on the last day of the payment period covered by the application.

Section 4.12 Progress Payments for Materials Delivered to Site

- (1) Progress payments made in accordance with Section 4.10 shall include a payment for materials and equipment to be furnished and installed under the Contract, after such materials and equipment have been delivered and accepted at the site of the work.
- (2) Materials and equipment for which such progress payment has been made shall not be removed from the site, shall be stored until incorporated into the work in a location approved by the Consultant and shall be adequately protected from fire, theft and vandalism, the effects of the elements and any other damage whatsoever, and shall at all times be available for inspection by the Consultant and the University.

Section 4.13 Transfer of Title to Materials Delivered to Site

Title to all supplies and materials to be furnished or provided by the Contractor to the University pursuant to the provisions of the Contract Documents shall immediately vest in and become the sole property of the University upon delivery of such supplies and materials to the site. Notwithstanding such transfer of title, the Contractor shall have the full continuing responsibility to install such materials and supplies, protect them, maintain them in proper condition and forthwith repair, replace and make good any damage thereto without cost to the University until such time as the work covered by the Contract is fully accepted by the University. Such transfer of title shall in no way affect any of the Contractor's obligations under the Contract. In the event that, after title has passed to the University, any of such supplies and materials are rejected as being defective or otherwise unsatisfactory, title to all such supplies and materials shall be deemed to have been transferred back to the Contractor.

Section 4.14 Progress Payments for Materials Stored Off Site

- (1) Progress payments made in accordance with Section 4.10 shall include a payment for materials and equipment which are in short and/or critical supply or have been specially fabricated for the Project. Materials and equipment, for which a progress payment is made pursuant to the preceding sentence, shall be stored by the Contractor, after fabrication, until such time as their delivery to the site is required, at a facility and location approved by the Consultant; shall be adequately protected from fire, theft and vandalism, the effects of the elements and any other damage whatsoever; and shall at all times be available for inspection by the Consultant and the University. No progress payment shall, however, be made for said materials and equipment until:
 - a. The Contractor furnishes to the University a bill of sale listing quantity and costs of said materials and equipment f.o.b. point of origin;
 - b. The Consultant shall have inspected said materials and equipment and recommended payment therefore; and
 - c. The Contractor furnishes to the University a builder's risk insurance policy, with the broad form extended coverage endorsement, for said materials and equipment, in an amount equal to 100 percent of the value thereof, which policy shall be maintained, at the sole cost and expense of the Contractor, until said materials and equipment have been incorporated into the Project. The said insurance policy shall contain a provision that the loss, if any, is to be made adjustable with and payable to the University as trustee for the insured, i.e., the University and the Contractor, and a provision that it shall not be changed or canceled and that it will be automatically renewed upon expiration and continued in force unless the University is given fifteen (15) days' written notice to the contrary.
- (2) Materials and equipment for which a progress payment has been made by the University pursuant to this Section shall be, become and remain the sole property of the University; provided, however, that the Contractor shall have the full continuing responsibility to install such materials and equipment, to deliver it to the site, to protect it, to maintain it in proper condition and to forthwith repair, replace and make good any damage thereto without cost to the University until such time as the work covered by the Contract is fully accepted by the University. Such transfer of title shall in no way affect any of the Contractor's obligations under the Contract.

Section 4.15 Withholding of Progress Payments

Notwithstanding anything contained in the Contract to the contrary, the University may withhold payment of all or any part of a progress, final or guarantee payment, in such an amount as it may deem proper to enforce the provisions of the Contract and to satisfy the claims of third parties, when:

- a. The University shall learn of any claim, of whatever nature or kind, against the University or the Contractor, which in any way arises or is alleged to arise out of or as a result of or in connection with the performance by the Contractor of the work covered by the Contract or out of or in connection with the Contractor's operations or performance at or in the vicinity of the construction site, that, in the opinion of the University, may not be adequately covered by insurance.

If an action on such claim is timely commenced and the liability of the University and/or the Contractor shall have been established therein by a final judgment of a court of competent jurisdiction, or if such claim shall have been admitted by the Contractor to be valid, the University shall pay such judgment or admitted claim out of the monies retained by it under the provisions of the Contract and return the balance, if any, without interest, to the Contractor.

The University may withhold from the Contractor any payments retained by it until such time as all such claims are either satisfied or barred by law from being presented. At such time the University, upon written demand by the Contractor, shall return to the Contractor the amount so withheld, without interest.

- b. The Contractor has not complied with any lawful or proper direction of the Consultant or the University or their representatives concerning the work covered by the Contract or the performance of the Contract or the production of records as required under the provisions of the Contract.
- c. There exists any of the conditions, listed in Section 2.26, which would allow the University to declare the Contractor in default of the whole or any part of the work.
- d. The Contractor is a foreign contractor and has not furnished satisfactory proof that all taxes due by such Contractor under the provisions of the Tax Law have been paid. The Certificate of the New York State Tax Commission to the effect that all such taxes have been paid shall be conclusive proof of the payment of such taxes. The term "foreign contractor" as used herein means, in the case of an individual, a person who is not a resident of the State of New York; in the case of a partnership, one having one or more partners not a resident of the State; and in the case of a corporation, one not organized under the laws of the State of New York.
- e. The Contractor, upon request of the University at any time after the initial progress payment by the University to the Contractor, fails to furnish the University with such documentary evidence that the University may deem necessary to prove to it that material and labor paid for by the University under previous applications for payment submitted have been paid for by the Contractor and that there are no outstanding claims or liens in connection therewith or fails to satisfy the University that the Contractor, with good cause, has sufficiently provided for the payment and/or satisfaction of claims for said material and labor.

Section 4.16 Lien Law

The attention of the Contractor is specifically called to the provisions of the Lien Law of the State of New York, wherein funds received by a Contractor for a public improvement are declared to constitute trust funds in the hands of such Contractor to be applied first to the payment of certain claims.

Section 4.17 Substitution of Securities for Retainage

Any time after 50 percent of all the work has been completed, the University, if the progress and performance of the work is satisfactory to it, on request of the Contractor, will allow the Contractor to withdraw up to 50 percent of the aforesaid amount retained by the University by depositing with the Comptroller of the State of New York government securities, of the type and kind specified in Section 139 of the State Finance Law, having a market value not exceeding par, at the time of deposit, equal to the amount so withdrawn. The Comptroller of the State of New York shall, from time to time, collect all interest or income on the obligations so deposited, and shall pay the same, when and as collected, to the Contractor. If the deposit is in the form of coupon bonds, the coupons as they respectively become due shall be delivered to the Contractor; provided, however, that the Contractor shall not be entitled to interest or coupons or income on any of the deposited securities, the proceeds of which have or will be used or applied by the University. In the event that the Contractor does not, in accordance with the terms and provisions of the Contract, comply with and fulfill all of its obligations and responsibilities thereunder, the Comptroller of the State of New York shall have the right to sell, assign, transfer or otherwise dispose of the aforesaid securities and the University shall have the right to use and apply all or any part of the monies obtained by the Comptroller of the State of New York from such a sale, assignment, transfer or disposition or from the collection of interest or income from said securities to the performance and fulfillment of said obligations and responsibilities. Notwithstanding the foregoing, when the University makes a payment under Section 4.10 (3) of the Agreement, it will return to the Contractor, as part of such payment, its substituted securities, and thereafter all retention of the University shall be in funds and not in substituted securities.

Section 4.18 Final Payment

Upon acceptance of all the work, except for the Contractor's guarantee obligations under Section 2.25 of the Agreement and the Contractor's guarantee obligations under any provision of the Specifications, the contractor shall prepare and submit to the University and the Consultant, for their approval, a final application for payment, which the University, within thirty (30) days after its approval of the same, shall pay. Such application and payment shall be in an amount equal to 100 percent of the Contract consideration, excluding the Contractor's guarantee obligations (reference Section 4.08), less:

- a. All previous payments by the University to the Contractor;
- b. All deductions authorized to be made by the University under the Contract; and
- c. An amount necessary, in the University's judgment, to satisfy any claims, liens or judgments against the Contractor which have not been suitably discharged.

Section 4.19 Acceptance of Final Payment

- (1) The acceptance by the Contractor, or by anyone claiming by or through it, of the final payment shall, except with respect to the amount retained by the University pursuant to the provisions of subdivisions b and c of Section 4.18 of the Agreement, constitute and operate as a release to the University from any and all claims of any liability for anything theretofore done or furnished for or relating to or arising out of the work covered by the Contract and for any prior act, neglect or default on the part of the University or any of its trustees, officers, agents or employees in connection therewith.
- (2) Should the Contractor refuse to accept the final payment as tendered by the University or should the Contractor refuse to execute the final application for payment without protest and without reserving any rights or claims against the University, it shall constitute a waiver of any right to interest on the amount of the payment so tendered and/or on the amount set forth in said final application for payment.

Section 4.20 Guarantee Payment

- (1) Subject to the provisions of the second paragraph of this Section, at the expiration of one (1) year after the University has accepted all the work covered by the Contract, the Contractor shall prepare and submit to the University and the Consultant, for their approval, a guarantee application for payment, which the University, within thirty (30) days after its approval of the same, shall pay. Such application and payment shall be in an amount equal to the monies retained by the University for the Contractor's guarantee obligations under the Agreement, less any monies deducted by the University under this Section. The Contractor shall not be entitled to any interest on the monies retained by the University pursuant to subdivision c of Section 4.18 of the Agreement.
- (2) In the event the Contractor does not, in accordance with the terms and provisions of the Contract, complete all corrective work or comply with and fulfill its contractual obligations, the University may use and apply all or any part of the monies retained by it to have such work or obligations performed or fulfilled by a person, firm or corporation other than the Contractor. The obligations of the Contractor, under the terms and provisions of the Contract, shall not, however, be limited to the monies retained by the University pursuant to the provisions of the Contract.
- (3) No payments may be made under this agreement for work completed more than 365 days after

{Insert Contract Closing Date}

Unless the date/duration listed on page A-1, is extended in writing by the Fund, and approved by OSC.

Section 4.21 Acceptance of Guarantee Payment

The acceptance by the Contractor, or by anyone claiming by or through it, of the guarantee payment shall constitute and operate as a release to the University from any and all claims in connection with monies retained by the University. Should the Contractor refuse to accept the guarantee

payment as tendered by the University or should the Contractor refuse to execute the guarantee application for payment without protest and without reserving any rights or claims against the University, it shall constitute a waiver of any right to interest on the amount of the payment so tendered and/or on the amount set forth in said guarantee application for payment.

Section 4.22 Contractor Limited to Money Damages

Inasmuch as the Contractor can be compensated adequately by money damages for any breach of the Contract which may be committed by the University, the Contractor agrees that no default, act or omission of the University shall constitute a material breach of the Contract entitling it to cancel or rescind the same or to suspend or abandon performance thereof; and it hereby waives any and all rights and remedies to which it might otherwise be or become entitled to because of any wrongful act or omission of the University or its representatives, saving only its right to money damages.

Section 4.23 No Estoppel or Waiver

- (1) The University shall not be precluded or estopped by any inspection, acceptance, application for payment or payment, final or otherwise, issued or made under the Contract or otherwise issued or made by it, the Consultant, or any trustee, officer, agent or employee of the University, from showing at any time the true amount and character of the work performed, or from showing that any such inspection, acceptance, application for payment or payment is incorrect or was improperly issued or made; and the University shall not be precluded or estopped, notwithstanding any such inspection, acceptance, application for payment or payment, from recovering from the Contractor any damages which it may sustain by reason of any failure on its part to comply strictly with the Contract and any monies which may be paid to it or for its account in excess of those to which it is lawfully entitled.
- (2) Neither the acceptance of all or any part of the work covered by the Contract; nor any payment therefore; nor any order or application for payment issued under the Contract or otherwise issued by the University, the Consultant, or any trustee, officer, agent or employee of the University; nor any permission or direction to continue with the performance of the Contract before or after its specified completion date; nor any performance by the University of any of the Contractor's duties or obligations; nor any aid lent to the Contractor by the University in its performance of such duties or obligations; nor any delay or omission by the University to exercise any right or remedy accruing to it under the terms of the Contract or existing at law or in equity or by statute or otherwise; nor any other thing done or omitted to be done by the University, its trustees, officers, agents or employees; shall be deemed to be a release to the Contractor or its sureties from any obligations, liabilities or undertakings in connection with the Contract or the Performance Bond or a waiver of any provision of the Contract or of any rights or remedies to which the University may be entitled because of any breach thereof, excepting only a written instrument expressly providing for such release or waiver. No cancellation, rescission or annulment hereof, in whole or as to any part of the Contract, because of any breach hereof, shall be deemed a waiver of any money damages to which the University may be entitled because of such breach. No waiver by the University of any breach of the Contract shall be deemed to be a waiver of any other or any subsequent breach.

Section 4.24 Limitation of Actions

- (1) No action or proceeding shall be maintained by the Contractor, or anyone claiming under or through the Contractor, against the University, or its trustees, officers, agents or employees, upon any claim arising out of or based upon the Contract or any breach thereof or by reason of any act or omission or requirement of the University, or its trustees, officers agents or employees, unless:
 - a. Such action or proceeding is instituted in the Court of Claims for the State of New York;
 - b. The Contractor or the person claiming under or through it shall have strictly complied with all requirements relating to the giving of notices and information with respect to such claims; and
 - c. Such action or proceeding shall be commenced within one (1) year after the submission to the University of the final application for payment or, if the claim is based upon monies required to be retained for any period after the date of the final application for payment, such action is commenced within six (6) months after such monies become due and payable under the terms of the Contract; or
 - d. If the Contract is terminated or the Contractor declared in default by the University, such action is commenced within six (6) months after the date of such termination or declaration of default by the University.
- (2) Notwithstanding anything in the laws of the State of New York to the contrary, the Contractor, or anyone claiming under or through the Contractor, shall not be entitled to any additional time to begin anew any other action if an action commenced within the times herein specified is dismissed or discontinued for any reason whatsoever.

ARTICLE V

Protection of Rights and Property

Section 5.01 Accidents and Accident Prevention

The Contractor shall at all times take reasonable precautions for the safety of persons engaged in the performance of the work. The Contractor shall comply fully with all applicable provisions of the laws of the State of New York, OSHA, and with all valid rules and regulations adopted or promulgated by the agencies of the State of New York pursuant thereto. The Contractor's attention is specifically called to the applicable rules and regulations, codes and bulletins of the New York State Department of Labor.

Section 5.02 Adjoining Property

The Contractor shall be required to protect all the adjoining property and to repair or replace any such properties damaged or destroyed by it, its employees or subcontractors through, by reason of or as a result of activities under, for or related to the Contract.

Section 5.03 Emergencies

- (1) In case of an emergency which threatens loss or injury to persons or property, the Contractor will be allowed to act, without previous instructions from the Consultant or the University, in a diligent manner, to the extent required to avoid or limit such loss or injury, and it shall notify the Consultant and the University immediately thereafter of the action taken by it and of such emergency. Where the Contractor has not taken action but has notified the Consultant or the University of an emergency which threatens loss or injury to persons or property, it shall act in accordance with the instructions and/or authorization by the Consultant or the University.
- (2) In the event that the Contractor performs extra work in accordance with the preceding paragraph, it will be compensated therefore in accordance with the provisions of Section 4.02.

Section 5.04 Fire Safety

- (1) In the event that a municipal fire alarm box is not located within 300 feet from the site of the Project, the Contractor will be required to provide at the site of the Project, at a location approved by the Consultant, a private unlisted telephone reserved for fire calls only. The phone must be in addition to regular business phones and a rule prohibiting its use for purposes other than alarm for fire or other emergencies must be strictly enforced. The phone itself should be colored red and be located at a point quickly available to all employees, including watchmen. Clear instructions for the sending of a fire alarm should be conspicuously posted by the phone and all personnel customarily at work near the phone shall be acquainted with the procedure. If such a phone is required, the Contractor, at its sole cost and expense, must provide the same from the time the University first approves the Contract breakdown to be submitted by the Contractor pursuant to the provisions of Section 4.08 up until the time the University accepts all the work covered by the Contract.
- (2) All solid fuel salamanders and U. L. approved heaters used by the Contractor or any of its subcontractors shall be arranged in a standard manner. All other salamanders used by the Contractor or any of its subcontractors shall require constant attendance of competent persons on each floor where in use.
- (3) All temporary fabric used by the Contractor or any of its subcontractors for curtains or awnings shall be either non-combustible or flame retarded so that it will not burn or propagate flame.

Section 5.05 Risks Assumed by Contractor

- (1) The Contractor solely assumes the following distinct several risks whether they arise from acts or omissions (whether negligent or not and whether supervisory or otherwise) of the Contractor, of the University, of third persons or from any other cause, including unforeseen obstacles and difficulties which may be encountered in the prosecution of the work covered by the Contract, whether such risks are within or beyond the control of the Contractor and whether such risks involve a legal duty, primary or otherwise, imposed upon the State University Construction Fund, the Dormitory Authority of the State of New York, the State of New York or the State University of New York, excepting only risks which arise from defects in maps, plans, designs or Specifications prepared, acquired or used by the Consultant or the University, from the negligence of the University, its agents or employees or from affirmative acts of the State University Construction Fund, the Dormitory Authority of the State of New York, the State of New York or the State University of New York or their trustees, officers, agents or employees committed with intent to cause the loss, damage and injuries herein below set forth:
 - a. The risk of loss or damage, direct or indirect, to the work covered by the Contract or to any plant, equipment, tools, materials or property furnished, used, installed or received by the University or by the Contractor or any subcontractor, materialman or worker performing services or furnishing materials for the work covered hereunder.

The Contractor shall bear such risk of loss or damage until the work covered by the Contract has been fully accepted by the University or until completion of removal of such plant, equipment, tools, materials or property from the construction site and the vicinity thereof, whichever event occurs last. In the event of such loss or damage, the Contractor shall forthwith repair, replace and/or make good any such loss or damage without cost to the University.
 - b. The risk of claims, just or unjust, by third persons against the Contractor, the State University Construction Fund, the Dormitory Authority of the State of New York, the State of New York, or the State University of New York on account of wrongful death, bodily injuries and property damage, direct or consequential, loss or damage of any kind whatsoever arising or alleged to arise out of or as a result of or in connection with the performance by the Contractor of the work covered by the Contract (whether actually caused by or resulting from the performance of the Contract) or out of or in connection with the Contractor's operations or presence at or in the vicinity of the construction site. The Contractor shall bear such risk for all such deaths, injuries, damages or losses sustained or alleged to have been sustained prior to the final acceptance by the University of all work covered by the Contract. The Contractor shall also bear the risk of claims for wrongful death occurring subsequent to said final acceptance provided such death is caused, contributed to or is a consequence of bodily injuries sustained or alleged to have been sustained prior to said final acceptance.
- (2) The Contractor shall indemnify and save harmless the State University Construction Fund, the Dormitory Authority of the State of New York, the State of New York and the State University of New York, their trustees, officers, agents or employees against all claims described above and for all costs and expenses incurred by them in the defense, settlement or satisfaction thereof, including attorneys' fees and court costs. If so directed, the Contractor shall at its own expense defend against such claims, in which event it shall not, without obtaining express advance permission from Counsel of the University, raise any defense involving in any way jurisdiction of the tribunal over the University, governmental nature of the University or the provisions of any statutes respecting suits against the University.
- (3) Neither the University's final acceptance of the work to be performed hereunder nor the making of any payment shall release the Contractor from its obligations under this Section. The enumeration elsewhere in the Contract of particular risks assumed by the Contractor or of

particular claims for which it is responsible shall not be deemed to limit the effect of the provision of this Section or to imply that it assumes or is responsible for only risks or claims of the type enumerated.

Section 5.06 Compensation and Liability Insurance

- (1) The Contractor shall procure and maintain, at its own cost and expense, until final acceptance by the University of all the work covered by this Contract, the following kinds of insurance:

- a. Workers' Compensation Insurance.

A policy complying with the requirements of the laws of the State of New York.

- b. General Liability and Property Damage Insurance.

A standard general comprehensive liability insurance policy or a commercial general liability insurance policy issued to and covering the liability of the Contractor for all work and operations under this Contract, including, but not limited to, contractual and completed operations coverage. Such policy shall be written by a company licensed or approved as an excess line liability company by the New York State Department of Insurance. The coverage under such policy shall not be less than the following limits:

Bodily Injury and Property Damage Liability
\$ 1,000,000 Each Occurrence
\$ 2,000,000 Aggregate

The aforesaid insurance requirements will be deemed met by the Contractor's procurement and maintenance of either of the aforesaid policies and, in addition thereto, an umbrella policy providing similar coverage; provided, however, that the total amount of insurance coverage is at least equal to the requirements above set forth.

- c. Automobile Liability and Property Damage Insurance.

A policy covering the use in connection with the work covered by the Contract Documents of all owned, non-owned and hired vehicles bearing, or, under the circumstances under which they are being used, required by the Motor Vehicle Laws of the State of New York to bear license plates. The coverage under such policy shall not be less than the following limit:

Bodily Injury and Property Damage Liability
\$ 1,000,000 Each Occurrence

- d. Owner's Protective Liability Insurance.

A policy issued to and covering the liability for damages imposed by law upon the State University Construction Fund, the Dormitory Authority of the State of New York, the State of New York and the State University of New York, their trustees, officers, agents or employees, with respect to all operations under the Contract by the Contractor and its subcontractors, and/or their interest in the Project and the property upon which work under the Contract is to be performed, including omissions and supervisory acts of the former. Said insurance shall be in the same amounts as that required under subdivision b above and shall be written by a company licensed or approved as an excess line liability company by the New York State Department of Insurance.

- e. Asbestos Abatement Insurance.

A liability insurance policy issued to and covering the liability, of the Contractor and/or subcontractor engaged in the removal, handling or wrapping of asbestos, if any of such work is to be performed under the Contract, for bodily injury, illness, sickness or property damage caused by exposure to asbestos in an amount not less than \$1,000,000 per occurrence and \$2,000,000 aggregate. The Contractor and/or its aforesaid subcontractor shall either obtain an endorsement to the aforesaid required insurance policy adding the State University Construction Fund, the Dormitory Authority of the State of New York, the State of New York and the State University of New York, their trustees, officers, agents or employees, as additional parties insured thereunder or shall obtain a separate owner's protective liability insurance policy for such parties with coverage similar to that required by the first sentence of this subdivision. In addition, any Contractor or subcontractor engaged in the removal, handling, or wrapping of asbestos shall hold harmless and indemnify the State University Construction Fund, the Dormitory Authority of the State of New York, the State of New York and the State University of New York, for any claims or liabilities in connection with illness or sickness arising from work performed, not performed, or which should have been performed. The Contractor shall have said hold-harmless and indemnification conditions stipulated in all Contracts with subcontractors.

- (2) The aggregate insurance limit set forth above shall apply separately to each project for which a certificate of insurance and/or policy is issued.
- (3) Before commencing the performance of any work covered by the Contract, the Contractor shall furnish to the University a certificate or certificates in duplicate of the insurance required under the foregoing provisions. Such certificates shall be on a form prescribed by the University, shall list the various coverages and shall contain, in addition to any provisions hereinbefore required, a provision that the policy shall not be changed or canceled and that it will be automatically renewed upon expiration and continued in force until final acceptance by the University of all the work covered by the Contract, unless the University is given fifteen (15) days' written notice to the contrary. Upon request, the Contractor shall furnish the University with a certified copy of each policy. The State University reserves the right to receive a copy of the insurance policy which was based on the Certificate of Insurance issued.
- (4) All insurance required to be procured and maintained as aforesaid must be procured from insurance companies approved by the University and authorized to do business in the State of New York. The State University is to be cited as a named insured on all policies and certificates of insurance and shall be notified if a policy is canceled, terminated or modified.

- (5) If at any time any of the above-required insurance policies should be canceled, terminated or modified so that insurance is not in effect as above required, then, if the University shall so direct, the Contractor shall suspend performance of the work covered in the Contract. If the said work is so suspended, no extension of time shall be due on account thereof. If said work is not suspended, then the University may, at its option, obtain insurance affording coverage equal to that above required, the cost of such insurance to be payable by the Contractor to the University.

Section 5.07 Builder's Risk Insurance

- (1) The Contractor shall procure and maintain, at its own cost and expense, until final acceptance of all work covered by this Contract or until the Project has been turned over for use by the State University of New York, whichever event occurs earlier, a builder's risk insurance policy with fire, extended coverage, vandalism and malicious mischief coverage.
- (2) The policy shall be in an amount equal to the Project's insurable value, i.e., the Contract consideration less the cost of the Contractor's Performance and Labor and Material Bonds; the cost of trees, shrubbery, lawn grass, plants and the maintenance of the same; the cost of demolition; the cost of excavation; the cost of foundations, piers or other supports which are below the undersurface of the lowest basement floor, or where there is no basement, which are below the surface of the ground, concrete and masonry work; the cost of underground flues, pipes or wiring; the cost of earthmoving, grading and the cost of paving, roads, walks, parking lots or athletic fields; and the cost of bridges, tunnels, dams, piers, wharves, docks, retaining walls and radio and/or television towers and antennas.
- (3) The policy may contain a provision for a \$500 deductible for each loss to a Project having an insurable value of less than \$1,500,000 and a \$1,000 deductible for each loss to a Project having an insurable value of \$1,500,000 or more.
- (4) The University, the Contractor and its subcontractors, as their interests may appear, will be named as the parties insured under said policy.
- (5) The Contractor shall have the sole responsibility to promptly report any loss to the insurer and/or its representatives and to furnish the latter with all necessary details relating to the occurrence of the loss and the amount thereof. The University, the Contractor and all subcontractors of the Contractor waive all rights, each against the others, for damages caused by fire or other perils covered by insurance provided under the terms of this Section, except such rights as they may have to the proceeds of insurance received; provided, however, this waiver shall not apply to any manufacturer, supplier or similar agent under any guarantee or warranty.
- (6) The Contractor shall not violate or permit to be violated any condition of such policy and shall at all times satisfy the fire safety requirements of the University and the insurance company issuing the same.
- (7) The procurement and maintenance of said policy shall in no way be construed or be deemed to relieve the Contractor from any of the obligations and risks imposed upon it by this Contract or to be a limitation on the nature or extent of such obligations and risks.
- (8) Such policy shall contain a provision that it shall not be changed or canceled and that it will be automatically renewed upon expiration and continue in force until final acceptance by the University of all the work covered by the Contract, unless the University is given fifteen (15) days' written notice to the contrary. Before the Contractor shall be entitled to have any progress payment rendered on account of the work which is to be insured pursuant to this Section, it shall furnish to the University a certificate in duplicate of the insurance herein required. Such insurance must be procured from an insurance company approved by the University and authorized to do business in the State of New York.

Section 5.08 Effect of Procurement of Insurance

Neither the procurement nor the maintenance of any type of insurance by the University or the Contractor shall in any way be construed or be deemed to limit, discharge, waive or release the Contractor from any of the obligations and risks imposed upon it by the Contract or to be a limitation on the nature or extent of such obligations and risks.

Section 5.09 No Third Party Rights

Nothing in the Contract shall create or give to third parties, except the State University Construction Fund, the Dormitory Authority of the State of New York, the State of New York and the State University of New York, any claim or right of action against the Contractor, the Consultant, the State University Construction Fund, the Dormitory Authority of the State of New York, the State of New York or the State University of New York beyond such as may legally exist irrespective of the Contract.

ARTICLE VI

Affirmative Action

The State University's requirements for affirmative action are set forth in "Exhibit A-1" which is attached hereto and made a part hereof, and shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein and, in the event any such provision is not inserted or is not correctly inserted, then, upon the application of either party, this Contract shall forthwith be physically amended to make such insertion or correction.

ARTICLE VII

Provisions Required by Law

Section 7.01 Provisions Deemed Inserted

Each and every provision required by law to be inserted in the Contract, including, but not limited to, the provisions set forth in Exhibit "A" which is attached hereto and made a part hereof, shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein and, in the event any such provision is not inserted or is not correctly inserted, then, upon the application of either party, this Contract shall forthwith be physically amended to make such insertion or correction.

Section 7.02 Entire Agreement

This Agreement consists of 1) the IFB; 2) the contractor's proposal; and 3) Exhibits A and A-1. This Agreement supersedes all previous understandings and agreements with respect to the Project or any of the provisions thereof. No statement, promise, condition, understanding, inducement, or representation, oral or written, expressed or implied, which is not contained herein shall be binding or valid and this Agreement shall not be changed, modified or altered in any manner except by an instrument in writing executed by the parties hereto.

Section 7.03 Hierarchy of Precedent

In the event of any controversy regarding the provisions of this Agreement, the terms of Exhibits A and A1 shall take precedence followed by this Agreement, the IFB and the contractor's proposal.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

Section 7.04 Wage Rates

The Contractor shall post the appropriate prevailing wage schedules in a conspicuous place at the construction site. The Department of Labor shall provide the Contractor with posters relating to prevailing wage rates and the same shall be displayed by the Contractor in a conspicuous place at the construction site. The Contractor shall also distribute wallet cards, to be provided by the Department of Labor, to all workers engaged at the construction site containing information relating to wage rates and telephone numbers to call if a worker believes his or her rights are being violated. The Contractor shall provide each worker with a written notice, informing them of the applicable prevailing wage requirements, and the Contractor must obtain a signed statement or declaration from such worker attesting to the fact that he or she has been given this information. Further, the Contractor is required to keep certified copies of its payrolls at the construction site.

Section 7.05 Contractor Responsibility

The State University of New York at Purchase College will undertake an affirmative review of the proposed Contractor's responsibility in accordance with the standards outlined in Comptroller's Bulletin G 221, and based upon such review, will determine if it is reasonably assured that the proposed Contractor is responsible.

Agency Certification: "In addition to the acceptance of this Contract, it is certified that an originally executed copy of this signature page will be attached to an exact copy of the Contract Documents, and forwarded to the Contractor".

STATE UNIVERSITY OF NEW YORK

By: _____ Date ____/____/____ Agency Code 28260
(campus official)

CONTRACTOR

(If Corporation, Affix Seal)

By: _____ Date ____/____/____

(If Corporation, Affix Seal)

ACKNOWLEDGMENTS
(ACKNOWLEDGMENT BY AN INDIVIDUAL)

STATE OF NEW YORK)
) ss.:
COUNTY OF)

On this _____ day of _____, 20_____, before me personally came _____
_____, to me known and known to me to be the person(s) described in and who executed
the foregoing instrument and he/she acknowledged to me that he/she executed the same.

Notary Public

(ACKNOWLEDGMENT BY A PARTNERSHIP)

STATE OF NEW YORK)
) ss.:
COUNTY OF)

On this _____ day of _____, 20_____, before me personally came _____
_____, to me known and known to me to be the person who executed the above instrument,
who, being duly sworn by me, did for themself depose and say that they are a member of the firm of _____
_____, consisting of themself and _____
_____, that he/she executed the foregoing instrument in the firm name _____
_____, and that he/she had authority to sign the same, and that he/she did duly acknowledge to me
that he/she executed the same as the act and deed of the aforementioned firm for the purposes mentioned therein.

Notary Public

(ACKNOWLEDGMENT BY A CORPORATION)

STATE OF)
) ss.:
COUNTY OF)

On this _____ day of _____, 20_____, before me personally came _____
_____, to me known, who, being duly sworn, did depose and say that he/she reside in
_____ ; that he/she is the _____

of the _____, the corporation described in and which
executed the foregoing instrument; that he/she knows the seal of said corporation; that the seal affixed to said instrument was such corporate seal;
that if was affixed by the order of the Board of Directors of said corporation, and that he/she signed their name thereto by like order.

Notary Public

SCHEDULE I

The following Unit Prices shall apply for additional work authorized by Change Order:

UNIT PRICES

<u>Description of Unit Price</u>	<u>Amount of Unit Price</u>
----------------------------------	-----------------------------

NONE

The total bid includes the following Allowances:

ALLOWANCES

The parties to the attached contract, license, lease, amendment or other agreement of any kind (hereinafter, "contract") agree to be bound by the following clauses which are hereby made a part of the contract (the word "Contractor" herein refers to any party other than the State, whether a Contractor, licensor, licensee, lessor, lessee or any other party):

1. EXECUTORY CLAUSE. In accordance with Section 41 of the State Finance Law, the State shall have no liability under this contract to the Contractor or to anyone else beyond funds appropriated and available for this contract.

2. PROHIBITION AGAINST ASSIGNMENT

Except for the assignment of its right to receive payments subject to Article 5-A of the State Finance Law, the Contractor selected to perform the services herein are prohibited in accordance with Section 138 of the State Finance Law from assigning, transferring, conveying, subletting or otherwise disposing of its rights, title or interest in the contract without the prior written consent of SUNY and attempts to do so are null and void. Notwithstanding the foregoing, SUNY may, with the concurrence of the New York Office of State Comptroller, waive prior written consent of the assignment, transfer, conveyance, sublease or other disposition of a contract let pursuant to Article XI of the State Finance Law if the assignment, transfer, conveyance, sublease or other disposition is due to a reorganization, merger or consolidation of Contractor's its business entity or enterprise and Contractor so certifies to SUNY. SUNY retains the right, as provided in Section 138 of the State Finance Law, to accept or reject an assignment, transfer, conveyance, sublease or other disposition of the contract, and to require that any Contractor demonstrate its responsibility to do business with SUNY.

3. COMPTROLLER'S APPROVAL.

(a) In accordance with Section 112 of the State Finance Law, Section 355 of New York State Education Law, and 8 NYCRR 316, Comptroller's approval is not required for the following contracts: (i) materials; (ii) equipment and supplies, including computer equipment; (iii) motor vehicles; (iv) construction; (v) construction-related services; (vi) printing; and (vii) goods for State University health care facilities, including contracts for goods made with joint or group purchasing arrangements.

(b) Comptroller's approval is required for the following contracts: (i) contracts for services not listed in Paragraph (3)(a) above made by a State University campus or health care facility certified by the Vice Chancellor and Chief Financial Officer, if the contract value exceeds \$250,000; (ii) contracts for services not listed in Paragraph (3)(a) above made by a State University campus not certified by the Vice Chancellor and Chief Financial Officer, if the contract value exceeds \$50,000; (iii) contracts for services not listed in Paragraph (3)(a) above made by health care facilities not certified by the Vice Chancellor and Chief Financial Officer, if the contract value exceeds \$75,000; (iv) contracts whereby the State University agrees to give something other than money, when the value or reasonably estimated value of such consideration exceeds \$10,000; (v) contracts for real property transactions if the contract value exceeds \$50,000; (vi) all other contracts not listed in Paragraph 3(a) above, if the contract value exceeds \$50,000, e.g. SUNY acquisition of a business and New York State Finance Article 11-B contracts and (vii) amendments for any amount to contracts not listed in Paragraph (3)(a) above, when as so amended, the contract exceeds the threshold amounts stated in Paragraph (b) herein. However, such pre-approval shall not be required for any contract established as a centralized contract through the Office of General Services or for a purchase order or other transaction issued

under such centralized contract.

(c) Any contract that requires Comptroller approval shall not be valid, effective or binding upon the State University until it has been approved by the Comptroller and filed in the Comptroller's office.

4. WORKERS' COMPENSATION BENEFITS.

In accordance with Section 142 of the State Finance Law, this contract shall be void and of no force and effect unless the Contractor shall provide and maintain coverage during the life of this contract for the benefit of such employees as are required to be covered by the provisions of the Workers' Compensation Law.

5. NON-DISCRIMINATION REQUIREMENTS.

To the extent required by Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, (including gender identity or expression), national origin, sexual orientation, military status, age, disability, predisposing genetic characteristics, marital status or domestic violence victim status. Furthermore, in accordance with Section 220-e of the Labor Law, if this is a contract for the construction, alteration or repair of any public building or public work or for the manufacture, sale or distribution of materials, equipment or supplies, and to the extent that this contract shall be performed within the State of New York, Contractor agrees that neither it nor its subcontractors shall, by reason of race, creed, color, disability, sex, or national origin: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. If this is a building service contract as defined in Section 230 of the Labor Law, then, in accordance with Section 239 thereof, Contractor agrees that neither it nor its subcontractors shall by reason of race, creed, color, national origin, age, sex or disability: (a) discriminate in hiring against any New York State citizen who is qualified and available to perform the work; or (b) discriminate against or intimidate any employee hired for the performance of work under this contract. Contractor is subject to fines of \$50.00 per person per day for any violation of Section 220-e or Section 239 as well as possible termination of this contract and forfeiture of all moneys due hereunder for a second or subsequent violation

6. WAGE AND HOURS PROVISIONS.

If this is a public work contract covered by Article 8 of the Labor Law or a building service contract covered by Article 9 thereof, neither Contractor's employees nor the employees of its subcontractors may be required or permitted to work more than the number of hours or days stated in said statutes, except as otherwise provided in the Labor Law and as set forth in prevailing wage and supplement schedules issued by the State Labor Department. Furthermore, Contractor and its subcontractors must pay at least the prevailing wage rate and pay or provide the prevailing supplements, including the premium rates for overtime pay, as determined by the State Labor Department in accordance with the Labor Law. Additionally, effective April 28, 2008, if this is a public work contract covered by Article 8 of the Labor Law, the Contractor understands and agrees that the

filing of payrolls in a manner consistent with Subdivision 3-a of Section 220 of the Labor Law shall be a condition precedent to payment by SUNY of any SUNY-approved sums due and owing for work done upon the project.

7. NON-COLLUSIVE BIDDING CERTIFICATION.

In accordance with Section 139-d of the State Finance Law, if this contract was awarded based on the submission of competitive bids, Contractor affirms, under penalty of perjury, and each person signing on behalf of Contractor, 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 its bid was arrived at independently and without collusion aimed at restricting competition. Contractor further affirms that, at the time Contractor submitted its bid, an authorized and responsible person executed and delivered it to SUNY a non-collusive bidding certification on Contractor's behalf.

8. INTERNATIONAL BOYCOTT PROHIBITION.

In accordance with Section 220-f of the Labor Law and Section 139-h of the State Finance Law, if this contract exceeds \$5,000, the Contractor agrees, as a material condition of the contract, that neither the Contractor nor any substantially owned or affiliated person, firm, partnership or corporation has participated, is participating, or shall participate in an international boycott in violation of the federal Export Administration Act of 1979 (50 USC App. Sections 2401 *et seq.*) or regulations thereunder. If such Contractor, or any of the aforesaid affiliates of Contractor, is convicted or is otherwise found to have violated said laws or regulations upon the final determination of the United States Commerce Department or any other appropriate agency of the United States subsequent to the contract's execution, such contract, amendment or modification thereto shall be rendered forfeit and void. The Contractor shall so notify the State Comptroller within five (5) business days of such conviction, determination or disposition of appeal (2 NYCRR 105.4).

9. SET-OFF RIGHTS.

The State shall have all of its common law, equitable and statutory rights of set-off. These rights shall include, but not be limited to, the State's option to withhold for the purposes of set-off any moneys due to the Contractor under this contract up to any amounts due and owing to the State with regard to this contract, any other contract with any State department or agency, including any contract for a term commencing prior to the term of this contract, plus any amounts due and owing to the State for any other reason including, without limitation, tax delinquencies or monetary penalties relative thereto. The State shall exercise its set-off rights in accordance with normal State practices including, in cases of set-off pursuant to an audit, the finalization of such audit by the State, its representatives, or the State Comptroller.

10. RECORDS.

The Contractor shall establish and maintain complete and accurate books, records, documents, accounts and other evidence directly pertinent to performance under this contract (hereinafter, collectively, "the Records"). The Records must be kept for the balance of the calendar year in which they were made and for six (6) additional years thereafter. The State Comptroller, the Attorney General and any other person or entity authorized to conduct an exami-

nation, as SUNY and its representatives and entities involved in this contract, shall have access to the Records during normal business hours at an office of the Contractor within the State of New York or, if no such office is available, at a mutually agreeable and reasonable venue within the State, for the term specified above for the purposes of inspection, auditing and copying. SUNY shall take reasonable steps to protect from public disclosure any of the Records which are exempt from disclosure under Section 87 of the Public Officers Law (the "Statute") provided that: (i) the Contractor shall timely inform an appropriate SUNY official, in writing, that said Records should not be disclosed; and (ii) said Records shall be sufficiently identified; and (iii) designation of said Records as exempt under the Statute is reasonable. Nothing contained herein shall diminish, or in any way adversely affect, SUNY's or the State's right to discovery in any pending or future litigation.

11. IDENTIFYING INFORMATION AND PRIVACY NOTIFICATION.

Identification Number(s). Every invoice or New York State Claim for Payment submitted to the State University of New York by a payee, for payment for the sale of goods or services or for transactions (e.g., leases, easements, licenses, etc.) related to real or personal property must include the payee's identification number. The number is any or all of the following: (i) the payee's Federal employer identification number, (ii) the payee's Federal social security number, and/or (iii) the payee's Vendor Identification Number assigned by the Statewide Financial System. Failure to include such number or numbers may delay payment. Where the payee does not have such number or numbers, the payee, on its invoice or Claim for Payment, must give the reason or reasons why the payee does not have such number or numbers.

(b) Privacy Notification. (1) The authority to request the above personal information from a seller of goods or services or a lessor of real or personal property, and the authority to maintain such information, is found in Section 5 of the State Tax Law. Disclosure of this information by the seller or lessor to the State University of New York is mandatory. The principal purpose for which the information is collected is to enable the State to identify individuals, businesses and others who have been delinquent in filing tax returns or may have understated their tax liabilities and to generally identify persons affected by the taxes administered by the Commissioner of Taxation and Finance. The information will be used for tax administration purposes and for any other purpose authorized by law. (2) The personal information is requested by the purchasing unit of the State University of New York contracting to purchase the goods or services or lease the real or personal property covered by this contract or lease. The information is maintained in the Statewide Financial System by the Vendor Management Unit within the Bureau of State Expenditures, Office of the State Comptroller, 110 State Street, Albany, New York 12236.

12. EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITIES AND WOMEN.

(a) In accordance with Section 312 of the Executive Law and 5 NYCRR 143, if this contract is: (i) a written agreement or purchase order instrument, providing for a total expenditure in excess of \$25,000.00, whereby a contracting agency is committed to expend or does expend funds in return for labor, services, supplies, equipment, materials or any combination of the foregoing, to be performed for, or rendered or furnished to the contracting agency; or (ii) a written agreement in excess of \$100,000.00 whereby a contracting agency is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; or (iii) a written agreement

in excess of \$100,000.00 whereby the owner of a State assisted housing project is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon for such project, then the following shall apply and by signing this agreement the Contractor certifies and affirms that it is Contractor's equal employment opportunity policy that:

(1) The Contractor will not discriminate against employees or applicants for employment because of race, creed, color, national origin, sex, age, disability or marital status, and will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination. Affirmative action shall mean recruitment, employment, job assignment, promotion, upgradings, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation;

(2) at SUNY's request, Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union or representative will not discriminate on the basis of race, creed, color, national origin, sex, age, disability or marital status and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein; and

(3) Contractor shall state, in all solicitations or advertisements for employees, that, in the performance of the State contract, all qualified applicants will be afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status.

(b) Contractor will include the provisions of "1", "2" and "3", above, in every subcontract over \$25,000.00 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor. Section 312 does not apply to: (i) work, goods or services unrelated to this contract; or (ii) employment outside New York State. The State shall consider compliance by a Contractor or sub-contractor with the requirements of any federal law concerning equal employment opportunity which effectuates the purpose of this section. SUNY shall determine whether the imposition of the requirements of the provisions hereof duplicate or conflict with any such federal law and if such duplication or conflict exists, SUNY shall waive the applicability of Section 312 to the extent of such duplication or conflict. Contractor will comply with all duly promulgated and lawful rules and regulations of the Department of Economic Development's Division of Minority and Women's Business Development pertaining hereto.

13. **CONFLICTING TERMS.** In the event of a conflict between the terms of the contract (including any and all attachments thereto and amendments thereof) and the terms of this Exhibit A, the terms of this Exhibit A shall control.

14. **GOVERNING LAW.** This contract shall be governed by the laws of the State of New York except where the Federal supremacy clause requires otherwise.

15. **LATE PAYMENT.** Timeliness of payment and any interest to be paid to Contractor for late payment shall be governed by Article 11-A of the State Finance Law to the extent required by law.

16. **NO ARBITRATION.** Disputes involving this contract, including the breach or alleged breach thereof, may not be submitted to binding arbitration (except where statutorily authorized) but must, instead, be heard in a court of

competent jurisdiction of the State of New York.

17. **SERVICE OF PROCESS.** In addition to the methods of service allowed by the State Civil Practice Law & Rules ("CPLR"), Contractor hereby consents to service of process upon it by registered or certified mail, return receipt requested. Service hereunder shall be complete upon Contractor's actual receipt of process or upon the State's receipt of the return thereof by the United States Postal Service as refused or undeliverable. Contractor must promptly notify the State, in writing, of each and every change of address to which service of process can be made. Service by the State to the last known address shall be sufficient. Contractor will have thirty (30) calendar days after service hereunder is complete in which to respond.

18. **PROHIBITION ON PURCHASE OF TROPICAL HARDWOODS.** The Contractor certifies and warrants that all wood products to be used under this contract award will be in accordance with, but not limited to, the specifications and provisions of State Finance Law §165 (Use of Tropical Hardwoods), which prohibits purchase and use of tropical hardwoods, unless specifically exempted, by the State or any governmental agency or political subdivision or public benefit corporation. Qualification for an exemption under this law will be the responsibility of the contractor to establish to meet with the approval of the State. In addition, when any portion of this contract involving the use of woods, whether supply or installation, is to be performed by any subcontractor, the prime Contractor will indicate and certify in the submitted bid proposal that the subcontractor has been informed and is in compliance with specifications and provisions regarding use of tropical hardwoods as detailed in Section 165 of the State Finance Law. Any such use must meet with the approval of the State, otherwise, the bid may not be considered responsive. Under bidder certification, proof of qualification for exemption will be the responsibility of the Contractor to meet with the approval of the State.

19. **MacBRIDE FAIR EMPLOYMENT PRINCIPLES.** In accordance with the MacBride Fair Employment Principles (Chapter 807 of the Laws of 1992), the Contractor hereby stipulates that Contractor and any individual or legal entity in which the Contractor holds a ten percent or greater ownership interest and any individual or legal entity that holds a ten percent or greater ownership interest in the Contractor either (a) have no business operations in Northern Ireland, or (b) shall take lawful steps in good faith to conduct any business operations in Northern Ireland in accordance with the MacBride Fair Employment Principles (as described in Section 165(5) of the State Finance Law), and shall permit independent monitoring of compliance with such principles.

20. **OMNIBUS PROCUREMENT ACT OF 1992.** It is the policy of New York State to maximize opportunities for the participation of New York State business enterprises, including minority and women-owned business enterprises as bidders, subcontractors and suppliers on its procurement contracts.

Information on the availability of New York State subcontractors and suppliers is available from:

NYS Department of Economic Development
Division for Small Business
30 South Pearl St., 7th Floor
Albany, NY 12245
Tel: 518-292-5100
Fax: 518-292-5884
email: opa@esd.ny.gov

A directory of certified minority and women-owned business enterprises is available from:

NYS Department of Economic Development

Division of Minority and Women's Business Development
633 Third Avenue
New York, NY 10017
212-803-2414

email: mwbecertification@esd.ny.gov
<https://ny.newnycontracts.com/FrontEnd/VendorSearchPublic.asp>

The Omnibus Procurement Act of 1992 requires that by signing this bid proposal or contract, as applicable, Contractors certify that whenever the total bid amount is greater than \$1 million:

(a) The Contractor has made reasonable efforts to encourage the participation of New York State Business Enterprises as suppliers and subcontractors, including certified minority and women-owned business enterprises, on this project, and has retained the documentation of these efforts to be provided upon request to SUNY;

(b) The Contractor has complied with the Federal Equal Employment Opportunity Act of 1972 (P.L. 92-261), as amended;

(c) The Contractor agrees to make reasonable efforts to provide notification to New York State residents of employment opportunities on this project through listing any such positions with the Job Search Division of the New York State Department of Labor, or providing such notification in such manner as is consistent with existing collective bargaining contracts or agreements. The contractor agrees to document these efforts and to provide said documentation to the State upon request; and

(d) The Contractor acknowledges notice that SUNY may seek to obtain offset credits from foreign countries as a result of this contract and agrees to cooperate with SUNY in these efforts.

21. RECIPROCITY AND SANCTIONS

PROVISIONS. Bidders are hereby notified that if their principal place of business is located in a country, nation, province, state or political subdivision that penalizes New York State vendors, and if the goods or services they offer will be substantially produced or performed outside New York State, the Omnibus Procurement Act of 1994 and 2000 amendments (Chapter 684 and Chapter 383, respectively) require that they be denied contracts which they would otherwise obtain. Contact the NYS Department of Economic Development, Division for Small Business, 30 South Pearl Street, Albany, New York 12245, for a current list of jurisdictions subject to this provision.

22. COMPLIANCE WITH NEW YORK STATE INFORMATION SECURITY BREACH AND NOTIFICATION ACT. Contractor shall comply with the provisions of the New York State Information Security Breach and Notification Act (General Business Law Section 899-aa; State Technology Law Section 208).

23. COMPLIANCE WITH CONSULTANT DISCLOSURE LAW If this is a contract for consulting services, defined for purposes of this requirement to include analysis, evaluation, research, training, data processing, computer programming, engineering, environmental health and mental health services, accounting, auditing, paralegal, legal or similar services, then in accordance with Section 163(4-g) of the State Finance Law, the Contractor shall timely, accurately and properly comply with the requirement to submit an annual employment report for the contract to SUNY, the Department of Civil Service and the State Comptroller.

24. PURCHASES OF APPAREL AND SPORTS EQUIPMENT. In accordance with State Finance Law Section 165(7), SUNY may determine that a bidder on a contract for the purchase of apparel or sports equipment is not a responsible bidder as defined in State Finance Law Section 163 based on (a) the labor standards applicable to the manufacture of the apparel or sports equipment, including employee compensation, working conditions, employee rights to form unions and the use of child labor; or (b) bidder's failure to provide information sufficient for SUNY to determine the labor conditions applicable to the manufacture of the apparel or sports equipment.

25. PROCUREMENT LOBBYING. To the extent this agreement is a "procurement contract" as defined by State Finance Law Sections 139-j and 139-k, by signing this agreement the contractor certifies and affirms that all disclosures made in accordance with State Finance Law Sections 139-j and 139-k are complete, true and accurate. In the event such certification is found to be intentionally false or intentionally incomplete, the State may terminate the agreement by providing written notification to the Contractor in accordance with the terms of the agreement.

26. CERTIFICATION OF REGISTRATION TO COLLECT SALES AND COMPENSATING USE TAX BY CERTAIN STATE CONTRACTORS, AFFILIATES AND SUBCONTRACTORS. To the extent this agreement is a contract as defined by Tax Law Section 5-a, if the Contractor fails to make the certification required by Tax Law Section 5-a or if during the term of the contract,

the Department of Taxation and Finance or SUNY discovers that the certification, made under penalty of perjury, is false, then such failure to file or false certification shall be a material breach of this contract and this contract may be terminated, by providing written notification to the Contractor in accordance with the terms of the agreement, if SUNY determines that such action is in the best interests of the State.

27. IRAN DIVESTMENT ACT. By entering into this Agreement, Contractor certifies in accordance with State Finance Law §165-a that it is not on the "Entities Determined to be Non-Responsive Bidders/Offerers pursuant to the New York State Iran Divestment Act of 2012" ("Prohibited Entities List") posted at: <http://www.ogs.ny.gov/about/regs/docs/ListofEntities.pdf>

Contractor further certifies that it will not utilize on this Contract any subcontractor that is identified on the Prohibited Entities List. Contractor agrees that should it seek to renew or extend this Contract, it must provide the same certification at the time the Contract is renewed or extended. Contractor also agrees that any proposed Assignee of this Contract will be required to certify that it is not on the Prohibited Entities List before the contract assignment will be approved by the State.

During the term of the Contract, should the state agency receive information that a person (as defined in State Finance Law §165-a) is in violation of the above-referenced certifications, the state agency will review such information and offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment activity which is in violation of the Act within 90 days after the determination of such violation, then the state agency shall take such action as may be appropriate and provided for by law, rule, or contract, including, but not limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the Contractor in default.

The state agency reserves the right to reject any bid, request for assignment, renewal or extension for an entity that appears on the Prohibited Entities List prior to the award, assignment, renewal or extension of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the Prohibited Entities list after contract award.

THE FOLLOWING PROVISIONS SHALL APPLY ONLY TO THOSE CONTRACTS TO WHICH A HOSPITAL OR OTHER HEALTH SERVICE FACILITY IS A PARTY

28. Notwithstanding any other provision in this contract, the hospital or other health service facility remains responsible for insuring that any service provided pursuant to this contract complies with all pertinent provisions of Federal, state and local statutes, rules and regulations. In the foregoing sentence, the word "service" shall be construed to refer to the health care service rendered by the hospital or other health service facility.

29. (a) In accordance with the 1980 Omnibus Reconciliation Act (Public Law 96-499), Contractor hereby agrees that until the expiration of four years after the furnishing of services under this agreement, Contractor shall make available upon written request to the Secretary of Health and Human Services, or upon request, to the Comptroller General of the United States or any of their duly authorized representatives, copies of this contract, books, documents and records of the Contractor that are necessary to certify the nature and extent of the costs hereunder.

(b) If Contractor carries out any of the duties of the contract hereunder, through a subcontract having a value or cost of \$10,000 or more over a twelve-month period, such subcontract shall contain a clause to the effect that, until the expiration of four years after the furnishing of such services pursuant to such subcontract, the subcontractor shall make available upon written request to the Secretary of Health and Human Services or upon request to the Comptroller General of the United States, or any of their duly authorized representatives, copies of the subcontract and books, documents and records of the subcontractor that are necessary to verify the nature and extent of the costs of such subcontract.

(c) The provisions of this section shall apply only to such contracts as are within the definition established by the Health Care Financing Administration, as may be amended or modified from time to time.

1. DEFINITIONS. The following terms shall be defined in accordance with Section 310 of the Executive Law:

STATE CONTRACT herein referred to as "State Contract", shall mean: (a) a written agreement or purchase order instrument, providing for a total expenditure in excess of twenty-five thousand dollars (\$25,000.00), whereby the State University of New York ("University") is committed to expend or does expend funds in return for labor, services including but not limited to legal, financial and other professional services, supplies, equipment, materials or a combination of the foregoing, to be performed for, or rendered or furnished to the University; (b) a written agreement in excess of one hundred thousand dollars (\$100,000.00) whereby the University is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon; and (c) a written agreement in excess of one hundred thousand dollars (\$100,000.00) whereby the University as an owner of a state assisted housing project is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon for such project.

SUBCONTRACT herein referred to as "Subcontract", shall mean any agreement for a total expenditure in excess of \$25,000 providing for services, including non-staffing expenditures, supplies or materials of any kind between a State agency and a prime contractor, in which a portion of the prime contractor's obligation under the State contract is undertaken or assumed by a business enterprise not controlled by the prime contractor.

WOMEN-OWNED BUSINESS ENTERPRISE herein referred to as "WBE", shall mean a business enterprise, including a sole proprietorship, partnership or corporation that is: (a) at least fifty-one percent (51%) owned by one or more United States citizens or permanent resident aliens who are women; (b) an enterprise in which the ownership interest of such women is real, substantial and continuing; (c) an enterprise in which such women ownership has and exercises the authority to control independently the day-to-day business decisions of the enterprise; (d) an enterprise authorized to do business in this state and independently owned and operated; (e) an enterprise owned by an individual or individuals, whose ownership, control and operation are relied upon for certification, with a personal net worth that does not exceed three million five hundred thousand dollars (\$3,500,000), as adjusted annually on the first of January for inflation according to the consumer price index of the previous year; and (f) an enterprise that is a small business pursuant to subdivision twenty of this section.

A firm owned by a minority group member who is also a woman may be certified as a minority-owned business enterprise, a

women-owned business enterprise, or both, and may be counted towards either a minority-owned business enterprise goal or a women-owned business enterprise goal, in regard to any Contract or any goal, set by an agency or authority, but such participation may not be counted towards both such goals. Such an enterprise's participation in a Contract may not be divided between the minority-owned business enterprise goal and the women-owned business enterprise goal.

MINORITY-OWNED BUSINESS ENTERPRISE herein referred to as "MBE", shall mean a business enterprise, including a sole proprietorship, partnership or corporation that is: (a) at least fifty-one percent (51%) owned by one or more minority group members; (b) an enterprise in which such minority ownership is real, substantial and continuing; (c) an enterprise in which such minority ownership has and exercises the authority to control independently the day-to-day business decisions of the enterprise; (d) an enterprise authorized to do business in this state and independently owned and operated; (e) an enterprise owned by an individual or individuals, whose ownership, control and operation are relied upon for certification, with a personal net worth that does not exceed three million five hundred thousand dollars (\$3,500,000.00), as adjusted annually on the first of January for inflation according to the consumer price index of the previous year; and (f) an enterprise that is a small business pursuant to subdivision twenty of this section.

MINORITY GROUP MEMBER shall mean a United States citizen or permanent resident alien who is and can demonstrate membership in one of the following groups: (a) Black persons having origins in any of the Black African racial groups; (b) Hispanic persons of Mexican, Puerto Rican, Dominican, Cuban, Central or South American of either Indian or Hispanic origin, regardless of race; (c) Native American or Alaskan native persons having origins in any of the original peoples of North America. (d) Asian and Pacific Islander persons having origins in any of the Far East countries, South East Asia, the Indian Subcontinent or Pacific Islands.

CERTIFIED ENTERPRISE OR BUSINESS shall mean a business verified as a minority or women-owned business enterprise pursuant to section 314 of the Executive Law. A business enterprise which has been approved by the New York Division of Minority & Women Business Development ("DMVBD") for minority or women-owned enterprise status subsequent to verification that the business enterprise is owned, operated, and controlled by minority group members or women, and that also meets the financial requirements set forth in the regulations.

2. TERMS. The parties to the attached State Contract agree to be bound by the following provisions which are made a part hereof (the word "Contractor" herein refers to any party other than the University:

1(a) Contractor and its Subcontractors shall undertake or continue existing programs of affirmative action to ensure that minority group

members and women are afforded equal employment opportunities without discrimination. For these purposes, affirmative action shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, or termination and rates of pay or other forms of compensation.

(b) Prior to the award of a State Contract, the Contractor shall submit an equal employment opportunity (EEO) policy statement to the University within the time frame established by the University.

(c) As part of the Contractor's EEO policy statement, the Contractor, as a precondition to entering into a valid and binding State Contract, shall agree to the following in the performance of the State Contract: (i) The Contractor will not discriminate against any employee or applicant for employment, will undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination, and shall make and document its conscientious and active efforts to employ and utilize minority group members and women in its work force on State Contracts; (ii) The Contractor shall state in all solicitations or advertisements for employees that, in the performance of the State Contract, all qualified applicants will be afforded equal employment opportunities without discrimination; (iii) At the request of the University the Contractor shall request each employment agency, labor union, or authorized representative of workers with which it has a collective bargaining or other agreement or understanding, to furnish a written statement that such employment agency, labor union, or representative will not discriminate, and that such union or representative will affirmatively cooperate in the implementation of the Contractor's obligations herein.

(d) Except for construction contracts, prior to an award of a State Contract, the Contractor shall submit to the contracting agency a staffing plan of the anticipated work force to be utilized on the State Contract or, where required, information on the Contractor's total work force, including apprentices, broken down by specified ethnic background, gender, and Federal occupational categories or other appropriate categories specified by the contracting agency. The form of the staffing plan shall be supplied by the contracting agency. If Contractor fails to provide a staffing plan, or in the alternative, a description of its entire work force, the University may reject Contractor's bid, unless Contractor either commits to provide such information at a later date or provides a reasonable justification in writing for its failure to provide the same.

(e) After an award of a State Contract, the Contractor shall submit to the University a workforce utilization report, in a form and manner required by the agency, of the work force actually utilized on the State Contract, broken down by specified ethnic background, gender, and Federal occupational categories or other appropriate categories specified by the University.

(f) The Contractor shall include the provisions of this section in every Subcontract

in such a manner that the requirements of the provisions will be binding upon each Subcontractor as to work in connection with the State Contract, including the requirement that Subcontractors shall undertake or continue existing programs of affirmative action to ensure that minority group members and women are afforded equal employment opportunities without discrimination, and, when requested, provide to the Contractor information on the ethnic background, gender, and Federal occupational categories of the employees to be utilized on the State Contract.

(g) To ensure compliance with the requirements of this paragraph, the University shall inquire of a Contractor whether the work force to be utilized in the performance of the State Contract can be separated out from the Contractor's and/or Subcontractors' total work force and where the work of the State Contract is to be performed. For Contractors who are unable to separate the portion of their work force which will be utilized for the performance of this State Contract, Contractor shall provide reports describing its entire work force by the specified ethnic background, gender, and Federal Occupational Categories, or other appropriate categories which the agency may specify.

(h) The University may require the Contractor and any Subcontractor to submit compliance reports, pursuant to the regulations relating to their operations and implementation of their affirmative action or equal employment opportunity program in effect as of the date the State Contract is executed.

(i) If a Contractor or Subcontractor does not have an existing affirmative action program, the University may provide to the Contractor or Subcontractor a model plan of an affirmative action program. Upon request, the Director of DMWBD shall provide a contracting agency with a model plan of an affirmative action program.

(j) Upon request, DMWBD shall provide the University with information on specific recruitment sources for minority group members and woman, and contracting agencies shall make such information available to Contractors

2. Contractor must provide the names, addresses and federal identification numbers of certified minority- and women-owned business enterprises which the Contractor intends to use to perform the State Contract and a description of the Contract scope of work which the Contractor intends to structure to increase the participation by Certified minority- and/or women-owned business enterprises on the State Contract, and the estimated or, if known, actual dollar amounts to be paid to and performance dates of each component of a State Contract which the Contractor intends to be performed by a certified minority- or woman-owned business enterprise. In the event the Contractor responding to University solicitation is joint venture, teaming agreement, or other similar arrangement that includes a minority- and women owned business enterprise, the Contractor must submit for review and approval: i. the name, address, telephone number and federal identification of each partner or party to the agreement; ii. the federal identification number of the joint venture or entity established to respond to the solicitation, if applicable; iii. A copy of the joint venture, teaming or other similar arrangement which describes the percentage of interest owned by each party to the agreement and the

value added by each party; iv. A copy of the mentor-protégé agreement between the parties, if applicable, and if not described in the joint venture, teaming agreement, or other similar arrangement.

3. PARTICIPATION BY MINORITY GROUP MEMBERS AND WOMEN. The University shall determine whether Contractor has made conscientious and active efforts to employ and utilize minority group members and women to perform this State Contract based upon an analysis of the following factors:

(a) Whether Contractor established and maintained a current list of recruitment sources for minority group members and women, and whether Contractor provided written notification to such recruitment sources that contractor had employment opportunities at the time such opportunities became available.

(b) Whether Contractor sent letters to recruiting sources, labor unions, or authorized representatives of workers with which contractor has a collective bargaining or other agreement or understanding requesting assistance in locating minority group members and women for employment.

(c) Whether Contractor disseminated its EEO policy by including it in any advertising in the news media, and in particular, in minority and women news media.

(d) Whether Contractor has attempted to provide information concerning its EEO policy to Subcontractors with which it does business or had anticipated doing business.

(e) Whether internal procedures exist for, at a minimum, annual dissemination of the EEO policy to employees, specifically to employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions. Such dissemination may occur through distribution of employee policy manuals and handbooks, annual reports, staff meetings and public postings.

(f) Whether Contractor encourages and utilizes minority group members and women employees to assist in recruiting other employees.

(g) Whether Contractor has apprentice training programs approved by the N.Y.S. Department of Labor which provides for training and hiring of minority group members and women.

(h) Whether the terms of this section have been incorporated into each Subcontract which is entered into by the Contractor.

4. PARTICIPATION BY MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISES. Based upon an analysis of the following factors, the University shall determine whether Contractor has made good faith efforts to provide for meaningful participation by minority-owned and women-owned business enterprises which have been certified by DMWBD:

(a) Whether Contractor has actively solicited bids for Subcontracts from qualified M/WBEs, including those firms listed on the Directory of Certified Minority and Women-Owned Business Enterprises, and has documented its good faith efforts towards meeting minority and women owned business enterprise utilization plans by providing, copies of solicitations, copies of any advertisements for participation by certified minority- and women-owned business enterprises timely published in appropriate

general circulation, trade and minority- or women-oriented publications, together with the listing(s) and date(s) of the publications of such advertisements; dates of attendance at any pre-bid, pre-award, or other meetings, if any, scheduled by the University, with certified minority- and women-owned business enterprises, and the reasons why any such firm was not selected to participate on the project.

(b) Whether Contractor has attempted to make project plans and specifications available to firms who are not members of associations with plan rooms and reduce fees for firms who are disadvantaged.

(c) Whether Contractor has utilized the services of organizations which provide technical assistance in connection with M/WBE participation.

(d) Whether Contractor has structured its Subcontracts so that opportunities exist to complete smaller portions of work.

(e) Whether Contractor has encouraged the formation of joint ventures, partnerships, or other similar arrangements among Subcontractors.

(f) Whether Contractor has requested the services of the Department of Economic Development (DED) to assist Subcontractors' efforts to satisfy bonding requirement.

(g) Whether Contractor has made progress payments promptly to its Subcontractors.

(h) Whether the terms of this section have been incorporated into each Subcontract which is entered into by the Contractor. It shall be the responsibility of Contractor to ensure compliance by every Subcontractor with these provisions.

5. GOALS. (a) GOALS FOR MINORITY AND WOMEN WORK FORCE PARTICIPATION.

(i) The University shall include relevant work force availability data, which is provided by the DMWBD, in all documents which solicit bids for State Contracts and shall make efforts to assist Contractors in utilizing such data to determine expected levels of participation for minority group members and women on State Contracts.

(ii) Contractor shall exert good faith efforts to achieve such goals for minority and women's participation. To successfully achieve such goals, the employment of minority group members and women by Contractor must be substantially uniform during the entire term of this State Contract. In addition, Contractor should not participate in the transfer of employees from one employer or project to another for the sole purpose of achieving goals for minority and women's participation.

(b) GOALS FOR MINORITY AND WOMEN-OWNED BUSINESS ENTERPRISES PARTICIPATION.

For all State Contracts in excess of \$25,000.00 whereby the University is committed to expend or does expend funds in return for labor, services including but not limited to legal, financial and other professional services, supplies, equipment, materials or an combination of the foregoing or all State Contracts in excess of \$100,000.00 whereby the University is committed to expend or does expend funds for the acquisition, construction, demolition, replacement, major repair or renovation of real property and improvements thereon, Contractor shall exert good faith efforts to

achieve a participation goal of thirteen percent (13%) for Certified Minority-Owned Business Enterprises and eight percent (8%) for Certified Women-Owned Business Enterprises.

6. ENFORCEMENT. The University will be responsible for enforcement of each Contractor's compliance with these provisions. Contractor, and each Subcontractor, shall permit the University access to its books, records and accounts for the purpose of investigating and determining whether Contractor or Subcontractor is in compliance with the requirements of Article 15-A of the Executive Law. If the University determines that a Contractor or Subcontractor may not be in compliance with these provisions, the University may make every reasonable effort to resolve the issue and assist the Contractor or Subcontractor in its efforts to comply with these provisions. If the University is unable to

resolve the issue of noncompliance, the University may file a complaint with the DMWBD.

7. DAMAGES FOR NON COMPLIANCE.

Where the University determines that Contractor is not in compliance with the requirements of the Contract and Contractor refuses to comply with such requirements, or if Contractor is found to have willfully and intentionally failed to comply with the MWBE participation goals, Contractor shall be obligated to pay liquidated damages to the University. Such liquidated damages shall be calculated as an amount equaling the difference between:

a. All sums identified for payment to MWBEs had the Contractor achieved the contractual MWBE goals; and

b. All sums actually paid to MWBEs for work performed or materials supplied under the Contract.

In the event a determination has been made which requires the payment of liquidated damages and such identified sums have not been withheld by the University, Contractor shall pay such liquidated damages to the University within sixty (60) days after such damages are assessed, unless prior to the expiration of such sixtieth day, the Contractor has filed a complaint with the Director of the Division of Minority and Woman Business Development pursuant to Subdivision 8 of Section 313 of the Executive Law in which event the liquidated damages shall be payable if Director renders a decision in favor of the University.

Division 1 - General Requirements
SECTION A - Description of Work

1. Work to be Done

The work to be done under the Contract, in accordance with the Contract Documents, consists of performing, installing, furnishing and supplying all materials, equipment, labor and incidentals necessary or convenient for the construction of Project Numbers SU043014 titled "Acquisition and Installation of a Dust Collector at the Visual Arts Building and carry out all of the duties and obligations imposed upon the Contractor by the Contract Documents.

The main features of the work shall include, but not be limited to the following:

Installing New Dust Collector

This project will address the installation of new dust collector at wood shop in Visual Arts Building. The Contractor will be responsible for demolition of existing site amenities (Existing Dust Collector and accessories including exterior duct and interior duct accommodating the new duct wall penetration) as required to install a new dust collector. All electric work and compressed air connection to the new dust collector from SUNY's compressor will be the contractor's responsibility.

The contractor shall submit pricing for all work which consists of performing, installing, furnishing and supplying all materials, equipment, labor, and incidentals necessary or convenient for the complete construction of this project. The contractor will be responsible for removal and disposal of all debris from the site.

The products listed in this document are the designed 'design baseline' product that are to be used on this project. If the substitution are requested the contractor is to provide adequate back-up information illustrating how the substituted products meets or exceeds the design parameters of the specified products below in terms of performance and system maintenance. Campus will have the final decision or whether substituted products are approved equal. Bidders are to list any substitution on bid response. All alternate products and material will be reviewed to client satisfaction.

The more detailed description is provided below. This outlines the major scope elements. Proposals are to include complete construction product cost. Pricing should be outlined by sections indicated below. Bidders are to provide a list of any exclusions and or exceptions.

Concrete Pad:

The concrete pad is required for this installation include an extension of the exiting pad for new dust collector, and a pad for the Pro Flap support stand, and a pad for the abort gate support stand (Refer to SK 1). The Pad will be at least 6 inches deep with 6 inches of gravel as sub base. (The concrete pad work will be done by others but successful bidder will be coordination with the masonry contractor)

Masonry Opening.

Masonry opening will be done by a separate contractor. Patching of existing duct wall penetration by others. The successful bidder will be providing sleeves for 16" dirty air duct and 20 inch return air duct.

Dust Collector:

The Dust Collector should be based on the following design criteria

Furnish a complete pulse- jet collection system, Donaldson model CPC-16 Continuous duty, high efficiency, Power core Dust collector or approved equal.

- The CPC-16 housing construction shall be 12 gauge steel, rated + or -20" w.g. operation and shall be in compliance with IBC 2003 International Building Codes.
- FINISH COAT : Painted with acrylic polyurethane paint with a urethane primer, achieving a 2,000 hour salt spray test

- Standard HOPPER AND LEGS that will provide 62.3" clearance to accommodate the dumpster hopper. The legs will accommodate a 90 MPH Exposure C, seismic spectral response accelerations of $S_s=1.5g$ and $S_1=0.6g$, and ground snow load of 40 psf. with a 48" CLEARANCE to accommodate a 55 gallon drum (Drum to be included in price)
- HOPPER OUTLET PACK will include (1) 1 cubic meter capacity dumpster hopper, with lid mechanism attached to the dust collector that is elevated when the dumpster hopper is to be removed. The dumpster hopper should have fork lift channels on the bottom and manual lever to dump the contents of the hopper.
- (16) FILTER PACKS easily installed in the tube sheet from the clean side without the use of tools : POWERCORE WITH ULTRA-WEB. ULTRA-WEB Anti-Static media is a surface loading filter media that is 99.9% efficient at capturing particulate between 0.2-2 micron at start-up, and achieves MERV 15 filtration efficiency. The filter media shall be BIA Class C certified and achieve a minimum 2,000 hours at low pressure differential. The Ultra Web media was MERV tested at 932 cfm and achieved a 4.0" w.g. terminal pressure drop after 1115.6 grams were fed to the system.
- INLET with an 18" diameter DRILLED FLANGE to mate to the flanged/bolted duct leading to the Explosion Isolation Valve
- The clean air OUTLET with a flanged mounting bracket that will mate to the fan inlet flange on the 25 hp blower
- SOLENOID ENCLOSURE : NEMA 4 with mufflers to reduce the sound pressure during the filter cleaning cycle
- CONTROL BOX : DELTA P filter pulse cleaning control with downtime/after-shift cleaning feature to pulse the filters when the fan is turned off, timer board mounted in the face of the control panel (see below).
- The filter cleaning requires 90-100 psig at a temperature not exceeding 150°F
- There shall be a 1" single diaphragm valve per filter pack
- (2) Fike model Vmax explosion 18" x 35" EXPLOSION VENTS to be located on the rear of the dust collector. Designed to accommodate a dust explosion up to 200 bar m/s per NFPA 68-2007
- The dust collector to be intrinsically grounded and to include bonding. A grounding lug for the installing electrician to be able to connect the dust collector to an earth ground.
- A Cincinnati Fan model HDAF-200 painted with a zinc rich paint providing a durable industrial coating for outdoor installation. SQ wheel, Class II/III Wheel construction, 80 % width shaft seal, arrangement 4HM, flanged inlet/outlet with 25HP premium efficiency TEFC208-230?460/60/3 motor
A 70 dB(a) low static pressure silencer that will have 1" w.g. static pressure across the silencer at the rated 6,600 cfm. The silencer will be painted with a zinc rich paint providing a durable industrial coating for outdoor installation

A minimum ¾" diameter compressed air line is to be run to a 30 gallon compressed air tank that is to be furnished, installed and mounted on the interior of the wall adjacent to where the dust collector is located. The tank is to be mounted no lower than the elevation of the room light fixtures, and have a bypass with manual shut off valves, a regulator to accommodate 100 psi, with a moisture separator and drain. No less than ¾" diameter line is to be run from the tank, through the regulator to the 1" NPT fitting on the dust collector compressed air manifold. A manual shut off is to be furnished in line, outside near the dust collector.

460/60/3, 25 hp, NEMA 12 control panel enclosure with AyrDyne touch screen providing information and control of the variable frequency drive (VFD) and airflow controller, and Digital Delta P filter cleaning control, primary filter pressure reading, and after-filter pressure reading. The airflow controller to have the VFD spin the fan motor only as fast as necessary to deliver the prescribed airflow.

The control panel to be configured to include the components to receive the signal from the ProFlap explosion isolation valve sensors which will confirm that the ProFlap is ready to run and will turn off the dust collector in the event of an explosion in the dust collector. The control panel is to also receive a signal from the Flamex control confirming that the Flamex system is ready which will allow the dust collector to run.

Design, furnish, and install the duct system modification to accommodate a 16" diameter explosion isolation valve located 104 inches horizontal lineal distance from the dust collector inlet. Replace the existing model 30 cyclone with a CPC-16 dust collector which will be positioned outside on a concrete pad, and have the

explosion vents directed away from the building.

The existing interior duct system will have to be modified near the wall penetration to mate to the new wall penetration required to accommodate the exterior equipment layout. The new duct components inside the building need to be designed and installed pursuant to the guidelines of The Industrial Ventilation Manual.

ProFlap + II Model 400 passive explosion isolation device (Or approved equal), 16" diameter duct connection with door position and wear sensors and an automatic locking mechanism connected to the control panel. The automatic locking mechanism shall secure the flap plate closed to prevent flame and burning material propagation in the occurrence of a deflagration. The explosion isolation valve will include an access door that is secured shut by hand tight knobs. The valve is to be installed in the dirty air duct to prevent an explosion that originates in the dust collector from propagating back into the building through the dirty air duct. The cost should include the components that will be installed in the control panel to receive the signals from the (2) sensors in the explosion isolation valve and provide verification that the system is ready to run. In the event of an explosion the system will turn off the dust collector fan and turn on a warning light indicating that there was an incident.

The Dust Collector is to include the Design, furnish, and installation of a return air duct system with AUTO-LOK safety after-filter housing with pre-filters and ASHRE filters with pre-filters and ASHRE filters that will be installed inside the woodshop. The duct system will be designed to accommodate explosion isolation components in the event that they are required in the future from an authority having jurisdiction (AHJ) The return duct will be configured so that an explosion isolation system or abort gate may be easily added into the return air duct system.

The return air duct system will allow the campus significant energy savings by not having to make-up the 6,600 cfm of air currently being exhausted from the building.

Flamex control panel and 20" dia. duct high speed abort gate. The control panel to be equipped with an alarm, emergency battery back-up, main fire relay, main fault relay, and delayed equipment shutdown capacity. To Include are (2) spark detectors and a remote alarm. The spark detectors are to be installed in the straight duct before the dust collector, at least 2 diameters from the ProFlap and dust collector.

To be Included is the support stand to accommodate the high speed abort gate, installation labor and duct inlet/outlet transitions to mate to the abort gate, start-up and commissioning of the abort gate by a Flamex representative, who will test the system and verify that it is functioning as intended.

Auto-Lok 1 high x 4 wide ASHRE filter housing with pre-filters to function as a safety filter for the air returning to the building, in the event of an upset condition in the dust collector.

A differential pressure sensor to be displayed in the AyrDyne touch screen control to be included in the dust collector control panel to measure the filter differential pressure across the ASHRE safety filters and pre-filters.

Required Electrical Work.

- Disconnect the existing cyclone fan motor and return it to the campus.
- Furnish and Installation of new supplied 25 HP AyrDyne touch screen electrical control panel.
- Reuse and relocate the existing feed to the new Electrical control panel or if needed provide new feed to the panel as required. The contractor to Verify in field and calculate all that is required part of bid price.
- Furnish and Install conduit and wire from the new Electrical Control Panel to the dust collector 25 HP fan and solenoids for the filter cleaning system. Contractor to Verify in field.
- Furnish and Installation of conduit and wire from the Flamex control panel to the abort gate and (2) spark detectors and the main dust collector control panel.
- Furnish and Installation of wire and conduit from the Electrical Control Panel to the (2) sensors and locking solenoid on the Proflap explosion isolation valve.
- The Flamex, Abort gate and spark detector system requires dedicated power. Furnish and install by contractor.

All control panels to be located inside the building within 20' of the dust collector (The contractor to Verify in field).

Furnish and install a line of sight non-fused disconnect outside for new dust collector 25 HP fan motor.

2. Work Not Included:

Work not included in the work of the Contract are those items marked "N.I.C"; movable furnishings, except those specifically specified or indicated on the Drawings; and items marked "by others".

SECTION B - Alternates

1. General

- a. Refer to Proposal Form. State thereon the amount to be added to or deducted from the Total Bid for the Alternates described herein.
- b. Extent and details of the Alternates are indicated on the Drawings, and described in the Specifications.
- c. Where reference is made in the description of the Alternate to products, materials, or workmanship, the specification requirements applicable to similar products, materials or workmanship in the Total Bid shall govern the products, materials, and workmanship of the Alternate as if these specification requirements were included in full in the description of the Alternates.

2. Alternates

Not Required

SECTION C - Special Conditions

1. Cutting and Patching

- a. The Contractor shall do all cutting, fitting, and patching of its work that may be required to make its several parts come together properly and fitted as shown upon or reasonably implied from the Drawings and Specifications for the completed project.
- b. Any cost caused by defective or ill-timed work shall be borne by the Contractor. Except as otherwise expressly provided in the Contract Documents, the Contractor shall not cut or alter the work of any other Contractor or existing work without the consent of the University.
- c. Existing construction, finishes, equipment, wiring, etc., that is to remain and which is damaged or defaced by reason of work done under this contract shall be restored by the Contractor to a condition satisfactory to the University, or replaced with new, at no additional cost.
- d. Existing surfaces, materials, and work shall be prepared as necessary to receive the new installations. Such preparatory work shall be as required by the conditions and in each case shall be subject to approval by the University.
- e. Newly exposed work or surfaces which are presently concealed shall be made to match existing corresponding or adjoining new surfaces as directed, and the materials and methods to be employed shall be subject to approval by the University.
- f. All new, altered, or restored work in the building shall match existing corresponding work in the material, construction finish, etc., unless otherwise specified or required by the drawings.

2. Clean-Up

- a. Periodic Cleaning: The Contractor shall at all times during the progress of the work keep the Site

free from accumulation of waste matter or rubbish and shall confine its apparatus, materials and operations of its workmen to limits prescribed by law or by the Contract Limit Lines, except as the latter may be extended with the approval of the University. Cleaning of the structure(s), once enclosed, must be performed daily and removal of waste matter or rubbish must be performed at least once a week.

- b. **Final Clean Up:** Upon completion of the work covered by the Contract, the Contractor shall leave the completed project ready for use without the need of further cleaning of any kind and with all work in new condition and perfect order. In addition, upon completion of all work, the Contractor shall remove from the vicinity of the work and from the property owned or occupied by the State of New York, the State University of New York or the University, all plant, buildings, rubbish, unused materials, concrete forms and other materials belonging to it or used under its direction during construction or impairing the use or appearance of the property and shall restore such areas affected by the work to their original condition, and, in the event of its failure to do so, the same shall be removed by the University at the expense of the Contractor, and it and its surety shall be liable therefor.

3. Temporary Access and Parking

See Supplemental Special Conditions for Construction.

4. Field Meetings

Periodic job meetings will be scheduled by the Consultant and the University during the course of construction. The Contractor, and, upon request of the Consultant and the University, its principal subcontractors and manufacturer's representatives, shall attend such meetings and be prepared to furnish answers to questions on progress, workmanship, or any other subject on which the Consultant and the University might reasonably require information.

5. Operating Instructions and Manuals

The Contractor shall furnish three (3) complete sets of operating instructions and manuals which shall include definite and specific instructions on all mechanical and electrical systems involved in the Project. Said instructions and manuals should set forth: (1) the manner of operation; (2) the necessary precautions and care to be followed; (3) periodic prevention maintenance requirements; and (4) a complete set of spare parts lists, catalogs, service manuals and manufacturing data on said systems. Said instructions and manuals are to be made available by the Contractor for review and comment by the University a minimum of six (6) weeks prior to the scheduled completion of the Project.

6. Utility Shutdowns and Cut Overs

- a. Except as otherwise expressly provided in the Contract Documents, the Contractor shall be responsible for submitting to the University, for its approval, a proposed schedule of all utility shutdowns and Cut-overs of all types which will be required to complete the Project; said schedule should contain a minimum of two (2) week's advance notice prior to the time of the proposed shutdown and cut over. Most campuses of the State University of New York are in full operation 12 months of the year, and shutdowns and Cut-overs, depending upon their type, generally must be scheduled on weekends, at night, or during holiday periods. The contract consideration is deemed to include all necessary overtime and all premium time, if any, that is required by the Contractor to complete the shutdowns or Cut-overs.
- b. **Temporary Connections:** In the event the Contractor shall disrupt any existing services, the Contractor shall immediately make temporary connection to place such service back into operation and maintain the temporary connection until the Contractor makes the permanent connection. All work must be acceptable to the University.

7. Temporary Power for Construction Activities

Electrical energy will be available at no cost to the Contractor from existing outlets or panels from locations approved by the College. This power may be used for small power tools (not exceeding 1/2 HP), etc., and the

Contractor shall not exceed the capacity of the existing circuits being used. The Contractor shall be responsible for providing all necessary connections, cables, etc. and removal of the same at completion of construction with approval from the University. The Contractor shall in no way modify the existing circuits at the panel boards to increase capacities of the circuits. If the required power load exceeds the capacities of the available power sources, the Contractor shall be responsible and pay for furnishing and installing all necessary temporary power poles, cables, fused disconnect switches, transformers and electric meters necessary to provide a temporary power system for the project, and remove the same at completion. Install all temporary wiring and equipment and make all connections in conformity with the National Electrical Code. Make all replacements required by temporary use of the permanent wiring system. Provide ground fault protection.

8. Sanitary Facilities

N/A

9. Temporary Heat

- a. In those locations where it is required by the conditions of the work, the Contractor shall provide and pay for all temporary heating, coverings and enclosures necessary to properly protect all work and materials against damage by dampness and cold, dry out the work, and facilitate the completion thereof. Fuel, equipment, materials, operating personnel and the methods used therefor shall be at all times satisfactory to the University and adequate for the purpose intended. The Contractor shall maintain the critical installation temperatures, provided in the technical provisions of the specifications hereof, for all work in those areas where the same is being performed.
- b. Maintenance of proper heating, ventilation and adequate drying out of the work is the responsibility of the Contractor. Any work damaged by dampness, insufficient or abnormal heating shall be replaced to the satisfaction of the University by and at the sole cost and expense of the Contractor.
- c. The Contractor shall provide all necessary, temporary heating for the efficient and effective work by itself 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 project (where enclosed). Before and during the placing of wood finish and the application of other interior finishing, varnishing, painting, etc., and until final acceptance by the University of all work covered by the Contract, the Contractor shall, unless otherwise specified in the Contract Documents, provide sufficient heat to produce a temperature of not less than 68 degrees F nor more than 78 degrees F.

10. Temporary Light

The contractor shall install, maintain and remove Underwriter's Label temporary lighting sockets, light bulbs, and intermittent power sockets as approved by the University. The minimum temporary lighting to be provided is at the rate of 1/4 watt per square foot and be maintained for 24 hours, 7 days per week at stairs and exit corridors; in all other spaces, temporary lighting is to be maintained during working hours. Installation shall be in accordance with the National Electric Code.

11. Temporary Water for Construction Purposes

Contractor is responsible for temporary water for construction. The Contractor must provide for waste water discharge and shall take due care to prevent damage to existing structures or site and the waste of water. All pipes and fittings must be maintained in perfect condition at all times.

12. Conducting Work

- a. All work is to be conducted in such a manner as to cause a minimum degree of interference with the College's operation and academic schedule.
- b. Safe and direct entrance to and exiting from the existing buildings shall be maintained at all times during regular hours while construction is in progress.
- c. No construction work will start in any area until the Contractor has all the required materials on-

site.

- d. The Contractor and its employees shall comply with College regulations governing conduct, access to the premises, and operation of equipment.
- e. The building shall not be left "open" overnight or during any period of inclement weather. Temporary weather tight closures shall be provided for/by the Contractor to protect the structure and its contents.

13. Safety and Protective Facilities

- a. The Contractor shall provide the necessary safeguards to prevent accidents, to avoid all necessary hazards and protect the public, the Staff, students, the work and property at all times, including Saturdays, Sundays, holidays and other times when no work is being done.
- b. The Contractor shall erect, maintain and remove appropriate barriers or other devices, including mechanical ventilation systems, as required by the conditions of the work for the protection of users of the project area, the protection of the work being done, or the containment of dust and debris. All such barriers or devices shall be provided in conformance with all applicable codes, laws and regulations, including OSHA and National Fire Prevention Association 241, for safeguarding of structures during construction.

14. Protection of Existing Structures, Vegetation and Utilities

The Contractor, during the course of its work, shall not damage any buildings, structures and utilities, public or private, including poles, signs, services to buildings, utilities in the street, gas pipes, water pipes, hydrants, sewers, drains and electric power and lighting and telephone cables, lawns, curbs, plants and other improvements. Any damage resulting from the Contractor's operations shall be repaired or replaced at its expense.

15. Abbreviations and References

The following abbreviations may be used in these Specifications:

N.A.	Not Applicable
N.I.C	Not in Contract.
Fed. Spec. or F.S.	Federal Specifications
SUCF	State University Construction Fund
University or SUNY	State University of New York
College	A Campus of the State University of New York

16. Use of Elevators

The Contractor shall be permitted to make temporary use of elevators designated by the University and provided such use does not interfere with the normal activities of the College. Large and heavy items shall not be placed in elevators, and suitable padding shall be provided whenever a cab is used for construction purposes. Elevator pits shall be kept free of debris and dust by frequent cleaning out. The elevators shall be restored to original condition satisfactory to the University at the end of construction activities. Use of the top of the elevator may be permitted after obtaining approval of the University.

17. Salvage of Materials

Remove and legally dispose of all debris and other materials resulting from the alterations to State University property. The following items shall remain the property of the University and shall be stored at the site as directed by the University:

- *Window treatments.*
- *Misc. Items. – College Representative will walk site with Contractor and tag all items that are to be returned to Campus prior to beginning of demolition.*

18. Storage of Materials

- a. The Contractor shall store materials and equipment within the contract limits in areas on the site as designated by the University.
- b. All materials shall be stored in a neat and orderly manner, and shall be protected against the weather by raised floored weatherproof temporary storage facility or trailer.
- c. Security for stored materials shall be the responsibility of the Contractor.
- d. Storage of materials is not permitted on the roof of any building.

19. Shop Drawings and Samples - (Refer to Section 01 33 00 – Submittal Procedures)

- a. The Contractor shall submit to the Consultant for its approval electronic copies of all shop drawings required by the specifications in .pdf form for electronic review.

"REJECTED" are not in accordance with the Contract Documents and shall be resubmitted.

"REVISE AND RESUBMIT" Contractor shall correct and resubmit.

"MAKE CORRECTIONS NOTED": The contractor shall comply with corrections and may proceed. Resubmittal is not required.

"APPROVED - NO EXCEPTIONS TAKEN": The contractor may proceed.

- b. All shop drawings and/or submittals used on the construction site must bear the impression of the consultant's review stamp as well as the General Contractor's review stamp, indicating the status of review and the date of review.
- c. All shop drawings shall reflect actual site conditions and accurate field dimensions. Dimensioned shop drawings shall be submitted for all fabricated items. Incomplete submittals will be rejected without review.
- d. All shop drawings, submittals and samples shall include:
 - 1). Date and revision dates.
 - 2). Project title and number.
 - 3). Names of:
 - a). Contractor
 - b). Subcontractor
 - c). Supplier
 - d). Manufacturer
 - 4). Identification of products or materials: Include Department of State (DOS) file number, manufacturers' name and market name of all covered products and applicable materials in accordance with Part 1120 of the Code. This information may be obtained by contacting the DOS, Office of Fire Prevention and Control: 518 474-6746 [voice] and 518 474-3240 [FAX]

20. U.S. Steel

All structural steel, reinforcing steel, or other major steel items to be incorporated in the work shall, if this Contract is in excess of \$100,000, be produced or made in whole or substantial part in the United States, its territories or possessions.

21. Non-Asbestos Products

- a. All materials specified herein shall contain no asbestos.
- b. Provide "Contains No Asbestos" permanent labels applied to the exterior jacket of all pipe insulation at 20 foot intervals with a minimum of one (1) label for each service in each work area.

22. Material Safety Data Sheet

The contractor shall submit MSDS (Material Safety Data Sheet) for all chemicals, solvents, and materials specified or proposed to be used on this project.

23. Architect's/Engineer's Seal

In accordance with Rules and Regulations of the New York State Education Law, Title 8, Part 69.5(b), to all plans, specifications and reports to which the seal of an architect has been applied, there shall also be applied a stamp with appropriate wording warning that it is a violation of the law for any person, unless acting under the direction of a licensed architect, to alter an item in any way. If an item bearing the seal of an architect is altered, the altering architect shall affix to his item the seal and the notation "altered by" followed by his signature and the date of such alteration, and a specific description of the alteration.

24. Construction Permit

The Code Compliance Manager for the State University Campus will, as required by law, issue a Construction Permit for this Project. The project is not subject to any local building code or permit requirements, except for work that the Contractor is to perform on property located outside of the boundaries of the campuses of the State University of New York.

25. Other Contracts

There may be other contracts let for work to be done in adjacent areas and, as such, this Contractor and such other contractors shall coordinate their work to conform with progressive operation of all the work covered by such contracts, and afford each other reasonable opportunities for the introduction and storage of their supplies, materials, equipment, and the execution of their work.

26. Asbestos

If the work to be done under this contract contains the abatement of asbestos the following shall apply:

- a. **Applicable Regulations** -All work to be done under this Contract shall be in compliance with 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 November 9, 1994.
- b. **Applicable Variance** - The abatement contractor is responsible for obtaining any variance not issued to date that he feels may be applicable to the policies/procedures as set forth in 12 NYCRR Part 56.
- c. **Owner Project Fact Sheet** -The Contractor shall complete and submit as much information as possible on the Asbestos Material Fact Sheet to the University in triplicate prior to the project startup. Completion of the Fact Sheet shall be submitted prior to acceptance.
- d. **Patent Infringement** - The State University of New York and the State University Construction Fund have been given notice by a law firm representing GPAC, Inc. that the use of its process/procedure for asbestos containment and removal constitutes a patent infringement. All potential contractors are hereby notified that they may have to obtain a license to use certain patented Negative Air Containment systems, and that any liability of the University in connection therewith is covered by Section 2.21 of the Agreement. Therefore, all potential contractors are hereby notified that after opening of the bids they must advise the University as to the system they intend to use for Negative Air Containment and provide the University with either a copy of their license to use the same or written documentation, signed by an authorized officer of their surety, that their performance bond guarantees the Contractor's indemnification covering patent claims.

- e. Air Monitoring - The abatement contractor shall be responsible for hiring and paying an independent third party firm to perform the requirements of air monitoring as called for in Subpart 56-17 of 12 NYCRR Part 56.
- f. Testing - The University and Campus reserve the right to employ an independent testing laboratory to perform testing on the work and air sampling. The Contractor shall be required to cooperate with the testing laboratory.
- g. Disposal Procedures - It is the responsibility of the asbestos contractor to determine current waste handling, transportation and disposal regulations for the work site and for each waste disposal landfill. The asbestos contractor must comply fully with these regulations, all appropriate U.S. Department of Transportation, EPA and Federal, State and local entities' regulations, and all other then current legal requirements. Submit originals or copies of all pertinent manifests in triplicate to the University.
- h. Submittals - Prior to commencement of the work on this project, the Contractor must submit the following to the University:
- 1). Copy of original insurance policy.
 - 2). Copy of Department of Labor notification.
 - 3). Owner Fact Sheet.
 - 4). Copy of EPA notification.
- i. Special Requirements -
- 1) Size, location, and quantities of all pipes, joints, ducts, valves, tees, etc. must be field verified by all prospective bidders. Information given on the drawings and specifications is for general orientation and information only.
 - 2) The Contractor shall have at least one English-speaking supervisor on the ob site at all times while the project is in progress.
 - 3) Prior to the commencement of work involving asbestos demolition, removal, renovation, the Contractor must submit to the University the name of its on-site asbestos supervisor responsible for such operations, together with documentation that such supervisor has completed an Environmental Protection Agency-approved training course for asbestos supervisors.

27. Wage Rates and Supplements

The rates of wages and supplements determined by the Industrial Commissioner of the State of New York as Prevailing in the locality of the site at which the work will be performed can be found at: <http://wpp.labor.state.ny.us/wpp/publicViewProject.do?method=showIt&id=1023561>

The Prevailing Wage Case Number (PRC#) assigned to this project is PRC#2014003647

Special Conditions for Construction

Part 1 – Use of Premise

1.1 General

- A. Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with materials or equipment. *For purposes of this provision, "site" shall include all existing structures.*
- B. Each Contractor's use of premises is limited only as outlined in this section and/or any other section of the specifications, or at the College's discretion, to perform work or to retain other contractors on portions of Project.
- C. Coordination with Other Contractors:
 - 1). The Contractor will need to have their portion of the Work coordinated with other Contractors working on the site so that their work conforms to the progressive operation of all the work covered under other contracts that the College has let on this site.
 - 2). Each Contractor shall afford other Contractors reasonable opportunities for the introduction and storage of their supplies, materials, equipment, and execution of their work.
 - 3). If the Contractor or such other contractors contend that their work of the progress thereof is being interfered with by the acts or omissions of the others or that there is a failure to coordinate or properly arrange the sequence of the work on the part of the Contractor or such other contractors, they shall, within five (5) working days of the commencement of such interference or failure of coordination or failure to perform work in proper sequence, give written notification to the College of such contention. Upon receipt of such notification or on its own initiative, the College shall investigate the situation and issue such instructions to the Contractor or such other contractors with respect thereto as it may deem proper. The College shall determine the rights of the Contractor and of such other contractors and the sequence of work necessary to expedite the completion of the work covered by said other contracts.
- D. All work is to be conducted in such a manner as to cause a minimum degree of interference with the College's operations and academic schedule. Contractor is to coordinate their work with the College's classroom schedule.
- E. The Contractor and its employees shall comply with all College regulations governing conduct, access to the premises, and operation of equipment.
- F. Maintain all paths of egress and keep clear of all materials and debris.
- G. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, and other adjacent occupied or used facilities without written permission from College.
- H. Should it become necessary, in the judgment of the College, at any time during the course of the Work to move materials which are stored on the site and equipment which has been temporarily placed thereon, the Contractor upon request of the College shall move them or cause them to be moved at its sole cost and expense; provided, however, if materials and equipment that have been stored or placed by the Contractor at a location on the site expressly approved, in writing, by the College and the same are moved or caused to be moved by the Contractor at the College's request, such removal shall be deemed extra work and the Contractor shall be compensated.

1.2 Campus Regulations

- A. The contractor and his/her employees, subcontractors, etc., will not fraternize with any building or campus occupants. This includes but is not limited to students, faculty, and employees of the State other than those designated, visitors and guests. At no time will it be appropriate to say anything derogatory to the above referenced individuals. Harassment, verbal or otherwise, of the above referenced individuals will **not** be tolerated. If an incident arises, the Contractor will be directed to **permanently remove** the employee from the site.
- B. No drugs are permitted on campus.
- C. No smoking is permitted in the buildings.

- D. The contractor, employees and sub-contractors are required to stay within the construction boundary lines at all times.
- E. The contractor, employees, and sub-contractors must recognize the fact that this is an institute for learning. Flexibility will be required during certain times of the academic year.

1.3 Use of Permanent Utilities

- A. The written request for permission for use of the system from the College shall include, as a minimum, the conditions and reasons for use and provisions for and effect on equipment warranties. In the event that the College accepts the Contractors use of the permanent utility for the balance of the Work, the Contractor shall be fully responsible for it, and shall pay all costs for operation, power, restoration and maintenance of same.
- B. If the existing facilities are not adequate for the Contractor, locate temporary facilities where they will serve Project adequately and result in minimum interference with performance of the Work and disruption to the College. Any temporary facilities location is to be reviewed and approved by College's Representative.

1.4 Storage and Staging of Materials

- A. The following shall apply to this project
 - 1). The Contractor shall store materials and equipment within areas designated on construction documents.
 - 2). Security for stored equipment and materials shall be the responsibility of the Contractor.
 - 3). The Contractor shall at all times keep access routes, and parking and staging areas clean of debris and other obstructions resulting from the work.

1.5 Temporary Power for Construction Activities

- A. Electrical energy, as it exists within the work area, will be available at **no** cost to the Contractor from existing outlets or panels from locations approved by the College. As this site is still under construction, if electrical power is not available in the area of work, it is the Contractor's responsibility to provide necessary power to perform the Work. Typically available power may be used for small power tools (not exceeding ½ HP).

1.6 Temporary Lighting / Heating & Cooling / Water

- A. Electrical lighting, as it exists within the work area, is available to the contractor at **no** cost. As this site is still under construction, if electrical lighting is not available in the area of work, it is the Contractor's responsibility to provide necessary temporary equipment to perform the Work at its cost.

1.7 Temporary Sanitary Facilities

- A. Toilet, Water, and Drinking Water Facilities: The Contractor shall make arrangements with the College for use of the existing toilet, water, and drinking water facilities if available. It is the Contractor's responsibility to maintain the facility during the construction and restore to original state upon completion of the project.

1.8 Temporary Parking

- A. Contractor is to abide to the following:
 - 1). The Contractor and its employees shall be subject to all the rules and regulations of the College, including parking regulations. The College is regulated by New York State Vehicle and Traffic Laws.
 - 2). The Contractor and its employees shall only park in the designated areas in Lot #W-2. There shall be no parking in other areas of the campus (unless prior written authorization is provided by the College Chief of Police).
 - 3). Parking violations are subject to fines and are the sole responsibility of the Contractor or its employees. Vehicles that are parked illegally may be towed at the expense of the owner/driver.
 - 4). All vehicles are required at all times to register with the College's Public Safety Unit.

- 5). There is \$35.00 fee for parking permits. The fee is per vehicle and permits need to be display whenever the vehicle is parked on campus.

1.9 Temporary Support Facilities

- A. Construction Aids: Provide all items, such as lifting devices, all scaffolding, staging, platforms, runways, ladders; and all temporary flooring, as required by the various trades for the proper execution of the Work. Provide such construction aids with proper guys, bracing, guards, railings and other safety devices as required by the governing authorities and OSHA.
- B. Elevator and Loading Dock Usage: The Contractor shall make all arrangements with the College's Representative for the use of elevators as required for transporting material and workmen to the work areas and for the disposal of rubbish and waste materials.

1.10 Safety and Protection of Facilities

- A. The Contractor shall provide the necessary safeguards to prevent accidents, to avoid all necessary hazards and protect the public, the Faculty and Staff, students, the work, and the property at all times, including Saturdays, Sundays, holidays, and other times when no work is being done. The Contractor shall submit a safety plan which shall be certified by a Certified Safety Professional from the Board of Certified Safety Professionals (www.bcsp.org).
- B. The Contractor shall erect, maintain and remove appropriate barriers or other devices, including mechanical ventilation systems, as required by the conditions of the work for the protection of the users of the project area, adjoining areas, the protection of the work being done, or the containment of dust and debris. All such barriers or devices shall be provided in conformance with all applicable codes, laws and regulations, including OSHA and National Fire Prevention Association 241, for safeguarding of structures during construction.
- C. Fire safety during construction:
 - 1). The Contractor shall provide all temporary equipment, labor and materials required for compliance with the applicable provisions of Chapter 14, Fire Safety during Construction and Demolition, of the Fire Code of New York State.
 - 2). For areas and spaces under their control, the Contractor shall comply with Chapter 14 of the Fire Code of New York State, titled "Fire Safety during Construction and Demolition". Subject to approval by the College's Consultant and the College, the Contractor shall designate one person as the **fire prevention program superintendent**. This superintendent shall be responsible for the fire prevention program required by Section 1408 of the Fire Code of New York State and implementing the minimum safeguards for construction, alteration, and demolition operations that provide reasonable safety to life and property from fire during the Contractor's operations. Responsibilities also include developing and maintaining pre-fire plans per 1408.2, the training of the Contractor's workforce per 1408.3, maintenance of the fire protection equipment per 1408.4, supervising hot work operations per 1408.5, and implementing temporary impairment to existing fire protection systems per 1408.6 & 1408.7. This superintendent shall also provide periodic written reports at the field meetings and respond to questions raised concerning compliance with Chapter 14 of the Fire Code of New York State.
- D. Contractor shall comply with Labor Law Section 220-h; provide workers certified as having successfully completed the OSHA 10-hour construction safety and health course; and comply with applicable NYS DOL rules and regulations for monitoring and reporting compliance.

- D. Temporary Fire Protection:

NA

F. Fire Watch Requirements:

- 1). If any of the work of the Contractor;
 - a) Disables any fire suppression systems, standpipes systems, fire alarm systems, fire detection systems, smoke control systems and/or smoke vents as defined in Chapter 9 of the Fire Code of New York State (FCNYS).
 - b) Involves welding, cutting, open torches and other hot work as defined in Chapter 26 of the FCNYS and/or involves demolition activities that are hazardous in nature as defined in Chapter 14 of the FCNYS.

Then the Contractor shall provide a fire watch or perform the work during the hours where the building is scheduled by the College to be closed, in accordance with Section 901.7 of the FCNYS, for structures that have campus occupancy.

- 2). If a fire watch is required, the Contractor shall provide all labor that is required. The Contractor shall:
 - a) Contact the New York State Department of State Office of Fire Prevention and Control (OFPC) at 41 State Street, Albany, NY 12231-0001, Phone: (518) 474-6746, Fax: (518) 474-3240, e-mail: fire@dos.state.ny.us and obtain its currently amended recommendation for fire watch procedures. Review the OFPC recommendations and notify the College's Consultant and/or College Representative if there are significant discrepancies with the requirements of this section.
 - b) Review the fire watch procedures with the College's alarm monitoring staff (University Police – 914-251-6900) and the fire department prior to disabling a fire protection system. Submit a plan for the fire watch for approval by the College's Consultant and/or College Representative, and schedule a pre-system shutdown meeting with the College's Consultant and/or College Representative.
 - c) Employ, instruct and maintain competent fire watch personnel. Provide the sufficient number of dedicated personnel that are required to patrol all portions of the means of egress system in the facility in the period of time required.
 - d) Notify University Police (UPD) prior to and at the conclusion of the fire watch.
 - e) Employ competent personnel to fix the fire protection system (see section 1.11 below).
- 3). Fire Watch Duties: Personnel serving as a fire watch have the following duties:
 - a) Conduct periodic patrols of the entire facility as specified below.
 - b) Identify any fire, life or property hazards.
 - c) Notify the UPD if a fire is discovered by call (914-251-6911), with the exact address and type of emergency.
 - d) Notify occupants of the facility of the need to evacuate. If sirens or public address function of the alarm system are still functional, use them to assist with evacuation of the building.
 - e) Have access to at least one means of direct communication with UPD. A cell phone is acceptable.
 - f) Maintain a written log of fire watch activities.
 - g) Have knowledge of the location and use of fire protection equipment, such as fire extinguishers. (Note: The fire watch will not perform fire-fighting duties beyond the scope of the ordinary citizen).
 - h) Perform no other duties that are not directly part of the fire watch duties.
- 4). Frequency of Inspections: Fire watch personnel should patrol the entire facility every 30 minutes except in the following situations, where patrols shall be every 15 minutes:
 - a) The facility has people sleeping.
- 5). Record Keeping: A fire watch log should be maintained at the facility. The log should show the following:
 - a) Address of the facility.
 - b) Times that the patrol has completed each tour of the facility.
 - c) Name of the person(s) conducting the fire watch.
 - d) Records of communication(s) to the University Police.
 - e) Record of other information directed by the College's Consultant and/of the College Representative.

1.11 Modifications / Alterations to Campus Existing Fire Alarm Systems

NA

Part 2 – Party Responsibilities

2.1 Information and Services Required of the College

- A. Furnished Information: College shall furnish (if available) surveys, existing plans, or other required information describing physical characteristics, legal limitation and utility locations for the site of the Project, and a legal description of the site. These documents are for information purposes only. They are to be field verified by the Contractor for accuracy. The College will not be responsible if actual conditions vary from what is indicated on the documents. Plans will be released to awarded Bidder in PDF electronic format.
- B. College's Right to Stop the Work: If Contractor fails to correct Work which is not in accordance with the requirements outlined, or fails to carry out Work in accordance with the Contract Documents, the College, by written order signed personally or by an agent specifically so empowered by the College in writing, may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the College to stop the Work shall not give rise to a duty on the part of the College to exercise this right for the benefit of Contractor or any other person or entity.
- C. College's Right to Carry Out the Work: If Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten (10) business-day period after receipt of written notice from College to commence and continue correction of such default or neglect with diligence and promptness, College may, without prejudice to other remedies College may have, correct such deficiencies. *College may offset* from payments then or thereafter due Contractor the cost of correcting such deficiencies, including compensation for Consultant's additional services and expenses made necessary by such default, neglect or failure. If payments then or thereafter due Contractor are not sufficient to cover such amounts, Contractor shall pay the difference to the College.

2.2 Information and Services Required of the Contractor

- A. Review of Contract Documents: Contractor shall carefully study and compare the Contract Documents with each other and with the information furnished by the College, and shall at once report to the College Representative errors, inconsistencies or omissions discovered.
- B. Review of Field Conditions: Contractor shall, *sufficiently in advance of undertaking the Work*, take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to Contractor with the Contract Documents. Errors, inconsistencies or omissions discovered shall be reported to the College Representative at once. *If Contractor performs any construction activity which involves an error, inconsistency or omission which Contractor knew of or should reasonably have known of, without notice to College, Contractor shall assume responsibility for such performance and shall bear all costs of correction.*
- C. Construction Schedule: Contractor, promptly after being awarded the Contract, shall prepare and submit for College Representative, a Contractor's construction schedule for the Work.
- D. Supervision:
 - 1). Contractor shall supervise and direct the Work, using Contractor's best skill and attention. Contractor shall be solely responsible for and have control over *construction means*, methods, techniques, sequences and procedures *including safety programs and procedures*, and for coordinating all portions of the Work under the Contract.
 - 2). Contractor shall enforce strict discipline and good order among Contractor's employees and other persons carrying out the Contract. Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

- 3). Contractor shall be responsible for inspection of related portions of Work already performed, *as well as existing conditions*, to determine that such are in proper condition to receive subsequent Work.
- E. Contractor shall be responsible to College for acts and omissions of Contractor's employees, Subcontractors and their agents and employees, and other *persons or entities directly or indirectly employed by them* performing portions of the Work under a contract with Contractor
- F. Cutting and Patchwork:
- 1). Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly.
 - 2). Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying or load-deflection ratio.
 - 3). Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety (i.e., mechanical systems, plumbing, fire alarm, etc.).
 - 4). Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 5). Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 6). Dispose of demolished items and materials promptly.
 - 7). Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.
 - 8). Existing utilities services to the College must be maintained at all times. If the Contractor is required to affect these services in order to complete the Work, Contractor must obtain written permission from the College prior to this work (also see Special Requirements Section). Any damage or disruption of services shall need to be repaired immediately and at the Contractor's expense.
- G. Hot Work Permits:
- 1) If the work requires any Hot Work (including cutting, welding, Thermit welding, brazing, soldering (except soldering electronics or electrical components with an electric soldering iron or gun), grinding, thermal spraying, thawing pipe, installation of torch-applied roof systems or any other similar situation), the Contractor shall be required to obtain a Hot Work Permit issued by the College. The Contractor shall request this through the College Representative, and be given a copy of the College's "Hot Work Guidelines and Permit Process" and the permit forms to be filled out. The Contractor must request, submit, and be given a permit before any Hot Work begins.
- H. Cleaning Up:
- 1). Contractor shall *at all times* 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 Contractor shall remove from and about Project waste materials, rubbish, Contractor's tools, construction equipment, machinery and surplus materials.
 - 2). If Contractor fails to clean up as provided in the Contract Documents, College may do so and the cost thereof shall be charged to Contractor.
 - 3). If a dispute arises among Contractor, separate contractors and College as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish as described above, College may clean up and allocate the cost among those responsible
- I. Access to Work: Contractor shall provide College access to *all portions of* the Work in preparation and progress wherever located.

2.3 Communications Protocol for Contract Administration

- A. Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, Contractor shall communicate through the College Representative to the College. Communications by

and with College's consultants shall be through College Representative. Communications by and with Subcontractors and material suppliers shall be through Contractor.

Technical Specifications

**Purchase College
State University of New York
Invitation For Bid**

TECHNICAL SPECIFICATIONS:

SECTION 01 33 00
SUBMITTAL REQUIREMENTS

***(Coordinate with Section 2.19 of the Agreement and
Articles 20, 24 and 27 of Section C of the General
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.
- ***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. 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 oral submittals.

1.02 REQUIREMENTS INCLUDED

- A. Approved Equal Clause/Substitutions/Options
- B. Certification
- C. Manufacturer's Instructions
- D. Shop Drawings
- E. Samples
- F. Material Safety Data Sheet (MSDS) Submittals
- G. Design Responsibilities
- H. Coordination Drawings
- I.
- J. Certificates
- K. Construction Waste Management Procedures and Certifications – See Section 01 74 19.
- L. V.O.C. Compliance certification – See individual technical sections.
- M. Project Management And Coordination – Environmental

1.03 APPROVED EQUAL CLAUSE/SUBSTITUTIONS/OPTIONS - Section 2.20 of the Agreement

1.04 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 and Owner's Representative.
- 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 Codes 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 Underwriters Laboratories Standards in respect to motor protection, grounding and protection against hazards, and is approved by all Regulatory Agencies.

1.05 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.

1.06 SHOP DRAWINGS

- Submittals shall be made in groupings where installations are complementary, i.e. steel, steel decking, steel stairs, stair railings; roof systems/flashings; mechanical and electrical apparatus and the like. Failure to comply with this requirement will be cause for rejection of any or all submittals.
 - 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.
- A. The following serves as a further definition of the requirements for shop drawing submittals as covered in the General Requirements:
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.
 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 identifications 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.
- 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.
 - 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.
12. Contractor shall have copies of all approved shop drawings as listed in Paragraph 1.06.A.6 above on the job at all times and shall make them available to the Architect or the Owner's representatives.

1.07 SAMPLES

- A. The following serves as a further definition of the requirements for sample submittals as covered in the General Requirements:
 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 General 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 Manufacturers 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 General 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. All materials shall be furnished equal in all respects to the samples which were approved.

1.08 MATERIAL SAFETY DATA SHEET (MSDS) SUBMITTALS

- A. As specified in Paragraph 1.07 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.**

1.09 DESIGN RESPONSIBILITIES

- A. In accordance with the General Requirements, attention is directed to the following areas (if any) in which professional certification and/or design requirements are outlined within the technical specifications.
 1. 02 41 19 – Demolition Shoring
 2. 03 30 00 – Formwork and Shoring for Concrete
 3. 05 12 00 - Structural steel
 4. 05 30 00 - Metal decking
 5. 05 40 00 - Cold formed metal framing
 6. 05 51 00 - Steel Stairs
 7. 05 50 00/05 51 00 - Stair and Guard Railings
 8. 07 44 00 - Composite Metal Panel System (Rain Screen Design) – ACP; Support Systems
 9. 07 44 10 - Preformed Laminated Insulated Metal Panel System – IMP; Support and Suspension Systems

10. 08 40 00 - Curtain walls
11. 08 40 00 - Entrances and Storefronts
12. 08 63 00 - Skylight, Metal Framed and Custom
13. 08 90 00 - Louvers and Vents
14. 09 29 00 – Gypsum Drywall - framing)
15. 11 24 00 – Façade Maintenance – Anchor Systems/Tie downs
16. 31 51 00 - Excavation Shoring

However, if included, is to be considered as partial only with the burden placed on the Contractor to provide all certifications and/or design information as may be specified and/or required by these Contract Documents in accordance with the applicable laws of the jurisdiction.

1.10 COORDINATION DRAWINGS

- A. Each Contractor's attention is directed to Section 01 31 14 for required coordination drawings and the responsibility therefore.

1.11 CERTIFICATES

- A. Submit a Summary of Solid Wastes Generated, manifests, weight tickets, and the like in accordance with requirements of Section 0174 19 - Construction Waste Management.
- B. Submit, as required by each technical section a certification for V.O.C. compliance.

1.12 PROJECT MANAGEMENT AND COORDINATION - ENVIRONMENTAL

- A. Contractor's Environmental Manager: Designate an on-site party responsible for overseeing the Contractor's conformance to environmental goals for the project and implementing procedures for environmental protection.
 1. Qualifications: Minimum **5** years construction experience on projects of similar size and scope; minimum **3** years experience with environmental procedures similar to those of this project; familiarity with environmental regulations applicable to construction operations.
 2. Responsibilities: Responsibilities shall include:
 - a. Compliance with applicable Federal, State, and local environmental regulations, Including maintaining required documentation.
 - b. Implementation of the Waste Management Plan.
 - c. Training for Contractor personnel in accordance with their position requirements.
 - d. Monitoring and documentation of environmental procedures.
- B. Perform project quality control in accordance with requirements specified in Related Sections, including:
 1. 01 74 19 - Construction Waste Management

End of Section

SUBMITTAL COVER SHEET

Contractor: _____

Address: _____ **Telephone: ()** _____

TYPE OF SUBMITTAL:

- Shop Drawings
- Technical Data
- Test Report
- Schedule
- Certificate
- Warranty
- Physical Sample
- Color Sample

Submission #: 1st , 2nd, 3rd, 4th (circle one)

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 PURCHASE COLLEGE (SUNY)

DATE _____ BY _____

SECTION 01 42 19

CODES AND STANDARDS
(Coordinate with Section 2.10 of the Agreement)

Part 1 – GENERAL

1.01 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
ADC	Air Diffusion Council
ALSC	American Lumber Standards Committee
AMCA	Air Movement and Control Association
ASC	Adhesive and Sealant Council
AWI	Architectural Woodwork Institute
CBM	Certified Ballast Manufacturers
CLFMI	Chain Link Fence Manufacturers Institute
CRI	Carpet and Rug Institute
CS	Commercial Standard of NBS
FS	Federal Specifications (General Services Administration), Specifications Unit (WFSIS)
GANA	Glass Association of North America
IEEE	The Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society of North America
IGCC	Insulating Glass Certification Council
ILI	Indiana Limestone Institute of America
LSGA	Laminators Safety Glass Association
MIA	Marble Institute of America
NEII	National Elevator Industry Inc.
NELMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NPCA	National Paint and Coatings Association
NPA	National Particleboard Association
NTMA	The National Terrazzo and Mosaic Association
PS	Product Standard of NBS (U.S. Department of Commerce)
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
TIMA	Thermal Insulation Manufacturers Association
WRI	Wire Reinforcement Institute, Inc.
WSFI	Wood and Synthetic Flooring Institute
WWPA	Woven Wire Products Association

NOTE: Further attention is directed to industry guide compiled by Sweet's division of McGraw-Hill denoted as "SOURCES OF INFORMATION" 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..Fa2309/kgd2011-1107 01 42 19 - 2 Codes and Standards

1.02 APPLICABLE CODES: The following is a listing of applicable codes within the jurisdiction of the Work as embodied within the 2010 New York State

Building Code.

- A. 2006 International Building Code
- B. 2006 International Energy Conservation Code
- C. 2006 International Fire Code
- D. 2006 International Fuel Gas Code
- E. 2006 International Mechanical Code
- F. 2006 International Plumbing Code
- G. 2006 International Property Maintenance Code
- H. 2006 International Residential Code
- 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

Part 2 - PRODUCTS - NOT USED

Part 3 - EXECUTION - NOT USED

End of Section

SECTION 01 61 00
MATERIAL AND EQUIPMENT
(Coordinate with Article 4 of Section C of the General Requirements)

1.01 GENERAL

- A. Requirements set forth herein are in addition to and shall be considered as complementary to the General 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 15 00.

1.02 REQUIREMENTS INCLUDED

- A. General Standards
- B. Sustainability
- C. Transportation and Handling
- D. 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 applicable provisions of the General Conditions.
- 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 Section 01120.

1.04 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 postindustrial waste.

1.05 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. Deliveries shall be made during regular work hours, unless approved otherwise by the Owner.
- B. Deliver materials in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.

1.06 STORAGE AND PROTECTION – See Section 01 15 00

- A. Store materials in accordance with manufacturer's instructions, with seals and labels accessible for inspection.
- B. 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 daily functioning of the existing facility.
- C. Interior Storage: Maintain temperature and humidity within the ranges required by manufacturer's instructions.

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 existing structure.

D. 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.

NOTE - Should it become necessary during the course of the Work to move materials or equipment stored on the Site, the Contractor, at the direction of the Architect, shall move such material or equipment.

E. 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.

F. 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 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. Definitions as apply to "Contractors" involved with the work of this Project shall be as set forth in Section 01 15 00, Article 1.01.

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.

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. With regard to these goals the Contractor shall develop, for Owner's Representative's review and Architect's review, a Waste Management Plan for this Project. Each Contractor shall be responsible for segregating their own waste into different dumpsters as directed by the Architect and/or Owner. 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. Waste Management Plan: The General 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 course of 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.
 - 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.

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 02 41 20
SELECTIVE REMOVALS, CUTTING AND PATCHING**

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.

1.02 RELATED WORK SPECIFIED ELSEWHERE

- A. 01 74 19 – Construction Waste Management
- B. 02 82 00 - Asbestos Abatement

1.03 PROJECT CONDITIONS

- A. Existing Conditions: Do not disturb existing structures, construction, materials or equipment unless required by the Contract.
- B. Items to Remain the Property of the Owner: The items indicated on the drawings to remain shall remain the property of the Owner and shall be stored at the site where directed and be reset in new locations as required.

Part 2 - PRODUCTS

2.01 MATERIALS

- A. Match the appearance and performance of existing corresponding materials as closely as practicable, unless otherwise indicated.

Part 3 - EXECUTION

3.01 EXAMINATION

- A. Prior to cutting, drilling or removal, investigate both sides of the surface involved. Determine the exact location of structural members.
- B. If unforeseen obstructions are encountered, take precautions necessary to prevent damage and obtain on site, followed by written, instructions from the Architect and/or Owner's Representative before proceeding with the Work.

3.02 PREPARATION

- A. Provide temporary shoring and other supports necessary to prevent settlement or other damage to existing construction which is to remain.
- B. Prepare existing surfaces properly to receive and, where required, bond with the Work.

3.03 REMOVALS, CUTTING, AND ALTERING

Cutting and Patching

- A. In addition to the items indicated to be removed on the Drawings, remove existing construction superseded by the Work except items such as pipes, conduits, recessed boxes, and ducts which are built into existing construction that is to remain. Cut off and conceal such items at face of remaining construction. Provide cover plates on recessed boxes.
- B. Remove and alter existing construction as required to install and connect the Work to adjacent construction in an approved manner.
- C. Cut and alter existing materials as required to perform the Work. Limit cutting to the smallest amount necessary. Core drill round holes and saw cut other openings where possible.
- D. Perform cutting, drilling, and removals in a manner which will prevent damage to construction which is to remain.
- E. Perform removal of items to remain the property of the Owner with such care as necessary to prevent damage to these items.

3.04 PATCHING

- A. Patch existing construction and finishes defaced, damaged, or left incomplete due to alterations and removals. Patching, except as otherwise indicated, shall be limited to the areas which have been cut or altered.
- B. Perform patching around items penetrating existing construction in a manner that will maintain the water and fire resistive capability of the existing construction. Where new work and existing work of the same kind will be present in the finished construction in a room or space, the new work shall match the existing unless otherwise approved by the Architect. **THE NEW AND OLD SHALL BE TOTALLY REPAINTED.**
- C. Where surfaces exposed by removals are to remain as exposed surfaces, patch and paint such areas to match existing adjacent surfaces.
- D. Workmanship and materials shall be at least equal to the existing construction which has been repaired, refinished, and otherwise renewed.

3.05 REINSTALLATION

- A. Where reinstallation of removed items is indicated, reinstall them to a condition equal to or better than their condition before removal.

****End of Section****

SECTION 05 50 00
METAL FABRICATIONS – MISCELLANEOUS/ORNAMENTAL METALS

Part 1 - GENERAL

- 1.01 Applicable provisions of the Conditions of the Contract and Division #1, General Requirements, govern work in this Section.
- 1.02 DESCRIPTION OF WORK
- A. The work of this Section consists of the provision of all plant, materials, labor and equipment and the like necessary and/or required for the complete execution of all miscellaneous and ornamental metal work for this project.
- 1.03 RELATED WORK SPECIFIED ELSEWHERE - Entire Project Specification.
- 1.04 QUALITY ASSURANCE
- A. Coordinate work with that of all other trades affecting, or affected by work of this Section. Cooperate with such trades to assure steady progress of all work under Contract.
- B. Coordinate installation of anchorages for metal fabrications. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.**
- 1.05 SUBMITTALS – Coordinate with Section 01 33 00
- Submittals shall be made in groupings where installations are complementary, i.e. steel, steel decking, steel stairs, stair railings; roof systems/flashings; mechanical and electrical apparatus and the like. Failure to comply with this requirement will be cause for rejection of any or all submittals.
 - As set forth in Sections 01 33 00 and 01 32 00, prepare and submit a fully developed submittal schedule; note review times set forth in Section 01 33 00 are deemed “average”, for large submissions allow longer review times.
 - Attention is directed to Section 01 31 14 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”.
 - 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.
 - A. Shop drawings of all items to be fabricated and installed. Show dimensions and details of all items. Verify dimensions and correlate metal work with adjoining work. Obtain approval of shop drawings before fabrication.
 - B. Samples of all manufactured items.
 - C. Certification of Specification Compliance.
 - D. This Contractor shall take all necessary field measurements prior to fabrication and installation of work and shall assume complete responsibility for accuracy of same.
 - E. Manufacturers Material Safety Data Sheet (MSDS) must be submitted for each manufactured product.

1.06 PAINTING AND PROTECTION OF DISSIMILAR SURFACES

- A. General preparation of metal surfaces to receive shop coating shall be in accordance with the methods outlined in the Steel Structures Painting Council Specification (SSPC) as may be applicable for intended exposure and location.

Part 2 - PRODUCTS

2.01 GENERAL

- A. For fabrication of miscellaneous and ornamental metal work which will be exposed to view in the finished work, use only materials which are smooth and free from surface blemishes including pitting, seam marks, roller marks, trade names, roughness and other defects which will be apparent in the finished products.
- B. Stock materials, patterns, products and standard methods of fabrication will be approved provided they conform to specified requirements and in general to the details shown.
- C. Metals and accessory items shall conform to the current applicable recognized industry standards and the following grades.

2.02 FERROUS METAL WORK

- A. Structural steel shapes galvanized when exposed to weather or moisture, prime coated for interior.
 - 1. W-Shapes: ASTM A 992/A 992M
 - 2. Channels, Angle-Shapes: ASTM 36/36M
 - 3. Plates and Bars: ASTM 36/36M
- B. Steel plates for bending or cold forming - ASTM A 283, Grade C.
- C. Carbon Steel Sheets - ASTM A 653, galvanized where exposed to

moisture or weather.

- D. Standard Steel Sheets - ASTM A 1011, galvanized when exposed to moisture or weather.

2.03 STEEL PIPE, TUBES, BAR STOCK

- A. Steel Pipe - ASTM A 53, Type S, Grade B, galvanized for moisture and/or weather exposure.
 - 1. Standard for general use.
 - 2. X-Strong and/or XX-Strong for bollards, railings and other items not satisfying criteria set forth above or required to satisfy safety and performance criteria.

2.04 STAINLESS STEEL MATERIALS

- A. General - ASTM A 167, AISI Types 302/304 with #4 finish for exposed surfaces and mill for concealed surfaces unless otherwise required.
- B. Rails shall be provided with ANSI B36.19 designation for standard Schedule 40 pipe unless otherwise specified or required due to code

2.05 FASTENERS, INSERTS, MISCELLANEOUS

- A. Bolts & Nuts (Steel) - ASTM A 307.
- B. Inserts - Threaded, wedge or slot type, galvanized castings, ASTM A47 or A 27.
- C. Fasteners and anchorage devices shall be of type, grade, class and style best suited for the respective purposes; galvanized, cadmium plated or stainless steel.
- D. Use flat head Phillips type machine screws for exposed fastenings OR tamperproof devices as directed by the Architect and/or conditions of use.

Part 3 - EXECUTION

3.01 INSPECTION AND ACCEPTANCE

- A. Examine all surfaces and contiguous elements to receive work of this section and correct, as part of the Work of this Contract, any defects affecting installation. Commencement of work will be construed as complete acceptability of surfaces and contiguous elements.

3.02 MISCELLANEOUS

- A. Provide at the proper time all the various miscellaneous metal supports and framing not provided under other sections and required to complete the work.
- B. All items of miscellaneous metal such as access doors, manhole covers, plate frames and covers, and the like not otherwise specified, but shown on the drawings shall be part of this contract.

3.03 FINISHING

- A. Clean and repair any damage to paint after erection.
- B. At galvanized surfaces, apply orange zinc repair paint in compliance with ASTM A 780. Galvanizing paint shall have 95% zinc by weight. Thickness shall not be lesser than required by ASTM A 123 or A 153 as applicable. Touchup of galvanized surfaces with aerosol spray, silver paint, brite paint, etc. is unacceptable.

3.04 PROTECTION

- A. Protect existing construction, adjacent work and finished work from damage. Provide drop cloths or other suitable protective coverings in all areas of the work.
- B. Damage caused by the handling, storing, mixing or application of materials or the failure to provide adequate protection shall be repaired or replaced at no additional cost to the Owner.

3.05 ACCEPTANCE AND PATCHING

- A. On completion of work, all equipment and rubbish resulting from the work of this section shall be removed from the premises.
- B. Leave work clean, whole, and sound ready for additional finish or

3.06 WASTE MANAGEMENT – Coordinate with Section 01 74 19

- A. Separate and recycle materials and material packaging in accordance with Waste Management Plan and to the maximum extent economically feasible and place in designated areas for recycling.
- B. Set aside and protect materials suitable for reuse and/or remanufacturing.
- C. Separate and fold up metal banding; flatten and place along with other metal scrap for recycling in designated area.

End of Section

SECTION 07 84 00
FIRESTOPPING

Part 1 - GENERAL

1.01 Applicable provisions of the Conditions of the Contract and Division #1, General Requirements, govern work in this Section.

1.02 DESCRIPTION OF WORK

A. The work of this Section consists of the provision of all plant, materials, labor and equipment and the like necessary and/or required for the complete execution of all firestopping and smoke seal work for this project as required by the schedules, keynotes and drawings, including, but not limited to the following:

NOTE: Fire stopping is defined as a material, or combination of materials, to restore the integrity of fire rated walls and floors by maintaining an effective barrier against the spread of flame, smoke and toxic gases and further defined in 1.04 below.

1. Provide fire stopping and smoke seals as indicated on the drawings and/or required to maintain full and continuous smoke and fire barrier between zones including:
 - a. Through penetration firestops and smoke-stops for all fire-rated bearing and non-bearing wall and floor assemblies, both blank (empty) and those accommodating penetrating items such as cables, conduits, pipes, ducts, etc.
 - b. Membrane penetration protection for fire-rated walls.
 - c. Architectural/Construction joint firestops within walls, floors, or the intersection of floors to exterior walls, or the intersection of top of walls to ceilings.
 - d. Top of wall firestopping in all fire-rated partitions
 - e. Top of wall and construction joint smoke-stopping in all smoke partitions Cope and seal around all structural elements to insure smoke and fire barriers.

IT IS A MANDATE OF THIS CONTRACT THAT ALL FIRESTOPPING WORK BE ACCOMPLISHED BY A FM4991 ACCREDITED CONTRACTOR WITH AT LEAST ONE "Designated Responsible Individual (DRI)" IN THE EMPLOY OF THE SPECIALTY CONTRACTOR FIRM. A COPY OF THE QUALITY ASSURANCE MANUAL SHALL BE MAINTAINED ON THE JOB SITE FOR REVIEW BY THE DESIGN PROFESSIONAL, CONTRACTOR AND ANY OTHER INTERESTED PARTY.

NOTE: A preinstallation conference shall be scheduled by the Contractor with this Specialty Contractor and all other Specialty Contractors, Subcontractors and the like to establish procedures to maintain optimum working conditions and to coordinate the work of this Section with related and adjacent work.

1.03 RELATED WORK SPECIFIED ELSEWHERE - Entire Project Specification with specific reference to those sections noted above and as follows:

NOTE: Proper execution of this work will maintain the hourly ratings of the walls and floors and ensure progress of work in other Sections as listed below:

- A. Division 22 - Plumbing
- B. Division 23 - HVAC
- C. Division 26 - Electrical Work

1.04 QUALITY ASSURANCE

- A. Firestopping systems (materials and design):
 1. Shall conform to both Flame (F) and Temperature (T) ratings as required by local building codes and as tested by nationally accepted test agencies per ASTM E 814 or UL 1479 fire tests in a configuration that is representative of field conditions.
 2. The F rating must be a minimum of 1 hour but not less than the fire resistance rating of the assembly being penetrated.
 3. T rating when required by code authority shall be based on measurement of the temperature rise on penetrating item(s).

4. The fire test shall be conducted with a minimum positive pressure differential of 0.03 inches of water column.
5. For joints, must be tested to UL 2079 or E 1399 and E 1966 with movement capabilities equal to those of the anticipated conditions.
6. Where there is no specific third party tested and classified firestop system available for a particular firestop configuration, the firestopping contractor shall obtain from the firestop manufacturer an Engineering Judgment (EJ) or Equivalent Fire Resistance Rated Assembly (EFFRA) for submittal.
- B. Firestopping materials and systems must be capable of closing or filling through-openings created by 1) the burning or melting of combustible pipes, cable jacketing, or pipe insulation materials, or 2) deflection of sheet metal due to thermal expansion (electrical and mechanical duct work).
- C. Firestopping sealants must be flexible, allowing for normal pipe movement.
- D. Firestopping materials shall not shrink upon drying as evidenced by cracking or pulling back from contact surfaces.
- E. Firestopping materials shall be moisture resistant, and may not dissolve in water after curing.
- F. For firestopping exposed to view, traffic, moisture, and physical damage, provide appropriate firestop systems for these conditions.
- G. All firestopping materials shall be manufactured by one manufacturer (to the maximum extent possible).
- H. Material used shall be in accordance with the manufacturer's written installation instructions.
- I. Firestopping shall be performed by a Specialty Contractor trained or approved, in writing, by firestop material manufacturer. Said specialist shall be as defined in the Conditions. Equipment used shall be in accordance with firestop material manufacturer's written installation instructions.
- J. Materials shall conform to all applicable governing codes.
- K. All materials used in the work shall be certified "asbestos free" and shall be free from any and all solvents or components that require hazardous waste disposal or, that after curing, dissolve in water.
- L. All materials shall comply with the interior finish flame spread and smoke developed requirements for the area in which they are installed. Coordinate with governing codes.
- M. **DEFINITIONS**
 1. **FIRESTOPPING:** The use of a material or combination of materials in a fire-rated structure (wall or floor) where it has been breached, so as to restore the integrity of the fire rating on that wall or floor.
 2. **SYSTEM:** The use of a specific firestop material or combination of materials in conjunction with a specific wall or floor construction type and a specific penetrant(s), constitutes a "System"
 3. **BARRIER:** Any bearing or non-bearing wall or floor that has an hourly fire and smoke rating.
 4. **THROUGH-PENETRATION:** Any penetration of a fire-rated wall or floor that completely breaches the barrier.
 5. **MEMBRANE-PENETRATION:** Any penetration in a fire-rated wall that breaches only one side of the barrier.
 6. **CONSTRUCTION GAPS:** Any gap, joint, or opening, whether static or dynamic, where the top of a wall may meet a floor; wall to wall applications; edge to edge floor configurations; floor to exterior wall; or any linear breach in a rated barrier. Where movement is required, the firestopping system must comply with UL2079 for dynamic joints.

1.05 **SUBMITTALS** – Coordinate with Section 01 33 00

- Submittals shall be made in groupings where installations are complementary, i.e. steel, steel decking, steel stairs, stair railings; roof systems/flashings; mechanical and electrical apparatus and the like. Failure to comply with this requirement will be cause for rejection of any or all submittals.
- As set forth in Sections 01 33 00 and 01 32 00, prepare and submit a fully developed submittal schedule; note review times set forth in Section 01 33 00 are deemed "average", for large submissions allow longer review times.
- Attention is directed to Section 01 31 14 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".
- 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.

NOTE: A "Certificate of Conformance", from the manufacturer listed in Part 2, is required with the "Submittal Package" to ensure that the material selected meets all of the criteria of this specification as set forth in Paragraph 1.04 of this Section.

- A. Submit manufacturer's product literature for each type of firestop material to be installed. Literature shall indicate product characteristics, typical uses, performance and limitation criteria, and test data. Submittal should be in compliance with Section 01 3300.

- B. UL Tested Systems: Submit drawings showing typical installation details for the methods of installation. Indicate which firestop materials will be used and thickness for different hourly ratings.
- C. Engineering Judgments: Submit manufacturer's drawings for all nonstandard applications where no UL tested system exists. All drawings must indicate the "Tested" UL system upon which the judgment is based so as to assess the relevance of the judgment to some known performance.
- D. Submit manufacturer's installation procedures for each type of product.
- E. Approved Applicator: Submit document from manufacturer wherein manufacturer recognizes the installer as qualified or submit a list of past projects to demonstrate capability to perform intended work.
- F. Upon completion, installer shall provide written certification that materials were installed in accordance with the manufacturer's installation instructions and details.
- G. Mockups:
 - 1. Prepare job mockup of the material proposed for use in the project as directed by Architect. Approved mockups shall be left in place as part of the finished project and will constitute the standard for remaining work, including aesthetics.
- H. Manufacturers Material Safety Data Sheet (MSDS) must be submitted for each manufactured product.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING (Coordinate with Section 01 61 00)

- A. Deliver all materials to be used in the work of this section to the project site in original sealed containers with manufacturer's brand and name, lot numbers, UL labeling, mixing and installation instructions clearly identified thereon.
- B. Store all materials in accordance with manufacturer's directions.
- C. All materials shall be dated with shelf life and shall be removed from the project site at the contractors expense if date is expired.

1.07 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM)
 - 1. E 814 - Standard Method of Fire Tests of Through Penetration Fire Stops.
 - 2. E 119 - Methods of Fire Tests of Building Construction and Materials.
 - 3. E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 4. 136 - Test Method for Behavior of Materials in a Vertical Tube Furnace at 750F
 - 5. E 1399 Cyclic Movement and Measuring Minimum and Maximum Joint Widths
 - 6. E 1966 - Test Method for Resistance of Building Joint
 - 7. E 2174 - Standard Practice for On-Site Inspection of Installed Fire Stops
 - 8. E 05.11.14 - Standard Test Method for Determining the Fire Endurance of Perimeter Fire Barrier Systems Using the Intermediate-Scale, Multi Story Test Apparatus (ISMA); ASTM permanent number assignment pending approval of Draft
- B. Underwriters Laboratories, Inc. (UL)
 - 1. UL 1479 - Fire Tests of Through Penetration Fire Stops.
 - 2. UL 263 - Fire Tests of Building Construction and Materials.
 - 3. UL 723 - Surface Burning Characteristics of Building Materials.
 - 4. UL 2079 Tests for Fire Resistance of Building Joint Systems
 - 5. UL "Fire Resistance Directory", current year, including but not limited to the following:
 - a. For penetrations by uninsulated, non-combustible items including steel pipe, copper pipe, rigid steel conduit and electrical metallic tubing (EMT) - UL System: CAJ1235, CAJ1404, WL1152.
 - b. For penetrations by insulated, non-combustible items including steel pipe, copper pipe, rigid steel conduit and electrical metallic tubing (EMT) - UL System: CAJ5222, CAJ5250, CAJ5251, WL5171.
 - c. For penetrations by PVC jacketed, flexible cable or cable bundles and plastic pipe (closed piping systems) - UL System: CAJ2401, CAJ3185, CAJ3199, CAJ3234, WL3118, WL3179, WL3199.
 - d. For penetrations by combustible plastic pipe (open piping systems) - UL System: CAJ2174, CAJ2339, CAJ2351, CAJ2432, WL2168, WL2170, WL2185, WL2259.
 - e. For penetrations by multiple combustible and/or noncombustible items - UL System: CAJ8101, CAJ8133, WL8007.

- f. For large size/complex penetrations made to accommodate cable trays, multiple steel and copper pipes, electrical busways in raceways - UL System: CAJ1406, CAJ1502, CAJ4053, CAJ6027, WJ6004, WL1207, WL1343 WL4030, WL6018.
 - g. For penetrations by steel ducts - UL System: CAJ7075, CAJ7082, WJ7045, WJ7046, L7006, WL7046, WL7081, WL7082.
 - h. For fire-rated construction joints and other gaps – OPL System: CEJ296P, CEJ302P.
6. For openings between structurally separate sections of wall and floors. At the top of walls - UL System: HWD0107, HWD0110, HWD0257, HWD0267, HWD0299, HWD0327, HWD0266, HWD0333, HWD0334.
- C. Factory Mutual (FM) Approval Guide, current year.
 - 1. FM Approval Standard of Firestop Contractors – Class 4991
 - D. Building code of the jurisdiction of the Work.
 - E. National Fire Protection Association
 - 1. NFPA 101 - Life Safety Code.
 - 2. NFPA 70 - National Electrical Code.
 - 3. NFPA 221 - Fire Walls and Fire Barriers (preliminary to be released)
 - 4. NFPA 251 - Fire Tests of Building Construction and Materials
 - F. FICA “Manual of Practice”
 - G. Certification of “DRI” employee(s)
 - H. International Firestop Council (IFC):
 - 1. Ref. 1 Recommended IFC Guidelines for Evaluating Firestop Engineering Judgments (April 2001)
 - 2. Ref. 2 Inspectors Field Pocket Guide

1.08 PROJECT CONDITIONS

- A. Conform to manufacturer's printed instructions for installation and when applicable, curing in accordance with temperature and humidity. Conform to ventilation and safety requirements.
- B. Coordinate work required with work of other trades; fire stopping shall, **where practical**, precede gypsum board or other applied sheet finishing operations.
- C. Where firestopping is installed at locations which will remain exposed in the finished work, provide protection as necessary to prevent damage to adjacent surfaces and finishes, and protect as required against damage from other construction operations.

1.09 SEQUENCING

- A. Schedule firestopping after installation of penetrants but prior to concealing the openings.
- B. Firestopping shall precede gypsum board finishing.

1.10 PROTECTION

- A. A Where firestopping is installed at locations which will remain exposed in the completed work, provide protection as necessary to prevent damage to adjacent surfaces and finishes, and protect as necessary against damage from other construction activities.

1.11 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 postindustrial waste.

Part 2 - PRODUCTS

2.01 GENERAL

- A. Firestopping materials and systems shall meet the requirements specified herein.
- B. Architect must approve in writing any alternates to the materials and systems specified herein.

- C. All firestop products and systems shall be designed and installed so that the basic sealing system will allow the full restoration of the thermal and fire resistance properties of the barrier being penetrated with minimal repair if penetrants are subsequently removed.
- D. For applications where combustible penetrants are involved, i.e.. insulated and plastic pipe, a suitable intumescent material must be used.

2.02 SPECIFICATION STANDARD: For purposes of establishing standards of quality and levels of performance and not for the purposes of limiting competition, the basis of this specification is upon units as manufactured by one of the following and their respective model suitable for the intended application.

- A. Hilti, Inc.
- B. Specified Technologies, Inc.
- C. Grace/IPC Corp.
- D. Nelson Firestop Products
- E. Tremco, Inc.
- F. U.S. Gypsum Company
- G. Johns Manville

2.03 PRODUCTS SHALL GENERALLY INCLUDE

- A. Cast-In-sleeves (3M CID)
- B. Mortar seals
- C. Fire stop design sealant compounds, caulk and foam systems.
- D. Putty and putty pads
- E. Firestop kits including collars, plugs, etc.
- F. Seal bags
- G. Tapes and blankets
- H. Intumescent design wrap strips
- I. Mineral type unfaced safing insulation with third party wrap, 3.5 pcf density, UL R-10905 label.

2.04 ACCESSORY ELEMENTS

- A. Forming, damming materials shall be mineral fiber board or other suitable material recommended by nominated system manufacturer.
- B. Primers, sealant and solvent cleaners shall be as recommended by the nominated system manufacturer.
- C. Metal Systems - 20 gauge phosphatized, electrogalvanized steel plate and/or galvanized steel clips.

2.05 Balance of materials shall be as specified elsewhere in this Section.

Part 3 - EXECUTION

3.01 INSPECTION AND ACCEPTANCE

- A. Examine all surfaces and contiguous elements to receive work of this section and correct, as part of the Work of this Contract, any defects affecting installation. Commencement of work will be construed as complete acceptability of surfaces and contiguous elements.
- B. Verify that environmental conditions are safe and suitable for installation of firestop products.
- C. Verify that all pipe, conduit, cable, and other items which penetrate fire-rated construction have been permanently installed prior to installation of firestops.

3.02 PREPARATION

- A. The surface shall be dry, clean, and free of all foreign matter. Do not apply firestopping to surfaces previously painted or treated with a sealer, curing compound, water repellent or other coatings unless tests have been performed to ensure compatibility of materials.
- B. Provide primers as required which conform to manufacturer's recommendations for various substrates and conditions.
- C. Mask where necessary to protect adjoining surfaces.
- D. Remove excess material and stains on surfaces as required.

3.03 INSTALLATION - GENERAL SYSTEMS

- A. Install in strict accordance with manufacturer's printed instructions as well as U.L guidelines and state and local fire codes..
- B. Ensure that anchoring devices, backup materials, clips, sleeves, supports and other materials used in the actual fire test are installed.

- C. Install firestopping with sufficient pressure to properly fill and seal openings to ensure an effective smoke seal.
- D. Tool or trowel exposed surfaces. Remove excess firestop material promptly as work progresses and upon completion.
- E. Install dams when required to properly contain firestopping materials within openings and as required to achieve required fire resistance ratings. Combustible damming materials must be removed after appropriate curing. Incombustible damming materials may be left as a permanent component of the firestopping system.

3.04 FIRESTOPPING CONSTRUCTION AT BUILDING EXTERIOR PERIMETERS, INTERIOR WALLS, SHAFTS, ETC.

- A. Install material of proper size on continuous plates or clips as required for proper support in order to safe-off area between exterior walls, interior walls and shafts and floor slabs and said walls and roof areas leaving NO VOIDS. Firestopping is required at all juncture conditions whether or not clips, angles or other structural elements exist either intermittently or continuously. Attach plates and/or clips to floor levels and other breaks and extend through framing to sheathing and/or other solid strata. Where metal decking flutes, either parallel or perpendicular to walls, occur and are open, same shall be fully packed and sealed with proper firestopping system. Where firestopping is accomplished after installation of drywall or other applied sheet finish, all spaces between penetrations and finish shall be filled to the thickness of said sheet finish with intumescent caulk.
- B. At all linear openings, fill voids with a minimum of 6 inches of minimum 3.5 lb./cu.ft. density safing insulation as specified in Part 2 herein and cover entire surface with UL listed firestop sealant of one of nominated manufacturers identified in Part 2 herein.

3.05 PENETRATION SEALS

- A. Penetrations are defined as conduits, cables, wires, piping, ducts or other elements passing through one or both outer surfaces of fire rated walls, floors or partitions and shall be firestopped on both sides of penetration in accordance with requirements set forth in Paragraph 1.04 of this Section.
- B. Where sleeves are used, same shall be as specified in Part 2 herein; in event that sleeves are not used, core openings and caulk or wrap penetrating items with intumescent system the full length of penetration and seal on both sides with intumescent caulk. Residual openings within square or rectangular holes shall be filled with compounds applicable for substrate encountered and all penetrations sealed on both sides with caulk.

3.06 FIELD QUALITY CONTROL

- A. Contractor shall immediately notify the Architect if the firestopping systems herein specified cannot meet the requirements of the specification.
- B. Contractor shall examine firestops to ensure proper installation and full compliance with this specification.
- C. All areas of work must be accessible until inspection by the applicable Code authorities.
- D. Correct unacceptable firestops and provide additional inspection to verify compliance with this specification at no additional cost.

3.07 IDENTIFICATION

- A. Identify firestop systems with pressure-sensitive, self-adhesive, preprinted vinyl labels. Attach labels permanently to surfaces of penetrated construction on both sides of each firestop system installation where labels will be visible to anyone seeking to remove penetrating items or firestop systems. Include the following information on labels:
 - 1. The words: "Warning--Firestop System--Do Not Disturb. Notify Building Management of Any Damage."
 - 2. Contractor's name, address, and phone number.
 - 3. Firestop system designation of applicable testing and inspecting agency.
 - 4. Date of installation.
 - 5. Firestop system manufacturer's name.
 - 6. Installer's name.

3.08 CLEANING

- A. When finished work will be visible, clean adjacent surfaces in accordance with manufacturer's printed instructions.
- B. If visible in the finished work, remove temporary dams after initial cure of firestops.
- C. Correct staining and discoloring on adjacent surfaces.
- D. Remove all debris and excess materials entirely from site and leave work in a neat and clean condition.

3.09 FIRESTOP SYSTEM SCHEDULE

- A. The following schedules shall be completed by the Contractor and reviewed prior to submission to the Architect. The untitled table included shall be completed with each of the following categories of penetrating items.
 - 1. Single uninsulated metallic piping and conduit.
 - 2. Multiple uninsulated metallic piping and conduit.
 - 3. Uninsulated plastic piping and conduit.
 - 4. Insulated metallic piping.
 - 5. Insulated high temperature flues and exhaust pipes (boiler flues, generator exhausts insulated with calcium silicate or other non-combustible insulation).
 - 6. Cable tray.
 - 7. Electrical/telephone cable.
 - 8. Bus duct.
 - 9. Miscellaneous penetrations.
- B. Complete the additional tables for the following using the format provided.
 - 1. Blanks, voids, holes.
 - 2. Engineering judgments.
 - 3. Fire rated/resistant joints.
 - 4. Ductwork engineering judgments.

3.10 WASTE MANAGEMENT – Coordinate with Section 01 74 19

- A. Separate and recycle materials and material packaging in accordance with Waste Management Plan and to the maximum extent economically feasible and place in designated areas for recycling.
- B. Set aside and protect materials suitable for reuse and/or remanufacturing.
- C. Separate and fold up metal banding; flatten and place along with other metal scrap for recycling in designated area.

PENETRATING ITEM:

Manufacturer/Product Name:

Color:

Accessories:

INSERT CHART

ENGINEERING JUDGMENTS (Submit Actual Installation Drawing and Letter of Certification)

Manufacturer/Product Name:

Color:

Accessories:

INSERT CHART

FIRE RATED/RESISTANT JOINTS

Manufacturer/Product Name:

Color:

Accessories:

INSERT CHART

DUCTWORK ENGINEERING JUDGMENTS

(Submit Actual Installation Drawing and Letter of Certification)

Manufacturer/Product Name:

Color:

Accessories:

INSERT CHART

End of Section

SECTION 07 90 00
CAULKING AND SEALING/JOINT SEALANTS

Part 1 - GENERAL

1.01 Applicable provisions of the Conditions of the Contract and Division #1, General Requirements, govern work in this Section.

1.02 DESCRIPTION OF WORK

- A. The work of this Section consists of the provision of all plant, materials, labor and equipment and the like necessary and/or required for the complete execution of all caulking and sealing work for this project as required by the schedules, keynotes and drawings.

It will be the responsibility of the nominated supplier/suppliers of any sealant system proposed for use in the work to perform a "bond" test on all substrates to determine adhesion properties and requirement, if any, for primer application; coordinate with Article 1.05 herein.

NOTE: Sealants are generally required at the following locations

- a. Interior door frames to surrounding face construction;
- b. Interior window trim/reveals to window frames;
- c. Plumbing fixtures and accessories where same abut finished surfaces;
- d. Scribed counter and casework systems where same abut finished surfaces;
- e. **Where gypsum wall board is in contact with concrete slabs, walls and columns (tops, bottoms and sides)**
- f. **Where concrete block is in contact with concrete slabs, walls and columns (tops, bottoms and sides)**
- g. **At fire rated gypsum partition systems (coordinate with Section 09 29 00)** and like locations where dissimilar materials abut each other in finished areas.

1.03 RELATED WORK SPECIFIED ELSEWHERE - Entire Project Specification.

1.04 QUALITY ASSURANCE

- A. Bond testing shall be performed as noted in Paragraph 1.02.A above and results submitted to Architect for file.
- B. All surfaces to receive sealant shall be dry and cleaned of all foreign matter as specified in Part 3.
- C. Application devices shall have nozzles of proper size and shall provide sufficient pressure to completely fill joints as detailed.
- D. Sealants shall comply with VOC requirements of the Jurisdiction of the Work, or in absence of said regulation, all material shall comply with the following as applicable for particular application and shall **not** contain or be formulated with aromatic solvents, halogenated solvents, fibrous talc or asbestos, formaldehyde, mercury, lead, cadmium, hexavalent chromium or their derivatives.
- E. Reference Standards
 - 1. ASTM C 719 - Standard Test Method for Adhesion and Cohesion of Elastomeric Joint Sealants Under Cyclic Movement (Hockman Cycle).
 - 2. ASTM C 794 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants.
 - 3. ASTM C 834 - Latex Sealing Compounds
 - 4. ASTM C 919 – Standard Practice for Use of Sealants in Acoustical Applications.
 - 5. ASTM C 920 - Elastomeric Joint Sealants.
 - 6. ASTM C 1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems.
 - 7. ASTM C 1193 - Standard Guide for Use of Joint Sealants.
 - 8. ASTM C 1248 - Standard Test Method for Staining of Porous Substrate by Joint Sealants.
 - 9. ASTM C 1311 – Solvent Release Sealants.
 - 10. ASTM C 1330 – Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants.
 - 11. ASTM C 1401 – Standard Guide for Structural Sealant Glazing
 - 12. ASTM C 1481 – Standard Guide for Use of Joint Sealants with Exterior Insulation and Finish Systems (EFIS)
 - 13. ASTM D 1056 - Flexible Cellular Materials, Sponge or Expanded Rubber.

14. SWRI (Sealant, Waterproofing and Restoration Institute) -Sealant and Caulking Guide Specification.

1.05 UBMITTALS – Coordinate with Section 01 33 00

- Submittals shall be made in groupings where installations are complementary, i.e. steel, steel decking, steel stairs, stair railings; roof systems/flashings; mechanical and electrical apparatus and the like. Failure to comply with this requirement will be cause for rejection of any or all submittals.
- As set forth in Sections 01 33 00 and 01 32 00, prepare and submit a fully developed submittal schedule; note review times set forth in Section 01 33 00 are deemed “average”, for large submissions allow longer review times.
- Attention is directed to Section 01 31 14 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”.
- 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.

A. Product Data indicating for each type of sealant and component used in this work - chemical characteristics; performance criteria; substrate preparation; limitations; color availability; and the like affecting the use of each product.

B. Samples of all components to be used in the work of this section.

C. Color charts for selection.

D. Test Reports:

1. Submit results of laboratory pre-construction testing.
2. Submit results of field pre-construction testing.
3. Submit manufacturer's recommendations for joint preparation, priming, and joint accessory materials based on test results.
4. Submit manufacturer's recommended installation procedure modifications resulting from field adhesion tests.

E. Manufacturer's installation instructions indicating, if any, special procedures; surface preparation; perimeter conditions requiring special attention; and like items affecting installation of each product. **Results of bond tests shall be incorporated in installation recommendations.**

F. Certification of specification compliance.

1. Certify products are suitable for intended use and products meet or exceed specified requirements.
2. Certify applicator is approved by manufacturer.

G. Qualification Data: Submit applicator's qualifications, including reference projects of similar scope and complexity, with current phone numbers and contact names of architects and owners for verification.

H. Manufacturer's Field Reports:

1. Indicate time present at project site.
2. Include observations, indicate compliance with manufacturer's installation instructions, and supplemental instructions provided to installers.

I. Manufacturers Material Safety Data Sheet (MSDS) must be submitted for each manufactured product.

J. Operation and Maintenance Data:

1. Submit recommended inspection intervals.
2. Submit instructions for repairing and replacing failed sealant joints.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING (Coordinate with Section 01 61 00)

- A. Deliver products in original factory packaging bearing identification of product, manufacturer, and batch number. Provide Material Safety Data Sheets for each product.
- B. Store products in a location protected from freezing, damage, construction activity, precipitation, and direct sunlight in strict accordance with manufacturer's recommendations.
- C. Condition products to approximately 60 to 70 degrees F (16 to 21 degrees C) for use in accordance with manufacturer's recommendations.
- D. Handle all products with appropriate precautions and care as stated on Material Safety Data Sheet.

1.07 QUALITY CONTROL

- A. Preconstruction Sealant Tests for Adhesion and Compatibility: Submit sealant samples for each material to be sealed in the work including, but not limited to metal flashing, painted wood at windows, glazing gaskets, glazing materials, framing members, masonry and stone of each type used, and all other components and accessories, to sealant manufacturer to verify sealant compatibility and to determine, by testing in compliance with ASTM C 794, as well as the type of primer required for each condition to ensure sealant adhesion to substrates.
1. Cost of Testing: The sealant manufacturers shall perform and/or the Contractor shall, at his own expense employ an independent testing agent acceptable to the Architect to perform tests and certifications indicated. No costs shall be passed to the Owner.
 2. Test Samples: Submit to the testing agency or sealant manufacturer at least 5 pieces of each type, finish, kind, condition, and form of material to which sealant is to be attached.
 3. Scheduling: Scheduling sufficient time for testing, analysis, and reporting of results.
 4. Test Reports and Recommendations: Obtain written reports and recommendations regarding proper sealant material, primer, and application for each condition. Use sealants and substrates only in combinations for which favorable adhesion and compatibility results have been obtained.
- B. Construction Sealant Adhesion Tests shall be performed as specified under "Field Quality Control" in Part 3 of this Section.

1.08 SPECIAL GUARANTEE/WARRANTY TERMS

- A. This Contractor shall, and hereby does warrant; and the Contractor shall, and hereby does guarantee that caulking and sealing work will be free from defects of materials and workmanship for 2 years from the date of final acceptance of this work. The following types of failure will be adjudged defective work: leakage, hardening, chalking, crumbling, melting, shrinking or running of caulking; or staining of adjacent work by caulking. Repair and replace work which becomes defective during the guarantee term, without cost to the Owner.

1.09 SITE ENVIRONMENTAL PROCEDURES

- A. Indoor Air Quality: Temporary ventilation: Provide temporary ventilation during work of this Section. Coordinate interior application of joint sealants with interior finishes schedule.

1.10 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 postindustrial waste.

Part 2 - PRODUCTS

2.01 GENERAL

- A. Joint primer, sealer and/or conditioner shall be as recommended by the sealant manufacturer.
- B. Preformed joint fillers shall be nonstaining compatible with Backer Rod for General Vertical Use: ASTM C 1330, Types B or C, rod stock closed cell polyethylene foam, closed cell neoprene foam, or open cell urethane foam, as recommended by sealant manufacturer as being compatible both with the sealant used and the primer.
- C. Accessory Items:
1. Bond Breaker Tape - Polyethylene or other plastic tape as recommended by the sealant manufacturer; non-bonding to sealant; self-adhesive where applicable; thickness, minimum 0.012 inch.
 2. Cleaning Solvents - Oil free solvents as recommended by the sealant manufacturer. Do not use reclaimed solvents.

3. Masking Tape - Removable paper or fiber tape, self-adhesive, non-staining.
4. Materials impregnated with oil, bitumen or similar materials shall not be used.

D. Sealant Colors

1. Exposed materials, provide color as indicated or, if not indicated, as selected by the Architect from manufacturer's standard colors.
2. Concealed materials, provide the natural color which has the best overall performance characteristics.

2.02 MATERIAL TABLE

- A. Type - IIA - GLAZING SYSTEMS - Sealant compound - Silicone rubber of design recommended by the manufacturer for the intended application and similar and equal to -
1. General Electric -SSG 4000 OR 4200 Structural Glazing Sealant; 3211 or 3103 Insulating Glass Sealant; 2000 Weather Seal.
 2. Dow Corning – 795, 895, 983 or 995 as suitable for encountered conditions.
 3. Tremco Inc.– Tremco Proglaze SG or Spectrem 2 Structural Glazing Sealant; Tremco Proglaze II Insulation Glass Sealant.
 4. Pecora #895 or other suitable combination as recommended by the nominated manufacturer of the overall window/curtain wall assembly.
- B. Type - IIB - SANITARY SEALS (use at interior wet areas only -Counter tops to surrounds - Material shall be a single component, mildew resistant silicone sealant similar and equal to -
1. Dow Corning - 786
 2. General Electric - Sanitary 1700
 3. Bostik - Silicone Rubber Bathroom Caulk.
 4. Pecora - #898 or 863 at option of Contractor.
 5. Tremco – Tremsil 200
- C. Type - V (For use in acoustical sealing operations) – Sealant compound - Butyl Rubber or Latex Base for developing acoustical requirements specified. Material shall be similar and equal to -
1. Pecora (BA-98)
 2. W.W. Henry (313)
 3. U.S. Gypsum (Acoustical Sealant)
 4. Tremco (Acoustical Sealant)
- D. Type - VI (For interior sealant systems around door frames, window reveals and like locations in painted surfaces) - Sealant compound– Siliconized Acrylic Latex or FDC Siliconized Acrylic each with a 50 year warrantee similar and equal to:
1. RCS20 by GE-Silicones.
 2. DAP® ALEX PLUS® Acrylic Latex Caulk Plus Silicone
 3. LIFETIME® Siliconized Acrylic by Red Devil
 4. Pro Select® Siliconized Acrylic Latex Caulk by Sherwin Williams Backing - as required by conditions of use.
- E. Type - VII – Fire Rated Caulking compound for bedding and/or sealing of joints in rated gypsum wall systems shall be similar and equal to: “AC20 – FTR” by Pecora; “Tremstop Acrylic” by Tremco; “Blockade” by DAP or approved equal.

Part 3 - EXECUTION

3.01 INSPECTION AND ACCEPTANCE

- A. Examine all surfaces and contiguous elements to receive work of this section and correct, as part of the Work of this Contract, any defects affecting installation. Commencement of work will be construed as complete acceptability of surfaces and contiguous elements.

3.02 JOINT DESIGN

- A. Joints shall be a maximum of 3/8 inch deep by minimum 3/8 inch wide.
- B. Joints in metal, glass and other non-porous surfaces: Depth shall be a minimum of 1/2 the applied sealant width, and shall in no case exceed the applied sealant width.

3.03 PREPARATION

- A. Prepare joints in accordance with ASTM C 1193 and manufacturer's instructions.
- B. Clean joint surfaces immediately before installation of sealant and other materials specified in this Section.

3.04 JOINT BACKING INSTALLATION

- A. Install bond breaker tape in relaxed condition as it comes off the roll. Do not stretch the tape. Lap individual lengths.
- B. Prevent three sided adhesion by use of bond breaker tapes or backer rods at the back of the joint. Install backer rods at the proper depth to create the specified sealant depth, avoid placing backer rods too deep which will result in sealant failure due to excessive sealant depth. Backup material shall be suitable size and shape so that when compressed 20 to 50%, it will fit in all joints where required. Do not cut or puncture the surface skin of the rod.
- C. Apply masking tape where required by surfaces encountered, and as may be determined by mockup testing, in continuous strips in alignment with joint edge. Remove tape immediately after joints have been sealed and tooled.

3.05 SEALANT INSTALLATION

- A. Prime surfaces where required with primer recommended by sealant manufacturer and as determined by "bond" test required in Part 1 of this Section.
- B. Apply, tool and finish sealant in accordance with manufacturer's recommendations.
- C. Finishing: Tool all vertical, non-sag sealants so as to compress the sealant, eliminating all air voids and providing a neat smoothly finished joint. Provide slightly concave joint surface, unless otherwise indicated or recommended by the manufacturer.

3.06 FIELD QUALITY CONTROL

- A. Require sealant manufacturer to be present at project site to:
 - 1. Observe sealant mockup installation and to issue reports of observations.
 - 2. Conduct field pre-construction testing.
- B. Test Samples
 - 1. If requested by the Architect, for each 1,000 linear feet of joint installed, cut out and carefully remove a 6 inch long sample of the undisturbed sealant and joint backer material from the newly installed Work. Remove the samples in the presence of the Testing Laboratory's Representative, who will retain them for evaluating and testing.
 - 2. Reseal cutout areas with the same type materials.

3.07 CLEANING

- A. Immediately remove misapplied sealant and droppings from metal surfaces with solvents and wiping cloths. On other materials, remove misapplied sealant and droppings by methods and materials recommended in writing by the manufacturer of the sealant material.
- B. After sealants are applied and before skin begins to form on sealant, remove all masking and other protection. Clean up remaining defacement caused by the Work.
- C. All finished work shall be left in neat, clean condition.

3.08 WASTE MANAGEMENT – Coordinate with Section 01 74 19

- A. Separate waste in accordance with the Waste Management Plan.
- B. Close and seal tightly all partly used sealant containers and store protected in well-ventilated, fire-safe area at moderate temperature.
- C. Place used sealant tubes and containers in areas designated for hazardous materials.

End of Section

SECTION 09 90 00

PAINTING AND COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This Section includes surface preparation and field painting of exposed interior and exterior items and surfaces.
 - 1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.

- B. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Project Manager will select from standard colors and finishes available.
 - 1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron supports, and surfaces of mechanical and electrical equipment that do not have a factory-applied final finish.

- C. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
 - 1. Prefinished items include the following factory-finished components:
 - a. Architectural woodwork.
 - b. Acoustical wall or ceiling panels.
 - c. Metal toilet enclosures.
 - d. Elevator entrance doors and frames.
 - e. Elevator equipment.
 - f. Finished mechanical and electrical equipment.
 - g. Light fixtures.
 - h. Fire, Smoke, and Life Safety equipment.
 - 2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
 - a. Furred areas.
 - b. Ceiling plenums.
 - c. Pipe spaces.
 - d. Duct shafts.
 - e. Elevator shafts.
 - 3. Finished metal surfaces include the following:
 - a. Anodized aluminum.
 - b. Stainless steel.
 - c. Chromium plate.
 - d. Copper and copper alloys.
 - 4. Operating parts include moving parts of operating equipment and the following:
 - a. Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.
 - d. Motor and fan shafts.

5. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.02 DEFINITIONS

- A. The term "Painting" wherever used herein, means the application of all coatings such as paint, primer, enamel, varnish, shellac, oil, etc. as listed in the Painting Schedules.
- B. Standard coating terms defined in ASTM D 16 apply to this section.
 1. Flat refers to a lusterless or matte finish with a gloss range below 15 when measured at an 85-degree meter.
 2. Eggshell refers to low-sheen finish with a gloss range between 20 and 35 when measured at a 60-degree meter.
 3. Semi-gloss refers to medium-sheen finish with a gloss range between 35 and 70 when measured at a 60-degree meter.
 4. Full gloss refers to high-sheen finish with a gloss range more than 70 when measured at a 60-degree meter.
- C. The term "Painting" shall also include preparation of surface for such application, and the clean-up as hereinafter specified.
- D. The term "Walls" means all vertical surfaces from floor, or top of base, or top of wainscot, to ceiling or suspended ceiling.
 1. Include pilasters, breaks, jambs, reveals, returns, arches.
 2. Include hardboards, pegboards.
 3. Include free-standing columns, low partitions.
 4. Includes interior of all enclosed spaces.
 5. Includes exterior concrete block, metal panels, wood siding, wood shingles.
- E. The term "Ceilings" means the general overhead horizontal surfaces including cornices, fascias, arches, soffits, stair soffits, metal frame of ceiling lights and the like.

1.03 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.
- B. ASTM D 16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications; 2007.
- C. ASTM D 4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 1992 (Reapproved 2003).
- D. Green Seal GS-11 – Paints and coatings (2011).
http://www.greenseal.org/Portals/0/Documents/Standards/GS-11/GS-11_Paints_and_Coatings_Standard.pdf
- E. Green Seal GC-03 – Anticorrosive Paints,
<http://www.greenseal.org/Portals/0/Documents/Standards/GS-11%20Stn%20Dev/anti-corrosivepaints.pdf>
- F. South Coast Air Quality Management District Rule 1113, Architectural Coatings,
www.aqmd.gov/rules/reg/reg11/r1113.pdf
- G. California Air Resources Board (ARB) Suggested Control Measure for Architectural Coatings
http://www.arb.ca.gov/coatings/arch/approved_2007_scm.pdf
- H. Environmental Conservation Law, Article 19 6NYCRR, part 205 (Architectural Coatings).

1.04 SITE ENVIRONMENTAL PROCEDURES

- A. Indoor Air Quality: Provide temporary ventilation as required to maintain adequate ventilation in enclosed areas throughout construction period required to: facilitate progress of Work; to protect Work against dampness and heat; to prevent moisture condensation on surfaces; to provide suitable ambient temperatures for installation and curing of painting; to provide adequate ventilating; to meet health regulations for safe working environment; and, to prevent hazardous accumulations of dusts, fumes, mists, vapors or gases in areas occupied during

construction. Provide local temporary exhaust ventilating to prevent harmful dispersal of hazardous substances into atmosphere of occupied areas. Dispose of exhaust materials in manner that will not result in harmful exposure to persons or property. Provide ventilating operations at all times personnel occupy an area, when subject to hazardous accumulations of harmful elements. Continue operation of temporary ventilating system for as long as required after cessation of Work to assure removal of harmful elements.

In areas where the Work shall occur near building or area ventilation intake vents and/or devices, Contractor shall notify Project Manager, in writing, at least 72 hours in advance. Project Manager will determine if intake vents and/or devices need to be turned off or shutdown prior to the Work commencing. The College will make every effort to comply with the Contractor's request, pending review of how said turn-off or shutdown will impact surrounding areas, building operations, and programs.

1.05 SUSTAINABILITY

- A. Materials used for the work of this Section shall, where applicable be VOC compliant with the latest rulings from the EPA and shall further meet LEED requirements which are set by Green Seal, Inc. In addition, the Green Seal recommendations that paints be formulated without specific harmful ingredients (e.g., formaldehyde, benzene) and heavy metals (e.g., cadmium, lead, mercury) shall be enforced. For architectural coatings other than paint, systems shall comply with the California Air Resources Board (ARB) Suggested Control Measure for Architectural Coatings (2008) and/or the South Coast Air Quality Management District's Rule 1113.
- B. VOC Content: Determine VOC (Volatile Organic Compound) content of solvent borne and waterborne paints and related coatings in accordance with EPA Method 24 and ASTM D 3960.
- C. 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 VOC (Volatile Organic Compound) 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.

1.06 SUBMITTALS

- A. Product Data: Submit manufacturers' product literature for all coating materials, including paint label analysis and application instructions, recommendations for environmental conditions, surface preparation, priming, mixing, reduction, spreading rate, and storage for each material proposed for use.
- B. Product Data-Safety: Safety Data Sheets for each product to be used must be submitted to the Project Manager before application, including VOC content.
- C. Samples: Submit samples for Project Manager's review of color and texture only. Compliance with all other requirements is the exclusive responsibility of the contractor. Provide a listing of material and application for each coat of each finish sample. Samples are to be labeled for location and application.
- D. Samples are to be 12" x 12" hardboard, provide two (2) samples of each color and material, with texture to simulate actual conditions.
- E. Stain Killer: Submit manufacturer's technical information including label, analysis and application instruction.
- F. Certification: By manufacturer that all paints and coatings comply with VOC limits specified.
- G. Certification: By manufacturer that all paints and coatings do not contain any of the prohibited chemicals specified; Green Seal GS-11 and GC-03 certification is not required but if provided shall constitute acceptable certification.
- H. Manufacturer's Instructions: Indicate special surface preparation procedures.

- I. Maintenance Data: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.
- J. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. Extra Paint and Coatings: 1 gallon of each color; store where directed.
 - 2. Label each container with color in addition to the manufacturer's label.

1.07 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.
- B. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance.
- C. Source Limitations: Obtain primers for each coating system from the same manufacturer as the finish coats.
- D. Before and during the application of interior finishing, varnishing, painting, etc. and until final acceptance by the Project Manager of all work covered by the Contract, the Contractor shall, unless otherwise specified in the Contract Documents, provide sufficient heat to produce a temperature of not less than 68 degrees F nor more than 78 degrees F.
- E. Regulatory Requirements
 - 1. Applicable building code.
 - 2. New York State Department of Environmental Conservation –Part 205 in “Architectural Surface Coatings” – for Volatile Organic Compounds (VOC).
 - 3. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) Construction Industry Standards (29 CFR 1926/1910), Revised 1993, Washington, DC.
 - 4. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) Construction Industry Standards Part 1926.62, Lead Standard.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to job site in manufacturer's original, new and unopened packages and containers bearing manufacturers name and label, and the following information:
 - 1. Project Name or title of material.
 - 2. Product description (generic classification of binder type).
 - 3. Fed Spec. number if applicable, Manufacturers name, stock number and date of manufacture.
 - 4. Contents by volume for major pigment and vehicle constituents.
 - 5. Thinning instructions.
 - 6. Application instructions.
 - 7. Color and number.
 - 8. VOC content.
- B. The college will provide one storage room exclusive for paint for the contractor to use during the duration of the contract. This will be in the Old Dorms, room C-09 unless and until other location(s) are designated. The contractor is responsible for maintaining the storage room to acceptable standards and for the security of equipment and materials. Remove oily rags and waste daily. The college is allowed to inspect the room as required.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in a well-ventilated area, and as required by manufacturer's instructions. Maintain storage containers in a clean condition, free of foreign materials and residue.
- D. As required by OSHA standard 29 CFR 1910.1200, the contractor shall provide Safety Data Sheets for all products the contractor brings on site. All such products shall be properly labeled in accordance with. The storage of water based paints and other nonflammable material shall be limited to no more than twenty-five (25)

gallons at any one time. Oil-based paints, lacquer finishes, cleaning solvents and other flammable materials must be stored in fire-proof storage cabinets provided by the contractor and approved by the Project Manager.

- E. The contractor shall store materials and equipment in areas on site only as designated by the College. All materials shall be stored in a neat and orderly manner, and those subject to weather damage shall be protected by contractor against the weather by floored weatherproof temporary storage trailers. No painting work will start in any area until the contractor has the required materials on site.

1.09 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the coating product manufacturer, or as listed below (whichever is more restrictive):
 - 1. Apply water-base paints only when temperatures of surfaces to be painted and surrounding air temperatures are between 50 degrees F (10 degrees C) and 90 degrees F (32 degrees C) unless otherwise permitted by paint manufacturers printed instructions.
 - 2. Apply solvent-thinned paints only when temperature of surface to be painted and surrounding air temperatures are between 45 degrees F (7.2 degrees C) and 95 degrees F (35 degrees C) unless otherwise permitted by paint manufacturers printed instructions.
 - 3. Do not apply paint in snow, rain, fog or mist; or when relative humidity exceeds 85%; or to damp or wet surfaces, unless otherwise permitted by paint manufacturers printed instructions.
 - 4. Provide finish coats which are compatible with prime paints used. Provide coats and/or re-prime if primer is found to be incompatible with finish coats.
- B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.
- C. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors; 50 degrees F for exterior; unless required otherwise by manufacturer's instructions.
- D. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. All materials used in the work shall be pure, of best quality, and "Top-of-Line" of approved manufacturers. Materials not displaying manufacturers' identification as a standard, best-grade product will not be acceptable.
- B. Furnish all materials from one manufacturer unless otherwise specifically approved by Project Manager; no exceptions.
- C. Manufacturers' products which comply with coating requirements of applicable Federal Specifications, yet differ in quantitative requirements, may be considered for use when acceptable to Project Manager. Furnish material data and manufacturers' certificate of performance to Project Manager for any proposed substitutions. Information submitted shall outline how substitution matches or exceeds standards of specified projects.
- D. Acceptable Manufacturers:
 - 1. Benjamin Moore & Co. – <http://www.benjaminmoore.com>
 - 2. Sherwin-Williams – <http://www.sherwin-williams.com>
 - 3. PPG Industries – <http://www.ppg.com>
 - 4. Glidden/ICI Industries – <http://www.glidden.com>
 - 5. Pratt & Lambert – <http://www.prattandlambert.com>

2.02 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
 - 1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.

2. Supply each coating material in quantity required to complete entire project's work from a single production run.
 3. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
 4. Paint colors, surface treatments, and finishes are to be specified by Project Manager.
 5. Prior to beginning work, Project Manager will furnish color chips for surfaces to be painted.
 6. Use representative colors when preparing samples for review.
 7. Final acceptance of colors will be from samples applied on the job.
 - a). Color Pigments: Pure, non-fading applicable types to suit substances and surfaces indicated.
 - b). Lead Content: Paint as specified in this specification shall be void of any lead content.
 - c). This limitation is extended to interior surfaces and those exterior surfaces, such as stairs, decks, porches, railings, windows, and doors which are readily accessible to children under seven (7) years of age.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
1. Apply prime coat to material which is required to be painted or finished and which has not been prime coated by others.
 2. Re-coat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat to assure a finish coat with no burn-through or other defects due to insufficient sealing.
- C. Volatile Organic Compound (VOC) Content:
1. Provide coatings that comply with the most stringent requirements specified in the following:
 - a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
 - b. Ozone Transport Commission (OTC) Model Rule, Architectural, Industrial, and Maintenance Coatings; www.otcair.org; specifically:
 - 1) Opaque, Flat: 50 g/L, maximum.
 - 2) Opaque, Nonflat: 150 g/L, maximum.
 - 3) Opaque, High Gloss: 250 g/L, maximum.
 - 4) Varnishes: 350 g/L, maximum.
 - c. Architectural coatings VOC limits of State in which the project is located.
 2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.
- D. Colors: As indicated by Project Manager or as outlined in project documents.

2.03 MIXING AND TINTING

- A. Except where specifically noted in this section, all paint shall be ready-mixed and pre-tinted. Agitate all paint prior to and during application to ensure uniform color, gloss, and consistency.
- B. Thinner addition shall not exceed manufacturer's printed recommendations. Do not use kerosene or other organic solvents to thin water-based paints.
- C. Where paint is to be sprayed, thin according to manufacturer's current guidelines.

2.04 PAINT SYSTEMS - EXTERIOR

- A. Concrete and Stucco - Opaque, Latex / Alkyd, 3 Coat:
 1. One coat of latex/alkyd exterior primer sealer.
 2. Flat/Low Luster/Satin/Semi-Gloss/High Gloss: Two coats of exterior grade latex/alkyd.
- B. Concrete Masonry Units (CMU) - Opaque, Latex, 3 Coat:
 1. One coat of latex exterior block filler or masonry primer sealer.
 2. Flat/Low Luster/Satin/Semi-Gloss/High Gloss: Two coats of exterior grade latex.
- C. Ferrous Metals, Unprimed, Latex/Alkyd/Epoxy, 3 Coat:
 1. One coat of alkyd/acrylic/epoxy metal primer.
 2. Gloss: Two coats of latex/alkyd enamel.
 3. Semi-gloss: Two coats of latex/alkyd enamel.
- D. Ferrous Metals, Primed, Latex/Alkyd, 2 Coat:

1. Touch-up with rust-inhibitive primer recommended by top coat manufacturer.
 2. Gloss: Two coats of latex/alkyd enamel.
 3. Semi-gloss: Two coats of latex/alkyd enamel.
- E. Wood - Opaque, Latex/Alkyd, 3 Coat:
1. One coat of latex/alkyd exterior primer sealer.
 2. Flat/Low Luster/Satin/Semi-Gloss/High Gloss: Two coats of exterior grade latex/alkyd.
- F. Gypsum Board and Plaster - Opaque, Latex/Alkyd, 3 Coat:
1. One coat of latex/alkyd exterior primer sealer.
 2. Flat/Low Luster/Satin/Semi-Gloss/High Gloss: Two coats of exterior grade latex/alkyd.

2.05 PAINT SYSTEMS - INTERIOR

- A. Concrete and Stucco - Opaque, Latex, 3 Coat:
1. One coat of latex interior primer sealer.
 2. Flat/Eggshell/Satin/Semi-Gloss/High Gloss: Two coats of interior grade latex/alkyd.
- B. Concrete Masonry Units (CMU) - Opaque, Latex, 3 Coat:
1. One coat of latex primer & underbody sealer.
 2. Flat/Eggshell/Satin/Semi-Gloss/High Gloss: Two coats of interior grade latex.
- C. Ferrous Metals, Unprimed, Latex/Alkyd/Epoxy, 3 Coat:
1. One coat of alkyd/acrylic/epoxy metal primer.
 2. Gloss: Two coats of latex enamel.
 3. Semi-gloss: Two coats of latex enamel.
- D. Ferrous Metals, Primed, Latex, 2 Coat:
1. Touch-up with rust-inhibitive primer recommended by top coat manufacturer.
 2. Gloss: Two coats of latex enamel.
 3. Semi-gloss: Two coats of latex enamel.
- E. Wood - Opaque, Latex/Alkyd, 3 Coat:
1. One coat of latex/alkyd interior primer sealer.
 2. Flat/Eggshell/Satin/Semi-Gloss/High Gloss: Two coats of interior grade latex/alkyd.
- F. Gypsum Board and Plaster - Opaque, Latex/Alkyd, 3 Coat:
1. One coat of latex/alkyd interior primer sealer.
 2. Flat/Eggshell/Satin/Semi-Gloss/High Gloss: Two coats of interior grade latex/alkyd.

2.06 CAMPUS PAINTING GUIDELINES

- A. The following finish guidelines shall be followed unless otherwise directed by the Project Manager:
1. Ceilings – Flat finish.
 2. Walls, low partitions, soffits - Eggshell/Satin finish.
 3. Metal doors, door frames, cove bases, and radiation covers - Semi-Gloss/High Gloss finish.
 4. Metal handrails – High Gloss finish.
- B. Paint all grilles and registers in walls and ceilings, fire extinguisher cabinets, hose cabinets, etc. not having a factory applied finish to match adjoining surface finish, unless directed otherwise by the Project Manager. A factory applied prime coat is not a finish. Such painting cannot interfere with the operation of these items.
- C. Paint all exposed electrical conduit and panelboards in all areas of the Work to match adjoining the wall finish, unless otherwise directed by the Project Manager.
- D. Paint all exposed mechanical piping and ductwork which runs vertically or horizontally on wall surfaces, unless otherwise directed by the Project Manager.
- E. **Do not** paint any telecommunications and/or electrical wiremold or raceway that is of the type that is to remain accessible. If item is in question, notify the Project Manager for approval prior to painting these items.

2.07 ACCESSORY MATERIALS

- A. Accessory Materials: Provide all primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials required to achieve the finishes specified whether specifically indicated or not; commercial quality.
- B. Patching Material: Latex filler.

- C. Fastener Head Cover Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- B. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition, in writing, that may potentially affect proper application or is detrimental to the proper and timely completion of work, to the Project Manager prior to beginning work.
- C. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
- D. Starting of painting will be construed as applicators acceptance of surfaces and conditions within any particular area.
- E. Test shop-applied primer for compatibility with subsequent cover materials.
- F. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Gypsum Wallboard: 12 percent.
 - 2. Interior Wood: 15 percent, measured in accordance with ASTM D 4442.

3.02 PREPARATION

- A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.
- B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
 - 1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.
 - 2. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.
- C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
 - 1. Provide barrier coats over incompatible primers or remove and re-prime. Apply primers/stain killer on all surfaces that contains material which will bleed through the specified paint finish shall receive an application of stain killer. It will be the contractor's responsibility to prepare the surface properly. The College will not accept areas which have blemishes or bleed through.
 - 2. Plaster: Minor plaster repair work includes removing all loose, friable, raised or uneven existing plaster patches, preparing and filling minor cracks (1/16 inch and less) or small holes (such as those from hardware) in the plaster with "Durabond" set type material mixed with an acrylic bonding agent as preparation for repainting. Reinforce crack larger than hairline with fiberglass tape embedded in patching material. Sand all repairs smooth. Further, all plaster surfaces shall be thoroughly washed, rinsed and prepared in strict accordance to the recommendations of the paint manufacturer.
 - 3. Concrete and Concrete Masonry: Clean surfaces free of loose particles, sand, efflorescence, laitance, form oil, curing compounds, and other substances which could impair coating performance or appearance.
 - 4. Gypsum Drywall: Provide dry, smooth sanded, clean and free of dust, dirt, powder residue, grease, oil, wax, or other contaminates such as flaking or peeling paint. Any dull glossy old surfaces to be lightly sanded prior to coating. Patch holes (smaller than (3) three square inches) and cracks with spackle and sand smooth and spot prime prior to application of coating system.

5. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
 - a. Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
 - b. Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and back sides of wood, including cabinets, counters, cases, and paneling.
 - c. Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on back side.
 - d. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.
 6. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with SSPC's recommendations.
 - a. Blast steel surfaces clean as recommended by paint system manufacturer and according to SSPC-SP 6/NACE No. 3.
 - b. Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
 - c. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with same primer as the shop coat.
 7. Shop-Primed Steel Surfaces to be Finish Painted: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
 8. Existing Coatings: Remove surface irregularities by scraping or sanding to produce uniform substrate for coating application; apply one coat primer of type recommended by coating manufacturer for maximum coating adhesion. If presence of lead in existing coatings is suspected, cease surface preparation and notify Architect immediately.
 9. Corroded Steel and Iron Surfaces: Prepare using at least SSPC-PC 2 (hand tool cleaning) or SSPC-SP 3 (power tool cleaning) followed by SSPC-SP 1 (solvent cleaning).
 10. Uncorroded Uncoated Steel and Iron Surfaces: Remove grease, mill scale, weld splatter, dirt, and rust. Where heavy coatings of scale are evident, remove by hand or power tool wire brushing or sandblasting; clean by washing with solvent. Apply a treatment of formic acid solution, ensuring weld joints, bolts, and nuts are similarly cleaned. Prime paint entire surface; spot prime after repairs.
 11. Metal Doors: Prime metal door top and bottom edge surfaces.
 12. Wood Doors: Seal door tops and bottoms prior to finishing.
- D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.
1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
 2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
 3. Use only thinners approved by paint manufacturer and only within recommended limits.

3.03 APPLICATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.
 2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
 3. Provide finish coats that are compatible with primers used.
 4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convactor covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
 5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation of equipment, paint surfaces behind permanently fixed equipment or furniture with prime coat only.

6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
 7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 8. Sand lightly between each succeeding enamel or varnish coat.
- B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
 2. Omit primer over metal surfaces that have been shop primed and touchup painted.
 3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
 4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.
- C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.
 2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
 3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.
- E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.
- F. Mechanical items to be painted include, but are not limited to, the following:
1. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
- G. Electrical items to be painted include, but are not limited to, the following:
1. Electrical conduit.
- H. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no burn-through or other defects due to insufficient sealing.
- I. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- J. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.
- K. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.04 FIELD QUALITY CONTROL

- A. Field Quality control shall be obtained by review of first finished area or item of each color scheme as required by the Project Manager for color, texture and workmanship. Said area, or areas, when accepted will serve as the minimum project standard for all ensuing work.

3.05 CLEANING

- A. The contractor shall, at all times during the progress of the work, keep the site free from accumulation of waste matter or rubbish and shall confine his apparatus, materials and operations of their personnel to limits prescribed by law or by the Contract Limit Lines, except as the latter may be extended with the approval of the State University. Waste matter or rubbish must be properly removed from the College. College containers are not to be used for discarding waste materials generated under this contract. Upon completion of the work covered by the contract, the contractor shall leave the completed project ready for use without the need of further cleaning of any kind and with all work in new condition and perfect order. In addition, upon completion of all work, the contractor shall remove from the vicinity of the work and from the property owned or occupied by the State of New York, all paint, building material, rubbish, unused material, and other material belonging to contractor or used under contractor's direction during construction which impairs the use or appearance of the property and shall restore such areas affected by the work to their original condition, and, in the event of contractor's failure to do so, the same shall be removed by the College at the expense of the contractor.
- B. Collect waste material that could constitute a fire hazard, place in closed metal containers, and remove daily from site.
- C. Clean excess coating materials, and coating materials deposited on surfaces not indicated to receive coatings, as construction activities of this section progress; do not allow to dry.
- D. Upon completion of painting work, clean window glass and other paint-spattered surfaces. Remove spattered paint by proper methods of washing and scraping, using care not to scratch or otherwise damage finished surfaces.
- E. Re-install hardware, electrical equipment plates, mechanical grilles and louvers, lighting fixture trim, and other items that have been removed to protect from contact with coatings.
- E. Relocate to original position equipment and fixtures that have been moved to allow application of coatings.
- F. Remove protective materials.
- G. Tools and painting equipment, i.e., brushes and rollers, shall be cleaned in accordance with all Federal, State, and local regulations. Do not use the College's plumbing facilities for this purpose.

3.06 PROTECTION

- A. Protect finished coatings until completion of project.
- B. Protect work of other trades, whether to be painted or not, against damage by painting and finishing work. Correct any damage by cleaning, repairing and repainting, as acceptable to Project Manager.
- C. Provide "Wet Paint" signs as required to protect newly-painted finishes. Remove temporary protective wrappings provided by others for the protection of their work after completion of painting operations.

3.07 ATTIC STOCK

- A. Not required.

END OF SECTION

Part 1 – GENERAL

1.01 Applicable provisions of the Conditions of the Contract and Division #1, General Requirements govern work in this Section.

1.02 DESCRIPTION OF WORK

- A. The work of this Section consists of the provision of all plant, materials, labor and equipment and the like necessary and/or required for the complete execution of all laboratory and miscellaneous equipment work for this project as required by the schedules, keynotes and drawings, including, but not limited to the following:
1. Disassembly, moving, modification, reinstallation of existing equipment as may be scheduled.
 2. Provide all necessary new connections whether described elsewhere or specifically described herein.

1.03 RELATED WORK SPECIFIED ELSEWHERE - Entire Project Specification.

1.04 QUALITY ASSURANCE

- A. The work of this Section shall be accomplished by a "Specialty Contractor".

1.05 SUBMITTALS – Coordinate with Section 01 33 00

- Submittals shall be made in groupings where installations are complementary, i.e. steel, steel decking, steel stairs, stair railings; roof systems/flashings; mechanical and electrical apparatus and the like. Failure to comply with this requirement will be cause for rejection of any or all submittals.
- As set forth in Sections 01 33 00 and 01 32 00, prepare and submit a fully developed submittal schedule; note review times set forth in Section 01 33 00 are deemed "average", for large submissions allow longer review times.
- Attention is directed to Section 01 31 14 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".
- 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.
 - A. Samples of all other materials required to complete the work.
 - B. Certification of Specification Compliance.
 - C. Where applicable, Contractor shall take all necessary field measurements prior to fabrication and shall assume complete
 - D. Manufacturers Material Safety Data Sheet (MSDS) must be submitted for each manufactured product.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING (Coordinate with Section 01 61 00)

- A. All materials shall be delivered to the job site in unopened factory sealed containers clearly labeled as to product, manufacturer, color and/or other pertinent characteristics.
- B. Materials shall be stored under conditions recommended by the manufacturer.

Part 2 - PRODUCTS

2.01 Attention is directed to the drawings for equipment schedules.

NOTE: All required connections to equipment shall be made by the respective Trade Contractors, coordinate with applicable technical sections of these specifications.

Part 3 - EXECUTION

3.01 INSPECTION AND ACCEPTANCE

- A. Examine all surfaces and contiguous elements to receive work of this section and correct, as part of the Work of this Contract, any defects affecting installation. Commencement of work will be construed as complete acceptability of surfaces and contiguous elements.

3.02 INSTALLATION

- A. Units shall be installed true to line and level by the manufacturer or his authorized representative in accordance with approved shop drawings.
- B. All operating units shall be adjusted and left in perfect working order.

3.03 CLEANUP AND PROTECTION

- A. All debris resulting from construction operations will be removed daily and upon final completion, all operating parts will be cleaned and protection removed.

3.04 WASTE MANAGEMENT – Coordinate with Section 01 74 19

- A. Separate and recycle materials and material packaging in accordance with Waste Management Plan and to the maximum extent economically feasible and place in designated areas for recycling.
- B. Set aside and protect materials suitable for reuse and/or remanufacturing.
- C. Separate and fold up metal banding; flatten and place along with other metal scrap for recycling in designated area.

End of Section

SECTION 26 05 00
COMMON WORK RESULTS FOR ELECTRICAL

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 1. Electrical equipment coordination and installation.
 2. Sleeves for raceways and cables.
 3. Sleeve seals.
 4. Grout.
 5. Common electrical installation requirements.

1.3 DEFINITIONS

- A. EPDM: Ethylene-propylene-diene terpolymer rubber.
- B. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

- A. Product Data: For sleeve seals.

1.5 COORDINATION

- A. Coordinate arrangement, mounting, and support of electrical equipment:
 1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
 2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
 3. To allow right of way for piping and conduit installed at required slope.
 4. So connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.
- B. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.
- C. Furnish and Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed. Access doors and panels are specified in Division 08, and shall be installed by division 08 contractor.
- D. Coordinate sleeve selection and application with selection and application of firestopping specified in Division 07 Section "Penetration Firestopping."

PART 2 - PRODUCTS

2.1 SLEEVES FOR RACEWAYS AND CABLES

- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast Iron Pipe Sleeves: Cast or fabricated "wall pipe," Equivalent to ductile –iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- C. Sleeves for Rectangular Openings: Galvanized sheet steel.
 - 1. Minimum Metal Thickness:
 - a. For sleeve cross-section rectangle perimeter less than 50 inches and no side more than 16 inches, thickness shall be 0.052 inch.
 - b. For sleeve cross-section rectangle perimeter equal to, or more than, 50 inches and 1 or more sides equal to, or more than, 16 inches, thickness shall be 0.138 inch.

2.2 SLEEVE SEALS

- A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Advance Products & Systems, Inc.
 - b. Calpico, Inc.
 - c. Metraflex Co.
 - d. Pipeline Seal and Insulator, Inc.
 - 2. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
 - 3. Pressure Plates: Plastic. Include two for each sealing element.
 - 4. Connecting Bolts and Nuts: Carbon steel with corrosion resistant coating of length required to secure pressure plates to sealing elements. Include one for each sealing element.

2.3 GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

PART 3 - EXECUTION

3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A. Comply with NECA 1.
- B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.
- C. Headroom Maintenance: If mounting heights or other location

criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.

- D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.
- E. Right of Way: Give to piping systems installed at a required slope.

3.2 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Electrical penetrations occur when raceways, cables, wireways, cable trays, or busways penetrate concrete slabs, concrete or masonry walls, or fire-rated floor and wall assemblies.
- B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
- C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
- D. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- E. Cut sleeves to length for mounting flush with both surfaces of walls.
- F. Extend sleeves installed in floors 2 inches above finished floor level unless otherwise noted on drawings.
- G. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and raceway or cable, unless indicated otherwise.
- H. Seal space outside of sleeves with grout for penetrations of concrete and masonry
 - 1. Promptly pack grout solidly between sleeve and wall so no voids remain. Tool exposed surfaces smooth; protect grout while curing.
- I. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint. Comply with requirements in Division 07 Section "Joint Sealants."
- J. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials. Comply with requirements in Division 07 Section "Penetration Firestopping."

3.3 SLEEVE-SEAL INSTALLATION

- A. Install to seal exterior wall penetrations.

- B. Use type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.4 FIRESTOPPING

- A. Apply firestopping to penetrations of fire-rated floor and wall assemblies for electrical installations to restore original fire-resistance rating of assembly. Firestopping materials and installation requirements are specified in Division 07 Section "Penetration Firestopping

SECTION 26 05 26

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes methods and materials for grounding systems and equipment.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Qualification Data: For testing agency and testing agency's field supervisor.
- C. Field quality-control test reports.

1.4 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the InterNational Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

- 1. Testing Agency's Field Supervisor: Person currently certified by the InterNational Electrical Testing Association to supervise on-site testing specified in Part 3.

- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 – PRODUCTS

2.1 CONDUCTORS

- A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.
- B. Bare Copper Conductors:
 - 1. Solid Conductors: ASTM B 3.
 - 2. Stranded Conductors: ASTM B 8.
 - 3. Tinned Conductors: ASTM B 33.

4. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch in diameter.
5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
6. Bonding Jumper: Copper tape, braided conductors, terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.
7. Tinned Bonding Jumper: Tinned-copper tape, braided conductors, terminated with copper ferrules; 1-5/8 inches wide and 1/16 inch thick.

2.2 CONNECTORS

- A. Listed and labeled by a nationally recognized testing laboratory acceptable to authorities having jurisdiction for applications in which used, and for specific types, sizes, and combinations of conductors and other items connected.
- B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, bolted pressure-type, with at least two bolts.
 1. Pipe Connectors: Clamp type, sized for pipe.
- C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

PART 3 – EXECUTION

3.1 APPLICATIONS

- A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger, unless otherwise indicated.
- B. Isolated Grounding Conductors: Green-colored insulation with continuous yellow stripe. On feeders with isolated ground, identify grounding conductor where visible to normal inspection, with alternating bands of green and yellow tape, with at least three bands of green and two bands of yellow.

3.2 EQUIPMENT GROUNDING

- A. Install insulated equipment grounding conductors with all feeders and branch circuits.

3.3 INSTALLATION

- A. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
- B. Bonding Straps and Jumpers: Install in locations accessible for inspection and maintenance, except where routed through short lengths of conduit.
 1. Bonding to Structure: Bond straps directly to basic structure, taking care not to penetrate any adjacent parts.
 2. Bonding to Equipment Mounted on Vibration Isolation Hangers and Supports: Install so vibration is not transmitted to

rigidly mounted equipment.

3. Use exothermic-welded connectors for outdoor locations, but
If a disconnect-type connection is required, use a bolted clamp.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing and inspecting agency to perform the following field tests and inspections and prepare test reports:
 1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
 2. Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal. Make tests at ground rods before any conductors are connected.
 - a. Measure ground resistance not less than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
 - b. Perform tests by fall-of-potential method according to IEEE 81.
- B. Report measured ground resistances that exceed the following values:
 1. Power Distribution Units or Panelboards Serving Electronic Equipment: 3 ohm(s).
- C. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify Engineer promptly and include recommendations to reduce ground resistance.

END OF SECTION 260526

SECTION 26 05 33
RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

1.3 DEFINITIONS

- A. EMT: Electrical metallic tubing.
- B. ENT: Electrical nonmetallic tubing.
- C. EPDM: Ethylene-propylene-diene terpolymer rubber.
- D. FMC: Flexible metal conduit.
- E. IMC: Intermediate metal conduit.
- F. LFMC: Liquidtight flexible metal conduit.
- G. LFNC: Liquidtight flexible nonmetallic conduit.
- H. NBR: Acrylonitrile-butadiene rubber.
- I. RNC: Rigid nonmetallic conduit.

1.4 SUBMITTALS

- A. Product Data: For surface raceways, wireways and fittings, floor boxes, hinged-cover enclosures, and cabinets.
- B. Shop Drawings: For the following raceway components. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Under cabinet lighting
 - 2. All new and relocated power receptacles
 - 3. Under cabinet power raceway
 - 4. Wall mounted power raceways

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

- B. Comply with NFPA 70.

PART 2 – PRODUCTS

2.1 METAL CONDUIT AND TUBING

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. AFC Cable Systems, Inc.
 - 2. Alfex Inc.
 - 3. Allied Tube & Conduit; a Tyco International Ltd. Co.
 - 4. Anamet Electrical, Inc.; Anaconda Metal Hose.
Electri-Flex Co.
 - 6. Manhattan/CDT/Cole-Flex.
 - 7. Maverick Tube Corporation.
 - 8. O-Z Gedney; a unit of General Signal.
 - 9. Wheatland Tube Company.
- B. EMT: ANSI C80.3.
- C. FMC: Zinc-coated steel or aluminum.
- D. Fittings for Conduit (Including all Types and Flexible and Liquidtight), EMT, and Cable: NEMA FB 1; listed for type and size raceway with which used, and for application and environment in which installed.
 - 1. Conduit Fittings for Hazardous (Classified) Locations:
Comply with UL 886.
 - 2. Fittings for EMT: Steel or die-cast, compression type.
 - 3. Coating for Fittings for PVC-Coated Conduit: Minimum Thickness, 0.040 inch, with overlapping sleeves protecting threaded joints.
- E. Joint Compound for Rigid Steel Conduit or IMC: Listed for use in cable connector assemblies, and compounded for use to lubricate and protect threaded raceway joints from corrosion and enhance their conductivity.

2.2 NONMETALLIC CONDUIT AND TUBING

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. AFC Cable Systems, Inc.
 - 2. Anamet Electrical, Inc.; Anaconda Metal Hose.
 - 3. Arco Corporation.
 - 4. CANTEX Inc.
 - 5. CertainTeed Corp.; Pipe & Plastics Group.
 - 6. Condux International, Inc.
 - 7. ElecSYS, Inc.
 - 8. Electri-Flex Co.
 - 9. Lamson & Sessions; Carlon Electrical Products.
 - 10. Manhattan/CDT/Cole-Flex.
 - 11. RACO; a Hubbell Company.

12. Thomas & Betts Corporation.

- C. ENT: NEMA TC 13.
- D. RNC: NEMA TC 2, Type EPC-40-PVC, unless otherwise indicated.
- E. LFNC: UL 1660.
- F. Fittings for ENT and RNC: NEMA TC 3; match to conduit or tubing type and material.
- G. Fittings for LFNC: UL 514B.

2.3 METAL WIREWAYS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Cooper B-Line, Inc.
 - 2. Hoffman.
 - 3. Square D; Schneider Electric.
- B. Description: Sheet metal sized and shaped as indicated, NEMA 250, Type 1, unless otherwise indicated.
- C. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.
- D. Wireway Covers: Screw-cover type.
- E. Finish: Manufacturer's standard enamel finish.

2.4 NONMETALLIC WIREWAYS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Hoffman.
 - 2. Lamson & Sessions; Carlon Electrical Products.
- B. Description: PVC plastic, extruded and fabricated to size and shape indicated, with snap-on cover and mechanically coupled connections with plastic fasteners.
- C. Fittings and Accessories: Include couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

2.5 SURFACE RACEWAYS

- A. Surface Metal Raceways: Galvanized steel with snap-on covers. Manufacturer's standard enamel finish in color selected by Architect.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be

incorporated into the Work include, but are not limited to, the following:

- a. Thomas & Betts Corporation.
- b. Walker Systems, Inc.; Wiremold Company (The).
- c. Wiremold Company (The); Electrical Sales Division.

2.6 BOXES, ENCLOSURES, AND CABINETS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Cooper Crouse-Hinds; Div. of Cooper Industries, Inc.
 2. EGS/Appleton Electric.
 3. Erickson Electrical Equipment Company.
 4. Hoffman.
 5. Hubbell Incorporated; Killark Electric Manufacturing Co. Division.
 6. O-Z/Gedney; a unit of General Signal.
 7. RACO; a Hubbell Company.
 8. Robroy Industries, Inc.; Enclosure Division.
 9. Scott Fetzer Co.; Adalet Division.
 10. Spring City Electrical Manufacturing Company.
 11. Thomas & Betts Corporation.
 12. Walker Systems, Inc.; Wiremold Company (The).
 13. Woodhead, Daniel Company; Woodhead Industries, Inc. Subsidiary.
- B. Sheet Metal Outlet and Device Boxes: NEMA OS 1.
- C. Cast-Metal Outlet and Device Boxes: NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.
- D. Metal Floor Boxes: Cast or sheet metal, fully adjustable, rectangular.
- E. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.
- F. Cast-Metal Access, Pull, and Junction Boxes: NEMA FB 1, cast aluminum with gasketed cover.
- G. Hinged-Cover Enclosures: NEMA 250, Type 1, with continuous hinge cover with flush latch, unless otherwise indicated.
1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
- H. Cabinets:
1. NEMA 250, Type 1, galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
 2. Hinged door in front cover with flush latch and concealed hinge.
 3. Key latch to match panelboards.
 4. Metal barriers to separate wiring of different systems and voltage.
 5. Accessory feet where required for freestanding equipment.

3.1 RACEWAY APPLICATION

1. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): LFMC.
2. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.

B. Comply with the following indoor applications, unless otherwise indicated:

1. Exposed, Not Subject to Physical Damage: EMT.
2. Exposed, Not Subject to Severe Physical Damage: EMT.
3. Exposed and Subject to Severe Physical Damage: Rigid steel conduit or IMC. Includes raceways in the following locations:
 - a. Loading dock.
 - b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
 - c. Mechanical rooms.
4. Concealed in Ceilings and Interior Walls and Partitions: EMT.
5. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
6. Damp or Wet Locations: Rigid steel conduit or IMC.
7. Raceways for Optical Fiber or Communications Cable in Spaces Used for Environmental Air: Plenum-type, optical fiber/communications cable raceway.
8. Raceways for Optical Fiber or Communications Cable Risers in Vertical Shafts: Riser-type, optical fiber/communications cable raceway.
9. Raceways for Concealed General Purpose Distribution of Optical Fiber or Communications Cable: Plenum-type, optical fiber/communications cable raceway.
10. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4, stainless steel in damp or wet locations.

C. Minimum Raceway Size: 3/4-inch trade size.

D. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with that material. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer.

E. Install nonferrous conduit or tubing for circuits operating above 60 Hz. Where aluminum raceways are installed for such circuits and pass through concrete, install in nonmetallic sleeve.

F. Do not install aluminum conduits in contact with concrete.

3.2 INSTALLATION

A. Comply with NECA 1 for installation requirements applicable to

products specified in Part 2 except where requirements on Drawings or in this Article are stricter.

- B. Keep raceways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.
- C. Complete raceway installation before starting conductor installation.
- D. Support raceways as specified in Division 26 Section "Hangers and Supports for Electrical Systems."
- E. Arrange stub-ups so curved portions of bends are not visible above the finished slab.
- F. Install no more than the equivalent of three 90-degree bends in any conduit run except for communications conduits, for which fewer bends are allowed.
- G. Conceal conduit and EMT within finished walls, ceilings, and floors, unless otherwise indicated.
- H. Raceways Embedded in Slabs:
 - 1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support.
 - 2. Arrange raceways to cross building expansion joints at right angles with expansion fittings.
 - 3. Change from RNC, Type EPC-40-PVC, to rigid steel conduit, or IMC before rising above the floor.
- I. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.
- J. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors, including conductors smaller than No. 4 AWG.
- K. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire.
- L. Raceways for Optical Fiber and Communications Cable: Install raceways, metallic and nonmetallic, rigid and flexible, as follows:
 - 1. 3/4-Inch Trade Size and Smaller: Install raceways in maximum lengths of 50 feet.
 - 2. 1-Inch Trade Size and Larger: Install raceways in maximum lengths of 75 feet.
 - 3. Install with a maximum of two 90-degree bends or equivalent for each length of raceway unless Drawings show stricter requirements. Separate lengths with pull or junction boxes or terminations at distribution frames or cabinets where necessary to comply with these requirements.
- M. Install raceway sealing fittings at suitable, approved, and

accessible locations and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings at the following points:

1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
2. Where otherwise required by NFPA 70.

N. Flexible Conduit Connections: Use maximum of 72 inches of flexible conduit for recessed and semirecessed lighting fixtures, equipment subject to vibration, noise transmission, or movement; and for transformers and motors.

1. Use LFMC in damp or wet locations subject to severe physical damage.
2. Use LFMC in damp or wet locations not subject to severe physical damage.

O. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block, and install box flush with surface of wall.

P. Set metal floor boxes level and flush with finished floor surface.

Q. Set nonmetallic floor boxes level. Trim after installation to fit flush with finished floor surface.

3.3 PROTECTION

A. Provide final protection and maintain conditions that ensure coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
2. Repair damage to PVC or paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 26053

IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Identification for raceways.
 - 2. Identification of power and control cables.
 - 3. Identification for conductors.
 - 4. Equipment identification labels.
 - 5. Miscellaneous identification products.

1.3 SUBMITTALS

- A. Product Data: For each electrical identification product indicated.
- B. Samples: For each type of label and sign to illustrate size, colors, lettering style, mounting provisions, and graphic features of identification products.
- C. Identification Schedule: An index of nomenclature of electrical equipment and system components used in identification signs and labels.

1.4 QUALITY ASSURANCE

- A. Comply with ANSI A13.1 and IEEE C2.
- B. Comply with NFPA 70.
- C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.
- D. Comply with ANSI Z535.4 for safety signs and labels.
- E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.5 COORDINATION

- A. Coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual; and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.
- B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 POWER RACEWAY IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway size.
- B. Colors for Raceways Carrying Circuits at 600 V or Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage and system or service type.
- C. Self-Adhesive Vinyl Labels for Raceways Carrying Circuits at 600 V or Less: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.
- D. Metal Tags: Brass or aluminum, 2 by 2 by 0.05 inch, with stamped legend, punched for use with self-locking cable tie

astener.

- E. Write-On Tags: Polyester tag, 0.010 inch thick, with corrosionresistant grommet and cable tie for attachment to conductor or cable.
 - 1. Marker for Tags: Permanent, waterproof, black ink marker recommended by tag manufacturer.

2.2 ARMORED AND METAL-CLAD CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
- B. Colors for Raceways Carrying Circuits at 600 V and Less:
 - 1. Black letters on an orange field.
 - 2. Legend: Indicate voltage and system or service type.
- C. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.

2.3 POWER AND CONTROL CABLE IDENTIFICATION MATERIALS

- A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.
- B. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.

2.4 CONDUCTOR IDENTIFICATION MATERIALS

- A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils thick by 1 to 2 inches wide.
- B. Write-On Tags: Polyester tag, 0.010 inch thick, with corrosionresistant grommet and cable tie for attachment to conductor or cable.
 - 1. Marker for Tags: Machine-printed, permanent waterproof, black ink marker recommended by printer manufacturer.

2.5 EQUIPMENT IDENTIFICATION LABELS

- A. Adhesive Film Label: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch.
- B. Adhesive Film Label with Clear Protective Overlay: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch. Overlay shall provide a weatherproof and UV-resistant seal for label.
- C. Self-Adhesive, Engraved, Laminated Acrylic or Melamine Label: Adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch.
- D. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on a dark-gray background. Minimum letter height shall be 3/8 inch.
- E. Stenciled Legend: In nonfading, waterproof, black ink or paint. Minimum letter height shall be 1 inch.

2.6 MISCELLANEOUS IDENTIFICATION PRODUCTS

- A. Paint: Comply with requirements in Division 09 painting Sections for paint materials and application requirements. Select paint system applicable for surface material and location (exterior or interior).
- B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Verify identity of each item before installing identification products.
- B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.
- C. Apply identification devices to surfaces that require finish after completing finish work.

- D. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
- F. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot maximum intervals in straight runs, and at 25-foot maximum intervals in congested areas.
- G. Aluminum Wraparound Marker Labels and Metal Tags: Secure tight to surface of conductor or cable at a location with high visibility and accessibility.
- H. Painted Identification: Comply with requirements in Division 09 painting Sections for surface preparation and paint application.

3.2 IDENTIFICATION SCHEDULE

- A. Accessible Raceways, Armored and Metal-Clad Cables, More Than 600 V: Snap-around labels. Install labels at 10-foot maximum intervals.
- B. Accessible Raceways and Cables within Buildings: Identify the covers of each junction and pull box of the following systems with self-adhesive vinyl labels with the wiring system legend and system voltage. System legends shall be as follows:
 - 1. Emergency Power.
 - 2. Power.
 - 3. UPS.
- C. Power-Circuit Conductor Identification, 600 V or Less: For conductors in pull and junction and boxes, use color-coding conductor tape to identify the phase.
 - 1. Color-Coding for Phase and Voltage Level Identification, 600 V or Less: Use colors listed below for ungrounded service feeder and branch-circuit conductors.
 - a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG, if authorities having jurisdiction permit.
 - b. Colors for 208/120-V Circuits:
 - 1) Phase A: Black.
 - 2) Phase B: Red.
 - 3) Phase C: Blue.
 - c. Colors for 480/277-V Circuits:
 - 1) Phase A: Brown.
 - 2) Phase B: Orange.
 - 3) Phase C: Yellow.
 - d. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
- D. Install instructional sign including the color-code for grounded and ungrounded conductors using adhesive-film-type labels.
- E. Conductors to Be Extended in the Future: Attach marker tape to conductors and list source.
- F. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
 - 1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.

2. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory installed connections.
3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual.

G. Workspace Indication: Install floor marking tape to show working clearances in the direction of access to live parts. Workspace shall be as required by NFPA 70 and 29 CFR 1926.403 unless otherwise indicated. Do not install at flush-mounted panelboards and similar equipment in finished spaces.

H. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Self-adhesive warning labels.

1. Comply with 29 CFR 1910.145.
2. Identify system voltage with black letters on an orange background.
3. Apply to exterior of door, cover, or other access.
4. For equipment with multiple power or control sources, apply to door or cover of equipment including, but not limited to, the following:
 - a. Power transfer switches.
 - b. Controls with external control power connections.

I. Operating Instruction Signs: Install instruction signs to facilitate proper operation and maintenance of electrical

systems and items to which they connect. Install instruction signs with approved legend where instructions are needed for system or equipment operation.

J. Emergency Operating Instruction Signs: Install instruction signs with white legend on a red background with minimum 3/8-inch- high letters for emergency instructions at equipment used for power transfer.

K. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting, control, communication, signal, monitoring, and alarm systems unless equipment is provided with its own identification.

1. Labeling Instructions:
 - a. Indoor Equipment: Self-adhesive, engraved, laminated acrylic or melamine label. Unless otherwise indicated, provide a single line of text with 1/2-inch- high letters on 1-1/2-inch- high label; where two lines of text are required, use labels 2 inches high.
 - b. Outdoor Equipment: Engraved, laminated acrylic or melamine label.
 - c. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.
 - d. Unless provided with self-adhesive means of attachment, fasten labels with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.

2. Equipment to Be Labeled:

- a. Panelboards: Typewritten directory of circuits in the location provided by panelboard manufacturer. Panelboard identification shall be self-adhesive, engraved, laminated acrylic or melamine label.
- b. Enclosures and electrical cabinets.
- c. Access doors and panels for concealed electrical items.
- d. Switchgear.
- e. Switchboards.

- f. Transformers: Label that includes tag designation shown on Drawings for the transformer, feeder, and panelboards or equipment supplied by the secondary.
- g. Substations.
- h. Emergency system boxes and enclosures.
- i. Motor-control centers.
- j. Enclosed switches.
- k. Enclosed circuit breakers.
- l. Enclosed controllers.
- m. Variable-speed controllers.
- n. Push-button stations.
- o. Power transfer equipment.
- p. Contactors.
- q. Remote-controlled switches, dimmer modules, and control devices.
- r. Battery-inverter units.
- s. Battery racks.
- t. Power-generating units.
- u. Monitoring and control equipment.
- v. UPS equipment.

END OF SECTION 260553

SECTION 26 08 00

COMMISSIONING OF ELECTRICAL

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes commissioning process requirements for electrical systems.
- B. Related Sections:
 - 1. 019113 – Building System Commissioning
 - 2. Division 26 Sections

1.3 SCOPE

- A. Commissioning requires the participation of Division 26, Electrical, to ensure that all systems are operating in a manner consistent with the Contract Documents. The general commissioning requirements and coordination are detailed in Section 019113. Division 26, Electrical, shall be familiar with Section 019113 and the Commissioning Plan issued by the Commissioning Agent (CA) and shall execute all commissioning responsibilities assigned to them in the Contract Documents.

1.4 SYSTEMS TO BE COMMISSIONED

- A. The following Electrical systems will be commissioned on this project:
 - 1. Mechanical Equipment controls and wiring / Interlocks (fans, hoods, terminal boxes).

1.5 RESPONSIBILITIES

- A. Electrical Contractor: Commissioning responsibilities applicable to the Electrical contractor of Division 26 are as described in Section 019113, Paragraph 1.10-I.

1.6 OPERATION AND MAINTENANCE (O&M) MANUALS

- A. Compile and prepare documentation for all equipment and systems covered in Division 26, Electrical, and deliver to Construction Manager for inclusion in O&M Manuals in accordance with Division 1.
- B. Provide the Commissioning Agent with a copy of O&M Manuals for review.

PART 2 – PRODUCTS

2.1 TEST EQUIPMENT

- A. Provide test equipment necessary to fulfill testing requirements

- Of Divisions 26, Electrical.
- B. Refer to Section 019113 and Division 26 specification for other additional Division 26, Electrical requirements.

PART 3 - EXECUTION

3.1 PREFUNCTIONAL CHECKLISTS AND STARTUP

- A. Prefunctional tests and checklists (PFT's) are important to ensure that the equipment and systems are connected properly and are operational. PFT's ensure that functional performance testing may proceed without unnecessary delays. The Contractor shall be responsible for performing Prefunctional testing. EVERY piece of equipment receives a full Prefunctional checkout.
- B. Division 26, Electrical, has start-up responsibility and is required to complete systems and sub-systems so they are fully functional, meeting design objectives of Contract Documents. Commissioning procedures and functional testing do not relieve or lessen this responsibility or shift that responsibility partially to CA or Owner.

3.2 FUNCTIONAL PERFORMANCE TESTS

- A. Functional testing is intended to begin upon completion of a system. Functional testing may proceed prior to completion of systems or sub-systems at discretion of CA and CM. Beginning system testing before full completion does not relieve Contractor from fully completing system as soon as possible, including prefunctional checklists.
- B. Functional performance testing requirements are in addition to and do not replace any testing required by Code or listed elsewhere in Division 26.
- C. Functional performance testing procedures will be performed on but not limited to the following system types and equipment. Final functional testing requirements and procedures will be developed based on approved equipment shop drawings.
 - 1. Equipment:
 - a. Mechanical Equipment Controls and Wiring / Interlocks (fans, hoods, terminal boxes)

3.3 ISSUES AND DEFICIENCIES

- A. Refer to Section 019113 for details relating to resolution of issues and deficiencies.

3.4 TRAINING OF OWNER PERSONNEL

- A. Contractor shall be responsible for training coordination and scheduling and ultimately to ensure that training is completed. Refer to Section 019113 for details.

- B. Duration of Training: Electrical Contractor shall provide raining on each piece of equipment according to the following Schedule:

System	Minimum Training Hours
Mechanical Systems	4
Total Training Time	4 Hours

:

WIRING DEVICES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Receptacles, receptacles with integral GFCI, and associated device plates.
 - 2. Snap Switches.
 - 3. Wall Plates.
 - 4. Communications outlets.
 - 5. Multi-outlet Assemblies.

1.3 DEFINITIONS

- A. EMI: Electromagnetic interference.
- B. GFCI: Ground-fault circuit interrupter.
- C. Pigtail: Short lead used to connect a device to a branchcircuit conductor.
- D. RFI: Radio-frequency interference.
- E. TVSS: Transient voltage surge suppressor.
- F. UTP: Unshielded twisted pair.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: List of legends and description of materials and process used for premarking wall plates.
- C. Field quality-control test reports.
- D. Operation and Maintenance Data: For wiring devices to include in all manufacturers' packing label warnings and instruction manuals that include labeling conditions.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of wiring device and associated wall plate through one source from a single manufacturer. Insofar as they are available, obtain all wiring devices and associated wall plates from a single manufacturer and one source.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Comply with NFPA 70.

1.6 COORDINATION

- A. Receptacles for Owner-Furnished Equipment: Match plug configurations.

1. Cord and Plug Sets: Match equipment requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
 1. Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
 2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
 3. Leviton Mfg. Company Inc. (Leviton).
 4. Pass & Seymour/Legrand; Wiring Devices & Accessories (Pass & Seymour).

2.2 STRAIGHT BLADE RECEPTACLES

- A. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.
 1. Available Products: Subject to compliance with Requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cooper; 5351 (single), 5352 (duplex).
 - b. Hubbell; HBL5351 (single), CR5352 (duplex).
 - c. Leviton; 5891 (single), 5352 (duplex).
 - d. Pass & Seymour; 5381 (single), 5352 (duplex).

2.3 GFCI RECEPTACLES

- A. General Description: Straight blade, feed-through type. Comply with NEMA WD 1, NEMA WD 6, UL 498, and UL 943, Class A, and include indicator light that is lighted when device is tripped.
- B. Duplex GFCI Convenience Receptacles, 125 V, 20 A:
 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cooper; GF20.
 - b. Pass & Seymour; 2084.

2.4 SNAP SWITCHES

- A. Comply with NEMA WD 1 and UL 20.
- B. Switches, 120/277 V, 20 A:
 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Cooper; 2221 (single pole), 2222 (two pole), 2223 (three way), 2224 (four way).
 - b. Hubbell; CS1221 (single pole), CS1222 (two pole), CS1223 (three way), CS1224 (four way).
 - c. Leviton; 1221-2 (single pole), 1222-2 (two pole), 1223-2 (three way), 1224-2 (four way).
 - d. Pass & Seymour; 20AC1 (single pole), 20AC2 (two pole), 20AC3 (three way), 20AC4 (four way).

2.5 COMMUNICATIONS OUTLETS

A. Data Outlet:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

- a. Cooper;
- b. Leviton;

2. Description: Double RJ-45 jack for terminating 100-ohm, balanced, four-pair UTP; TIA/EIA-568-B.1; complying with Category 6. Comply with UL 1863.

2.6 WALL PLATES

A. Single and combination types to match corresponding wiring devices.

- 1. Plate-Securing Screws: Metal with head color to match plate finish.
- 2. Material for Finished Spaces: Smooth, high-impact thermoplastic.
- 3. Material for Unfinished Spaces: Smooth, high-impact thermoplastic.
- 4. Material for Damp Locations: Thermoplastic with spring loaded lift cover, and listed and labeled for use in "wet locations."

2.7 MULTIOUTLET ASSEMBLIES

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- 1. Hubbell Incorporated; Wiring Device-Kellems.
- 2. Wiremold Company (The).

B. Components of Assemblies: Products from a single manufacturer designed for use as a complete, matching assembly of raceways and receptacles.

C. Raceway Material: Metal, with manufacturer's standard finish.

D. Wire: No. 12 AWG.

2.8 FINISHES

A. Color: Wiring device catalog numbers in Section Text do not designate device color.

- 1. Wiring Devices Connected to Normal Power System: As selected by Architect, unless otherwise indicated or required by NFPA 70 or device listing.
- 2. Wiring Devices Connected to Emergency Power System: Red.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.

B. Coordination with Other Trades:

- 1. Take steps to insure that devices and their boxes are

protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.

2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
4. Install wiring devices after all wall preparation, including painting, is complete.

C. Conductors:

1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
4. Existing Conductors:
 - a. Cut back and pigtail, or replace all damaged conductors.
 - b. Straighten conductors that remain and remove corrosion and foreign matter.
 - c. Pigtailing existing conductors is permitted provided the outlet box is large enough.

D. Device Installation:

1. Replace all devices that have been in temporary use during construction or that show signs that they were installed before building finishing operations were complete.
2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
4. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, 2/3 to 3/4 of the way around terminal screw.
6. Use a torque screwdriver when a torque is recommended or required by the manufacturer.
7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
8. Tighten unused terminal screws on the device.
9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.

E. Receptacle Orientation:

1. Install ground pin of vertically mounted receptacles down, and on horizontally mounted receptacles to the right.

F. Device Plates: Do not use oversized or extra-deep plates.

Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

G. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

H. Adjust locations of floor service outlets and service poles to suit arrangement of partitions and furnishings.

3.2 FIELD QUALITY CONTROL

A. Perform tests and inspections and prepare test reports.

1. In healthcare facilities, prepare reports that comply with recommendations in NFPA99.
2. Test Instruments: Use instruments that comply with UL 1436.
3. Test Instrument for Convenience Receptacles: Digital wiring analyzer with digital readout or illuminated LED indicators of measurement.

B. Tests for Convenience Receptacles:

1. Line Voltage: Acceptable range is 105 to 132 V.
2. Percent Voltage Drop under 15-A Load: A value of 6 percent or higher is not acceptable.
3. Ground Impedance: Values of up to 2 ohms are acceptable.
4. GFCI Trip: Test for tripping values specified in UL 1436 and UL 943.
5. Using the test plug, verify that the device and its outlet box are securely mounted.
6. The tests shall be diagnostic, indicating damaged conductors, high resistance at the circuit breaker, poor connections, inadequate fault current path, defective devices, or similar problems. Correct circuit conditions, remove malfunctioning units and replace with new ones, and retest as specified above.

C. Test straight blade for the retention force of the grounding blade according to NFPA 99. Retention force shall be not less than 4 oz. (115 g).

END OF SECTION 262726

SECTION 26 28 16
ENCLOSED SWITCHES AND CIRCUIT BREAKERS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Nonfusible switches.
 - 2. Molded-case circuit breakers (MCCBs).

1.3 DEFINITIONS

- A. NC: Normally closed.
- B. NO: Normally open.
- C. SPDT: Single pole, double throw.

1.4 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Enclosed switches and circuit breakers shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
 - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

1.5 SUBMITTALS

- A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.
 - 1. Enclosure types and details for types other than NEMA 250, Type 1.
 - 2. Current and voltage ratings.
 - 3. Short-circuit current ratings (interrupting and withstand, as appropriate).
 - 4. Include evidence of NRTL listing for series rating of installed devices.
 - 5. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.
- B. Shop Drawings: For enclosed switches and circuit breakers. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Wiring Diagrams: For power, signal, and control wiring.

- C. Field quality-control reports.
 - 1. Test procedures used.
 - 2. Test results that comply with requirements.
 - 3. Results of failed tests and corrective action taken to achieve test results that comply with requirements.
- D. Manufacturer's field service report.
- E. Operation and Maintenance Data: For enclosed switches and circuit breakers to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 01 Section "Operation and Maintenance Data," include the following:
 - 1. Manufacturer's written instructions for testing and adjusting enclosed switches and circuit breakers.
 - 2. Time-current coordination curves (average melt) for each type and rating of overcurrent protective device; include selectable ranges for each type of overcurrent protective device.

1.6 QUALITY ASSURANCE

- A. Source Limitations: Obtain enclosed switches and circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single source from single manufacturer.
 - B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions
 - C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- E. Comply with NFPA 70.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Rate equipment for continuous operation under the following conditions unless otherwise indicated:
 - 1. Ambient Temperature: Not less than minus 22 deg F (minus 30 deg C) and not exceeding 104 deg F (40 deg C).
 - 2. Altitude: Not exceeding 6600 feet (2010 m).

1.8 COORDINATION

- A. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

PART 2 – PRODUCTS

2.1 NONFUSIBLE SWITCHES

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 - 2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 - 3. Siemens Energy & Automation, Inc.
 - 4. Square D; a brand of Schneider Electric.
- B. Type GD, General Duty, Single Throw, 600 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.
- C. Type HD, Heavy Duty, Single Throw, 600-V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- D. Accessories:
 - 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
 - 2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
 - 3. Auxiliary Contact Kit: Two NO/NC (Form "C") auxiliary contact(s), arranged to activate before switch blades open.
 - 4. Hookstick Handle: Allows use of a hookstick to operate the handle.
 - 5. Lugs: Mechanical type, suitable for number, size, and conductor material.

2.2 MOLDED-CASE CIRCUIT BREAKERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 - 2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 - 3. Siemens Energy & Automation, Inc.
 - 4. Square D; a brand of Schneider Electric.
- B. General Requirements: Comply with UL 489, NEMA AB 1, and NEMA AB 3, with interrupting capacity to comply with available fault currents.
- C. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
- D. Adjustable, Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
- E. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller, and let-through ratings less than NEMA FU 1, RK-5.
- F. Integrally Fused Circuit Breakers: Thermal-magnetic trip element with integral limiter-style fuse listed for use with circuit breaker and trip activation on fuse opening or on opening of fuse compartment door.

G. Features and Accessories:

1. Standard frame sizes, trip ratings, and number of poles.
10 August 2011 SUNY Purchase College
Construction Document Issue Natural Science Building
Contract No. ARI-R2-0963031 Biology Lab Suite Renovations
NKGD0110 26 28 16 - 5 ENCLOSED SWITCHES
AND CIRCUIT BREAKERS
2. Lugs: Mechanical type, suitable for number, size, trip ratings, and conductor material.
3. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge lighting circuits.
4. Undervoltage Trip: Set to operate at 35 to 75 percent of rated voltage without intentional time delay.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.
- B. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
- C. Comply with NECA 1.

3.3 IDENTIFICATION

- A. Comply with requirements in Division 26 Section "Identification for Electrical Systems."
 1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
 2. Label each enclosure with engraved metal or laminated plastic nameplate.

3.4 FIELD QUALITY CONTROL

1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- B. Acceptance Testing Preparation:
 1. Test insulation resistance for each enclosed switch and circuit breaker, component, connecting supply, feeder, and control circuit.
 3. Test continuity of each circuit.
 - 4.
- C. Tests and Inspections:
 1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing

- Specification. Certify compliance with test parameters.
2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
 3. Perform the following infrared scan tests and inspections and prepare reports:
 - a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each enclosed switch and circuit breaker. Remove front panels so joints and connections are accessible to portable scanner.
 - b. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each enclosed switch and circuit breaker 11 months after date of Substantial Completion.
 - c. Instruments and Equipment: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
 4. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.

- D. Enclosed switches and circuit breakers will be considered defective if they do not pass tests and inspections.
- E. Prepare test and inspection reports, including a certified report that identifies enclosed switches and circuit breakers and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

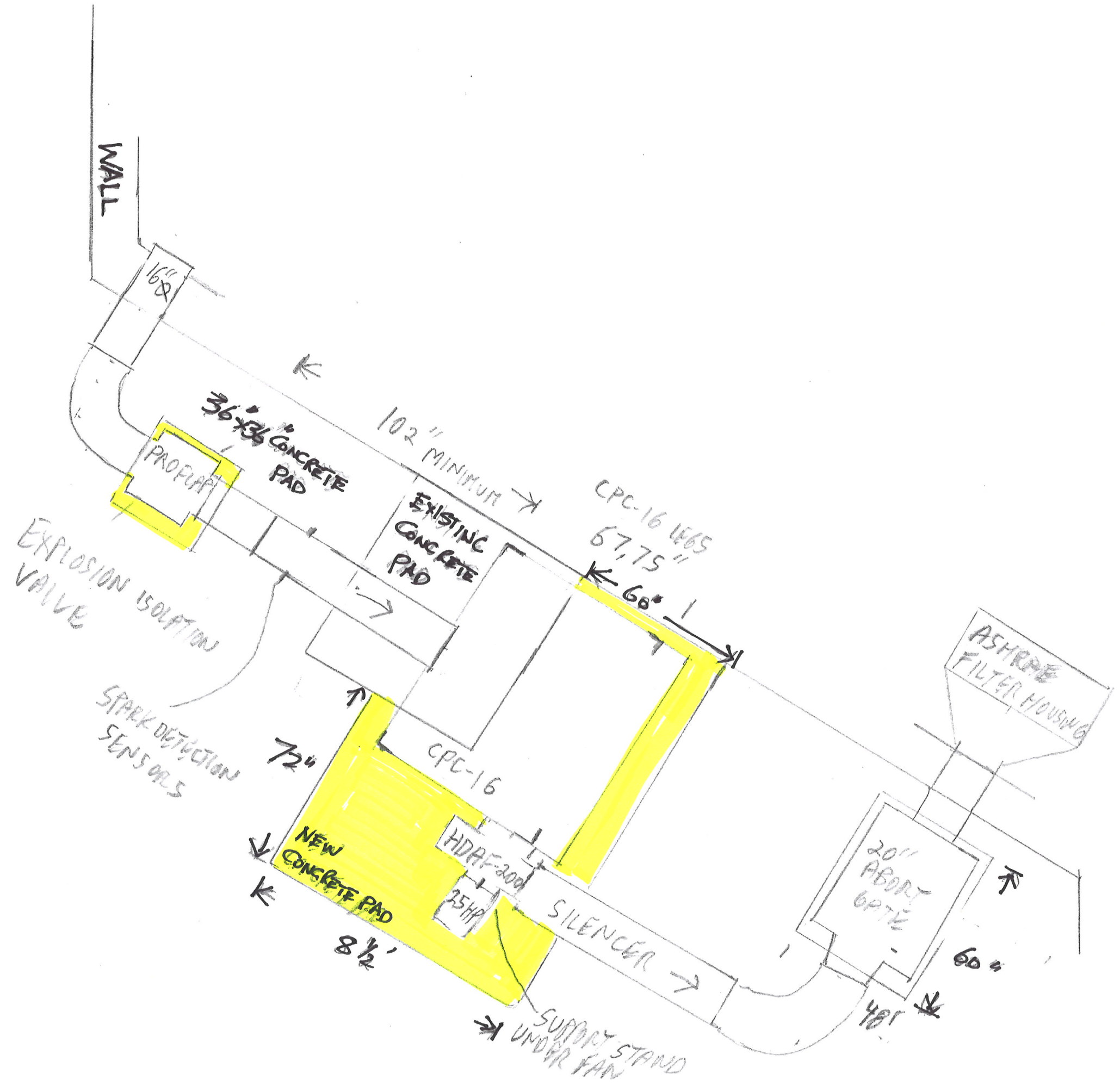
3.5 ADJUSTING

- A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.
- B. Set field-adjustable circuit-breaker trip ranges.

END OF SECTION 262816

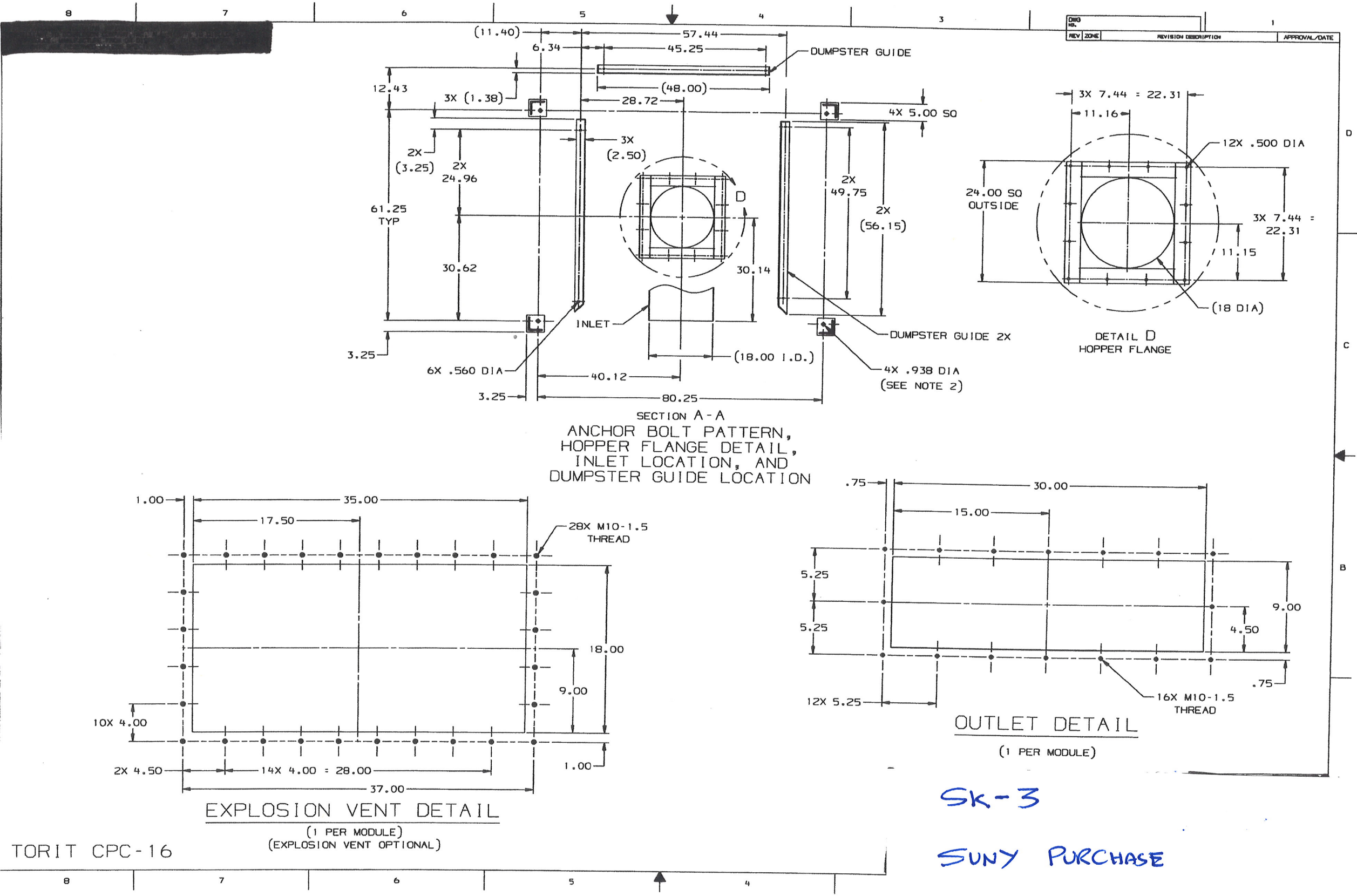
Drawings

SUNY PURCHASE WOOD SHOP
VISUAL ARTS BUILDING



1/4" = 1'

SK-1



REV	ZONE	REVISION DESCRIPTION	APPROVAL/DATE

TORIT CPC-16